



## ***Indiana 1115(a) Demonstration Evaluation***

### ***Draft Interim Report***

**HEALTH CARE AND HUMAN SERVICES POLICY, RESEARCH, AND ANALYTICS —  
WITH REAL-WORLD PERSPECTIVE.**



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## Abbreviations

Abbreviation	Meaning	Abbreviation	Meaning
ALOS	Average length of stay	LGBTQ+	Lesbian, gay, bisexual, transgender, and queer
AMHH	Adult Mental Health Habilitation	LMFT	Licensed marriage and family therapist
AOD	Adult and other drugs	LMHC	Licensed MH counselor
ARPA	American Rescue Plan Act	LOS	Length of stay
BIPOC	Black, indigenous, and people of color	MCE	Managed Care Entities
CCBHC	Certified community behavioral health clinics	MCO	Managed Care Organizations
CCCRT	Coordinated community crisis response teams	MCU	Mobile crisis unit
CCSR	Clinical Classifications Software Refined	MDD	Major depressive disorder
CFR	Code of Federal Regulations	MH	Mental health
CI	Confidence interval	MHIN	Michiana Health Information Network
CMHC	Community mental health centers	MHSIP	Mental Health Statistical Improvement Project
CMS	Centers of Medicare & Medicaid Services	MPA	Mid-Point Assessment
COPD	Chronic obstructive pulmonary disease	MPT	Mental Health Utilization
COVID-19	Coronavirus disease 2019	MRO	Medicaid rehabilitation option
CPSP	Certified Peer Support Professional	MRSS	Mobile response stabilization services
CSU	Crisis stabilization units	MU	Meaningful use
CY	Calendar year	NCQA	National Committee for Quality Assurance
DCS	Department of Child Services	NDI	NeuroDiagnostic Institute
DMHA	Division of Mental Health and Addiction	NPI	National Provider Identifier
DOC	Department of Corrections	OBHP	Other behavioral health professionals
DOH	Department of Health	OCI	Organizational conflict of interest
ED	Emergency department	OMPP	Office of Medicaid Policy and Planning
EHR	Electronic health record	OR	Odds ratio
EPDS	Edinburgh Postnatal Depression Scale	OUD	Opioid use disorder
EPSDT	Early and Periodic Screening, Diagnosis, and Treatment	PA	Prior authorization
FFS	Fee-for-service	PAA	Provider Availability Assessment
FPL	Federal poverty level	PATH	Projects for Assistance in Transition from Homelessness
FQHC	Federally qualified health center	PCBHI	Primary Care and Behavioral Health Integration
FSSA	Family Social Services Administration	PH	Physical health
FUA	Follow-Up After ED visit for Alcohol and Other Drug Abuse or Dependence	PHE	Public health emergency
FUM	Follow-up After ED Visit for Mental Illness	PHP	Partial hospitalization program
HCBS	Home and community-based services	PHQ	Patient health questionnaire
HCPCS	Healthcare Common Procedure Coding System	PIPBHC	Promoting Integrating of Primary and Behavioral Health Care

Abbreviation	Meaning	Abbreviation	Meaning
HEDIS	Healthcare Effectiveness Data and Information Set	POC	Plan of care
HHS	Health and Human Services	POS	Place of service
HIE	Health Information Exchange	PRFT	Psychiatric residential treatment facilities
HIO	Health Information Organizations	QDWI	Qualified Disabled Working Individual
HIP	Healthy Indiana Plan	QI	Qualified individual
HIT	Health Information Technology	QMB	Qualified Medicare beneficiaries
HMO	Health maintenance organization	RMHT	Residential mental health treatment
HSPP	Health services provider in psychology	RQ	Research question
IAC	Indiana Administrative Code	RUCC	Rural Urban Continuum Code
ICCMHC	Indiana Council of Community Mental Health Centers, Inc.	SAMHSA	Substance Abuse and Mental Health Services Administration
ICD10	10 <sup>th</sup> Edition of International Classification of Diseases	SBHC	School-based health centers
ICE	Integrated care entity	SBI	Screening and brief intervention
IDOH	Indiana Department of Health	SE	Supported employment
IEP	Individualized Education Program	SED	Serious emotional disturbance
IET	Initiation and Engagement Treatment	SLMB	Specified Low Income Medicare Beneficiaries
IHCDA	Indiana Housing & Community Development Authority	SMHP	State Medicaid Health Information Technology Plan
IHCP	Indiana Health Coverage Programs	SMI	Serious mental illness
IHIE	Indiana Health Information Exchange	SOAR	SSI/SSDI Outreach, Assess, and Recovery
IMD	Institutions for mental disease	SOC	System of care
IOP	Intensive outpatient	SPA	State plan amendment
IPF	Inpatient psychiatric facility	SSDI	Social Security Disability Insurance
IPLA	Indiana Professional Licensing Agency	SSI	Supplemental Security Income
IRR	Incidence rate ratio	STC	Specific terms and conditions
ISA	Interoperability Standards Advisory	SUD	Substance use disorder
ITS	Interrupted time series	TA	Thematic analysis
JC	Joint Commission	VRS	Vocational rehabilitation services
KII	Key informant interview	VSD	Value set directory
LCSW	Licensed clinical social worker		

## Executive Summary

### A. Background

In 2018, the Indiana and Family Social Services Administration (FSSA) received authority from the Centers of Medicare & Medicaid Services (CMS) to reimburse institutions for mental diseases (IMD) for Medicaid eligible individuals ages 21–64 with substance use disorders (SUD). In 2019, FSSA received a §1115 waiver amendment to expand this authority and reimburse acute inpatient stays in IMDs for individuals diagnosed with a serious mental illness (SMI). The §1115 waiver amendment, effective on January 1, 2020, and extended through December 31, 2025 is part of broader efforts within the FSSA to ensure a comprehensive continuum of behavioral health services for Indiana residents. [Indiana’s approved §1115 waiver's Specific Terms and Conditions \(STC\)](#) requires an independent evaluation to examine the effect of the demonstration on the intended goals. The state hired the Lewin Group (Lewin) to conduct the independent evaluation.<sup>1</sup> This report aims to summarize Interim Report findings (categorized by goal and evaluation question) and provides recommendations for adjustments (when appropriate) to the [Section 1115 SMI/Serious Emotional Disturbance \(SED\) Demonstration Implementation Plan](#).

### B. Summary of the Goals

Demonstration Goals focus on reducing emergency department (ED) utilization and preventing inpatient readmission for SMI populations (Goals 1 and 2) by expanding crisis stabilization services, increasing access to community-based mental health (MH) services, and improving care coordination with special emphasis on continuity of care in the community (Goals 3, 4, and 5). Each Goal is linked to key activities that the state implemented either as part of the demonstration or to ensure a comprehensive continuum of behavioral health services. Given the interdependence of Goals, activities across Goals overlap, and are not mutually exclusive.

### C. The Impact of the Coronavirus disease 2019 Public Health Emergency

Indiana is required to conduct an Interim evaluation of the waiver. The Interim evaluation period covers the first three years of the waiver extension (calendar years [CY] 2021-2023). Both the waiver (2020) and the waiver extension (2021-2023) coincided with the coronavirus disease 2019 (COVID-19) public health emergency (PHE). The PHE caused substantial changes to Medicaid policies, service utilization, and provider availability, and will have short- and long-term impacts on Indiana’s health care system and specialized populations, such as SMI. Given the timing of the PHE, the state shifted many of the planned implementation action items to accommodate access to and delivery of high-quality MH services for all Indiana residents, particularly given the social distancing and health care resource prioritization required in response to the PHE.

### D. The Target Population for the Evaluation

Although the expenditure authority for the demonstration is specific to IMDs, the waiver provides high quality, evidence-based MH treatment services to all Medicaid beneficiaries with a relevant SMI diagnosis. Consequently, all Medicaid enrollees continued to receive services through their delivery system and payment methodologies were consistent with those approved in the Medicaid State Plan. The target population (also known as the analytic population or SMI

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<sup>1</sup> The Lewin Group is part of Optum Serve Consulting.



beneficiary roster population) for this evaluation included all Medicaid beneficiaries covered by Indiana Health Coverage Programs (IHCP) aged 21 to 64 years with SMI regardless of their delivery system (i.e., managed care or fee-for-service [FFS]) from January 2020 (the beginning of the demonstration) through December 2023. Beneficiaries were identified to have a SMI diagnosis if they had at least one Medicaid paid claim with any one of the four diagnosis codes in the primary or secondary diagnosis position: F20.xx (schizophrenia and sub codes up to 2 places), F25.xx (schizoaffective disorder and sub codes up to two places), F31.xx (bipolar disorder and all sub codes up to 2 places), and F33.xx (major depressive disorder [MDD], recurrent, and all sub codes up to two places).

## E. Summary of Interim Report Methodology

Evaluation of the program Goals were based on a mixed-methods approach employing quantitative and qualitative analyses to examine the demonstration's impact on Medicaid beneficiaries aged 21-64 years with a SMI diagnosis between 2021 and 2023. Quantitative data was compiled from various sources including administrative data, medical claims/encounter data, Medicaid enrollment data, and survey reports. Analyses used a combination of descriptive statistics (i.e., to summarize population characteristics, annual health care service utilization rates, annual count of providers) and, where appropriate, regression-based approaches to estimate the effect of the demonstration on outcome measures as well as relationships with select beneficiary characteristics. Qualitative data was compiled from key informant interviews (KII) and captures member, provider, advocacy organization, state official, and Managed Care Entity (MCE) experiences and perspectives. Interviews were conducted iteratively, and analyses identified themes by topic area.

Since the approval of the Evaluation Plan, Lewin's understanding of the program and available data sources has evolved. Consequently, some research questions (RQ) were not fully addressed because of data limitations. Goal introductions in **Section V** delineate if an RQ was not fully addressed. Findings for the evaluation time-period likely reflect both the impact of COVID-19 related policy changes and activities as well as demonstration impacts. Consequently, any observed changes should be interpreted with caution as findings may be confounded by the PHE.

## F. Results

### *Sociodemographics*

During the waiver extension (2021 – 2023), the number of individuals included in the SMI beneficiary roster population (analytic population) were between 185,000 and 255,000 and comprised approximately 21% of the Medicaid population (aged 21-64 and having coverage eligible to receive SMI waiver benefits). The SMI beneficiary roster population (analytic population) were mostly female (approximately 65%), between the ages of 21-50 (76%), White/Caucasian (65%), and lived in a metropolitan area.

### ***Goal 1: Reduced utilization and length of stay (LOS) in EDs among Medicaid recipients with SMI while awaiting MH treatment in specialized settings.***

All-cause ED participation and utilization rates declined between 2018 and 2023. For the SMI beneficiary population, participation decreased from 56.4% in 2018 (pre-demonstration) to 53.4% in 2021 and 50.3% in 2023, while the ED utilization rate decreased from 2,070 in 2018 to

1,727 in 2021 (first year of waiver extension) and 1,571 visits per 1,000 member years in 2023. The rates were significantly lower during the waiver extension (2021-2023) compared to those in the pre-demonstration period (2018-2019) after adjusting for select beneficiary characteristics. Similar patterns were also observed for MH-related ED visits over time. That is, the participation rate for MH-related ED visits decreased from 13.1% to 7.3%, and the utilization rate decreased from 274 to 142 visits per 1,000 member years. The decrease in all-cause ED visits or related to MH was consistent across select population subgroups (examined based on gender, race, ethnicity, geographic location). Consistent with findings from the 2020 Summative Report and the 2023 Mid-Point Assessment (MPA), 2024 interviewees described broad changes in utilization of health care services during the PHE which likely confounded the impact of the waiver on ED utilization for Medicaid beneficiaries with SMI. Specifically, interviewees in 2024 indicated that the PHE strained overall provider capacity in the ED and across the care continuum. Despite provider capacity challenges, interviewees highlighted state strategies and successes for increasing availability and access to crisis stabilization services that divert admissions from EDs and inpatient psychiatric hospitals.

***Goal 2: Reduced preventable readmissions to acute care hospitals and residential settings.***

All-cause unplanned readmission rates within 30 days following acute inpatient or observational stays related to MH remained relatively stable between 2018 (readmission rate: 15.7%) and 2023 (readmission rate: 17.8%). Adjusting for select beneficiary characteristics, 30-day readmission rates were significantly lower for the waiver extension period (2021-2023) relative to the pre-demonstration period (2018-2019). MCEs interviewed in 2024 noted discrepant readmission rate patterns throughout the evaluation time-period. MCEs identified several challenges for reducing readmission rates including high no-show rates for follow-up care, insufficient coordination between MCEs and inpatient facilities, and inaccurate individual contact information. Consistent with Goal 1 findings, observations from the MCEs indicate that the PHE (e.g., provider shortages, facility shutdowns, and patient hesitancy for attending in-person appointments) had a negative impact on care coordination and may suggest that SMI beneficiaries experienced challenges with accessing community-based MH services post discharge raising risk for readmission. Interviewees highlighted the use of telehealth as a strategy for mitigating access challenges and reducing readmission.

***Goal 3: Improved availability of crisis stabilization services utilizing multiple service models to meet the unique needs across the state.***

Quantitative and qualitative findings demonstrate Indiana’s commitment to improving the availability of crisis stabilization services. Since 2020, the state has increased both the number of Medicaid beneficiaries receiving crisis services as well as the number of crisis stabilization units (CSUs), mobile crisis units (MCU)/mobile response stabilization services (MRSS)<sup>2</sup>, psychiatric hospital beds, psychiatric hospitals that qualify as IMDs, residential mental health treatment facilities (RMHTs), and community mental health centers (CMHC) satellite sites.<sup>3</sup> Additionally,

<sup>2</sup> For this report, MCU and MRSS are used interchangeably.

<sup>3</sup> The number of reported CMHC satellite sites increased from 97 to 231 between 2020 and 2022. Prior to 2023, the state only reported CMHC satellite locations that provided MH-related services. Beginning in 2023, however, the state began reporting all CMHC satellite locations without differentiating among sites providing MH services (n = 324). Thus, growth in CMHCs in 2023 cannot be compared to prior years.

the state has implemented the 988 Indiana Crisis and Suicide Lifeline and expanded the number of certified community behavioral health clinics (CCBHCs).<sup>4</sup> Although findings are positive and state plans for increasing the availability of crisis stabilization services are in process, opportunities for crisis care expansion across the state exist.

***Goal 4: Increase access of recipients with SMI to community-based services to address their chronic MH care needs including through increased integration of primary and behavioral health care.***

Throughout the waiver (2020) and waiver extension (2021-2023), Indiana has prioritized actions to increase treatment access and behavioral health integration. For example, the state increased the number of federally qualified health center (FQHC) and CMHC sites between 2022 and 2023. Despite these increases, state officials, MCEs, providers, and advocacy organizations noted that the adequacy of the provider supply did not meet patient demand. Analyses of health care utilization, based on claims/encounter data demonstrate that the participation rates in community based services decreased significantly between 2018 and 2023, overall (from 87.7% to 48.9%) and across all types of services (outpatient rehabilitation and targeted case management: decreased from 49.4% to 13.5%; Home and Community-based Services (HCBS) and Long-term Services and Supports (LTSS): decreased from 9.5% to 2.9%; outpatient MH services: decreased from 86.3% to 48.4%). Although the utilization of services decreased over time, survey findings (2020-2022) for beneficiaries receiving care at community mental health centers indicated that most beneficiaries were satisfied with care received, had access to care, and received quality care. Indiana has invested in several actions to increase provider capacity and continue to focus on screening and treatment engagement initiatives for beneficiaries with SMI (e.g., school-based initiatives to increase behavioral health integration, vocational rehabilitation services [VRS] and supported employment [SE] opportunities, and stigma reduction programs).

***Goal 5: Improved care coordination, especially continuity of care in the community following episode of acute care in hospitals and residential treatment facilities.***

The proportion of beneficiaries who had received care in the community, within 7- and 30- days, following an ED visit related to MH (i.e., follow-up rate) declined over time. Between 2018 and 2023, the 7-day follow-up rate decreased from 44.3% to 35.6%, and the 30-day follow-up rate decreased from 62.4% to 52.4%. Although the rates decreased across years, regression-adjusted estimates indicate that the rate of decrease was lower during the waiver extension period relative to pre-implementation. In contrast, follow-up rates for beneficiaries with an ED visit related to alcohol and other drug (AOD) dependence increased over the same period (7-day follow-up rate: increased from 12.6% in 2018 to 18.2% in 2023; 30-day follow-up rate: increased from 19.3% to 28.2%). Adjusting for select beneficiary characteristics, the rate of increase in the 7-day follow-up was significantly higher during the waiver extension period relative to the pre-demonstration period. Among beneficiaries interviewed in 2024, approximately half of beneficiaries reported visiting the ED between 2021 and 2023. Of those interviewees who received care in the ED, less than half indicated that a professional helped coordinate care upon discharge.

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<sup>4</sup> FSSA received 2-year SAMHSA CCBHC Expansion grants in FY18-FY21 which allowed facilities to build capacity for crisis services and implement provider training.

Interviewee findings confirmed that discharge planning during inpatient stays, case management, care coordination policies, and care transition services were provided by MCEs throughout the waiver extension. Despite MCE care coordination efforts, only half of beneficiaries (interviewed in 2024) who reported ED, inpatient or residential stays during the waiver extension indicated that they received care coordination services. MCEs noted several challenges for transitioning care from inpatient to the community including the member’s lack of an established primary care provider (PCP), insufficient support from inpatient facilities, inaccurate patient contact information, and housing insecurity.

**G. Recommendations for Adjustments to Implementation Plan**

Lewin developed 22 recommendations to support the state in achieving its’ goals. **Exhibit ES.1** list the recommendations.

**Exhibit ES.1: Recommendations by Goal for Potential Modifications to Implementation Plan or Other State Activities**

Goal	Recommendations for Potential Modifications to Implementation Plan or Other State Activities
1	1. Continue to monitor ED participation and utilization during the years following the COVID-19 PHE.
	2. Triangulate ED service utilization data with other data sources (e.g., crisis stabilization services) and implementation activities to better understand and interpret trends.
	3. Track ED ALOS. Require data reporting by MCEs and providers as needed.
	4. Identify strategies to increase workforce capacity in the ED (e.g., investments in care coordinators) for beneficiaries with SMI.
	5. Continue to build on successful strategies for identifying high utilizers and connecting them with appropriate disease management or care management services.
2	6. Expand monitoring ALOS beyond IMD.
	7. Identify strategies to increase workforce capacity (e.g., investments in care coordinators) for beneficiaries with SMI.
	8. Maintain telehealth service options.
	9. Continue to build on successful strategies for identifying high utilizers and connecting them with appropriate disease management or care management services.
3	10. Continue to build crisis stabilization services across the state, particularly in rural areas, with consideration for how these services will be sustained in the future.
	11. Identify strategies and resources to manage non-crisis MH events.
	12. Consider conducting surveys with beneficiaries to assess experiences and satisfaction in support of continuous improvement.

Goal	Recommendations for Potential Modifications to Implementation Plan or Other State Activities
4	13. Conduct additional analyses to better understand outpatient MH service trends. For example, determine if primary care service use is increasing among the SMI population.
	14. Continue to build provider capacity across the system of care (SOC) and throughout the state, with special emphasis on increasing the number of Medicaid behavioral health care providers.
	15. Continue to engage peers to support beneficiaries in navigating treatment and encourage engagement.
	16. Meet with providers, advocates, and state agencies (e.g. Department of Health [DOH]; Department of Corrections [DOC]) to identify strategies for increasing collaboration and minimizing barriers for accessing treatment services.
	17. Examine the impact of the state’s stigma reducing efforts on engagement.
	18. Address barriers to behavioral health integration (e.g., enhance infrastructures to support care coordination, identify strategies to improve communications between providers and support information sharing).
5	19. Identify and implement strategies for increasing care coordination and supporting care transition
	20. Build provider capacity, specific to care coordination across the SOC as well as strengthening relationships and workflows between community providers, EDs and inpatient facilities.
	21. Continue to implement strategies to reduce housing insecurities.
	22. Continue to build out more effective data programs to compile and share relevant (real-time) information for care coordination.

## I. General Background Information

### A. Overview

A 2015 report to the Indiana General Assembly highlighted the need for expanded crisis services, access to inpatient psychiatric beds, and improved coordination for individuals transitioning from inpatient services back into the community. Specifically, the report cited survey results demonstrating Indiana’s reliance on EDs to manage individuals in acute crisis and suggested a need for increased options for psychiatric crisis.<sup>5</sup>

Section 1115 of the Social Security Act gives the Secretary of Health and Human Services (HHS) authority to approve experimental, pilot, or demonstration projects that are found by the Secretary to be likely to assist in promoting the objectives of the Medicaid program. The purpose of these demonstrations is to establish and evaluate state-specific policy approaches to better serve Medicaid populations in a budget neutral manner. In 2018, the FSSA received authority from CMS to reimburse IMDs for Medicaid-eligible individuals aged 21-64 years with SUD. In 2019, CMS allowed states to receive authority to pay for short-term acute stays in an IMD for adults with SMI<sup>6</sup> and children with SED. Indiana state leadership elected to focus waiver efforts on adults with SMI. The SED population was not pursued because for those 21 and under, Indiana Medicaid already paid for services if they were delivered in an IMD through the psychiatric residential treatment facility benefit for that age group (405 Indiana Administrative Code [IAC] 5-20-1). Through this demonstration, Indiana will receive federal financial participation for services furnished to Medicaid beneficiaries who are primarily receiving short-term treatment services for an SMI in facilities that meet the definition of an IMD<sup>7</sup> to ongoing chronic care for such conditions in cost-effective community-based settings.

**Demonstration Name:** Healthy Indiana Plan (HIP) - Project Number 11-W-00296/5  
**Approval Date:** 10/26/20 (Waiver extension)  
**Study Time Frame:** 2021-2023 (with 2020 as the baseline)  
**Target Population:** Medicaid beneficiaries with SMI aged between 21 and 64

The FSSA §1115(a) demonstration waiver for adults with SMI was approved on December 20, 2019, and effective from January 1, 2020 - December 31, 2020. On October 26, 2020, CMS granted approval for a five-year waiver extension, permitting the waiver to remain in effect through December 31, 2025.

### B. Demonstration Description and State Agency Collaboration

Indiana’s publicly funded behavioral health (both MH and SUD) SOC supports access to prevention, early intervention, and recovery-oriented services and supports in all 92 counties, blending federal, state, and local funding streams to a provider network of agencies and

<sup>5</sup> DMHA distributed the Psychiatric and Addiction Crisis Survey in December 2014 and January 2015. Tailored surveys went out to respondent groups including MH and addiction providers, hospital ED staff, first responders, consumer and family advocates, and probation and parole officers.

<sup>6</sup> In 2018, 12% of the Indiana Medicaid population were diagnosed with SMI (i.e., had at least one claim with a primary or secondary diagnosis of SMI), suggesting a need for state investments supporting this population.

<sup>7</sup> Reimbursement will not be extended to IMDs for residential stays; additionally, state MH hospitals will not be classified as IMDs eligible for reimbursement under this waiver. Facilities with more than 16 beds that are certified as Private Mental Health Institution by the DMHA qualify as IMDs under this waiver.

individual practitioners. Indiana's FSSA and specifically its Office of Medicaid Policy and Planning (OMPP) and Division of Mental Health and Addiction (DMHA) partners provide policy oversight and primary funding of services and supports for individuals in need of behavioral health services. OMPP includes a robust continuum of behavioral health services as a benefit to enrollees in its FFS and Medicaid managed care programs. DMHA leverages its block grant funding from the Substance Abuse and Mental Health Services Administration (SAMHSA) and state appropriations to complement the Medicaid service array, with a focus on providing SUD/SMI services to all fully eligible beneficiaries of any age, and who are at or below 350% of the federal poverty level (FPL). OMPP and DMHA also partner with the Department of Child Services (DCS), DOC, and county jails in supporting access to and oversight of behavioral health services for Indiana's most vulnerable individuals.

As part of the waiver amendment application Indiana described its current behavioral health SOC, highlighting a sizeable provider network of behavioral health providers including hospitals, psychiatric residential treatment facilities (PRTF), SUD residential providers, community-based agencies (e.g., CMHCs), and individual practitioners. Information specific to the state's current service continuum was also delineated. See **Attachment B** for a complete description of Indiana's current behavioral health SOC.

### **C. Demonstration Goals and Milestones**

Indiana's goals are aligned with those of CMS for the demonstration waiver and are part of broader efforts within the FSSA to ensure a comprehensive continuum of behavioral health services. Demonstration goals include:

- **Goal 1:** Reduced utilization and LOS in EDs among Medicaid beneficiaries with SMI while awaiting MH treatment in specialized settings.
- **Goal 2:** Reduced preventable readmissions to acute care hospitals and residential settings.
- **Goal 3:** Improved availability of crisis stabilization services utilizing multiple service models to meet the unique needs across the state.
- **Goal 4:** Improved access to community-based services to address the chronic MH care needs of beneficiaries with SMI, including through increased integration of primary and behavioral health care.
- **Goal 5:** Improved care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities.

As described in Indiana's approved Section 1115 SMI Demonstration Implementation Plan, the state's approach to achieving the demonstration goals involves implementing action items to accomplish four key milestones:

- **Milestone 1:** Ensuring quality of care in psychiatric hospitals and residential settings.
- **Milestone 2:** Improving care coordination and transitioning to community-based care.
- **Milestone 3:** Increasing access to the continuum of care, including crisis stabilization services.
- **Milestone 4:** Earlier identification and engagement in treatment, including through increased integration.

Goals and milestones are interrelated, and action items identified in Indiana’s Section 1115 SMI Demonstration Implementation Plan overlap. Consequently, a distinct action item could be aligned to multiple goals and/or milestones. Refer to **Sections E.1** and **V.A** for additional details delineating action items which repeat across multiple goals and milestones. Indiana’s approved Indiana SMI Implementation Plan also includes a financing and Health Information Technology (HIT) plan. The HIT plan describes the state’s strategy to improve data sharing and interoperability in support of SMI care delivery. The financing plan focuses on ensuring budget neutrality. Refer to **Sections E.2** and **E.3** for additional details.

## **D. Interim Assessment Scope and Timeline**

Indiana’s approved §1115 waiver extension STC requires the Interim Report to be conducted by an independent evaluator. The objective of the evaluation is to examine the effect of the waiver on the intended goals. The state procured Lewin to conduct the independent evaluation. See **Attachment A** for Lewin’s “No Conflict of Interest” Statement. The scope and timeline of the assessment is described in the following sections.

Per STC 5 Section XVI - Evaluation of the Demonstration (Page 65) of the State Medicaid Director Letters for the section 1115 Medicaid demonstration, the state is required to conduct an Interim evaluation of the waiver extension that covers the first three years of the waiver (CYs 2021-2023) by December 31, 2024. To fulfill this requirement, the state must submit a comprehensive report that includes methodological limitations (e.g., design, data, and analyses), relevant findings (categorized by goal and evaluation question), interpretations of findings, implications for state policies or other state initiatives, and recommendations to other states interested in implementing a similar approach. The RQs for each goal, outcome measures, and analytic approach are based on the approved Evaluation Plan (March 21, 2023).

## **E. State Strategies for Addressing Waiver Goals and Milestones**

### ***E.1. Key Elements of the Implementation Plan***

The FSSA submitted its Section 1115 SMI Demonstration Implementation Plan to CMS on August 30, 2019. As stated previously, FSSA received initial approval for the first year of the demonstration on December 20, 2019. On October 26, 2020, CMS granted a five-year waiver extension, permitting the waiver to remain in effect through December 31, 2025. The demonstration Implementation Plan includes:

- Oversight of IMDs (**Milestone 1**).
- Improved integration and care coordination, including transitions of care (**Milestones 2 and 3; Goals 1, 2, and 5**).
- Improved primary care and behavioral health integration (PCBHI) (**Milestones 2 and 3; Goals 1, 2, and 4**).
- Behavioral and primary health care coordination service programming (**Milestone 2; Goal 4**).
- Implementation of child (MH) wraparound services (**Milestones 3 and 4; Goals 4 and 5**).
- Increased access to continuum of care including crisis stabilization services (**Milestone 3; Goal 3**).



- Expanded coverage for early identification (**Milestone 4; Goals 4 and 5**).
- Increased partnerships for engaging individuals into care (**Milestone 4; Goal 5**).

FSSA identified 23 distinct action items in its Implementation Plan. Action items are aligned to demonstration milestones. Findings from the MPA<sup>8</sup> noted that the state implemented 20 of the 23 action items<sup>9</sup> between January 2020 and December 2023. Of the 20 distinct action items completed, 10 items are aligned to demonstration goals. Given that the focus of the Interim Report is the state’s progress on goal achievement, activities aligned to goals will be highlighted in programmatic logic models (**Section II**). The state also highlighted 9 additional action items that supported goal execution and were completed during the evaluation time-period. These actions are also included in the programmatic logic models. As stated previously, goals are interrelated, and action items identified in Indiana’s Section 1115 SMI Demonstration Implementation Plan overlap. Consequently, a distinct action item could be aligned to multiple goals. **Section V** of this report describes the state’s progress for achieving Goals.

### ***E.2. Key Elements of the Finance Plan***

The state’s financing plan describes state efforts for increasing the availability of nonhospital, non-residential crisis services, and community-based MH providers for Medicaid beneficiaries. State efforts include:

- Providing mobile crisis teams (20) in addition to the CMHCs mandated 24/7 crisis services.
- Annually monitoring access to non-residential crisis stabilization services through completion of the CMS Template – “Overview of the Assessment of the Availability of MH Services.”
- Piloting two CSUs in the northern and southern parts of the state.
- Piloting MCU/MRSS.
- Expanding crisis intervention services, intensive outpatient (IOP) program services, and peer recovery services to all Indiana Medicaid programs.

The state’s financing plan also describes a comprehensive continuum of community-based services. The state monitors access to community-based services through an agreed upon methodology. The state specifically monitors any changes to non-CMHC providers and the impact on access to IOP, peer support, and crisis intervention services. Additionally, the state monitors provider enrollment, identifies geographic shortage areas, and conducts targeted outreach to non-Medicaid enrolled providers in those areas.

### ***E.3. Key Elements of the Health Information Technology Plan***

As outlined in Indiana’s State Medicaid Health Information Technology Plan (SMHP), Indiana’s HIT environment is active with multi-faceted efforts to support provider HIT capacity and foster the sharing of clinical and administrative data to improve health care and support system

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<sup>8</sup> FSSA anticipates that the MPA will be approved and published on the FSSA website prior to CMS approval of the Interim Report. Consequently, the final version of the Interim Report will include a link to the MPA.

<sup>9</sup> Action items are counted as complete if a distinct action was completed either prior to the demonstration, during the evaluation time-period, post evaluation time-period, or partially completed.

improvements. The state has taken an active role through its state health agencies and Medicaid program to promote HIT adoption and Health Information Exchange (HIE) development, building upon its private health care marketplace. As outlined in **Exhibit I.1**, the state has four well-established HIE networks operated by Health Information Organizations (HIOs), each functioning in different capacities for community partners.

**Exhibit I.1: Status of Regional HIOs**

Regional HIO	Current Status
<b>HealthBridge (includes greater Cincinnati tristate area)<sup>10</sup></b>	Utilization of the Health Collaborative’s HealthBridge Suite (hb/suite): <ul style="list-style-type: none"> <li>• 58 hospitals</li> <li>• 8,901 providers</li> <li>• 160 million clinical results processed</li> <li>• 15 million monthly messages</li> </ul>
<b>HealthLINC<sup>10</sup></b>	<ul style="list-style-type: none"> <li>• Delivers more than 175,000 medical results per month among hospitals, office and clinic practices and under-served clinics</li> <li>• Health service directory that includes more than 350 physicians and other providers</li> </ul>
<b>Indiana Health Information Exchange (IHIE)<sup>11</sup></b>	<ul style="list-style-type: none"> <li>• Connection to 123 hospitals representing 38 health systems</li> <li>• Over 19,000 practices</li> <li>• Over 54,500 providers</li> <li>• Over 20,000,000 patients</li> <li>• Over 16,000,000,000 clinical data elements</li> </ul>
<b>Michiana Health Information Network (MHIN)<sup>10</sup></b>	<ul style="list-style-type: none"> <li>• Over 576 data sources</li> <li>• 3.9 million transactions inbound per month</li> <li>• 44,582 providers connected</li> </ul>

Indiana’s HIT plan identifies the following actions:

- Drive improvements for increased electronic documentation and standardization among settings and providers not previously addressed through Meaningful Use (MU), including behavioral health.
- Update the broader State Medicaid HIT Plan and align areas of prioritization with waiver milestones as appropriate.
- Review the applicability of standards referenced in the Interoperability Standards Advisory (ISA) and 45 Code of Federal Regulations (CFR) 170 Subpart B for potential inclusion into our contracts.
- Conduct a provider survey to identify the volume of providers utilizing closed loop referrals and e-referrals.

<sup>10</sup> Data listed in column 2 of **Exhibit I.1** for Health Bridge, HealthLINC, and MHIN reflects status for 2021 and 2022. Health Bridge, HealthLINC, and MHIN data have not changed since the development of the Implementation Plan.

<sup>11</sup> Historical data covering the study time-period for IHIE is unavailable. Consequently, data listed in column 2 of **Exhibit I.1** for IHIE reflects status as of September 2024.

- Determine required steps and timeline for compliance with the CMS Interoperability and Patient Access Final Rule.<sup>12</sup>
- Explore submitting the health homes state plan amendment (SPA) which will include leveraging HIT for enhanced integration and coordination.
- Survey IMDs to identify the baseline of current activities to identify options for increasing IMD activity in this area.
- Modernize the electronic health record (EHR) system used collectively by all state psychiatric hospitals.
- Continued operation of managing consent/privacy in a multitude of mechanisms across the Medicaid Health Information Sharing Enterprise.
- Continued utilization of the Relias ProAct Tool.
- Continued operation of the Indiana Telehealth Network and Project ECHO (Extension for Community Healthcare Outcomes).

#### **E.4. Changes to the Demonstration**

Renewals, amendments, or major operational changes were not requested or implemented during the waiver or waiver extension. Consequently, the Interim Report does not include information specific to demonstration changes and motivations for change. Given changes were not requested or implemented, the Evaluation Plan (approved March 21, 2023) was not altered or augmented. FSSA will submit a waiver renewal application in December of 2024 to extend the waiver through 2030.

#### **F. Budget Neutrality**

Milliman, Inc. (the State's actuary) conducts budget neutrality assessments as part of the SMI monitoring protocol. These assessments include cost analyses to assess whether the SMI demonstration results in higher, lower, or neutral health care spending. Findings are submitted on a quarterly basis to CMS. In addition to budget neutrality assessments, Milliman performed the cost analyses (described in the approved Evaluation Plan) required for the Interim Report. Cost analyses assessed how the demonstration impacted health care spending (increase, decrease or remain unchanged) during the evaluation time-and adhered to CMS guidance. Refer to **Attachment G** for findings related to the impact of the demonstration on health care spending.<sup>13</sup>

#### **G. The Impact of the Coronavirus Disease**

As stated in **ES.C**, the FSSA §1115(a) demonstration waiver for adults with SMI was effective from January 1, 2020 - December 31, 2020. On October 26, 2020, CMS granted approval for a

<sup>12</sup> The CMS Interoperability and Patient Access final rule is intended to move the health care ecosystem in the direction of interoperability by improving the quality and accessibility of information that patients need in order to make informed health care decisions, including data about health care prices and outcomes, while minimizing reporting burdens on impacted providers and payers.  
(<https://www.federalregister.gov/documents/2020/05/01/2020-05050/medicare-and-medicaid-programs-patient-protection-and-affordable-care-act-interoperability-and>)

<sup>13</sup> Cost analyses (Results – Section H: Impact of the Demonstration on Health Care Spending was drafted as a separate attachment rather than integrated into the body of the report. FSSA received approval from CMS (September 16, 2024) to produce Results – Section H as a separate attachment.

five-year waiver extension, permitting the waiver to remain in effect through December 31, 2025. The state is required to conduct an interim evaluation of the waiver extension that covers the first three years of the waiver (CYs 2021-2023). Both the waiver (2020) and the waiver extension (2021-2023) coincided with the COVID-19 PHE, which was determined in January 2020.<sup>14</sup> The PHE caused substantial changes to Medicaid policies, service utilization, and provider availability, and will have short- and long-term impacts on Indiana's health care system and specialized populations, such as SMI. Given the timing of the PHE, the state shifted many of the planned implementation action items to accommodate access to and delivery of high-quality MH services for all Indiana residents, particularly given the social distancing and health care resource prioritization required in response to the PHE. Subsequently, progress for achieving demonstration goals was impacted by COVID-19 related policy changes and activities.<sup>15</sup> Therefore, findings for the evaluation time-period likely reflect both the impact of COVID-19 related policy changes and activities as well as demonstration impacts. Consequently, any observed changes should be interpreted with caution as findings may be confounded by the PHE.

## H. Target Population

Although the expenditure authority for the demonstration is specific to IMDs, the waiver provides high quality, evidence-based MH treatment services to all Medicaid beneficiaries with a relevant SMI diagnosis. Consequently, all Medicaid enrollees (**Exhibit I.2** summarizes eligibility groups excluded) continued to receive services through their delivery system and payment methodologies were consistent with those approved in the Medicaid State Plan. Individuals apply for Medicaid services through the Division of Family Resources, which determines eligibility for IHCP. If an individual is determined eligible, beneficiaries will have access to high quality, evidence-based MH treatment services under this demonstration. All enrollees eligible for a mandatory or optional eligibility group approved for full Medicaid coverage, and aged 21-64 years, would be eligible for acute inpatient stays in an IMD under the waiver. The eligibility groups outlined in **Exhibit I.2** are not eligible for stays in an IMD as they receive limited Medicaid benefits only and includes individuals receiving Emergency Only Services, Family Planning Services, PE Family Planning program benefits, PE Pregnant Women, Qualified Medicare Beneficiaries (QMB) only, Specified Low Income Medicare Beneficiaries (SLMB) only, Qualified Disabled Working Individual (QDWI), and Medicare Qualified Individual (QI).

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<sup>14</sup> U.S. Department of Health & Human Services. (2020, January 31). *Determination that a Public Health Emergency Exists* [Press release]. [Determination that a Public Health Emergency Exists \(hhs.gov\)](https://www.hhs.gov/dhsa/emergency-exists)

<sup>15</sup> Indiana 1115(a) Demonstration Evaluation Summative Report  
(<https://secure.in.gov/fssa/hip/files/IN-SMI-Summative-Evaluation-Report.pdf>)

**Exhibit I.2: Eligibility Groups Excluded from the Demonstration**

Eligibility Group Name	Social Security Act & CFR Citation
Limited Services Available to Certain Aliens	42 CFR §435.139
Qualified Medicare Beneficiaries (QMB)	1902(a)(10)(E)(i) 1905(p)
Specified Low Income Medicare Beneficiaries (SLMB)	1902(a)(10)(E)(iii)
Qualified Individual (QI) Program	1902(a)(10)(E)(iv)
Qualified Disabled Working Individual (QDWI) Program	1902(a)(10)(E)(ii) 1905(s)
Family Planning	1902(a)(10)(A)(ii)(XXI)

The target population (also known as the analytic population or the SMI beneficiary roster population) for this evaluation included all Medicaid beneficiaries covered by IHCP aged 21 to 64 years with SMI regardless of their delivery system (i.e., managed care or FFS) from January 2020 (the beginning of the demonstration) through December 2023.<sup>16</sup> Beneficiaries were identified to have a SMI diagnosis if they had a at least one Medicaid paid claim with any one of the four diagnosis codes in the primary or secondary diagnosis position: F20.xx (schizophrenia and sub codes up to 2 places), F25.xx (schizoaffective disorder and sub codes up to two places), F31.xx (bipolar disorder and all sub codes up to 2 places), and F33.xx (MDD, recurrent, and all sub codes up to two places).

<sup>16</sup> A comparison group for the target population was considered as part of the development of the evaluation plan and determined to be not feasible based on specific aspects of the Indiana SMI Waiver. See Section III.A.5 for additional details.

## II. Evaluation Questions and Hypotheses

State demonstration goals seek to achieve a comprehensive continuum of behavioral health services (in alignment with the objectives of Titles XIX and XXI). This section summarizes the hypotheses and corresponding RQs identified in the approved Evaluation Plan for each demonstration goal. The RQs were drafted to align with the CMS evaluation design guidance but is specific to Indiana’s waiver demonstration which only included the SMI population.<sup>17</sup> Additionally, this section includes a logic model for each goal. Logic models are visual representations that illustrate the shared relationships between a program’s activities and its intended effects. These diagrams depict a theory of change that supports evaluation design and promotes the study of measurable outcomes. Logic models are iterative in nature and are refined as the program’s context evolves, findings are identified, and implementation lessons are learned. Consequently, adjustments have been made to the logic models that were documented in the 2021-2025 Evaluation Plan to reflect the current state of the program. For example, action items that were paused or suspended (e.g., OpenBeds) were removed and new actions were added. **Exhibit II.1** summarizes logic model refinements.

**Exhibit II.1: Logic Model Adjustments**

Logic Model Element	Refinements
<b>Arrows</b>	Added to demonstrate the relationship between the activities and the outcomes
<b>Assumptions</b>	Added to harmonize the goals with the action items selected
<b>Action Items</b>	Refined to include actions completed and documented in the Indiana’s Section 1115 SMI Demonstration Implementation Plan as well as additional action items identified from KII. As stated previously, goals are interrelated, and action items overlap. Consequently, a distinct action item could be aligned to multiple goals.
<b>Short-Term/Long-Term Outcomes</b>	Refined to reflect the available data
<b>Moderating Factors/Confounding or Contextual Factors</b>	Refined to reflect the evolving context and lessons learned

The Interim Report builds on findings from the 2022 Summative Report and 2023 MPA and documents the state’s progress in achieving demonstration goals. Findings reflect the state’s agility in shifting many of the planned implementation action items during the waiver (2020)<sup>18</sup> and waiver extension (2021-2023) while at the same time implementing additional actions to better serve the needs of SMI beneficiaries navigating a different health care landscape than what was conceived prior to the PHE. When appropriate, findings are identified as consistent or inconsistent with prior reports to reflect changes across the demonstration and support interpretation. The following sections describe the objectives of each goal, hypotheses, and research questions. **Attachment G: Impact of the Demonstration on Health Care Spending** also includes study objectives and evaluation questions.

<sup>17</sup> CMS SMI and SUD Evaluation Design Guidance: <https://www.medicare.gov/medicaid/section-1115-demo/downloads/evaluation-reports/smi-sed-eval-guide-appendix-a.pdf>

<sup>18</sup> To accommodate access to and delivery of high-quality MH services for all Indiana residents.

**A. Goal 1: Reduced utilization and LOS<sup>19</sup> in EDs among Medicaid beneficiaries with SMI while awaiting MH treatment in specialized settings.**

Although the rates of ED visits per 100,000 persons nationally have remained stable between 2009 and 2018, visits associated with MH diagnoses continued to rise among Medicaid beneficiaries.<sup>20</sup> Individuals with SMI are more likely to have higher rates of ED utilization than individuals without any MH diagnosis.<sup>21</sup>

Goal 1 explores the impact of expanding access to high-quality, evidence-based MH treatment services in IMDs on utilization in EDs among Medicaid beneficiaries with SMI awaiting MH treatment in specialized settings. **Exhibit II.2** lists the hypothesis and RQs corresponding to this goal.

**Exhibit II.2: Hypothesis and Research Questions for Goal 1**

Hypotheses	Research Questions
<p><b>Hypothesis 1:</b> The SMI demonstration will result in reductions in utilization and LOS in EDs among Medicaid beneficiaries with SMI while awaiting MH treatment.</p>	<p><b>Primary research question 1.1:</b> Does the SMI demonstration result in reductions in utilization and LOS in EDs among Medicaid beneficiaries with SMI while awaiting MH treatment?</p> <p><b>Subsidiary research question 1.1:</b> How do the SMI demonstration effects on reducing utilization and LOS in EDs among Medicaid beneficiaries with SMI vary by geographic area or beneficiary characteristics?</p> <p><b>Subsidiary research question 1.2:</b> How do SMI demonstration activities contribute to reductions in utilization and LOS in EDs among Medicaid beneficiaries with SMI while awaiting MH treatment in specialized settings?</p>

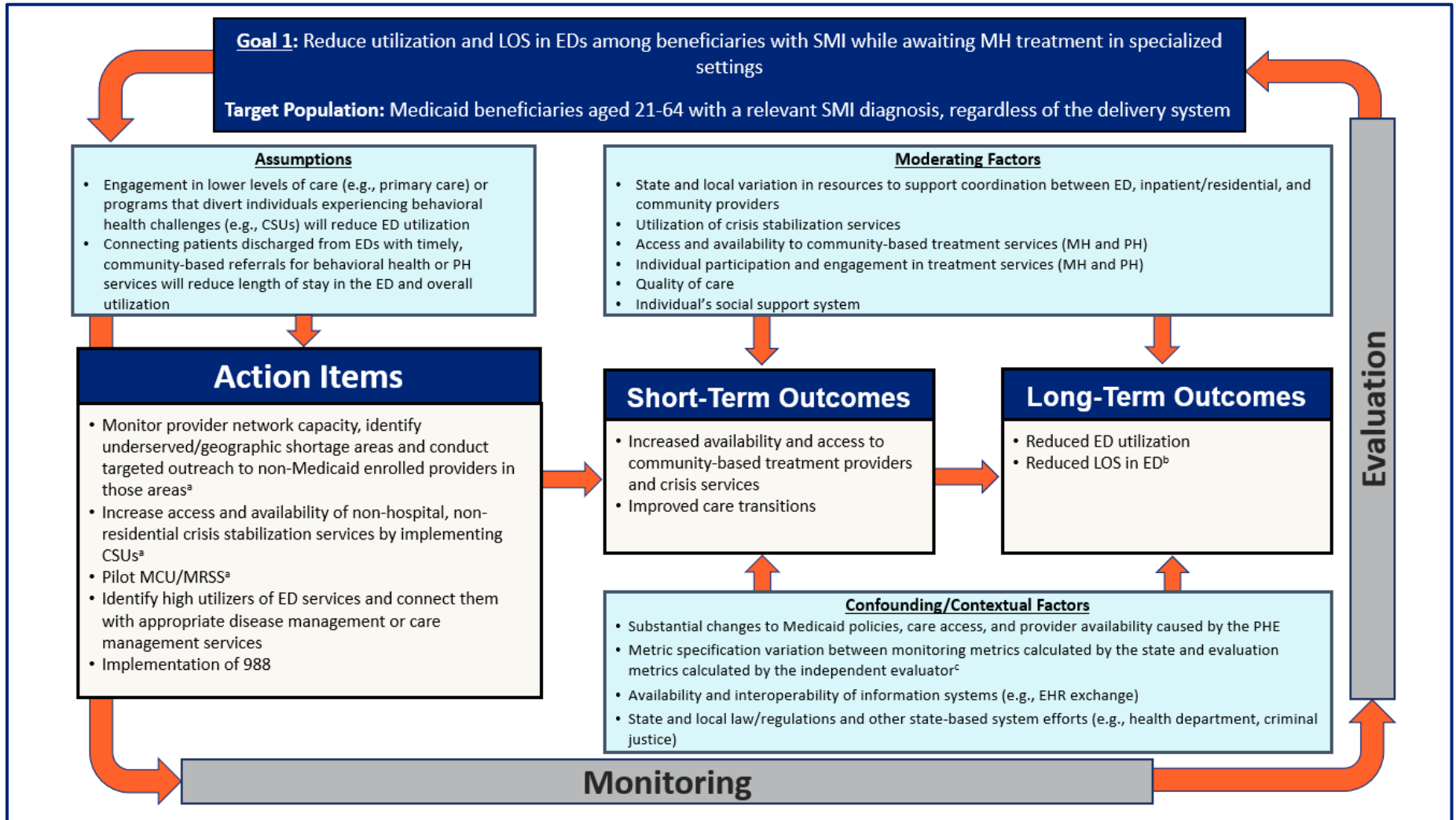
**Exhibit II.3** provides the logic model corresponding to this goal.

<sup>19</sup> ED LOS is typically calculated using data from a patient’s clinical record. Given that data sources for the evaluation relied on claims and encounter data, which does not contain information specific to time spent in an ED, analyses were restricted to ED utilization only.

<sup>20</sup> Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health & Human Services. Trends in the Utilization of Emergency Department Services, 2009-2018. 2021. <https://aspe.hhs.gov/pdf-report/utilization-emergency-department-services>

<sup>21</sup> Niedzwiecki MJ, Sharma PJ, Kanzaria HK, McConville S, Hsia RY. Factors Associated With Emergency Department Use by Patients With and Without Mental Health Diagnoses. *JAMA Netw Open.* 2018;1(6):e183528. doi:10.1001/jamanetworkopen.2018.3528

Exhibit II.3: Logic Model for Goal 1



<sup>a</sup> Action items identified in the state's SMI Implementation Plan

<sup>b</sup> LOS is measured by the state for IMDs and not specifically for ED. Consequently, this outcome was not examined in the Interim Report.

<sup>c</sup> Metric specifications in monitoring metrics differ from metric specifications used by the evaluator. Consequently, monitoring metric data was not used as comparators for the Interim Report. Monitoring metrics are used by the state to assess progress.



**B. Goal 2: Reduced preventable readmissions to acute care hospitals and residential settings.**

Patients with SMI may be vulnerable to unplanned hospital readmission.<sup>22</sup> Unplanned hospital readmission is a common but potentially preventable health care outcome and quality indicator associated with considerable health care costs. Recent studies have indicated that 30-day hospital readmissions among Medicaid beneficiaries with SMI are higher than rates of 30-day readmissions after medical hospitalizations than the general population.<sup>23,24</sup>

Goal 2 explores the impact of expanding access to high-quality, evidence-based MH services in IMDs on reductions to preventable readmissions to acute care hospitals and residential settings. **Exhibit II.4** lists the hypothesis and RQs corresponding to this goal.<sup>25</sup>

**Exhibit II.4: Hypothesis and Research Questions for Goal 2**

Hypotheses	Research Questions
<p><b>Hypothesis 2:</b> The SMI demonstration will result in reductions in preventable readmissions to acute care hospitals and residential settings.</p>	<p><b>Primary research question 2:</b> Does the SMI demonstration result in reductions in preventable readmissions to acute care hospitals and residential settings (including, short-term inpatient and residential admissions to both IMDs and non-IMD acute care hospitals, critical access hospitals, and residential settings)?</p> <p><b>Subsidiary research question 2.1:</b> How do the SMI demonstration effects on reducing preventable readmissions to acute care hospitals and residential settings vary by geographic area or beneficiary characteristics?</p> <p><b>Subsidiary research question 2.2:</b> How do demonstration activities contribute to reductions in preventable readmissions to acute care hospitals and residential settings?</p>

**Exhibit II.5** provides the logic model corresponding to this goal.

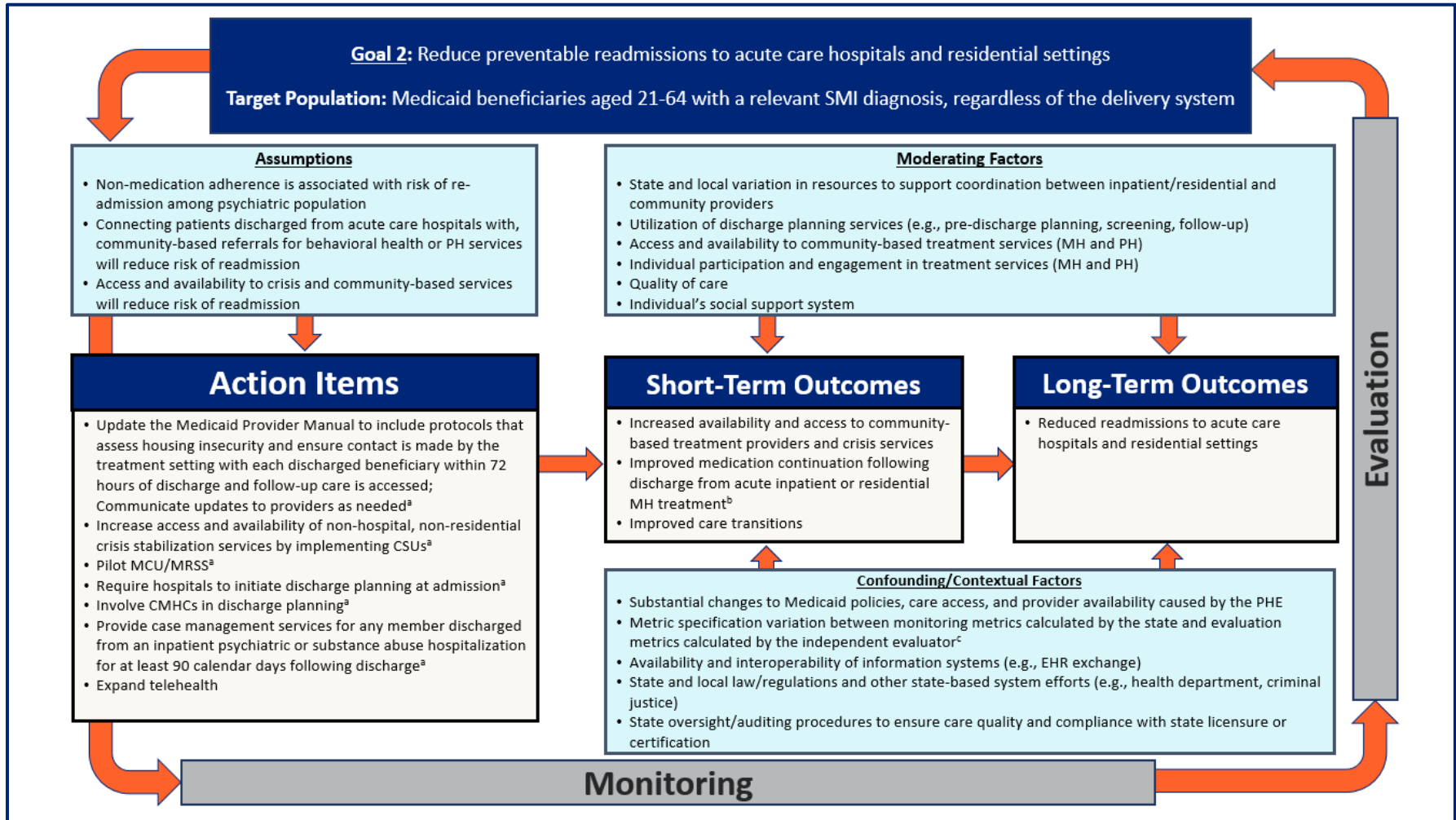
<sup>22</sup> Albrecht, J. S., Hirshon, J. M., Goldberg, R., Langenberg, P., Day, H. R., Morgan, D. J., Comer, A. C., Harris, A. D., & Furuno, J. P. (2012, April 26). *Serious mental illness and acute hospital readmission in diabetic patients*. American journal of medical quality: the official journal of the American College of Medical Quality. Retrieved April 22, 2022, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3677605/>

<sup>23</sup> Cook, J. A., Burke-Miller, J. K., Razzano, L. A., Steigman, P. J., Jonikas, J. A., & Santos, A. (2021, February 13). *Serious mental illness, other mental health disorders, and outpatient health care as predictors of 30-day readmissions following medical hospitalization*. General Hospital Psychiatry. Retrieved April 22, 2022, from <https://www.sciencedirect.com/science/article/pii/S0163834321000244>

<sup>24</sup> Cook, J. A., Burke-Miller, J. K., Jonikas, J. A., Aranda, F., & Santos, A. (2020, September). *Factors associated with 30-day readmissions following medical hospitalizations among Medicaid beneficiaries with schizophrenia, bipolar disorder, and major depressive disorder*. American Psychological Association PsycNet. Retrieved April 22, 2022, from <https://psycnet.apa.org/record/2020-66663-001>

<sup>25</sup> Indiana is not including Subsidiary Research Question 2.3: “Does the SMI demonstration result in increased screening and intervention for comorbid SUD and PH conditions during acute care psychiatric hospital and residential setting stays and increased treatment for such conditions after discharge?” Calculation and monitoring of such a metric will require medical reviews be performed which would require substantial resources. As this RQ is not associated with primary objective of the waiver, the state determined (during the development of the Evaluation Plan) that this metric would not be monitored or calculated.

Exhibit II.5: Logic Model for Goal 2



<sup>a</sup> Action items identified in the state's SMI Implementation Plan

<sup>b</sup> Medication continuation following discharge from acute inpatient or RMHT is monitored by the state (e.g., monitoring metric # 6). and included in quarterly CMS reports. Monitoring metric findings were included in the MPA.

<sup>c</sup> Metric specifications in monitoring metrics differ from metric specifications used by the evaluator. Consequently, monitoring metric data was not used as comparators for the Interim Report. Monitoring metrics are used by the state to assess progress.

**C. Goal 3: Improved availability of crisis stabilization services utilizing multiple service models to meet the unique needs across the state**

Crisis response and stabilization (e.g., crisis call centers, crisis mobile team response, crises receiving and stabilization services) is a basic element of MH care and often serves as an access point for connecting individuals to community care resources. Although evidence regarding crisis response programs is emerging, research has indicated that crisis response is associated with improved health outcomes.<sup>26</sup>

Goal 3 assesses the availability of crisis stabilization services utilized across multiple service models. **Exhibit II.6** lists the hypothesis and RQs corresponding to this goal.

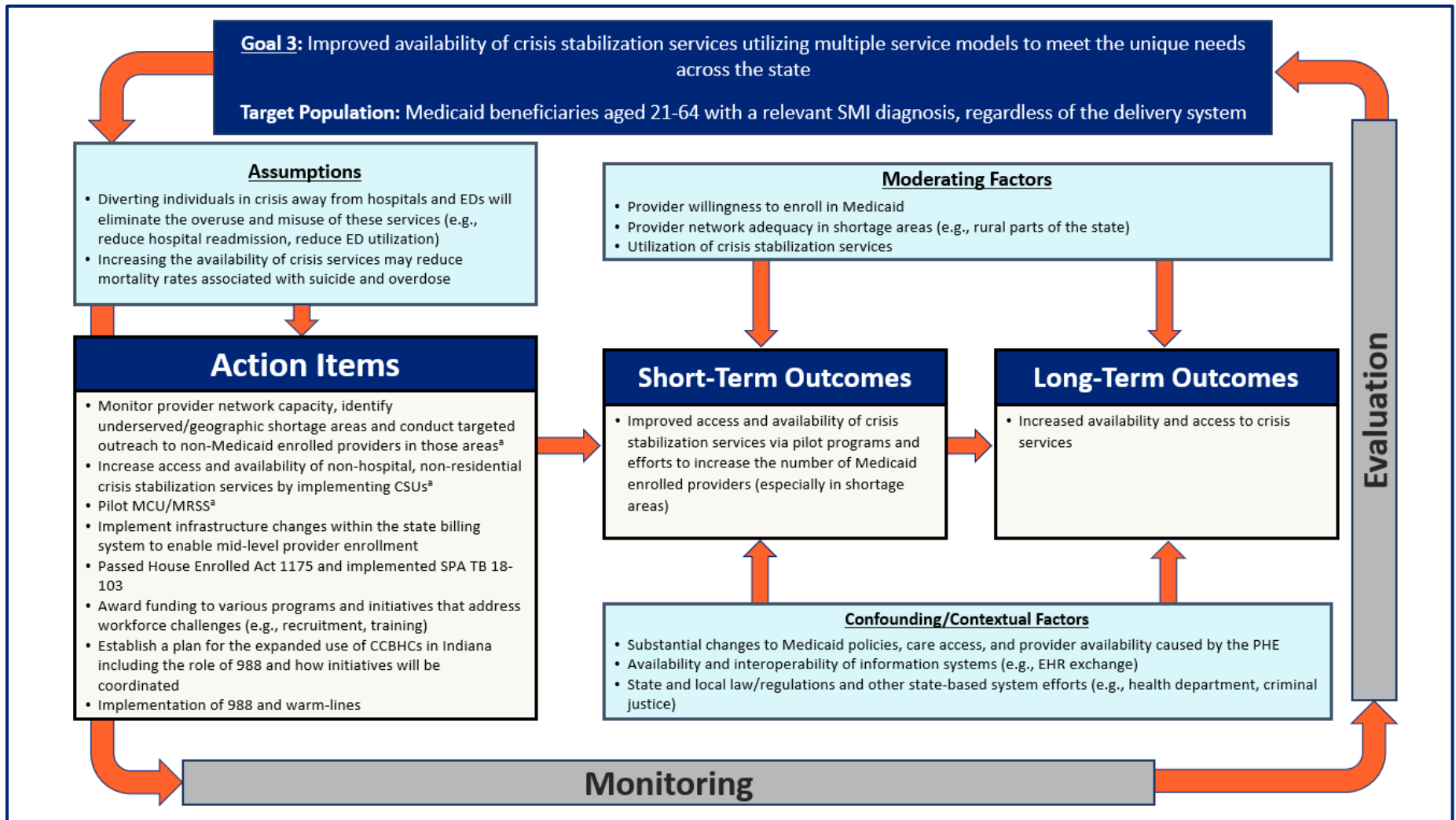
**Exhibit II.6: Hypothesis and Research Questions for Goal 3**

Hypotheses	Research Questions
<p><b>Hypothesis 3:</b> The SMI demonstration will result in improved availability of crisis stabilization services throughout the state.</p>	<p><b>Primary research question 3.1:</b> To what extent does the SMI demonstration result in improved availability of crisis outreach and response services (including crisis call centers, MCU/MRSS, crisis observation/assessment centers, and coordinated community crisis response teams [CCCRT]) throughout the state?</p> <p><b>Primary research question 3.2:</b> To what extent does the SMI demonstration result in improved availability of IOP services and partial hospitalization?</p> <p><b>Primary research question 3.3:</b> To what extent does the SMI demonstration improve the availability of crisis stabilization services provided during acute short-term stays in each of the following: public and private psychiatric hospitals; residential treatment facilities; general hospital psychiatric units; and community-based settings (such as residential crisis stabilization programs, small inpatient units in CHMCs, peer-run crisis respite programs, etc.)?</p>

**Exhibit II.7** provides the logic model corresponding to this goal.

<sup>26</sup> Vikki, W., & Natasha, C. (2021, May). *Building blocks: How Medicaid can advance mental health and substance use crisis response*. Well Being Trust. Retrieved April 22, 2022, from <https://wellbeingtrust.org/wp-content/uploads/2021/05/WBT-Medicaid-MH-and-CrisisCareFINAL.pdf>

Exhibit II.7: Logic Model for Goal 3



<sup>a</sup> Action items identified in the state’s SMI Implementation Plan

**D. Goal 4: Improved access to community-based services to address the chronic MH care needs of beneficiaries with SMI including increased integration of primary and behavioral health care.**

Approximately 10.4 million adults in the United States had an SMI in 2016, yet only 65 percent received MH services during that year.<sup>27</sup> Individuals with SMI suffer disproportionately from PH conditions than their non-SMI peers and are at increased risk for a range of acute and chronic diseases (e.g., diabetes, cardiovascular disease, respiratory disease, cancer, and infectious disease). In fact, life expectancy estimates for adults with SMI range from 8 to 30 years lower than for the general population. Disparities have been attributed to modifiable risk factors such as substance use, poor nutrition, lack of exercise, obesity, housing instability and low socioeconomic status. Fragmentation between the general medical and behavioral health sectors is widely considered to be a significant contributor to the poor overall health outcomes associated with SMI populations.<sup>28</sup> Treatment options that span the entire continuum of care are needed, particularly for those individuals living with a SMI.

Goal 4 assesses access to MH community-based services for beneficiaries with SMI. **Exhibit II.8** lists the hypothesis and RQs corresponding to this goal.

**Exhibit II.8: Hypothesis and Research Questions for Goal 4<sup>29</sup>**

Hypotheses	Research Questions
<p><b>Hypothesis 4:</b> Access of beneficiaries with SMI to community-based services to address their chronic MH care needs will improve under the demonstration, including through increased integration of primary and behavioral health care.</p>	<p><b>Primary research question 4.1:</b> Does the demonstration result in improved access of beneficiaries with SMI to community-based services to address their chronic MH care needs?</p> <p><b>Subsidiary research question 4.1a:</b> To what extent does the demonstration result in improved availability of community-based services needed to comprehensively address the chronic MH needs of beneficiaries with SMI?</p> <p><b>Primary research question 4.2:</b> Does the integration of primary and behavioral health care to address the chronic MH care needs of beneficiaries with SMI improve under the demonstration?</p>

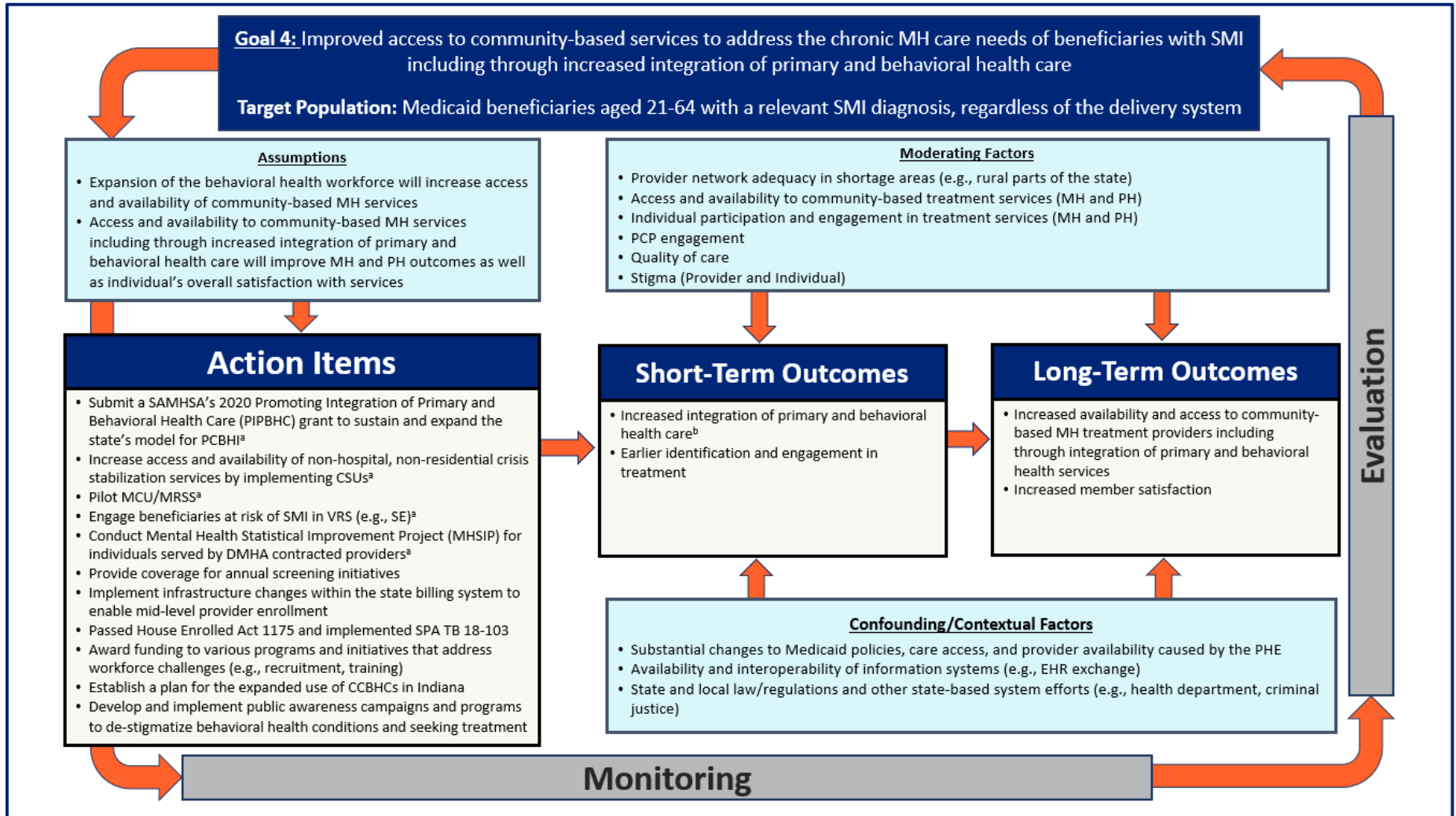
**Exhibit II.9** provides the logic model corresponding to this goal.

<sup>27</sup> *Facilitating access to mental health services: A look at Medicaid, private insurance, and the uninsured.* Kaiser Family Foundation. (2019, March 14). Retrieved April 22, 2022, from <https://www.kff.org/medicaid/fact-sheet/facilitating-access-to-mental-health-services-a-look-at-medicaid-private-insurance-and-the-uninsured/>

<sup>28</sup> Breslau, J., Sorbero, M. J., Kusuke, D., Yu, H., Scharf, D. M., Hackbarth, N. S., & Pincus, H. A. (2019, March 28). *Primary and behavioral health care integration program: Impacts on Health Care Utilization, cost, and quality.* Office of the Assistant Secretary for Planning and Evaluation. Retrieved April 22, 2022, from <https://aspe.hhs.gov/reports/primary-behavioral-health-care-integration-program-impacts-health-care-utilization-cost-quality-0>

<sup>29</sup> Indiana §1115(a) SMI Demonstration Evaluation Plan. Approved by CMS December 17, 2020.

Exhibit II.9: Logic Model for Goal 4



<sup>a</sup> Action items identified in the state's SMI Implementation Plan

<sup>b</sup> Increased integration of primary and behavioral health care, screening, and health outcomes are monitored by the state (e.g., monitoring metric #23, 26, 29, and 30) and included in quarterly CMS reports. Monitoring metric findings were included in the MPA.

## E. Goal 5: Improved care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities.

Disparities in health outcomes for individuals with SMI suggests a need for a coordinated, multifaceted approach that goes beyond conventional psychiatric care. In addition to disparities in health outcomes, people with SMI often use the MH care system as their principal setting for access to medical and social care.<sup>30,31,32</sup> As such, community MH settings are challenged to address the many demands associated with comorbid chronic medical conditions and related primary and preventive care needs.<sup>33</sup> A key strategy to reducing these disparities requires effective coordination and care integration.

Goal 5 assesses care coordination by examining ED follow-up rates. **Exhibit II.10** lists the hypothesis and RQs corresponding to this goal.

**Exhibit II.10: Hypotheses and Research Questions for Goal 5<sup>34</sup>**

Hypotheses	Research Questions
<b>Hypothesis 5:</b> The SMI demonstration will result in improved care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities.	<p><b>Primary research question 5.1:</b> Does the SMI demonstration result in improved care coordination for beneficiaries with SMI?</p> <p><b>Primary research question 5.2:</b> Does the SMI demonstration result in improved continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities?</p> <p><b>Subsidiary research question 5.2b:</b> How do demonstration activities contribute to improved continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities?</p>

**Exhibit II.11** provides the logic model corresponding to this goal.

<sup>30</sup> Bartels SJ (2003). Improving the system of care for older adults with mental illness in the United States: Findings and recommendations for the President's new freedom commission on mental health. *American Journal of Geriatric Psychiatry*, 11, 486–497.

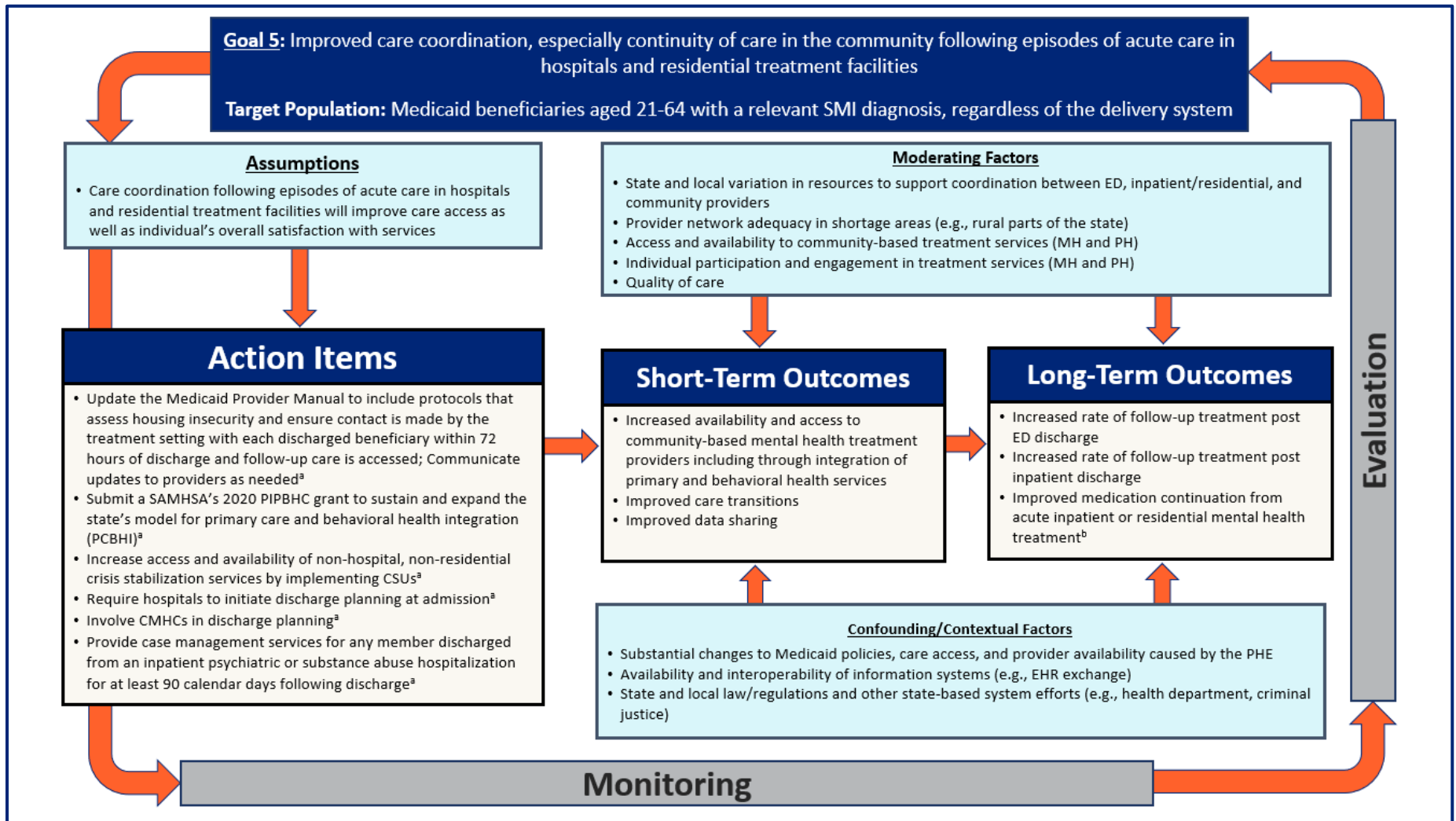
<sup>31</sup> De Hert M, Correll CU, Bobes J, Cetkovich-Bakmas M, Cohen D, Asai I, ... Leucht S (2011a). Physical illness in patients with severe mental disorders. I. Prevalence, impact of medications and disparities in health care. *World Psychiatry*, 10, 52–77.

<sup>32</sup> Bao Y, Casalino LP, & Pincus HA (2013). Behavioral health and health care reform models: Patient-centered medical home, health home, and accountable care organization. *Journal of Behavioral Health Services & Research*, 40, 121–132.

<sup>33</sup> Bao Y, Casalino LP, & Pincus HA (2013). Behavioral health and health care reform models: Patient-centered medical home, health home, and accountable care organization. *Journal of Behavioral Health Services & Research*, 40, 121–132.

<sup>34</sup> Indiana is not including Subsidiary RQ 5.2a: “Does the SMI demonstration result in improved discharge planning and outcomes regarding housing for beneficiaries transitioning out of acute psychiatric care in hospitals and Residential treatment facilities?” This is because this Evaluation Plan is limited to one year of analysis and the level of effort involved in obtaining and reviewing facility records, and facility discharge records, is substantial considering the scope of this evaluation and state resources.

Exhibit II.11: Logic Model for Goal 5



<sup>a</sup> Action items identified in the state's SMI Implementation Plan

<sup>b</sup> Increased integration of primary and behavioral health care, screening medication continuation outcomes are monitored by the state (e.g., monitoring metric #23, 26, 29, and 30) and included in quarterly CMS reports. Monitoring metric findings were included in the MPA.



### III. Methodology

Evaluation of the program goals were based on a mixed-methods approach employing quantitative and qualitative analyses to examine the demonstration's impact on Medicaid beneficiaries aged 21-64 years with a SMI diagnosis between 2021 and 2023. Quantitative data was compiled from various sources including administrative data, medical claims/encounter, and Medicaid enrollment data. Qualitative data was compiled from KIIs and captures member, provider, advocacy organization, state official, and MCE experiences and perspectives.

Since the approval of the Evaluation Plan, Lewin's understanding of the program, available data sources, and monitoring metrics has evolved yielding adjustments to the initial plan. For example:

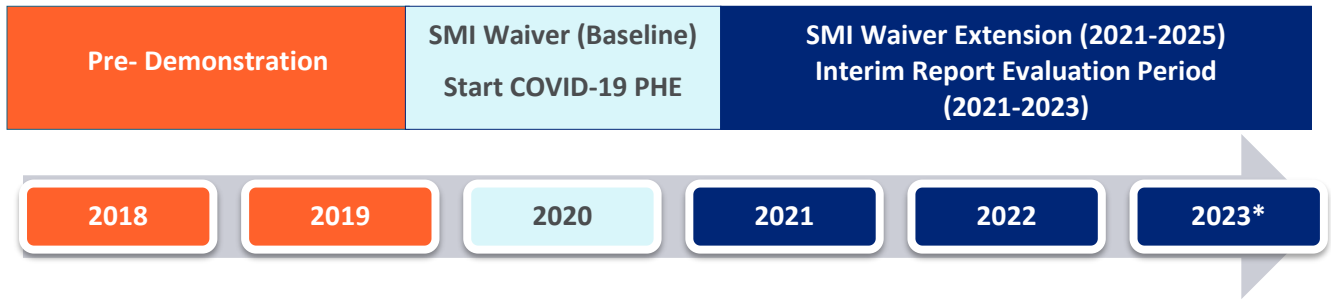
- Some RQs were not fully addressed because of data limitations. For example, Primary RQ 1.1 focuses on reductions in ED utilization and LOS in ED. The evaluation relied on claims and encounter data, which contains information about utilization of the services, but does not contain information specific to time spent in an ED. Hence, for RQ1.1, analyses were restricted to ED utilization only (and did not examine LOS). Additionally, RQ 1.1 includes the phrase "while awaiting MH treatment in a specialized setting." Given that claims data does not capture information on whether the services utilized was while waiting for another service; the analysis population for RQ1.1 was not restricted to those awaiting MH treatment in specialized settings. Goal introductions in **Section V** delineate if an RQ was not fully addressed.
- The Evaluation Plan identified several monitoring metrics as benchmarks for select outcomes. Metric specifications in monitoring metrics differ from metric specifications used by the evaluator. Consequently, monitoring metric data was not used as comparators for the Interim Report.

#### A. Quantitative Methods

##### A.1. Evaluation Period

Analyses for this report examined the effect of the SMI demonstration during the waiver extension (2021 – 2023). Data from the two years preceding the demonstration (2018 and 2019) and the waiver (2020) was used (when relevant and available) to examine whether outcomes of interest changed over time. **Exhibit III.1** depicts the evaluation phases of the demonstration. As stated in **Section I.G**, due to the COVID-19 PHE, the state shifted many of the planned implementation action items (from the waiver to the waiver extension) to accommodate access to and delivery of high-quality MH services for all IN residents, particularly given the social distancing and health care resource prioritization. Subsequently, progress for achieving demonstration goals was impacted by COVID-19 related policy changes and activities. Therefore, findings for the waiver extension likely reflect both the impact of COVID-19 related policy changes and activities as well as demonstration impacts. Consequently, any observed changes should be interpreted with caution as findings may be confounded by the impact of the PHE.

**Exhibit III.1: SMI Demonstration Evaluation Periods**



\* The COVID-19 PHE ended in May 2023.

**A.2. Data Sources**

The following sources were used to evaluate the demonstration goals identified in **Section I.C.:**

- **Member Eligibility and Enrollment Data:** This data provides monthly information on beneficiary Medicaid enrollment status, coverage, and socio-demographics for 2018-2023.
- **Claims/Encounter Data:** The claims/encounter records provide information about the health care utilization of beneficiaries (based on start date of service) and enrolled providers that are actively providing services between 2018 and 2023.
- **Administrative Data:** Program administrative data includes items such as the number of FQHCs that offer behavioral health services and the number of enrolled Medicaid providers of various types. Administrative data sources used to evaluate demonstration goals include:
  - **Provider Availability Assessment (PAA)** – Conducted annually (starting in 2020 and coinciding with the waiver) by the state, the assessment compiles county-level information specific to provider availability for different MH providers including psychiatrists, other practitioners, outpatient, CMHCs, IOP, residential, inpatient, and crisis stabilization services that deliver care to SMI populations. PAA data was used to examine changes in provider capacity over time.<sup>35</sup> PAA data is compiled at the county level and does not account for an individual provider delivering care across multiple counties. Only validated data was included in the Interim Report. Data considerations and limitations include the following and are further outlined in **Exhibit III.2:**
    - Given that the PAA did not contain information specific to partial hospitalization during the evaluation time-period, analyses for RQ 3.2 were restricted to IOP only.<sup>36</sup>
    - Between 2020 and 2023, the state adjusted definitions for provider types and or removed provider types from the PAA. For example, crisis

<sup>35</sup> PAA data was used to assess change over time when examining availability and access to crisis stabilization services (Goal 3) and community-based services (Goal 4).

<sup>36</sup> The PAA data collection template for 2020 included a field for “Intensive Outpatient/Partial Hospitalization” providers, but state-validated data for this metric were not available for 2020. In the 2021 data collection template, CMS separated partial hospitalization from this metric to instead specifically collect information related to “Providers Offering Intensive Outpatient Services.”

observation/assessment centers were included under the CSU provider type and not counted as a unique provider type for 2023 reporting (as Indiana does not organize these types of services separately).

- Indiana’s available crisis services do not include CCCRTs or psychiatric units in critical access hospitals; thus, these service types are not evaluated and discussed in subsequent sections of this report.
- For some provider types (including IOP providers, Medicaid-enrolled psychiatric units in acute care hospitals, psychiatric hospital beds, and RMHT facility beds) the state supplied updated PAA data in September 2024 for the full analyses time-period (2020-2023). State officials indicated that the revised data accounted for any updates to how the state identifies and counts providers. For some instances the revised data was only available for recent years (e.g., 2022 and 2023). Data sources are detailed for each provider type in the relevant results sections.

**Exhibit III.2. PAA Data Limitations By Provider Type**

Type of Provider	Assessment Unit	Data Limitations
Crisis Stabilization Services	<ul style="list-style-type: none"> <li>• CSUs</li> <li>• Crisis observation/assessment centers</li> <li>• MCU/MRSS</li> <li>• CCCRTs</li> <li>• Crisis call centers</li> <li>• CCBHCs</li> <li>• Number of providers providing crisis stabilization services (based on H2011 procedure code)</li> </ul>	<ul style="list-style-type: none"> <li>• Crisis observation/assessment centers were included under the CSU classification beginning in 2023.</li> <li>• Indiana does not include CCCRTs in the state’s portfolio of crisis services; therefore, this measure was not reported in subsequent results sections.</li> </ul>
IOP Services	Distinct and organized intensive ambulatory treatment program that offers less than 24-hour daily care other than in an individual’s home or in an inpatient or residential setting.	Data was not available for 2020.
Inpatient	Public and private psychiatric hospitals	None
	Psychiatric hospitals that qualify as IMDs	None
	Medicaid-enrolled psychiatric units in acute care hospitals	State provided data for Medicaid-enrolled acute care hospitals providing psychiatric services.
	Medicaid-enrolled psychiatric units in critical access hospitals	Indiana has a limited number of critical access hospitals, and none had a psychiatric unit in 2020 to 2023. Therefore, this measure was not reported in subsequent results sections
	Licensed psychiatric hospital beds	<ul style="list-style-type: none"> <li>• Data was not available for 2020.</li> <li>• Current bed counts for public psychiatric hospitals were available. Although bed counts for prior years were not available, the state indicated that counts were consistent for the past few years. Consequently, we applied the current public psychiatric hospital bed counts to years 2021-2023.</li> </ul>

Type of Provider	Assessment Unit	Data Limitations
RMHTs	RMHT facilities	Data was not available for 2020.
	RMHT facility beds	Data was not available for 2020-2021.
CMHCs	Sites/locations providing outpatient MH services, 24-hour emergency care services, day treatment, screenings, and consultation and educational services, as defined at 42 CFR §410.2 (overall and Medicaid-enrolled).	<ul style="list-style-type: none"> <li>For overall CMHC counts, between 2020 and 2023, the state only reported CMHC satellite locations that provided MH-related services. Beginning in 2023, however, the state began reporting all CMHC satellite locations without differentiating among sites providing MH services. Thus, growth in CMHCs in 2023 cannot be compared to prior years.</li> <li>Data was not available for Medicaid-enrolled CMHC sites for 2020-2021.</li> </ul>
Practitioners	Psychiatrists or other practitioners who are authorized to prescribe psychiatric medications	Data was not available for 2020-2021.
	Medicaid-enrolled psychiatrists or other practitioners who are authorized to prescribe psychiatric medications	Data was not available for 2020-2022.
	Other practitioners certified and licensed to independently treat mental illness	Data was not available for 2020-2023.
	Medicaid-enrolled other practitioners certified and licensed to independently treat mental illness	Data was not available for 2020-2023.
FQHCs	Entities that have entered into an agreement with CMS to meet Medicare program requirements under 42 CFR §405.2434 and 42 CFR §405.2401, typically serving underserved area (or population) providing comprehensive on-site (or by arrangement with another provider) services (e.g., preventative health, dental, MH, substance use, and transportation)	None

- H2011 Data* - Crisis stabilization services provided by behavioral health providers at clinics or hospitals are captured in claims/encounter using H2011 Healthcare Common Procedure Coding System (HCPCS) code. To assess the use of crisis stabilization services the state also tracks the number of providers who submitted an H2011 claim and the number of beneficiaries who received crisis stabilization services by provider type. Given that crisis stabilization (H2011 claims) services are paid for any Medicaid beneficiary in crisis (i.e., not constrained to those with a primary or secondary SMI condition) and that the data provided was aggregated, the evaluation team was unable to assess the percentage of SMI beneficiaries who received crisis stabilization services. It is possible that an individual in crisis may be treated by a provider yet not have a H2011 claim submitted. H2011 data was used to examine utilization of crisis stabilization services at clinic or hospital settings, even though it is not restricted to the SMI waiver population.

- *Monitoring Reports* –The state calculates select metrics identified in the state’s CMS-approved SMI Monitoring Protocol on a quarterly or annual (starting in 2020 and coinciding with the waiver) basis using a combination of data sources, including member enrollment data, claims/encounter data, medical and administrative records, and other state-specific databases. As appropriate and feasible, these reports were used to validate calculations for outcome measures (e.g., ED visits). As stated previously, monitoring metrics were not used as comparators due to variation in specifications applied by the state versus the independent evaluator.

### **A.3. Target Population – Construction of the SMI Beneficiary Roster**

The “SMI beneficiary roster” is the term used to describe the target/analytic population throughout the report. The SMI beneficiary roster was constructed to support all quantitative analyses that used claims/encounter data. This roster includes annual data for all individuals who had Medicaid coverage for at least one month in any year (2018-2023) and at least one health care service visit that included a primary and/or secondary diagnosis of SMI on the claim. To reflect the chronic nature of SMI, beneficiaries that met the latter criteria were included in subsequent years regardless of whether their health care visits were associated with SMI (i.e., health care visit had a primary and/or secondary diagnosis of SMI on the claim, as long as the beneficiary met eligible Medicaid enrollment and age requirements in those subsequent years). For example, if beneficiary “A” was identified for roster inclusion in 2020 (i.e., had Medicaid coverage for at least one month, a health care visit with a SMI condition as the primary and/or secondary diagnosis on the claim, and was between 21 and 64 years of age), the individual would remain in the roster in 2021, 2022, and 2023 even if the individual never sought care related to their SMI condition in 2021, 2022, or 2023. More specifically, inclusion criteria for the SMI beneficiary roster are:

- Had at least one approved (non-denied) health care service utilization (within the year or in a prior year) that was not paid by a third-party payer and included:
  - A service begin date between January 1 and December 31 of that year, and
  - Any one of the four diagnosis codes in the primary or secondary diagnosis position: F20.xx (schizophrenia and sub codes up to 2 places), F25.xx (schizoaffective disorder and sub codes up to two places), F31.xx (bipolar disorder and all sub codes up to 2 places), and F33.xx (MDD, recurrent and all sub codes up to two places).
- Had SMI waiver-eligible Medicaid coverage for at least one month in the year (populations excluded are listed in **Exhibit I.2**).
- Were between ages 21 and 64 as of December 31 in that year.

### **A.4. Measure Development and Calculation**

Claims/encounters related to services for beneficiaries in the roster were used to develop utilization-based outcome measures, overall and for key demographic subgroups. In addition, state administrative data sources (i.e., the PAA) were used to calculate metrics related to provider, facility, and service availability. **Exhibit III.3** summarizes the analytic populations,

outcome measures, beneficiary cohorts, and data sources by goal. Detailed specifications for each measure and relevant calculations are included in **Section V** and **Attachment D**.

**Exhibit III.3: Analytic Population Measures and Data Sources by Goal**

Goal	Analytic Population	Outcome Measures	Cohort	Data Sources	Time-period
1	SMI Beneficiary Roster Population, with 10 or more months of (SMI Waiver) Medicaid eligibility within a year <sup>37</sup>	All-cause ED participation rate and utilization rate. The utilization rate was calculated as the count of services (or visits) per 1,000 beneficiaries and reflects the frequency at which beneficiaries access the service. The metric was calculated for yearly as well as for selected beneficiary cohorts.	Gender, age group, race, ethnicity, geographic location (metro/non-metro), chronic conditions, dual eligibility, and whether the member is enrolled in a HIP or non-HIP program at the time of the ED visit.	Claims/encounter data - ED visits were identified using procedure codes or revenue codes. Enrollment data.	2018-2023
2	SMI Beneficiary Roster Population	All-cause unplanned 30-day readmission rate to acute care hospitals and residential settings following a psychiatric hospitalization.	Gender, age group, race, ethnicity, geographic location (metro/non-metro), chronic conditions, dual eligibility, and whether the member is enrolled in a HIP or non-HIP program at the time of the index admission.	Claims/encounter data – Psychiatric hospitalizations and readmission were identified using a combination of procedure codes or International Classification of Diseases (ICD10) codes.	2018-2023
3	Providers as reported in PAA	The number of crisis call centers, MCU/MRSS, crisis observation/assessment centers, CCCRTs.	N/A	State administrative data PAA.	2020-2023
4	SMI Beneficiary Roster Population, with 10 or more months of (SMI Waiver) Medicaid eligibility within a year	Number and percentage of eligible beneficiaries who received community-based services (outpatient rehabilitation, targeted case management, HCBS/LTSS, and outpatient MH services). The metric was calculated for yearly as well as for selected beneficiary cohorts.	Gender, age group, race, ethnicity, geographic location (metro/non-metro), chronic conditions, dual eligibility, and whether the beneficiary is enrolled in a HIP or non-HIP program at the time of the ED visit.	Claims/encounter data – services were identified primarily on the FSSA professional fee schedules. Outpatient Rehab and Outpatient MH Service codes were included in the technical specifications but may not be reimbursed by FSSA. HealthWaiver program codes were used to identify outpatient rehabilitation and HCBS waiver programs.	2018-2023

<sup>37</sup> Counts of Medicaid-eligible months were calculated after a beneficiary’s first diagnosis of SMI between 2018 and 2023. For example, if a beneficiary met the roster inclusion requirements for 2018 and had eligible Medicaid coverage from January 2018 to December 2018, but was first diagnosed with SMI in March 2018, they were not included in the analytic population for 2018 (i.e., this beneficiary would not have 10 months of Medicaid enrollment after their first SMI diagnosis date).

Goal	Analytic Population	Outcome Measures	Cohort	Data Sources	Time-period
4 (cont.)	Providers and facilities certified by DMHA/Medicaid	The number of Medicaid-enrolled CMHCs, psychiatrists and other MH practitioners authorized to prescribe, and (non-psychiatrist) practitioners certified and licensed by the state to independently treat mental illness; the number of FQHCs that offer behavioral health services.	N/A	State administrative data – PAA.	2020-2023
5	SMI Beneficiary Roster Population	Proportion of MH-related ED visits with a follow-up visit recorded by any provider within 7 and/or 30 days.	Gender, age group, race, ethnicity, geographic location (metro/non-metro), chronic conditions, dual eligibility, and whether the member is enrolled in a HIP or non-HIP program at the time of the ED visit.	Claims/encounter data - ED visits were identified using procedure codes or revenue codes. Follow-up visits were identified using procedure codes, diagnosis codes, revenue codes, and place of service (POS) codes.	2018-2023

### A.5. Analytic Methods

Standard approaches were used to estimate changes in key outcome measures (identified based on demonstration goals) pre- and post- demonstration implementation relative to a comparison population. During the development of the Evaluation Plan strategies for comparative analyses, both within-state and other-state comparison groups who are similar to the target population but not subject to the policies being evaluated were considered. Ideally, a comparison group used to evaluate the impact of program implementation is a population with similar demographics but without comparable program or policy changes. Although CMS guidance outlined several possible comparison groups, none were identified as feasible or ideal for this evaluation due to specific aspects of the Indiana SMI waiver (See **Attachment F**: Indiana SMI Evaluation Plan: 2021-2025). As a result (and depending on the research question), Indiana’s Evaluation Plan uses quasi-experimental analyses when adequate data was available before and after policy implementation to examine effect of the demonstration on the target population.

*Enrollment and Claims/Encounter Based Outcome Measures.* Descriptive statistics (e.g., count and percent of beneficiaries) were calculated to summarize the characteristics of the SMI beneficiary population across time as well as conduct observational inference on trends for outcome measures (e.g., number of visits, participation rate). Annual participation and utilization rates were also calculated for both the full SMI beneficiary roster as well as selected cohorts (e.g., gender, age, race, ethnicity, location [metro/non-metro classification], dual eligibility, whether the beneficiaries were in HIP,<sup>38</sup> and the presence of chronic conditions) to examine

<sup>38</sup> HIP provides Medicaid health insurance coverage for qualified low-income, non-disabled adults ages 19 to 64. Close to 70% of Indiana Medicaid beneficiaries ages 19-64 have coverage thru HIP (Source: <https://www.in.gov/fssa/ompp/files/IHCP-Monthly-Enrollment-Report-Dec-2020.xlsx>, Accessed on 03/11/2022).

variation across time and by subgroup. When appropriate, interrupted time series (ITS) regression models were developed to examine average changes in outcome measures over time controlling for beneficiary characteristics. Regression models included beneficiary characteristics (e.g., gender, age, race) as control factors in addition to indicators for pre- and post- demonstration. Specific analytic approaches are detailed for each goal in its relevant section (**Results Section V.C – V.G**) and **Attachment E**.

*Administrative Data – PAA Data based Measures.* State based maps were developed to visually depict the count of providers across Indiana’s 92 counties. Changes in the number of providers by county across the waiver and waiver extension were also examined.

## **B. Qualitative Methods**

As stated previously, the Interim Report builds on findings from the 2022 Summative Report and 2023 MPA and documents the state’s progress in achieving demonstration goals. Given that the evaluation period (2021-2023) overlaps with the MPA evaluation period (2021-2022) and included several interviewees from prior interviews, the qualitative approach used in 2024:

- Confirmed findings identified in the 2023 interviews for the 2021-2022 evaluation period.
- Identified new insights specific to 2023.
- Assessed the consistency of findings across the full evaluation period (2021-2023) as well as the findings delineated in the Summative Report (2021 interviews).

Consequently, qualitative results summarize findings from the 2023 and 2024 interviews. Qualitative methods used for both interview cohorts are the same.<sup>39</sup>

### **B.1. Sample**

- *2023 Interviews.* Between April and October 2023, Lewin conducted 50 KIIs with FSSA state officials (n= 8), MCEs (n=5), advocacy organizations (n=3), providers (n=9), and beneficiaries (n=25). **Exhibit III.1** in the MPA<sup>40</sup> provides a brief description of the respondents, interview topics, and relevant milestones addressed.
- *2024 Interviews.* Between April and July 2024, Lewin conducted 50 KIIs with FSSA state officials (n= 7), MCEs (n=5), advocacy organizations (n=6), providers (n=7), and beneficiaries (n=25). **Exhibit III.4** provides a brief description of the respondents, interview topics, and relevant goals addressed. KIIs were conducted virtually and lasted 20-60 minutes (depending on interview type).

### **B.2. Procedures**

Lewin worked with the Indiana OMPP federal reporting team to identify appropriate interviewees for FSSA state official, MCE, advocacy organization, and provider interviews. For

<sup>39</sup> Although qualitative methods used across the cohorts are the same, question sets differed to better extract information relevant to goals rather than milestones.

<sup>40</sup> The MPA will be published by FSSA and available on the FSSA website upon approval by CMS. We anticipate approval will be received in 2025 prior to approval and publication of the Interim Report. Upon approval, this footnote will be replaced with a link to the MPA.



member interviews, a random sample of 500 beneficiaries was selected from SMI beneficiaries who had a paid claim/encounter in the fourth quarter of the measurement year. SMI beneficiaries in a measurement year were identified for the sampling population if the individual had at least one paid claim/encounter (not paid by a third-party) any time in the year with primary or secondary diagnosis of SMI (ICD10 diagnosis: F20.xx, F25.xx, F31.xx, F33.xx), aged 21-64, and had waiver eligible Medicaid coverage (refer to **Section I.H** and **Exhibit I.2** for exclusions). Measurement years were January 2022 – December 2022 (2023 interviews) and January 2023-December 2023 (2024 interviews) respectively. The sampling population was stratified by gender, race and age group. A representative sample for interview outreach was selected from each of the strata. Although the outreach sample was selected to be a representative cohort, the respondent pool was skewed for both interviews:

- *2023 Interviews:* Predominately female, White/Caucasian, not Hispanic or Latino, aged 43 years old, and located in an urban setting and subsequently not representative of the Medicaid SMI population (**Attachment D** in the MPA for additional details).
- *2024 Interviews:* Predominately male, White/Caucasian, not Hispanic or Latino, aged 44 years old, and located in an urban setting and therefore not representative of the Medicaid SMI population (**Attachment D** for additional details).

Consequently, findings derived from the member interviews should be interpreted with caution.

KIIs were conducted virtually and lasted 20-60 minutes (depending on interview type). FSSA state officials, MCE, advocacy organization, and provider interviews included one facilitator and one note taker. Member interviews included one facilitator who also took notes. Prior to the interview, the interviewer requested permission to record the conversation to facilitate note taking for FSSA state official, MCE, provider, and advocacy organization interviews. Findings were reported in aggregate by interview type. Facilitators used a structured interview (**Attachment C**) to gather information.

**Exhibit III.4: Summary of Qualitative Data Sources**

Interview Type	Description	Relevant Goals
<b>FSSA state officials</b> <i>Total: 7 interviews</i>	<ul style="list-style-type: none"> <li>• The Indiana FSSA federal reporting team identified FSSA state official interviewees representing several roles within FSSA including officials involved in the development, planning, administration, implementation, and/or monitoring of the SMI waiver demonstration.</li> <li>• Interviews lasted approximately 60 minutes.</li> <li>• Lewin asked state officials a standard set of questions to gather information on goal progress in relation to the Indiana SMI Waiver Demonstration, impact of COVID-19 PHE, factors that supported progress, any challenges or barriers encountered, and pertinent follow-up based on insights gathered from previous interviews from the 2021 Summative Report and the 2023 MPA.</li> </ul>	<ul style="list-style-type: none"> <li>• Goal 1</li> <li>• Goal 2</li> <li>• Goal 3</li> <li>• Goal 4</li> <li>• Goal 5</li> </ul>

Interview Type	Description	Relevant Goals
<b>MCEs</b> <b>Total: 5 interviews</b>	<ul style="list-style-type: none"> <li>The Indiana FSSA MCE Contract Officers identified MCE interviewees. Interviews included executives and providers from each of the five MCEs.</li> <li>Interviews lasted approximately 60 minutes.</li> <li>Lewin asked MCE representatives a standardized set of questions related to their observations on goal progress in relation to the Indiana SMI Waiver Demonstration, impact of the COVID-19 PHE, factors that supported progress, any challenges or barriers encountered, and pertinent follow-up based on insights gathered from previous interviews from the 2021 Summative Report and the 2023 MPA.</li> </ul>	<ul style="list-style-type: none"> <li>Goal 1</li> <li>Goal 2</li> <li>Goal 3</li> <li>Goal 4</li> <li>Goal 5</li> </ul>
<b>Providers</b> <b>Total: 7 interviews</b>	<ul style="list-style-type: none"> <li>Lewin worked with the Indiana FSSA Coverage and Benefits Team to identify provider representatives from a variety of settings including CMHCs, CSUs, acute care hospitals, and crisis services.</li> <li>Interviews lasted approximately 30 minutes.</li> <li>Most interview questions were specific to each provider type. Common questions related to expanded services made available to SMI beneficiaries with SMI, impact of COVID-19 PHE, challenges or barriers SMI beneficiaries faced during the timeframe, and pertinent follow-up based on insights from the 2021 Summative Report and 2023 MPA.</li> </ul>	<ul style="list-style-type: none"> <li>Goal 1</li> <li>Goal 2</li> <li>Goal 3</li> <li>Goal 4</li> <li>Goal 5</li> </ul>
<b>Advocacy Organizations</b> <b>Total: 6 interviews</b>	<ul style="list-style-type: none"> <li>The Indiana FSSA Federal reporting team identified advocacy organization representatives. Interviews included executive directors and managers from six advocacy organizations.</li> <li>Interviews lasted approximately 30 minutes.</li> <li>The Lewin team asked advocacy organization representatives a standardized set of questions related to their perspective on the expanded services made available due to the Indiana SMI waiver, impact of the COVID-19 PHE, and any challenges or barriers SMI beneficiaries faced during the timeframe, and any pertinent follow-up based on insights from the 2021 Summative Report and 2023 MPA.</li> </ul>	<ul style="list-style-type: none"> <li>Goal 1</li> <li>Goal 2</li> <li>Goal 3</li> <li>Goal 4</li> <li>Goal 5</li> </ul>
<b>Beneficiaries</b> <b>Total: 25 interviews</b>	<ul style="list-style-type: none"> <li>Lewin worked with the Indiana FSSA Federal reporting team and support team to develop the SMI population for the waiver. Lewin selected a random sample of SMI beneficiaries to contact for interviews.</li> <li>Interviews lasted approximately 20 minutes.</li> <li>Beneficiaries were asked a standardized set of questions related to their experiences of SMI services during the timeframe.</li> </ul>	<ul style="list-style-type: none"> <li>Goal 1</li> <li>Goal 2</li> <li>Goal 3</li> <li>Goal 4</li> <li>Goal 5</li> </ul>

Interviews were conducted iteratively, with team beneficiaries reviewing data following each interview and using immediate findings to inform subsequent interviews. For example, if one MCE identified a novel challenge or issue, the facilitator would include additional probes for subsequent interviews to better understand the topic. Lewin used informal thematic analysis (TA) to identify themes from interviews and summarize findings by topic area. TA is a method for systematically identifying, organizing, and offering insight into patterns of meaning (themes) across different interviewees.

## IV. Methodological Limitations

The 2021-2025 SMI Evaluation Plan describes the limitations of the overall evaluation including data and methodological challenges of the analyses for subsequent reports. The PHE caused substantial changes to service utilization and provider availability during both the waiver (2020) and extended waiver (2021-2023) and will have short- and long-term impacts on Indiana’s health care system. For example, due to the PHE, Indiana suspended disenrollment policies and expanded behavioral health telehealth services.<sup>41</sup> Additionally, social distancing and prioritization of health care resources affected utilization of a wide variety of services during the evaluation period.

**Exhibit IV.1** describes the known limitations of the Interim Report and approaches to minimize those limitations and/or acknowledgement of where limitations may preclude casual inferences about the effects of the demonstration.

**Exhibit IV.1: Methodological Limitations and Approach(es) Used to Minimize Limitations**

Issue	Description	Approach to Minimizing Limitations
<b>Impact of COVID-19 PHE</b>	Both the initial waiver year (2020) and the waiver extension (2021-2023) coincided with the COVID-19 PHE. The PHE caused substantial changes to Medicaid policies, service utilization, and provider availability, and will have short- and long-term impacts on Indiana’s health care system and specialized populations, such as SMI.	Provided context for interpretation of results.
<b>Distinguishing the impacts of overlapping initiatives</b>	Multiple policy changes were implemented concurrent to the evaluation period. As such, distinguishing the impacts of the individual action items becomes challenging.	Provided context for interpretation of results.
<b>Self-reported qualitative data</b>	KIIIs represent qualitative feedback from multiple stakeholders including FSSA state officials, MCEs, providers, advocacy organizations, and beneficiaries. This self-reported information requires participants to recall information at a point in time (CY2021 – CY2023) and may not capture all experiences.	<ul style="list-style-type: none"> <li>• Tailored interview questions based on role and type of interview.</li> <li>• Emphasized the time-period in both stakeholder communication materials of interview instructions (to help interviewees prepare for interviews) and during the interview.</li> </ul>
<b>Claims/encounter - based data</b>	Claims-based data may provide a limited picture of each beneficiary’s medical history and does not provide information on other environmental factors that may impact member health status or access to care. For example, certain information, such as ED LOS or patient diagnosis history, is typically calculated and/or identified from more detailed clinical health records.	Changes in outcome over time were examined using regressions with time and available member contextual factors as available.

<sup>41</sup> Disenrollment policies were suspended beginning in March 2020. Indiana reinstated Medicaid eligibility redetermination and enrollment/disenrollment policies beginning in April 2023. During COVID-19 PHE, Indiana expanded payment policies to cover services delivered using telehealth.

Issue	Description	Approach to Minimizing Limitations
<b>Cumulative SMI roster construction</b>	While a cumulative roster reflects the chronic nature of SMI, the criteria used to derive the SMI roster (which was built in part to align with state evaluation measures) only requires one SMI-related paid claim. If an SMI diagnosis was incorrectly listed on a claim or the SMI beneficiary is in remission, that individual would also be included in subsequent roster years. Thus, a cumulative roster could be overcounting the pool of potential SMI beneficiaries, particularly in later evaluation years.	Provided context (e.g., number of roster beneficiaries with MH-related utilization) for interpretation of results.
<b>Impact of changes in population over time</b>	Changes in the SMI beneficiary composition over time may have an impact on a variety of areas of this assessment, including service utilization, member enrollment, and access to services.	<ul style="list-style-type: none"> <li>• Developed case-mix adjusted estimates of key metrics using regression models.</li> <li>• Provided context for interpretation of results.</li> </ul>
<b>Comprehensive assessment of provider availability and changes over time</b>	Provider availability data was not available across all years for all provider types identified as key for this assessment. Additionally, parameters in how providers were counted varied across the years.	Reported all available and state validated data. Identified gaps and recommendations for future monitoring.
<b>Evolving understanding of data availability and impact on answering RQs</b>	Since the approval of the Evaluation Plan, Lewin’s understanding of the program and available data sources has evolved. Consequently, some RQs were not fully addressed because of data limitations. Additionally, the Evaluation Plan identified monitoring metrics as benchmarks for select outcomes. Metric specifications in monitoring metrics differ from metric specifications used by the evaluator.	<ul style="list-style-type: none"> <li>• Goal introductions in <b>Section V</b> delineate if an RQ was not fully addressed.</li> <li>• Monitoring metric data was not used as comparators for the Interim Report.</li> </ul>
<b>Certain outcomes specified in the Evaluation Plan for Goal 3 were not assessed</b>	Since the approval of the Evaluation Plan, Lewin learned that certain outcomes specified for Goal 3 (e.g., partial hospitalization, crisis observation centers) are counted as part of other crisis stabilization services and thus do not have distinct counts.	Indicated removal of outcomes effected.
<b>Metric specifications for readmission rates include stays other than acute inpatient</b>	Metric specifications for all-cause readmissions define stays to include acute inpatient stay, ED, and residential inpatient rather than only measuring readmission for acute MH inpatient stay.	Provided context for interpretation of results.

## V. Results

### A. Demonstration Activity Status

The SMI demonstration aligns with FSSA’s aim to ensure a comprehensive continuum of behavioral health services. In this effort, the evaluation was designed to assess the impact of five overarching and interrelated goals (**Section II**). Demonstration Goals focus on reducing ED utilization and preventing inpatient readmission for SMI populations (Goals 1 and 2) by expanding crisis stabilization services, increasing access to community-based MH services, and improving care coordination with special emphasis on continuity of care in the community (Goals 3, 4, and 5). Each Goal is linked to key demonstration activities that the state planned to implement, beginning in January 2020 (prior to the PHE). Given the interdependence of Goals, activities across Goals overlap, and are not mutually exclusive. For example, Goal 1: Reducing ED utilization and LOS shares four activities (e.g., monitor provider network capacity, identify underserved/geographic shortage areas and conduct targeted outreach to non-Medicaid enrolled providers in those areas; increase access and availability of non-hospital, non-residential crisis stabilization services by implementing CSUs; pilot MCU/MRSS; and implementation of 988 and warm lines) with Goal 3: Improved Availability of Crisis Stabilization Services.

**Exhibit V.1** describes the state’s SMI Waiver Demonstration Implementation Plan (approved December 20, 2020) completed action items and additional action items (i.e., action items that were not documented in the SMI Waiver Demonstration Implementation Plan) that the state implemented to further support goal execution.

#### Exhibit V.1: SMI Waiver Demonstration Plan Actions Items Aligned to Evaluation Goals

Implementation Plan – Completed Action Items	Goals
Monitor provider network capacity, identify underserved/geographic shortage areas, and conduct targeted outreach to non-Medicaid enrolled providers in those areas	1, 3
Increase access and availability of non-hospital, non-residential crisis stabilization services by implementing CSUs	1, 2, 3, 5
Pilot MCU/MRSS	1, 2, 3, 4
Update the Medicaid Provider Manual to include protocols that assess housing insecurity and ensure contact is made by the treatment setting with each discharged beneficiary within 72 hours of discharge and follow-up care is accessed; Communicate updates to providers as needed	2, 5
Require hospitals to initiate discharge planning at admission	2, 5
Involve CMHCs in discharge planning	2, 4, 5
Provide case management services for any member discharged from an inpatient psychiatric or substance abuse hospitalization for at least 90 calendar days following discharge	2, 5
Implementation of 988 and warm lines	1,3
Submit a SAMHSA’s 2020 PIPBHC grant to sustain and expand the state’s model for PCBHI	4, 5
Engage beneficiaries at risk of SMI in VRS (e.g., SE)	4
Conduct Mental Health Statistical Improvement Project (MHSIP) for individuals served by DMHA contracted providers	4
Identify high utilizers of ED services and connect them with appropriate disease management or care management services	1
Expand telehealth	2

Implementation Plan – Completed Action Items	Goals
Implement infrastructure changes within the state billing system to enable mid-level provider enrollment	3, 4
Passed House Enrolled Act 1175 and implemented SPA TB 18-103	3
Award funding to various programs and initiatives that address workforce challenges (e.g., recruitment, training)	3,4
Establish a plan for the expanded use of CCBHCs in Indiana including the role of 988 and how initiatives will be coordinated	3, 4
Provide coverage for annual screening initiatives	4
Passed House Enrolled Act 1175 and implemented SPA TB 18-103	4
Develop and implement public awareness campaigns and programs to de-stigmatize behavioral health conditions and seeking treatment	4

**B. Population Summary**

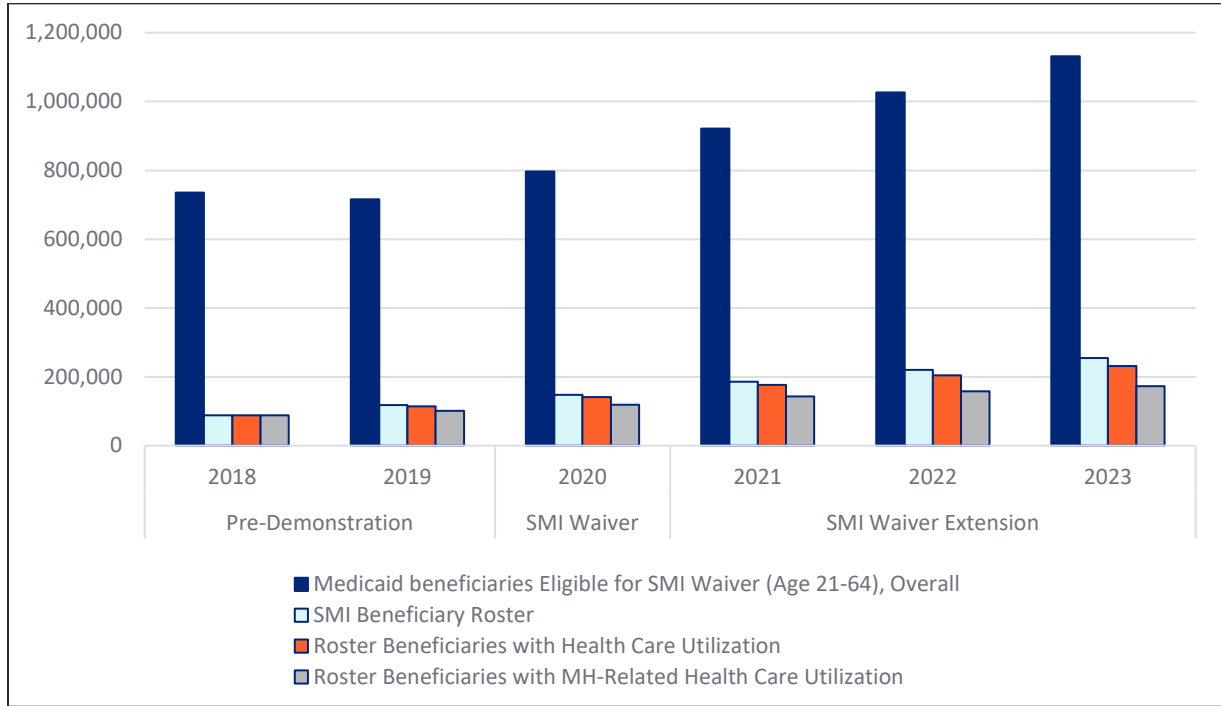
**Exhibits V.2 and V.3** display the number of beneficiaries included in the SMI beneficiary roster. Overall, the number of beneficiaries included in the SMI beneficiary roster increased each year from 88,393 in 2018 to 255,056 in 2023. In 2018, the SMI roster population accounted for 12.0% of the Medicaid population who were eligible to receive SMI waiver benefits and between ages 21 and 64 (refer to **Section III. A.3** for details). Over the years, this proportion steadily increased to 22.5% in 2023. The number of new beneficiaries added to the roster generally remained stable between 2019 and 2023, with approximately 40,000 new beneficiaries added to the roster each year. Growth in the roster population was expected since beneficiaries were identified based on first prevalence of SMI diagnosis and remained in the roster for subsequent years as long as they had eligible Medicaid coverage. However, growth in the roster population was sizeable and may be a byproduct of several factors that impacted overall Medicaid enrollment nationwide during the COVID-19 PHE. For example, consistent with other states, Indiana guaranteed continuous enrollment<sup>42</sup> (i.e., suspending disenrollment policies) during the COVID-19 PHE and overlapping with both the waiver (2020) and waiver extension (2021-2023). Continuous enrollment (i.e., extending eligibility for individuals already enrolled in Medicaid who, prior to the PHE, would have been determined ineligible) allowed beneficiaries to retain coverage unless they notified the state of changes in circumstances (e.g., moved out of state, received other benefits, death). Changing economic circumstances (i.e., declining employment-sponsored coverage) and coverage expansion (i.e., telehealth services) may have also contributed to increased Medicaid enrollment during the COVID-19 PHE. Consequently, growth rates should be interpreted with caution as the rate may be driven by the latter phenomena rather than an increase in beneficiaries with SMI.

The majority of beneficiaries (90% and above) included in the roster population used health care services (excluding dental or pharmacy services) annually from 2018-2023, suggesting that those in the roster continued to receive health care in subsequent years (**Exhibit V.2; Attachment E, Exhibit E.1**). The proportion of the roster population using MH care services, however, declined from 100.0% in 2018 to 67.7% in 2023. Some decline was expected in later years given construction parameters of the roster. That is, because the roster was defined based on the presence of a MH (SMI)-related claim, all beneficiaries included in the roster had at least one

<sup>42</sup> The COVID-19 PHE ended in May 2023. Consequently, disenrollment policies were re-activated and re-determination processes were initiated in April 2023.

MH claim (and, thus, all had MH related to utilization). For later years, some beneficiaries included in the roster might not have MH-related utilization (e.g., if they were added to the roster in a previous year). Declining rates could be explained by positive factors (e.g., condition improvement over time) or negative factors (e.g., challenges with accessing care). Additional data sources and or analyses are needed to better understand trends and interpret findings.

**Exhibit V.2: Waiver-Eligible Medicaid Beneficiaries and the SMI Roster<sup>43</sup>**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**Exhibit V.3** displays the distribution of Medicaid coverage (number of enrollment months within a year) after first SMI diagnosis for the SMI beneficiary roster population.<sup>44</sup> During the pre-demonstration (2018-2019), approximately half of beneficiaries with SMI had more than 10 months of Medicaid coverage in a year. As expected, Medicaid beneficiaries experienced longer coverage periods between 2020 and 2023, likely due to continuous enrollment (e.g., suspension of disenrollment policies). For example, the proportion of roster beneficiaries with 10 months or more of Medicaid coverage increased from approximately 80% in 2018 and 2019, to 85% in 2020, 92% in 2021, and 95% in 2022. As expected, when disenrollment policies were reinstated

Beneficiaries during the pre-demonstration or since May 2023 were at risk for coverage loss due to annual redetermination of eligibility. Eligibility to receive services covered by the SMI waiver were discontinued for beneficiaries who lost Medicaid coverage.

<sup>43</sup> Beneficiaries utilizing health care services (including any MH related utilization) were identified based on claims/encounter data excluding utilization related to pharmacy or dental care.

<sup>44</sup> Number of months was based on months in a year that a beneficiary had Medicaid coverage eligible to receive SMI waiver covered services since first diagnosis of SMI. Hence if a beneficiary had Medicaid coverage for a full year (12 months) but had their first SMI diagnosis in July of the year, the number of months covered for the year was calculated as 6 (July thru December).

(April 2023)<sup>45</sup>, the proportion of SMI beneficiaries in the roster population with at least 10 months of Medicaid coverage declined to 85% in 2023. To ensure equivalent “exposure” periods for Goal 1 and Goal 4 participation and utilization rate measures (i.e., to ensure that beneficiaries within each year had similar opportunities for utilization within the year), some measures were subset to only beneficiaries with at least 10 months or more of eligible Medicaid coverage after their first date of SMI diagnosis within the evaluation period (also shown in **Exhibit V.3**, below).

**Exhibit V.3: Distribution of Medicaid Coverage<sup>46</sup> (Number of Enrollment Months) After First SMI Diagnosis for SMI Roster Beneficiaries (2018 – 2023)**

Year	# of Benes in SMI Roster	Distribution of # of Months of (SMI Waiver-Eligible) Medicaid Coverage After First SMI Diagnosis <sup>47</sup>						% of SMI Roster Beneficiaries with >= 10 Months of Coverage	% of SMI Roster Beneficiaries with >= 10 Months of Coverage After 1 <sup>st</sup> SMI Diagnosis
		Mean	10 <sup>th</sup> Pctl	25 <sup>th</sup> Pctl	Median	75 <sup>th</sup> Pctl	Max.		
2018	88,393	8.2	2	5	9	12	12	79.6%	48.3%
2019	117,965	9.2	3	6	12	12	12	76.8%	61.8%
2020	147,715	9.9	4	8	12	12	12	84.9%	71.5%
2021	185,520	10.6	5	12	12	12	12	92.4%	80.0%
2022	220,287	10.8	6	12	12	12	12	94.6%	84.3%
2023	255,056	10.5	6	10	12	12	12	85.2%	77.2%

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**B.1. Socio-Demographics of Medicaid Beneficiaries Included in the SMI Roster**

The SMI roster population in 2023 had the following socio-demographic characteristics (**Exhibits V.4 – V.11; Attachment E, E.2 – E.3**).

- 64.5% of SMI roster beneficiaries were female as compared to 57.6% of the overall waiver eligible Medicaid population.
- Approximately three quarters (76.1%) of SMI roster beneficiaries were between the ages of 21-50. This is consistent with the waiver eligible Medicaid population (77.3%).
- 65.3% of SMI roster beneficiaries were White/Caucasian, as compared to 10.8% Black, and .8% Other. Racial characteristics were not available for 23.1% of the roster.

The SMI roster population is mostly female, between the ages of 21-50, White/Caucasian and lives in a metropolitan area. When compared to the waiver- eligible Medicaid population, the SMI roster population has greater prevalence of MH and PH conditions suggesting a greater need for medical (e.g., behavioral health, PH) resources.

<sup>45</sup> Disenrollment policies were reinstated in April 2023. Consequently, May 2023 was the earliest individuals (redetermined as ineligible) could lose coverage.

<sup>46</sup> The eligibility groups outlined in **Exhibit I.2** are not eligible for stays in an IMD as they receive limited Medicaid benefits only which includes individuals receiving Emergency Only Services, Family Planning Services (recipient aid category HF), PE Family Planning program benefits (recipient aid category E), PE Pregnant Women (recipient aid category PN), QMB only (recipient aid category L and dual aid Y), SLMB only (recipient aid category J and dual aid Y), QDWI (recipient aid category G and dual aid Y), and Medicare Qualifying Individual (QI) (recipient aid category I and dual aid Y).

<sup>47</sup> First SMI diagnosis was defined as the first SMI diagnosis (from a paid claim with a primary or secondary diagnosis of SMI) between 2018 and 2023.



- 87.6% of SMI roster beneficiaries identified as non-Hispanic versus 3.8% Hispanic.
- 74.1% of beneficiaries live in metropolitan areas versus 25.8% living in non-metropolitan areas.
- Nearly one fifth (16.9%) of SMI roster beneficiaries are dually eligible in 2023 while one tenth (9.0%) of the waiver-eligible Medicaid population was dually eligible.
- More than half (58.3%) of SMI roster beneficiaries had MDD only and approximately one fifth (21.9%) had co-occurring SMI conditions<sup>48</sup>.
- Nearly two thirds (61.1%) of the SMI roster beneficiaries had one or more co-occurring PH conditions. Infectious disease (41.6%), followed by hypertension (30.6%) and metabolic conditions (27.6%) had the largest proportions.

Interim Report findings focus on the waiver extension (2021-2023) as the evaluation period. Data from 2018-2019 was included to assess changes between the pre-demonstration and waiver extension to determine if state Goals (i.e., observed changes for measurable outcomes) were achieved due to the effect of Implementation Plan activities. Changes in roster population composition may be due to changes in the Medicaid beneficiary composition (e.g., gender, age, geography) or other factors (e.g., changes in programs). Data from 2020 was included to assess changes between the waiver and waiver extension for Goal 3. Waiver eligible Medicaid population composition was included to assess if there were changes over time in the Medicaid beneficiary composition.

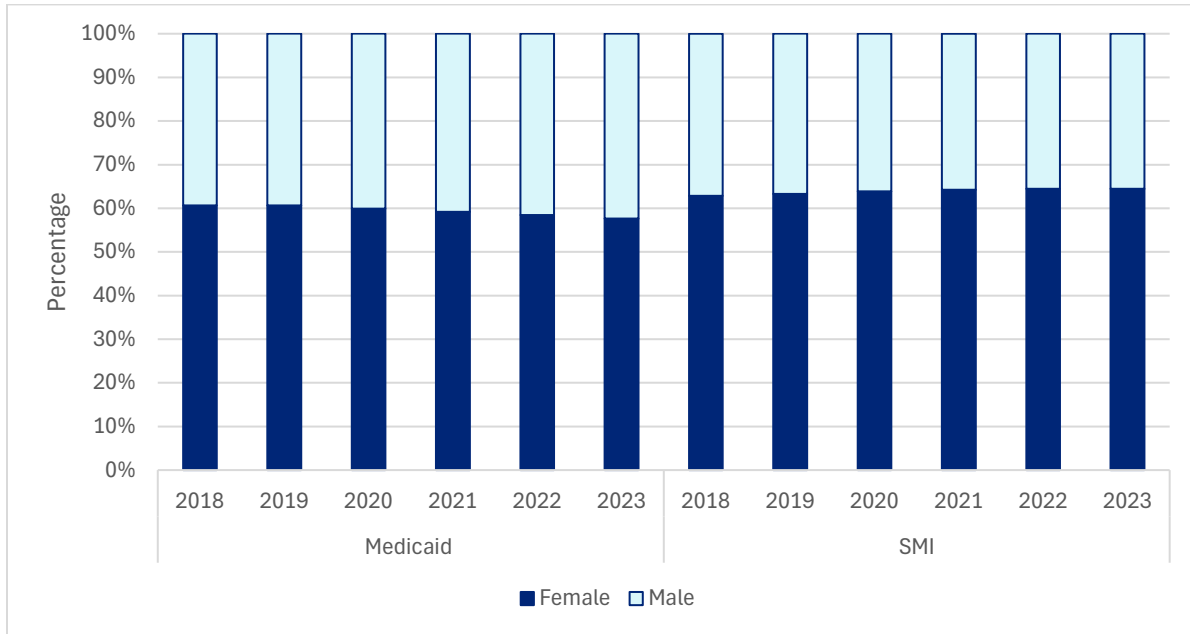
## **B.2. Gender and Age**

**Exhibit V.4** provides the percent of male and females for both the total waiver-eligible Medicaid and the SMI beneficiary roster population by year. Almost two thirds (64.5% in 2023) of the roster population are female. This varies slightly from the waiver-eligible Medicaid population (57.6% in 2023) which is more evenly split between males and females. Proportions for both the SMI beneficiary roster population and the waiver-eligible Medicaid population remained stable between 2018 and 2023.

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<sup>48</sup> The proportion of SMI roster beneficiaries with more than one type of SMI diagnosis also increased from 12% in 2018 to 22% in 2023. However, this is largely an artifact of how SMI categories were assigned, once a beneficiary had a claim.

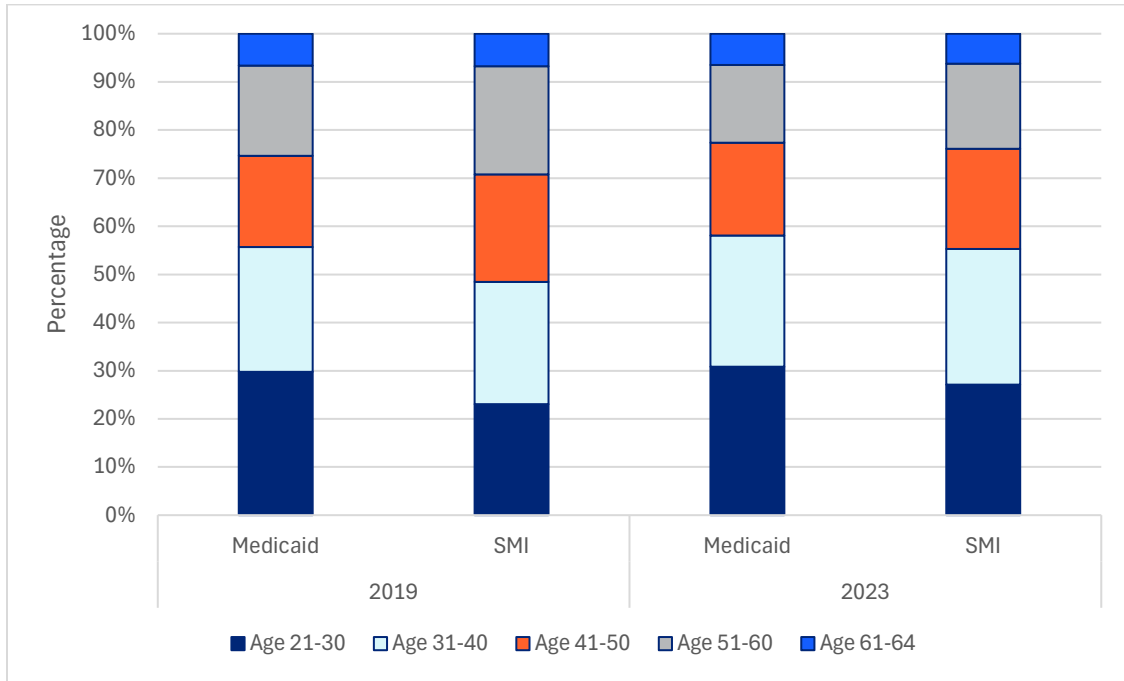
**Exhibit V.4: Gender Distribution (Roster vs Waiver-Eligible Medicaid Population) by Year**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**Exhibit V.5** provides the age distribution for the total waiver-eligible Medicaid and the SMI beneficiary roster population by year. Approximately three quarters (76.1%) of the roster were between the ages of 21-50. This is consistent with the waiver-eligible Medicaid population (77.3%). Beneficiaries ages 21-40 account for approximately half (55.3%) of the SMI beneficiary roster population. The proportion of beneficiaries in the SMI roster for younger age categories increased from 21.7% (ages 21-30); 24.5% (ages 31-40) in 2018 to 27.1%; 28.2% respectively in 2023. Over the same period, the proportion of older beneficiaries declined from 24.0% (ages 51-60); 7.0% (ages 61-64) to 17.7%; 6.2% respectively. However, the age composition of the waiver-eligible Medicaid population remained stable between 2018 and 2023. Beneficiaries 61-64 accounted for the smallest cohort, having less than 10% (6.2%; 6.5% respectively) of the total population.

**Exhibit V.5: Age Distribution (Roster vs Waiver-Eligible Medicaid Population) by Year**

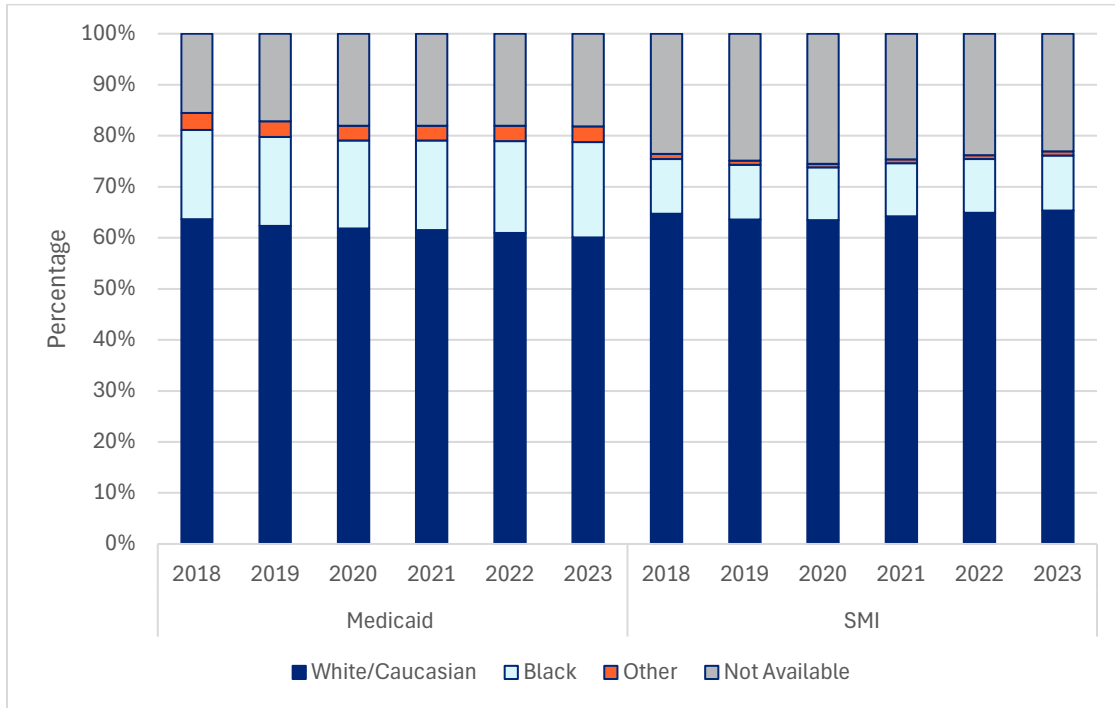


Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

### B.3. Race/Ethnicity

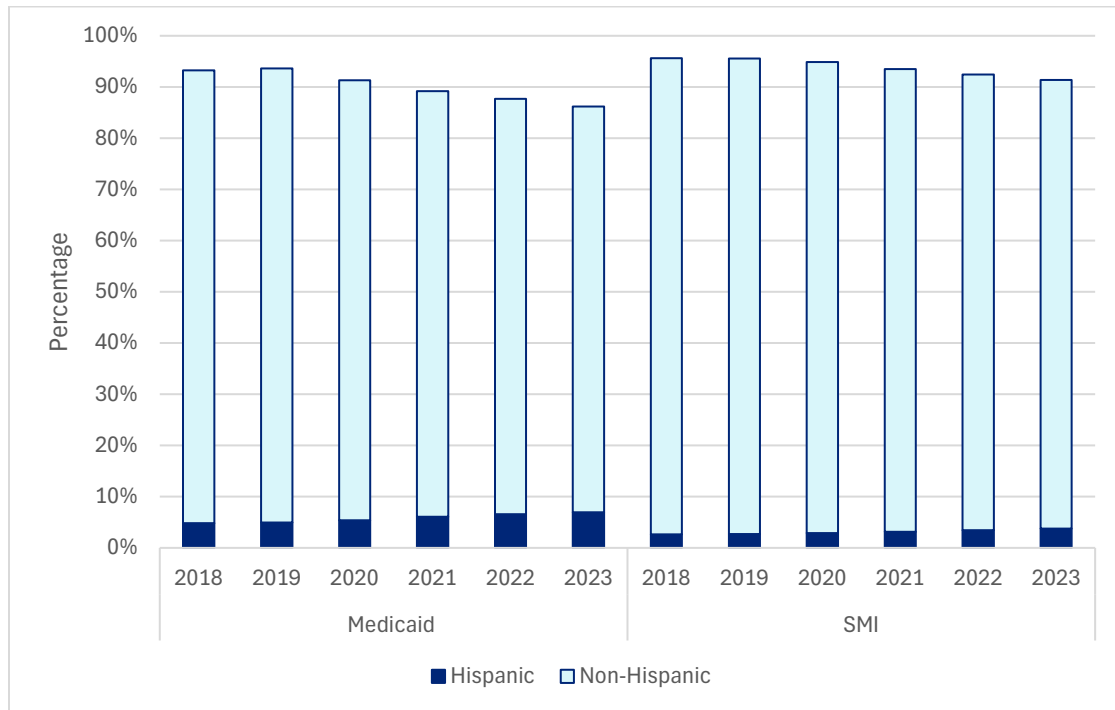
Exhibits V.6 and V.7 provide the total waiver-eligible Medicaid and the SMI beneficiary roster population by race and ethnicity for 2018-2023. Approximately two thirds of the roster and waiver-eligible Medicaid populations are White/Caucasian, with almost all beneficiaries being non-Hispanic. The SMI beneficiary roster includes lower proportions of Black beneficiaries (10.8% in 2023) than the overall waiver eligible Medicaid beneficiaries (18.7% in 2023). Racial characteristics were not available for 23.1% of the roster and 18.2% of the waiver-eligible Medicaid population. Refer to **Attachment E** for a more granular race/ethnicity breakdown.

**Exhibit V.6: Race Distribution (Roster vs Waiver-Eligible Medicaid Population) by Year**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**Exhibit V.7: Ethnicity Distribution (Roster vs Waiver-Eligible Medicaid Population) by Year<sup>49</sup>**



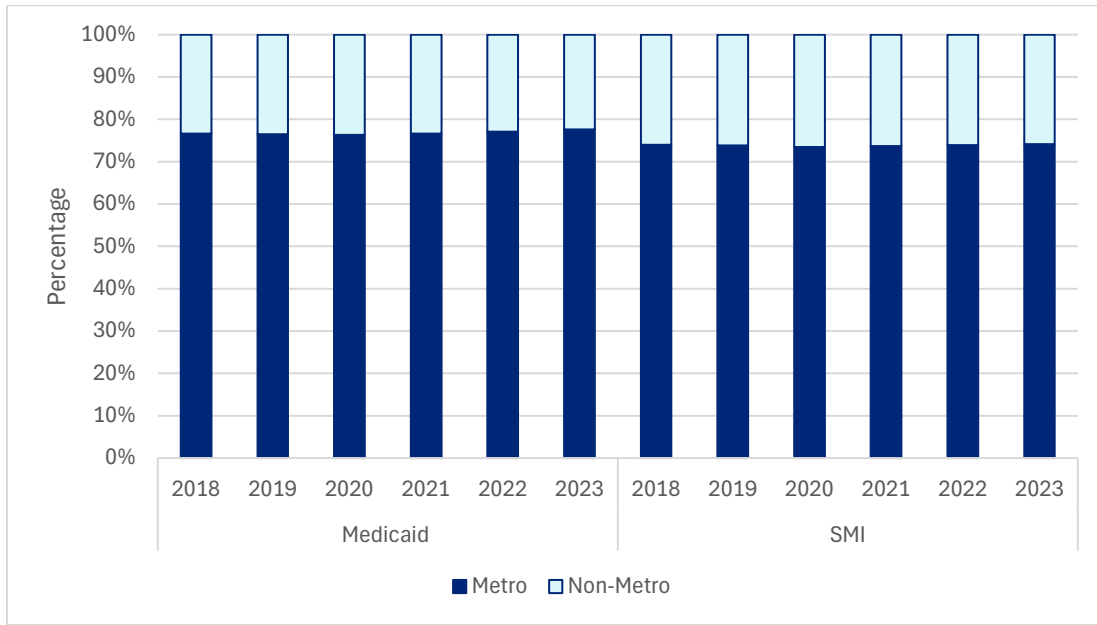
Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

<sup>49</sup> Bars may not sum to 100% due beneficiaries with missing/unknown ethnicity information.

**B.4. Metropolitan/Non-Metropolitan Geographical Areas**

Exhibit V.8 provides the geographical distribution for the total waiver-eligible Medicaid and the SMI beneficiary roster population by year. The geographical area was identified based on beneficiary county of residence. Each county was mapped using the Rural Urban Continuum Code (RUCC) to a metropolitan (metro) or non-metropolitan (non-metro) flag.<sup>50</sup> Based on the RUCC mapping, 44 counties were identified as metro areas, and 48 counties were identified as non-metro areas. In 2023, approximately three quarters (74.1%) of the roster lived in metropolitan areas. The geographical composition of the SMI beneficiary roster is similar to the overall waiver-eligible Medicaid population.

**Exhibit V.8: Geographical Distribution (Roster vs Waiver-Eligible Medicaid Population) by Year**



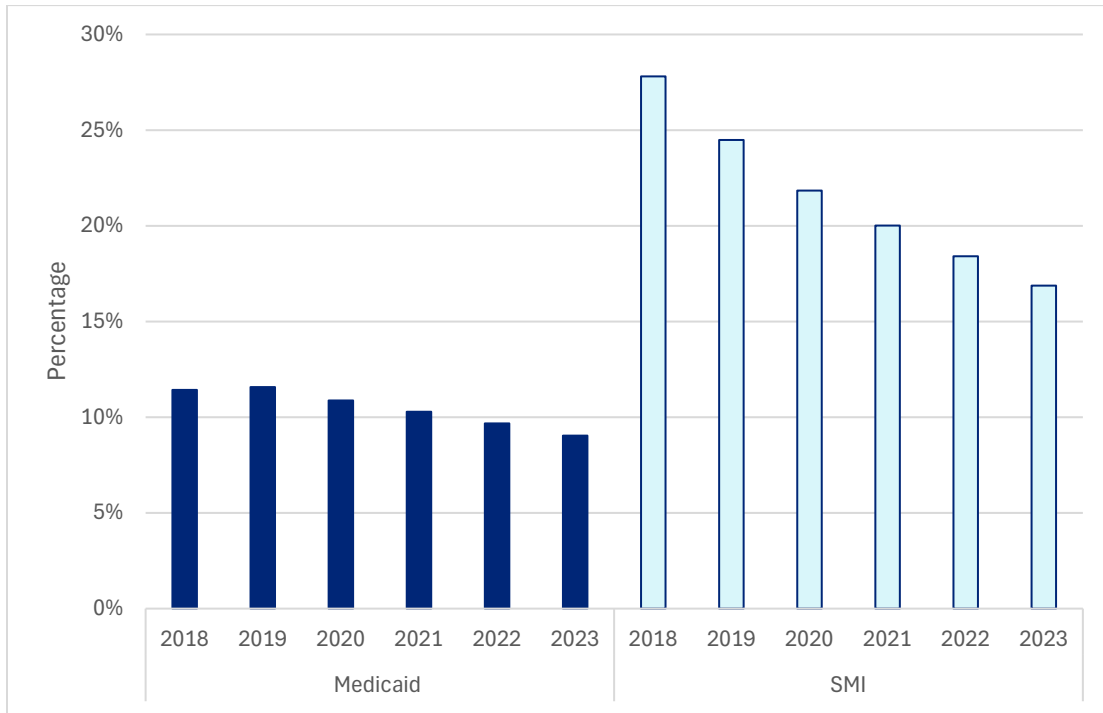
Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**B.5. Dually Eligible**

Exhibit V.9 provides the proportion of the total waiver-eligible Medicaid and SMI beneficiary roster populations who are dually eligible (eligible for both Medicare and Medicaid). Nearly one fifth (16.9%) of the roster are dually eligible in 2023 while one tenth (9.0%) of the waiver-eligible Medicaid population was dually eligible. The proportion of SMI roster beneficiaries who were dually eligible decreased from 27.8% in 2018 to 16.9% in 2023.

<sup>50</sup> <https://www.ers.usda.gov/data-products/rural-urban-continuum-codes.aspx>

**Exhibit V.9: Dual Eligibility Distribution (Roster vs Waiver-Eligible Medicaid Population) by Year**

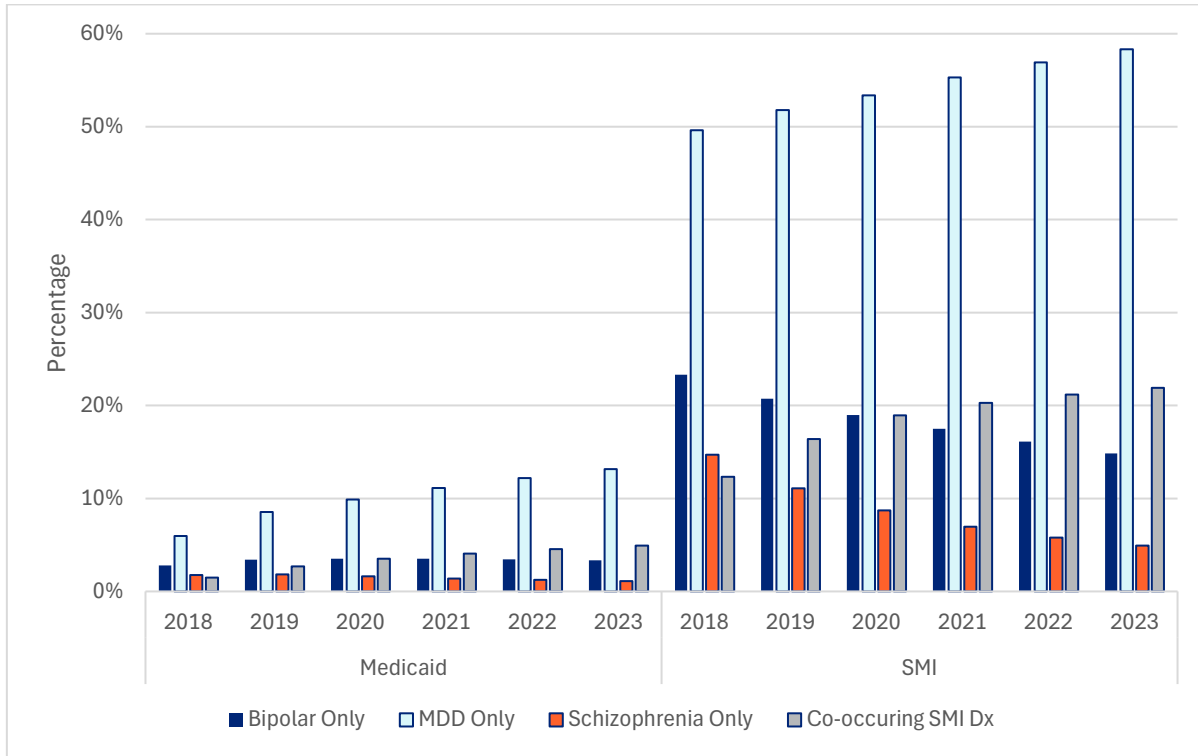


Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**B.6. SMI and Chronic Physical Conditions**

Exhibits V.10 and V.11 and Attachment E, Exhibits E.2 and E.3 provide the distribution of SMI conditions for both the total waiver-eligible Medicaid and SMI beneficiary roster populations. For both populations, MDD accounts for the largest proportion of beneficiaries with more than half (58.3%) of the SMI roster having MDD in 2023. As expected, bipolar disorder (14.8%) and schizophrenia (4.9%) account for smaller proportions of both populations in 2023. Approximately one fifth (21.9%) of the SMI roster population had a co-occurring SMI condition and nearly two thirds (61.1%) had one or more co-occurring PH conditions.

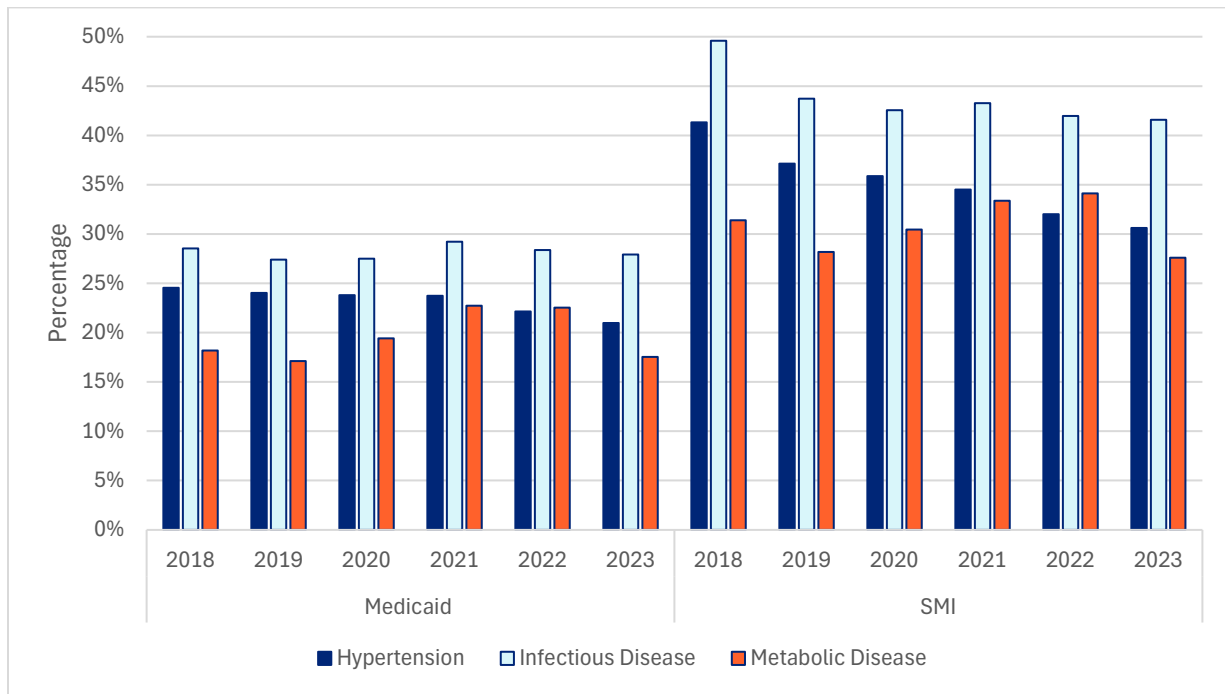
**Exhibit V.10: Prevalence Rate of SMI Conditions**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

Of the eight physical conditions included in the analysis, infectious disease (41.6%; 27.9%), followed by hypertension (30.6%; 21.0%) and metabolic conditions (27.6%; 17.5%) had the largest proportions of the roster and waiver-eligible Medicaid populations. The proportion of SMI roster beneficiaries without a chronic condition (among the eight included in this analysis) increased from 28% in 2018 to 39% in 2023. This increase may be due to the larger proportions of the younger cohorts across the years. Among the overall waiver-eligible Medicaid population, approximately half (53.1% -56.6% depending on year) did not have a chronic condition.

**Exhibit V.11: Prevalence Rate of Top Three Chronic Conditions<sup>51</sup> Among SMI Population**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**C. Goal 1: Reduced utilization and LOS in EDs among Medicaid beneficiaries with SMI while awaiting MH treatment in specialized settings.**

As stated in **Section II.A**, individuals with SMI are more likely to have higher rates of ED utilization than individuals without any MH diagnosis.<sup>52</sup> State actions designed to engage beneficiaries with SMI in lower levels of care (e.g., primary care; community-based services) or programs that divert individuals experiencing behavioral health challenges (e.g., CSUs) were implemented during the waiver and waiver extension to reduce ED utilization. Goal 1 examines the changes in all-cause ED utilization between the pre-demonstration and waiver extension for Medicaid beneficiaries with SMI. The evaluation relied on claims and encounter data, which contains information about service utilization, but does not contain information specific to time spent in an ED. Hence, analyses were restricted to all-cause ED utilization only (and did not examine LOS). Additionally, claims data does not capture information on whether the services utilized was “while the beneficiary was awaiting MH treatment in specialized settings.” To better understand ED utilization for individuals experiencing behavioral health challenges, mental-health related ED utilization was also examined. Qualitative data specific to ED utilization was also incorporated to contextualize quantitative findings and assess the impact of short and long-term outcomes associated with Goal 1 (**Section II, Exhibit II.3**).

<sup>51</sup> Hypertension, infectious disease, and metabolic disease are the top three prevalent conditions for the SMI population. However, the three most prevalent conditions in the Medicaid population are slightly different. Prevalence for all conditions for each population are available in **Attachment E, Exhibits E.2 – E.3**.

<sup>52</sup> Niedzwiecki MJ, Sharma PJ, Kanzaria HK, McConville S, Hsia RY. Factors Associated With Emergency Department Use by Patients With and Without Mental Health Diagnoses. *JAMA Netw Open*. 2018;1(6):e183528. doi:10.1001/jamanetworkopen.2018.3528



As stated in **Section I.G.**, the COVID-19 PHE (which began in March 2020) caused substantial changes to state policies, service utilization and provider availability, and will have short- and long-term impacts on Indiana’s health care. Social distancing, prioritization of health care resources, and telehealth policy modifications have likely affected emergency visit utilization and demand for behavioral health care services. Given that both the SMI waiver (2020) and the waiver extension (2021-2023) coincided with the COVID-19 PHE, findings drawn during this time-period likely reflect both the impact of COVID-19 related policy changes and activities as well as demonstration impacts. Consequently, any observed changes should be interpreted with caution as findings may be confounded by the impact of the PHE.

**Exhibit V.12** describes the hypothesis, RQs, outcome measures, data sources, and analytic approach used for the evaluation (2021-2023).

**Exhibit V.12: Goal 1 Research Questions, Outcome Measures, Data Sources, and Analytic Approach**

Hypothesis: The SMI demonstration will result in reductions in utilization and LOS in EDs among Medicaid beneficiaries with SMI while awaiting MH treatment.			
Research Questions	Outcome Measure(s)	Data Sources	Analytic Approach
<b>Primary RQ 1.1:</b> Does the SMI demonstration result in reductions in utilization and LOS in EDs among Medicaid beneficiaries with SMI while awaiting MH treatment? <sup>53</sup>	<ul style="list-style-type: none"> <li>ED participation rate: Proportion of SMI beneficiary roster population (with 10 months of more of waiver-eligible Medicaid enrollment after their first SMI diagnosis) with an (all-cause) ED visit<sup>54</sup></li> <li>ED utilization rate: Number of all-cause ED visits per 1,000 beneficiary-months among SMI beneficiary roster population<sup>54</sup></li> </ul>	<ul style="list-style-type: none"> <li>Claims/encounter data (2018-2023)</li> <li>Enrollment data (2018-2023)</li> </ul>	<ul style="list-style-type: none"> <li>Descriptive quantitative analysis of trends over time during the demonstration</li> <li>Interrupted time series analysis</li> </ul>
<b>Subsidiary RQ 1.1:</b> How do the SMI demonstration effects on reducing utilization and lengths of stays in EDs among Medicaid beneficiaries with SMI vary by geographic area or beneficiary characteristics?	<ul style="list-style-type: none"> <li>ED participation rate<sup>54</sup> by geographic area or select beneficiary characteristics:</li> <li>ED utilization rate<sup>54</sup> by geographic area or select beneficiary characteristics:</li> </ul>	<ul style="list-style-type: none"> <li>Claims/encounter data (2018-2023)</li> <li>Enrollment data (2018-2023)</li> </ul>	<ul style="list-style-type: none"> <li>Descriptive quantitative analysis of trends over time during the demonstration</li> <li>Interrupted time series analysis</li> </ul>

<sup>53</sup> The RQs were drafted to align with CMS guidance (<https://www.medicaid.gov/medicaid/section-1115-demo/downloads/evaluation-reports/smi-sed-eval-guide-appendix-a.pdf>). For each RQ, the state identified one outcome measure for the evaluation. For this RQ, the state is assessing impact of the demonstration based on reduced number of ED visits.

<sup>54</sup> Metrics were subset to only those beneficiaries (SMI beneficiary roster population) with ten or more months of enrollment in waiver-eligible Medicaid coverage within the given year (and after their first SMI diagnosis date within the analytic period, between 2018 and 2023) to allow for more comparable Medicaid coverage exposure periods across all years analyzed.

Hypothesis: The SMI demonstration will result in reductions in utilization and LOS in EDs among Medicaid beneficiaries with SMI while awaiting MH treatment.			
Research Questions	Outcome Measure(s)	Data Sources	Analytic Approach
<p><b>Subsidiary RQ 1.2:</b> How do SMI demonstration activities contribute to reductions in utilization LOS in EDs among Medicaid beneficiaries with SMI while awaiting MH treatment in specialized settings?</p>	<ul style="list-style-type: none"> <li>Demonstration activities or their components or characteristics that stakeholders identify as most effective in reducing utilization and lengths of stays in EDs among Medicaid beneficiaries with SMI</li> <li>Obstacles that stakeholders identify as hindering the effectiveness of the demonstration in reducing utilization and LOS in EDs</li> </ul>	<p>KIIs with beneficiaries, MCEs, state officials, and providers</p>	<p>Descriptive qualitative analysis of demonstration activities most effective, and obstacles that stakeholders identify, in reducing utilization and lengths of stays in EDs</p>

**Quantitative Analysis Approach**

*Analytic Population.* Utilization of ED service analyses were conducted for beneficiaries in the SMI beneficiary roster population who had at least 10 months of SMI waiver eligible Medicaid coverage in each respective year following their diagnosis. Restricting the analytic population to this subset of beneficiaries allowed for similar “exposure” periods (i.e., periods of time in which beneficiaries may have an ED visit covered by Medicaid) across all measurement years. This is particularly important when comparing years fully covered by the COVID-19 PHE (i.e., 2021 and 2022), during which Medicaid coverage was expanded and no beneficiaries were disenrolled, versus other years (in which Medicaid beneficiaries may have been more likely to have gaps in their Medicaid enrollment).

*MH-related ED participation and utilization rates and SMI-specific ED participation and utilization rates were also calculated, to further explore ED participation and utilization patterns over time.*

*Metrics.* Participation and utilization rates were calculated for beneficiaries with SMI and relevant demographic subgroups. Specifically:

- The *participation rate* is the proportion of beneficiaries receiving a specific service at least once in the year. For example, in 2020, of the 105,596 SMI beneficiaries (roster population) with at least ten months of eligible Medicaid enrollment after their first SMI diagnosis, 55,956 beneficiaries had an ED visit during the year, resulting in a participation rate of 53.0%. This metric reflects that a beneficiary participated in a service; it does not reflect the frequency of service use.
- The *utilization rate* is the count of services or visits per 1,000 beneficiary years. Whereas the participation rate measures whether beneficiaries have used ED services, the utilization rate reflects the frequency that beneficiaries access the service. The formula for the utilization rate is:

$$\frac{\text{\# of services or visits per year}}{\text{member months}} \times 1,000 \times 12 \text{ months}$$

While the formula uses beneficiary months, a beneficiary year is a more tangible concept for the reader to understand and is a commonly used concept in health care utilization metrics. The use

of “beneficiary years” in the utilization rate reflects the number of services used per 1,000 beneficiaries during a year. For example, the ED utilization rate for beneficiaries with SMI decreased from 2,070 visits per 1,000 beneficiary years in 2018 to 1,763 visits per 1,000 beneficiary years in 2020. This indicates that beneficiaries with SMI used ED services less frequently in 2020 compared to 2018.

ED visits were counted if: 1) the beneficiary had SMI waiver-eligible Medicaid coverage in the same month as the ED visit, and 2) the ED visit occurred on or after the first date in which the beneficiary had a claim with a primary or secondary diagnosis of SMI between 2018 and 2023. Only one ED visit was counted per day. If a beneficiary had multiple ED-related claims in a single day, that day was counted as one “visit.” In addition to all-cause ED, participation and utilization rates for ED visits related to MH were also calculated. For detailed specifications, refer to **Attachment D**.

*Analysis Methods.* Annual participation and utilization rates were calculated to examine trends over time. The metrics were calculated for the analytic population as well as by key beneficiary characteristics for the analytic population. Beneficiary characteristics examined included: SMI diagnosis history, sociodemographic characteristics (i.e., gender, age, race, ethnicity, geographic location (metro/non-metro), Medicaid coverage status indicators (i.e., participation in HIP, Medicare/Medicaid dually eligible), and other chronic health conditions.

In addition to comparing trends over time using descriptive analyses, ITS analyses were used to estimate changes in ED participation and utilization among the SMI beneficiary roster population before and during the waiver extension while adjusting for beneficiary sociodemographic, clinical history, and Medicaid enrollment characteristics. More specifically, the following ITS regression models were specified for the all-cause ED participation and utilization rate measures:

- *All-Cause ED Participation Rate:* A logistic regression model was used to examine the likelihood of a beneficiary with SMI visiting the ED at least once during a given year. Estimated odds ratios (OR) were used to examine the likelihood of ED participation.
- *All-Cause ED Utilization Rate:* A negative binomial regression was used to examine change in service utilization per beneficiary per year. Estimated incidence rate ratio (IRR), measuring the change in outcome for one unit of change in the control variable, were used to examine likelihood of utilization.

For these regressions, the pre-demonstration (2018 and 2019) was used as a reference period to examine change across the waiver extension (2021 to 2023) relative to the pre-demonstration period. The regression models controlled for benefit year as well as beneficiary SMI diagnosis and relevant beneficiary sociodemographic characteristics (e.g., gender, age, race, ethnicity, geographic location [metro or non-metro]), Medicaid enrollment characteristics [i.e., identified as Medicare/Medicaid dually eligible], and selected chronic conditions). Sensitivity tests were conducted to examine the effect of including HIP status as a covariate, as well as interactions between the intervention period and select sociodemographic characteristics. Results from the sensitivity analyses are included in **Attachment E**. As stated previously, the PHE caused substantial changes to Medicaid policies, service utilization, and provider availability. Social distancing and health care resource prioritization, particularly in the first year of the PHE significantly impacted health care utilization. Consequently, regression models excluded data from 2020. Sensitivity tests were also conducted to examine if exclusion of data from 2020

impacted the regression-based findings. Results from the sensitivity analyses are included in **Attachment E**.

The findings are organized by research questions and relevant outcome measures identified in the logic model for the Goal (**Section II**). Based on factors including data availability, only select outcomes were identified in the CMS approved Evaluation Plan. Any outcome that was identified in the logic model but was not included in the Evaluation Plan have been noted in the respective sections.

**C.1. Does the SMI demonstration result in reductions in utilization and LOS in EDs among Medicaid beneficiaries with SMI while awaiting MH treatment (Primary RQ 1.1)?**

**ED Utilization**

*All-Cause ED Utilization.* All-cause ED participation increased slightly in the pre-demonstration period, from 56.4% in 2018 to 57.6% in 2019 (**Exhibit V.13**). The all-cause ED participation rate decreased to 53.0% in 2020 during the waiver (2020) which coincided with the first year of the PHE. During the waiver extension, the all-cause ED participation rate declined slightly from 53.4% in 2021 to 50.3% in 2023.

All-cause ED utilization rates were stable during the pre-demonstration period, with 2,070 visits per 1,000 beneficiaries in 2018 and 2,041 visits per 1,000 beneficiaries in 2019. Similar to trends in ED participation, ED utilization rates declined during the waiver (2020) period to 1,7631 visits per 1,000 beneficiaries. ED utilization stabilized during the first year of the waiver extension (2021; 1,727 visits per 1,000 beneficiaries). ED utilization declined again in 2022 (1,575 visits per 1,000 beneficiaries) and stabilized in 2023 (1,571 visits per 1,000 member years).

Changes in participation and utilization rates over time were also examined using regression-based approaches. These models controlled for member characteristics and time (**Attachment E, Exhibits E.4 – E.5**). Adjusting for beneficiary characteristics, findings indicate that the proportion of the roster population using ED services declined significantly during the waiver extension (OR: 0.96, 95% confidence interval [CI]: 0.92 – 0.99) relative to the pre-demonstration. Similarly, controlling for beneficiary characteristics, the utilization rate (number of visits) during the waiver extension was significantly lower (IRR: 0.91, CI: 0.89 – 0.93) relative to the pre-demonstration. Additionally, the joint effects of time and the waiver intervention in both regressions indicate that ED participation and utilization increased from 2018 to 2019, then decreased with time during the waiver extension.

Although declines in ED participation and utilization are positive, several direct or indirect factors suggest caution for interpreting declines as an effect of the waiver. For example, the COVID-19 PHE coincided with the implementation of the demonstration. Monthly trends in utilization of ED services (**Exhibit V.14**) indicate that the proportion of SMI beneficiaries using ED services decreased significantly in April 2020 (start of the pandemic and implementation of social distancing parameters) and continued to remain low relative to the rates prior to the PHE. Additionally, behavioral health workforce shortages, expansion of telehealth, and state investments in crisis stabilization services implemented during the waiver extension period may also have contributed to declines in beneficiary ED service participation and utilization. However, data were not available to corroborate associations or direct relationships. Future

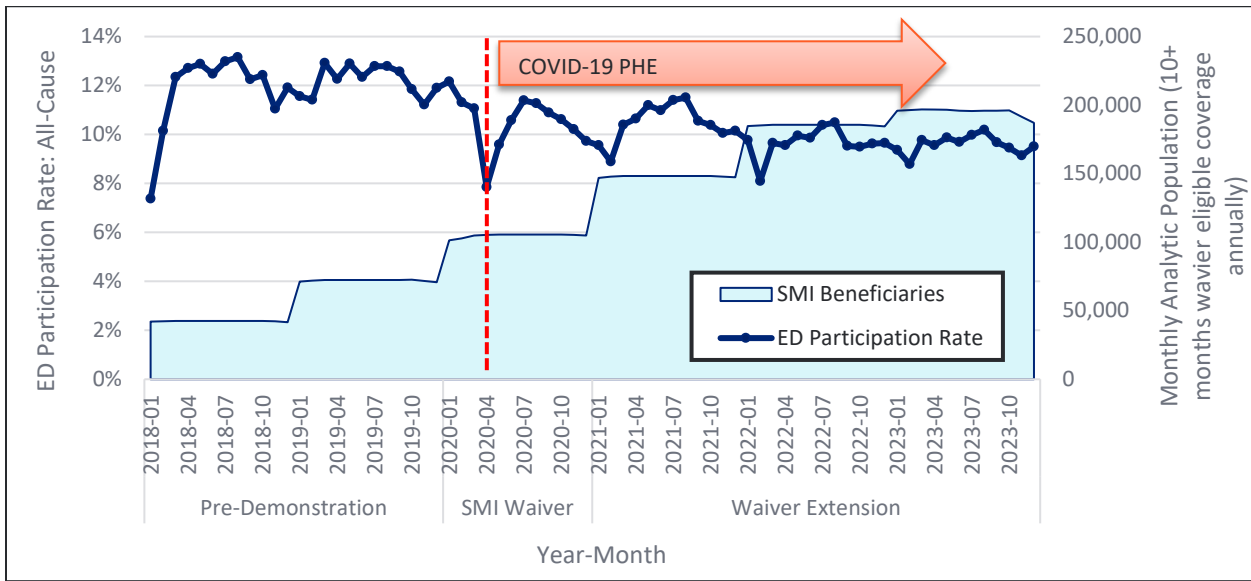
evaluations should consider triangulating ED service utilization data with other data sources (e.g., crisis stabilization service utilization) as well as implementation activities to better understand and interpret trends.

**Exhibit V.13: All-Cause ED Participation and Utilization by Year Among Analytic Population (2018 – 2023)<sup>55, 56</sup>**

Year	Analytic Population	ED Participation Rate	# of ED Visits	ED Utilization Rate (# of Visits Per 1,000 Member Years):
2018	42,677	56.4%	84,351	2,070
2019	72,901	57.6%	146,139	2,041
2020	105,596	53.0%	183,816	1,763
2021	148,410	53.4%	254,278	1,727
2022	185,753	51.1%	290,944	1,575
2023	196,826	50.3%	305,298	1,571

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**Exhibit V.14: All-Cause ED Participation by Month Among Analytic Population (2018 – 2023)<sup>55,56</sup>**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

*ED Utilization Related to MH.* **Exhibit V.15** summarizes participation and utilization rates for MH-related ED visits among SMI beneficiaries (refer to **Attachment D** for additional details specific to how ED visits were identified). The proportion of SMI beneficiaries using the ED for

<sup>55</sup> The SMI beneficiary roster population was subset to only those beneficiaries with at least 10 months of SMI waiver-eligible Medicaid coverage within each measurement year after their first SMI diagnosis date within the evaluation period. A beneficiary's "first SMI diagnosis date" was defined as the first date in which the beneficiary had a claim with a primary or secondary diagnosis of SMI within the evaluation period (2018-2023).

<sup>56</sup> All measures (i.e., number of ED visits, ED participation, and beneficiary months) were calculated after a beneficiary's first SMI diagnosis within the evaluation period. In addition, ED visits (and participation rate) were only counted/calculated months in which the beneficiary was enrolled in (SMI waiver-eligible) Medicaid coverage. Only one ED visit was counted per day (e.g., if a beneficiary had multiple ED-related claims in a single day, that day was counted as one "visit").

MH was lower relative to the overall ED use among this population across all years. MH-related ED participation and utilization declined across years (2018-2023). For example, MH-related ED participation rates declined from 13.1% of beneficiaries with SMI in 2018 to 7.3% in 2023 while MH-related ED utilization rates declined from 274 visits per 1,000 member years in 2018 to 201 visits per 1,000 member years in 2020 to 142 visits per 1,000 member years 2023.

**Exhibit V.15: MH-Related<sup>57</sup> ED Participation and Utilization Among Analytic Population (2018 – 2023)<sup>55, 56</sup>**

Year	Analytic Population	ED Participation Rate	# of ED Visits	ED Utilization Rate (# of Visits Per 1,000 Member Years)
2018	42,677	13.1%	11,163	274
2019	72,901	11.6%	16,453	230
2020	105,596	10.0%	20,960	201
2021	148,410	9.0%	25,522	173
2022	185,753	7.6%	27,019	146
2023	196,826	7.3%	27,539	142

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

Exhibit V.16 summarizes beneficiaries with SMI participation and utilization rates for SMI-related ED visits. Consistent with the findings for MH-related ED participation and utilization, SMI-related ED participation and utilization declined across years (2018-2023). For example, SMI-related ED utilization declined from 6.3% of beneficiaries with SMI in 2018 to 2.6% in 2023 while SMI-related ED utilization rates declined from 103 visits per 1,000 member years in 2018 to 70 visits per 1,000 member years in 2020 to 41 visits per 1,000 member years 2023.

**Exhibit V.16: SMI-Related<sup>58</sup> ED Participation and Utilization Among Analytic Population (2018 – 2023)<sup>55,56</sup>**

Year	Analytic Population (SMI roster beneficiaries with at least 10 months enrollment after first SMI dx date)	Participation Rate: SMI-related	# of ED Visits: SMI-related	ED Utilization Rate (# of Visits Per 1,000 Member Years): SMI-related
2018	42,677	6.3%	4,180	103
2019	72,901	4.9%	5,614	78
2020	105,596	4.1%	7,323	70
2021	148,410	3.5%	8,333	57
2022	185,753	2.7%	8,086	44
2023	196,826	2.6%	7,972	41

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

<sup>57</sup> MH-related visits were identified using the primary diagnoses from all claims in the same day as an ED visit. MH-related diagnoses were identified using a combination of value sets, including the HEDIS VSD’s MH Diagnosis and Intentional Self-Harm value sets, as well as the CCSR Suicidal Ideation, Attempt, and Intentional Self-Harm diagnosis category.

<sup>58</sup> SMI-related visits were identified via the ED visit claim(s) primary diagnosis (or diagnoses) using the same diagnoses used to identify the IN SMI population (i.e., those related to schizophrenia, bipolar disorder, and MDD).

### *Average Length of Stay*

As stated previously, ED LOS is typically calculated using data from a patient's clinical record. Given that data sources for the evaluation relied on claims and encounter data, which does not contain information specific to time spent in an ED, analyses were restricted to ED utilization only.

### **C.2. How do the SMI demonstration effects on reducing utilization and lengths of stays in EDs among Medicaid beneficiaries with SMI vary by geographic area or beneficiary characteristics (Subsidiary RQ 1.1)?**

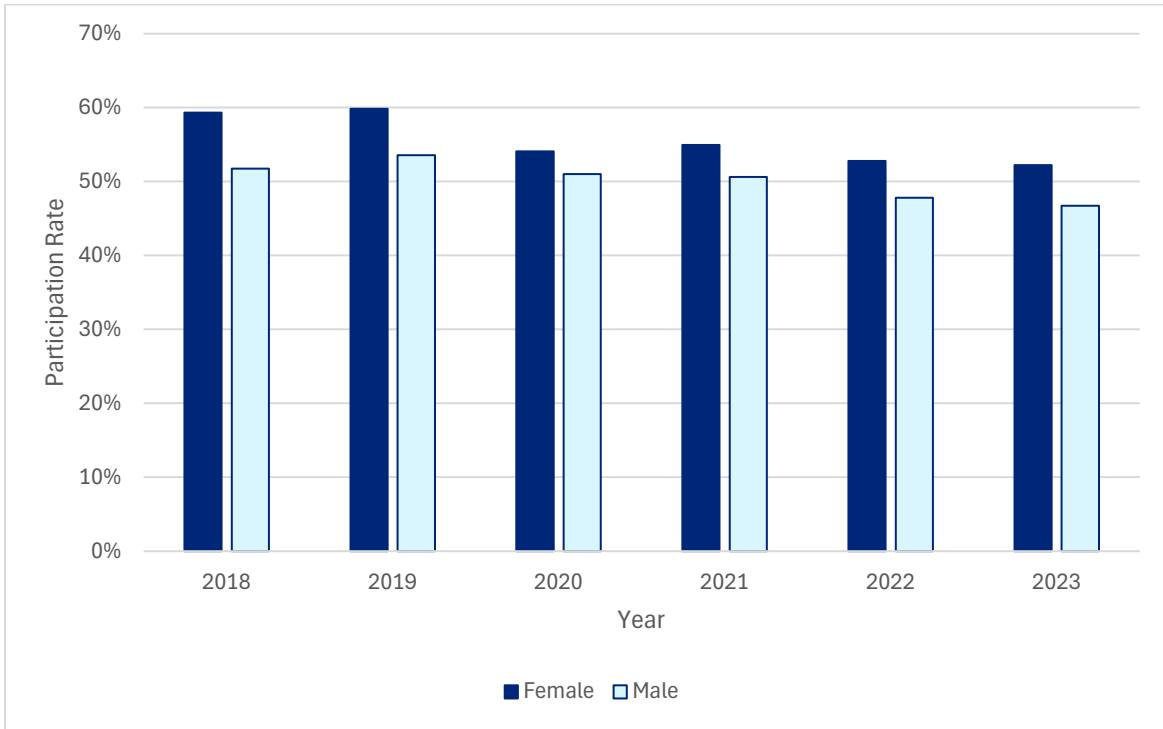
#### *ED Utilization*

Differences in ED participation and utilization rates over time between select population subgroups defined based on beneficiary sociodemographic characteristics (e.g., gender, race, ethnicity, geography), benefit coverage (e.g., dually eligible) and prevalent MH and PH conditions were examined. Findings are organized by sub-population and integrate annual rates as well as any significant differences based on estimated regressions for each of the outcome measures.

*Gender.* **Exhibits V.17** and **V.18** summarize participation and utilization rates by gender. Female beneficiaries had consistently higher ED participation rates compared to males during the pre-demonstration (2018-2019), the waiver (2020), and the waiver extension (2021-2023). For female beneficiaries, participation rates were stable in the pre-demonstration while male beneficiaries experienced a slight increase in participation rates during this time. Both female and male beneficiaries experienced a decrease in participation rates in 2020. These rates were stable in 2021, decreased in 2022, and stabilized again in 2023. Female beneficiaries had higher ED utilization rates during the pre-demonstration period. Consistent with patterns for overall all-cause ED utilization, rates were stable for both male and female beneficiaries during the pre-demonstration and declined during the waiver. ED utilization stabilized during the first year of the waiver extension, declined again in 2022 and stabilized in 2023.

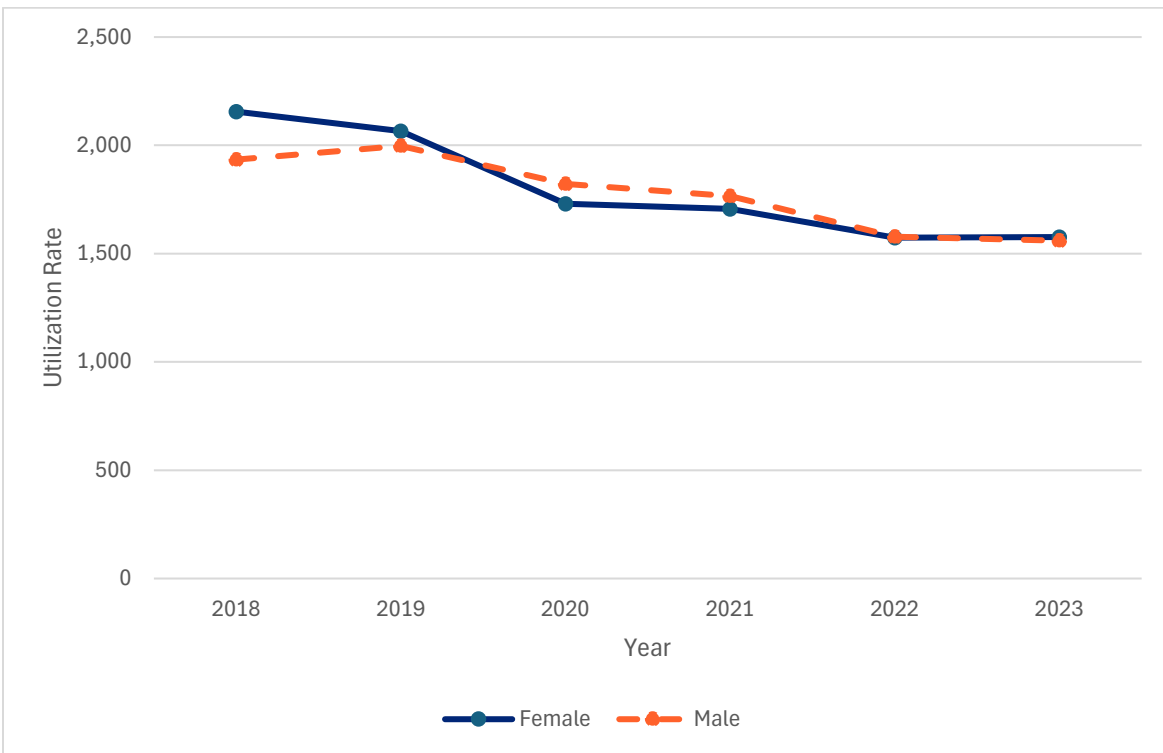
Differences in participation and utilization rates between male and female beneficiaries were also examined using regression-based approaches. These models controlled for member characteristics and time (**Attachment E, Exhibits E.4 – E.5**). Findings for participation rates indicate males were 13% less likely (OR: 0.87, 95% CI: 0.86 – 0.88) to have at least one ED service visit compared to female beneficiaries. Findings for utilization rates indicate that males were 3% more likely (IRR: 1.03, 95% CI: 1.02 – 1.04) to have ED service visits compared to females.

**Exhibit V.17: ED Participation Rate by Gender (Analytic Population)**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**Exhibit V.18: ED Utilization Rate by Gender (Analytic Population)**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

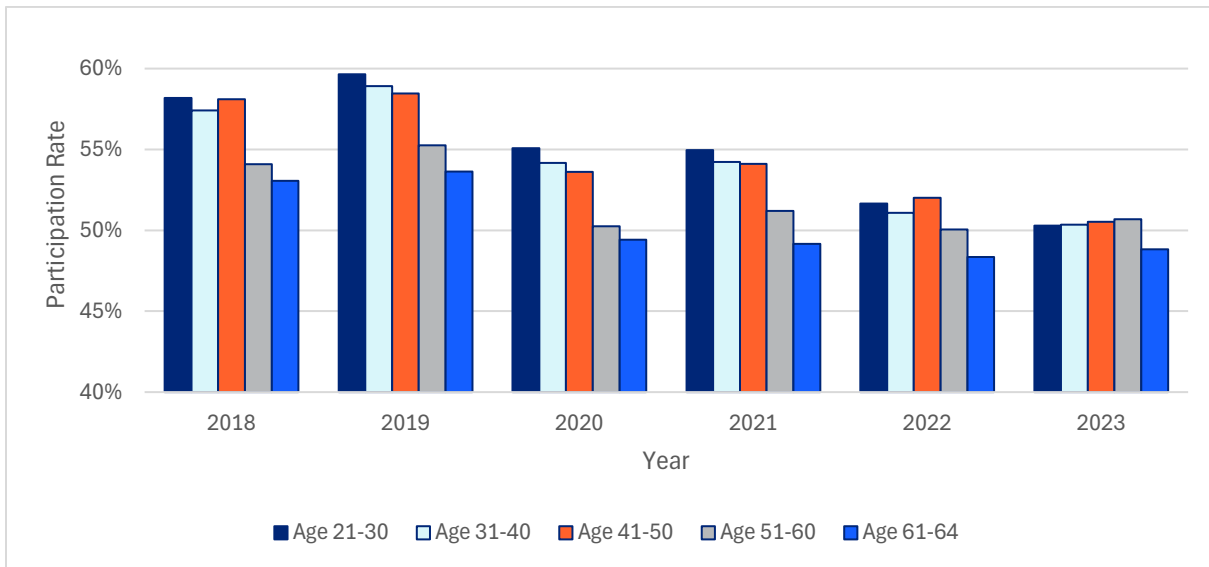


**Age. Exhibits V.19 and V.20** summarize participation and utilization rates by age. All-cause ED participation rates declined across age groups, with the largest declines for the younger cohorts (21-50). In general, participation rates were stable during the pre-demonstration period (2018-2019) and declined during the waiver (2020). Participation rates during the waiver extension stabilized in 2021, declined in 2022, and stabilized again in 2023 across all age groups. All-cause ED utilization rates were generally consistent in patterns with participation rates. However, ED utilization rates for beneficiaries with SMI between 21 and 30 were higher compared to other age groups during the pre-demonstration period. By 2023, beneficiaries with SMI between 41 and 60 had the highest ED utilization rates.

Differences in participation and utilization rates between beneficiaries in different age groups were also examined using regression-based approaches. These models controlled for member characteristics and time (**Attachment E, Exhibits E.4 – E.5**). Findings for participation rates indicate that beneficiaries between 31 and 40 were 0.86 times less likely (OR: 0.86, 95% CI: 0.85 – 0.87) to have at least one ED service visit compared to those between 21 and 30. Beneficiaries between 41 and 50 were 0.68 times less likely (OR: 0.68, 95% CI: 0.67 – 0.69) to have at least one ED service visit compared to those between 21 and 30. Beneficiaries between 51 and 60 were 0.45 times less likely (OR: 0.45, 95% CI: 0.44 – 0.46) to have at least one ED service visit compared to those between 21 and 30. Beneficiaries between 61 and 64 were 0.34 times less likely (OR: 0.34, 95% CI: 0.33 – 0.35) to have at least one ED service visit compared to those between 21 and 30.

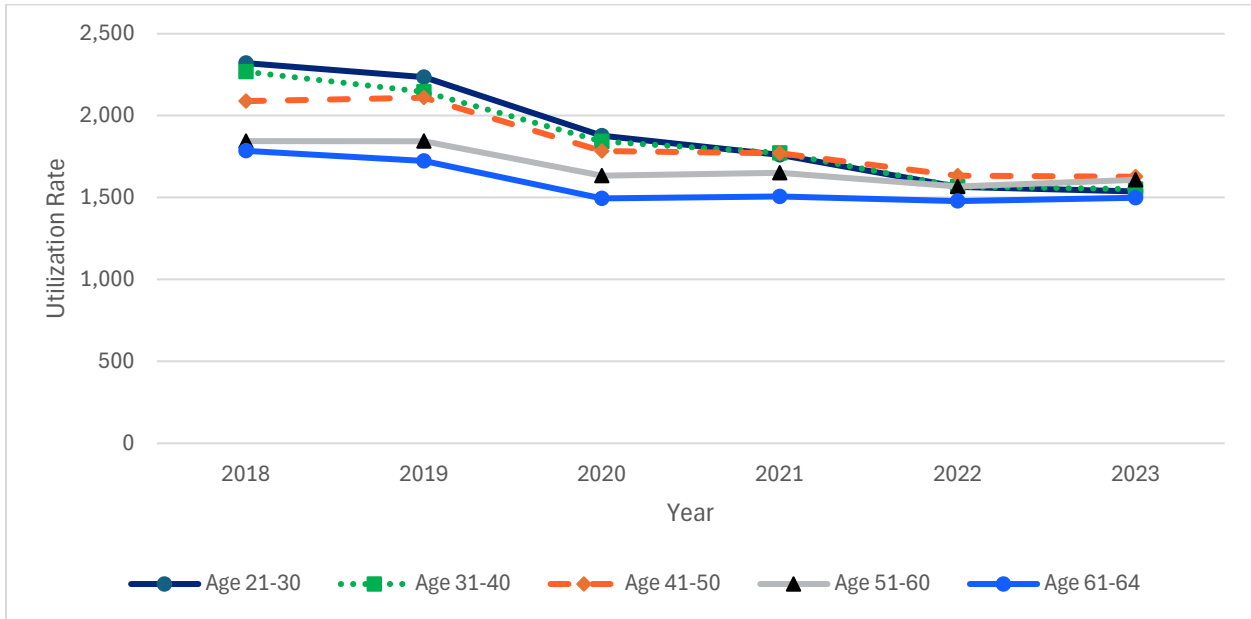
Findings for utilization rates indicate that beneficiaries between 31 and 40 were 0.86 times less likely (IRR: 0.86, 95% CI: 0.86 – 0.87) to have ED service visits compared to those between 21 and 30. Beneficiaries between 41 and 50 were 0.69 times less likely (IRR: 0.69, 95% CI: 0.68 – 0.70) to have ED service visits compared to those between 21 and 30. Beneficiaries between 51 and 60 were 0.50 times less likely (IRR: 0.50, 95% CI: 0.49 – 0.50) to have ED service visits compared to those between 21 and 30. Beneficiaries between 61 and 64 were 0.40 times less likely (IRR: 0.40, 95% CI: 0.39 – 0.41) to have ED service visits compared to those between 21 and 30.

**Exhibit V.19: ED Participation Rate by Age (Analytic Population)**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**Exhibit V.20: ED Utilization Rate by Age (Analytic Population)**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

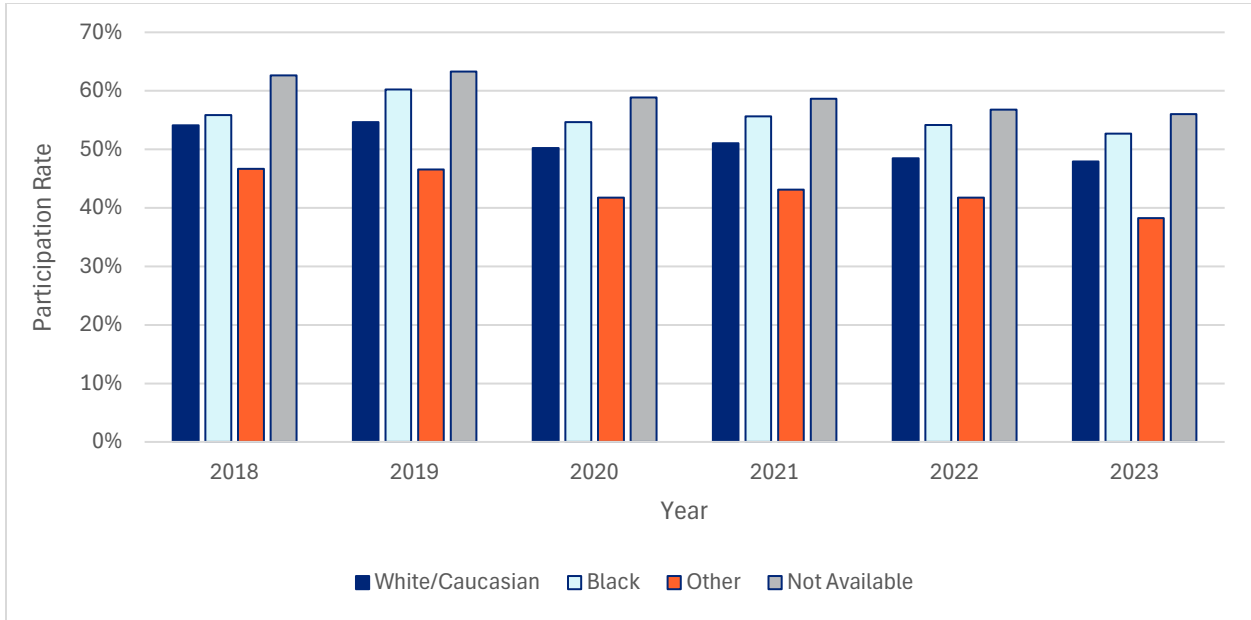
**Race.** Exhibits V.21 and V.22 summarize participation and utilization rates by race. All-cause participation and utilization rates declined between 2018-2023 across racial categories. However, trends were inconsistent (increasing, decreasing, stabilizing) across the years and racial categories. Beneficiaries with missing or unavailable race information had the highest ED participation and utilization rates for each year (2018-2023). Compared to Black beneficiaries, White/Caucasian beneficiaries had lower ED participation and utilization rates for each year. White/Caucasian and Black beneficiaries, however, experienced similar decreases in their ED participation (by 6.1 percentage points and 3.1 percentage points, respectively) and ED utilization rates (by 26.4% and 21.8%, respectively) between 2018 and 2023. Among beneficiaries with missing or unavailable race information, the all-cause ED participation rate decreased by 6.6 percentage points, while the all-cause ED utilization rate decreased by 19.8%, between 2018 and 2023. Among beneficiaries with other race information, the all-cause ED participation rate decreased by 8.4 percentage points, and the all-cause ED utilization rate decreased by 21.9%.

Difference in participation and utilization rates between Black beneficiaries, White/Caucasian beneficiaries, and beneficiaries with other or unavailable race information were also examined using regression-based approaches. These models controlled for member characteristics and time (**Attachment E, Exhibits E.4 – E.5**). Findings for participation rates indicate that Black beneficiaries were 1.28 times more likely (OR: 1.28, 95% CI: 1.26 – 1.30) to have at least one ED service visit compared to White/Caucasian beneficiaries. Beneficiaries with other or unavailable race information were 1.27 times more likely (OR: 1.27, 95% CI: 1.26 – 1.29) to have at least one ED service visit compared to White/Caucasian beneficiaries.

Findings for utilization rates indicate that Black beneficiaries were 1.26 times more likely (IRR: 1.26, 95% CI: 1.24 – 1.27) to have ED service visits compared to White/Caucasian beneficiaries. Beneficiaries with other or unavailable race information were 1.29 times more

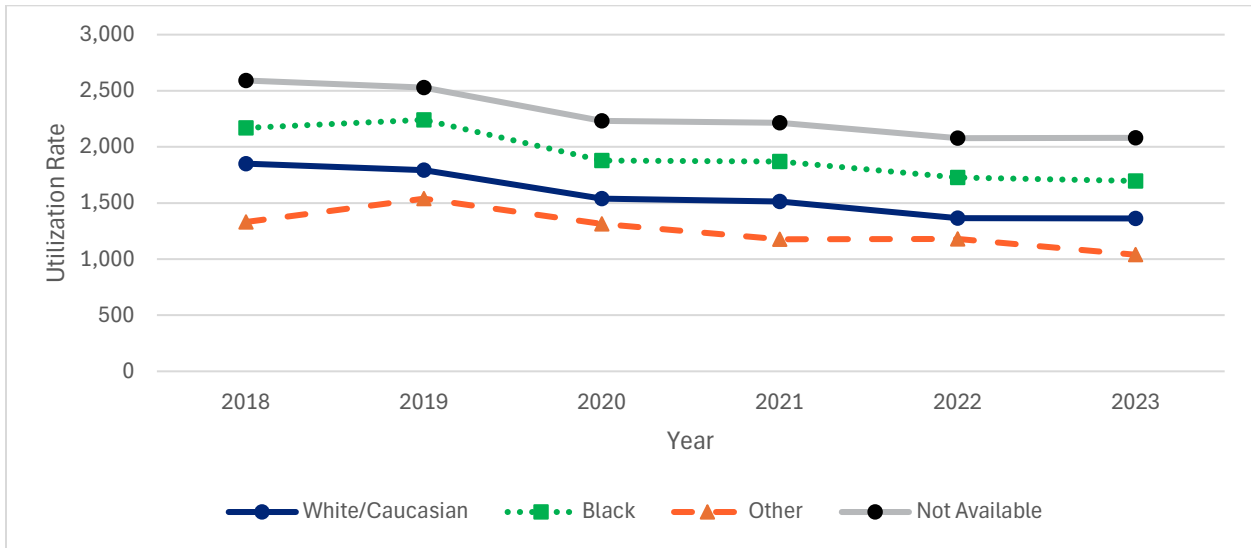
likely (IRR: 1.29, 95% CI: 1.28 – 1.30) to have ED service visits compared to White/Caucasian beneficiaries.

**Exhibit V.21: ED Participation Rate by Race (Analytic Population)**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**Exhibit V.22: ED Utilization Rate by Race (Analytic Population)**



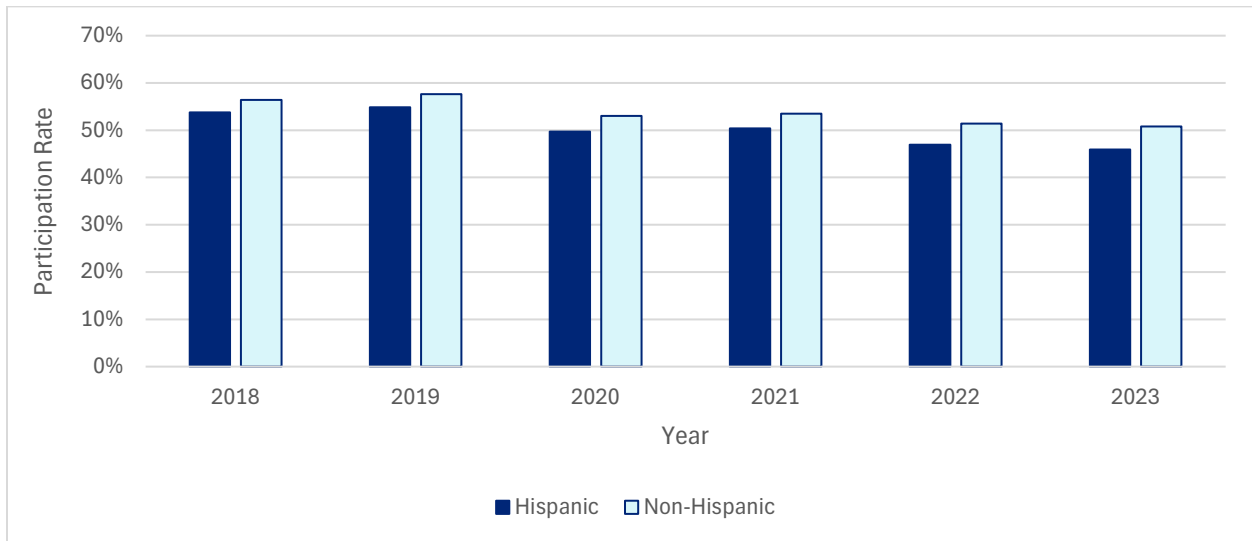
Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

*Ethnicity.* Exhibits V.23 and V.24 summarize participation and utilization rates by ethnicity. All-cause participation and utilization rates declined between 2018-2023 for Hispanic and non-Hispanic beneficiaries, as well as for those with missing or unavailable ethnicity information. However, trends were inconsistent (increasing, decreasing, stabilizing) across the years and ethnicities. Non-Hispanic beneficiaries had higher ED participation and utilization rates for each year (2018-2023) compared to Hispanic beneficiaries. Each group experienced similar decreases

in their ED participation (by 7.8 percentage points for Hispanic beneficiaries and 5.6 percentage points for non-Hispanic beneficiaries) and ED utilization rates (by 28.2% for Hispanic beneficiaries and 22.9% for non-Hispanic beneficiaries) between 2018 and 2023. Among beneficiaries with missing or unavailable ethnicity information, the all-cause ED participation rate decreased by 11.2 percentage points, while the all-cause ED utilization rate decreased by 34.3%, between 2018 and 2023.

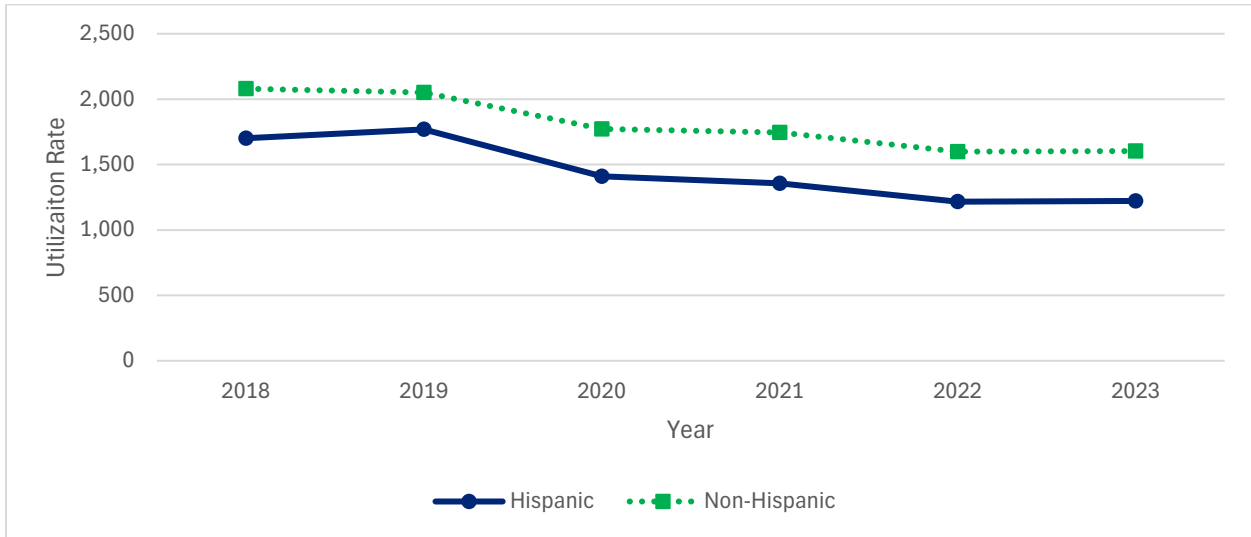
Differences in participation and utilization rates between Hispanic beneficiaries and beneficiaries who were non-Hispanic or had missing or unavailable ethnicity information were also examined using regression-based approaches. These models controlled for member characteristics and time (**Attachment E, Exhibits E.4 – E.5**). Findings for participation rates indicate that Hispanic beneficiaries were 0.83 times less likely (OR: 0.83, 95% CI: 0.80 – 0.85) to have at least one ED service visit compared to non-Hispanic beneficiaries and beneficiaries with unknown ethnicity information. Findings for utilization rates indicate that Hispanic beneficiaries were 0.79 times less likely (IRR: 0.79, 95% CI: 0.78– 0.81) to have ED service visits compared to non-Hispanic beneficiaries and beneficiaries with unknown ethnicity information.

**Exhibit V.23: ED Participation Rate by Ethnicity (Analytic Population)**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**Exhibit V.24: ED Utilization Rate by Ethnicity (Analytic Population)**

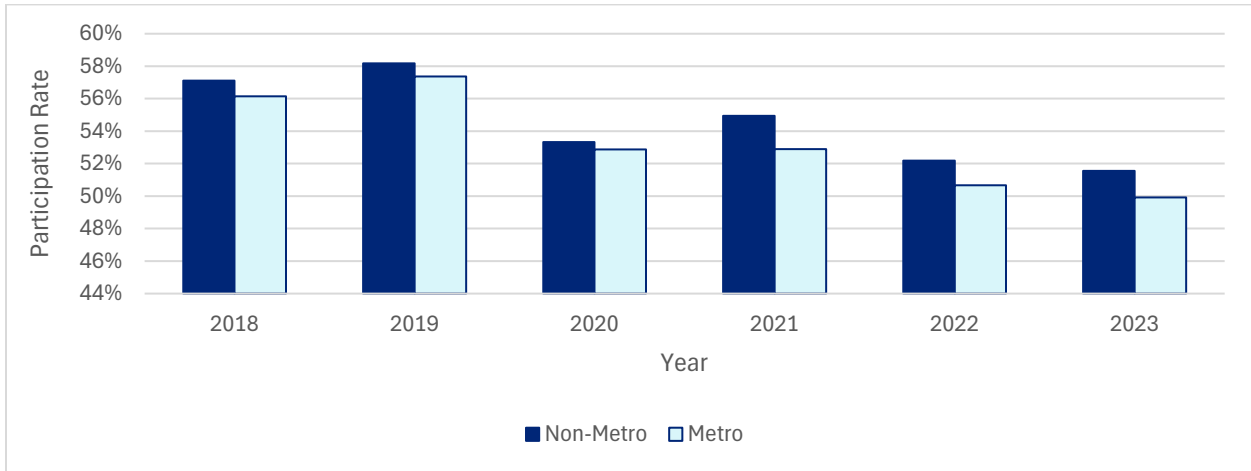


Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

*Geographical Area.* Exhibits V.25 and V.26 summarize participation and utilization rates by geographical area. All-cause ED participation and utilization rates were similar for beneficiaries residing in metro and non-metro locations between 2018 and 2023. Consistent with the overall population and other sub-groups participation rates and utilization rates declined over time. Trend patterns for participation and utilization rates generally reflected stability during the pre-demonstration period (2018-2019), followed by declines in 2020 (waiver). Participation and utilization rates during the waiver extension stabilized in 2021, declined in 2022, and stabilized again in 2023 across both groups.

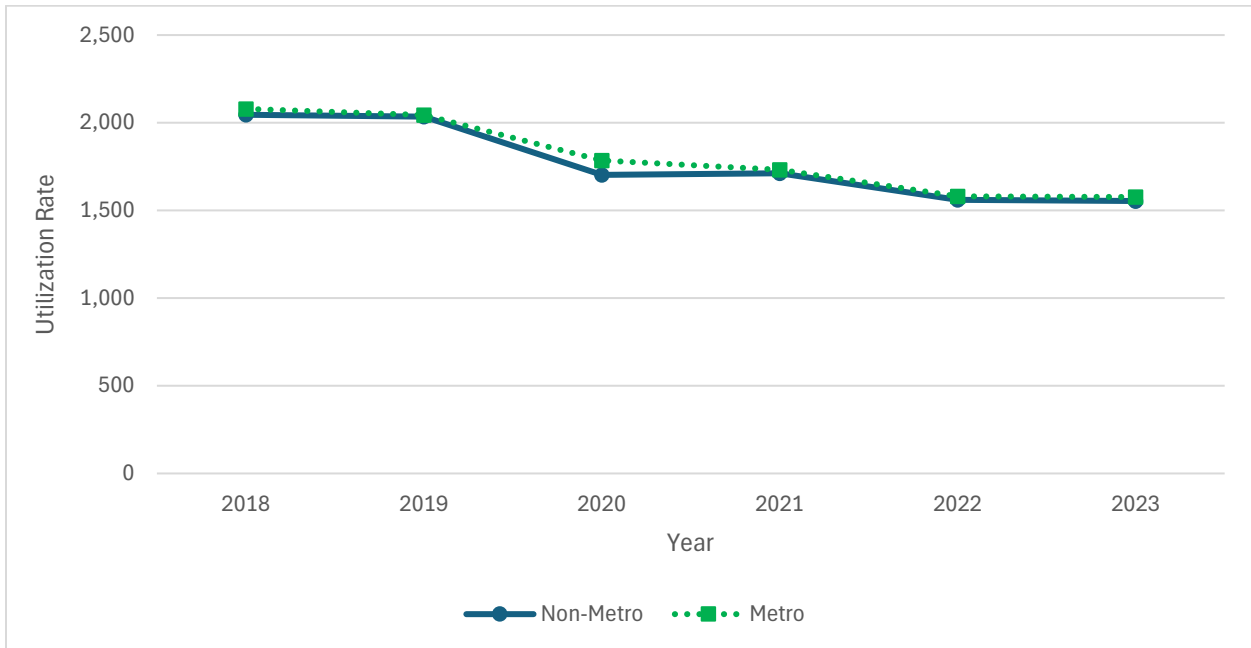
Differences in participation and utilization rates between beneficiaries residing in metro locations and those residing in non-metro locations were also examined using regression-based approaches. These models controlled for member characteristics and time (**Attachment E, Exhibits E.4 – E.5**). Findings for participation rates indicate that beneficiaries in non-metro locations were 1.07 times more likely (OR: 1.07, 95% CI: 1.05 – 1.08) to have at least one ED service visit compared to beneficiaries residing in metro locations. Findings for utilization rates indicate that beneficiaries in non-metro locations were 1.01 times more likely (IRR: 1.01, 95% CI: 1.00 – 1.02) to have ED service visits compared to beneficiaries residing in metro locations.

**Exhibit V.25: ED Participation Rate by Geography (Analytic Population)**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**Exhibit V.26: ED Utilization Rate by Geography (Analytic Population)**

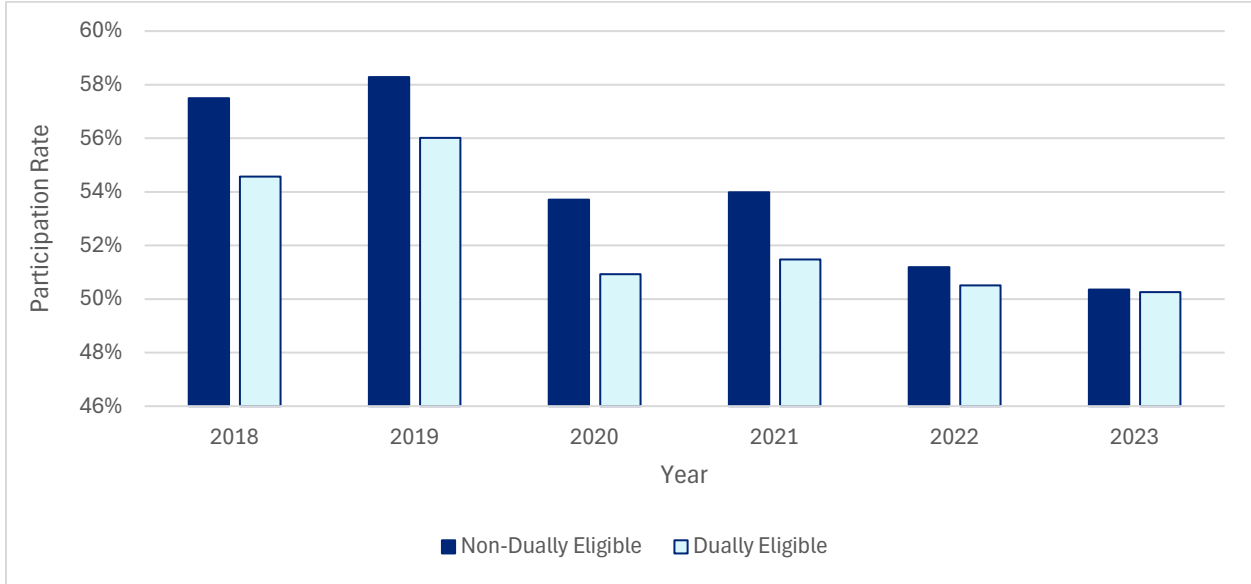


Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

*Dually Eligible.* Exhibits V.27 and V.28 summarize participation and utilization rates by dual eligibility. All-cause ED participation rates were similar for dual eligibility and non-dual eligibility between 2018 and 2023. Utilization rates were higher for beneficiaries with non-dual eligibility status during the pre-demonstration period. However, by 2023 utilization rates were similar for both groups. Consistent with the overall population and other sub-groups participation rates and utilization rates declined over time. Trend patterns for participation and utilization rates generally reflected stability during the pre-demonstration period (2018-2019), followed by declines in 2020 (waiver). Participation and utilization rates during the waiver extension stabilized in 2021, declined in 2022, and stabilized again in 2023 across both groups.

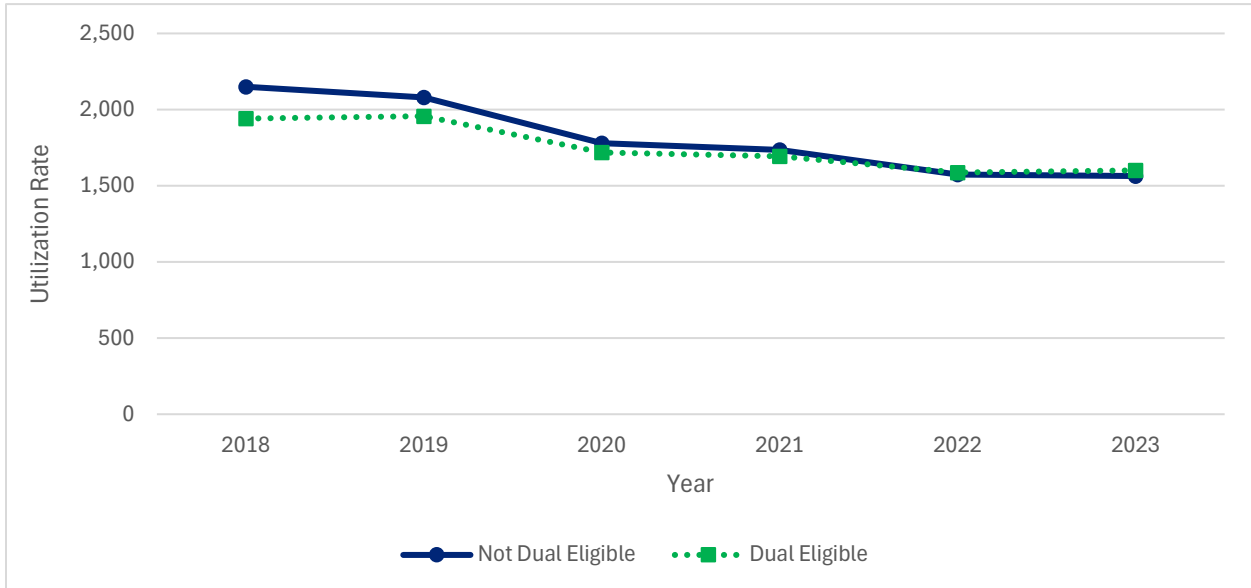
Differences in participation and utilization rates between beneficiaries with dual eligibility status and those without non-dual eligibility status were also examined using regression-based approaches. These models controlled for member characteristics and time (**Attachment E, Exhibits E.4 – E.5**). Findings for participation rates indicate that beneficiaries with dual-eligibility status were 0.85 times less likely (OR: 0.85, 95% CI: 0.84 – 0.86) to have at least one ED service visit compared to those with non-dual eligibility status. Findings for utilization rates indicate that beneficiaries with dual-eligibility status were 0.89 times less likely (IRR: 0.89, 95% CI: 0.88 – 0.90) to have ED service visits compared to those with non-dual eligibility status.

**Exhibit V.27: ED Participation Rate by Dual Eligibility Status (Analytic Population)**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**Exhibit V.28: ED Utilization Rate by Dual Eligibility Status (Analytic Population)**

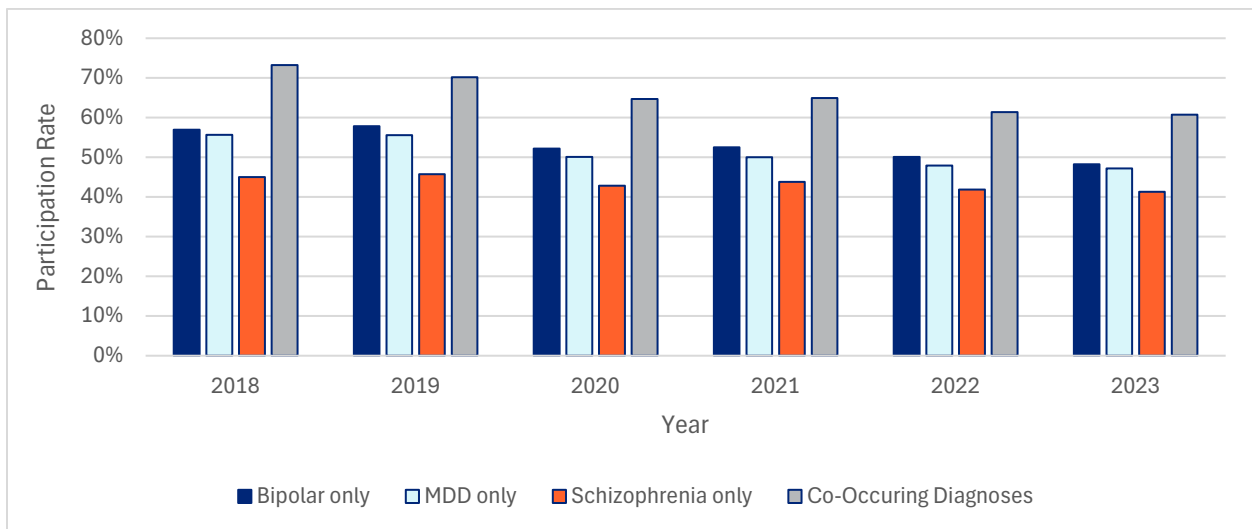


Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**SMI. Exhibits V.29 and V.30** summarize participation and utilization rates by beneficiaries with SMI conditions. All-cause ED participation and utilization declined over time for each condition included in the analyses. As expected, beneficiaries with co-occurring SMI conditions had the highest ED participation and utilization rates across all years (i.e., were the most likely to use ED services). Compared to beneficiaries with bipolar disorder or MDD, beneficiaries with schizophrenia experienced the smallest declines in ED participation and utilization rates from 2018 to 2023 (decreased by 3.7 percentage points, compared to 8.7 percentage points for the bipolar only group, 8.5 percentage points for the MDD only groups, and 12.5 percentage points for the co-occurring SMI conditions group). Additionally, the ED utilization rate decreased by 11.6% among the schizophrenia only group, compared to decreases of 29.4% or more among beneficiaries with other SMI conditions.

Differences in participation and utilization rates between beneficiaries with only MDD, those with only bipolar disorder, those with only schizophrenia, and those with co-occurring SMI conditions were also examined using regression-based approaches. These models controlled for member characteristics and time (**Attachment E, Exhibits E.4 – E.5**). Findings for participation rates indicate beneficiaries with bipolar disorder only were 1.12 times more likely (OR: 1.12, 95% CI: 1.11 – 1.14) to have at least one ED service visit compared to those with MDD only. Beneficiaries with schizophrenia only were 0.88 times less likely (OR: 0.88, 95% CI: 0.87 – 0.90) to have at least one ED service visit compared to those with MDD only. Beneficiaries with co-occurring diagnoses were 1.67 times more likely (OR: 1.67, 95% CI: 1.65 – 1.69) to have at least one ED service visit compared to those with MDD only. Findings for utilization rates indicate beneficiaries with bipolar disorder only were 1.07 times more likely (IRR: 1.07, 95% CI: 1.06 – 1.08) to have ED service visits compared to those with MDD only. Beneficiaries with schizophrenia only were equally likely (IRR: 1.00, 95% CI: 0.99 – 1.02) to have ED service visits compared to those with MDD only. Beneficiaries with co-occurring diagnoses were 1.67 times more likely (IRR: 1.67, 95% CI: 1.66 – 1.69) to have ED service visits compared to those with MDD only.

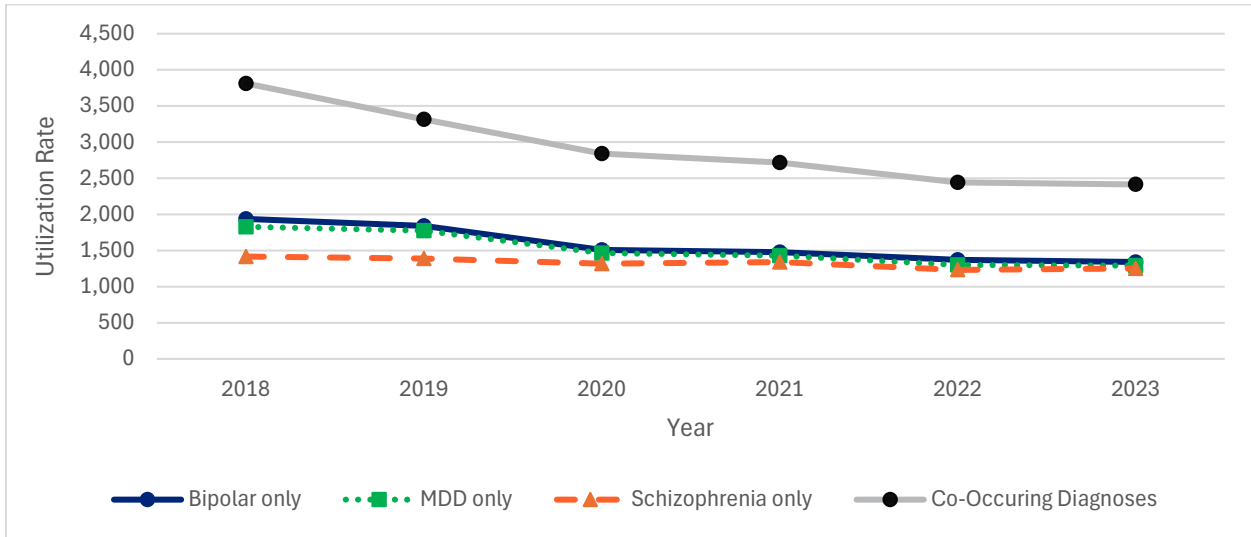
**Exhibit V.29: ED Participation Rate by SMI Diagnosis**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.



**Exhibit V.30: ED Utilization Rate by SMI Diagnosis**



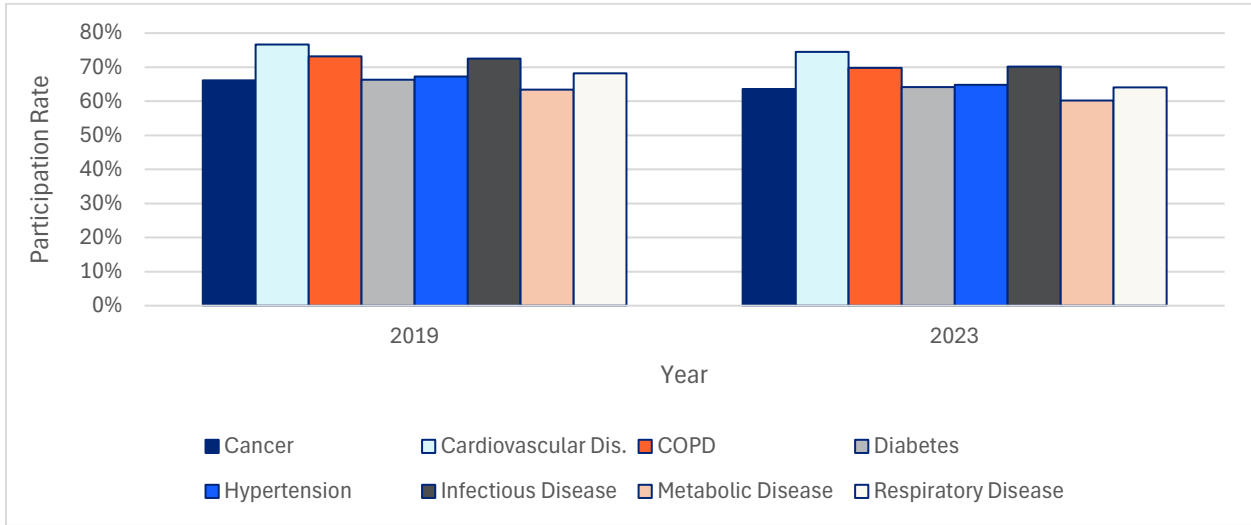
Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

*Chronic conditions.* Exhibits V.31 and V.32 summarize participation and utilization rates by beneficiaries with chronic physical conditions. SMI beneficiaries with cardiovascular disease had the highest ED participation and utilization rates across the years (2018-2023), compared to beneficiaries with the other chronic conditions examined. ED participation rates were stable between 2018 and 2023 for each chronic condition group (i.e., by 1 percentage point or less), except among beneficiaries with chronic obstructive pulmonary disease (COPD) (who experienced a 2.3-percentage point decline in their ED participation rate between 2018 and 2023) and respiratory disease (who experienced a 4.8-percentage point decline in their ED participation rate between 2018 and 2023). Additionally, beneficiaries with respiratory disease experienced a larger decline in their ED utilization rate between 2018 and 2023 (a 20.2% decrease) compared to beneficiaries with other chronic conditions (decreases ranging from 5.5% to 13.0%). Beneficiaries with more chronic conditions had a greater likelihood of having higher ED participation and utilization rates.

Differences in participation and utilization rates between beneficiaries with and without chronic physical conditions were also examined using regression-based approaches. These models controlled for member characteristics and time (Attachment E, Exhibits E.4 – E.5). Findings for participation rates indicate beneficiaries with cancer were 1.24 times more likely (OR: 1.24, 95% CI: 1.20 – 1.28) to have at least one ED service visit compared to those without cancer. Beneficiaries with cardiovascular disease were 1.90 times more likely (OR: 1.90, 95% CI: 1.86 – 1.95) to have at least one ED service visit compared to those without cardiovascular disease. Beneficiaries with COPD were 1.91 times more likely (OR: 1.91, 95% CI: 1.88 – 1.95) to have at least one ED service visit compared to those without COPD. Beneficiaries with diabetes were 1.09 times more likely (OR: 1.09, 95% CI: 1.07 – 1.11) to have at least one ED service visit compared to those without diabetes. Beneficiaries with hypertension were 1.94 times more likely (OR: 1.94, 95% CI: 1.91 – 1.96) to have at least one ED service visit compared to those without hypertension. Beneficiaries with infectious disease were 2.60 times more likely (OR: 2.60, 95% CI: 2.57 – 2.63) to have at least one ED service visit compared to those without infectious disease. Beneficiaries with metabolic disease were 1.25 times more likely (OR: 1.25, 95% CI: 1.23 – 1.26) to have at least one ED service visit compared to those without metabolic disease.

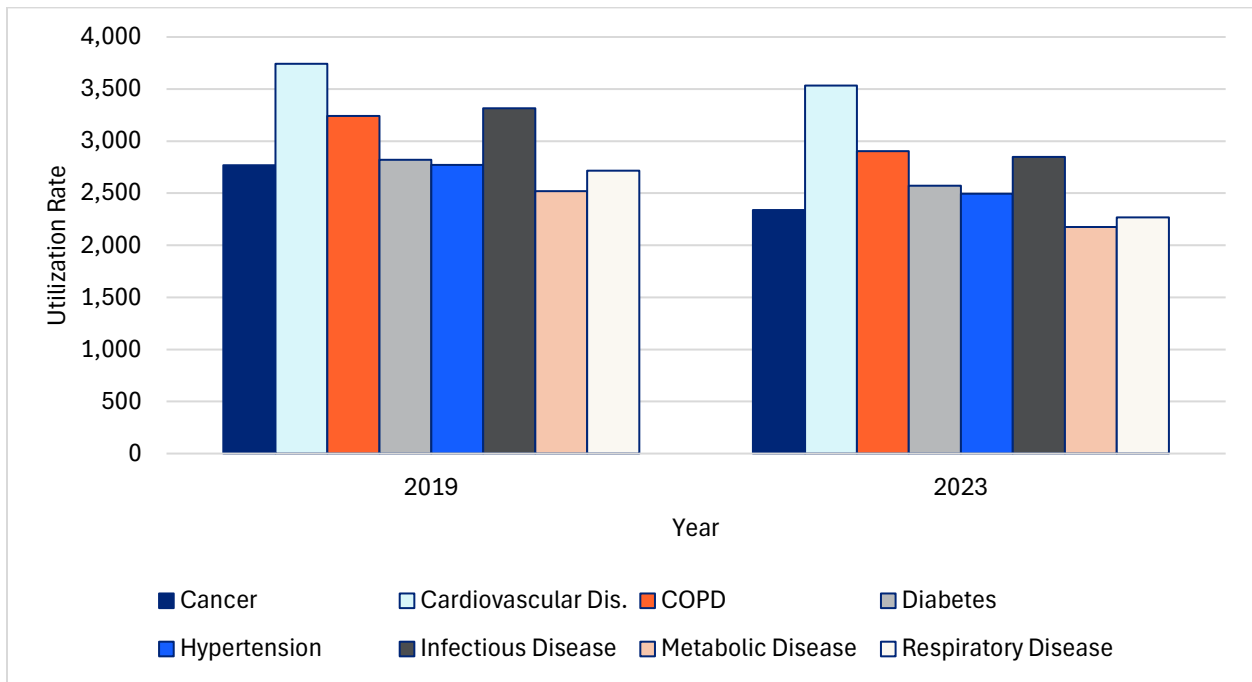
Findings for utilization rates indicate beneficiaries with cancer were 1.58 times more likely (IRR: 1.58, 95% CI: 1.56 – 1.60) to have ED service visits compared to those without cancer. Beneficiaries with cardiovascular disease were 1.58 times more likely (IRR: 1.58, 95% CI: 1.56 – 1.60) to have ED service visits compared to those without cardiovascular disease. Beneficiaries with COPD were 1.55 times more likely (IRR: 1.55, 95% CI: 1.53 – 1.57) to have ED service visits compared to those without COPD. Beneficiaries with diabetes were 1.08 times more likely (IRR: 1.08, 95% CI: 1.07 – 1.09) to have ED service visits compared to those without diabetes. Beneficiaries with hypertension were 1.69 times more likely (IRR: 1.69, 95% CI: 1.68 – 1.71) to have ED service visits compared to those without hypertension. Beneficiaries with infectious disease were 2.13 times more likely (IRR: 2.13, 95% CI: 2.11 – 2.15) to have ED service visits compared to those without infectious disease. Beneficiaries with metabolic disease were 1.28 times more likely (IRR: 1.28, 95% CI: 1.27 – 1.29) to have ED service visits compared to those without metabolic disease.

**Exhibit V.31: ED Participation Rate by Prevalent Chronic Condition**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**Exhibit V.32: ED Utilization Rate by Prevalent Chronic Condition**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

### *Average Length of Stay*

As stated previously, ED LOS is typically calculated using data from a patient’s clinical record. Given that data sources for the evaluation relied on claims and encounter data, which does not contain information specific to time spent in an ED, analyses were restricted to ED utilization only.

### **C.3. How do SMI demonstration activities contribute to reductions in utilization and LOS in EDs among Medicaid beneficiaries with SMI while awaiting MH treatment in specialized settings (Subsidiary RQ 1.2)?**

#### *ED Utilization*

Consistent with findings from the 2020 Summative Report and the 2023 MPA<sup>8</sup> Report, state officials, MCE representatives, and providers described broad changes in utilization of health care services during the PHE which likely confounded the impact of the waiver on ED utilization and LOS for Medicaid beneficiaries with SMI. Findings from 2020 interviews indicated that individuals seeking behavioral health care in the ED decreased from March – May and increased dramatically in June 2020; noting historically high levels of utilization for behavioral health related incidents (e.g., suicide; overdose) during the summer. MCE representatives and providers interviewed in 2024 described inconsistent ED utilization trends between 2021 and 2023. For example, four MCEs indicated that ED utilization increased in 2021 with mixed findings in 2022 (e.g., Two MCEs reported continued increase in ED utilization while three MCEs noted declines) and 2023 (e.g., Two MCEs reported that ED utilization stabilized as the PHE ended, two MCEs indicated continued increases, and one MCE indicated a decline). Three providers noted that they tracked ED utilization.<sup>59</sup> Of these providers, two indicated that ED utilization declined in 2023

<sup>59</sup> Providers noted that tracking ED utilization and LOS required the ability to access hospital data and consequently, the majority of the providers interviewed did not have that capability.

while one provider noted that ED utilization remained the same in 2023. Additionally, two providers asserted that crisis stabilization services are reducing ED utilization by diverting care. For example, one provider described the Stride Diversion Center and indicated that Stride helped one county reduce ED admissions by 80%. This provider also noted that Anthem data for their patients who used Stride between 2021 and 2023 revealed a 30% reduction in ED visits. The provider asserted that Stride's success is likely due to their ability to deescalate crises, coordinate care, and provide support resources (e.g., transportation) to beneficiaries. Although state officials and advocacy organizations did not directly comment on ED utilization rates, one state official noted that telehealth options diverted individuals from the ED while more robust staffing improved hospital's ability to serve individuals with behavioral health conditions. Advocacy organizations noted several policies (e.g., Senate Enrolled Act 1006 and Senate Enrolled Act 1) that focused on strategies to reduce ED utilization including redefining how MH systems respond to crisis, diverting individuals from the ED to treatment, and reducing assessment time frames to accelerate care coordination.

### *Average Length of Stay*

Consistent with findings from the 2020 Summative Report and the 2023 MPA, state officials, MCE representatives, and providers highlighted various emergency authorizations which were implemented to increase access to care by streamlining authorization and approval and decreasing wait times prior to admission. Interviewees mentioned that these changes, particularly the API virtual approval and automatic 7-day authorization, temporarily decreased LOS in ED for many patients during 2020 as they were more quickly admitted.

Although state officials indicated that they had not yet developed a report to monitor the ALOS for all Medicaid programs including ED, they stated that they internally review ALOS for all IMDs that receive federal match and report this information in quarterly SMI waiver demonstration monitoring reports. Findings from the 2023 MPA indicate that the ALOS for beneficiaries with SMI at an IMD receiving FFP only (monitoring metric #19b) decreased from 7.9 days to 7.4 days while ALOS for stays at an IMD (considering all IMD irrespective of receipt of FFP) decreased from 10.1 to 9 (monitoring metric #19a) during the demonstration period (**Exhibit IV.18**). The majority beneficiaries (99%) with an inpatient stay at an IMD had stays of less than 60-days,<sup>60</sup> with an ALOS of 7.3 days in 2022. In 2023, the state released an updated version of the ALOS report for inclusion in the MCE quarterly reports to more accurately collect data specified by the STCs. The majority of providers and advocacy organizations did not comment on ED ALOS. One provider noted that ED LOS peaked in the spring of 2023 with an average of 300-315 minutes and began to decline in October of 2023 (average 248 minutes). This provider indicated that ED LOS continued to improve through the end of 2023. Another provider noted that peer resources focused on care coordination (implemented in the ED during 2022) has contributed to reducing time spent in the ED.

### *Availability and Access to Community-Based Treatment Providers and Crisis Services*

*Provider Capacity.* Consistent with findings from the Summative Report and the MPA, interviewees in 2024 indicated that the PHE strained overall provider capacity in the ED and across the care continuum. One state official noted that reimbursement, high patient loads, and

<sup>60</sup> Monitoring report data specifications for metric #19 defines a short term stay as 60-days

staff turnover are ongoing challenges for maintaining the state’s behavioral health workforce. To increase behavioral health provider capacity the state will provide cross-state licensure options during 2024.<sup>61</sup> Findings associated with availability and access to community-based treatment providers are also delineated in **Section V.F.**

*Crisis Stabilization Services.* Consistent with findings from the Summative Report and the MPA, Interviewees highlighted state strategies and successes for increasing availability and access to crisis stabilization services that divert admissions from EDs and inpatient psychiatric hospitals. Findings associated with crisis stabilization successes and strategies are delineated in **Section V.E.**

### Care Transitions

*High Utilizers of ED Services.* MCEs are required to identify high utilizers of ED services and ensure beneficiaries are coordinated and participating in the appropriate disease management or care management services. Consistent with the 2020 Summative Report and the MPA, MCE representatives interviewed in 2024 described efforts to identify high utilizers of ED services and connect them with appropriate disease management or care management services. Strategies include:

- Conducted “diversion assessments” with high ED utilizers.
- Coordinated regular provider meetings to review high utilizers of ED services, assess follow up care after an ED visit, and identify strategies which leverage MCEs to reduce ED utilization.
- Utilized peers to engage high ED utilizers and support them in following their treatment plan.
- Identified and conducted outreach to high ED utilizers and providing education on ED alternatives (e.g., urgent care, primary care).
- Implemented a value-based agreement (i.e., structured incentives for meeting performance goals) with providers to encourage reductions in ED utilization.

Providers also noted the importance of identifying high utilizers of ED services and emphasized continued collaboration with the MCEs and access to real-time data as opportunities for reducing ED utilization.

### C.4. Findings and Recommendations

This section provides a summary of the findings by short and long-term outcomes identified in the Goal 1 logic model. Summaries integrate quantitative and qualitative (when appropriate) to provide evidence in support of the hypothesis. Recommendations for additional actions or data are also listed.

#### Hypothesis

The SMI demonstration will result in reductions in utilization LOS in EDs among Medicaid beneficiaries with SMI while awaiting MH treatment.

<sup>61</sup> Please note that this applies to MH counselors due to the compact licensure agreement. For other behavioral health professionals (OBHP), compact licensure agreements have yet to be approved.

### *ED Utilization*

Quantitative findings illustrate overall declines in all-cause ED participation and utilization rates between 2018 and 2023 for the SMI beneficiary population and select population subgroups examined. Additionally, findings also indicated declines in MH-related ED participation and utilization rates over time. Regression models controlling for member characteristics indicate that both the participation and utilization rates during the waiver extension are significantly lower relative to the pre-demonstration. Consistent with findings from the 2020 Summative Report and the 2023 MPA, state officials, MCE representatives, and providers described broad changes in utilization of health care services during the PHE which likely confounded the impact of the waiver on ED utilization for Medicaid beneficiaries with SMI. Findings from 2020 interviews indicated that individuals seeking behavioral health care in the ED decreased from March – May and increased dramatically in June 2020, noting historically high levels of utilization for behavioral health related incidents during the summer. Monthly all-cause ED participation and utilization data demonstrates a similar trend. MCE representatives and providers interviewed in 2024 described inconsistent ED utilization trends between 2021 and 2023.

Declines in ED participation and utilization may be due to several direct or indirect factors related to the waiver. For example, state investments in crisis stabilization services and increases in community-based services (including telehealth) were implemented during the waiver extension to better service IN residents in crisis and divert them from the ED. Two providers interviewed in 2024 asserted that crisis stabilization services initiated between 2021 and 2023 contributed to reductions in ED utilization. Additionally, policies enacted during the waiver extension, such as the Senate Enrolled Act 1006 and Senate Enrolled Act 1 focused on strategies to reduce both ED utilization and assessment time frames to accelerate care coordination. Although these trends are positive, findings at this time cannot be corroborated to suggest associations or direct relationships. For example, crisis stabilization service data were not available to assess if individuals in crisis were using these services at increased rates or if they used these services rather than visiting the ED. Additionally, the COVID-19 PHE may also have contributed to ED participation and utilization rate declines. For example, social distancing and health care resource prioritization required in response to the PHE reduced ED capacity and limited the number of individuals served. Consequently, any observed changes should be interpreted with caution.

### *Average Length of Stay*

Since data sources for the evaluation relied on claims and encounter data, which does not contain information specific to time spent in an ED, ALOS for ED was not calculated. State officials indicated that they had not yet developed a report to monitor ED ALOS for Medicaid programs. The majority of providers and advocacy organizations did not comment on ED ALOS. Given the paucity of available ALOS data for ED, changes in ALOS for this service cannot be evaluated.

### *Availability and Access to Community-Based Treatment Providers and Crisis Services*

Quantitative findings specific to availability and access to community-based treatment providers and crisis services are included in Goals 3 and 4. Consistent with findings from the Summative Report and the MPA, interviewees in 2024 indicated that the PHE strained overall provider capacity in the ED and across the care continuum. Interviewees highlighted state strategies and

successes for increasing availability and access to crisis stabilization services that divert admissions from EDs and inpatient psychiatric hospitals. Findings associated with crisis stabilization successes and strategies are delineated in **Section V.E.**

### *Care Transitions*

MCEs are required to identify high utilizers of ED services and ensure that beneficiary care is coordinated. Consistent with the 2020 Summative Report and the MPA, MCE representatives interviewed in 2024 described efforts to identify high utilizers of ED services and connect them with appropriate disease management or care management services. Providers also noted the importance of identifying high utilizers of ED services and emphasized continued collaboration with the MCEs and access to real-time data as opportunities for reducing ED utilization.

### *Recommendations*

- Continue to monitor ED participation and utilization during years following the COVID-19 PHE.
- Triangulate ED service utilization data with other data sources (e.g., crisis stabilization services) and implementation activities to better understand and interpret trends.
- Track ED ALOS. Require data reporting by MCEs and providers as needed.
- Identify strategies to increase workforce capacity (e.g., investments in care coordinators) in the ED for beneficiaries with SMI.
- Continue to build on successful strategies for identifying high utilizers and connecting them with appropriate disease management or care management services.

## **D. Goal 2: Reduced preventable readmissions to acute care hospitals and residential settings.**

As stated in **Section II.B**, individuals with SMI may be vulnerable to unplanned hospital readmission.<sup>62</sup> State actions designed to connect patients discharged from acute care hospitals with community-based referrals or access and availability to crisis services were implemented during the waiver and waiver extension to reduce readmission rates. Goal 2 for the SMI demonstration calculates readmission rates following acute inpatient and observational stays for Medicaid beneficiaries with SMI. Acute inpatient and observational stays include short-term inpatient and residential admissions to both IMDs and non-IMD acute-care hospitals, critical access hospitals, and residential settings. Preventable readmissions are typically defined as a readmission (return hospitalization) to an acute care hospital following a prior acute care admission within a specified time interval for a reason that is clinically related to the initial hospitalization. Given that data sources for the evaluation relied on claims and encounter data, which does not contain information specific to the clinical reason for hospitalization and whether it was related to the initial hospitalization, analyses were restricted to any readmission. Qualitative data specific to inpatient readmission was incorporated to contextualize quantitative

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<sup>62</sup> Albrecht, J. S., Hirshon, J. M., Goldberg, R., Langenberg, P., Day, H. R., Morgan, D. J., Comer, A. C., Harris, A. D., & Furuno, J. P. (2012, April 26). *Serious mental illness and acute hospital readmission in diabetic patients*. American journal of medical quality: the official journal of the American College of Medical Quality. Retrieved April 22, 2022, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3677605/>

findings and assess the impact of short and long-term outcomes associated with Goal 2 (Section II, Exhibit II.5).

As stated in Section I.G., the PHE (which began in March 2020) caused substantial changes to state policies, service utilization and provider availability, and will have short- and long-term impacts on IN’s health care. Social distancing, prioritization of health care resources, and workforce capacity have likely affected readmission rates by impacting factors, such as LOS, access and availability of community-based care, and care coordination. Given that both the waiver (2020) and the waiver extension (2021-2023) coincided with the COVID-19 PHE, findings during this time-period likely reflect both the impact of COVID-19 related policy changes and activities as well as demonstration impacts. Consequently, any observed changes should be interpreted with caution as findings may be confounded by the impact of the PHE.

Exhibit V.33 describes the hypothesis, RQs, outcome measures, data sources, and analytic approach used for the evaluation (2021-2023).

**Exhibit V.33: Goal 2 Research Questions, Outcome Measures, Data Sources and Analytic Approach**

Hypothesis: The SMI demonstration will result in reductions in preventable readmissions to acute care hospitals and residential settings.			
Research Questions	Outcome Measure(s)	Data Sources	Analytic Approach
<b>Primary RQ 2:</b> Does the SMI demonstration result in reductions in preventable readmissions to acute care hospitals and residential settings (including, short-term inpatient and residential admissions to both IMDs and non-IMD acute-care hospitals, critical access hospitals, and residential settings)?	Rate of 30-day, all-cause unplanned readmissions following a MH-related acute inpatient or observational stay	<ul style="list-style-type: none"> <li>• Claims/encounter data (2018-2023)</li> <li>• Enrollment data (2018-2023)</li> </ul>	<ul style="list-style-type: none"> <li>• Descriptive quantitative analysis of trends over time during the demonstration</li> <li>• Interrupted time series analysis</li> </ul>
<b>Subsidiary RQ 2.1:</b> How do the SMI demonstration effects on reducing preventable readmissions to acute care hospitals and residential settings vary by geographic area or beneficiary characteristics?	Rate of 30-day, all-cause unplanned readmissions following a MH-related acute inpatient or observational stay	<ul style="list-style-type: none"> <li>• Claims/encounter data (2018-2023)</li> <li>• Enrollment data (2018-2023)</li> </ul>	<ul style="list-style-type: none"> <li>• Descriptive quantitative analysis of trends over time during the demonstration</li> <li>• Interrupted time series analysis</li> </ul>



Hypothesis: The SMI demonstration will result in reductions in preventable readmissions to acute care hospitals and residential settings.			
Research Questions	Outcome Measure(s)	Data Sources	Analytic Approach
<p><b>Subsidiary RQ 2.2:</b> How do demonstration activities contribute to reductions in preventable readmissions to acute care hospitals and residential settings?</p>	<ul style="list-style-type: none"> <li>• Demonstration activities or their components or characteristics that stakeholders identify as most effective in reducing preventable readmissions to acute care hospitals and residential settings</li> <li>• Obstacles that stakeholders identify as hindering the effectiveness of the demonstration in reducing preventable readmissions to acute care hospitals and residential settings</li> </ul>	<p>KIIs with beneficiaries, state officials, MCEs, providers, and advocacy organizations</p>	<p>Qualitative analysis to identify themes associated with the effectiveness of demonstration activities for reducing preventable readmissions to acute care hospitals and residential settings</p>

**Quantitative Analysis Approach**

*Analytic Population.* Changes in all-cause, unplanned 30-day readmission rates before and after the waiver extension were calculated for the SMI beneficiary roster population.<sup>63</sup>

*Metrics.* Claims/encounter data was used to identify and compute the all-cause, unplanned 30-day MH-related readmissions for beneficiaries with SMI. The National Committee for Quality Assurance (NCQA) Plan All-Cause Readmission measure was adapted to compute the readmission rate.<sup>64</sup> The readmission rate was calculated as:

$$\frac{\text{\# of "D" with all-cause acute inpatient or observation readmissions stays within 30 days of discharge}}{\text{\# of (eligible) acute inpatient or observation stays related to MH (D)}}$$

- **Identifying the denominator:** Stays were combined into a single stay if they were identified as a direct transfer (i.e., if one stay was followed by another stay on the same day or day after discharge, the stays were combined into a single stay). Acute inpatient or observational stays were included as “eligible” stays for the measure denominator (D) if:<sup>65</sup>
  - The acute inpatient or observation stay discharge was between January 1 and December 1 of the measurement year,
  - The beneficiary had a LOS of at least one day (i.e., admission date was not the same as the discharge date),

<sup>63</sup> The analytic population excludes those who received hospice services at any time during the measurement year.

<sup>64</sup> Based on findings from the MPA as well as Interim Report Goal 3 and 4, few facilities in Indiana are identified as an inpatient psychiatric facility (IPF). Given that beneficiaries can receive acute care from facilities that are not identified as an IPF, the measure captures readmissions for all acute care and observational stays across the broader range of facilities. Consequently, the adapted NCQA measure was used instead of the 30-day All-Cause Unplanned Readmission Following Psychiatric Hospitalization in an IPF measure (SMI Evaluation Metric #4, based on NQF measure #2860).

<sup>65</sup> The NCQA measure also excludes “outlier beneficiaries” (i.e., those with four or more inpatient stays in the same measurement year. Given individuals with MH can have multiple inpatient stays, this restriction was not applied.

- The beneficiary had waiver-eligible Medicaid coverage at the time of the discharge and during the 30 days after the discharge date,
- The beneficiary did not have a recorded date of death during the stay,
- The stay claim/encounter was not related to pregnancy or perinatal care,
- The stay claim/encounter had a primary or secondary diagnosis related to MH.

MH-related diagnoses were identified using a combination of value sets, including the Healthcare Effectiveness Data and Information Set (HEDIS) Value Set Directory (VSD)'s MH Diagnosis and Intentional Self-Harm value sets, as well as the Clinical Classifications Software Refined (CCSR) Suicidal Ideation, Attempt, and Intentional Self-Harm diagnosis category. For additional details regarding the data processing steps used to identify the stays for the 30-day all-cause, unplanned readmission metric, see **Attachment D**.

- **Identifying the numerator:** For the numerator, potential all-cause inpatient readmissions within 30 days of discharge were identified using the following criteria:
  - Any acute inpatient or observational stay with an admission date between January 3 and December 31 of the measurement year,
  - Did not include any pregnancy or perinatal-related claims, and
  - Were not related to pre-planned inpatient stays (i.e., stays for maintenance chemotherapy, rehabilitation, organ transplants, or other potentially planned procedures).

If a readmission stay was within 30 days of more than one denominator stay, the readmission was only counted for the latest denominator stay. For more detailed technical specifications regarding the calculation of the *30-day all-cause inpatient readmission* measure overall, see **Attachment D**.

*Analysis.* Annual 30-day readmission rates were calculated to examine trends over time for the analytic population and by key beneficiary characteristics. Beneficiary characteristics examined included: sociodemographic characteristics (i.e., gender, age, race, ethnicity, geographic location [metro/non-metro]), Medicaid coverage status indicators (i.e., Medicare/Medicaid dually eligible), SMI diagnosis history, and other chronic health conditions.

In addition to comparing trends over time using descriptive analyses, a two-stage ITS analysis was used to estimate changes in the 30-day all-cause readmission rate before and during the SMI waiver extension while adjusting for beneficiary sociodemographic (including gender, age, race, ethnicity, geographic location [metro or non-metro]), clinical history, and Medicaid enrollment characteristics. For the first stage, the probability of a beneficiary having a MH-related acute inpatient or observation stay within a given year was estimated using a logistic ITS model. For the second stage, a logistic ITS model was used to assess change in likelihood of readmissions during the waiver extension period (2021-2023) relative to pre-demonstration (2018-2019). As stated previously, the PHE caused substantial changes to Medicaid policies, service utilization, and provider availability. Social distancing and health care resource prioritization, particularly in the first year of the PHE significantly reduced the number of beds available. Consequently, regression models excluded data from 2020. Sensitivity tests were conducted to examine if

exclusion of data from 2020 impacted the regression-based findings. Results for 30-day all-cause readmission rate regression analyses were similar when including 2020 data; results from the sensitivity analyses are included in **Attachment E**.

The findings are organized by research questions and relevant outcome measures identified in the logic model for the Goal (**Section II**). Based on factors including data availability, only select outcomes were identified in the CMS approved Evaluation Plan. Any outcomes that were identified in the logic model but were not included in the Evaluation Plan have been noted in the respective sections.

***D.1. Does the SM demonstration result in reductions in preventable readmissions to acute care hospitals and residential settings (including, short-term inpatient and residential admissions to both IMDs and non-IMD acute-care hospitals, critical access hospitals, and residential settings) (Primary RQ 2)?***

**Exhibit V.34** summarizes the count of beneficiaries who had a readmission metric denominator “eligible” MH-related acute inpatient or observational stay (refer to inclusion/exclusion described in the quantitative analysis approach for eligible stays). Although the number of beneficiaries with an eligible MH-related acute inpatient or observational stay was similar during 2018 and 2019 (approximately 11,500) and slightly higher during the waiver extension (approximately ranging from approximately 12,700 to 14,300 during this period), the proportion of beneficiaries on the SMI beneficiary roster having at least one MH-related stay decreased from 13.0% in 2018 to 5.4% in 2023. The decrease aligns with the observed declines in MH-related utilization among SMI beneficiaries (refer to **Section V.B: Population Summary**). Across years, irrespective of the number of beneficiaries who had an eligible stay, at least 75% of beneficiaries (with at least one MH-related stay) had only one stay in a year.

**Exhibit V.34: Distribution of MH-Related Acute Inpatient or Observational Denominator Stays Among the SMI Beneficiary Roster Population with at Least One Eligible Inpatient Stay (2018 – 2023)**

Year	Total # of Roster Benes	# of Roster Benes with (at Least 1) MH-related Stay	% of Roster with (at Least 1) MH-related Stay	Distribution of # of MH-Related Stays per Beneficiary					
				Avg. # of stays	75 <sup>th</sup> Pctl	90 <sup>th</sup> Pctl	95 <sup>th</sup> Pctl	99 <sup>th</sup> Pctl	Max.
2018	88,393	11,474	13.0%	1.3	1	2	3	5	12
2019	117,965	11,565	9.8%	1.3	1	2	3	5	19
2020	147,715	12,970	8.8%	1.4	1	2	3	5	16
2021	185,520	14,274	7.7%	1.4	1	2	3	5	20
2022	220,287	12,735	5.8%	1.4	1	2	3	6	17
2023	255,056	13,682	5.4%	1.4	1	2	3	6	22

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

Among beneficiaries who had at least one MH-related acute inpatient or observational stay, approximately 14.5% had a readmission within 30-days between 2018 and 2023, with little variation by year. Similarly, the proportion of acute inpatient or observational stays with a readmission increased slightly over time. More specifically, the 30-day readmission rates during

the waiver extension (2021-2023) were slightly higher (2021: 16.9%, 2022: 16.3%, 2023: 17.8%) relative to pre-demonstration (2018: 15.7%. 2019: 15.8%). Although there is a paucity of research examining 30-day all-cause readmissions among Medicaid populations, the limited research available<sup>66</sup> suggests that the 30-day all-cause readmission rate among Medicaid beneficiaries with SMI is 15.9%. These findings are similar to the latter readmission rates. In addition, these rates were also examined when excluding “outlier” (defined as beneficiaries with four or more (denominator) MH-related stays within a given year). As shown in **Attachment E, Exhibit E.20.**, the exclusion of these outliers resulted in notable decreases (i.e., ranging from 4.5 to 6.7 percentage points) in these readmission rates within each year, suggesting that readmission rates may be driven, in part, by utilization among a smaller subset of beneficiaries who are “frequent” users of MH-related inpatient/observational services.

Changes in readmission rates over time were also examined using an ITS regression-based approach. This model controlled for intervention period (i.e., pre-demonstration or during the waiver extension), time (year), and beneficiary characteristics including beneficiary propensity to have an acute inpatient or observation stay (**Attachment E, Exhibit E.22**). Although the non-adjusted rates were slightly higher during the demonstration, regression-based findings indicate that (adjusting for the different factors) readmission rates were significantly lower in the post-demonstration period relative to the pre-demonstration (post-demonstration period indicator, OR: 0.82, 95% CI: 0.72 – 0.93) when accounting for beneficiary characteristics.

**Exhibit V.35: 30-Day All-Cause, Unplanned Readmission Rates Following MH-Related Acute Inpatient and Observation Stays, Among SMI Beneficiaries (2018-2023)**

Year	# of SMI Benes with at Least 1 MH-Related Stay	# of SMI Benes with a 30-day Readmission	# of MH-Related Stays Among SMI Benes (Denom.)	# of MH-Related Stays with All-Cause 30-Day Readmission (Numer.)	30-Day All-Cause Readmission Rate
2018	11,474	1,653	15,348	2,413	15.7%
2019	11,565	1,639	15,568	2,461	15.8%
2020	12,970	1,925	17,800	2,873	16.1%
2021	14,274	2,153	19,888	3,352	16.9%
2022	12,735	1,794	17,579	2,861	16.3%
2023	13,682	2,065	19,249	3,427	17.8%

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

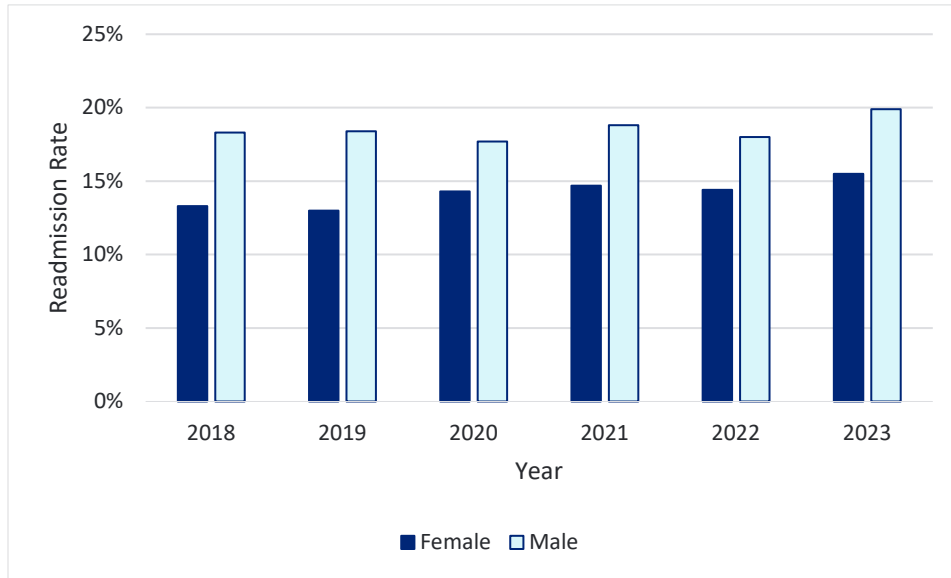
**D.2. How do the SMI demonstration effects on reducing preventable readmissions to acute care hospitals and residential settings vary by geographic area or beneficiary characteristics (Subsidiary RQ 2.1)?**

*Gender.* **Exhibit V.36** summarizes 30-day all-cause, unplanned readmission rates by gender. Overall, readmission rates remained stable over time (2018 to 2023). Compared to male beneficiaries, female beneficiaries had lower rates of readmissions (within 30 days) following

<sup>66</sup> Cook, J., Burke-Miller, J., Razzano, L., Steigman, P., Jonikas, J., & Santos, A. (2021). Serious mental illness, other mental health disorders, and outpatient health care as predictors of 30-day readmissions following medical hospitalization. *General Hospital Psychiatry*, Volume 70 (10-17). <https://doi.org/10.1016/j.genhosppsych.2021.02.004>.

acute inpatient and observational stays in each year (i.e., readmission rates ranged between 13.3% to 15.5% for females and 17.7% and 19.9% for males). Controlling for time, beneficiary characteristics, and beneficiary propensity of having a MH-related stay, findings indicate that male beneficiaries were 60% more likely than female beneficiaries to have a readmission within 30 days of discharge from a MH-related acute inpatient or observation stay (OR: 1.60, 95% CI: 1.51 – 1.69; **Attachment E, Exhibit E.22**).

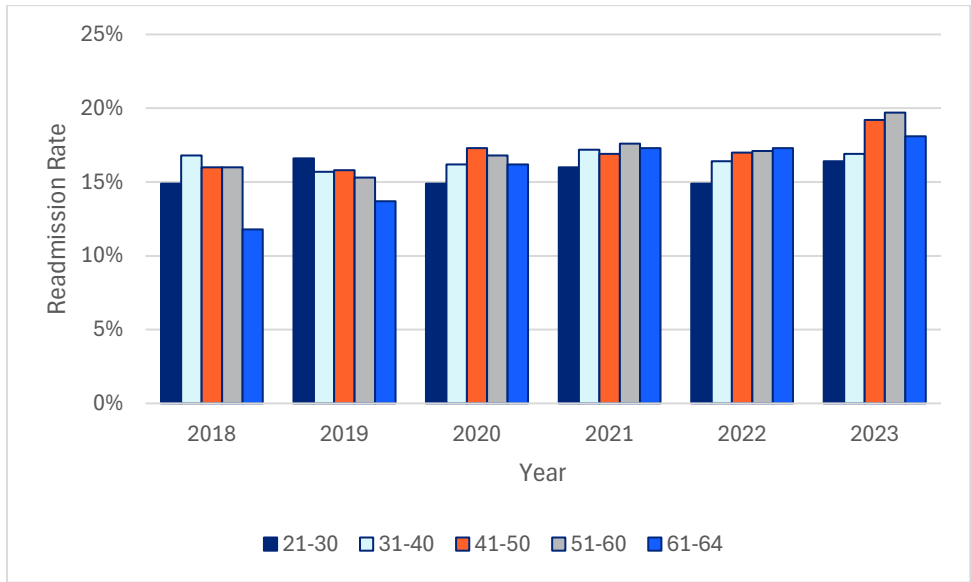
**Exhibit V.36: All-Cause, Unplanned 30-day Readmission Rates by Gender (Roster Population)**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

*Age.* Trends in readmission rates by age group were similar to the overall trend (i.e., slight increases in the readmission rate by year), although the rates varied across each age group (**Exhibit V.37**). During the waiver period, readmission rates were slightly higher for beneficiaries aged 41 and above compared to younger beneficiaries, and these differences were statistically significant (**Attachment E, Exhibit E.22**)

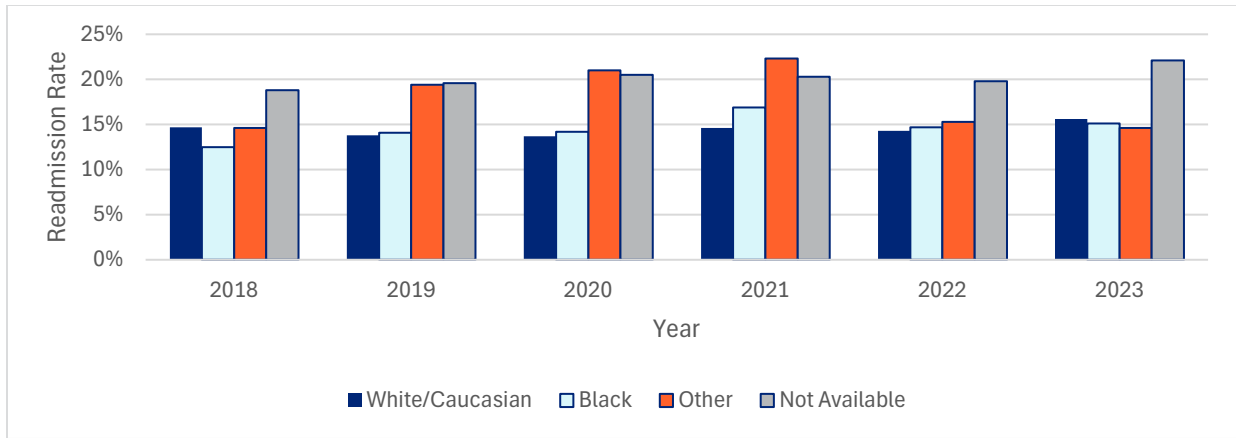
**Exhibit V.37: All-Cause, Unplanned 30-day Readmission Rates by Age (Roster Population)**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**Race.** Exhibit V.38 summarizes 30-day all-cause, unplanned readmission rates by race. Readmission rates for White/Caucasian and Black beneficiaries remained stable across time (2018-2023). Controlling for time, beneficiary characteristics, and beneficiary propensity of having a MH-related stay, findings indicate that beneficiaries with other/unknown race were 24% more likely to have a readmission (OR: 1.24, 95% CI: 1.19 – 1.29) compared to White/Caucasian beneficiaries (Attachment E, Exhibit E.22).

**Exhibit V.38: All-Cause, Unplanned 30-day Readmission Rates by Race (Roster Population)**

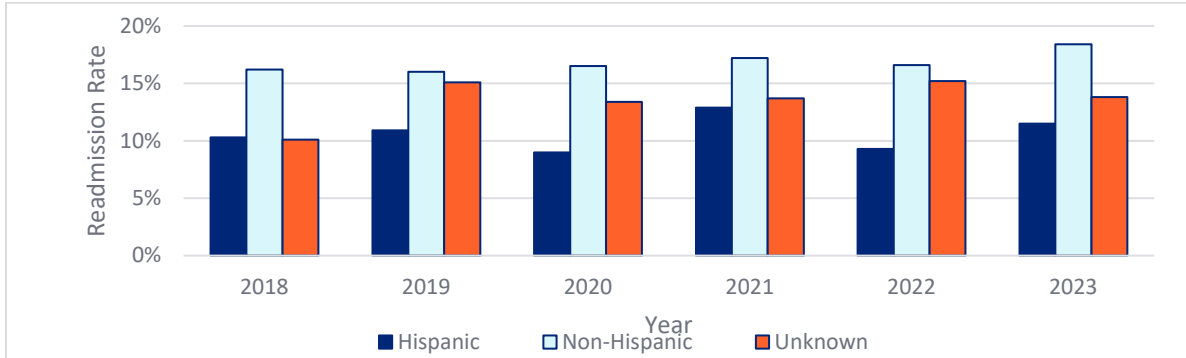


Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**Ethnicity.** All-cause, unplanned 30-day readmission rates also remained stable among both Hispanic and non-Hispanic beneficiaries between 2018 and 2023 but were somewhat higher among non-Hispanic beneficiaries in each year (Exhibit V.39). Controlling for time, beneficiary characteristics, and beneficiary propensity of having a MH-related stay, findings indicated that Hispanic beneficiaries were significantly less likely to have a readmission (OR: 0.62, 95% CI:

0.54 – 0.72) compared to non-Hispanic beneficiaries/beneficiaries with unknown ethnicity (Attachment E, Exhibit E.22).

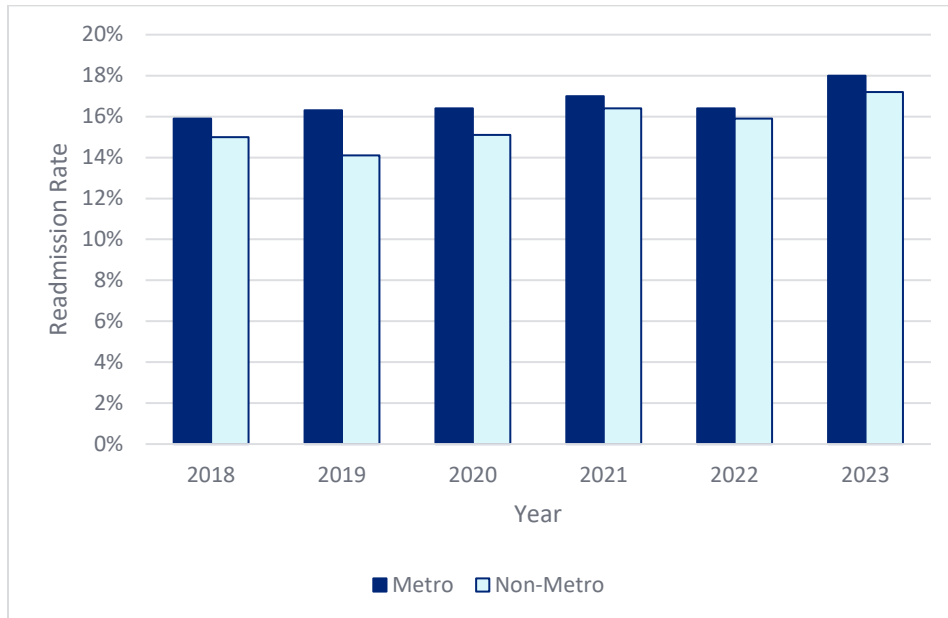
**Exhibit V.39: All-Cause, Unplanned 30-day Readmission Rates by Ethnicity (Roster Population)**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**Geographic Location.** Exhibit V.40 summarizes 30-day all-cause, unplanned readmission rates by geographic location. Beneficiaries in non-metro area had slightly lower rates of readmission compared to those living in metro areas. Controlling for time, beneficiary characteristics, and beneficiary propensity of having a MH-related acute inpatient or observation stay, findings indicated that beneficiaries living in non-metro areas were 7% less likely to have a readmission within 30 days of a discharge from a MH-related acute inpatient or observation stay compared to beneficiaries living in metro areas (OR: 0.93, 95% CI: 0.89 – 0.98; Attachment E, Exhibit E.22).

**Exhibit V.40: All-Cause, Unplanned 30-day Readmission Rates by Geographic Location (Roster Population)**

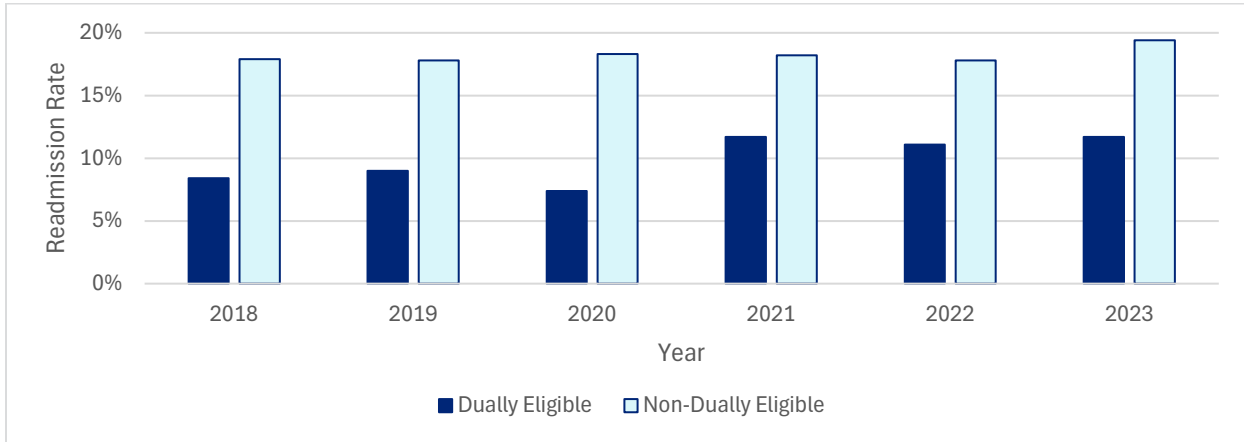


Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**Dually Eligible.** Exhibit V.41 summarizes 30-day all-cause, unplanned readmission rates by dual eligibility (for Medicare and Medicaid) status. Readmission rates remained stable for

beneficiaries who were not dually eligible. Dually eligible beneficiaries had lower readmission rates compared to those without dual eligibility over time – although the rates were higher during the waiver period relative to during pre-demonstration. The descriptive findings were also supported by findings from the ITS regression model, which indicated dually eligible beneficiaries were 59% less likely to have readmission compared to other beneficiaries (OR: 0.41, 95% CI: 0.39 – 0.44; **Attachment E, Exhibit E.22**). Lower readmission rates were expected for dually eligible beneficiaries, given that typically Medicare is the primary payer for similar covered services and current analyses only use Medicaid paid claims/encounters.

**Exhibit V.41: All-Cause, Unplanned 30-day Readmission Rates by Dual Eligibility (Roster Population)**

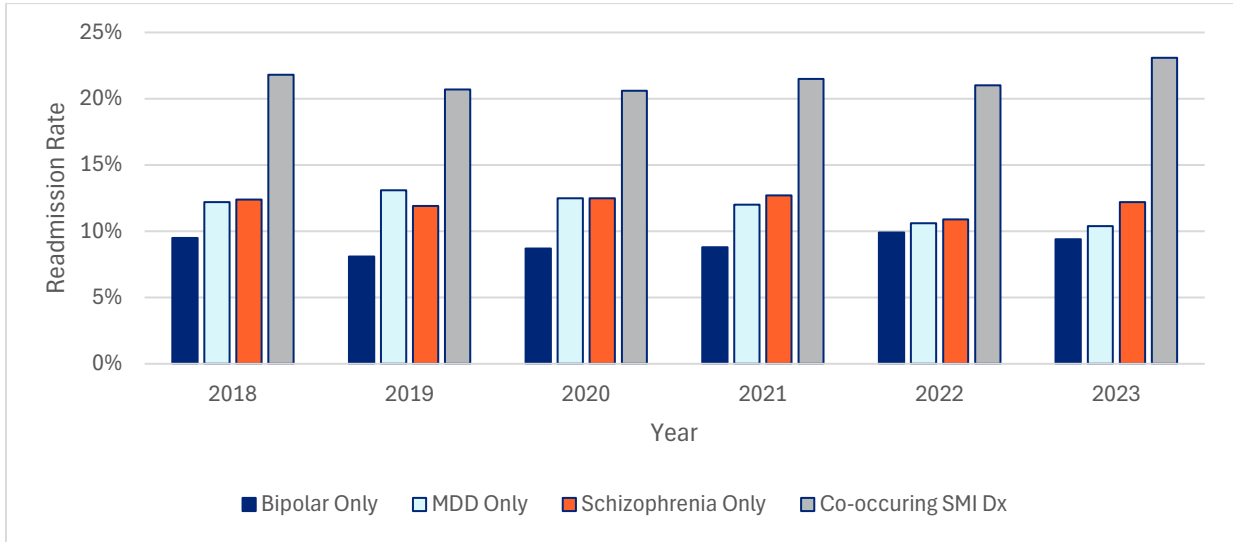


Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

*SMI Diagnosis.* **Exhibit V.42** summarizes 30-day all-cause, unplanned readmission rates by type of SMI diagnoses. Beneficiaries with co-occurring SMI diagnosis (e.g., MDD and schizophrenia, bipolar and schizophrenia, etc.) had the highest rate of readmission (more than 20%) while beneficiaries with bipolar disorder had the lowest rate (average 10%) across all years. Readmission rates within each group were stable between 2018 and 2023. Compared to beneficiaries with MDD only, beneficiaries with bipolar disorder only were significantly less likely to have a readmission (OR: 0.84, 95% CI: 0.77 – 0.92), while beneficiaries with schizophrenia only or co-occurring SMI diagnoses were significantly more likely (schizophrenia, OR: 1.29, 95% CI: 1.19 – 1.40; co-occurring, OR: 2.29, 95% CI: 2.07 – 2.53) to have a readmission when controlling for time, other beneficiary characteristics, and beneficiary propensity for having a MH-related acute inpatient or observation stay (**Attachment E, Exhibit E.22**).



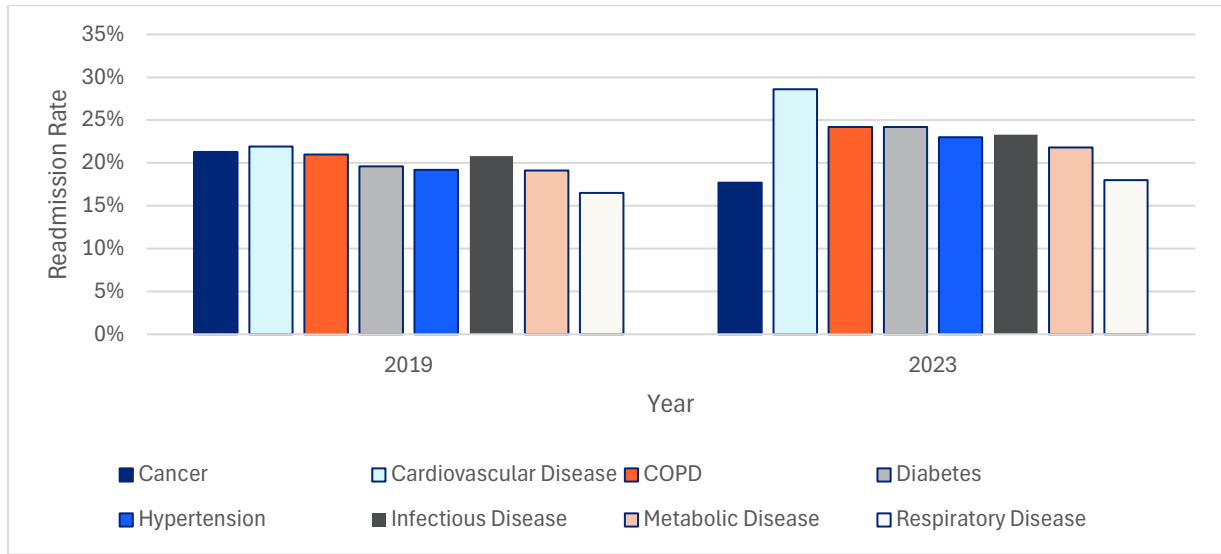
**Exhibit V.42: All-Cause, Unplanned 30-day Readmission Rates by SMI Diagnosis (Roster Population)**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

*Chronic Conditions.* **Exhibit V.43** summarizes readmission rates by beneficiaries with chronic physical conditions. Readmission rates were stable among beneficiaries with each type of chronic condition over time (2018-2023). Beneficiaries with cardiovascular disease had higher 30-day all-cause, unplanned readmission rates compared to those without cardiovascular disease in each year; in addition, beneficiaries with cardiovascular disease had the highest readmission rates among all chronic condition groups. Beneficiaries with cancer and those with COPD also were among those with the highest readmission rates in most years. In general, beneficiaries with each type of chronic condition generally had higher rates of 30-day all-cause, unplanned readmission compared to those with the respective condition, except for those with respiratory disease. Beneficiaries with each chronic condition (cardiovascular disease, COPD, diabetes, hypertension, infectious disease, and metabolic disease) were significantly more likely to have an all-cause readmission within 30 days of discharge from an acute inpatient or observation stay compared to those without the respective conditions, except for those with cancer (who did not differ significantly from those without cancer in terms of their likelihood of readmission) based on findings from the ITS regression model (**Attachment E, Exhibit E.22**).

**Exhibit V.43: All-Cause, Unplanned 30-day Readmission Rates by Chronic Condition for 2019, 2023 (Roster Population)**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**D.3. How do demonstration activities contribute to reductions in preventable readmissions to acute-care hospitals and residential settings (Subsidiary RQ 2.2)?**

*Availability and Access to Community-Based Treatment Providers and Crisis Services*

*Telehealth.* Effective March 1, 2020 and through the duration of Indiana’s PHE, an executive order authorized the OMPP to expand the use of telehealth to include the following allowances: 1) voice-only modalities (e.g., telephones) could be utilized for telehealth purposes, 2) telehealth services were no longer limited to procedure codes on IHCP Telemedicine Services Code Set, and 3) the set of providers who could use telehealth was no longer limited by licensure restrictions defined under the Indiana Professional Licensing Agency (IPLA) section of Indiana Code.

Unsurprisingly, these changes in policy led to an increase in the number of Medicaid claims billed for telehealth services during the first year of the PHE. In 2019, there were only 63,844 paid claims for telehealth services, versus 2,673,241 claims in 2020, an increase of over 4000%.<sup>67</sup> However, as access for in-person appointments increased, telehealth service utilization began to decline. For example, in 2021, there were 2,014,048 paid claims for telehealth services, versus 1,226,905 claims in 2022 (a decrease of 39%) and 1,174,060 claims in 2023 (a decrease of 5%). The majority of these claims (approximately 60% for all three years [2021-2023]) were submitted by behavioral health providers. Group psychotherapy, psychotherapy (60 minutes) and psychotherapy (45 minutes) were the most frequent behavioral health care service used.

<sup>67</sup> Baywol, Lindsay. Telehealth & the COVID 19 Public Health Emergency: Update Claim Utilization and Results. [PowerPoint Presentation]. 2021 Medicaid Advisory Committee Meeting. February 26, 2021. <https://www.in.gov/fssa/ompp/files/MAC-Telehealth-presentation-Feb-2021.pdf>

Findings from the Summative Report and MPA<sup>8</sup> Report acknowledged that telehealth is a good alternative for SMI beneficiaries who have difficulties accessing transportation or live in areas with high wait times for MH providers. Although interviewees described limitations associated with expanded telehealth services (e.g., not all beneficiaries are able to effectively utilize remote services due to limited mental capacity and technology issues [e.g., limited bandwidth, access to the Internet]), all noted that the modality increased access to care. State officials (n=3), MCE representatives (n=3), and advocacy organizations (n=3) in 2024 reaffirmed telehealth's impact on care access, (particularly for behavioral health) and noted the innovation as a contributing factor for reducing overall re-admission rates. Despite these findings, MCEs (n=3) noted discrepant re-admission rate patterns, with two MCEs indicating inconsistent trends and one MCE reporting re-admission rate declines. MCEs identified several challenges for reducing re-admission rates including high no-show rates for follow-up care, insufficient coordination between MCEs and inpatient facilities, and inaccurate individual contact information.

*Average Length of Stay.* Findings from the MPA indicated that the state collects LOS data from MCEs and shares that information with DMHA. MCEs interviewed in 2023 varied in their perceptions of the COVID impact on LOS. Of the three MCEs that reported on COVID impact, one indicated an increase in LOS, one indicated a decrease in LOS, and one stated LOS remained the same. Inpatient providers (n=4) interviewed in 2024 also tracked LOS (range reported from 3.5 days to 4 days). One inpatient provider indicated that LOS remained the same while another indicated that LOS declined.

MCE representatives interviewed during 2024 continued to describe inconsistent trends in ALOS. For example, two MCEs reported declines in ALOS during 2021-2022, and an increase in 2023; one reported that ALOS has decreased between 2021 and 2023; and one reported ALOS remained stable between 2021-2023. MCE representatives indicated that ALOS was impacted by provider shortages, access to crisis stabilization services, coordination of follow-up care, limited housing options, financial insecurities, and patient preferences.

*Crisis Stabilization Services.* Two providers noted that crisis stabilization services have reduced psychiatric admissions and re-admissions to inpatient hospitals. For example, one provider asserted that their organization had a 24% reduction in inpatient bed utilization for 2021-2023. As stated previously, all interviewees in 2024 highlighted state strategies and successes for increasing availability and access to crisis stabilization services that reduce readmissions for psychiatric hospitals. Findings delineating crisis stabilization successes and strategies are delineated in **Section V.E.**

#### *Medication Continuation Following Discharge from Acute Inpatient or RMHT*

Non-adherence to SMI treatment, including medication continuation is associated with readmission.<sup>68</sup> Consequently, Indiana actively monitors medication continuation following discharge from acute inpatient or residential MH (Monitoring Metric # 6) and reports quarterly and annual findings to CMS. As stated in **Section III**, metric specification varies between monitoring metrics calculated by the state and evaluation metrics calculated by the independent evaluator. For example, the population definition used for the evaluation differs from population definitions used to calculate the monitoring metrics. Given that the Evaluation Plan does not include re-calculating Monitoring Metric # 6 to use the evaluation target population, the Interim

Report does not include quantitative findings for this short-term outcome. Interviewees did not comment on medication continuation.<sup>68</sup>

### Care Transitions

*High Utilizers of Inpatient Services.* Consistent with Goal 1 findings for high utilizers of ED services, MCEs and providers described efforts to identify high utilizers of inpatient services and support care transitions. Strategies include:

- Delivered provider and member education focused on reducing preventable readmissions.
- Implemented a value-based agreement (i.e., structured incentives for meeting performance goals) with providers to encourage reductions in inpatient utilization.
- Utilized the Reducing Readmissions through Collaborative Intervention program. This program identifies individuals with high inpatient utilization, assesses the individual's current needs, and provides real-time referrals.

Additional findings associated with care transition specific to inpatient care are delineated in **Section V.G.2**, which includes results related to Goal 5: Primary RQ 5.2 (Does the SMI demonstration result in improved continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities?).

#### D.4. Findings and Recommendations

This section provides a summary of the findings by short and long-term outcomes identified in the Goal 2 logic model. Summaries integrate quantitative and qualitative (when appropriate) findings to provide evidence in support of the hypothesis. Recommendations for additional actions or data are also listed.

##### Hypothesis

The SMI demonstration will result in reductions in preventable readmissions to acute care hospitals and residential settings.

#### Reduced Readmissions

Due to restrictions in the availability of adequate data to identify “preventable readmissions”, quantitative analyses focused on examining changes in 30-day, all-cause unplanned readmission rates following acute inpatient or observational stays related to MH. Findings indicate that: (1) the proportion beneficiaries on the SMI beneficiary roster having MH-related acute inpatient or observational stay decreased over time from 13.0% in 2018 to 5.4% in 2023, and (2) the rate of all-cause unplanned readmission within 30 days remained relatively stable for the overall population and relevant subgroups during the pre-demonstration (15.7%-15.8% in 2018-2019) and waiver extension (16.9%-17.8% in 2021-2023).

MCEs interviewed in 2024 noted discrepant readmission rate patterns, with two MCEs indicating inconsistent trends and one MCE reporting readmission rate declines. Additionally, MCEs (interviewed in 2023 and 2024) described inconsistent trends in LOS. MCE representatives indicated that ALOS was impacted by provider shortages, access to crisis stabilization services, coordination of follow-up care, limited housing options, financial insecurities, and patient

<sup>68</sup> Owusu E, Oluwasina F, Nkire N, Lawal MA, Agyapong VIO. Readmission of Patients to Acute Psychiatric Hospitals: Influential Factors and Interventions to Reduce Psychiatric Readmission Rates. *Healthcare (Basel)*. 2022;10(9):1808. Published 2022 Sep 19. doi:10.3390/healthcare10091808

preferences. MCEs identified several challenges for reducing readmission rates including high no-show rates for follow-up care, insufficient coordination between MCEs and inpatient facilities, and inaccurate individual contact information.

Factors related to the COVID-19 PHE may also have impacted readmission rates, limiting reductions as initially desired. For example, provider shortages, facility shutdowns, and patient hesitancy for attending in-person appointments may have increased risk for readmission, despite ongoing state improvement activities.

### *Availability and Access to Community-Based Treatment Providers and Crisis Centers*

Estimates of readmission rates for individuals admitted to psychiatric hospitals vary and depend on numerous factors including age, condition, time to readmission, and country.<sup>69</sup> Receiving outpatient MH services after hospital discharge has often been a strategy for reducing readmission rates in SMI populations. In addition to in-person, outpatient MH services, telehealth was expanded to increase access to care. In fact, approximately 60% of claims were submitted (by behavioral health care providers) for a behavioral health service (e.g., group psychotherapy, psychotherapy [45 minutes]) using a telehealth modality during the waiver extension (2021 – 2023). Findings from the Summative Report and MPA acknowledged that telehealth is a good alternative for SMI beneficiaries who have difficulties accessing transportation or live in areas with high wait times for MH providers. State officials, MCEs, and advocacy organizations interviewed in 2024 reaffirmed telehealth’s impact on care access, (particularly for behavioral health) and noted the innovation as a contributing factor for reducing overall readmission rates.

Additionally, observations from the MCEs indicate that the PHE (e.g., provider shortages, facility shutdowns, and patient hesitancy for attending in-person appointments) had a negative impact on care coordination and may suggest that SMI beneficiaries experienced challenges with accessing community-based MH services post discharge raising risk for readmission.

### *Care Transitions*

Consistent with Goal 1 findings for high utilizers of ED services, MCEs and providers described efforts to identify high utilizers of inpatient services and support care transitions as a strategy for reducing readmission rates. Strategies included education, value-based agreements, and real-time referrals.

### *Recommendations*

- Expand monitoring ALOS beyond IMD.
- Identify strategies to increase workforce capacity (e.g., investments in care coordinators) for beneficiaries with SMI.
- Maintain telehealth service options.

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<sup>69</sup> Owusu E, Oluwasina F, Nkire N, Lawal MA, Agyapong VIO. Readmission of Patients to Acute Psychiatric Hospitals: Influential Factors and Interventions to Reduce Psychiatric Readmission Rates. *Healthcare (Basel)*. 2022 Sep 19;10(9):1808. doi: 10.3390/healthcare10091808. PMID: 36141418; PMCID: PMC9498532.

- Continue to build on successful strategies for identifying high utilizers and connecting them with appropriate disease management or care management services.

### **E. Goal 3: Improved availability of crisis stabilization services utilizing multiple service models to meet the unique needs across the state.**

As stated in **Section II.C**, crisis response and stabilization (e.g., crisis call centers, crisis mobile team response, crises receiving and stabilization services) is a basic element of MH care and often serves as an access point for connecting individuals to community care resources. Goal 3 assesses the availability of crisis stabilization services utilized across multiple service models using the PAA data collected and reported by the state. As stated in **Section III.A: Data Sources**, the PAA did not contain information specific to partial hospitalization for the evaluation time-period. Consequently, analyses for RQ 3.2 were restricted to IOP services. Additionally, certain provider types originally defined in the PAA and included in the evaluation design were removed (e.g., Medicaid enrolled psychiatric units in critical access hospitals) or their definitions adjusted (e.g., crisis observation/assessment centers; CCCRTs) during the waiver extension. Hence, these provider types were excluded from Goal 3 analyses. Qualitative data specific crisis stabilization services were incorporated to contextualize quantitative findings and assess the impact of short and long-term outcomes associated with Goal 3 (**Section II, Exhibit II.7**).

As stated in **Section I.G.**, the COVID-19 PHE (which began in March 2020) caused substantial changes to state policies, service utilization and provider availability, and will have short- and long-term impacts on Indiana's health care. Prioritization of health care resources (particularly during the first year of the PHE) and workforce capacity have likely slowed efforts to increase crisis stabilization services. Given that both the waiver (2020) and the waiver extension (2021-2023) coincided with the COVID-19 PHE, findings during this time-period likely reflect both the impact of COVID-19 related policy changes and activities as well as demonstration impacts. Consequently, any observed changes should be interpreted with caution as findings may be confounded by the impact of the PHE.

**Exhibit V.44** describes the hypothesis, RQs, outcome measures, data sources, and analytic approach used for the evaluation (2020-2023).<sup>70</sup>

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<sup>70</sup> The evaluation time frame for Goal 3 includes the waiver (2020) and waiver extension (2021-2023).

**Exhibit V.44: Goal 3 Research Questions, Outcome Measures, Data Sources, and Analytic Approach**

<b>Hypothesis: The SMI demonstrations will result in improved availability of crisis stabilization services throughout the state.</b>			
<b>Research Questions</b>	<b>Outcome Measure(s)</b>	<b>Data Sources</b>	<b>Analytic Approach</b>
<b>Primary RQ 3.1:</b> To what extent does the SMI demonstration result in improved availability of crisis outreach and response services (including crisis call centers, MCUs, crisis observation/assessment centers, and CCRTs) throughout the state?	<ul style="list-style-type: none"> <li>• Number of CSUs</li> <li>• Number of MCU/MRSS</li> <li>• Number of crisis call centers</li> </ul>	State administrative data (2020-2023) collected via the PAA and additional updates received in September 2024	Descriptive quantitative analysis of trends over time during the demonstration
<b>Primary RQ 3.2:</b> To what extent does the SMI demonstration result in improved availability of IOP services and partial hospitalization? <sup>71</sup>	<ul style="list-style-type: none"> <li>• Number of IOP providers</li> <li>• Demonstration activities or their components or characteristics that stakeholder identify as most effective in improved availability of IOP services and partial hospitalization</li> <li>• Obstacles that stakeholders identify as hindering the effectiveness of the demonstration in improved availability of IOP services and partial hospitalization</li> </ul>	<ul style="list-style-type: none"> <li>• State administrative data (2020-2023) collected via the PAA and additional updates received in September 2024</li> <li>• KII with beneficiaries, state officials, MCEs, providers, and advocacy organizations</li> </ul>	<ul style="list-style-type: none"> <li>• Descriptive quantitative analysis of trends over time during the demonstration</li> <li>• Qualitative analysis to identify themes associated with the effectiveness of demonstration activities for improved availability of IOP services and partial hospitalization</li> </ul>
<b>Primary RQ 3.3:</b> To what extent does the SMI demonstration improve the availability of crisis stabilization services provided during acute short-term stays in each of the following: public and private psychiatric hospitals; residential treatment facilities; general hospital psychiatric units; and community-based settings (such as residential crisis stabilization programs, small inpatient units in CMHCs, peer-run crisis respite programs, and so on)?	Number of: <ul style="list-style-type: none"> <li>• Psychiatric hospitals</li> <li>• Medicaid-enrolled psychiatric units in acute care and critical access hospitals</li> <li>• Licensed psychiatric hospital and psychiatric unit beds</li> <li>• RMHT facilities and beds</li> <li>• CMHCs</li> </ul>	State administrative data (2020-2023) collected via the PAA and additional updates received in September 2024	Descriptive quantitative analysis of trends over time during the demonstration

**Quantitative Analysis Approach**

*Analytic Population.* Analyses focused on Medicaid providers who delivered MH services and type of crisis stabilization services. The state first implemented the PAA during the waiver

<sup>71</sup> The PAA did not contain counts specific to partial hospitalization between 2021 and 2023. Consequently, analyses for RQ3.2 were restricted to IOP services.

(2020); thus, data are only available from 2020 to 2023.<sup>72</sup> Additionally, the number of providers who delivered any crisis intervention services at a clinic or hospital setting, identified by the H2011 HCPCS code in claim/encounter data was also included.

*Metrics.* The primary metrics used for assessing provider type and crisis stabilization services were the total number of providers (for key provider types) or services across the state, including:

- Total number of crisis stabilization services, by service type:
  - CSU
  - MCU/MRSS
  - Crisis call centers
- Total number of IOPs
- Total number of facilities/providers/programs that offer crisis stabilization services during acute short-term stays, by facility/provider/program type:
  - Public and private psychiatric hospitals
  - Hospitals that qualify as IMDs
  - Psychiatric beds
  - RMHT facilities
  - RMHT beds
  - CMHCs

*Analysis Methods.* Descriptive statistics (e.g., total number of providers and number of counties having specific services) were calculated to understand behavioral health provider workforce and spread. Data was transformed into county maps to identify potential service gaps. Additionally, counts of providers (by provider type) who submitted a claim with H2011 service code and the number of beneficiaries who received crisis stabilization services were provided by the state for inclusion in crisis services availability analyses. However, these data were only available at an aggregate level for the overall Medicaid population – and not specifically for the SMI population. These counts, therefore, represent crisis services for the broader Medicaid population. Conversely, it is possible that an individual in crisis may be treated by a provider yet not have a H2011 claim. Thus, these counts may underrepresent the number of providers or beneficiaries served.

The findings are organized by research questions and relevant outcome measures identified in the logic model for the goal (**Section II**). Based on factors including data availability, only select outcomes were identified in the CMS approved Evaluation Plan. Any outcome that was identified in the logic model but was not included in the Evaluation Plan have been noted in the respective sections.

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<sup>72</sup> In instances when provider types or services were changed (e.g., definition of counting providers based on site location instead of business entities), added or unavailable reported findings have been marked as applicable.



**E.1. To what extent does the SMI demonstration result in improved availability of crisis outreach and response services throughout the state (Primary RQ 3.1)?**

Indiana provides comprehensive crisis stabilization services statewide. Services include:

- Outpatient behavioral health services currently delivered by providers across the state.
- Medicaid rehabilitation option (MRO) delivered by the state’s 24 CMHCs. Of the 92 counties in Indiana, 87 have at least one CMHC site delivering care in the geographical area, and most counties in the state, other than very rural ones, have more than one CMHC offering services within a county. Although some counties do not have a CMHC, the residents of those counties may be served by CMHC sites in neighboring counties. IAC and DMHA contracts require CMHCs to provide a defined continuum of care directly, or through subcontract.
- Three §1915(i) programs serving individuals with behavioral health needs.
- Expanded SUD services in accordance with the state’s approved SUD waiver.
- Partial hospitalization programs (PHP) which are time-limited medical services intended to provide a transition from inpatient psychiatric hospitalization to community-based care or, in some cases, substitute for an inpatient admission.

***Increased Availability and Access to Crisis Services***<sup>73</sup>

CSUs. On March 18, 2019, CMS approved a SPA that expands crisis intervention services, IOP program services, and peer recovery services to all Indiana Medicaid programs. Previously, these services were limited to the MRO program. This change expands the potential number of providers eligible to deliver these services to IN enrollees. This SPA became effective July 1, 2019.

This expansion of the crisis continuum began in 2014. DMHA partnered with the National Alliance on Mental Illness of Indiana, MH America of Indiana, the Indiana Hospital Association, Key Consumer, and the Indiana Council on CMHCs to conduct a review of Indiana’s MH and substance use crisis services. The review was in response to Indiana Senate Enrolled Act No. 248 of 2014, which mandated DMHA to conduct a psychiatric crisis intervention study (“crisis study”) and report the results to the legislative council by September 2015. The crisis study included a review of psychiatric and addiction crisis services available in Indiana, a survey of professionals and individuals in Indiana who have experience with the current state of Indiana’s crisis response, and a review of crisis services and models implemented by other states that could improve outcomes for individuals who experience psychiatric or addiction crises.

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<sup>73</sup> The Goal 3 logic model includes “Improved access and availability of crisis stabilization services via pilot programs and efforts to increase the number of Medicaid enrolled providers (especially in shortage areas).” The CSU pilot was completed in 2022 and discussed in greater detail in the MPA. Efforts for increasing the number of Medicaid enrolled providers are detailed in Goal 4. Consequently, findings for this short-term outcome are not included in Goal 3.

In response to recommendations from the report, DMHA supported two CMHCs – Centerstone Indiana and Four County<sup>74</sup> – with their CSU pilots. The goals for these units were to provide an alternative to crisis evaluations within EDs and divert admissions to inpatient psychiatric units. Findings from the MPA<sup>8</sup> indicated that pilots were completed in June 2022. State officials interviewed in 2024 noted that since 2022, the state expanded CSU implementation.

**House Enrolled Act 1006 – (passed in 2023) has streamlined the process for individuals accessing crisis stabilization and required insurance providers to reimburse for any CSU service under “emergency detention.”**

**Exhibit V.45** summarizes PAA data for CSUs from 2020 to 2023. Findings indicate that the total number of counties with a CSU provider increased from 3 in 2020 to 16 in 2023. As expected, the largest increase of CSUs occurred between 2022 (n=4) and 2023 (n=18) after the completion of the CSU pilot.

**Exhibit V.45 Distribution of Crisis Services Per County by Year – CSUs**

Provider	Year	Total # of CSUs	# of Counties with CSUs			# of Counties with No CSUs		
			Total	Urban	Rural	Total	Urban	Rural
CSUs	2020	6	3	2	1	89	27	62
	2021	4	4	2	2	88	27	61
	2022	4	4	2	2	88	27	61
	2023 <sup>75</sup>	18	16	11	5	76	18	58

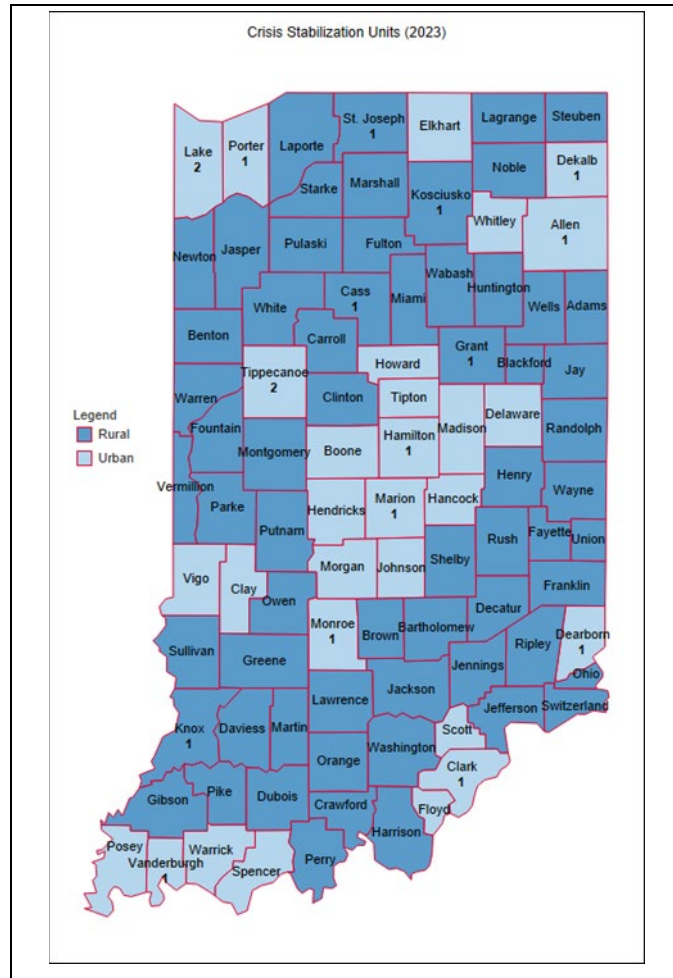
Source: Annual PAA, 2020 – 2023.

Between 2022 and 2023, one county (Vigo) reported disbanding their CSU, while 13 counties added a CSU (**Exhibit V.46; Attachment E, Exhibit E.25**). The 13 counties that added a CSU included: Allen, Clark, Dearborn, Dekalb, Grant, Hamilton, Knox, Lake (added two CSUs), Marion, Monroe, Porter, St. Joseph, and Tippecanoe (added two CSUs). Of these counties, three (Grant, Knox, and St. Joseph) were designated as rural. Of the 16 counties with a CSU in 2023, most were designated as urban (n=11).

<sup>74</sup> As of 2024 Four County changed its name to 4C Health.

<sup>75</sup> Beginning in 2023, PAA counts reported in the CSU measure represent a broader classification of crisis stabilization services, which include crisis observation/assessment centers. Prior to 2023, the state reported two crisis observation/assessment centers operating in 2020, and three were reported in 2022. Crisis observation/assessment centers were unavailable for 2021.

**Exhibit V.46: Number of Crisis Services by County – CSUs (2023)**



Source: Annual PAA, 2023.

Of the seven providers interviewed in 2024, five noted that the CMHC expansion<sup>76</sup> contributed to the increase of crisis services during the waiver extension. Of these providers, three launched CSUs in 2023 and two launched CSUs in 2024.

Advocacy organizations highlighted the importance of CSUs and the need for these services across all 92 counties. One advocacy organization acknowledged that the state prioritized CSUs launched during the waiver extension to maximize Indiana resident reach, limiting the average distance travelled for receiving care. This advocacy organization stated that the CMHC expansion aims to limit beneficiary travel for crisis services to one hour (across all counties) by 2027.

<sup>76</sup> The state’s CMHC expansion plan includes embedding CSUs within CMHC to increase crisis stabilization service access for Indiana residents.

Providers and advocacy organizations noted several challenges related to the implementation and operation of CSUs. Issues include:

- Limited use and allowance of psychiatric advanced directives (PAD).<sup>77</sup> Although some SMI beneficiaries have a PAD with their psychiatrist, system-level barriers (i.e., consistent provider recognition or compliance) is an impediment for fully realizing patient-centered care.
- Funding for continued CSU sustainment efforts.
- Limited provider capacity.

Advocacy organizations identified the following opportunities for the state to bolster CSU efforts including:

- Incorporate peer advocates<sup>78</sup> as part of the CSU care team.
- Expand Certified Peer Support Professional (CPSP) certification training.
- Inform beneficiaries of CSU services and benefits for using the CSU.

*MCU/MRSS.* MCU/MRSS consists of multidisciplinary teams of trained providers who are positioned to respond quickly to behavioral health crises in the community 24 hours a day, 7 days a week. The purpose of a mobile crisis response team is to divert individuals in crisis from hospitals, EDs, and jails to better service individuals in crisis and prevent fatalities from suicide, drug overdose, and other MH and substance use emergencies. Intended to be immediate and short term, MCU/MRSS uses evidence-based practices to screen, assess, stabilize, and refer persons in need to CSUs, inpatient hospitals, certified respite facilities, or an individual's established provider. Indiana received approval from CMS (approved on 9/19/23; effective date of 7/1/2023) for a SPA which implemented MCU/MRSS, staffed by an ED team (comprised of behavioral health professionals and a physician or an APRN to oversee an individual in crisis with the goal of avoiding the ED) and dispatched through 988<sup>79</sup>. The state added the crisis service benefit (direct reimbursement by Indiana Medicaid) in July 2023. The crisis service benefit is available to providers with a mobile crisis designation. One FSSA official (2024 interviews) indicated that although providers are slow to update their profiles, DMHA will continue to designate MCU/MRSS in 2024 to increase availability and access across the state. Although it is premature to determine the impact of MCU/MRSS on all cause ED utilization, one MCE (2024 interviews) referenced preliminary CMHC findings that suggested overall reductions in ED utilization. Specifically, the MCE noted that the CMHC had: "240 admissions to their CSU and deployed mobile crisis services 1,346 times in 2023 with a 63% success rate of crisis stabilization."

**Exhibit V.47** summarizes PAA data for MCU/MRSS from 2020 to 2023. In 2023, statewide, there were 20 MCU/MRSS. The number of counties with available MCU/MRSS increased

<sup>77</sup> A PAD is a legal tool that allows a person with a MH condition to state their preferences for treatment in advance of a crisis.

<sup>78</sup> Peer advocates are individuals with SMI lived experience who provides support to others experiencing similar challenges.

<sup>79</sup> The 988 Suicide and Crisis Lifeline aims to create sustainable infrastructure that coordinate crisis care for MH, substance use, and suicidal crisis. This plan adopts SAMHSA's Crisis Now Model and includes a statewide 24/7 call center that is centrally deployed and operated 24 hours a day, 7 days a week.

steadily from 6 in 2020 to 19 in 2023. Of the 19 counties in 2023 with an MCU/MRSS, most (n=12) were designated as urban.

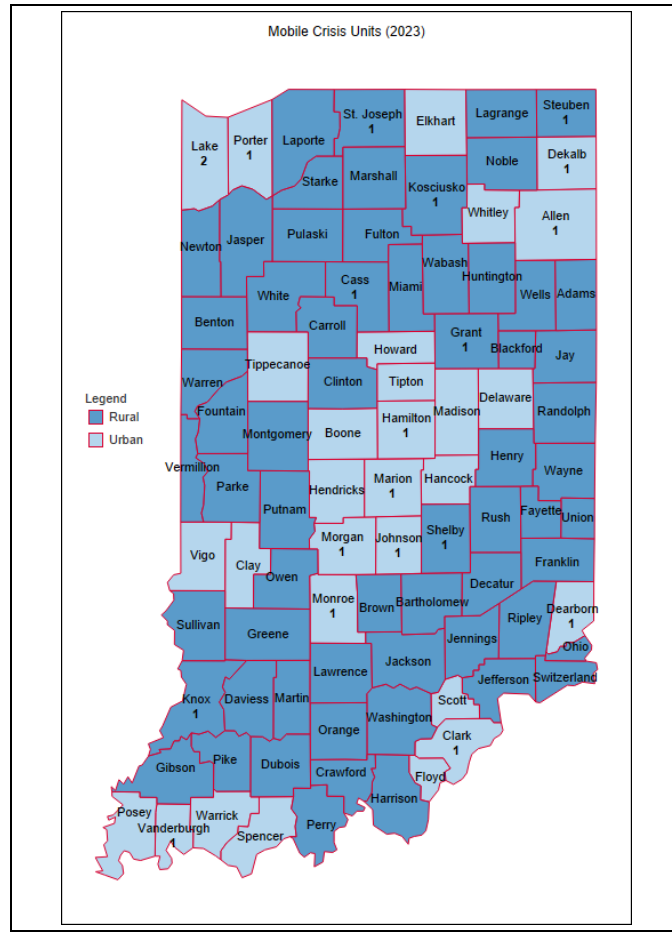
**Exhibit V.47 Distribution of Crisis Services Per County by Year – MCU/MRSS**

Provider	Year	Total # of MCU/MRSS	# of Counties with MCU/MRSS			# of Counties with No MCU/MRSS		
			Total	Urban	Rural	Total	Urban	Rural
MCU/MRSS	2020	6	6	2	4	86	27	59
	2021	12	10	5	5	82	24	58
	2022	16	16	7	9	76	22	54
	2023	20	19	12	7	73	17	56

Source: Annual PAA, 2020 – 2023.

Between 2022 and 2023, seven urban counties added at least one MCU/MRSS (Allen, Dearborn, Dekalb, Hamilton, Lake [added two MCU/MRSS], Marion, and Morgan); none of these counties had an MCU/MRSS in 2022 (**Exhibit V.48; Attachment E, Exhibit E.27**). In addition, two rural counties (Knox, St. Joseph) that did not have an MCU/MRSS in 2022 also added one MCU/MRSS, respectively, in 2023. Conversely, two urban counties (Hendricks, Vigo) and four rural counties (Fulton, Miami, Pulaski, and Starke) reported having an MCU/MRSS in 2022 but did not report having an MCU/MRSS in 2023.

**Exhibit V.48: Number of Crisis Services by County – MCU/MRSS (2023)**



Source: Annual PAA, 2023.

*988 Indiana Crisis and Suicide Lifeline.* The 988 initiative was spearheaded by a partnership between DMHA and the 988 coalition (including stakeholders, like law enforcement agencies, Indiana hospital association, CMHC association, etc.). Designed as a broad crisis response system, the 988 initiative includes:

- A simple, short number for anyone experiencing MH-related distress.
- The establishment of mobile crisis teams who are trained and skilled in responding to anyone experiencing MH-related distress and are comprised of peers and behavioral health professionals skilled in providing specialized crisis care to people on site in their community.
- A greater ability to refer Indiana residents in crisis to a network of local crisis specialists who are familiar with the community and better equipped to provide culturally competent support and referrals to local resources and other lifesaving follow-up care.

One advocacy organization interviewed in 2024 asserted that a proportion of individuals who call 988 are not in crisis yet need support. This organization noted that 988 is not designed to support individuals who are not in crisis. Several advocacy organizations interviewed in 2024 acknowledged operating “warm” lines or referenced 211 to provide non-crisis support to those in need. One advocacy organization noted that the “Be Well” line (connected to 211) lost funding

June 30, 2024 and indicated concerns specific to 988’s ability to absorb non-crisis calls. This organization stated that from July 2020 to August 2022, “Be Well” received 58,000 calls in which 29% were provided with referrals. State officials noted that the state recently conducted a landscape review assessing behavioral health crisis and warm line resources. Findings from the review indicated that “Be Well” was duplicative to other crisis call and warm line efforts (e.g., 988; CMHC crisis lines, 211) across the state. For example, similar to “Be Well”, CMHC crisis lines support non-crisis calls and connect individuals to local resources when needed. State officials emphasized that call line answer rates are monitored monthly to ensure that they are appropriately resourced to support communities served.

Of the 25 beneficiaries interviewed in 2024, only two reported using crisis services (both beneficiaries used 988) between 2021 and 2023. Interviewee satisfaction was mixed with one reporting somewhat satisfied and the other reporting very dissatisfied. Both beneficiaries indicated that 988 did not provide care coordination services. As crisis service expansion efforts continue, the state should consider surveying beneficiaries to better understand their experiences across crisis services (e.g., CSUs, 988) and support service improvement.

Information specific to crises call centers was not available for 2020 and 2021. Three counties had 988 affiliated crisis call centers in 2022 while 4 counties had 988 affiliated crisis call centers in 2024. Although only 4 call centers were identified in 2023, these call centers provided statewide coverage for all 92 counties (**Attachment E, Exhibit E.28**). State officials in 2024 acknowledged the reach of 988 and indicated use has increased since 988 was established in 2022. One state official noted that March 2024 (although outside of the Interim Report evaluation time-period), had the highest volume of calls (approximately 6,000) to date.

*Certified Community Behavioral Health Clinic Expansion.* The House Enrolled Act 1222 required DMHA to establish a plan for the expanded use of CCBHCs in Indiana including the role of 988 and how care will be coordinated for individuals in crisis seeking services across the SOC. Findings from the Summative Report noted that 17 organizations (15 CCBHCs and 2 hospitals) received 2-year SAMHSA CCBHC Expansion grants in FY18-FY21 which allowed facilities to build capacity for crisis services and implement provider training.

**CCBHC Medicaid Demonstration Program**

In 2024, the state of Indiana was chosen as one of 10 new states across the US for the [CCBHC Medicaid Demonstration Program](#), which provides states with sustainable funding in order to expand access to MH and substance use services.

*Providers Delivering Crisis Stabilization Services.* **Exhibit V.49** summarizes counts of providers who delivered crisis intervention services and the number of beneficiaries who received the services (among all Medicaid beneficiaries<sup>80</sup>) in Indiana between 2021 and 2023 (identified based on the H2011 procedure code in paid claims/encounters). Findings indicate that the number of providers who submitted claims for crisis intervention services increased from 28 in 2021 to 35 in 2022, decreasing slightly to 32 in 2023. The number of unique beneficiaries served by these providers also increased (by 51.9%) between 2021 (n=2,892) and 2023 (n=4,232). Although behavioral health providers delivered crisis stabilization services to the largest number

<sup>80</sup> Excluding Medicaid beneficiaries with the following classifications: 1) Emergency Services Only, 2) Family Planning, 3) PE Family Planning, 4) QI, 5) QMB, 6) QDWI, and 6) Specified Low-Income Medicare Beneficiaries (SLMB).

of beneficiaries from 2021-2023, the proportion of beneficiaries served by behavioral health providers declined over this period (from 77.0% to 48.8%). Thus, in 2023, physicians/physician groups (39.2%) and hospitals (10.1%) combined served half of beneficiaries who had claims/encounter with an H2011 procedure code.

**Exhibit V.49: Counts of Providers who Delivered Crisis Stabilization Services and Beneficiaries with H2011 Claims in Indiana, 2021-2023.**

Year	Provider Type	Billing Provider National Provider Identifier (NPI) <sup>81</sup>		Number of Beneficiaries	
		N	%	N	%
2021	Behavioral Health Provider	20	71.4%	2,228	77.0%
	Clinic	2	7.1%	49	1.7%
	Hospital	2	7.1%	321	11.1%
	Physician	1	3.6%	278	9.6%
	Provider Type Not Specified	3	10.7%	16	0.6%
	<b>Total</b>	<b>28</b>	<b>100.0%</b>	<b>2,892</b>	<b>100.0%</b>
2022	Behavioral Health Provider	21	60.0%	1,918	58.8%
	Clinic	6	17.1%	54	1.7%
	Hospital	3	8.6%	469	14.4%
	Physician	3	8.6%	819	25.1%
	Provider Type Not Specified	2	5.7%	3	0.1%
	<b>Total</b>	<b>35</b>	<b>100.0%</b>	<b>3,263</b>	<b>100.0%</b>
2023	Behavioral Health Provider	21	65.6%	2,067	48.8%
	Clinic	5	15.6%	77	1.8%
	Hospital	4	12.5%	428	10.1%
	Physician	1	3.1%	1,659	39.2%
	Provider Type Not Specified	1	3.1%	1	0.0%
	<b>Total</b>	<b>32</b>	<b>100.0%</b>	<b>4,232</b>	<b>100.0%</b>

Source: State-provided H2011 claims data, 2021-2023.

**E.2. To what extent does the SMI demonstration result in improved availability of IOP services and partial hospitalization? (Primary RQ 3.2)**

*Increased Availability and Access to Crisis Services*

Exhibit V.50 summarizes the number of counties and providers who delivered IOP services between 2021 and 2023.<sup>82</sup> IOP services increased from 2021 (112 IOP providers) to 2023

<sup>81</sup> The number of beneficiaries served per billing provider NPI ranged from: 1 to 653, with a median of 6 beneficiaries served in 2021; 1 to 817, with a median of 4 beneficiaries served in 2022; and 1 to 1,659, with a median of 5 beneficiaries served in 2023. Additionally, Eskenazi Health was the only “physician/physician group” represented in 2021 and 2023 and served the largest number of beneficiaries compared to all other providers for all three years.

<sup>82</sup> Updated IOP provider data for years 2021 to 2023 were provided by state officials in September 2024. The state provided updated data because of concerns related to data accuracy. Consequently, updated data were used for analyses.



(139 providers). Approximately half of the counties in which IOP services were delivered (n=39) were counties designated as rural (n=20 vs n=19 for urban) in 2023.

**Exhibit V.50: Distribution of Crisis Services Per County by Year – IOP Services (2020-2022)**

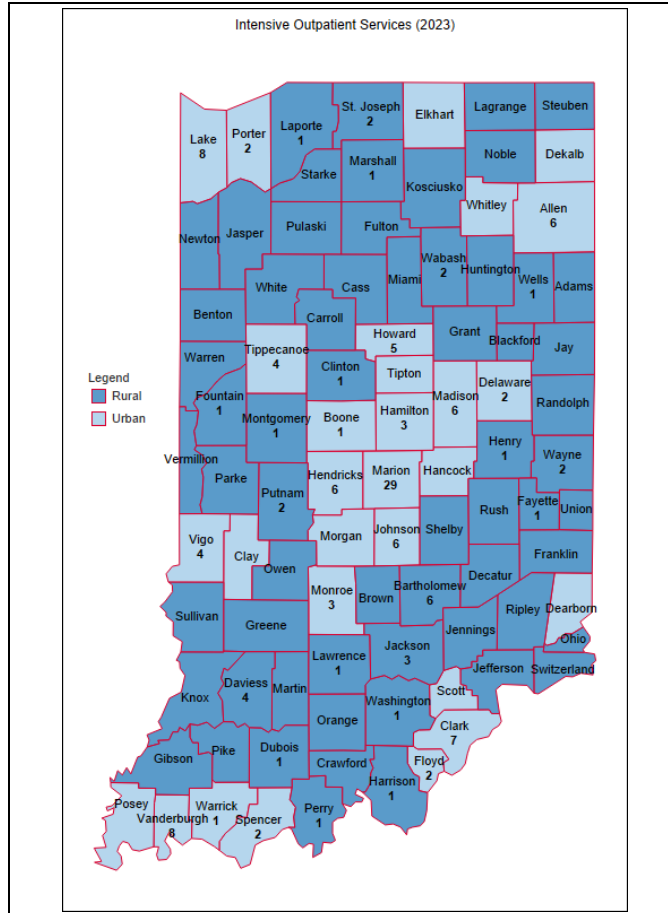
Provider	Year	Total # of IOPs	# of Counties with Available IOPs			# of Counties with No Available IOPs		
			Total	Urban	Rural	Total	Urban	Rural
IOP Services	2020	*	*			*		
	2021	112	39	20	19	53	9	44
	2022	121	39	19	20	53	10	43
	2023	139	39	19	20	53	10	43

\*Data not available.

Source: State-provided administrative data, 2021-2023 (Updated September 2024).

Although the number of counties offering IOP services remained the same between 2022 and 2023 (n=39 in both years), three rural counties (Clinton, Harrison, and Lawrence) each added an IOP provider during this period, while three rural counties (Greene, Jay, and Knox) reported discontinuing IOP services in 2023 (Exhibit V.51; Attachment E, Exhibit E.30).

**Exhibit V.51: Number of Crisis Services by County – IOP Services (2023)**



Source: State-provided administrative data, 2023 (Updated September 2024).

**E.3. To what extent does the SMI demonstration improve the availability of crisis stabilization services provided during acute short-term stays in each of the following: public and private psychiatric hospitals; residential treatment facilities; general hospital psychiatric units; and community-based settings (such as residential crisis stabilization programs, small inpatient units in CMHCs, peer-run crisis respite programs, and so on)? (Primary RQ 3.3)**

*Increased Availability and Access to Crisis Services*

*Public and Private Psychiatric Hospitals.* In 2022, 23 counties had at least one psychiatric hospital (public or private), with a total of 40 hospitals statewide (**Exhibit V.52**).<sup>83</sup> In 2023, the number of psychiatric hospitals remained at 40; however, between 2022 and 2023, St. Joseph County lost one (private) psychiatric hospital, while one (private) psychiatric hospital was added in Morgan County. In each year, there were 6 state operated psychiatric hospitals (in Cass, Marion, Vanderberg (n=2), Jefferson, and Wayne).<sup>84</sup> Of the 24 counties in 2023 with a psychiatric hospital, most (n=17) were urban counties. The southwestern part of the state had the most regional availability gaps for psychiatric hospitals, followed by the Western part of the state – particularly in rural counties (**Exhibit V.53; Attachment E, Exhibit E.32**).

*Psychiatric Hospitals That Qualified as IMDs.* The number of counties that had at least one psychiatric hospital that qualified as IMDs remained stable between 2020 and 2023 (ranging from 14 to 15) (**Exhibit V.52**). The number of facilities increased from 19 in 2020 to 22 in 2022, decreasing to 21 in 2023 (with one IMD psychiatric hospital removed from Morgan). Although there were two facilities in Vanderburgh County and one facility in Cass County that were identified as psychiatric hospitals qualifying as an IMD in 2020, during the waiver extension period (2021-2023), these counties reported not having any psychiatric hospital that qualified as an IMD (**Exhibit V.53; Attachment E, Exhibit E.33**). Of the 14 counties with psychiatric hospitals that qualify as IMDs, most (n=11) were designated in urban areas.

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<sup>83</sup> Updated public and private psychiatric hospitals data provider data for years 2021 to 2023 were provided by state officials in September 2024. The state provided updated data because of concerns related to data accuracy. Consequently, updated data were used for analyses.

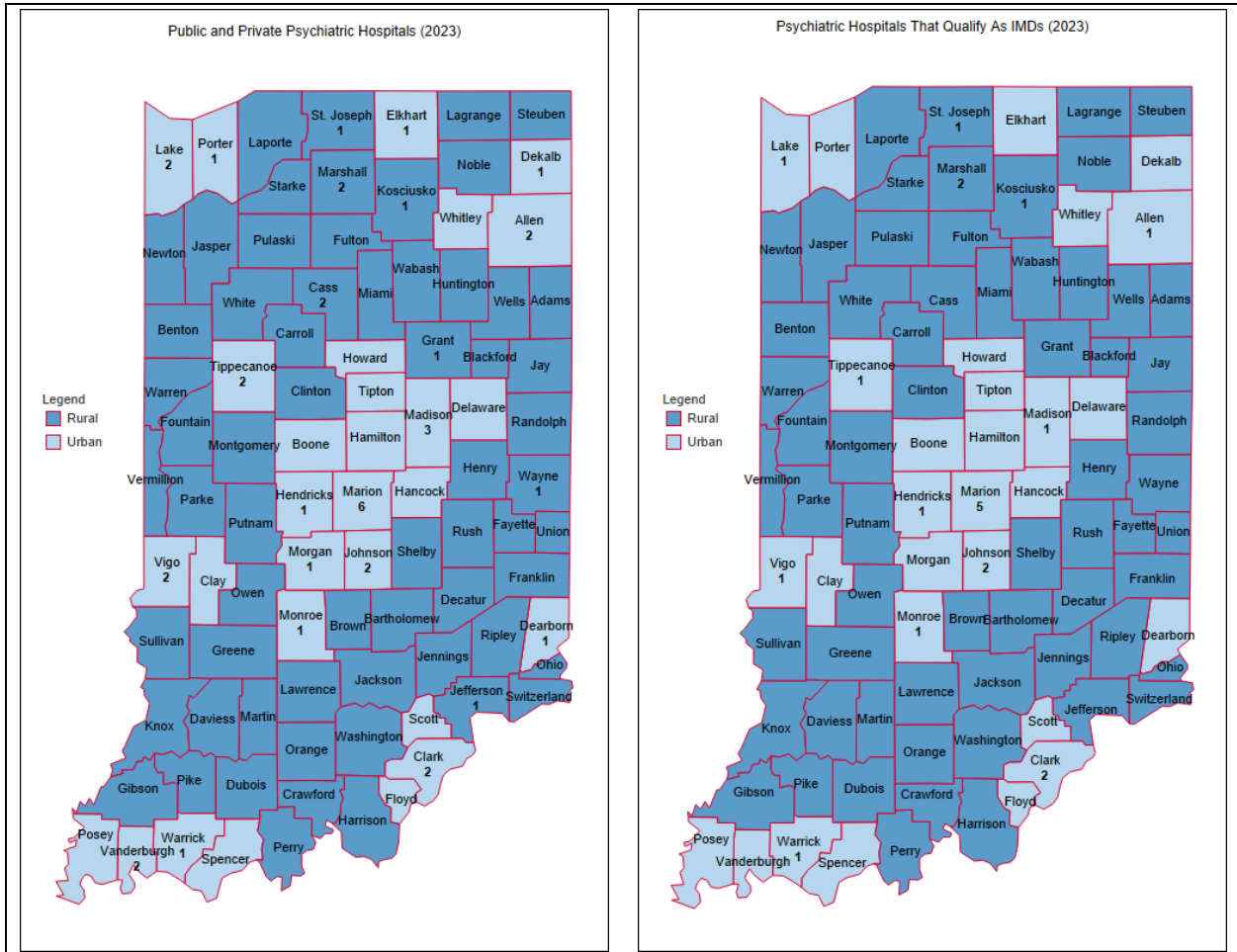
<sup>84</sup> *State Psychiatric Hospitals and Community Mental Health Centers.* Division of Mental Health and Addiction, Indiana Family & Social Services Administration. 2024. Retrieved from [https://www.in.gov/fssa/dmha/files/DMHA\\_SOFs\\_and\\_CMHCs.pdf](https://www.in.gov/fssa/dmha/files/DMHA_SOFs_and_CMHCs.pdf)

**Exhibit V.52: Distribution of Crisis Services Per County by Year – Psychiatric Hospitals (2020 – 2023)**

Provider	Year	Total # of Providers	# of Counties with Available Provider			# of Counties with No Provider		
			Total	Urban	Rural	Total	Urban	Rural
Public and Private Psychiatric Hospitals	2020	*	*			*		
	2021	*	*			*		
	2022	40	23	16	7	69	13	56
	2023	40	24	17	7	68	12	56
Psychiatric Hospitals That Qualify as IMDs	2020	19	14	9	5	78	20	58
	2021	20	14	11	3	78	18	60
	2022	22	15	12	3	77	17	60
	2023	21	14	11	3	78	18	60

Source: Public and Private Psychiatric Hospitals: State-provided administrative data, 2022-2023 (Updated September 2024). Psychiatric Hospitals That Qualify as IMDs: Annual PAA, 2020 – 2023.

**Exhibit V.53: Number of Crisis Services by County – Public and Private Psychiatric Hospitals and Psychiatric Hospitals That Qualify as IMDs (2023)**



Source: Public and Private Psychiatric Hospitals: State-provided administrative data, 2023 (Updated September 2024). Psychiatric Hospitals That Qualify as IMDs: Annual PAA, 2023.

*Medicaid-enrolled Psychiatric Units in Acute Care Hospitals.* Provider Availability Assessment data did not capture the number of Medicaid enrolled psychiatric units in acute care hospitals for all years. Hence the metric was not examined for the evaluation. However, certain Medicaid enrolled acute care hospitals offered psychiatric services and subsequently the state provided data for these hospitals (counts by county). Findings indicate that twenty-three Medicaid-enrolled acute care hospitals (across 19 counties) offered psychiatric services in 2021 (**Exhibit V.54**). The number of acute care hospitals offering psychiatric services decreased over time – to 22 hospitals (across 18 counties) in 2022 and 19 hospitals (across 16 counties) in 2023. Of the 16 counties with Medicaid-enrolled acute care hospitals offering psychiatric services, half (n=8) were designated as rural.

**Exhibit V.54: Distribution of Crisis Services Per County by Year – Medicaid-enrolled Acute Care Hospitals Offering Psychiatric Services**

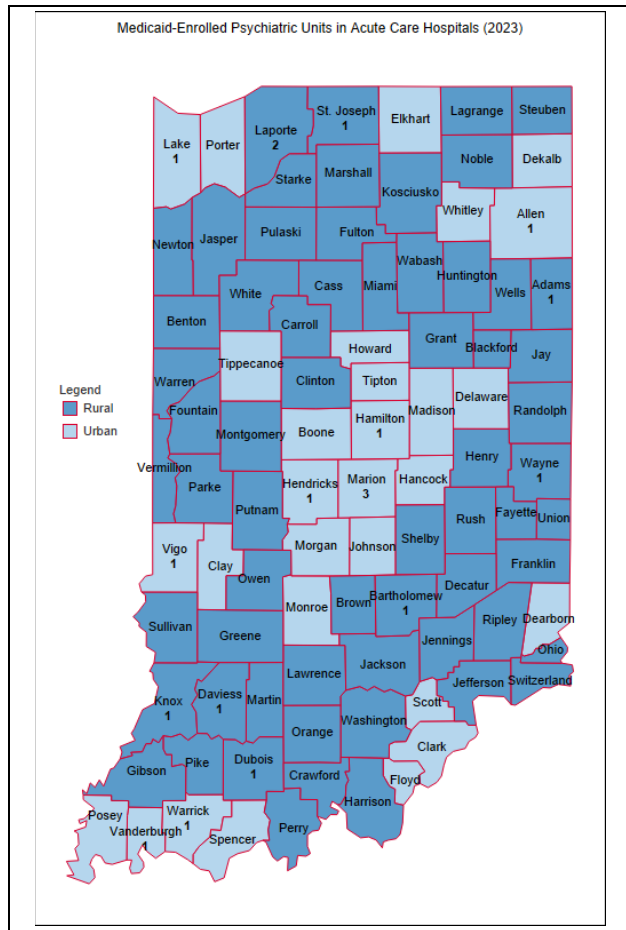
Provider	Year	Total # of Providers	# of Counties with Available Provider			# of Counties with No Provider		
			Total	Urban	Rural	Total	Urban	Rural
Medicaid-enrolled acute care hospitals offering psychiatric services	2020	*	*			*		
	2021	23	19	10	9	73	19	54
	2022	22	18	10	8	74	19	55
	2023	19	16	8	8	76	21	55

\*Data not available.

Source: State-provided administrative data, 2021 – 2023 (Updated September 2024).

**Exhibit V.55** shows counties that had acute care hospitals offering psychiatric services across the state for 2023. In terms of counties with the most acute care hospitals offering psychiatric services, Marion County had three acute care hospitals offering psychiatric services, and LaPorte County (designated as rural) each reported two hospitals offering psychiatric services. Between 2021 and 2023, the following counties lost acute care hospitals offering psychiatric services: Clark (designated as urban), Elkhart (designated as urban), and Jay (designated as rural) (**Attachment F, Exhibit E.35**).

**Exhibit V.55: Number of Crisis Services by County – Medicaid-enrolled Acute Care Hospitals Offering Psychiatric Services (2023)**



Source: State-provided administrative data, 2023 (Updated September 2024).

*Psychiatric Beds.* State data for psychiatric beds was not available for 2020. In 2021, 16 counties had inpatient facilities that reported counts for psychiatric beds, and this number increased to 17 counties in 2022 and 18 in 2023 (**Exhibit V.56**).<sup>85, 86</sup> Over this period (2021 to 2023), the total number of inpatient psychiatric beds in the state increased by 1,602 to 2,010. Two thirds of counties (n=12 in 2023) that reported psychiatric beds were designated as urban.

<sup>85</sup> Updated psychiatric hospital bed data provider data for years 2021 to 2023 were provided by state officials in September 2024. The state provided updated data because of concerns related to data accuracy. Consequently, updated data were used for analyses.

<sup>86</sup> The state has not maintained records of psychiatric bed counts for state-operated (public) hospitals. However, state officials confirmed that these bed counts have remained stable over the last several years. Therefore, these bed counts were applied to the total for each year from 2021 to 2023.

**Exhibit V.56: Distribution of Crisis Services Per County by Year – Psychiatric Hospital Beds**

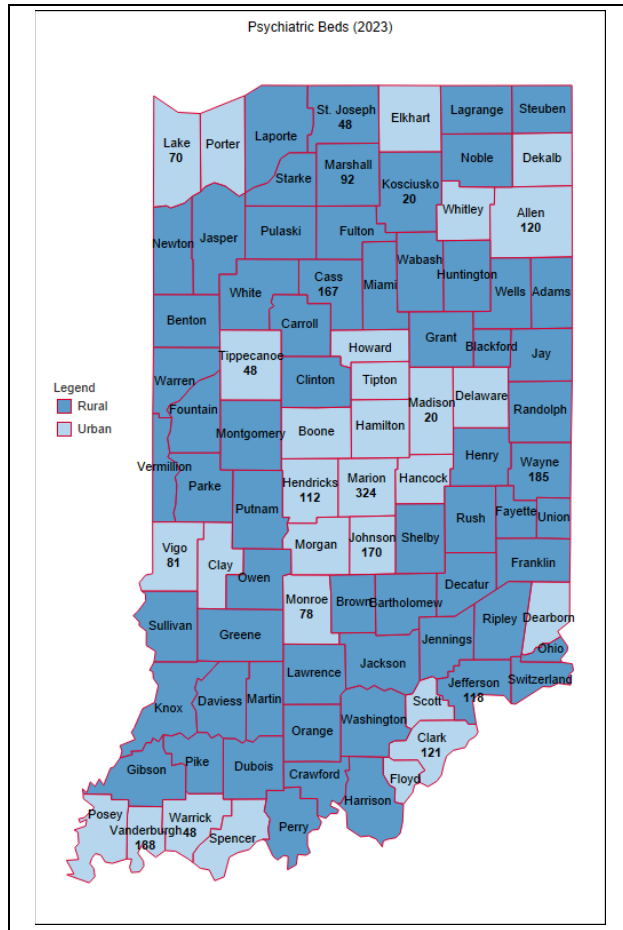
Provider	Year	Total # of Beds	# of Counties with Available Psychiatric Hospital Beds			# of Counties with No Psychiatric Hospital Beds		
			Total	Urban	Rural	Total	Urban	Rural
Psychiatric Beds	2020	*	*			*		
	2021	1,602	16	10	6	76	19	57
	2022	1,920	17	11	6	75	18	57
	2023	2,010	18	12	6	74	17	57

\*Data not available.

Source: State-provided administrative data, 2021 – 2023 (Updated September 2024).

Exhibit V.57 visualizes psychiatric bed counts by counties in 2023. The total number of beds varied across the counties, ranging from 20 in Kosciusko County to 324 in Marion County. Between 2021 and 2023, four counties (Marion, Allen, Johnson, and Tippecanoe) reported adding psychiatric beds; no counties reported decreases in their bed counts (**Attachment E, Exhibit E.37**). Similar to gaps observed for psychiatric hospitals, the southwestern part of the state had the most regional availability gaps for psychiatric beds.

**Exhibit V.57: Number of Crisis Services by County – Public and Private Psychiatric Hospital Beds (2023)**



Source: State-provided administrative data, 2023 (Updated September 2024).

*RMHT Facilities and Beds.* Data for RMHTs was available for 2021 through 2023. In 2021, 54 RMHTs were available (in 29 counties), and this number increased slightly to 55 RMHTs (in 29 counties) in 2022 (**Exhibit V.58**). In 2023, 56 RMHTs were available in 28 counties. Overall, in 2022, 565 RMHT beds were reported across 29 counties; this bed count decreased to 543 RMHT beds across 27 counties in 2023. In 2023, although Knox reported an RMHT, the county reported no RMHT beds. Of the 28 counties in 2023 with RMHT facilities, half (n=14) were designated as rural. A similar pattern was observed for beds.

**Exhibit V.58: Distribution of Crisis Services Per County by Year – RMHT Facilities and Beds**

Provider	Year	Total # of Providers	# of Counties with Available Provider			# of Counties with No Provider		
			Total	Urban	Rural	Total	Urban	Rural
RMHT Facilities	2020	*	*			*		
	2021	54	29	14	15	63	15	48
	2022	55	29	14	15	63	15	48
	2023	56	28	14	14	64	15	49
RMHT Facility Beds	2020	*	*			*		
	2021	*	*			*		
	2022	565	29	14	15	63	15	48
	2023	543	27	14	13	65	15	50

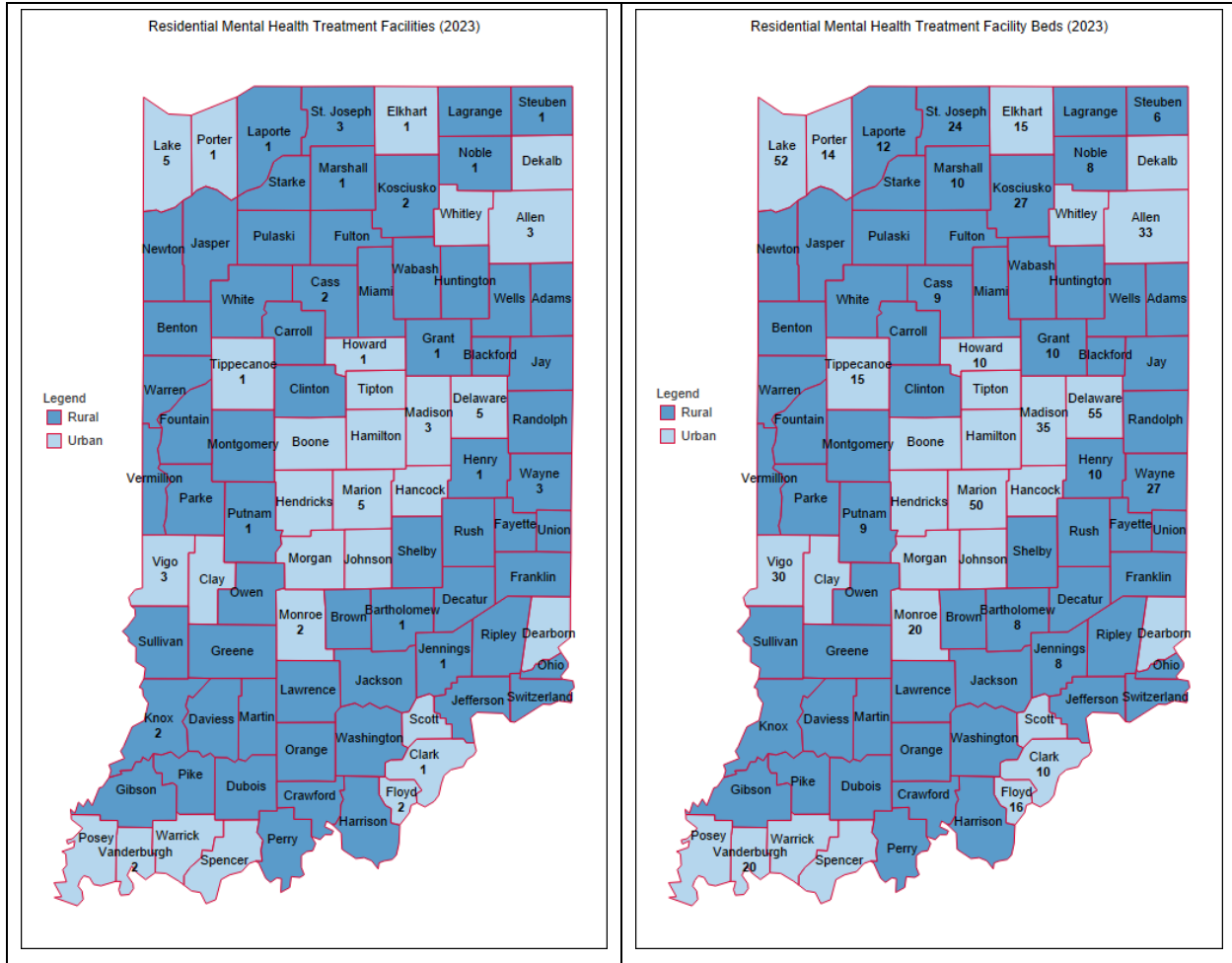
\*Data not available.

Source: RMHT Facilities: Annual PAA, 2020 – 2023.

RMHT Facility Beds: State-provided administrative data, 2022 (Updated September 2024); Annual PAA, 2023.

The maps in **Exhibit V.59** illustrate RMHT facility and bed availability by county. Between 2022 and 2023, Cass County and Lake County each added one RMHT, while Shelby County reported no longer having an RMHT (see **Exhibit E.39** in **Attachment E** for 2022 provider map). In both years, the counties with the most RMHTs included Delaware County (5 RMHTs in both 2022 and 2023), Marion County (5 RMHTs in both 2022 and 2023), and Lake County (4 RMHTs in 2022 and 5 RMHTs in 2023). As in previous years, the southwestern part of the state continued to have the most regional availability gaps for RMHT in 2023.

**Exhibit V.59: Number of Crisis Services by County – RMHT Facilities and Beds (2023)**



Source: RMHT Facilities: Annual PAA, 2020 – 2023.  
 RMHT Facility Beds: State-provided administrative data, 2022 (Updated September 2024); Annual PAA, 2023.

CMHCs. In 2022 and 2023 there were 24 CMHCs statewide. The PAA counts CMHCs by location (i.e., CMHCs typically have satellite sites to support service provision). **Exhibit V.60** summarizes the number of CMHC satellite sites by year. Between 2020 and 2022, the state captured only MH-specific CMHC sites. The total number of mental-health specific CMHC satellite sites increased from 97 in 2020 to 231 in 2022. Beginning in 2023, the state began capturing all CMHC locations in its PAA (i.e., not only those that provide MH treatment). Using this broader measure definition, the state identified 324 CMHC satellite sites in 2023 across 87 counties.



**Exhibit V.60: Distribution of Crisis Services Per County by Year –CMHCs**

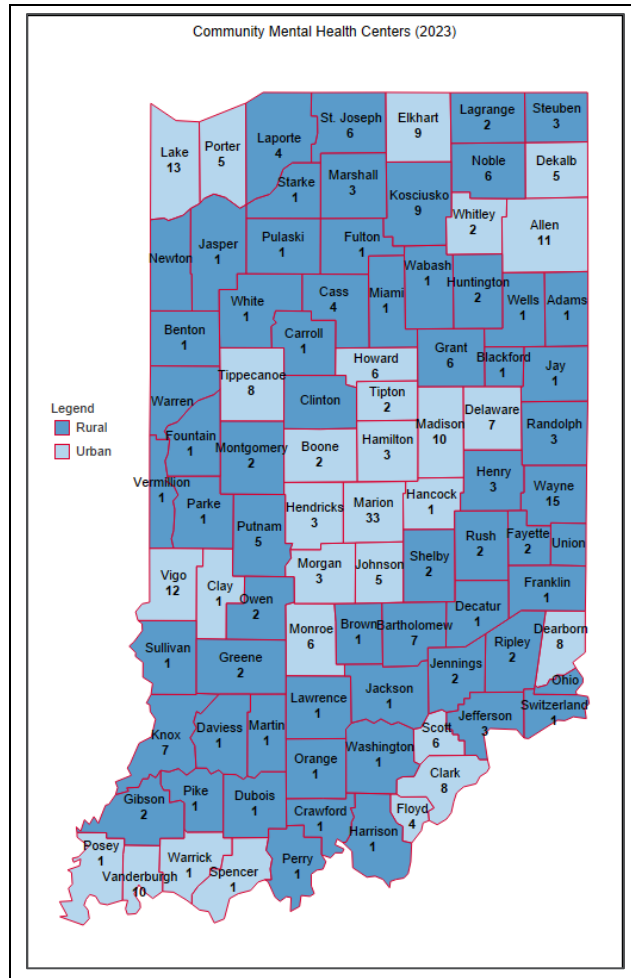
Provider	Year	Total # of CMHC Satellite Sites	# of Counties with Available CMHC Satellite Sites			# of Counties with No CMHC Satellite Sites		
			Total	Urban	Rural	Total	Urban	Rural
Community MH Centers (CMHCs)	2020	97	92	29	63	0	0	0
	2021	220	87	28	59	5	1	4
	2022	231	87	28	59	5	1	4
	2023 <sup>87</sup>	324	87	29	58	5	0	5

Source: Annual PAA, 2020 – 2023.

**Exhibit V.61**, below, visualizes the number of CMHC satellite sites across the state. Marion County reported the largest number of CMHC in 2023 (33 sites). Rural counties tended to have fewer CMHC satellite sites, although some rural counties were outliers (e.g., Wayne, which reported 15 sites, and Kosciusko, which reported nine CMHC sites). The five counties that did not have a CMHC site in 2023 were rural counties and included Clinton, Newton, Ohio, Union, and Warren. Between 2022 and 2023, Monroe County began reporting 6 CMHC sites (compared to none in 2022). Conversely, Clinton County reported one CMHC location in 2022 but reported none in 2023 (see **Exhibit E.42** in **Attachment E** for 2022 provider map). Newton, Ohio, Union, and Warren reported no CMHC sites in both 2022 and 2023.

<sup>87</sup> Prior to 2023, the state only reported CMHC satellite locations that provided MH-related services. Beginning in 2023, however, the state began reporting all CMHC satellite locations without differentiating among sites providing MH services. Thus, growth in CMHCs in 2023 cannot be compared to prior years.

**Exhibit V.61: Number of Crisis Services by County – CMHCs (2023)**



Source: Annual PAA, 2023.

**E.4. Findings and Recommendations**

This section provides a summary of the findings by short and long-term outcomes identified in the Goal 3 logic model. Summaries integrate quantitative and qualitative (when appropriate) to provide evidence in support of the hypothesis. Recommendations for additional actions or data are also listed.

**Hypothesis**  
The SMI demonstration will result in improved availability of crisis stabilization services throughout the state.

**Increased Availability and Access to Crisis Services**

Quantitative and qualitative findings demonstrate Indiana’s commitment to improving the availability of crisis stabilization services. Since 2020, the state has increased both the number of Medicaid beneficiaries receiving crisis services as well as the number of CSUs, MCU/MRSS, psychiatric hospitals that qualify as IMDs, RMHTs, and CMHC satellite sites. Additionally, the state has implemented the 988 Indiana Crisis and Suicide Lifeline and expanded the number of CCBHCs.<sup>88</sup> Despite these positive findings, opportunities to increase crisis care across the state

<sup>88</sup> FSSA received 2-year SAMHSA CCBHC Expansion grants in FY18-FY21 which allowed facilities to build capacity for crisis services and implement provider training.

exist. For example, geographical gaps in availability of crisis services (CSU and MCU/MRSS, and RMHT) – are largely rural and impact the southwestern and western part of the state while psychiatric hospitals tend to be concentrated in urban counties.

Increasing availability and access to crisis stabilization services across the state is a multi-year strategy, and state officials noted continued action in 2024 (e.g., increasing CSUs, designating more MCU/MRSS, expanding CCBHCs). As crisis stabilization services are implemented, state efforts to monitor ED diversion and ensure sustainment will be important to assess goal achievement. Additionally, given the elimination of the Be Well line, state efforts for absorption of non-crisis MH events should be considered to minimize burden on 988 resources. Further, as 988 evolves, evaluating beneficiary experiences may support further improvements to statewide crisis care efforts.

### *Recommendations*

- Continue to build crisis stabilization services across the state, particularly in rural areas, with consideration for how these services will be sustained in the future.
- Identify strategies and resources to manage non-crisis MH events.
- Consider conducting surveys with beneficiaries to assess experiences and satisfaction in support of continuous improvement.

## **F. Goal 4: Improved access to community-based services to address the chronic MH care needs of beneficiaries with SMI including increased integration of primary and behavioral health care.**

As stated in **Section II.D**, fragmentation between the general medical and behavioral health sectors is widely considered to be a significant contributor to the poor overall health outcomes associated with SMI populations.<sup>89</sup> Treatment options that span the entire continuum of care are needed for individuals living with a SMI. Indiana implemented several activities to increase community-based services for MH during the waiver extension. As stated previously, many of these activities overlap with other demonstration goals and findings derived were aligned as appropriate. Goal 4 examines access to community-based services for MH and behavioral health integration. Quantitative analyses focused on three community-based services: outpatient rehabilitation services (including targeted case management), HCBS/LTSS, and/or outpatient MH services. Qualitative data specific to provider capacity, state-based strategies to increase access and behavioral health integration, efforts to reduce stigma and increase early engagement were incorporated to contextualize quantitative findings and assess the impact of short and long-term outcomes associated with Goal 4 (**Section II, Exhibit II.9**).

As stated in **Section I.G**, the PHE (which began in March 2020) has caused substantial changes to state policies, service utilization and provider availability, and will have short- and long-term impacts on Indiana's health care. Social distancing, prioritization of health care resources, and

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<sup>89</sup> Breslau, J., Sorbero, M. J., Kusuke, D., Yu, H., Scharf, D. M., Hackbarth, N. S., & Pincus, H. A. (2019, March 28). *Primary and behavioral health care integration program: Impacts on Health Care Utilization, cost, and quality*. Office of the Assistant Secretary for Planning and Evaluation. Retrieved April 22, 2022, from <https://aspe.hhs.gov/reports/primary-behavioral-health-care-integration-program-impacts-health-care-utilization-cost-quality-0>

workforce capacity have likely affected treatment access. Given that both the waiver (2020) and the waiver extension (2021-2023) coincided with the COVID-19 PHE, findings likely reflect both the impact of COVID-19 related policy changes and activities as well as demonstration impacts. Consequently, any observed changes should be interpreted with caution as findings may be confounded by the impact of the PHE.

**Exhibit V.62** describes the hypothesis, RQs, outcome measures, data sources, and analytic approach used for the evaluation (2021-2023).

**Exhibit V.62: Goal 4 Research Questions, Outcome Measures, Data Sources, and Analytic Approach**

Hypothesis: Access of beneficiaries with SMI to community-based services to address their chronic MH care needs will improve under the demonstration, including through increased integration of primary and behavioral health care.			
Research Questions	Outcome Measure(s)	Data Sources	Analytic Approach
<b>Primary RQ 4.1:</b> Does the demonstration result in improved access of beneficiaries with SMI to community-based services to address their chronic MH care needs?	Proportion of beneficiaries with SMI who use mental-health-related (1) outpatient rehabilitation and targeted case management services, (2) HCBS/LTSS services, and (3) outpatient MH services.	<ul style="list-style-type: none"> <li>Enrollment data (2018-2023)</li> <li>Claims/encounter data (2018-2023)</li> </ul>	<ul style="list-style-type: none"> <li>Descriptive quantitative analysis of trends over time during the demonstration</li> <li>Interrupted time series analysis</li> </ul>
<b>Subsidiary RQ 4.1a:</b> To what extent does the demonstration result in improved availability of community-based services needed to comprehensively address the chronic MH needs of beneficiaries with SMI?	Number of Medicaid-enrolled: <ul style="list-style-type: none"> <li>CMHCs</li> <li>Psychiatrists and other MH practitioners authorized to prescribe</li> <li>FQHCs that offer behavioral health services.</li> </ul>	State administrative data (2020-2023) collected via the PAA and additional updates received in 2024.	Descriptive quantitative analysis of trends over time during the demonstration
<b>Primary RQ 4.2:</b> Does the integration of primary and behavioral health care to address the chronic MH care needs of beneficiaries with SMI improve under the demonstration?	<ul style="list-style-type: none"> <li>Demonstration activities or their components or characteristics that stakeholders identify as most effective in the integration of primary and behavioral health care to address the chronic MH care needs of beneficiaries with SMI.</li> <li>Obstacles that stakeholders identify as hindering the effectiveness of the demonstration in the integration of primary and behavioral health care to address the chronic MH care needs of beneficiaries with SMI.</li> </ul>	KII with beneficiaries, state officials, MCEs, providers, and advocacy organizations	Qualitative analysis to identify themes associated with the effectiveness of demonstration activities for the integration of primary and behavioral health care to address the chronic MH care needs of beneficiaries with SMI.

**Quantitative Analysis Approach**

*Analytic Population.* Analyses were conducted for beneficiaries in the SMI beneficiary roster population who had at least 10 months of SMI waiver eligible Medicaid coverage in each

respective measurement year following their diagnosis. Restricting the analytic population to this subset of beneficiaries allowed for similar “exposure” periods (i.e., periods of time in which beneficiaries may have received community-based services covered by Medicaid) across all measurement years. This is particularly important when comparing years fully covered by the COVID-19 PHE (i.e., 2021 and 2022) during which Medicaid coverage was expanded and no beneficiaries were disenrolled, versus other years (in which Medicaid beneficiaries had chances of having gaps in their Medicaid enrollment).

*Metrics.* The *participation rate* is the proportion of beneficiaries receiving a specific service at least once in the year. Participation rates were calculated for three community-based services: outpatient rehabilitation (including targeted case management services); HCBS/LTSS, and outpatient MH using the analytic population. Participation rates measured the proportion of SMI beneficiaries in the roster population that used one of the latter community-based services. Specifically:

- Outpatient rehabilitation services (including targeted case management services): The proportion of SMI beneficiaries in the measurement year who had at least one paid claim for outpatient rehabilitation services related to MH with a service start date within the year.
- HCBS/LTSS: The proportion of SMI beneficiaries in the measurement year who had at least one paid claim for MH related HCBS or LTSS services with a service start date in the measurement year.
- Outpatient MH services: The proportion of SMI beneficiaries in the measurement year who had at least one paid claim for MH related outpatient MH services with a service start date in the measurement year.

Additionally, the *overall community-based services participation rate* was calculated. The *overall community-based services participation rate* is the proportion of the analytic population that had at least one paid claim in the measurement year related to any of the community-based service types listed above. Starting in 2020, with the COVID-19 PHE, the state expanded access to services by allowing care delivered using telehealth services.<sup>90</sup> Hence participation rates calculated for 2020 – 2023 includes telehealth claims/encounters. Community-based services were identified based on the outpatient and professional fee schedules used at FSSA with MH-related diagnosis for the evaluation period (2018-2023). MH-related diagnoses were identified using the HEDIS VSD’s MH Diagnosis value sets. For additional details regarding metric specification and identification of the services, see **Attachment D**.

*Analysis Methods.* Annual participation rates were calculated to examine trends over time. Participation rates were calculated for the analytic population as well as by key beneficiary characteristics. Beneficiary characteristics examined included: SMI diagnosis history, sociodemographic characteristics (i.e., gender, age, race, ethnicity, geographic location (metro/non-metro), Medicaid coverage status indicators (i.e., participation in HIP and Medicare/Medicaid dually eligible), and other chronic health conditions. In addition to comparing trends over time, ITS models were used to estimate changes in beneficiaries’ community-based services participation rates between the pre-demonstration time-period (2018

<sup>90</sup> [https://provider.indianamedicaid.com/ihcp/Publications/providerCodes/Telehealth\\_Services\\_Codes.pdf](https://provider.indianamedicaid.com/ihcp/Publications/providerCodes/Telehealth_Services_Codes.pdf)

and 2019) and the waiver extension (2021-2023) while adjusting for beneficiary characteristics. These logistic regression models, one for each metric (outpatient rehabilitation services, HCBS/LTSS, outpatient MH services, and any community-based services, respectively), estimated the likelihood of a beneficiary with SMI utilizing the community-based service at least once during a given year. The pre-demonstration time-period (2018 and 2019) was used as a reference period to examine change across demonstration years (2021 to 2023) relative to the pre-demonstration. The regression models also controlled for benefit year as well as beneficiary SMI diagnosis and relevant beneficiary sociodemographic characteristics (e.g., gender, age, race, ethnicity, geographic location [metro or non-metro]), Medicaid enrollment characteristics [i.e., identified as Medicare/Medicaid dually eligible], and selected chronic conditions). Subsequently, the estimated ORs for each of the factors from the estimated models provided the relative likelihood of participation.

The findings are organized by research questions and relevant outcome measures identified in the logic model for the goal (**Section II.F**). Based on factors including data availability, only select outcomes were identified in the CMS approved Evaluation Plan. Any outcome that was identified in the logic model but was not included in the Evaluation Plan have been noted in the respective sections.

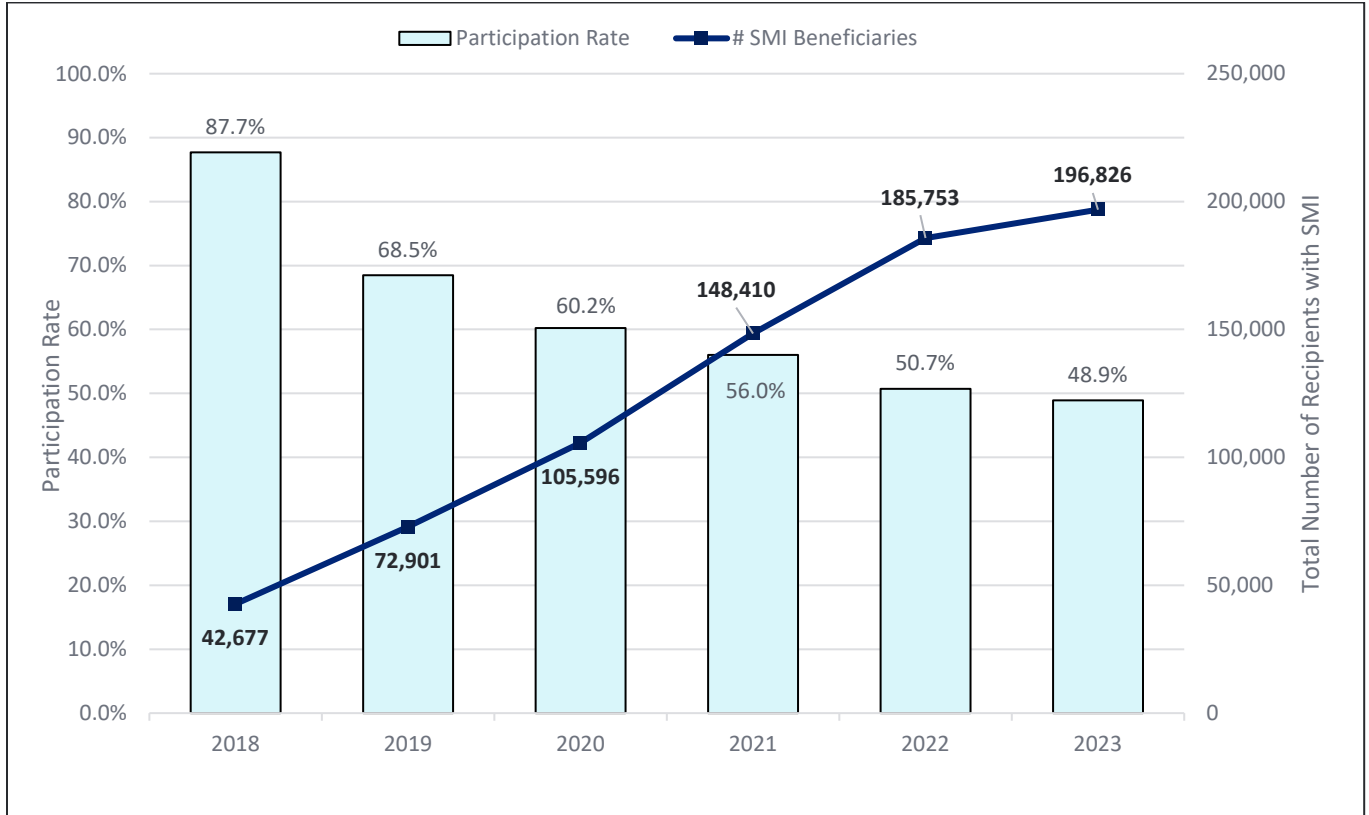
***F.1. Does the demonstration result in improved access of beneficiaries with SMI to community-based services to address their chronic MH care needs? (Primary RQ 4.1)***

***Increased Availability and Access to Community-Based MH Treatment Providers, Including Integration of Primary Care and Behavioral Health Services***

The participation rate, or proportion of beneficiaries receiving any MH-related community-based services, decreased between 2018 and 2023 (**Exhibit V.63**). During the pre-demonstration (2018 – 2019) the participation rate for MH-related community-based services declined considerably – by 19.2 percentage points (from 87.7% to 68.5%). The declining trend continued but slowed during the waiver and waiver extension. In 2020 (waiver), over half (60.2%) of the SMI beneficiary roster population was receiving a MH-related community-based service – a decrease of 8.3 percentage points from 2019. During the waiver extension (2021–2023), the participation rate continued to decline over time: 56.0% in 2021 (decrease of 4.2 percentage points from 2020), 50.7% in 2022 (decrease of 5.3 percentage points from 2021), and 48.9% in 2023 (1.8 percentage points decrease from 2022). Declines in participation rates were unexpected given that SMI is often persistent and chronic, requiring ongoing treatment and support. It is possible, however, that a proportion of beneficiaries in the roster may have experienced improvement in and/or stabilization of their symptoms and consequently not required either the same level of care or treatment intensity over time (e.g., a beneficiary could have completed more intensive MH treatment within a year after their initial SMI diagnosis and no longer required outpatient MH services). These individuals may also use other treatment services (e.g., primary care) to manage their condition. As noted previously, the majority of beneficiaries (90% and above) included in the roster population used health care services (excluding dental or pharmacy services) annually from 2018-2023, suggesting that those in the roster continued to receive health care in subsequent years (**Exhibit V.2; Attachment E, Exhibit E.1**). It is also possible that work force shortages impacted the availability of community-based services yielding lower

participation rates. Additional analyses that examine treatment episodes may be warranted to better understand these observed trends.

**Exhibit V.63: Participation Rate for MH Related Community-Based Service Among Beneficiaries with SMI and 10+ Months of Waiver-eligible Medicaid Enrollment After First SMI Diagnosis (2018 – 2023)**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

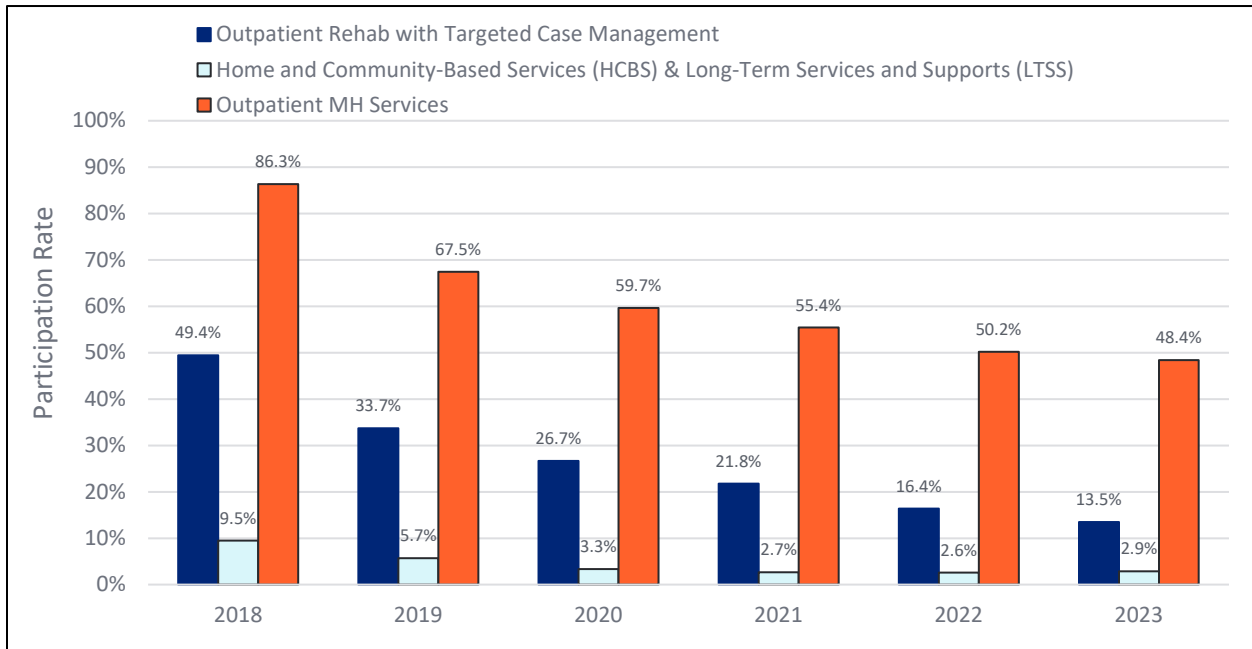
Between 2018 and 2023, outpatient MH services had the highest participation rate (i.e., of the beneficiaries who received community-based services, 99.1% used outpatient MH services) followed by outpatient rehabilitation services. The proportion of beneficiaries receiving outpatient rehabilitation services decreased from 49.4% in 2018 to 13.5% in 2023. A smaller proportion of beneficiaries used HCBS or LTSS during the evaluation period compared to the other types of community-based MH services. Across the years, the participation rate for each of these service types followed similar patterns to those observed for overall MH-related community-based services (**Exhibit V.64**):

- Outpatient rehabilitation services (including targeted case management services): In 2018, 49.4% of beneficiaries received rehabilitation services. In 2019, the rates dropped by 15.8 percentage points. During the waiver period, the participation rates declined across the years (from 21.8% in 2021 to 13.5% in 2023).
- HCBS/LTSS: Participation rates were lower (i.e., under 10% in each year) in comparison to the other services. The participation rate for HCBS/LTSS decreased by the 3.8 percentage points between 2018 and 2019 (pre-demonstration) and 2.4 percentage points

between 2019 and 2020 (waiver). Participation rates remained relatively stable between 2021 and 2023.

- Outpatient MH services: In 2018, 86.3% of beneficiaries received rehabilitation services. In 2019, this participation rate dropped by 18.9 percentage points. During the waiver extension, the participation continued to decline across the years albeit at a slower rate (from 55.4% in 2021 to 48.4% in 2023). Between 2018 and 2023, outpatient MH services had the highest participation rate among the SMI beneficiary roster population (ranging from 86.3% in 2018 to 48.4% in 2023) followed by outpatient rehabilitation and targeted case management services.

**Exhibit V.64: Participation Rate Across Types of MH-Related Community-Based Service Among and 10+ Months of Waiver-eligible Medicaid Enrollment After First SMI Diagnosis (2018 – 2023)**



Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

Changes in participation rates were also examined using regression-based approaches. These models controlled for member characteristics and time (see **Attachment E, Exhibit E.48**). Findings indicate that beneficiaries were significantly less likely to use services relative to the pre-demonstration (all services = OR: 0.27, CI: 0.26 – 0.28; outpatient rehabilitation = OR: 0.74, 95% CI: 0.71- 0.77; HCBS/LTSS = OR: 0.22, 95% CI: 0.20 - 0.25; outpatient MH = OR: 0.30, 95% CI: 0.29 - 0.31). In alignment with the observed annual trends, even after adjusting for effects pre/post demonstration and beneficiary characteristics, there was a clear trend of decreasing odds of participation each year compared to the reference year (2018) for all outcomes (except HCBS/LTSS).<sup>91</sup> Combined findings based on observed trends and statistical testing provides strong evidence suggesting a decline in use of community-based services. However, the declining trends slowed during the waiver extension period, as indicated by the

<sup>91</sup> OR for all services (relative to 2018): decreased from 0.31 in 2019 to 0.14 in 2023; OR for outpatient rehabilitation services decreased from 0.54 in 2019 to 0.18 in 2023; OR for outpatient MH services decreased from 0.33 in 2019 to OR: 0.16 in 2023.



estimated ORs of the joint effect of time and the waiver intervention for all community-based services and individual community-based services.<sup>92</sup>

Although claims/encounter data-based analyses indicated that participation rates for overall MH-related community-based services (and subtypes) decreased between 2018 and 2023, of the beneficiaries interviewed in 2024, most reported receiving MH or SUD care in an outpatient setting (88%; n = 22 out of 25) during the waiver extension (2021-2023).<sup>93</sup> Of those who received MH or SUD care, three-quarters reported satisfaction (77%; n = 17) with care (i.e., very satisfied or somewhat satisfied). Interviewees indicated that provider support and access to medication contributed to their satisfaction. Some interviewees (n = 3) indicated that insurance coverage issues (e.g., insufficient number of allowed therapy sessions) impacted their satisfaction.

*Sociodemographic Subgroups.* In addition to overall trends, differences in participation rates and trends by select beneficiary subgroups were also examined. The participation rates in overall MH-related community-based services, as well as in specific services such as outpatient rehabilitation with targeted case management, HCBS & LTSS, and outpatient MH services, generally exhibited similar trends across most sociodemographic subgroups (**Attachment E, Exhibit E.47**). Notable findings include:

- Male beneficiaries had slightly higher participation rates (2.0 percentage points higher in 2019) than female beneficiaries during pre-demonstration period but had slightly lower rates during waiver extension (between 3.0 and 4.3 percentage points). Controlling for time and other factors, males were 19% less likely (OR: 0.81, 95% CI: 0.80 – 0.82) to receive at least one community-based service compared to females. This effect was primary driven by utilization of the outpatient MH services; males were 20% less likely to receive outpatient MH services compared to females (OR: 0.80, 95% CI: 0.79 – 0.81).
  - In contrast, males, were 5% more likely (OR: 1.05, 95% CI: 1.04 – 1.07) to receive outpatient rehab and targeted case management services compared to females (differences in participation rates ranged between 8.5 and 3.0 percentage points across the years).
- Black beneficiaries had slightly higher participation rates during pre-demonstration compared with White/Caucasian beneficiaries. However, during the waiver extension, Black beneficiaries had lower rates and experienced larger decreases in their participation rates. Between 2018 and 2023, the overall participation rate for community-based MH services decreased by 48.8 percentage point for Black beneficiaries compared to 38.5

<sup>92</sup> For all community-based MH services (overall and for each service type), the participation rate OR for the pre-intervention\*time interaction was smaller than that of the post-intervention\*time interaction. For all services, the pre-intervention\*time interaction OR was 0.31 (95% CI: 0.30-0.32), compared to 0.87 (95% CI: 0.87-0.88) for the post-waiver intervention period. For outpatient rehabilitation services, the OR for the pre-intervention\*time interaction was 0.54 (95% CI: 0.53-0.56), compared to 0.76 (95% CI: 0.75-0.76). For HCBS/LTSS services, the declining trend also significantly slowed down during the waiver extension years, with OR 1.05 (95% CI: 1.03-1.07), compared to 0.58 (95% CI: 0.55-0.61) before the waiver intervention. Similarly, the estimated OR of receiving outpatient MH services was 0.88 (95% CI: 0.87-0.88) during the waiver extension period, compared to during the pre-waiver period (OR: 0.33, 95% CI: 0.32-0.35).

<sup>93</sup> Beneficiaries interviewed in 2024 were asked to reflect on services utilized (rather than participation) across the waiver extension (2021-2023) rather than services each year. Additionally, recall bias should be considered when interpreting beneficiary interview findings.

percentage points for White/Caucasian beneficiaries. This trend was primarily driven by utilization of outpatient MH services (OR: 0.75, 95% CI: 0.74 – 0.77).

- Black beneficiaries, however, tended to have higher outpatient rehabilitation service participation rates compared to White/Caucasian beneficiaries (OR: 1.03, 95% CI: 1.01 – 1.05) – although the difference decreased over time.
- Beneficiaries with reported Hispanic ethnicity had lower participation rates compared to other beneficiaries (including non-Hispanic and individuals with unknown ethnicity). Overall, Hispanic beneficiaries were 18% less likely (OR: 0.82, 95% CI: 0.80 – 0.84) to receive MH-related community-based services, 43% less likely (OR: 0.57, 95% CI: 0.55 – 0.60) to receive rehabilitation services, and about 17% less likely to receive HCBS/LTSS (OR: 0.83, 95% CI: 0.76 – 0.90) or outpatient MH services (OR: 0.82, 95% CI: 0.80 – 0.85) compared to non-Hispanic beneficiaries and those with unknown ethnicity.
- A slightly higher proportion of beneficiaries residing in counties identified as non-metropolitan areas received MH-related community-based services relative to those in counties identified as metro areas (on the average, around 2.2 percentage points lower across years). Controlling for the factors discussed previously, beneficiaries in non-metro areas were 11% more likely to receive any community-based services (all services, OR: 1.11, 95% CI: 1.10 – 1.13; outpatient MH services, OR: 1.11, 95% CI: 1.09 – 1.12) and 35% more likely to receive rehabilitation services (OR: 1.35, 95% CI: 1.33 – 1.37).
- Beneficiaries who were dually eligible had higher community-based services participation rates (overall and by service types) compared to non-dually eligible beneficiaries. Controlling for time and other factors (discussed above), dually eligible beneficiaries were 21% more likely to use any community-based services (OR: 1.21, 95% CI: 1.19 – 1.23), 63% more likely to use rehabilitation services (OR: 1.63, 95% CI: 1.60 – 1.65), 34% more likely to use HCBS/LTSS (OR: 1.34, 95% CI: 1.30 – 1.39), and 19% more likely to use outpatient MH services (OR: 1.19, 95% CI: 1.17 – 1.20).
- Beneficiaries with diagnosis of schizophrenia had higher participation rates (overall and each service type) for all years compared to other diagnosis groups (bipolar only, MDD only). Beneficiaries co-occurring diagnosis group had higher participation in HCBS/LTSS services. As expected, beneficiaries with no chronic conditions tended to have the lowest participation rates (overall and by service type) and experienced the highest decline in participation over the years.

## ***F.2. To what extent does the demonstration result in improved availability of community-based services needed to comprehensively address the chronic MH needs of beneficiaries with SMI? (Subsidiary RQ 4.1a)***

### ***Increased Availability and Access to Community-Based MH Treatment Providers, Including Integration of Primary Care and Behavioral Health Services***

*Psychiatrists and Other MH Practitioners Authorized to Prescribe.* The number of psychiatrists and other MH practitioners authorized to prescribe remained similar between 2022 (1,265 total providers) and 2023 (1,274 total providers) (**Exhibit V.65**). However, the number counties with a psychiatrist or other MH practitioner authorized to prescribe decreased from 81 in 2022 to 73 in 2023. In 2023, approximately 66.1% (or 842 out of 1,274) psychiatrists and other MH

practitioners authorized to prescribe were Medicaid-enrolled, and 70 counties (out of 92) had at least one Medicaid-enrolled psychiatrist or other MH practitioner authorized to prescribe.

**Exhibit V.65: Distribution of Community-based Services Providers Per County by Year – Psychiatrists and Other MH Practitioners Authorized to Prescribe, Overall and Medicaid-enrolled**

Provider	Year	Total # of Providers Across Counties	# of Counties with Available Provider			# of Counties with No Provider		
			Total	Urban	Rural	Total	Urban	Rural
Psychiatrists and Other MH Practitioners Authorized to Prescribe	2020	*	*			*		
	2021	*	*			*		
	2022	1,265	81	29	52	11	0	11
	2023	1,274	73	26	47	19	3	16
Medicaid-enrolled Psychiatrists and Other MH Practitioners Authorized to Prescribe	2020	*	*			*		
	2021	*	*			*		
	2022	*	*			*		
	2023	842	70	26	44	22	3	19

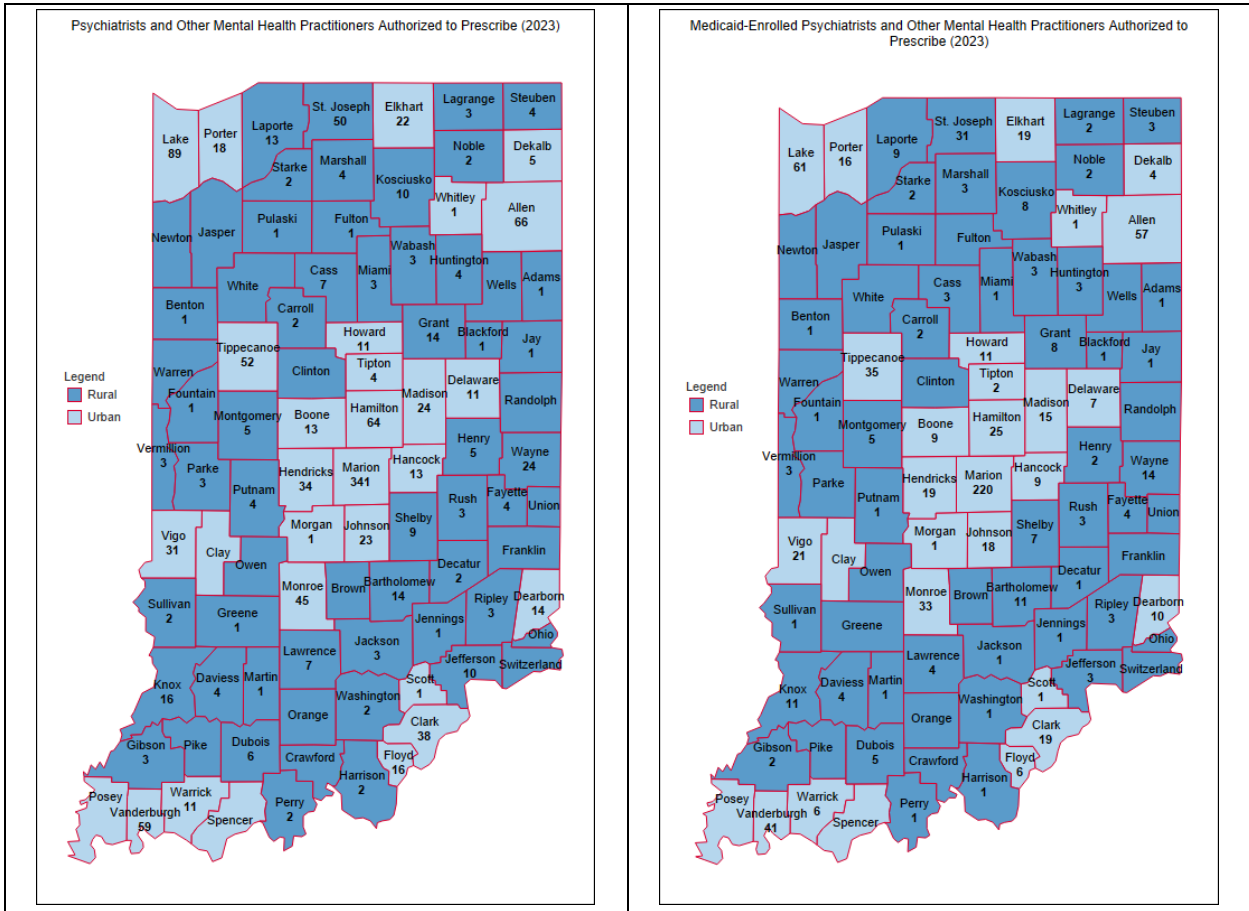
\*Data not available.

Source: Psychiatrists and Other MH Practitioners Authorized to Prescribe: Annual PAA, 2022 – 2023.

Medicaid-enrolled Psychiatrists and Other MH Practitioners Authorized to Prescribe: State-provided administrative data, 2022 (Updated September 2024); Annual PAA, 2023.

Urban counties tended to report more psychiatrists and other practitioners authorized to prescribe (overall and among those enrolled in Medicaid) compared to rural counties, although some rural counties were outliers with higher numbers of providers (e.g., St. Joseph; **Exhibit V.66; Attachment E, Exhibits E.51, E.53**). Among the 19 counties without a psychiatrist or other practitioner authorized to prescribe, 16 were rural counties, and three (Clay, Posey, and Spencer) were urban counties.

**Exhibit V.66: Number of Community-Based Service Providers – Psychiatrists and Other Practitioners Authorized to Prescribe, Overall and Medicaid-Enrolled (2023)**



Source: Annual PAA, 2022 – 2023.

**Medicaid-enrolled CMHCs.** As previously noted, the total number of CMHCs ( $n = 24$ ) remained the same between 2022 and 2023; data for Medicaid-enrolled CMHC sites was only available in the 2023 PAA data and was not available for prior years. In 2023, all CMHC sites were reported by the state to be Medicaid-enrolled. Thus, as previously noted for CMHC sites overall, five counties did not have a Medicaid-enrolled CMHC location; these counties included Clinton (which previously had a CMHC location in 2022), Newton, Ohio, Union, and Warren.

**FQHCs.** In 2022, 56 counties had at least one FQHC sites (**Exhibit V.67**). In 2023, the number of counties with an FQHC increased to 70 (with a total 343 FQHC sites statewide).

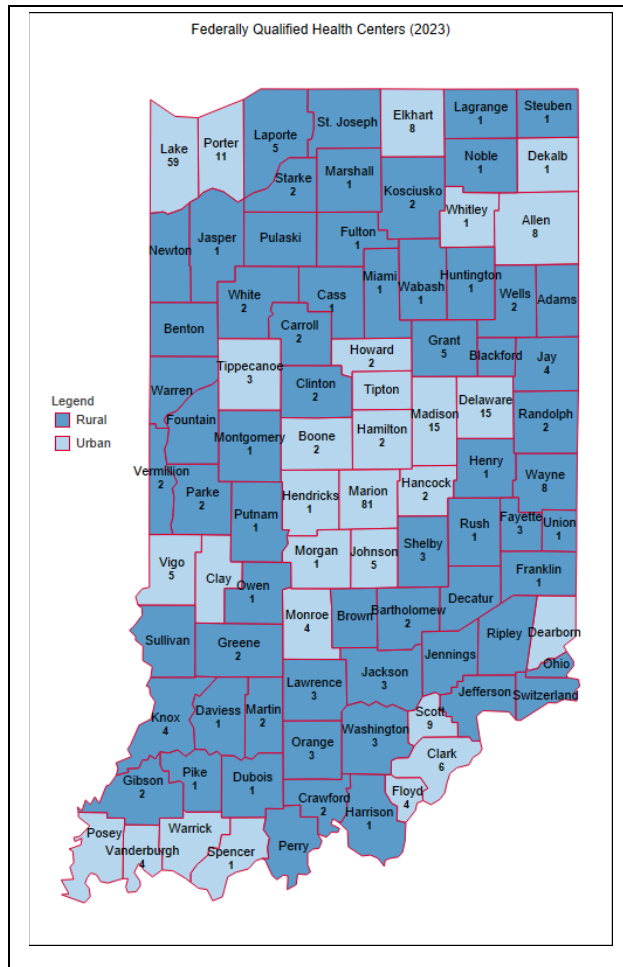
**Exhibit V.67: Distribution of Community-based Services Providers Per County by Year – FQHCs**

Provider	Year	Total # of Providers Across Counties	# of Counties with Available Provider			# of Counties with No Provider		
			Total	Urban	Rural	Total	Urban	Rural
FQHCs That Offer Behavioral Health Services	2020	213	56	19	37	36	10	26
	2021	202	54	19	35	38	10	28
	2022	213	56	19	37	36	10	26
	2023	343	70	24	46	22	5	17

Source: Annual PAA, 2022 – 2023.

**Exhibit V.68** visualizes FQHCs by county. Although the availability of FQHCs increased between 2022 (**Attachment E, Exhibit E.53**) and 2023, some areas (e.g., in the western and southeastern regions) continued to have gaps in FQHC availability.

**Exhibit V.68: Number of Community-Based Service Providers by County – FQHCs (2023)**



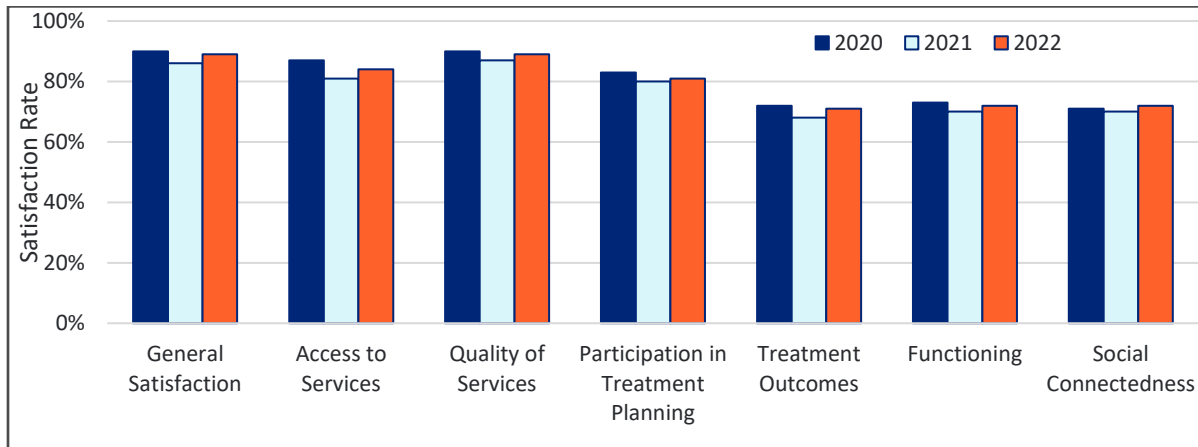
Source: Annual PAA, 2023.

### Satisfaction

In addition to stakeholder feedback, findings from reports developed by DMHA based on data collected from the MHSIP survey were also examined.<sup>94</sup> The MHSIP survey is fielded annually to a sample of adults receiving services at each of the 24 CMHCs and 7 additional contracted providers in Indiana. The survey instrument captures patient perceptions of MH care received at the CMHCs using 36 questions (each question utilizes a Likert scale of possible responses from (1) Strongly Agree to (5) Strongly Disagree) grouped into 7 quality of care related performance domains – general satisfaction, access to services, quality of services, participation in treatment planning, treatment outcomes, functioning, and social connectedness. Refer to the MPA<sup>8</sup> for additional details on MHSIP survey convenience sampling methodology, instrument questions, and calculation of percentage of respondents reporting satisfaction for each domain.

The Interim Report used findings from the 2022 survey report.<sup>95</sup> The majority of respondents were White/Caucasian (80%), indicated ethnicity as not Hispanic (64%), identified as women (55%) and had received in-person care (87%). Respondent age varied, with most respondents ages 30 and older (69%). Approximately two thirds (63%) of respondents reported receiving services related to MH only, while half (48%) reported receiving treatment for 1 year or less. Findings for the waiver (2020) and most of the waiver extension (2021-2022), (**Exhibit V.69**) indicated that more than 80% of respondents reported being satisfied with care received, had access to care, and received quality care. Additionally, 85% of respondents indicated “I was able to get all the services I thought I needed” and 72% indicated “being able to see a psychiatrist when I wanted to.” Findings were stable across the years studied and compared to the baseline year (2020).

**Exhibit V.69: Percentage of MHSIP Respondents Reporting Satisfaction with Quality of Care Measured Across 7 Domains: Satisfaction, Access to Care, Quality of Care, Treatment Planning, Outcomes, Functioning, and Social Connectedness**



Source: MHSIP Adult Consumer Survey Reports 2020-2022

<sup>94</sup> DMHA conducts the MHSIP Survey for Adults and Youth), an annual consumer satisfaction surveys for all individuals who have been served by DMHA contracted providers.

<sup>95</sup> “Adult Individual Served Perception of Care MHSIP Survey 2022”, prepared by InteCare, Inc. for IN FSSA DMHA. The “Adult Individual Served Perception of Care MHSIP Survey 2023” report will not be available until January 2025 and consequently was not included in the Interim Report.

**F.3. Does the integration of primary and behavioral health care to address the chronic MH care needs of beneficiaries with SMI improve under the demonstration? (Primary RQ 4.2)**

*Increased Integration of Primary and Behavioral Health Care*

*Provider Capacity.* Consistent with the Summative Report and MPA, state official interviewees confirmed that behavioral health provider network capacity is monitored annually and used to identify provider deficiencies and build provider recruitment plans. For example, in accordance with the state’s approved §1915(b)(4) waivers for MRO services and §1915(i) programs, FSSA utilizes information gathered from analysis of Indiana’s Medicaid Management Information System, site reviews, and beneficiary reports and complaints to evaluate the need to expand provider agencies and/or provide training and/or corrective actions to assist provider agencies in increasing efficiencies for timely access to services. When “timely access” is identified as a provider agency issue, the state uses a request for corrective action and provides technical assistance and training to assist the agency in correcting the issue. If the issue is not remediated satisfactorily, further sanctions are applied, up to and including decertification of the agency as an MRO or §1915(i) provider. Further, OMPP’s Provider Relations contractor identifies underserved areas by calculating the ratio of providers to beneficiaries by county. Recruiting efforts are intensified in counties that are identified as not meeting Health Resources and Services Administration provider-to-member ratio standards. Utilizing the results of this analysis, the Provider Relations team outreaches to behavioral health providers who are not currently Medicaid enrolled. Additionally, FSSA collaborates with DMHA and the Indiana Department of Health (IDOH) to collect data on various provider settings to fully capture provider availability via the PAA (see **Sections V.E** and **V.F** for additional findings specific to provider capacity). Furthermore, MCEs are contractually required to meet network adequacy standards for behavioral health providers in accordance with 42 CFR §438.68. All MCEs stated that they met network adequacy standard requirements during CY2021 and CY2022.<sup>96</sup>

*Statewide strategies for increasing provider capacity, including integration of primary and behavioral health care.* Consistent with findings from the Summative Report and MPA, Indiana recognized that the adequacy of provider supply did not meet patient demand. Expanding the pool of available behavioral health providers is foundational to any efforts to increase access, coordination, and integration with primary care. Consequently, Indiana initiated several key actions since the demonstration began to increase provider supply (see bulleted list below). MCEs, providers, and advocacy organizations in 2024 noted that the supply of providers within Indiana is still inadequate and state officials continue to identify additional solutions for minimizing the gaps between supply and demand while maintaining best practices in care.

Indiana actions for increasing provider capacity across the waiver and waiver extension include:

- **Legislation and Billing System Infrastructure Changes.** To increase the state’s capacity of MH Medicaid providers, the House Enrolled Act 1175 passed in the 2019 legislative session expanded access to behavioral health providers for Medicaid enrollees. Under this law, licensed clinical social workers (LCSW), licensed MH counselors (LMHC), licensed clinical addiction counselors, and licensed marriage and family therapists (LMFT) are eligible providers and can certify a MH diagnosis and supervise a

<sup>96</sup> MCEs were not asked if they met network adequacy standards during the 2024 interviews.

patient's treatment plan in outpatient MH or substance abuse treatment settings. Prior to this legislation, mid-level behavioral health practitioners were not eligible to independently enroll in Indiana Medicaid and were required to bill under the supervision of a health services provider in psychology (HSPP) or a psychiatrist.

With the enactment of the latter legislation, Indiana implemented infrastructure changes within their billing systems to enable mid-level provider enrollment. Enrollment began in Q1 of 2021. The enrollment of mid-level providers allows Indiana to reimburse and monitor the full scope of providers who offer MH services, populations served, location, and service type provided. This action positions FSSA to better identify gaps in service and address ongoing training and support needs.

- **Diversifying the Provider Pool.** Providers and advocacy organizations interviewed in 2024 noted that provider pool has limited numbers of peers and bachelor level staff who have experience supporting SMI populations. One advocacy organization discussed the imbalance between peer advocates specializing in SUD versus peer advocates specializing in MH, stating: “There are over 20 peer organizations for SUD in Indiana. For MH peers, there are only two organizations.” Given these challenges, the state sought to further expand the provider pool to include peers, small MH organizations, grassroots community organizations, and OBHPs. For example, the CPSP credential (issued and monitored by DMHA) was approved in 2023. Starting in 2024, the state will train 100 peers per month.
- **Workforce Initiatives Focused on Expansion and Retention.** The state offered funding for workforce initiatives through the Workforce Recruitment and Retention Innovation grant via American Rescue Plan Act (ARPA) funding. Through this funding, Indiana has awarded \$14.25 million dollars to various programs and initiatives that address recruitment, training, workforce wellness, leadership, scholarships, apprenticeships, incentives for new hires, hiring and training peer workforce, inclusive hiring, supervisor training, money for interns, etc. Additional efforts pursued by the state include:
  - Focusing on early workforce development initiatives (talent pipeline expansion to better engage K-12 and higher education) to increase capacity.
  - Promoting and mapping of behavioral health workforce at the local level to better engage those with lived experience.
  - Implementing “workforce wellness” strategies to improve retention and support for existing workforce.
  - Prioritizing provider-driven skills development to improve retention and quality of care.
  - Improving compensation strategy to offset the high costs of higher education and improve pay equity for the workforce.

Providers interviewed in 2024 noted several strategies for recruitment and maintaining staff including: used professional websites (e.g. LinkedIn, Indeed) to post provider opportunities; increased pay for hard to fill positions; partnered with universities to expand recruitment of bachelor level or higher providers; and expanded staff specific trainings.



- **PIPBHC Grant.** The purpose of the PIPBHC program is to: (1) promote full integration and collaboration in clinical practice between primary and behavioral health care; (2) support the improvement of integrated care models for primary care and behavioral health care to improve the overall wellness and PH status of adults with SMI; and (3) promote and offer integrated care services related to screening, diagnosis, prevention, and treatment of MH and SUD, co-occurring PH conditions and chronic diseases. Indiana applied for the PIPBHC grant December 10, 2019, however the award was not granted to the state until March 23, 2021.

State officials in 2024 highlighted the challenges inherent to integrating primary care and behavioral health. Challenges identified include lack of alignment between the PIPBHC program and CCBHC grant, insufficient workflows for screening primary care conditions within MH settings, reticence for including the proposed list of primary care condition screens (e.g., tobacco-breath screening, waist circumference), and limited provider expertise for integrated care.

Of the beneficiaries interviewed in 2024, seven (28%) reported receiving integrated care in a primary care setting or preventative care setting. Interviewees indicated that care in one setting or provider coordination contributed to their satisfaction. Interviewees noted that including additional specialists into the integrated model would improve their care experience.

- **PCBHI and Integrated Care Entities.** FSSA, in partnership with IDOH, launched an initiative in 2012 to develop a statewide strategic plan to integrate primary and behavioral health care services in Indiana. Indiana's PCBHI efforts include the formation of a statewide stakeholder group, formalized definition for integration for Indiana, and the original creation of five subcommittees that spearheaded research and collaboration.

In addition, FSSA and IDOH established a process by which CMHCs, FQHCs, community health centers, and rural health clinics could become a state-certified, integrated care entity (ICE). ICE providers are required to provide care coordination that includes partnering with physicians, nurses, social workers, discharge planners, pharmacists, representatives in the education system, representatives of the legal system, representatives of the criminal justice system and others during any transition of care. The goals of this coordination include reducing unnecessary inpatient and ED use and increasing consumer and family beneficiaries' ability to manage their own care and live safely in the community.

- **The Behavioral and Primary Health Care Coordination Program.** Conceived under a separate §1915(i) SPA, the Behavioral and Primary Health Care Coordination program offers a service that consists of the coordination of health care services to manage MH, SUD, and PH care needs of eligible beneficiaries. This includes logistical support, advocacy, and education to assist individuals in navigating the health care system, and activities that help beneficiaries gain the access necessary to manage their physical and behavioral health conditions.

*State Monitoring Metrics.* Increased integration of primary and behavioral health care, screening, and health outcomes are monitored by the state (e.g., monitoring metric #23, 26, 29, and 30) and included in quarterly/annual CMS reports. As noted in **Section III**, metric specification varies between monitoring metrics calculated by the state and evaluation metrics calculated by the independent evaluator. For example, the population definition used for the evaluation differs from population definitions used to calculate the monitoring metrics. Given that the evaluation

design does not include re-calculating Monitoring Metrics 23, 26, 29, and 30 to use the evaluation population, the interim report does not include quantitative findings for this short-term outcome.

### *Early Identification and Engagement in Treatment*

In October 2016, OMPP began coverage for annual depression screening. Providers are expected to use validated standardized tests for screening. These tests include, but are not limited to, the Patient Health Questionnaire (PHQ), Beck Depression Inventory, Geriatric Depression Scale, and Edinburgh Postnatal Depression Scale (EPDS). Coverage applies to all IHCP under Medicaid. The state has also focused on school-based initiatives to increase behavioral health integration. Indiana Medicaid allows enrolled school corporations reimbursement for Medicaid-covered services in an Individualized Education Program (IEP) or Individualized Family Service Plan. Medicaid-covered IEP services include occupational, physical, speech and applied behavior analysis therapy, hearing, nursing and behavioral health evaluation and treatment services as well as IEP-required specialized transportation. In addition, CMHCs across the state work in close collaboration with Indiana schools and school districts have memorandums of understanding with local CMHCs for the provision of behavioral health services. Through these partnerships behavioral health staff are co-located within the schools and provide behavioral health services to youth and their families.

Findings from the MPA noted that four of the five MCEs had strategies in place (e.g., screening initiatives to identify youth at risk for suicide; data reviews using the IHIE) to identify beneficiaries with a serious MH condition. All MCEs indicated that they have relationships with school-based health centers (SBHCs) either through a connection via an FQHC or through school-based administrators. Examples of engagement includes:

- Continued development of a team of school outreach specialists.
- A partnership to place emergency medication boxes in schools, including Naloxone.
- Behavioral health telehealth initiatives and various mobile offerings for school-aged, enrolled beneficiaries.

**Vocational Rehabilitation Services and Supportive Employment.** VRS are available statewide, in all regions of the state. Eligibility for VRS is determined in accordance with federal requirements at 34 CFR 361.42(a). Additionally, all applicants determined eligible for Social Security Disability or Supplemental Security Income are presumed eligible for VRS. Individuals receiving VRS have an Individualized Plan for Employment based on the requirements at 34 CFR 361.45, following an assessment for determining vocational rehabilitation needs. SE is available as a VRS. Through this service, individuals with the most severe disabilities are placed in competitive jobs with qualified job coaches/trainers to provide individualized, ongoing support services. Several of Indiana's CMHCs provide SE services for persons with SMI. These programs use a team approach for treatment, with employment specialists responsible for carrying out all vocational services from intake through follow-up. Job placements are community-based (i.e., not sheltered workshops, not onsite at SE or other treatment agency offices), competitive (i.e., jobs are not exclusively reserved for SE clients, but open to public), in normalized settings, and utilize multiple employers. The SE team has a small client to staff ratio.

Findings from the MPA described VRS and SE opportunities for beneficiaries. Opportunities highlighted included:

- Increased the number of programs that focused on skill development, job attainment, and financial autonomy. These programs were designed to increase socialization and enhance quality of life.
- Referred beneficiaries to external VRS and SE services
- Developed public education efforts specific to individuals with first episode psychosis (e.g., assessment and referral strategies)
- Used an internal accredited clubhouse. The clubhouse focused on individual skill building and enabled individuals to gain employment opportunities and transition to independent living.

**Stigma Reduction.** All advocacy organizations interviewed in 2023 asserted stigma as a significant barrier for early identification and engagement for SMI beneficiaries, with one organization noting that parents struggle with obtaining assessment and treatment services for children in schools. Advocacy organizations interviewed in 2024 noted that since COVID-19 Indiana residents have been more candid with topics related to MH (particularly among the younger generations) and are seeking treatment at greater rates. Advocacy organizations interviewed in 2023 and 2024 recommended that the state invest in the following strategies to support early identification and engagement in treatment for SMI beneficiaries:

- Build capacity for CCBHCs.
- Increase crisis response teams and build systems of care that focus on the whole person and not just the diagnosis.
- Develop and implement public awareness campaigns to de-stigmatize behavioral health conditions and seeking treatment.
- Increase MH literacy specific to SMI and chronic conditions.

Although the IN SMI Implementation Plan did not highlight action items focused on stigma reduction, the state has prioritized stigma reduction initiatives as an overarching strategy to encourage Indiana residents (rather than SMI beneficiaries) to engage in treatment. Several stigma reduction initiatives were started in the fall of 2022 and ended in the fall of 2023. These initiatives were initially constructed for broader populations between 9/2022 and 2/2023) and narrowed to SMI populations between 3/2023 and 9/2023.

- **Council for Youth Bartholomew County** (9/1/2022 to 2/28/2023): Increased MH awareness for youth and their families by decreasing the MH stigma and promoting family well-being. The Council trained 168 youth and 168 adults (Hispanic/Latino as well as Black, indigenous, and people of color (BIPOC)) in MH first aid. From 3/1/2023 – 9/30/2023, the Council provided MH services and resources to 325 Hispanic/Latino youth with SMI and 44 BIPOC youth with SMI.
- **InTouch Outreach** (9/1/2022 to 2/28/2023): Provided community outreach and educational resources to educate and raise awareness of MH stigma among Black communities. This 6-part speaker series reached a total of 575 individuals and covered a diverse population. From 3/1/2023 to 9/30/2023, InTouch Outreach and SMI Enterprise

continued to provide community outreach and education (focused on MH stigma) and engaged a total of 249 persons with an SMI diagnosis.

- **Affiliated Service Providers (ASPIN) (9/1/2022 to 2/28/2023):** Provided a five-part webinar speaker series focused on addressing stigma for beneficiaries of the Black, Latinx, and lesbian, gay, bisexual, transgender, and queer (LGBTQ+) communities. From 3/1/2023 to 9/30/2023, ASPIN expanded the webinar series to nine parts and focused on addressing SMI stigma for beneficiaries of the Black/African American, Latinx, and LGBTQ+ communities, as well as immigrant and refugee populations.
- **Marion County Commission on Youth (MCCOY) (9/1/2022 to 2/28/2023):** Created community conversations and projects that addressed MH stigma while simultaneously addressing the disparity that BIPOC individuals face in relation to MH access, services, and stigma. MCCOY leveraged partnerships with Thrival Indy Academy and Allies of Indiana to provide evidence based best practices to youth and families, focused on stigma reduction in BIPOC communities. From 3/1/2023 to 9/30/2023, MCCOY expanded their target population to include youth and families impacted by SMI. Programs and services include resources for parents/caregivers focused on MH, as well as connections to clinicians who specialize in SMI.

#### **F.4. Findings and Recommendations**

This section provides a summary of the findings by short and long-term outcomes identified in the Goal 4 logic model. Summaries integrate quantitative and qualitative (when appropriate) to provide evidence in support of the hypothesis. Recommendations for additional actions or data are also listed.

**Hypothesis**  
Access of beneficiaries with SMI to community-based services to address their chronic MH care needs will improve under the demonstration, including through increased integration of primary and behavioral health care.

#### ***Increased Availability and Access to Community-Based MH Treatment Providers, Including Integration of Primary Care and Behavioral Health Services***

Throughout the waiver (2020) and waiver extension (2021-2023), Indiana has pursued several actions to increase treatment access and care coordination. Quantitative findings indicate that the state has increased CMHC satellite locations (from 231-324) and FQHC sites (from 213 – 343) between 2022 and 2023. However, the number counties with a psychiatrist or other MH practitioner authorized to prescribe decreased from 81 in 2022 to 73 in 2023. Of the 1,274 psychiatrists and other MH practitioners authorized to prescribe in 2023, 66.1% were Medicaid-enrolled. A recent report by those HHS office of the Inspector General (2024) highlighted deficits in the numbers of behavioral health providers who actively serve Medicaid enrollees,<sup>97</sup> suggesting Indiana Medicaid-enrolled provider rates magnify a nationwide problem.

Although the number of beneficiaries with SMI included in the roster increased from 2018-2023, the participation rate for overall MH-related community-based services declined. Declines in participation rates may be due to numerous factors including but not limited to: beneficiaries

<sup>97</sup> Grimm, C.A. (March 2024). A Lack of Behavioral Health Providers in Medicare and Medicaid Impedes Enrollees' Access to Care. *Department of Health and Human Services Office of Inspector General*. <https://oig.hhs.gov/documents/evaluation/9844/OEI-02-22-00050.pdf>

experiencing improvements and consequently not requiring either the same level of care or treatment intensity and or using other treatment services (e.g., primary care) to manage their condition. Additionally, workforce shortages may also explain declines in participation rates, reducing the availability of community-based services. Qualitative findings compiled throughout the demonstration suggest that the supply of providers in Indiana continues to be inadequate for meeting the patient demand. These findings are not surprising and further reinforce nationwide priorities to improve access and availability by bolstering the behavioral health workforce.<sup>98</sup> Further research to better understand what is driving the declines is needed to further support the state in refining their strategy for goal achievement.

### *Satisfaction*

Approximately two thirds (63%) of respondents for the 2022 MHSIP survey report indicated receiving services related to MH only, while half (48%) reported receiving treatment for 1 year or less. Findings for the waiver (2020) and most of the waiver extension (2021-2022), (**Exhibit V.69**) indicated that more than 80% of respondents reported being satisfied with care received, had access to care, and received quality care. Additionally, 85% of respondents indicated “I was able to get all the services I thought I needed” and 72% indicated “being able to see a psychiatrist when I wanted to.” Findings were stable across the years studied and compared to the baseline year (2020). Beneficiaries with SMI interviewed in 2024 who reported receiving MH or SUD care in an outpatient setting during the waiver extension (2021-2023) also largely reported satisfaction (77%) with care.

### *Increased Integration of Primary and Behavioral Health Care*

Throughout the waiver (2020) and waiver extension (2021-2023), Indiana has prioritized actions that focus on increasing provider capacity (e.g., Applying legislation and billing system infrastructure changes, diversifying the provider pool, identifying underserved areas and conducting outreach efforts to increase the number of Medicaid enrolled providers, implementing workforce retention strategies, and obtaining funds to support state-wide provider expansion [CMHCs, CCBHCs, and FQHCs]), reducing stigma (e.g., campaigns, training), and improving behavioral health integration (PIPBHC, PCBHI, The Behavioral and Primary Health Care Coordination Program). Increasing availability and access to community-based services including integration of MH and physical care is a multi-year strategy and dependent on several factors including a robust workforce, infrastructure, and seamless care coordination processes. As noted, many demonstration activities were delayed in 2020 and 2021 due to the COVID-19 PHE and consequently, although most activities were implemented during the waiver extension, the time needed to detect an effect in long-term outcomes may not have been sufficient. Additional years of data are necessary to assess goal achievement.

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<sup>98</sup> Biden-Harris Administration Launching Initiative to Build Multi-state Social Worker Licensure Compact to Increase Access to Mental Health and Substance Use Disorder Treatment and Address Workforce Shortages. *U.S. Department of Health and Human Services*. Retrieved from <https://www.hhs.gov/about/news/2024/07/16/biden-harris-administration-launching-initiative-build-multi-state-social-worker-licensure-compact-increase-access-mental-health-substance-disorder-treatment-address-workforce-shortages.html>

### Early Identification and Engagement

Qualitative findings indicated that screening and engagement in treatment continue to be prioritized for beneficiaries with SMI during the waiver extension (2021-2023). Key actions include school-based initiatives to increase behavioral health integration, VRS and SE opportunities, and stigma reduction programs. Similar to other state activities, the latter actions are part of a multi-step strategy that is dependent on factors, such as partnerships, programmatic funding sustainment, and workforce capacity. Consequently, and consistent with other activities which experienced implementation delays due to the COVID-19 PHE, time needed to detect an effect in long-term outcomes may not have been sufficient.

### Recommendations

- Conduct additional analyses to better understand outpatient MH service trends. For example, determine if primary care service use is increasing among the SMI population.
- Continue to build provider capacity across the SOC and throughout the state, with special emphasis on increasing the number of Medicaid behavioral health care providers.
- Continue to engage peers to support beneficiaries in navigating treatment and encourage engagement.
- Meet with providers, advocates, and state agencies (e.g. DOH; DOC) to identify strategies for increasing collaboration and minimizing barriers for accessing treatment services.
- Examine the impact of the state's stigma reducing efforts on engagement.
- Address barriers to behavioral health integration (e.g., enhance infrastructures to support care coordination, identify strategies to improve communications between providers and support information sharing).

### **G. Goal 5: Improved care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities.**

As stated in **Section II.E**, individuals with SMI often use the behavioral health SOC as their principal setting for access to medical and social care.<sup>99,100,101</sup> As such, effective care coordination and integration in the community, following acute and residential stays are a key strategy for improving health outcomes. Goal 5 estimates the proportion of beneficiaries who received care in the community following an ED visit. Qualitative data specific to care coordination for acute care hospitals (e.g., EDs, short-term inpatient stays) and residential

<sup>99</sup> Bartels SJ (2003). Improving the system of care for older adults with mental illness in the United States: Findings and recommendations for the President's new freedom commission on mental health. *American Journal of Geriatric Psychiatry*, 11, 486–497.

<sup>100</sup> De Hert M, Correll CU, Bobes J, Cetkovich-Bakmas M, Cohen D, Asai I, ... Leucht S (2011a). Physical illness in patients with severe mental disorders. I. Prevalence, impact of medications and disparities in health care. *World Psychiatry*, 10, 52–77.

<sup>101</sup> Bao Y, Casalino LP, & Pincus HA (2013). Behavioral health and health care reform models: Patient-centered medical home, health home, and accountable care organization. *Journal of Behavioral Health Services & Research*, 40, 121–132.

treatment facilities were incorporated to contextualize quantitative findings and assess the impact of short and long-term outcomes associated with Goal 5 (**Section II, Exhibit II.11**).

As stated in **Section I.G**, the PHE (which began in March 2020) has caused substantial changes to state policies, service utilization and provider availability, and will have short- and long-term impacts on Indiana’s health care. Social distancing, prioritization of health care resources, telehealth policy modifications, and workforce capacity have likely affected emergency visit utilization and care coordination for behavioral health care services. Given that both the waiver (2020) and the waiver extension (2021-2023) coincided with the COVID-19 PHE, findings for this time-period likely reflects both the impact of COVID-19 related policy changes and activities as well as demonstration impacts. Consequently, any observed changes should be interpreted with caution as findings may be confounded by the impact of the PHE.

**Exhibit V.70** describes the hypothesis, RQs, outcome measures, data sources, and analytic approach used for the evaluation (2021-2023).

**Exhibit V.70: Goal 5 Research Questions, Outcome Measures, Data Sources, and Analytic Approach**

Hypothesis: The SMI demonstration will result in improved care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities.			
Research Questions	Outcome Measure(s)	Data Sources	Analytic Approach
<p><b>Primary RQ 5.1:</b> Does the SMI demonstration result in improved care coordination for beneficiaries with SMI?</p>	<ul style="list-style-type: none"> <li>Percentage of MH-related ED visits with a follow-up visit (with any provider) and a corresponding diagnosis of MH within 7 and 30 days of discharge</li> <li>Percentage of AOD dependence-related ED visits with a follow-up visit (with any provider) and a corresponding diagnosis of MH within 7 and 30 days of discharge</li> </ul>	<ul style="list-style-type: none"> <li>Claims/encounter data (2018-2023)</li> <li>Enrollment data (2018-2023)</li> </ul>	<ul style="list-style-type: none"> <li>Descriptive quantitative analysis of trends over time during the demonstration</li> <li>Interrupted time series analysis</li> </ul>
<p><b>Primary RQ 5.2:</b> Does the SMI demonstration result in improved continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities?</p>	<ul style="list-style-type: none"> <li>Demonstration activities or their components or characteristics that stakeholders identify as most effective in improving continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities</li> </ul>	<p>KIIs with beneficiaries, state officials, MCEs, providers, and advocacy organizations</p>	<p>Qualitative analysis to identify themes associated with the effectiveness of demonstration activities for improving continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities</p>
<p><b>Subsidiary RQ 5.2b:</b> How do demonstration activities contribute to improved continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities?</p>	<ul style="list-style-type: none"> <li>Obstacles that stakeholders identify as hindering the effectiveness of the demonstration in improving continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities</li> </ul>		

## Quantitative Analysis Approach

*Analytic Population.* Changes in care coordination before and after the waiver extension period were calculated for the SMI beneficiary roster population.<sup>102</sup>

*Metrics.* Claims/encounter data was used to calculate the following:

- ED Visit Follow-up Rates - MH
  - *7-Day Follow-up Rate:* Proportion of visits/discharges (among visits/discharges with a primary diagnosis related to MH during the measurement year) with a follow-up visit with any provider within 7 days of discharge. Metrics referred hereafter as ED-FUM 7-days for ED follow-up.
  - *30-Day Follow-up Rate:* Proportion of visits/discharges (among visits/discharges with a primary diagnosis related to MH during the measurement year) with a follow-up visit with any provider within 30 days of discharge. Metrics referred hereafter as ED-FUM 30-days for ED follow-up.
- ED Visit Follow-up Rates - AOD Dependence (FUA)
  - *7-Day Follow-up Rate:* Proportion of ED discharges (among ED visits with a primary diagnosis related to AOD dependence during the measurement year) with a follow-up visit with any provider within 7 days of discharge. Metrics referred hereafter as ED-FUA 7-days for ED follow-up.
  - *30-Day Follow-up Rate:* Proportion of ED discharges (among ED visits with a primary diagnosis related to AOD dependence during the measurement year) with a follow-up visit with any provider within 30 days of discharge. Metrics referred hereafter as ED-FUA 30-days for ED follow-up.

NCQA measure Follow-Up After ED Visit for Mental Illness (FUM)<sup>103</sup> was adapted for the analytic population to calculate the follow-up rates for this goal. **Attachment D** provides detailed specifications for the development of these measures, and a summary is included in **Exhibit V.71**. Each follow-up rate measure was calculated as:

$$\frac{\text{\# of index visits with follow up visit to any provider within [7 or 30 days]}}{\text{\# of index ED visits related to [MH/AOD dependence]}}$$

<sup>102</sup> The analytic population excludes those who 1) received hospice services at any time during the measurement year, or 2) died during the measurement year.

<sup>103</sup> <https://www.ncqa.org/wp-content/uploads/08.-FUM.pdf>



**Exhibit V.71: Goal 5 Metric Specification Summary**

Metrics	Denominator (D)			Numerator (N)	
	Number of index ED visits in a year among SMI roster beneficiaries with primary diagnosis related to MH/AOD			Number of “D” with a follow-up visit with any provider within:	
	ED visit	MH	AOD	7-days	30-days
ED-FUM 7-days	X	X		X	
ED-FUM 30-days	X	X			X
ED-FUA 7-days	X		X	X	
ED-FUA 30-days	X		X		X

Index ED visits (i.e., “index” refers to a visit included in the denominator which is used to track follow-up visits for the numerator within a specified time-period (7-and 30-days) were counted towards the denominator for each measure if:

1. The visits that occurred between January 1 and December 1 of the measurement year:
  - a. did not have an inpatient admission within 30 days of the ED visit, and
  - b. were on or after the first date in which the beneficiary had a claim/encounter with primary or secondary diagnosis of SMI between 2018 and 2023
2. The beneficiary was enrolled with SMI waiver-eligible Medicaid coverage in the same month as the ED visit,
3. The beneficiary had waiver eligible Medicaid coverage in the 30 days following the ED visit, and
4. The ED visit had a relevant primary diagnosis (MH, alcohol, or other drug dependence).

If a beneficiary had multiple claims/encounters related to an ED visit in a single day, then only “one visit” was counted for the day. In addition, if the beneficiary had more than one eligible ED visit in a 30-day period, the earliest ED visit was counted towards the denominator.

MH-related diagnoses were identified using a combination of value sets, including the HEDIS VSD’s MH Diagnosis and Intentional Self-Harm value sets, as well as the CCSR Suicidal Ideation, Attempt, and Intentional Self-Harm diagnosis category. AOD-related visits were identified using the HEDIS VSD’s Alcohol and Other Drug Abuse and Dependence value sets.

Eligible follow-up visits with a principal diagnosis related to MH (or AOD dependence) within 7 days and 30 days of the index date (i.e., for the measure numerators) were identified using several criteria and included: outpatient visits, IOP encounters or partial hospitalizations, CMHC visits, electroconvulsive therapy, observation visits, telehealth visits, and other virtual visits.

*Analysis Methods.* Annual 7-day and 30-day follow-up rates were calculated to examine trends over time for the analytic population and by key beneficiary characteristics. Beneficiary characteristics included: SMI diagnosis history, sociodemographic characteristics (i.e., gender, age, race, ethnicity, geographic location (metro/non-metro), Medicaid coverage status indicators

(i.e., participation in HIP, and Medicare/Medicaid dually eligibility), and other chronic health conditions.

In addition to comparing trends over time using descriptive analyses, a two-stage ITS analysis was used to examine changes in the 7-day and 30-day follow-up rates before and during the SMI waiver extension period (2021-2023) while adjusting for select available beneficiary sociodemographic, clinical history, and Medicaid enrollment characteristics. For the first stage, a logistic ITS model was used to generate estimated probability of a beneficiary having a qualifying ED visit in a year. For the second stage, a logistic ITS model was used to assess the likelihood of follow-up visits within 7 or 30 days after a qualifying ED visit. This model included controlling factors like the probability of an encounter being a qualifying ED visit, time since waiver implementation, waiver intervention effect and other select beneficiary characteristics. The pre-demonstration (2018 and 2019) was used as a reference period to examine change across the waiver extension (2021 to 2023). The regression models controlled for benefit year as well as beneficiary SMI diagnosis, beneficiary sociodemographic characteristics (including gender, age, race, ethnicity, geographic location [metro or non-metro]), Medicaid enrollment characteristics (i.e., Medicare/Medicaid dually eligible), and selected chronic conditions.

The findings are organized by research questions and relevant outcome measures identified in the logic model for the goal (**Section II**). Based on factors including data availability, only select outcomes were identified in the CMS approved Evaluation Plan. Any outcome that was identified in the logic model but was not included in the Evaluation Plan have been noted in the respective sections.

### **G.1. Does the SMI demonstration result in improved care coordination for beneficiaries with SMI? (Primary RQ 5.1)**

#### ***Follow-up Treatment Post ED Discharge – MH***

Annually, less than 15% of the SMI beneficiary roster population had ED visits with a primary diagnosis related to MH (declining from 12.0% in 2018 to 6.7% in 2023) and on average 10% of the ED visits (between 10.5% in 2018 to 8.9% in 2023) were related to MH (**Attachment E, Exhibit E.54**).<sup>104</sup> Approximately 3.6% of the ED visits (or 37.1% of the ED visits related MH) was identified as the index event to estimate the 7- and 30-day follow-up after ED visit related to MH.

Follow-up rates for 30-day were greater than the 7-day rates (between 40% to 50% higher) across all years. The 7-day rates ranged between 44.3% and 35.6% while the 30-day follow-up rates ranged between 62.4% and 52.4%. Overall, both rates were lower during the waiver extension (2021-2023) relative to pre-demonstration (2018, 2019). Seven-day and 30-day follow-up rates after MH-related ED visits (**Exhibit V.72**) decreased between 2018 and 2019 by 6.7 percentage points and 7.2 percentage points, respectively (from 44.3% to 37.6% and 62.4% to 55.2%). Both rates were slightly higher in 2020 compared to 2019. During the waiver extension

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<sup>104</sup> The counts and rates are slightly different compared to Goal 1 tables for two reasons. Goal 1 analyses was restricted to SMI beneficiary population with at least 10 months of waiver eligible coverage in each year. For Goal 5, the base population for measure calculation was all SMI roster beneficiaries and ED service use was calculated for all ED utilization (after first SMI diagnosis) between 1/1 and 12/1 for each year.

(2021–2023) the rates declined. The 7-day follow-up rate declined by 2.7 percentage points from 38.4% in 2021 to 35.7% in 2022, while the 30-day follow-up rate declined by 1.9 percentage points from 54.6% to 52.7% over the same period. Rates for both the 7-day and 30-day follow-up were similar between 2022 and 2023. Comparing to published national rates, the 7-day and 30-day rates for the waiver population and observed trends were similar to rates of FUM among Medicaid health maintenance organization (HMO).<sup>105</sup>

**Exhibit V.72 Follow-up (with Any Provider) After ED Visits for MH  
(2018 – 2023)<sup>106, 107</sup>**

Year	# of ED Visits for MH (Denominator)	# of ED Visits for MH with 7-Day Follow-up <sup>a</sup> (Numerator)	# of ED Visits for MH with 30-Day Follow-up <sup>b</sup> (Numerator)	7-Day MH ED Follow-up Rate	30-Day MH ED Follow-up Rate
2018	5,570	2,467	3,473	44.3%	62.4%
2019	8,100	3,045	4,474	37.6%	55.2%
2020	8,823	3,615	5,007	41.0%	56.7%
2021	10,408	3,993	5,685	38.4%	54.6%
2022	11,777	4,210	6,212	35.7%	52.7%
2023	11,990	4,273	6,287	35.6%	52.4%

<sup>a</sup> Follow-up visits were visits with any practitioner, with a primary diagnosis of a MH disorder or with a primary diagnosis of suicidal ideation, attempt, and intentional self-harm and any diagnosis of MH.

<sup>b</sup> Updated psychiatric hospital bed data provider data for years 2021 to 2023 were provided by state officials in September 2024. The state provided updated data because of concerns related to data accuracy. Consequently, updated data were used for analyses.

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

Changes in participation and utilization rates over time were also examined using regression-based approaches. These models controlled for member characteristics and time and excluded data from 2020 (**Attachment E, Exhibit E.56**). Findings indicate that although the annual 7-day follow-up rate was lower during waiver extension relative to pre-demonstration, controlling for beneficiary characteristics, the change was not significant (pre/post demonstration effect OR: 0.95, 95% CI: 0.84 – 1.08). The 30-day follow-up rate was significantly different and lower during the waiver extension relative to pre-demonstration (OR: 0.85, 95% CI: 0.75 – 0.97). However, the joint effect of time and the waiver intervention indicates a higher ORs for the waiver extension period (0.17 percentage points higher for 7-day follow-up, and 0.20 percentage points higher for 30-day follow-up rate), suggesting that even though follow-up rates experienced a downward trend, the declining trend slowed during the waiver extension period.

<sup>105</sup> <https://www.ncqa.org/hedis/measures/follow-up-after-emergency-department-visit-for-mental-illness/>

<sup>106</sup> MH-related visits were identified using the primary diagnoses from all claims in the same day as an ED visit. MH-related diagnoses were identified using a combination of value sets, including the VSD’s MH Diagnosis and Intentional Self-Harm value sets, as well as the CCSR Suicidal Ideation, Attempt, and Intentional Self-Harm diagnosis category.

<sup>107</sup> ED visits were calculated after a beneficiary's first SMI diagnosis within the evaluation period. In addition, ED visits were only counted if the beneficiary had (SMI waiver-eligible) Medicaid coverage in the same month as the ED visit service date and during the following 30 days. Only one ED visit was counted per day (e.g., if a beneficiary had multiple ED-related claims in a single day, that day was counted as one "visit").

*Follow-Up Rates by Sociodemographic Subgroups.* 7-day and 30-day follow-up rates MH-related ED visits for most sociodemographic subgroups (**Attachment E, Exhibit E.55**) followed similar patterns as the annual averages (discussed above). Notable findings include:

- On average, female beneficiaries had higher 30-day follow-up rates (ranging between 3.5 and 6.8 percentage point higher) compared to male beneficiaries consistently across the years (2018: 64.4% compared to 60.0%, 2023: 55.5% compared to 48.7%; OR for male relative to female: 0.78 [95% CI: 0.74 - 0.81]).
- Beneficiaries who are dually eligible for Medicare and Medicaid had higher 7-day (between 8.9 and 5.5 percentage points annually; OR: 1.29, 95% CI: 1.23 – 1.36) and 30-day (between 12.7 and 6.2 percentage points annually; OR: 1.40, 95% CI: 1.33 - 1.47) follow-up rates compared to those who were not dually eligible.
- Follow-up rates were marginally lower for beneficiaries residing in counties identified as metro areas relative to others. During the waiver extension, the 7-day follow-up was slightly higher among those residing in metro areas (although not statistically significant) while slightly higher for those residing in non-metropolitan areas (with OR: 0.99, 95% CI: 0.95-1.03). The 30-day follow-up was marginally higher during the waiver extension (with OR: 0.96, 95% CI: 0.92-1.00).
- Beneficiaries with more chronic conditions, specifically beneficiaries with diabetes and metabolic conditions had higher rates of 7-day and 30-day follow-up rates compared to those without the respective condition.

#### *Follow-up Treatment Post ED Discharge –AOD*

Annually, less than 4% of the SMI beneficiary roster population had ED visits with primary diagnosis related to AOD (ranging between 3.7% and 2.7%) while less than 5% of the ED visits were related to AOD (**Attachment E, Exhibit E.59**). For examining follow-rates after an ED visit related to AOD, approximately 3.9% of all ED visits (or 46% of the ED visits related to AOD) was identified as the index event.<sup>108</sup>

Follow-up rates within 30-days were greater than the 7-day rates (on average 55% higher) across all years. Overall, both rates were lower compared to the follow-up rates after ED visit related to MH (compare **Exhibits V.72** and **V.73**); the 7-day rates ranged between 12.2% and 18.2% while the 30-day follow-up rates ranged between 19.3% and 28.2%. Follow-up rates after ED visit related to AOD were higher during the waiver extension (2021-2023) relative to pre-demonstration (2018, 2019). Between 2018 and 2023, the 7-day follow-up rate increased from 12.6% to 18.2%, while the 30-day follow-up rate increased from 19.3% to 28.2%. Comparing to published national rates, the 7-day and 30-day rates for the waiver population and observed trends were similar to rates of follow-up after ED visits for substance use among Medicaid HMO.<sup>109</sup>

<sup>108</sup> Had primary diagnosis of AOD, did not have inpatient admission within 30 days, beneficiary had waiver eligible Medicaid coverage in the month of ED visit and in the next 30 days, beneficiary did not receive hospice care or deceased in the measurement year.

<sup>109</sup> <https://www.ncqa.org/hedis/measures/follow-up-after-emergency-department-visit-for-substance-use/>

**Exhibit V.73: Follow-up (with Any Provider) After ED Visits for AOD (2018 – 2023)<sup>110,107</sup>**

Year	# of ED Visits for AOD (Denominator)	# of ED Visits with 7-Day Follow-up <sup>a</sup> (Numerator)	# of ED Visits with 30-Day Follow-up <sup>b</sup> (Numerator)	7-Day AOD ED Follow-up Rate	30-Day AOD ED Follow-up Rate
2018	1,972	249	381	12.6%	19.3%
2019	3,468	422	726	12.2%	20.9%
2020	4,660	773	1,194	16.6%	25.6%
2021	5,965	995	1,527	16.7%	25.6%
2022	6,137	1,037	1,515	16.9%	24.7%
2023	6,166	1,125	1,739	18.2%	28.2%

<sup>a</sup> Follow-up visits were visits with any practitioner, with a primary diagnosis of AOD.

<sup>b</sup> [https://provider.indianamedicaid.com/ihcp/Publications/providerCodes/Telehealth\\_Services\\_Codes.pdf](https://provider.indianamedicaid.com/ihcp/Publications/providerCodes/Telehealth_Services_Codes.pdf)

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

Changes in the follow-up rates over time were also examined using regression-based approaches. These models controlled for member characteristics and time and excluded data from 2020 (**Attachment E, Exhibit E.62**). Findings indicate that although the annual follow-up rates were higher during waiver extension relative to pre-demonstration, controlling for beneficiary characteristics, the change was not significant (pre/post demonstration effect OR: 1.05, 95% CI: 0.82 – 1.34 for 7-day rates, OR: 1.01, 95% CI: 0.82 – 1.25 for 30-day rates).<sup>111</sup> The 30-day follow-up rate was higher during the waiver extension relative to pre-demonstration, but the difference was not significant (OR: 1.01 95% CI: 0.82 – 1.25) when other factors were controlled in the regression model. The joint effect of time and the waiver intervention indicates marginally significant positive effect for the 7-day follow-up rate, suggesting that 7-day follow-up rates experience an increasing trend during the waiver extension period.

*Follow-Up Rates by Sociodemographic Subgroups.* 7-day and 30-day follow-up rates for AOD related ED visits for most sociodemographic subgroups (**Attachment E, Exhibit E.60**) followed similar patterns as the annual averages (discussed above). Some findings include:

- On average male beneficiaries had slightly higher 30-day follow-up rates (between 2.7 and 6.0 percentage points, marginally significant with OR: 1.09 [95% CI: 1.00-1.19]) and a greater increase between 2018 and 2023 compared to female beneficiaries (male: 11.4 percentage points increase from 18.2% in 2018 to 29.5% in 2023; female: 5.4 percentage point increase from 21.0% in 2018 to 26.4% in 2023).
- Beneficiaries ages 31 to 40 and ages 41 to 50 had the largest increase in 30-day follow-up (by 10.7 and 10.4 percentage points respectively) between 2018 and 2023 and the highest likelihood to have follow-up compared to the other age groups.
- 7-day and 30-day follow-up rates for AOD-related ED were considerably higher among White/Caucasian beneficiaries (7-day rates: 14.9% - 19.7% 30-day rates: 21.9% - 31.2%) compared to beneficiaries in other racial groups (e.g., for Black beneficiaries the 7- and 30-day rates ranged between 10.4%-14.1% and 15.6% to 19.9%) across all years.

<sup>110</sup> AOD-related ED visits were identified using the primary diagnosis of AOD from all claims in the same day as an ED visit. AOD diagnoses were identified using the HEDIS VSD’s Alcohol or Other Drug value sets.

<sup>111</sup> The joint effect of time and the waiver intervention was marginally significant with positive effect on 7-day follow-up rates.

- Beneficiaries who are dually eligible for Medicare and Medicaid generally had lower 7-day (OR: 0.75, 95% CI: 0.65 – 0.87) and 30-day (OR: 0.72, 95% CI: 0.64 – 0.82) follow-up rates compared to those who were not dually eligible.
- The follow-up rates for beneficiaries residing in counties identified as non-metropolitan areas were on average lower (OR: 1.11, 95% CI: 1.01 – 1.21 for 7-day follow-up, OR: 1.10, 95% CI: 1.02 – 1.19 for 30-day follow-up). But the rates increased more (by 11.9 percentage points from 15.9% in 2018 to 27.8% in 2023) for beneficiaries residing in non-metro areas relative to those residing in counties identified as metro areas (by 8.3 percentage points from 20.0% in 2018 to 28.3% in 2023).
- Beneficiaries with co-occurring SMI diagnoses experienced the largest increases in their 7-day follow-up rate for AOD-related ED visits between 2018 and 2023 (by 6.9 percentage points, compared to 1.8 to 4.3 percentage points among the other groups), as well as their 30-day ED follow-up rate (an increase of 11.0 percentage points, compared to 2.5 to 6.8 percentage points among the other SMI diagnosis groups). Beneficiaries with MDD only or co-occurring diagnoses tended to have the highest ED follow-up rates in each year compared to beneficiaries with bipolar disorder only or schizophrenia only.
- ED follow-up rates tended to increase with number of chronic conditions. Beginning in 2021, beneficiaries with hypertension, metabolic disease, and infectious disease had somewhat higher 7-day and 30-day follow-up rates for AOD-related ED visits compared to those without their respective diagnoses.

#### *Medication Continuation Following Discharge from Acute Inpatient or RMHT*

The Evaluation Plan for this demonstration does not include assessing this short-term outcome. Refer to compiled discussion from KIIs in **Section V.D.4** (i.e., results related to Goal 2: RQ 2.2: How do demonstration activities contribute to reductions in preventable readmissions to acute-care hospitals and residential settings?) for information relevant to this outcome.

#### **G.2. Does the SMI demonstration result in improved continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities? (Primary RQ 5.2)**

##### *Increased Availability and Access to Community-Based MH*

*Provider Capacity.* Findings from the 2020 Summative Report and MPA<sup>8</sup> highlighted limited provider capacity as an overarching system challenge and specified its' negative impact on care planning and coordination. Most MCEs interviewed in 2023 reported that staffing challenges (e.g., large caseloads, provider shortages, lengthy appointment wait times) continued to impact facilities providing care to SMI beneficiaries and emphasized difficulties with care coordination and connecting beneficiaries to community-based care.

##### *Care Transitions*

*Discharge Planning and Case Management.* The IAC (440 IAC 1.5-3-10) outlines minimum requirements for discharge planning. Hospitals are required to initiate discharge planning at admission that facilitates the provision of follow-up care and transfers or refers consumers to appropriate facilities, agencies, or outpatient services for follow-up or ancillary care.

Additionally, in accordance with the Indiana Medicaid Medical Policy Manual, all plans of care must document a post-discharge plan and a plan for coordination of inpatient services with partial discharge plans, including appropriate services in the member's community to ensure continuity of care when the patient returns to his or her family and community upon discharge. CMHCs are required, as codified in IAC (440 IAC 9-2-4), to be involved in the planning of treatment for and the discharge of consumers during the time a consumer is in inpatient care, to maintain continuity of care. CMHCs are also required, in accordance with IAC 440 IAC 9-2-10, as a component of case management, to provide advocacy and referrals including helping individuals access entitlement and other services, such as Medicaid, housing, food stamps, educational services, recovery groups, and vocational services.

MCEs are required to provide case management services for any member at risk for or discharged from an inpatient psychiatric or SUD hospitalization, and to beneficiaries discharged from an inpatient psychiatric or SUD hospitalization for no fewer than 90 calendar days following discharge. Given these requirements, it was not surprising that all MCEs confirmed providing case management services during CY2021, CY2022, and CY2023 to all beneficiaries discharged from an inpatient psychiatric or substance abuse hospitalization. Findings from the MPA indicated that MCEs offered the following case management services (available for at least 90 calendar days post discharge):

- Outreach to beneficiaries while in an inpatient facility.
- Comprehensive assessments and screening for other conditions, which supported development of care plans for the member upon discharge.
- Coordination with the member's PCP and behavioral health provider upon member discharge.
- Peer engagement.

One MCE interviewed in 2024 credited the *Giva medical management system* for automating referrals and promoting consistent case management between 2021 and 2023. One state official interviewed in 2024 emphasized the importance of case management in preventing readmissions and noted how the state has facilitated conversations between MCEs and providers to identify areas of improvement.

*Care Coordination Policies.* MCEs are responsible for ensuring enrollees access follow-up care post-discharge. In fact, MCEs are required to schedule an outpatient follow-up appointment to occur no later than seven calendar days following an inpatient behavioral health hospitalization discharge. If a member misses an outpatient follow-up appointment, the MCEs must ensure that a behavioral health provider or the MC's case manager contacts the member within three business days of notification of the missed appointment. Additionally, Indiana Medicaid provides coverage for bridge appointments, which are follow-up appointments after inpatient hospitalization for behavioral health issues, when no outpatient appointment is available within seven days of discharge. Findings from the MPA confirmed that MCEs contact beneficiaries within three business days of a missed appointment and use workflows to ensure this outreach happens, followed by specific protocols to re-engage the member. Overall, MCEs interviewed in 2023 believed that reaching out within 3 days is helpful to improving community care.

Interviews conducted in 2024 did not focus on care coordination policies. Providers interviewed in 2024 noted that relationships with MCEs progressed throughout the waiver extension, consequently improving care coordination. One provider noted that the CCBHC ACT teams (which will be implemented as part of the CCBHC model) is another strategy that will increase care coordination and support beneficiaries with SMI.

*Care Transition Services.* Findings from the MPA articulated that inpatient and CMHC case managers provide a myriad of services (i.e., housing services, skills development, appointment coordination, and referrals) delivered by certified recovery specialists or individual with at minimum an associate or bachelor level degree. Of the three inpatient providers interviewed in 2023, two indicated that CMHCs were not involved in SMI member treatment planning and the discharge process. One CMHC assisted beneficiaries with accessing supportive housing services including determining eligibility. Another CMHC assisted with connecting beneficiaries to nutritional support, PH education via an evidence-based practice called “In-Shape,” and accessing vocational services. Advocacy organizations interviewed in 2023 reinforced the importance of providing case management services following inpatient discharge and noted several improvements that if executed may benefit SMI beneficiaries. Improvements included:

- Focusing on individualized processes (employment support, housing, connection to VR, food security, etc.).
- CMHCs increasing capacity to better serve beneficiaries with SMI.
- Decreasing case manager workload to ensure quality interactions and ability to devote undivided attention to SMI beneficiaries.

*Housing Insecurity.* Two MCEs interviewed in 2024 emphasized housing insecurity as a key challenge for transitioning care from inpatient facilities to other levels of care. For example, one MCE noted that many group homes have closed during the PHE, yielding fewer options with longer wait lists. Consequently, beneficiaries experience increased LOS, as they await placement in a group home. Most providers (n = 6) and advocacy organizations (n = 5) interviewed in 2024 concurred that housing is a key challenge for SMI beneficiaries, with four providers and two advocacy organizations noting that housing insecurity has increased over time. Advocacy organizations highlighted state preemption of local housing laws and tenant protections as primary contributors to housing insecurity. Additionally, advocacy organizations emphasized that landlords frequently perceive individuals with SMI negatively, misinterpreting an individual’s interpersonal communication style or inappropriate behavior as contentious. Consequently, individuals with SMI are at risk for eviction.

Providers identified several strategies to combat housing insecurity including using grants (e.g., United States Department of Housing and Urban Development, Supportive Housing), facilitating group homes, and engaging with community partnerships and resources (e.g., Housing First, Lafayette Transitional Housing Center). Additionally, state officials identified several ongoing initiatives including:

- **Projects for Assistance in Transition from Homelessness (PATH).** The PATH program is a federally funded, supplemental housing program with a focus on individuals (18+) with SMI/SUD who are also chronically unhoused or at imminent risk of being unhoused. Services provided through the PATH program include outreach; habilitation/rehabilitation; case management services; enrollment in Supplemental



Security Income (SSI)/SSDI through SSI/SSDI Outreach, Assess, and Recovery (SOAR); and trainings. The PATH program includes 10 funded providers across the state.

- **Low-Barrier Shelters.** Low-barrier shelters serve individuals with SMI by limiting requirements for entry (e.g., sobriety, strict curfews). Funded by ARPA (October 1, 2022 - December 31, 2026), two agencies in Indiana (Our Lady of the Road and Mental Health America of West Center Indiana) operate low-barrier shelters.
- **Indiana PathWays for Aging.** The “PathWays for Aging” program will launch in 2024 and target housing security among Indiana residents aged 60 and over who receive Medicaid (or Medicaid and Medicare) benefits.
- **Indiana Council of Community Mental Health Centers, Inc. (ICCMHC).** ICCMHC works directly with CMHCs<sup>112</sup> to support group home renovations and repairs. ICCMHC assists with acquisition and renovations of existing structures, additions to existing homes, or building new facilities (state funding: July 1, 2023 - June 30, 2026).
- **Indiana Housing & Community Development Authority (IHCDA).** IHCDA provides supportive services such as, outreach, case management, tenancy supports, employment assistance and job training, MH and SUD treatment services, insurance application assistance, life skills training, legal service referrals, and SOAR (ARPA Block Grant funding: September 1, 2021 - September 30, 2025).

Providers and advocacy organizations identified additional opportunities for the state to pursue to reduce housing insecurity including:

- Increase funding for supportive housing, housing development, short-term rentals, or corporate owned housing.
- Expand the number of group homes or fund per diems for supervised group living.
- Intervene with landlords on behalf of the SMI population.
- Add additional pathways for transitional housing.

Additional challenges noted by MCEs for transitioning care from inpatient to the community include the member’s lack of an established PCP, insufficient support from inpatient facilities, inaccurate patient contact information, and food insecurity.

*Care Transition Experience.* Beneficiaries interviewed in 2024 that received care in acute inpatient or residential services during the waiver extension (2021-2023) reflected on their experience with care coordination.

- *ED Services:* Approximately half of beneficiaries (52%; 13/25) reported visiting the ED between 2021 and 2023. Of those interviewees who received care in the ED (n=13), less than half (38%, n = 5) indicated that a professional helped coordinate care upon discharge. Despite this finding, 64% (n=8) reported being satisfied (i.e., very satisfied or somewhat satisfied) and four out of the five interviewees who received care coordination indicated that it was helpful.

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<sup>112</sup> CMHCs operate 56 group homes in the state of Indiana.

- Inpatient Services:** Almost half of beneficiaries (48%; n = 12/25) had at least one inpatient stay between 2021 and 2023, with 25% (n = 3) reporting 3 or more inpatient stays. Despite efforts of MCEs to ensure continuity of care, only half of interviewees who reported an inpatient stay (50%; n = 6/12) indicated that they received care coordination support from a health care professional during discharge. Although about half of the interviewees (58%, n = 7/12) were satisfied (i.e., very satisfied, somewhat satisfied), 17% (n = 2) indicated dissatisfaction.
- Residential Services:** 20% of beneficiaries (n=4) had at least one stay in a residential setting between 2021 and 2023. LOS ranged from less than one month to seven months. Of the beneficiaries that utilized residential services during the time frame (n=4), satisfaction varied: 1 indicated they were very satisfied with their MH or SUD treatment in the residential setting, 1 beneficiary noted they were somewhat satisfied, and 2 indicated they were very dissatisfied. Interviewees noted that the facilities could be improved, that the experience was stressful, and felt infantilized. Of the four individuals who received residential treatment, one indicated that they received care coordination.

Consistent with findings from the Summative Report, most MCEs interviewed in 2024 stated that the PHE impacted care coordination for individuals with SMI, noting observations such as provider shortages, facility shutdowns, and patient hesitancy for attending in-person appointments.

*Improved Data Sharing System, Processes, or Policies that Support Care Coordination*

Indiana accomplished several HIT action items focused on improving data sharing and interoperability. **Exhibit V.74** provides a summary of the HIT action items completed to date as well as actions in progress through the demonstration time-period (i.e., through 2025).

**Exhibit V.74: Indiana SMI Demonstration Implementation Plan Status of HIT Action Items Completed**

HIT Implementation Actions	Actions In Progress/Completed
Drive improvements for increased electronic documentation and standardization among settings and providers not previously addressed through MU, including behavioral health.	FSSA continues to work toward achievement of the HIT for Economic and Clinical Health goals and objectives under the Medicaid MU.

HIT Implementation Actions	Actions In Progress/Completed
<p>Update the broader State Medicaid HIT Plan and align areas of prioritization with waiver milestones as appropriate.</p>	<p>The Implementation Advance Planning Document and SMHP progress on initiatives include:</p> <ul style="list-style-type: none"> <li>Continued administration and expansion of HIT- Enabled Community-Wide Approach to Opioid Treatment and the Quality Care for Indiana Medicaid Long-Term Care Patients.</li> <li>Completed an HIE Assessment/Maturity Model analysis to establish current and target HIE states.</li> <li>Continued collaboration with Purdue Healthcare Advisors at Purdue University to guide Medicaid eligible, Indiana health care providers toward the promoting interoperability standards associated with EHR systems.</li> <li>Continued collaboration with the Indiana DOC to implement HIE and enhance coordination of care for offenders entering and exiting the correction system for the health and success of the person, decreasing duplication of services, and creating efficiency with the Medicaid MCEs.</li> </ul>
<p>Review the applicability of standards referenced in the ISA and 45 CFR 170 Subpart B for potential inclusion into our managed care organization (MCO) contracts.</p>	<p>The following interoperability standards are included in the MCO contracts: 42 CFR 438.242, 42 CFR 457.1233; 42 CFR 457.760, 42 CFR 438.62, and 42 CFR 438.10, 42 CFR 438.242(b)(5) and 42 CFR 457.1233(d)(2), 42 CFR 438.242(b)(3)(i)-(iii).</p>
<p>Conduct a provider survey to identify the volume of providers utilizing closed loop referrals and e-referrals.</p>	<p>Information for this action item is not currently available.</p>
<p>Determine required steps and timeline for compliance with the CMS Interoperability and Patient Access Final Rule.<sup>113</sup></p>	<p>Implementation of Patient Access and Provider Directory Application Programming Interface for FFS per the CMS Interoperability and Patient Access Final Rule was completed in 2022. The state will include any remaining requirements from the interoperability and patient access final rule in the next contract amendments.</p>
<p>Submit the health homes SPA which will include leveraging HIT for enhanced integration and coordination.</p>	<p>Although the health homes SPA was suspended indefinitely, the state is leveraging HIT for enhanced integration and coordination via the CCBHC initiative. For example, DMHA collaborated with the Indiana Council of CMHCs to independently review business requirements of the Population Health Management Platform in the context of CCBHC and has aligned the platform with the updated CCBHC clinic and state required quality measures.</p>
<p>Survey IMDs to identify the baseline of current activities to identify options for increasing IMD activity in this area.</p>	<p>Information for this action item is not currently available.</p>
<p>Modernize the EHR system used collectively by all state psychiatric hospitals.</p>	<p>Adopted Cerner’s Information Technology platform to improve Indiana’s network of state psychiatric hospitals and connect other MH providers in the state. Initiated interface development and implementation across the six state psychiatric hospitals in 2021.</p>

<sup>113</sup> The CMS Interoperability and Patient Access final rule is intended to move the health care ecosystem in the direction of interoperability by improving the quality and accessibility of information that patients need in order to make informed health care decisions, including data about health care prices and outcomes, while minimizing reporting burdens on impacted providers and payers.  
<https://www.federalregister.gov/documents/2020/05/01/2020-05050/medicare-and-medicaid-programs-patient-protection-and-affordable-care-act-interoperability-and>

HIT Implementation Actions	Actions In Progress/Completed
Continued operation of managing consent/privacy in a multitude of mechanisms across the Medicaid Health Information Sharing Enterprise.	Information for this action item is not currently available.
Continued utilization of the Relias ProAct Tool.	Information for this action item is not currently available.
Continued operation of the Extension for Community Healthcare Outcomes.	Continued to progress

MCEs interviewed in 2024 noted several challenges specific to data sharing including misinformation among providers regarding sharing privileged information with MCEs, limited interoperability, and availability of updated information. For example, one MCE stated that information specific to bed availability is often missing since IMDs do not use IHIE. State officials described several ongoing efforts for improving data sharing.

- Implementation of a pilot program to examine the feasibility, acceptability, and utility of a software package that integrates crisis service data and Medicaid claims to assess population health. The pilot program will target CMHCs.
- Continued efforts to build out more effective data programs, including the ability to batch upload Comma Separate Values (CSV) files.
- Software program updates for CCBHCs to facilitate record sharing and generate data dashboards for informing insights.

**G.3. How do demonstration activities contribute to improved continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities? (Subsidiary RQ 5.2b)**

Findings for this RQ were incorporated into RQ 5.2 (Does the SMI demonstration result in improved continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities?). Please refer to **Section V.G.2.**

**G.4. Findings and Recommendations**

This section provides a summary of the findings by short and long-term outcomes identified in the Goal 5 logic model. Summaries integrate quantitative and qualitative (when appropriate) to provide evidence in support of the hypothesis. Recommendations for additional actions or data are also listed.

<p><b>Hypothesis</b></p> <p>The SMI demonstration will result in improved care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities.</p>
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**Follow-up Treatment Post ED Discharge – MH and AOD**

Quantitative findings indicate that follow-up rates for beneficiaries with an ED visit related to MH declined over time (7-day: 44.3% - 35.6%; 30-day: 62.4% - 52.4%). In 2023, approximately one third of beneficiaries visited a provider within 7-days while half visited a provider within 30-days. Although follow-up rates for beneficiaries with an ED visit related to AOD dependence increased over time, less than one-fifth of beneficiaries visited a provider within 7-days and less than one third visited a provider within 30 days. Among beneficiaries interviewed in 2024,

approximately half of beneficiaries (52%; 13/25) reported visiting the ED between 2021 and 2023. Of those interviewees who received care in the ED (n=13), less than half (38%, n = 5) indicated that a professional helped coordinate care upon discharge.

Consistent with findings from the Summative Report, most MCEs stated that the PHE impacted care coordination for individuals with SMI, noting observations such as provider shortages, facility shutdowns, and patient hesitancy for attending in-person appointments. Although the state has implemented several actions to improve care coordination (discussed in **Sections V.C.4, V.F, V.G.2**), findings suggest the need for additional efforts which focus on care coordination for following ED visits related to MH or AOD.

### *Increased Availability and Access to Treatment Providers*

Findings from the 2020 Summative Report and MPA highlighted limited provider capacity as an overarching system challenge and specified its' negative impact on care planning and coordination. Most MCEs interviewed in 2023 reported that staffing challenges (e.g., large caseloads, provider shortages, lengthy appointment wait times) continued to impact facilities providing care to SMI beneficiaries and emphasized difficulties with care coordination and connecting beneficiaries to community-based care. State efforts to bolster workforce capacity are described in goal four and was a priority for Indiana throughout the waiver extension.

### *Care Transitions*

Qualitative findings confirmed that discharge planning during inpatient stays, case management, care coordination policies, and care transition services were provided by MCEs throughout the waiver extension. Despite MCE care coordination efforts, only half of beneficiaries (interviewed in 2024) who reported ED, inpatient or residential stays during the waiver extension indicated that they received care coordination services. MCEs noted several challenges for transitioning care from inpatient to the community including the member's lack of an established PCP, insufficient support from inpatient facilities, inaccurate patient contact information, and food insecurity. MCEs, providers, and advocacy organizations interviewed in 2024 emphasized housing insecurity as a key challenge for transitioning care from inpatient facilities to other levels of care. Interviewees noted that housing insecurity has declined over time as a result of limited funding, fewer group homes (especially after the PHE), and state preemption of local housing laws and tenant protections. Providers and state officials are actively implementing strategies to reduce housing insecurity.

### *Improved Data Sharing System, Processes, or Policies that Support Care Coordination*

Indiana accomplished several HIT action items focused on improving data sharing and interoperability. MCEs interviewed in 2024 noted several challenges specific to data sharing including: misinformation among providers regarding sharing privileged information with MCEs; limited interoperability; and availability of updated information. State officials described several efforts for improving data sharing.

### *Recommendations*

- Identify and implement strategies for increasing care coordination and supporting care transition

- Build provider capacity, specific to care coordination across the SOC as well as strengthening relationships and workflows between community providers, EDs and inpatient facilities.
- Continue to implement strategies to reduce housing insecurities.
- Continue to build out more effective data programs to compile and share relevant (real-time) information for care coordination.

## **H. Impact of Demonstration on Health Care Spending**

As stated previously, Milliman, Inc. (the State’s actuary) conducts budget neutrality assessments as part of the SMI monitoring protocol. In addition to budget neutrality assessments, Milliman performed the required Interim Report cost analyses to assess the impact of the demonstration on health care spending. Refer to **Attachment G** for findings related to the impact of the demonstration on health care spending.<sup>114</sup>

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<sup>114</sup> Cost analyses (Results – Section H: Impact of the Demonstration on Health Care Spending) was drafted as a separate attachment rather than integrated into the body of the report. FSSA received approval from CMS (September 16, 2024) to produce Results – Section H as a separate attachment.

## **VI. Conclusions**

The SMI demonstration aligns with FSSA’s aim to ensure a comprehensive continuum of behavioral health services. In this effort, the evaluation was designed to assess the impact of five overarching and interrelated goals. Demonstration Goals focus on reducing ED utilization and preventing inpatient (e.g., acute care hospitals, residential settings) readmission for SMI populations (Goals 1 and 2) by expanding crisis stabilization services, increasing access to community-based MH services, and improving care coordination with special emphasis on continuity of care in the community (Goals 3, 4, and 5). Each Goal is linked to key demonstration activities.

The Interim evaluation examines the state’s effectiveness of achieving their demonstration goals during the waiver extension (2021-2023). The waiver extension coincided with COVID-19 PHE which caused substantial changes to Medicaid policies, service utilization, and provider availability. Given the timing of the PHE, the state shifted many of the planned implementation action items to accommodate access to and delivery of high-quality MH services for all Indiana residents, particularly given the social distancing and health care resource prioritization required in response to the PHE. Subsequently, progress for achieving demonstration goals was impacted by COVID-19 related policy changes and activities.

In general, the state is on track for achieving their demonstration goals. Findings illustrate overall declines in all-cause ED participation and utilization rates as well as all-cause unplanned 30-day readmission rates between 2018 and 2023 for the SMI beneficiary population and select population subgroups. Additionally, findings indicate an increase in the availability of crisis stabilization services as well as several community-based provider types (e.g., CMHC satellite clinics, FQHCs). However, provider capacity, particularly those providers coordinating care were strained during the PHE, impacting access and care availability (which underpins each goal). Although state investments in workforce expansion, care coordination processes, and infrastructure are a state priority, time is needed for effects to be realized. Opportunities for continued improvement in capacity building, care integration, and care coordination that reach Indiana residents across the state will be important for demonstration goals to be fully achieved.

## VII. Interpretations, Policy Implications, and Interactions with Other State Initiatives

Indiana's §1115 waiver amendment enabled the state to reimburse acute inpatient stays in IMDs for individuals diagnosed with a SMI. The §1115 waiver amendment is part of broader efforts within the FSSA to ensure a comprehensive continuum of behavioral health services for Indiana residents. In this effort, the demonstration focused on reducing ED utilization and preventing inpatient readmission for SMI populations (Goals 1 and 2) by expanding crisis stabilization services, increasing access to community-based MH services, and improving care coordination with special emphasis on continuity of care in the community (Goals 3, 4, and 5). As stated throughout this report, the waiver extension (2021-2023) coincided with the PHE, which began in March 2020. The PHE caused substantial changes to Medicaid policies, service utilization and provider availability, and will have short- and long-term impacts on Indiana's health care system and specialized populations, such as SMI. Given the need to accommodate access to and delivery of high-quality MH services for all Indiana residents, particularly given the social distancing and health care resource prioritization required in response to the PHE, the state implemented the following initiatives in addition to those activities outlined in the SMI Implementation Plan to improve overall service delivery for Medicaid beneficiaries:

- **Telehealth.** Effective March 1, 2020 an executive order authorized the OMPP to expand the use of telehealth. Unsurprisingly, these changes in policy led to an increase in the number of Medicaid claims billed for telehealth services. The majority of these claims were submitted by behavioral health providers (60%) for services, such as group or individual psychotherapy. Findings from the Summative Report and MPA acknowledged that telehealth is a suitable alternative for SMI beneficiaries who have difficulties accessing transportation or live in areas with high wait times for MH providers. State officials, MCEs, and advocacy organizations interviewed in 2024 reaffirmed telehealth's impact on care access (particularly for behavioral health) and noted the innovation as a contributing factor for reducing overall re-admission rates.
- **MH Workforce Capacity.** Starting in 2020, FSSA has invested in several efforts (e.g., enrollment of mid-level providers; diversifying the provider pool by including peers, small MH organizations, grassroots community organizations, and OBHPs; workforce development and sustainment programs) to improve provider capacity and identify actions that will further close the gap between demand and supply. Interviewees were optimistic about reintroducing efforts to increase integration of behavioral health and primary care once the supply of providers was adequate and stabilized. Additionally, effective July 1, 2019, in accordance with CMS approval of SPA TN 18-012, Indiana Medicaid expanded crisis intervention services IOP program services and peer recovery services to all Indiana Medicaid programs. This change expanded the available provider base from Indiana's CMHCs to all Medicaid enrolled providers meeting the applicable criteria. Providers interviewed in 2024 noted several strategies for recruitment and maintaining staff including: used professional websites (e.g. LinkedIn, Indeed) to post provider opportunities; increased pay for hard to fill positions; partnered with universities to expand recruitment of bachelor level or higher providers; and expanded staff specific trainings.
- **Stigma Reduction.** Although the IN SMI Implementation Plan did not highlight action items focused on stigma reduction, the state has prioritized stigma reduction initiatives as an overarching strategy to encourage Indiana residents (rather than SMI beneficiaries) to



engage in treatment. Several stigma reduction initiatives were started in the fall of 2022 and ended in the fall of 2023. These initiatives were initially constructed for broader populations between 9/2022 and 2/2023) and narrowed to SMI populations between 3/2023 and 9/2023.

Progress for achieving demonstration goals was impacted by COVID-19 related policy changes and activities.<sup>115</sup> Therefore, findings likely reflect both the impact of these COVID-19 related policy changes and activities as well as demonstration impacts. Moreover, many implementation activities were delayed and although completed during the waiver extension may not have had sufficient time to result in a detectable effect. Additionally, increased access and care availability (which underpins each goal) is dependent on several factors including a robust workforce, infrastructure, and seamless care coordination processes (e.g., availability of beds, data sharing software, care management protocols, relationships between providers) and can be slow to evolve (even more so in the context of a pandemic) to reach the level of saturation needed to impact statewide capacity, utilization, and readmission outcomes. Thus, such factors should be considered when interpreting the findings of this Interim evaluation. Key take-aways for each Goal are summarized below:

- **Reducing ED Utilization and Improving Care Coordination (Goals 1 & 5).**  
Quantitative findings illustrate overall declines in all-cause ED participation and utilization rates between 2018 and 2023 for the SMI beneficiary population and select population subgroups examined. Additionally, findings also indicated declines in MH-related ED participation and utilization rates over time. Follow-up rates for beneficiaries with an ED visit related to MH, however, also declined over time. For example, in 2023, approximately one third of beneficiaries visited a provider within 7-days while half visited a provider within 30-days. Declines in ED participation and utilization may be due to several direct or indirect factors related to the waiver. For example, state investments in crisis stabilization services and increases in community-based services (including telehealth) were implemented during the waiver extension period to better service Indiana residents in crisis and divert them from the ED. Additionally, policies enacted during the waiver extension, such as the Senate Enrolled Act 1006 and Senate Enrolled Act 1 focused on strategies to reduce ED utilization. Although ED utilization trends are positive, findings at this time cannot be corroborated (i.e., crisis service utilization data was not available to assess if individuals were using these services at an increased rate) to suggest associations or direct relationships. Additionally, the COVID-19 PHE may also have contributed to ED participation and utilization rate declines as well as follow-up declines. Consistent with findings from the Summative Report, most MCEs stated that the PHE impacted care coordination for individuals with SMI, noting observations such as provider shortages, facility shutdowns, and patient hesitancy for attending in-person appointments. Although the state has implemented several actions to improve care coordination, findings suggest the need for additional efforts which focus on care coordination following ED visits.
- **Reducing Readmission and Improving Care Coordination (Goals 2 & 5).**  
Quantitative findings indicate that the proportion of MH-related acute inpatient or observational stays with an all-cause, unplanned readmission within 30 days remained

<sup>115</sup> Indiana 1115(a) Demonstration Evaluation Summative Report (<https://secure.in.gov/fssa/hip/files/IN-SMI-Summative-Evaluation-Report.pdf>)

relatively stable for the overall population and for most population subgroups during the waiver extension (2021-2023). Qualitative findings confirmed that discharge planning during inpatient stays, case management, care coordination policies, and care transition services were provided by MCEs throughout the waiver extension. Despite MCE care coordination efforts, only half of beneficiaries (interviewed in 2024) who reported inpatient or residential stays during the waiver extension indicated that they received care coordination services. MCEs noted several challenges for transitioning care from inpatient to the community including the member's lack of an established PCP, insufficient support from inpatient facilities, inaccurate patient contact information, housing insecurity, and food insecurity. Continued focus on actions specific to improve care coordination from inpatient to the community should be considered.

- **Improving Availability of Crisis Stabilization Services (Goal 3).** Since the initial waiver (2020), the state has increased both the number of Medicaid beneficiaries receiving crisis services as well as the number of crisis stabilization services (including CSUs and MCUs/MRSS). Additionally, the state has implemented the 988 Indiana Crisis and Suicide Lifeline and expanded the number of CMHC satellite sites and CCBHCs. Despite these positive findings, crisis stabilization services remain limited across Indiana with the largest gaps in the southwestern and western part of the state (particularly in rural counties). Increasing availability and access to crisis stabilization services across the state is a multi-year strategy, and state officials noted continued action in 2024. As crisis stabilization services are implemented, state efforts to monitor ED diversion and ensure sustainment will be important to support goal achievement.
- **Improving availability and access to community-based services, including increased integration of primary and behavioral health care (Goal 4).** Throughout the waiver (2020) and waiver extension (2021-2023), Indiana has prioritized actions to increase treatment access and behavioral health integration during the waiver extension. For example, quantitative findings indicate that the state increased CMHC satellite and FQHC sites between 2022 and 2023. Despite these increases, state officials, MCEs, providers, and advocacy organizations noted that the adequacy of the provider supply did not meet patient demand. Subsequently, Indiana has invested in several actions to increase provider capacity. As noted above, increasing provider capacity takes time, and although activities were implemented during the waiver extension, the time needed to detect an effect in long-term outcomes (e.g., readmissions) may not have been sufficient.

## VIII. Lessons Learned and Recommendations

This section describes lessons learned and recommendations from the SMI demonstration. **Exhibit VIII.1** summarizes each lesson learned and recommendation(s) for the demonstration.

**Exhibit VIII.1: Lessons Learned and Recommendations**

Lessons Learned	Recommendations For Other States
<p>Demonstration activities required more time for implementation due to the PHE and subsequently may not have had sufficient time to produce a detectable effect.</p>	<ul style="list-style-type: none"> <li>• Reassess your state’s Implementation Plan to reflect the PHE realities.</li> <li>• As appropriate, revise your state’s Implementation Plan to reflect the short- and long-term impacts of the PHE on the health care system and SMI populations.</li> </ul>
<p>Insufficient provider capacity (e.g., more beds, more staff, more crisis stabilization services, CSUs; care coordination) limits access to behavioral health services and consequently impacts interdependent demonstration goals.</p>	<ul style="list-style-type: none"> <li>• Although network adequacy of the behavioral health workforce is a nationwide challenge, continue to invest in initiatives that focus on building network provider capacity (e.g., beds, staff, crisis stabilization services, CSUs, care coordinators). Examples of initiatives to consider include enrolling more Medicaid providers and/or mid-level providers in Medicaid, diversifying the provider pool, and implementing workforce programs that focus on expansion and retention efforts.</li> </ul>
<p>Individuals with SMI face additional barriers (e.g., affordability, discrimination) for accessing and maintaining stable housing.</p>	<ul style="list-style-type: none"> <li>• Increase awareness of existing funding and infrastructure to support beneficiaries with housing among relevant program stakeholders. Increase funding for housing (e.g., short-term rentals, group homes, corporate owned housing) and awareness campaigns (i.e., directed at landlords) to support individuals with SMI.</li> </ul>
<p>Telehealth is a good alternative for SMI beneficiaries who have difficulties accessing transportation or live in areas with high wait times for MH providers.</p>	<ul style="list-style-type: none"> <li>• Sustain COVID-19 PHE telehealth policy modifications.</li> <li>• Provide technical assistance support for both providers and patients to increase effective use of remote services and identify best practices for patient engagement.</li> </ul>
<p>There is an imbalance between peer advocates specializing in SUD versus peer advocates specializing in MH. Peer advocates are vital for engaging the SMI population and supporting care coordination.</p>	<ul style="list-style-type: none"> <li>• Diversify and expand the provider pool by including peers who have experience supporting SMI populations.</li> <li>• Increase the use of peer advocates in the ED.</li> </ul>
<p>Successful programs require a strategy for continued funding and resources</p>	<ul style="list-style-type: none"> <li>• Monitor opportunities for continued funding to sustain pilot efforts.</li> <li>• Meet with providers, advocates, and state agencies (e.g. DOH; DOC, Department of Education) to identify strategies for increasing collaboration, minimizing barriers for accessing treatment services, and program sustainment.</li> </ul>

## IX. Attachments

### Attachment A: Independent Assessor Description and Attestation (e.g., COI)

The Lewin Group (Lewin) serves as the Independent Evaluator of Indiana’s SMI waiver (HIP - Project Number 11-W-00296/5). Lewin’s scope of work includes:

1. Developing the evaluation design;
2. Conducting tasks related to the development of and drafting of the Summative Evaluation;
3. Conducting tasks related to the development of and drafting of the MPA; and
4. Conducting tasks related to the development of and drafting of the Interim Evaluation.

**FSSA Collaboration and Objective Assessment:** Lewin met with the FSSA SMI Leadership Team to review the elements required in the Interim Report; the approach for conducting the Interim Report, and the schedule for completing requirements. Throughout the evaluation time frame, FSSA provided Lewin with data (e.g., member eligibility and enrollment data, claims/encounter data, administrative data, PAA), materials (e.g., reports, provider bulletins), and stakeholder (e.g., state officials, providers, advocacy organizations, MCEs) outreach support. Additionally, FSSA was available to answer questions pertaining to data, programmatic activities, and state policies or initiatives. FSSA reviewed three drafts of the report. Report reviews provided FSSA with an opportunity to confirm or deny information as well as answer additional evaluator questions. At no time did FSSA direct Lewin in the execution of the Interim Report approach or in how findings were reported or interpreted. Hence, Lewin confirms that the Interim Report is a fair, impartial and objective assessment of Indiana’s performance in carrying out the Section 1115 SMI Demonstration Implementation Plan.

**Conflict of Interest.** As the Professional Services Contractor for the “Health Indiana Plan 1115 Waiver Evaluation” Services contract, Lewin confirms herein that it adheres to stringent organizational conflict of interest (“OCI”) policies and procedures that are aligned with the requirements of Federal Acquisition Regulation Part 9.5. As such, Lewin continuously monitors its work for actual or potential OCI. To date, Lewin has not found any facts or circumstances associated with performing its assigned work that create an actual or potential OCI or adversely affect or impact FSSA. If Lewin becomes aware of any circumstances that could present an actual or potential conflict of interest (COI) as it continues its work under this Contract, Lewin will engage with the FSSA Contracting Officer to ensure that appropriate and mutually agreed upon mitigation measures are put in place to address any such OCI prior to Lewin continuing the work.

Sincerely,



Jennifer Weil, PhD

Vice President | The Lewin Group, Part of Optum Serve

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## **Attachment B: Indiana's Current Behavioral Health System**

### **A. Overview**

Indiana's publicly funded behavioral health (both MH and addiction) SOC supports access to prevention, early intervention and recovery-oriented services and supports in all 92 counties, blending federal, state and local funding streams to a provider network of agencies and individual practitioners. Indiana's FSSA and specifically its OMPP and DMHA partner to provide policy oversight and primary funding of services and supports for individuals in need of behavioral health services. OMPP includes a robust continuum of behavioral health services as a benefit to enrollees in its fee-for service and Medicaid managed care programs. DMHA leverages its block grant funding from SAMHSA and state appropriations to compliment the Medicaid service array, with a focus on serving adults with SMI, youth with SED, and individuals with SUD of any age, and that are at or below 350% of the FPL. OMPP and DMHA also partner with the DCS and DOC in supporting access to and oversight of behavioral services for Indiana's most vulnerable Hoosiers.

### **B. Provider Network**

OMPP maintains a large network of behavioral health providers including hospitals, PRTFs, SUD residential providers, and community-based agencies and individual practitioners. Individual practitioners are certified and/or licensed by the IPLA. While IPLA is a separate and independent agency from FSSA, both OMPP and DMHA maintain a strong collaborative relationship. DMHA is responsible for certification and licensure for SUD provider agencies, free-standing psychiatric hospitals, and CMHCs. IAC outlines provider requirements that assist in assuring quality and program integrity. Addiction residential, CMHC, and Clubhouse providers participating within the Medicaid program must be certified/licensed by DMHA prior to provider enrollment with OMPP.

### **C. Community MH Centers**

There are currently 24 certified CMHCs in Indiana. DMHA is responsible for certification and CMHC requirements under the IAC and/or contracts include responsibility for a geographic service area that ensures coverage of a continuum of services statewide. The CMHCs are required to provide a defined continuum of care that includes:

- Individualized treatment planning
- Access to twenty-four (24) hour a day crisis intervention
- Case management
- Outpatient services, including IOP services, substance abuse services, and treatment
- Acute stabilization services including detoxification services
- Residential services
- Day treatment, partial hospitalization, or psychosocial rehabilitation
- Family support
- Medication evaluation and monitoring

- Services to prevent unnecessary and inappropriate treatment and hospitalization and the deprivation of a person's liberty

Many of these services are part of the State plan MRO services under which service need is identified through an assessment that confirms need for services with an eligible diagnosis and level of care determination using the Child and Adolescent Needs and Strength/Adult Needs and Strengths Assessment.

#### **D. Current Service Continuum**

**Prevention/early intervention.** Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program services are available to Medicaid beneficiaries from birth through the month of the member's 21st birthday. Beneficiaries eligible for EPSDT services may be enrolled in HIP, Hoosier Care Connect, Hoosier Healthwise, or Traditional Medicaid. A psychosocial/behavioral assessment is required at each EPSDT visit. This assessment is family centered and may include an assessment of child's social-emotional health, caregiver depression, as well as social risk factors.

The IHCP also provide coverage for annual depression screenings and screening and brief intervention (SBI) services. Providers are expected to use validated, standardized tests for the depression screening. These tests include, but are not limited to, the PHQ, Beck Depression Inventory, Geriatric Depression Scale, and EPDS. SBI identifies and intervenes with individuals who are at risk for substance abuse related problems or injuries. SBI services use established systems, such as trauma centers, emergency rooms, community clinics, and school clinics, to screen patients who are at risk for substance abuse and, if necessary, provide the patients with brief interventions or referrals to appropriate treatment.

The IHCP covers outpatient MH services provided by a licensed medical doctor, doctor of osteopathy, psychologist endorsed as a HSPP, psychiatric hospitals, psychiatric wings of acute care hospitals, and outpatient MH facilities. To increase the State's capacity of MH Medicaid providers, the House Enrolled Act 1175 passed in the 2019 legislative session expanded access to behavioral health providers for Medicaid enrollees. Under this law, LCSWs, LMHCs, licensed clinical addiction counselors, and LMFTs are eligible providers and can certify a MH diagnosis and supervise a patient's treatment plan in outpatient MH or substance abuse treatment settings. Prior to this legislation, mid-level behavioral health practitioners were not eligible to independently enroll in Indiana Medicaid and were required to bill under the supervision of a HSPP or psychiatrist.

#### **E. Adult MH Habilitation Services.**

Effective November 1, 2014, Indiana implemented the §1915(i) Adult MH Habilitation (AMHH) services program. The AMHH services program was adopted by Indiana to provide community-based opportunities for the care of adults with SMI who may most benefit from keeping or learning skills to maintain a healthy safe lifestyle in the community. AMHH services are provided for individuals and their families, or groups of adult persons who are living in the community and who need help on a regular basis with SMI or co-occurring mental illness and addiction disorders. AMHH services are intended for individuals who meet all of the following core target group criteria: enrolled in Medicaid, age 19 or older, reside in a setting which meets federal setting requirements for HCBS and has an AMHH-eligible, DMHA-approved diagnosis.

An eligible AMHH enrollee will be authorized to receive specific requested AMHH services, according to an individualized care plan, approved by the State Evaluation Team. The following are the AMHH services:

- Adult day services
- Home- and Community-Based Habilitation and Support Services
- Respite care
- Therapy and behavioral support services
- Addiction counseling
- Supported community engagement services
- Care coordination
- Medication training and support Initial eligibility in the program is for one year and can be extended if medical need remains.

**Inpatient (acute).** Prior Authorization (PA) is required for all inpatient psychiatric admissions, rehabilitation, and substance abuse inpatient stays. Each Medicaid-eligible patient admitted to an acute psychiatric facility or unit must have an individually developed plan of care (POC). For beneficiaries 21 and older, a POC must be developed by the attending or staff physician. For beneficiaries under 21 years old, POCs must be developed by a physician and interdisciplinary team. All POCs must be developed within 14 days of the admission date, regardless of the member's age. For a patient who becomes eligible for Medicaid after admission to a facility, the POC must be prepared to cover all periods for which Medicaid coverage is claimed. The following components must be documented in each member's POC:

- Treatment objectives and goals, including an integrated program of appropriate therapies, activities, and experiences designed to meet the objectives; and
- A post-discharge plan and a plan for coordination of inpatient services with partial discharge plans, including appropriate services in the member's community to ensure continuity of care when the patient returns to his or her family and community upon discharge.

The POC is based on a diagnostic evaluation that includes an examination of the medical, psychological, social, and behavioral aspects of the member's presenting problem and previous treatment interventions. The POC is reviewed by the attending or staff physician to ensure that appropriate services are being provided and that they continue to be medically necessary. The attending or staff physician also recommends necessary adjustments in the plan, as indicated by the member's overall adjustment as an inpatient. The POC must be in writing and must be part of the member's record.

**State Hospital (longer term stays/forensic).** Indiana's six state psychiatric hospitals provide intermediate and longer-term inpatient psychiatric stays for adults who have co-occurring MH and addiction issues, who are deaf or hearing impaired, and who have forensic involvement; as well as youth with SED. Individuals are admitted to a state hospital only after a screening by a CMHC. CMHCs, as the State hospital gatekeepers, are responsible for providing case management to the individual in both the hospital and their transition to the community

following discharge. The State psychiatric hospitals are accredited by the Joint Commission (JC). To maintain JC accreditation, all hospitals are required to participate in a performance measurement program. This is accomplished through participation in the National Research Institute Performance Measurement System, which provides a framework within which the State psychiatric hospitals can identify and implement consistent measures of performance and outcomes.

On March 15, 2019, Indiana opened the doors to the NeuroDiagnostic Institute (NDI) and Advanced Treatment Center located on the campus of Community East Hospital in Indianapolis. Operated in partnership with Community Health Network, NDI delivers advanced evaluation and treatment for patients with the most challenging and complex neuropsychiatric illnesses and transitions them more efficiently into the most appropriate treatment settings within the community or state operated inpatient SOC. The NDI is a key component of FSSA's initiative to modernize and reengineer Indiana's network of state-operated inpatient MH facilities, including reducing lengths of stay. The NDI also serves as a teaching hospital by partnering with local universities for medical and nursing students, as well interns of other disciplines such as social work and psychology, gain hands-on experience helping NDI patients in their recovery.



**Attachment C: Qualitative Data Collection Tools**

**Attachment C** includes the “master” data collection tools utilized for Interim Report KIIs. Interviewees had varied areas of experience and expertise. As such, topics and items asked were tailored to the interviewee and thus a single interviewee was not asked every question.

**A. Indiana 1115(a) SMI Demonstration Evaluation: State Officials Interim Report KII Guide**

**1. Introduction:**

This interview is part of a series of KIIs that will provide a better understanding of the state’s progress in meeting the five goals of the Indiana’s 1115 SMI Demonstration Evaluation. Lewin, as the independent evaluator of the IN SMI Waiver, will be conducting a series of 30–60-minute interviews (with State officials, MCE representatives, providers, advocacy organizations, and beneficiaries) to gather information on goal progress in relation to the IN SMI Waiver Demonstration, impact of the COVID-19 PHE, factors that supported progress, any challenges or barriers encountered, and pertinent follow-up based on insights gathered from previous interviews.

This interview guide is organized by topic area. For each topic area, we have included background information for context prior to each question. In preparation for the interview, please be sure to read all background information as well as the questions. See topic areas below:

- Background
- Goal 1
- Goal 2
- Goal 3
- Goal 4
- Goal 5

Please note: You were chosen for this interview based on your expertise. We fully expect that you do not have answers to each question listed in the guide. If you are not sure of an answer to a question- that is OK. Please indicate as such, and we will move on to the next question.

**2. Background Information**

Background	Question(s)
Attendee Name and Role at FSSA	<ul style="list-style-type: none"> <li>• Please state your name and please describe your current role at FSSA.</li> <li>• How long have you been in this role?</li> </ul>
Role in respect to the implementation and monitoring of IN SMI Demonstration Waiver	<ul style="list-style-type: none"> <li>• What has been your role in relation to the IN SMI Waiver?</li> </ul>

**3. Goal 1: Reduced utilization and LOS in EDs among Medicaid beneficiaries with SMI while awaiting MH treatment in specialized settings**

Although the rates of ED visits per 100,000 persons nationally have remained stable between 2009 and 2018, visits associated with MH diagnoses continued to rise among Medicaid

beneficiaries during this time-period.<sup>116</sup> Individuals with SMI are more likely to have higher rates of ED utilization than individuals without any MH diagnosis. A key goal of the evaluation is to understand how demonstration activities have contributed to reductions in ED utilization and ED LOS among Medicaid beneficiaries with SMI. Demonstration activities identified in the state’s [Implementation Plan](#) associated with this goal include:

- Developing a report to monitor ALOS for all Medicaid programs.
- Expanding the use of Open Beds beyond SUD to include tracking availability of psychiatric inpatient and crisis stabilization beds.
- Annually identifying geographic shortage areas and conducting targeted outreach to non-Medicaid enrolled providers in those areas. (*Goals 1 & 3*)
- Piloting 2 CSUs in the northern and southern parts of the state. (*Goals 1, 2, and 3*)
- Piloting MCU/MRSS. (*Goals 1, 2, and 3*)

Lewin interviewed state officials in 2020 as well as 2023, and compiled insights specific to these demonstration activities and their impact on ED utilization and ED LOS. For today’s interview, we are interested in compiling insights, as well as confirming our understanding of activity progress, for the time-period of 2021-2023.

#	Background	Question(s)
1	State officials interviewed in 2020 described how the PHE impacted implementation activities and likely confounded the impact of the waiver on ED utilization and LOS for Medicaid beneficiaries with SMI waiting for MH treatment. State officials described broad changes in utilization of health care services. For example, interviewees noted that utilization of health care services, particularly inpatient services, decreased at the beginning of Spring of 2020 and then “skyrocketed” starting in June of 2020 to historically high levels.	<ul style="list-style-type: none"> <li>• Please describe ED utilization (i.e., trends) during CY2021-2023. How has ED utilization changed since 2020 (e.g., increased, decreased, wavered, etc.)?</li> <li>• How has LOS changed since 2020 (e.g., increased, decreased, stayed the same)?</li> <li>• What factors (e.g. hospital closures, wait times; environmental factors such as crime, provider availability) have contributed to changes in ED utilization? ED LOS?</li> <li>• During the timeframe, how did the PHE impact ED utilization? ED LOS?</li> <li>• What types of barriers/challenges did the state face in reducing ED utilization and/or ED LOS during the timeframe?</li> </ul>

<sup>116</sup> Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health & Human Services. Trends in the Utilization of Emergency Department Services, 2009-2018. 2021. <https://aspe.hhs.gov/pdf-report/utilization-emergency-department-services>

#	Background	Question(s)
2	<p>It is our understanding (from the last iteration of interviews) that since 2020, MCEs have reported ALOS to the state, as it is required in their contracts, as well as quarterly reports with LOS data.</p> <p>Additionally, state officials internally review the ALOS for all IMDs that receive federal match and report this information in quarterly SMI waiver demonstration monitoring reports.</p>	<p>Is this information still correct?</p> <ul style="list-style-type: none"> <li>• IF YES:                             <ul style="list-style-type: none"> <li>▪ What has the state observed regarding ALOS, particularly for IMDs and EDs, during the timeframe (CY2021-2023) (e.g., increase, decrease, stayed the same)?</li> <li>▪ During the timeframe, how has the report supported the state in compiling accurate data and informing actions?</li> <li>▪ What improvements or changes could be made to support ALOS monitoring?</li> </ul> </li> <li>• IF NO:                             <ul style="list-style-type: none"> <li>▪ During the timeframe, how did the state monitor ALOS for all Medicaid programs?</li> </ul> </li> </ul>
3	<p>We also learned from the last iteration of interviews that the state annually identifies geographic shortage areas and conducts targeted outreach to non-Medicaid enrolled providers in those areas by annually monitoring provider network capacity, which is used to identify provider deficiencies and build provider recruitment plans. (Goals 1 and 3)</p>	<p>Is this information still correct?</p> <ul style="list-style-type: none"> <li>• IF YES:                             <ul style="list-style-type: none"> <li>▪ Describe the state’ provider network capacity (e.g., differences across geographic areas, areas in particular need, provider type needed) during CY2021-CY2023?</li> <li>▪ How has annual identification of geographic shortage areas and targeted outreach to non-Medicaid enrolled providers expanded access to high-quality, evidence-based MH treatment services for SMI populations? How has annual identification of geographic shortage areas and targeted outreach to non-Medicaid enrolled providers impacted ED utilization and LOS in EDs?</li> <li>▪ How can monitoring provider capacity and outreach be improved?</li> </ul> </li> <li>• IF NO:                             <ul style="list-style-type: none"> <li>▪ During the timeframe, how did the state annually identify geographic shortage areas and conduct targeted outreach to non-Medicaid enrolled providers in those areas?</li> </ul> </li> </ul>
4	<p>In 2020, state officials described efforts to pilot two CSUs across the state to provide an alternative to crisis evaluations within EDs and divert admissions to inpatient psychiatric units. (CSUs serve as an alternative to an ED or jail for patients experiencing MH issues.) While initial implementation was delayed due to the COVID-19 PHE, two certified MH clinics, Centerstone Indiana and Four County, were awarded contracts to operate CSU pilots which began on July 1, 2020. From the last iteration of interviews in 2023, we learned that the state completed the CSU pilot in June of 2022. (Goals 1, 2, and 3)</p>	<ul style="list-style-type: none"> <li>• During the timeframe, how did the CSU pilot impact utilization and LOS in EDs for beneficiaries with SMI while awaiting MH treatment in specialized settings (e.g., diverted beneficiaries from EDs)?</li> <li>• Between CY2021 and CY20023, were CSUs added across the state beyond the pilot?</li> <li>• IF YES:                             <ul style="list-style-type: none"> <li>▪ Please describe CSU expansion.</li> <li>▪ How have CSUs impacted ED utilization and LOS in EDs among Medicaid beneficiaries with SMI?</li> </ul> </li> <li>• IF NO:                             <ul style="list-style-type: none"> <li>▪ Why was this initiative not expanded?</li> <li>▪ Are there plans to expand CSUs?</li> <li>▪ Are there other initiatives in place to increase crisis services?</li> </ul> </li> </ul>

#	Background	Question(s)
5	We also learned from the last iteration of KILs, that the state was no longer utilizing OpenBeds and that the MCU/MRSS pilot had been suspended. (Goals 1, 2, and 3)	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• IF YES:                             <ul style="list-style-type: none"> <li>▪ Is there another initiative that the state has focused on during the time frame that would replace the efforts initially allocated to the MCU/MRSS pilots? If so, what are those efforts?</li> </ul> </li> <li>• Regarding OpenBeds, are there other tools being considered to support SMI populations in finding beds when needed.</li> </ul>
6	Now we will discuss any additional strategies or activities the state implemented during the timeframe to reduce ED LOS that was not identified in the Demonstration Implementation Plan.	<ul style="list-style-type: none"> <li>• What other activities or strategies did the state implement during CY2021-CY2023 to reduce ED utilization or ED LOS among SMI Medicaid beneficiaries?</li> <li>• For each activity, please describe its impact on ED utilization or ED LOS among SMI Medicaid beneficiaries.</li> <li>• What challenges/barriers have been encountered with implementing these strategies?</li> <li>• For both activities identified as part of the Demonstration Implementation plan and other activities noted:                             <ul style="list-style-type: none"> <li>▪ Which of the strategies have been most successful? Why?</li> <li>▪ What has helped support success?</li> </ul> </li> </ul>

**4. Goal 2: Reduced preventable readmissions to acute care hospitals and residential settings**

Patients with SMI may be vulnerable to unplanned hospital readmission. 117 Unplanned hospital readmission is a common but potentially preventable health care outcome and quality indicator associated with considerable health care costs. Recent studies have indicated that 30-day hospital readmissions among Medicaid beneficiaries with SMI are higher than rates of 30-day readmissions after medical hospitalizations than the general population.<sup>118,119</sup>

A key goal of the evaluation is to understand how demonstration activities have contributed to reductions in preventable readmissions to acute care hospitals and residential settings. Demonstration activities identified in the state’s [Implementation Plan](#) associated with this goal include:

- Updating the Indiana Provider Manual to explicitly require psychiatric hospitals have protocols in place to (Goals 2 and 5):

<sup>117</sup> Albrecht, J. S., Hirshon, J. M., Goldberg, R., Langenberg, P., Day, H. R., Morgan, D. J., Comer, A. C., Harris, A. D., & Furuno, J. P. (2012, April 26). *Serious mental illness and acute hospital readmission in diabetic patients*. American journal of medical quality: the official journal of the American College of Medical Quality. Retrieved April 22, 2022, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3677605/>

<sup>118</sup> Cook, J. A., Burke-Miller, J. K., Razzano, L. A., Steigman, P. J., Jonikas, J. A., & Santos, A. (2021, February 13). *Serious mental illness, other mental health disorders, and outpatient health care as predictors of 30-day readmissions following medical hospitalization*. General Hospital Psychiatry. Retrieved April 22, 2022, from <https://www.sciencedirect.com/science/article/pii/S0163834321000244>

<sup>119</sup> Cook, J. A., Burke-Miller, J. K., Jonikas, J. A., Aranda, F., & Santos, A. (2020, September). *Factors associated with 30-day readmissions following medical hospitalizations among Medicaid beneficiaries with schizophrenia, bipolar disorder, and major depressive disorder*. American Psychological Association PsycNet. Retrieved April 22, 2022, from <https://psycnet.apa.org/record/2020-66663-001>

- Assess for housing insecurity as part of the social work assessment and discharge planning processes and to refer to appropriate resources.
- Ensure contact is made by the treatment setting with each discharged beneficiary within 72 hours of discharge and follow-up care is accessed.
  - Piloting 2 CSUs in the northern and southern parts of the state. (*Goals 1, 2, and 3*)
  - Piloting MCU/MRSS. (*Goals 1, 2, and 3*)

Lewin interviewed state officials in 2020 as well as 2023, and compiled insights specific to these demonstration activities and their impact on readmissions to acute care hospitals and residential settings. For today’s interview, we are interested in compiling insights, as well as confirming our understanding of activity progress, for the time-period of 2021-2023.

#	Background	Question(s)
7	During the last iteration of interviews, interviewees stated that the expansion of telehealth services likely reduced readmissions.	<ul style="list-style-type: none"> <li>• Please describe readmission rates during 2021-CY2023. How have readmission rates changed since 2020 (e.g., increased, decreased, stayed the same etc.)?</li> <li>• What has contributed to the change in readmission rates (e.g., PHE, telehealth)?</li> <li>• What types of barriers/challenges did the state face in reducing preventable readmissions to acute care hospitals and residential settings during the timeframe?</li> </ul>
8	From the last iteration of interviews, we learned that the provider manual modules are updated on a rolling basis and that those updates are communicated via bulletins. It was also noted that the next full update will incorporate all of the requirements outlined in the IN SMI Implementation Plan (including assessing for housing insecurity and ensuring contact is made within 72 hours of discharge) and that this update is targeted to occur in CY2024 as part of the Behavioral Health Services module.	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• IF NO:                             <ul style="list-style-type: none"> <li>▪ Please clarify. unannounced site visits during CY 202 and 2022?</li> </ul> </li> </ul>
9	We’ve discussed the CSU pilot in the context of ED utilization. ( <i>Goals 1, 2, and 3</i> )	<ul style="list-style-type: none"> <li>• During the timeframe, how did the CSU pilot contribute to reduced preventable readmissions to acute care hospitals and residential settings?</li> </ul>

#	Background	Question(s)
10	Now, let’s discuss any additional strategies or activities that are not documented in the IN SMI Implementation Plan that the state implemented to reduce preventable readmissions to acute care hospitals and residential settings.	<ul style="list-style-type: none"> <li>• What other activities or strategies did the state implement during CY2021-CY2023 to reduce preventable readmissions to acute care hospitals and residential settings among SMI Medicaid beneficiaries?</li> <li>• For each activity, please describe its impact on reduced preventable readmissions to acute care hospitals and residential settings from SMI Medicaid beneficiaries.</li> <li>• What challenges/barriers have been encountered with implementing these strategies?</li> <li>• For both activities identified as part of the Implementation Plan and other activities noted:               <ul style="list-style-type: none"> <li>▪ Which of the strategies have been most successful? Why?</li> <li>▪ What has helped support success?</li> </ul> </li> </ul>

**5. Goal 3: Improved availability of crisis stabilization services utilizing multiple service models to meet the unique needs across the state**

Crisis response and stabilization (e.g., crisis call centers, crisis mobile team response, crises receiving and stabilization services) is a basic element of MH care and often serves as an access point for connecting individuals to community care resources. Although evidence regarding crisis response programs is emerging, research has indicated that crisis response is associated with improved health outcomes.<sup>120</sup>

A key goal of the evaluation is to understand how demonstration activities have contributed to improving availability of crisis stabilization services. Demonstration activities identified in the state’s [Implementation Plan](#) associated with this goal include:

- Annually identifying geographic shortage areas and conducting targeted outreach to non-Medicaid enrolled providers in those areas. (*Goals 1 and 3*)
- Expanding use of OpenBeds beyond SUD to include tracking availability of psychiatric inpatient and crisis stabilization beds. (*Goals 1, 2, and 3*)
- Piloting 2 CSUs in the northern and southern parts of the state. (*Goals 1, 2, and 3*)
- Piloting MCU/MRSS. (*Goals 1, 2, and 3*)

Lewin interviewed state officials in 2020 as well as 2023, and compiled insights specific to these demonstration activities and their impact on crisis stabilization services. For today’s interview, we are interested in compiling insights, as well as confirming our understanding of activity progress, for the time-period of 2021-2023.

<sup>120</sup> Vikki, W., & Natasha, C. (2021, May). *Building blocks: How Medicaid can advance mental health and substance use crisis response*. Well Being Trust. Retrieved April 22, 2022, from <https://wellbeingtrust.org/wp-content/uploads/2021/05/WBT-Medicaid-MH-and-CrisisCareFINAL.pdf>

#	Background	Question(s)
11	<p>For Goal 3, we are interested in understanding activities or strategies that have improved crisis stabilization across the state, particularly during acute short-term stays in:</p> <ul style="list-style-type: none"> <li>• Hospitals: <ul style="list-style-type: none"> <li>▪ Public and private psychiatric hospitals,</li> <li>▪ General hospital psychiatric units, and</li> <li>▪ Partial hospitalization.</li> </ul> </li> <li>• Community-based: <ul style="list-style-type: none"> <li>▪ Residential treatment facilities,</li> <li>▪ IOP services, and</li> <li>▪ Community-based settings (i.e., residential crisis stabilization programs, small inpatient units in CMHCs, peer-run crisis respite programs, etc.).</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Please describe the availability of crisis stabilization services provided during acute short-term stays (particularly in the settings mention) during the timeframe (CY2021-2023).</li> <li>• How have crisis stabilization services changed (e.g., increased, decreased, stayed the same) from 2020?</li> <li>• Please describe challenges or obstacles for improving the availability of crisis stabilization services for SMI Medicaid beneficiaries.</li> </ul>
12	<p>In 2020, interviewees mentioned the expanded use of CCBHCs in Indiana including the role of 988. State officials described how 17 organizations (15 CCBHC’s and 2 hospitals) received 2-year SAMHSA CCBHC Expansion grants in FY18-FY21 which require participation in crisis response efforts.</p>	<ul style="list-style-type: none"> <li>• Please elaborate on how the SAMHSA CCBHC expansion grants supported crisis response efforts.</li> </ul>
13	<p>We’ve discussed CSU pilots previously (<i>Goals 1, 2, and 3</i>).</p>	<ul style="list-style-type: none"> <li>• During the timeframe, how did the CSU pilot contribute to increased availability of crisis services to SMI beneficiaries?</li> </ul>
14	<p>As noted from the last iteration of interviews, the state annually identifies geographic shortage areas and conducts targeted outreach to non-Medicaid enrolled providers in those areas by annually monitoring provider network capacity, which is used to identify provider deficiencies and build provider recruitment plans. (<i>Goals 1 and 3</i>)</p>	<ul style="list-style-type: none"> <li>• Describe the state’s provider network capacity (e.g., differences across geographic areas, areas in particular need) in relation to crisis stabilization services during CY2021-CY2023.</li> <li>• How has the number of crisis stabilization services across the state of Indiana changed from 2020?</li> <li>• What contributed to that change during the timeframe?</li> <li>• Did the state encounter any challenges or barriers in annually identifying crisis stabilizations services across the state during the timeframe?</li> <li>• How could the annual identification of crisis stabilization services across the state of Indiana improve?</li> </ul>

#	Background	Question(s)
15	Over the course of the timeframe, the state may have implemented other strategies or initiatives to support the availability of crisis stabilization services for SMI Medicaid beneficiaries.	<ul style="list-style-type: none"> <li>• What other activities or strategies did the state implement during CY2021-CY2023 to improve the availability of crisis stabilization services for SMI Medicaid beneficiaries?</li> <li>• For each activity, please describe its impact on improved availability of crisis stabilization services for SMI Medicaid beneficiaries.</li> <li>• What challenges/barriers have been encountered with implementing these strategies?</li> <li>• For both activities identified as part of the Implementation Plan and other activities noted:                             <ul style="list-style-type: none"> <li>▪ Which of the strategies have been most successful? Why?</li> <li>▪ What has helped support success?</li> </ul> </li> </ul>

**6. Goal 4: Improved access to community-based services to address the chronic MH care needs of beneficiaries with SMI including through increased integration of primary and behavioral health care**

Individuals with SMI suffer disproportionately from PH conditions than their non-SMI peers and are at increased risk for a range of acute and chronic diseases (e.g., diabetes, cardiovascular disease, respiratory disease, cancer, and infectious disease).<sup>121</sup>

A key goal of the evaluation is to understand how demonstration activities have contributed to improving access to community-based services to address the chronic MH care needs of Medicaid beneficiaries with SMI. Demonstration activities identified in the state’s [Implementation Plan](#) associated with this goal include:

- Expansion of the State’s model for PCBHI. (*Goals 4 and 5*)
- Implementation of a health homes SPA. (*Goals 4 and 5*)

Lewin interviewed state officials in 2020 as well as 2023, and compiled insights specific to these demonstration activities and their impact on access to community-based services. For today’s interview, we are interested in compiling insights, as well as confirming our understanding of activity progress, for the time-period of 2021-2023.

<sup>121</sup> Breslau, J., Sorbero, M. J., Kusuke, D., Yu, H., Scharf, D. M., Hackbarth, N. S., & Pincus, H. A. (2019, March 28). *Primary and behavioral health care integration program: Impacts on Health Care Utilization, cost, and quality*. Office of the Assistant Secretary for Planning and Evaluation. Retrieved April 22, 2022, from <https://aspe.hhs.gov/reports/primary-behavioral-health-care-integration-program-impacts-health-care-utilization-cost-quality-0>



#	Background	Question(s)
16	<p>From previous interviews, we learned that the state submitted an application for SAMHSA’s (FY) 2020 PIPBHC grant. The purpose of the PIPBHC program is to: (1) promote full integration and collaboration in clinical practice between primary and behavioral health care; (2) support the improvement of integrated care models for primary care and behavioral health care to improve the overall wellness and PH status of adults with SMI; and (3) promote and offer integrated care services related to screening, diagnosis, prevention, and treatment of MH and SUD, and co-occurring PH conditions and chronic diseases. The state applied and received the PIPBHC grant in March of 2021.</p>	<ul style="list-style-type: none"> <li>• During the timeframe, how has the PIPBHC grant improved access to community-based services (that address chronic MH care needs) for beneficiaries with SMI? What initiatives did the state implement due to this funding?</li> <li>• Has the state developed a report or findings from the implementation of the activities related to the PIPBHC grant?</li> </ul>
17	<p>From our last iteration of interviews, we learned that the health homes SPA was suspended indefinitely, as the PHE had put significant stress on the primary care and behavioral health systems and emphasized the potential for increased provider burden if new strategies were implemented. Instead, state officials indicated that the health homes initiative would be explored as part of the expansion and designation of CCBHCs in Indiana.</p>	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• IF YES: <ul style="list-style-type: none"> <li>▪ Describe how the health homes initiative is being integrated into the CCBHCs?</li> </ul> </li> <li>• IF NO: <ul style="list-style-type: none"> <li>▪ Are there future plans to explore the health homes initiative (e.g., SPA)?</li> </ul> </li> </ul>
18	<p>Another key action for Goal 4 (and Goal 5) is related to the expansion of Indiana’s model for PCBHI.</p>	<ul style="list-style-type: none"> <li>• Could you please elaborate on Indiana’s model for PCBHI? How has this model expanded during the timeframe? Have there been particular strategies that have been most effective in the integration of primary and behavioral health care?</li> <li>• How was the expansion of integration of primary and behavioral health care addressed the chronic MH needs of SMI beneficiaries. How has this integration increased access to community-based services for SMI beneficiaries?</li> <li>• What barriers/obstacles have impacted the expansion of Indiana’s model for PCBHI during the timeframe?</li> </ul>
19	<p>From the 2020 interviews, interviewees had noted that a key barrier to achievement of Goal 4 was the limited supply of qualified MH providers. Interviewees had noted the importance of the House Enrolled Act 1175 which passed in the 2019 legislative session and expanded access to behavioral health providers for Medicaid enrollees. State officials had indicated that they would continue to look at additional solutions to the provider shortage while maintaining best practices in care.</p>	<ul style="list-style-type: none"> <li>• How have the number of providers changed across the state of Indiana from 2020 to the timeframe?</li> <li>• What strategies or solutions did the state implement to address provider needs across the state?</li> <li>• Are there additional plans to address any provider shortages across the state? If so, please elaborate.</li> <li>• What challenges/barriers does the state face in addressing the provider shortage?</li> </ul>

#	Background	Question(s)
20	There may be other strategies or initiatives that the state has implemented during the timeframe that have assessed beneficiary access to community-based services in order to address their chronic MH care needs, including through increased integration of primary and behavioral health care.	<ul style="list-style-type: none"> <li>• What other activities or strategies did the state implement during CY2021-CY2023 to improve access to community-based services for beneficiaries with SMI to address chronic MH needs (including through increased integration of primary and behavioral health care)?</li> <li>• For each activity, please describe its impact on improved access to community-based services for beneficiaries with SMI to address their chronic MH needs.</li> <li>• What challenges/barriers have been encountered with implementing these strategies?</li> <li>• For both activities identified as part of the Implementation Plan and other activities noted:               <ul style="list-style-type: none"> <li>▪ Which of the strategies have been most successful? Why?</li> <li>▪ What has helped support success?</li> </ul> </li> </ul>

**7. Goal 5: Improved care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities**

Lastly, we will discuss Goal 5, factors that supported progress towards Goal 5, any challenges or barriers encountered, and future plans. Goal 5 focuses on improved care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities. In addition to disparities in health outcomes, people with SMI often use the MH care system as their principal setting for access to medical and social care.<sup>122,123,124</sup> As such, community MH settings are challenged to address the many demands associated with comorbid chronic medical conditions and related primary and preventive care needs.<sup>125</sup> Please consider the timeframe of CY 2021-2023 specifically for this discussion. Demonstration activities identified in the state’s [Implementation Plan](#) associated with this goal include:

- Indiana Medicaid Provider Manual will be updated to explicitly require psychiatric hospitals have protocols in place to (*Goals 2 and 5*):
  - Assess for housing insecurity as part of the social work assessment and discharge planning processes and to refer to appropriate resources.

<sup>122</sup> Bartels SJ (2003). Improving the system of care for older adults with mental illness in the United States: Findings and recommendations for the President’s new freedom commission on mental health. *American Journal of Geriatric Psychiatry*, 11, 486–497.

<sup>123</sup> De Hert M, Correll CU, Bobes J, Cetkovich-Bakmas M, Cohen D, Asai I, ... Leucht S (2011 a). Physical illness in patients with severe mental disorders. I. Prevalence, impact of medications and disparities in health care. *World Psychiatry*, 10, 52–77.

<sup>124</sup> Bao Y, Casalino LP, & Pincus HA (2013). Behavioral health and health care reform models: Patient-centered medical home, health home, and accountable care organization. *Journal of Behavioral Health Services & Research*, 40, 121–132.

<sup>125</sup> Bao Y, Casalino LP, & Pincus HA (2013). Behavioral health and health care reform models: Patient-centered medical home, health home, and accountable care organization. *Journal of Behavioral Health Services & Research*, 40, 121–132.

- Ensure contact is made by the treatment setting with each discharge beneficiary within 72 hours of discharge and follow-up care is accessed.
- Expansion of the State’s model for PCBHI. (*Goals 4 and 5*)
- Implementation of a health homes SPA. (*Goals 4 and 5*)

Lewin interviewed state officials in 2020 as well as 2023, and compiled insights specific to these demonstration activities and their impact on care coordination. For today’s interview, we are interested in compiling insights, as well as confirming our understanding of activity progress, for the time-period of 2021-2023.

#	Background	Question(s)
21	From the 2020 interviews, we learned that through the SAMHSA PIPBHC grant that the State is working on creating a platform that combines individual health data from multiple sources including Medicaid claims data to better track patient care needs. The platform would include a visual alert displayed when certain items are due (or past-due), which would allow the prescribing doctor to see the MH notes/concerns and vice-versa.	<ul style="list-style-type: none"> <li>• During the timeframe, was the state able to build the platform outlined?</li> <li>• IF YES: <ul style="list-style-type: none"> <li>▪ How has that platform improved care coordination for SMI beneficiaries?</li> <li>▪ Have there been any challenges with this platform? If so, how is the state addressing those challenges?</li> </ul> </li> <li>• IF NO: <ul style="list-style-type: none"> <li>▪ Are there plans to build out this platform or something similar? If so, what do those plans look like?</li> <li>▪ What were some of the challenges encountered that led to delaying the build out of this platform?</li> </ul> </li> </ul>
22	Data sharing systems, particularly those that allow coordination of services among treatment team beneficiaries, clinical supervision, medication and medication management, psychotherapy, case management, coordination with primary care, family/caregiver support and education, and SE and supported education, may impact care coordination for beneficiaries with SMI.	<ul style="list-style-type: none"> <li>• During the timeframe, what other changes or demonstration activities were implemented to data sharing systems, processes, or policies that impacted care coordination for SMI beneficiaries?</li> <li>• What were the goals of these changes?</li> <li>• What factors supported implementation of these strategies? What has helped support success? Why were these strategies successful?</li> <li>• What challenges have been encountered with implementing these strategies? How has the PHE impacted achievement of this goal?</li> </ul>
23	We have already touched on the expansion of the state’s model for PCBHI related to Goal 4.	<ul style="list-style-type: none"> <li>• How has the expansion of the state’s model for PCBHI improved care coordination for SMI beneficiaries (especially following acute care in hospitals and residential treatment facilities)?</li> </ul>
24	One key action related to Goal 5 ( <i>and Goal 4</i> ) is the implementation of the health homes SPA. As stated previously, it is our understanding that the health homes initiative would be explored as part of the expansion and designation of CCBHCs in Indiana.	<ul style="list-style-type: none"> <li>• How will the expansion and designation of CCBHCs in Indiana improve care coordination for SMI beneficiaries, particularly following episodes of acute care in hospitals and residential treatment facilities?</li> </ul>

#	Background	Question(s)
25	The state may have implemented other strategies or initiatives during the timeframe that have improved care coordination of beneficiaries with SMI, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities.	<ul style="list-style-type: none"> <li>• What other activities or strategies did the state implement during CY2021-CY2023 to improve care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities for beneficiaries with SMI?</li> <li>• For each activity, please describe its impact on improved care-coordination for beneficiaries with SM, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities.</li> <li>• What challenges/barriers have been encountered with implementing these strategies?</li> <li>• For both activities identified as part of the Implementation Plan and other activities noted:               <ul style="list-style-type: none"> <li>▪ Which of the strategies have been most successful? Why?</li> <li>▪ What has helped support success?</li> </ul> </li> </ul>

**B. Indiana 1115(a) SMI Demonstration Evaluation: MCE KII Guide**

**1. Introduction:**

This interview is part of a series of key informant interviews that will provide a better understanding of the state’s progress in meeting the five goals of the Indiana’s 1115 SMI Demonstration Evaluation during the timeframe of CY2021-CY2023. Lewin, as the independent evaluator of the IN SMI Waiver, will be conducting a series of 30–60-minute interviews (with state officials, MCE representatives, providers, advocacy organizations, and beneficiaries) to gather information on goal progress in relation to the IN SMI Waiver Demonstration, impact of the COVID-19 PHE, factors that supported progress, any challenges or barriers encountered, and pertinent follow-up based on insights gathered from previous interviews.

This interview guide is organized by topic area. For each topic area, we have included background information for context prior to each question. For this interview, we will focus on understanding the MCE experience of, and perspective on, Indiana’s progress towards meeting the five goals of the IN SMI Waiver. ***In preparation for the interview, please be sure to read all background information as well as the questions.*** See topic areas below:

- Interviewee Background Information
- Goal 1: Reduced utilization and LOS in EDs among Medicaid beneficiaries with SMI while awaiting MH treatment in specialized settings
- Goal 2: Reduced preventable readmissions to acute care hospitals and residential settings
- Goal 3: Improved availability of crisis stabilization services utilizing multiple service models to meet the unique needs across the state
- Goal 4: Improved access to community-based services to address the chronic MH care needs of beneficiaries with SMI including through increased integration of primary and behavioral health care

- Goal 5: Improved care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities

This interview will be 60 minutes in length.

**Please note:** You were chosen for this interview based on your expertise. We fully expect that you do not have answers to each question listed in the guide. If you are not sure of an answer to a question- that is OK. Please indicate as such, and we will move on to the next question.

**2. Background Information**

Background	Question(s)
Attendee Name and Role at [MCE]	<ul style="list-style-type: none"> <li>• Please describe your current role at [MCE].</li> <li>• How long have you been in this role?</li> </ul>
Role in respect to the IN SMI Waiver	<ul style="list-style-type: none"> <li>• What has been your role, if any, in relation to the IN SMI Waiver?</li> </ul>

**3. Goal 1: Reduced utilization and LOS in EDs among Medicaid beneficiaries with SMI while awaiting MH treatment in specialized settings**

Although the rates of ED visits per 100,000 persons nationally have remained stable between 2009 and 2018, visits associated with MH diagnoses continued to rise among Medicaid beneficiaries during this time-period.<sup>126</sup> Individuals with SMI are more likely to have higher rates of ED utilization than individuals without any MH diagnosis. A key goal of the evaluation is to understand how demonstration activities have contributed to reductions in ED utilization and ED LOS among Medicaid beneficiaries with SMI.

Lewin interviewed MCEs in 2021 as well as 2023, and compiled insights specific to demonstration activities and their impact on ED utilization and ED LOS among the SMI population. For today’s interview, we hope to continue prior discussions specific to demonstration activities and their impact on ED utilization and ED LOS among the SMI population, focusing on the time-period of 2021-2023.

<sup>126</sup> Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health & Human Services. Trends in the Utilization of Emergency Department Services, 2009-2018. 2021. <https://aspe.hhs.gov/pdf-report/utilization-emergency-department-services>

#	Background	Question(s)
1	MCEs interviewed in 2021 described how the PHE impacted implementation activities and likely confounded the impact of the waiver on LOS for Medicaid beneficiaries with SMI waiting for MH treatment. MCEs described the 7-day instant authorization as a major change resulting from the COVID-19 PHE. Additionally, MCEs noted that it was difficult to track LOS related to SMI as opposed to LOS courtesy of the 7-day instant authorization. Overall, MCEs noted that all changes in LOS have been conflated.	<ul style="list-style-type: none"> <li>• Please describe ED utilization (i.e., trends) during CY2021-2023. How has ED utilization changed since 2020 (e.g., increased, decreased, stayed the same, etc.)?</li> <li>• How has LOS changed since 2020 (e.g., increased, decreased, stayed the same)?</li> <li>• What factors (e.g. hospital closures, wait times; environmental factors such as crime, provider availability) have contributed to changes in ED utilization? ED LOS?</li> <li>• During the timeframe (CY2021-2023), how did the PHE impact ED utilization? ED LOS? (e.g., social distancing parameters, anxiety around in-person services, etc.)</li> <li>• What types of barriers/challenges did [MCE] face in reducing ED utilization and/or ED LOS during the timeframe? How did [MCE] overcome barriers or mitigate challenges?</li> </ul>
2	It is our understanding (from the last iteration of interviews) that since 2021, MCEs have reported ALOS to the state, as it is required in their contracts, as well as quarterly reports with LOS data.	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• IF YES: <ul style="list-style-type: none"> <li>▪ What has [MCE] observed regarding ALOS, particularly for EDs, during the timeframe (CY2021-2023) (e.g., increase, decrease, stayed the same)?</li> <li>▪ What improvements or changes could be made to support ALOS monitoring?</li> </ul> </li> <li>• IF NO: <ul style="list-style-type: none"> <li>▪ During the timeframe, how did [MCE] monitor ALOS in EDs?</li> </ul> </li> </ul>
3	[MCE] may have other policies or procedures in place to ensure reduced utilization and LOS in EDs among Medicaid beneficiaries with SMI while awaiting MH treatment in specialized settings.	<ul style="list-style-type: none"> <li>• What other activities or strategies did [MCE] implement during CY2021-CY2023 to reduce ED utilization or ED LOS among SMI Medicaid beneficiaries?</li> <li>• For each activity, please describe its impact on ED utilization or ED LOS among SMI Medicaid beneficiaries.</li> <li>• What challenges/barriers have been encountered with implementing these strategies?</li> <li>• For both activities identified as part of the Demonstration Implementation plan and other activities noted: <ul style="list-style-type: none"> <li>▪ Which of the strategies have been most successful? Why?</li> <li>▪ What has helped support success?</li> </ul> </li> </ul>

**4. Goal 2: Reduced preventable readmissions to acute care hospitals and residential settings**

Patients with SMI may be vulnerable to unplanned hospital readmission.<sup>127</sup> Unplanned hospital readmission is a common but potentially preventable health care outcome and quality indicator associated with considerable health care costs. Recent studies have indicated that 30-day hospital

<sup>127</sup> Albrecht, J. S., Hirshon, J. M., Goldberg, R., Langenberg, P., Day, H. R., Morgan, D. J., Comer, A. C., Harris, A. D., & Furuno, J. P. (2012, April 26). *Serious mental illness and acute hospital readmission in diabetic patients*. American journal of medical quality : the official journal of the American College of Medical Quality. Retrieved April 22, 2022, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3677605/>

readmissions among Medicaid beneficiaries with SMI are higher than rates of 30-day readmissions after medical hospitalizations than the general population.<sup>128,129</sup>

A key goal of the evaluation is to understand how demonstration activities have contributed to reductions in preventable readmissions to acute care hospitals and residential settings.

Lewin interviewed MCEs in 2021 as well as 2023, and compiled insights specific to demonstration activities and their impact on readmissions to acute care hospitals and residential settings among the SMI population. For today’s interview, we hope to continue prior discussions specific to demonstration activities and their impact on preventable readmissions to acute care hospitals and residential settings among the SMI population, focusing on the time-period of 2021-2023.

	Background	Question(s)
4	In 2020, [MCE] indicated that they were unsure about whether readmission rates had been reduced.	<ul style="list-style-type: none"> <li>• Please describe readmission rates during 2021-CY2023. How have readmission rates changed (by year) since 2020 (e.g., increased, decreased, stayed the same etc.)?</li> <li>• What has contributed to the change in readmission rates (e.g., PHE, telehealth)?</li> <li>• What types of barriers/challenges did [MCE] face in reducing preventable readmissions to acute care hospitals and residential settings during the timeframe?</li> <li>• How did [MCE] overcome barriers or mitigate challenges?</li> </ul>
5	In 2020 and 2023, [MCE] did not provide information regarding readmission rates for beneficiaries with SMI. However, Goal 2 of the waiver is focused solely on reduced preventable readmissions to acute care hospitals and residential settings regarding SMI beneficiaries.	<ul style="list-style-type: none"> <li>• Please describe readmission rates during 2021-CY2023. How have readmission rates changed (by year) since 2020 (e.g., increased, decreased, stayed the same etc.)?</li> <li>• What has contributed to the change in readmission rates (e.g., PHE, telehealth)?</li> <li>• What types of barriers/challenges did [MCE] face in reducing preventable readmissions to acute care hospitals and residential settings during the timeframe?</li> <li>• How did [MCE] overcome barriers or mitigate challenges?</li> </ul>

<sup>128</sup> Cook, J. A., Burke-Miller, J. K., Razzano, L. A., Steigman, P. J., Jonikas, J. A., & Santos, A. (2021, February 13). *Serious mental illness, other mental health disorders, and outpatient health care as predictors of 30-day readmissions following medical hospitalization*. *General Hospital Psychiatry*. Retrieved April 22, 2022, from <https://www.sciencedirect.com/science/article/pii/S0163834321000244>

<sup>129</sup> Cook, J. A., Burke-Miller, J. K., Jonikas, J. A., Aranda, F., & Santos, A. (2020, September). *Factors associated with 30-day readmissions following medical hospitalizations among Medicaid beneficiaries with schizophrenia, bipolar disorder, and major depressive disorder*. *American Psychological Association PsycNet*. Retrieved April 22, 2022, from <https://psycnet.apa.org/record/2020-66663-001>

	Background	Question(s)
6	<p>In 2021, [MCE] indicated that they saw no difference in readmission rates to acute care hospitals and residential settings but could not attribute that to the SMI waiver. However, in 2023, [MCE] noted that any member admitted to an IMD facility tended to have longer lengths of stay and higher readmission rates after being initially admitted to the facilities, compared to other facilities.</p>	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• Please describe readmission rates during 2021-CY2023. How have readmission rates changed (by year) since 2020 (e.g., increased, decreased, stayed the same etc.)?</li> <li>• What has contributed to the change in readmission rates (e.g., PHE, telehealth)?</li> <li>• What types of barriers/challenges did the [MCE] face in reducing preventable readmissions to acute care hospitals and residential settings during the timeframe?</li> <li>• How did [MCE] overcome barriers or mitigate challenges?</li> </ul>
7	<p>In 2020, [MCE] indicated that they observed a reduction in overall readmissions. One strategy that made this possible was that the regional care managers oversee both medical and behavioral health. This decreases the communication barrier between MCE and provider and makes it easier to coordinate care for beneficiaries. Other strategies related to reduced readmissions included:</p> <ul style="list-style-type: none"> <li>• Quarterly meetings between health providers and CMHCs</li> <li>• Utilizing a platform called ‘Aunt Bertha’ to connect beneficiaries with resources and allows for real-time referrals.</li> </ul>	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• Please describe readmission rates during 2021-CY2023. How have readmission rates changed (by year) since 2020 (e.g., increased, decreased, stayed the same etc.)?</li> <li>• What has contributed to the change in readmission rates (e.g., PHE, telehealth)?</li> <li>• What types of barriers/challenges (e.g., COVID, limited office hours, reduced workforce) did [MCE] face in reducing preventable readmissions to acute care hospitals and residential settings during the timeframe?</li> <li>• How did [MCE] overcome barriers or mitigate challenges?</li> </ul>
8	<p>From the 2023 interviews, [MCE] indicated that they provided case management services to all beneficiaries discharged from an inpatient psychiatric or substance abuse hospitalization (for no fewer than 90 calendar days), as well as case management to beneficiaries during an inpatient hospitalization, or immediately upon receiving notification of a member’s inpatient behavioral health hospitalization. (<i>Milestone 2</i>)</p>	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• How has case management changed since 2020 (e.g., increase/decrease in beneficiaries, increase/decrease in complexity, stayed the same; type of case management services/activities; how case management is delivered - telehealth etc.)?</li> <li>• What has contributed to the growth or decline in case management (e.g., PHE, telehealth)?</li> <li>• What types of barriers/challenges did [MCE] face in providing case management services during the timeframe? <ul style="list-style-type: none"> <li>▪ How did [MCE] overcome barriers or mitigate risk?</li> </ul> </li> </ul>
9	<p>From the 2023 interviews, [MCE] shared about a report that includes all high utilizers and high readmissions. Since March of 2012, a case manager has been assigned to the top 50 high utilizers and re-admitters. [MCE] noted that many of those beneficiaries are unable to reach (UTR), (particularly during COVID-19 PHE) making it challenging to engage. In this process, [MCE], providers, and facilities are all working together to ensure that the member gets the support they need.</p>	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• Since 2020, describe (by year: 2021, 2022, and 2023) how providing case management to the top 50 utilizers and re-admitters has impacted preventable readmissions to acute care hospitals and residential settings?</li> <li>• What types of barriers/challenges did [MCE] face in providing case management services to the top 50 utilizers and re-admitters during the timeframe?</li> <li>• How did [MCE] overcome barriers and mitigate risk?</li> </ul>



	Background	Question(s)
10	<p>From the 2023 interviews, [MCE] described how they identified high ED utilizers, including, received an ADT alert (which they did not receive until late 2021). This information is pulled daily and used to identify beneficiaries who need outreach and care coordination. [MCE] also mentioned that there is state reporting on ED utilization, and they were able to identify beneficiaries that have had a certain number of ED visits within a certain timeframe.</p>	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• During the timeframe (by year: 2021, 2022, and 2023), describe how identifying high utilizers has impacted preventable readmissions to acute care hospitals and residential settings?</li> <li>• What types of barriers/challenges did [MCE] face in identifying high utilizers and re-admitters during the timeframe?</li> <li>• How did [MCE] overcome barriers and mitigate risk?</li> </ul>
11	<p>From the 2023 interviews, [MCE] shared that they utilize a very robust dashboard that utilizes ER utilization for emergent and non-emergent conditions. [MCE] also has a team that prioritizes beneficiaries who are presenting to the ED for BH related conditions. Additionally, monthly, [MCE] looks at the top ten beneficiaries and reviews treatment history, engagement, care management, etc.</p>	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• Since 2020, describe (by year: 2021, 2022, and 2023) how providing case management has impacted preventable readmissions to acute care hospitals and residential settings?</li> <li>• What types of barriers/challenges did [MCE] face in providing case management services during the timeframe?</li> <li>• How did [MCE] overcome barriers and mitigate risk?</li> </ul>
12	<p>From the 2023 interviews, [MCE] shared their process for identifying high ED utilizers with SMI. The process included:</p> <ul style="list-style-type: none"> <li>• A pre-call review</li> <li>• Review of claims</li> <li>• Utilizing diagnosis codes to flag ED utilization</li> <li>• An SMI flag</li> </ul>	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• Since 2020, describe (by year: 2021, 2022, and 2023) how providing case management to high ED utilizers has impacted preventable readmissions to acute care hospitals and residential settings?</li> <li>• What types of barriers/challenges did [MCE] face in providing case management services to high ED utilizers during the timeframe?</li> <li>• How did [MCE] overcome barriers and mitigate risk?</li> </ul>
13	<p>In 2021, [MCE] indicated that the sickest individuals are often not housed, and that housing situations are very challenging to “fit into a patient’s well-being.” In 2023, [MCE] noted that this continued to be a barrier, however, some internal strategies supported beneficiaries’ in reducing housing insecurity (e.g., changes to flex funds and member access to a housing specialist).</p>	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• How has housing insecurity changed (e.g. PHE) since 2020? Please describe each year during the timeframe: 2021, 2022, and 2023.</li> <li>• What strategies were successful during the timeframe that may have helped in addressing member housing needs? How did reducing housing insecurity impact readmissions? Please provide any examples you may have that illustrate this impact.</li> <li>• What types of barriers/challenges did [MCE] face in addressing housing insecurity for SMI beneficiaries during the timeframe?</li> <li>• How did [MCE] overcome barriers or mitigate challenges?</li> <li>• Based on [MCE] experience, please provide suggestions for how the State can improve access to housing, particularly for SMI beneficiaries?</li> </ul>

	Background	Question(s)
14	<p>In 2023, [MCE] indicated that part of improving access to beneficiaries with SMI to community-based services was to connect beneficiaries to stable housing.</p>	<ul style="list-style-type: none"> <li>• How has housing insecurity changed (e.g. PHE) since 2020? Please describe each year during the timeframe: 2021, 2022, and 2023.</li> <li>• What strategies were successful during the timeframe that may have helped in addressing member housing needs? How did reducing housing insecurity impact readmissions? Please provide any examples you may have that illustrate this impact.</li> <li>• What types of barriers/challenges did [MCE] face in addressing housing insecurity for SMI beneficiaries during the timeframe?</li> <li>• How did [MCE] overcome barriers or mitigate challenges?</li> <li>• Based on MCE experience, please provide suggestions for how the State can improve access to housing, particularly for SMI beneficiaries?</li> </ul>
15	<p>In 2021 and 2023, MCEs identified that one of the biggest challenges to the SMI waiver (due to the PHE) was that some provider facilities faced staffing shortages, large caseloads, burnout, etc.</p>	<ul style="list-style-type: none"> <li>• How have staffing issues changed since 2020 (e.g., improved, worsened, stayed the same)?</li> <li>• What strategies have been put into place to mitigate staffing issues?</li> <li>• How have staffing issues impacted care coordination and connecting beneficiaries to community-based services during the timeframe?</li> </ul>
16	<p>In 2021, MCEs noted a number of additional strategies to reduce preventable readmissions to acute care hospitals and residential settings including:</p> <ul style="list-style-type: none"> <li>• Relying more on case management and community health workers to track/engage with individuals. ([MCE] had noted that there was a group of community health workers and certified recovery specialists that are certified and personally track down individuals (in-person) and engage them with care.)</li> <li>• Working with facilities to find other treatment plans to help beneficiaries (i.e., working to get beneficiaries help with residential services).</li> <li>• Creating rounds for sickest beneficiaries, building personal relationships.</li> <li>• And an increased, focused outreach to the sickest individuals</li> </ul>	<ul style="list-style-type: none"> <li>• During the timeframe, has [MCE] continued to utilize these activities/strategies? What other activities or strategies did [MCE] implement during the timeframe to reduce preventable readmissions to acute care hospitals and residential settings among SMI Medicaid beneficiaries?</li> <li>• For each activity, please describe its impact on reduced preventable readmissions to acute care hospitals and residential settings among SMI Medicaid beneficiaries.</li> <li>• What challenges/barriers have been encountered with implementing these strategies?</li> <li>• How has [MCE] overcome barriers or mitigated challenges?</li> <li>• For both activities identified as part of the Demonstration Implementation plan and other activities noted:             <ul style="list-style-type: none"> <li>▪ Which of the strategies have been most successful? Why?</li> <li>▪ What has helped support success?</li> </ul> </li> </ul>

**5. Goal 3: Improved availability of crisis stabilization services utilizing multiple service models to meet the unique needs across the state**

Crisis response and stabilization (e.g., crisis call centers, crisis mobile team response, crises receiving and stabilization services) is a basic element of MH care and often serves as an access point for connecting individuals to community care resources. Although evidence regarding

crisis response programs is emerging, research has indicated that crisis response is associated with improved health outcomes.<sup>130</sup>

Lewin interviewed MCEs in 2020 as well as 2023, and compiled insights specific to demonstration activities and their impact on the availability of crisis stabilization services among the SMI population. For today’s interview, we hope to continue prior discussions specific to demonstration activities and their impact on improved availability of crisis stabilization services among the SMI population, focusing on the time-period of 2021-2023.

	Background	Question(s)
17	From the 2023 interviews, we learned that the OpenBeds software was not pursued for a renewal contract during 2022. Additionally, the impact of no longer using OpenBeds was minimal, as providers use other strategies to connect beneficiaries to care.	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• Please describe the strategies [MCE] used in 2021-2023 to connect beneficiaries to beds.</li> <li>• What challenges/barriers have been faced? How were barriers overcome or challenges mitigated?</li> <li>• Based on [MCE] experience, what can the state do to improve access for SMI Medicaid beneficiaries in need of beds?</li> </ul>
18	In 2020 and 2023, [MCE] shared that they have quarterly meetings with CMHCs.	<ul style="list-style-type: none"> <li>• During the timeframe, did [MCE] continue to have quarterly meetings with the CMHCs?</li> <li>• Since 2020, how have these meetings improved the availability of crisis stabilization services throughout the state for SMI beneficiaries? During the timeframe, specifically?</li> <li>• What challenges or barriers has [MCE] observed with the implementation of these meetings?</li> <li>• What has helped support success of this strategy?</li> </ul>
19	<p>In 2021, [MCE] shared a number of strategies that had been implemented to improve the availability of crisis stabilization services throughout the state, including:</p> <ul style="list-style-type: none"> <li>• The 998 initiative,</li> <li>• CMHC’s MCU/MRSS, and</li> <li>• CSUs</li> </ul> <p>It was also noted in 2020 that [MCE] had been working with NAMI to expand their Crisis Intervention Team (CIT) programs in ten counties. Additionally, [MCE] had a goal to have all frontline staff trained in MH first aid.</p>	<ul style="list-style-type: none"> <li>• Since 2020, how has the implementation of these strategies improved availability of crisis stabilization services throughout the state for SMI beneficiaries? During the timeframe, specifically?</li> <li>• What challenges or barriers has [MCE] observed with the implementation of these strategies?</li> <li>• Which of these strategies has been most successful? Why?</li> <li>• What has helped support success?</li> </ul>

<sup>130</sup> Vikki, W., & Natasha, C. (2021, May). *Building blocks: How Medicaid can advance mental health and substance use crisis response*. Well Being Trust. Retrieved April 22, 2022, from <https://wellbeingtrust.org/wp-content/uploads/2021/05/WBT-Medicaid-MH-and-CrisisCareFINAL.pdf>

	Background	Question(s)
20	In 2020, [MCE] shared that the CSU pilot was a strategy that had been identified to improve the availability of crisis stabilization services throughout the state. Though the implementation was delayed due to COVID, two certified MH clinics were awarded contracts to operate CSU pilots which began on July 1, 2020. From the last iteration of interviews, we learned that the CSU pilot was completed in June of 2022.	<ul style="list-style-type: none"> <li>• Since 2020, how has the implementation of the CSU pilot improved availability of crisis stabilization services throughout the state for SMI beneficiaries? During the timeframe, specifically?</li> <li>• What challenges or barriers has [MCE] observed with the implementation of these strategies?</li> <li>• What has helped support the success of the CSU pilots?</li> </ul>
21	[MCE] may have or know of other policies or procedures in place to ensure improved availability of crisis stabilization services to meet the unique needs across the state.	<ul style="list-style-type: none"> <li>• What other activities or strategies were implemented during the timeframe to improve access to crisis stabilization services for SMI beneficiaries?</li> <li>• For each activity, please describe its impact on access to crisis stabilization for SMI Medicaid beneficiaries.</li> <li>• What challenges/barriers have been encountered with implementing these strategies?</li> <li>• Which of the strategies have been most successful? Why?</li> <li>• What has helped support success?</li> </ul>

**6. Goal 4: Improved access to community-based services to address the chronic MH care needs of beneficiaries with SMI including through increased integration of primary and behavioral health care.**

Individuals with SMI suffer disproportionately from PH conditions than their non-SMI peers and are at increased risk for a range of acute and chronic diseases (e.g., diabetes, cardiovascular disease, respiratory disease, cancer, and infectious disease).<sup>131</sup>

Lewin interviewed MCEs in 2020 as well as 2023, and compiled insights specific to demonstration activities and their impact on access to community-based services among the SMI population. For today’s interview, we hope to continue prior discussions specific to demonstration activities and their impact on access to community-based services among the SMI population, focusing on the time-period of 2021-2023.

<sup>131</sup> Breslau, J., Sorbero, M. J., Kusuke, D., Yu, H., Scharf, D. M., Hackbarth, N. S., & Pincus, H. A. (2019, March 28). *Primary and behavioral health care integration program: Impacts on Health Care Utilization, cost, and quality*. Office of the Assistant Secretary for Planning and Evaluation. Retrieved April 22, 2022, from <https://aspe.hhs.gov/reports/primary-behavioral-health-care-integration-program-impacts-health-care-utilization-cost-quality-0>

	Background	Question(s)
22	<p>SBHC provide on-site comprehensive preventative and primary health services including behavioral health, oral health, ancillary and enabling services. MCEs are encouraged to plan for, develop, and or/enhance relationships with SBHCs with the goal of providing accessible services to school-aged, enrolled beneficiaries.</p> <p>From the last iteration of interviews, we learned that [MCE] engaged with school behavioral health services in partnership with their contracted behavioral health providers (i.e., large hospital systems, CMHCs (Adult &amp; Child), or FQHCs).</p> <p>From the last iteration of interviews, we learned that [MCE] engaged with school behavioral health services, though it was difficult during COVID. [MCE] has a school-based health administrator who has a great relationship with the schools. They also coordinate with schools and the Executive Director of the School Nurses Association to place emergency medication boxes (with naloxone) in the schools.</p> <p>From the last iteration of interviews, we learned that [MCE] engaged with school behavioral health services in partnership with their contracted behavioral health providers (i.e., large hospital systems or FQHCs).</p> <p>From the last iteration of interviews, we learned that [MCE] engaged with school behavioral health services via the school-based administrator at [MCE]. Some of the activities completed in CY2021-2022 included:</p> <ul style="list-style-type: none"> <li>• Utilization of telehealth in the Morrisville Clinic’s school-based behavioral health center</li> <li>• Partnering with Community Health Net.</li> </ul> <p>From the last iteration of interviews, we learned that [MCE] engaged with school behavioral health services via the FQHCs.</p>	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> </ul>

	Background	Question(s)
23	<p>IN 2021, [MCE] provided a number of challenges that had been encountered related to improved access of beneficiaries with SMI to community-based services to address their chronic MH care needs including through increased integration of primary and behavioral health care, including:</p> <ul style="list-style-type: none"> <li>• Closed facilities,</li> <li>• Staffing shortages,</li> <li>• Increased number of individuals with SMI</li> <li>• COVID-19 depleted community resources,</li> <li>• Differing intake processes,</li> <li>• Long wait lists for housing for sickest individuals,</li> <li>• Sober living facility shortages,</li> <li>• Challenges with CMHC communication,</li> <li>• Going home to an environment not conducive to recovery.</li> </ul>	<ul style="list-style-type: none"> <li>• During the timeframe, do these challenges continue to impact SMI beneficiaries? How so?</li> <li>• Based on [MCE] experience, how can the state improve access to Medicaid beneficiaries with SMI to community-based services to address their chronic MH needs?</li> </ul>
24	<p>In 2021, [MCE] had not identified any strategies that had been implemented to improve access of beneficiaries with SMI to community-based services to address chronic MH care needs through increased integration of primary and behavioral health care.</p> <p>In 2020, [MCE] noted a few strategies that improved access to community-based services for beneficiaries with SMI, including:</p> <ul style="list-style-type: none"> <li>• Encouraging coordination between primary and behavioral health providers.</li> <li>• PCPs located in the CMHCs.</li> <li>• Expansion of 211 and Aunt Bertha.</li> </ul>	<ul style="list-style-type: none"> <li>• During the timeframe, were there any other activities or strategies that were implemented to improve access of beneficiaries with SMI to community-based services to address chronic MH care needs through increased integration of primary and behavioral health care?</li> <li>• IF YES: <ul style="list-style-type: none"> <li>▪ For each activity, please describe its impact on improved access to community-based services to address chronic MH care needs through increased integration of primary and behavioral health care.</li> <li>▪ What challenges/barriers have been encountered with implementing these strategies?</li> <li>▪ Which of the strategies have been most successful? Why?</li> <li>▪ What has helped support success?</li> </ul> </li> <li>• IF NO: <ul style="list-style-type: none"> <li>▪ What challenges/barriers have been encountered with trying to implement any new strategies?</li> </ul> </li> </ul>

**7. Goal 5: Improved care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities**

Lastly, we will discuss Goal 5, factors that supported progress towards Goal 5, any challenges or barriers encountered, and future plans. Goal 5 focuses on improved care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities. In addition to disparities in health outcomes, people with SMI often use the

MH care system as their principal setting for access to medical and social care.<sup>132,133,134</sup> As such, community MH settings are challenged to address the many demands associated with comorbid chronic medical conditions and related primary and preventive care needs.<sup>135</sup>

Lewin interviewed MCEs in 2020 as well as 2023, and compiled insights specific to demonstration activities and their impact on improved care coordination among the SMI population. For today’s interview, we hope to continue prior discussions specific to demonstration activities and their impact on care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities among the SMI population, focusing on the time-period of 2021-2023.

	Background	Question(s)
25	In 2020, [MCE] shared that with the utilization of telehealth, treatment that had not been previously utilized via this route was now being utilized and had potentially improved continuity of care. However, some beneficiaries did not feel comfortable with utilizing telehealth.	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• How has telehealth continued to impact continuity of care for beneficiaries with SMI (during the timeframe)? How does that differ from 2020?</li> <li>• What challenges has telehealth offered during the timeframe?</li> </ul>
26	In 2020, [MCE] noted that as a result of the 7-day instant authorization, providers were only allowing for walk-in appointments, therefore creating long wait times for beneficiaries. Additionally, due to lack of admission information (SMI beneficiaries may struggle to provide all relevant details) the discharge summaries for beneficiaries may not capture the breadth of support needed, making it challenging to provide the proper care coordination.	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• How has this information changed since 2020?</li> <li>• During the timeframe, how has [MCE] addressed challenges with discharge summaries for beneficiaries with SMI?</li> </ul>
27	In 2021, [MCE] shared that they advocate for their beneficiaries, in order to execute better care coordination. Care managers have been essential in moving this strategy forward. However, provider engagement continued to be an issue. This same sentiment was noted during the 2023 interviews with [MCE] as well, stating that there have been challenges with provider engagement, as providers may not understand the value of this relationship.	<ul style="list-style-type: none"> <li>• During the timeframe, what strategies have you used to improve provider engagement? How have those strategies been successful?</li> <li>• Based on [MCE] experience, how can the state support the MCE/provider relationship?</li> </ul>

<sup>132</sup> Bartels SJ (2003). Improving the system of care for older adults with mental illness in the United States: Findings and recommendations for the President’s new freedom commission on mental health. *American Journal of Geriatric Psychiatry*, 11, 486–497.

<sup>133</sup> De Hert M, Correll CU, Bobes J, Cetkovich-Bakmas M, Cohen D, Asai I, ... Leucht S (2011a). Physical illness in patients with severe mental disorders. I. Prevalence, impact of medications and disparities in health care. *World Psychiatry*, 10, 52–77.

<sup>134</sup> Bao Y, Casalino LP, & Pincus HA (2013). Behavioral health and health care reform models: Patient-centered medical home, health home, and accountable care organization. *Journal of Behavioral Health Services & Research*, 40, 121–132.

<sup>135</sup> Bao Y, Casalino LP, & Pincus HA (2013). Behavioral health and health care reform models: Patient-centered medical home, health home, and accountable care organization. *Journal of Behavioral Health Services & Research*, 40, 121–132.

	Background	Question(s)
28	<p>Data sharing systems, particularly those that allow coordination of services among treatment team beneficiaries, clinical supervision, medication and medication management, psychotherapy, case management, coordination with primary care, family/caregiver support and education, and SE and supported education, may impact care coordination for beneficiaries with SMI.</p> <p>In 2020, [MCE] noted that, though not a change but rather an update to the system, they have access to PA systems, so they can easily find utilization/care management information in the systems.</p> <p>In the 2020 interviews, [MCE] noted that the MCEs had created an IMD tracking sheet, which the IMDs filled out with pertinent information. [MCE] then created an internal tracked in an effort to “audit” the accuracy of the member capture. This is then used internally to create an IMD quarterly report that is shared with the state.</p>	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• Have there been additional changes through the demonstration (since 2020) to data sharing systems, processes, or policies?</li> <li>• How have these changes impacted data sharing systems during the timeframe?</li> <li>• What challenges/barriers has [MCE] experience with these data sharing changes?</li> </ul>
29	<p>In the 2021 interviews, [MCE] noted that IMDs send [MCE] monthly reports, which allows [MCE] to easily follow beneficiaries. Additionally, the UM Team and [a doctor] keep a close eye on LOS for their beneficiaries (via data sharing with providers) in order to ensure that beneficiaries do not surpass the days that they can spend in facilities as well as receive necessary treatment.</p>	<ul style="list-style-type: none"> <li>• What challenges/barriers has [MCE] experienced with these data sharing changes?</li> </ul>
30	<p>[MCE] may have or know of other policies or procedures in place to ensure improved care coordination, especially continuity of care in the community following episodes of acute care in hospital and residential treatment facilities.</p> <p>In 2020, [MCE] noted that the state did a good job of encouraging providers and the MCEs to communicate with one another. [MCE] noted that MCEs were included to participate in the Indiana Council for CMHC meetings, as well as monthly on-sites with the state. These strategies improved care coordination for SMI beneficiaries.</p>	<ul style="list-style-type: none"> <li>• What strategies during the timeframe did [MCE] utilize to improve care coordination for beneficiaries with SMI?</li> <li>• Did [MCE] experience any barriers or challenges in implementing these strategies?</li> <li>• Which of the strategies was most successful and why?</li> <li>• What has helped support success?</li> <li>• How did COVID-19 impact these strategies?</li> </ul>

### C. Indiana 1115(a) SMI Demonstration Evaluation: Provider KII Guide

#### 1. Introduction:

This interview is part of a series of KIIs that will provide a better understanding of the state’s progress in meeting the five goals of the Indiana’s 1115 SMI Demonstration Evaluation.

Lewin, as the independent evaluator of the IN SMI Waiver, will be conducting a series of 30–60-minute interviews (with State officials, MCE representatives, providers, advocacy organizations, and beneficiaries) to gather information on goal progress in relation to the IN SMI Waiver Demonstration, impact of the COVID-19 PHE, factors that supported progress, any challenges or barriers encountered, and pertinent follow-up based on insights gathered from previous interviews.



This interview guide is organized by topic area. For each topic area, we have included background information for context prior to each question. For this interview, we will focus on understanding the provider experience of, and perspective on, Indiana’s progress towards meeting the five goals of the IN SMI Waiver. ***In preparation for the interview, please be sure to read all background information as well as the questions.*** See topic areas below:

- Interviewee Background Information
- Goal 1: Reduced utilization and LOS in EDs among Medicaid beneficiaries with SMI while awaiting MH treatment in specialized settings
- Goal 2: Reduced preventable readmissions to acute care hospitals and residential settings
- Goal 3: Improved availability of crisis stabilization services utilizing multiple service models to meet the unique needs across the state
- Goal 4: Improved access to community-based services to address the chronic MH care needs of beneficiaries with SMI including through increased integration of primary and behavioral health care
- Goal 5: Improved care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities

This interview will be 30 minutes in length.

***Please note:*** You were selected for this interview based on your expertise. We fully expect that you do not have answers to all of the questions listed in the guide. If you are not sure of an answer to a question- that is OK. Please indicate as such, and we will move on to the next question.

## 2. Background Information

Background	Question(s)
Attendee Name and Role at [provider name]	<ul style="list-style-type: none"> <li>• Please describe your current role at [provider name].</li> <li>• How long have you been in this role?</li> </ul>
Awareness/involvement with the IN SMI Waiver	<ul style="list-style-type: none"> <li>• What has been your role, if any, in relation to the IN SMI Waiver?</li> </ul>

## 3. Goal 1: Reduced utilization and LOS in EDs among Medicaid beneficiaries with SMI while awaiting MH treatment in specialized settings

Although the rates of ED visits per 100,000 persons nationally have remained stable between 2009 and 2018, visits associated with MH diagnoses continued to rise among Medicaid beneficiaries during this time-period.<sup>136</sup> Individuals with SMI are more likely to have higher rates of ED utilization than individuals without any MH diagnosis. A key goal of the evaluation is to understand how demonstration activities have contributed to reductions in ED utilization and ED LOS among Medicaid beneficiaries with SMI.

<sup>136</sup> Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health & Human Services. Trends in the Utilization of Emergency Department Services, 2009-2018. 2021. <https://aspe.hhs.gov/pdf-report/utilization-emergency-department-services>

Lewin interviewed providers in 2021 as well as 2023, and compiled insights specific to demonstration activities and their impact on ED utilization and LOS among the SMI population. For today’s interview, we hope to continue prior discussions specific to demonstration activities and their impact on ED utilization and LOS among the SMI population, focusing on the time-period of 2021-2023.

#	Background	Question(s)
1	Research indicates that between 2009 and 2018, ED visits associated with MH diagnoses continued to rise among Medicaid beneficiaries.	<ul style="list-style-type: none"> <li>• What did ED utilization for Medicaid beneficiaries with SMI in 2020 look like (Prompts: Were Medicaid beneficiaries with SMI high or low utilizers? Was utilization consistent across the year? Impact of COVID?)? During the timeframe?</li> <li>• What has contributed to this change?</li> <li>• What has been successful in reducing ED utilization with the SMI beneficiaries?</li> </ul>
2	It is our understanding from previous interviews that [provider] has two CSUs. In 2023, [provider] noted that they cultivated relationships with law enforcement in order for the CSUs to operate as intended with almost 50% of the individuals who were brought in, coming back multiple times (20% SMI, 20% SUD, and 40% co-occurring). [Provider] had also noted that there had been success in decreased ED utilization as well as minimizing police time concerning crisis episodes.	<ul style="list-style-type: none"> <li>• What did ED utilization for Medicaid beneficiaries with SMI in 2020 look like (Prompts: Were Medicaid beneficiaries with SMI high or low utilizers? Was utilization consistent across the year? Impact of COVID?)? During the timeframe?</li> <li>• How have the CSUs been successful in reducing ED utilization with the SMI beneficiaries? What else has been successful in reducing ED utilization with SMI beneficiaries.</li> <li>• Were there any challenges with reducing ED utilization for this population during the timeframe? How did that differ from 2020?</li> </ul>
3	It is our understanding from previous interviews that [provider] has a CSU. It was noted in 2023 that the [provider] was a 23-hour crisis observation and receiving center with five adult crisis chairs for 18+ and that 50-60% of those that utilized the CSU were individuals with SMI.	<ul style="list-style-type: none"> <li>• What did ED utilization for Medicaid beneficiaries with SMI in 2020 look like (Prompts: Were Medicaid beneficiaries with SMI high or low utilizers? Was utilization consistent across the year? Impact of COVID?)? During the timeframe?</li> <li>• How has the CSU been successful in reducing ED utilization with the SMI beneficiaries? What else has been successful in reducing ED utilization with SMI beneficiaries?</li> <li>• Were there any challenges with reducing ED utilization for this population during the timeframe? How did that differ from 2020?</li> </ul>
4	From interviews completed in 2021 and 2023, we heard from various stakeholders that the LOS for Medicaid beneficiaries had been conflated over the years due to the COVID-19 PHE and the 7-day instant authorization.	<ul style="list-style-type: none"> <li>• Describe any observations specific to LOS for Medicaid beneficiaries with SMI during the timeframe (Prompts: ALOS; Changes to LOS across the time frame; COVID)?</li> <li>• How did LOS differ from 2020?</li> </ul>
5	In 2021, [provider] had noted that the overall capacity within the acute care hospital had gone down as people stopped utilizing the ED (due to COVID-19) in 2020. Then in July, August, and September of 2020, ED utilization increased (particularly for overdose and behavioral-health related matters). There was even a point in January and February of 2021 where the hospital was setting ED all-time high wait time records.	<ul style="list-style-type: none"> <li>• Describe any observations specific to LOS for Medicaid beneficiaries with SMI during the timeframe (Prompts: ALOS; Changes to LOS across the time frame; COVID)?</li> <li>• How did LOS differ from 2020?</li> </ul>

#	Background	Question(s)
6	From previous interviews, we learned that during CY2021-2022, [provider] serviced 230 individuals in the CSU and that the ALOS for individuals in the CSU was 8.5 hours.	<ul style="list-style-type: none"> <li>Describe any observations specific to LOS for Medicaid beneficiaries with SMI during the timeframe (Prompts: ALOS; Changes to LOS across the time frame; COVID)?</li> <li>How did LOS differ from 2020?</li> </ul>
7	From our interview in 2021, [provider] noted that they had lasting partnerships with local FQHCs and focused on staff workflows to ensure SMI population is connected with their PCP. Additionally, [provider] offered regular skills training regarding proper utilization of the ER, when to call 911, when to call the nurse care manager at their PCP etc. It was also noted that this training had been a result of the Certified Community Behavioral Health Clinic (CHBC) Expansion Grant that [provider] was awarded.	<ul style="list-style-type: none"> <li>Is this information still correct?</li> <li>During the timeframe, how have these strategies diverted SMI beneficiaries from the ED? How has that differed from 2020? Please describe challenges and successes.</li> </ul>
8	From interviews in 2023, [provider] noted a policy for daytime hours where any walk-in is treated by the receiving location. This way, individuals can walk in or call at any time of the day (during business hours) and receive emergency care.	<ul style="list-style-type: none"> <li>During the timeframe, how has the policy outlined impacted ED utilization for SMI beneficiaries?</li> <li>Describe any observations specific to LOS for Medicaid beneficiaries with SMI during the timeframe (Prompts: ALOS; Changes to LOS across the time frame; COVID). How did LOS differ from 2020?</li> <li>Describe any observations related to ED utilization for Medicaid beneficiaries with SMI during the timeframe. How did ED utilization differ from 2020?</li> </ul>
9	In 2023, [provider] stated that the ALOS for someone with SMI in an inpatient facility was 3.5 days.	<ul style="list-style-type: none"> <li>Describe any observations specific to LOS for Medicaid beneficiaries with SMI during the timeframe (Prompts: ALOS; Changes to LOS across the time frame; COVID)?</li> <li>How did LOS differ from 2020?</li> </ul>
10	Other policies, initiatives, or procedures	<ul style="list-style-type: none"> <li>Can you describe any state policies, initiatives, or processes that impacted utilization and LOS in EDs among SMI beneficiaries during CY2021 – CY2023?</li> <li>Are there policies, initiatives, or procedures that the state could implement to reduce utilization and LOS in EDs for SMI beneficiaries? If yes, please describe.</li> </ul>

**4. Goal 2: Reduced preventable readmissions to acute care hospitals and residential settings**

Patients with SMI may be vulnerable to unplanned hospital readmission.<sup>137</sup> Unplanned hospital readmission is a common but potentially preventable health care outcome and quality indicator associated with considerable health care costs. Recent studies have indicated that 30-day hospital

<sup>137</sup> Albrecht, J. S., Hirshon, J. M., Goldberg, R., Langenberg, P., Day, H. R., Morgan, D. J., Comer, A. C., Harris, A. D., & Furuno, J. P. (2012, April 26). *Serious mental illness and acute hospital readmission in diabetic patients*. American journal of medical quality: the official journal of the American College of Medical Quality. Retrieved April 22, 2022, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3677605/>

readmissions among Medicaid beneficiaries with SMI are higher than rates of 30-day readmissions after medical hospitalizations than the general population.<sup>138,139</sup> A key goal of the evaluation is to understand how demonstration activities have contributed to reductions in preventable readmissions to acute care hospitals and residential settings.

Lewin interviewed providers in 2021 as well as 2023, and compiled insights specific to demonstration activities and their impact on readmissions among the SMI population to acute care hospitals and residential settings. For today’s interview, we hope to continue prior discussions specific to demonstration activities and their impact on readmissions among the SMI population, focusing on the time-period of 2021-2023.

#	Background	Question(s)
11	In 2021, [provider] noted that readmission rates for those that accessed [provider’s] acute care hospital did not increase and likely remained between 3%-9% in a 30-day period.	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• Describe readmission rates to acute care hospitals and residential settings during the timeframe. How did that differ from 2020?</li> </ul>
12	In 2020, there was an effort to pilot two CSUs across the state to provide an alternative to crisis evaluations within EDs and divert admissions to inpatient psychiatric units.  We learned that legislation passed in 2023 ( <a href="#">house enrolled act 1006</a> ) helped to streamline the process of getting people into crisis stabilization because it required insurance providers to reimburse for any service for someone who is brought into a CSU under “emergency detention.”	<ul style="list-style-type: none"> <li>• Were you aware of the CSU pilots?</li> <li>• How have the CSUs contributed to reduced preventable readmissions during the timeframe? How does that differ from readmission rates in 2020 for SMI beneficiaries? What was the impact of COVID?</li> <li>• What strategies/activities have you implemented to reduce preventable readmissions for SMI beneficiaries during the timeframe? Describe successes and challenges.</li> </ul>
13	It was noted in interviews in 2023 that [provider] had a CSU in partnership with Franciscan Health.	<ul style="list-style-type: none"> <li>• Is this information regarding a partnership with Franciscan Health still correct?</li> <li>• How have the CSUs contributed to reduced preventable readmissions during the timeframe? How does that differ from readmission rates in 2020 for SMI beneficiaries? What was the impact of COVID?</li> <li>• What strategies/activities has [provider] implemented to reduce preventable readmissions for SMI beneficiaries during the timeframe? Describe successes and challenges.</li> </ul>

<sup>138</sup> Cook, J. A., Burke-Miller, J. K., Razzano, L. A., Steigman, P. J., Jonikas, J. A., & Santos, A. (2021, February 13). *Serious mental illness, other mental health disorders, and outpatient health care as predictors of 30-day readmissions following medical hospitalization*. *General Hospital Psychiatry*. Retrieved April 22, 2022, from <https://www.sciencedirect.com/science/article/pii/S0163834321000244>

<sup>139</sup> Cook, J. A., Burke-Miller, J. K., Jonikas, J. A., Aranda, F., & Santos, A. (2020, September). *Factors associated with 30-day readmissions following medical hospitalizations among Medicaid beneficiaries with schizophrenia, bipolar disorder, and major depressive disorder*. *American Psychological Association PsycNet*. Retrieved April 22, 2022, from <https://psycnet.apa.org/record/2020-66663-001>

#	Background	Question(s)
14	We have already discussed the CSUs in relation to ED utilization.	<ul style="list-style-type: none"> <li>How have the CSUs impacted preventable readmissions during the timeframe? Please describe any observations re: trends in readmission rates (during the timeframe; in 2020. What was the impact of COVID on re-admission rates?</li> <li>What strategies or activities did [provider] implement to impact readmission rates? Please describe successes and challenges.</li> </ul>
15	In 2023, it was noted that the CSUs most likely diverted beneficiaries from inpatient psychiatric services.	<ul style="list-style-type: none"> <li>How have the CSUs impacted preventable readmissions during the timeframe? Please describe any observations in readmission rates during the timeframe as well as 2020. What was the impact of COVID on readmission rates?</li> <li>What strategies or activities did [provider] implement to impact readmission rates? Please describe successes and challenges.</li> </ul>
16	Other policies, initiatives, or procedures	<ul style="list-style-type: none"> <li>Can you describe any state policies, initiatives, or processes that impacted readmissions to acute care hospitals and residential settings among SMI beneficiaries during CY2021 – CY2023?</li> <li>Are there policies, initiatives, or procedures that the state could implement to reduce preventable readmissions to acute care hospitals and residential settings for SMI beneficiaries? If yes, please describe.</li> </ul>

**5. Goal 3: Improved availability of crisis stabilization services utilizing multiple service models to meet the unique needs across the state**

Crisis response and stabilization (e.g., crisis call centers, crisis mobile team response, crises receiving and stabilization services) is a basic element of MH care and often serves as an access point for connecting individuals to community care resources. Although evidence regarding crisis response programs is emerging, research has indicated that crisis response is associated with improved health outcomes.<sup>140</sup> A key goal of the evaluation is to understand how demonstration activities have contributed to improving availability of crisis stabilization services.

Lewin interviewed providers in 2021 as well as 2023, and compiled insights specific to demonstration activities and their impact on the availability of crisis stabilization services among the SMI population. For today’s interview, we hope to continue prior discussions specific to demonstration activities and their impact on the availability of crisis stabilization services among the SMI population, focusing on the time-period of 2021-2023.

#	Background	Question(s)
17	In 2021, [provider] noted that it was one of the first adopters of mobile crisis stabilization services in the state of Indiana, and that there were plans to expand these services.	<ul style="list-style-type: none"> <li>Is this information correct?</li> <li>What did mobile crisis stabilization services look like at [provider] during the time frame? How did that differ from 2020?</li> <li>Please describe successes/challenges during the timeframe.</li> </ul>

<sup>140</sup> Vikki, W., & Natasha, C. (2021, May). *Building blocks: How Medicaid can advance mental health and substance use crisis response*. Well Being Trust. Retrieved April 22, 2022, from <https://wellbeingtrust.org/wp-content/uploads/2021/05/WBT-Medicaid-MH-and-CrisisCareFINAL.pdf>

#	Background	Question(s)
18	<p>We also learned in 2021 that [provider] had expanded ACT services, including expanded emergency services to increase the reach of MCU/MRSS.</p>	<ul style="list-style-type: none"> <li>• Is this information correct?</li> <li>• Please elaborate on the types of services provided to Medicaid beneficiaries with SMI.</li> <li>• What did these expanded services look like during the timeframe? How did this differ from 2020?</li> </ul>
19	<p>In 2021, [provider] noted that they were trying to pilot a direct drop off by local law enforcement either directly through mobile crisis services OR that law enforcement would directly drop off patient at a CSU.</p>	<ul style="list-style-type: none"> <li>• During the timeframe, was [provider] able to begin this pilot?</li> <li>• What were the outcomes of this pilot, particularly as it pertains to getting SMI beneficiaries access to crisis stabilization services during the timeframe?</li> <li>• Please describe any successes/challenges.</li> </ul>
20	<p>In the 2023 interviews, [provider] described MRO services, noting that:</p> <ul style="list-style-type: none"> <li>• The focus is on individuals who are uninsured or receiving government insurance.</li> <li>• Services are for those (with SMI or persistent mental illness) who have lost life skills functioning (e.g., ability to decide, ability to manage daily care, etc.), so, they are in need of ongoing coaching/care/monitoring to relearn or reinforce those skills again and again.</li> <li>• There is some benefit from these services for months or years, depending upon need.</li> </ul>	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• What have MRO services looked like during the timeframe? How does that compare to 2020?</li> <li>• Please describe successes/challenges in providing these services.</li> </ul>
21	<p>We also learned that legislation passed in 2023 (<a href="#">house enrolled act 1006</a>) helped to streamline the process of getting people into crisis stabilization because it required insurance providers to reimburse for any service for someone who is brought into a CSU under “emergency detention.”</p>	<ul style="list-style-type: none"> <li>• How has this legislation contributed to the improved availability of crisis stabilization services across the state during the timeframe? How does that differ from 2020?</li> </ul>
22	<p>In 2021, [provider] noted that care coordination lacked “actionable data.” It was also noted that at one point, DMHA had an alliance with ProAct which allowed providers to see who went to the ER, and who had seen their primary provider, all based on claims data.</p>	<ul style="list-style-type: none"> <li>• Could you please elaborate on what is meant by “actionable data?” Did the lack of “actionable data” continue to impact care coordination for SMI beneficiaries during the timeframe?</li> <li>• Regarding ProAct, is this alliance with DMHA still active? How has this alliance impacted care coordination for SMI beneficiaries during the timeframe?</li> <li>• Please describe successes/challenges with care coordination during the timeframe.</li> </ul>
23	<p>There are a number of crisis response and stabilization services offered in the state of Indiana including crisis call centers, crisis mobile team response, crisis receiving and stabilization services. [Provider] may have interacted with some of these services during the timeframe.</p> <p>From interviews completed in 2021, [provider] noted they had a mobile crisis team that started a couple months prior to opening the CSU and that the mobile crisis team had reduced the number of times [provider] has needed to use the CSU.</p>	<ul style="list-style-type: none"> <li>• Has [provider] seen a change in the availability of crisis stabilization services during the timeframe? How does this differ from 2020?</li> <li>• How has the change in the availability of crisis stabilization services impacted SMI beneficiaries?</li> <li>• What challenges has [provider] observed that are specific to crisis stabilization services for SMI beneficiaries (prompt: access challenges; treatments; workforce)</li> <li>• What actions can the state take to help mitigate these challenges?</li> </ul>

#	Background	Question(s)
24	Other policies, initiatives, or procedures	<ul style="list-style-type: none"> <li>• Can you describe any state policies, initiatives, or processes that impacted the availability of crisis stabilization services for SMI beneficiaries during CY2021 – CY2023?</li> <li>• Are there policies, initiatives, or procedures that the state could implement to help improve the availability of crisis stabilization services for SMI beneficiaries? If yes, please describe.</li> </ul>

**6. Goal 4: Improved access to community-based services to address the chronic MH care needs of beneficiaries with SMI including through increased integration of primary and behavioral health care**

Individuals with SMI suffer disproportionately from PH conditions than their non-SMI peers and are at increased risk for a range of acute and chronic diseases (e.g., diabetes, cardiovascular disease, respiratory disease, cancer, and infectious disease).<sup>141</sup> A key goal of the evaluation is to understand how demonstration activities have contributed to improving access to community-based services to address the chronic MH care needs of Medicaid beneficiaries with SMI.

Lewin interviewed providers in 2021 as well as 2023, and compiled insights specific to demonstration activities and their impact on the availability of crisis stabilization services among the SMI population. For today’s interview, we hope to continue prior discussions specific to demonstration activities and their impact on the availability of crisis stabilization services among the SMI population, focusing on the time-period of 2021-2023.

#	Background	Question(s)
25	In 2023, inpatient providers noted that each had a comprehensive screening protocol in place, which included a full medical history, medication use, and treatment history. If a patient did endorse physical or co-morbid conditions that needed attention, there were medical providers on staff ready to treat, in addition to the MH services. Inpatient providers emphasized that applying a holistic or integrated approach was essential for positive outcomes.	<ul style="list-style-type: none"> <li>• During the timeframe, how has [provider] addressed the chronic MH care needs of beneficiaries with SMI (e.g., increased integration of primary and behavioral health care)? How does that differ to 2020?</li> <li>• Did [provider] continue to experience challenges with piecing together beneficiary medical history during the timeframe? If so, how were those challenges mitigated?</li> <li>• What was the impact, if any, of telehealth on addressing the chronic health care needs of SMI beneficiaries during the timeframe? How did that differ from 2020?</li> </ul>
26	In 2021, [provider] indicated that they expanded primary care services, specifically the Harmony Health integrated care program in Lawrenceburg, IN. The Harmony Health clinic provides all types of primary care services including youth and family practice, vaccinations, and referrals to specialized care.	<ul style="list-style-type: none"> <li>• Is this information correct?</li> <li>• During the timeframe, has [provider] continued to expand primary care services?</li> </ul>

<sup>141</sup> Breslau, J., Sorbero, M. J., Kusuke, D., Yu, H., Scharf, D. M., Hackbarth, N. S., & Pincus, H. A. (2019, March 28). *Primary and behavioral health care integration program: Impacts on Health Care Utilization, cost, and quality*. Office of the Assistant Secretary for Planning and Evaluation. Retrieved April 22, 2022, from <https://aspe.hhs.gov/reports/primary-behavioral-health-care-integration-program-impacts-health-care-utilization-cost-quality-0>

#	Background	Question(s)
27	<p>As mentioned, in 2021, we learned that [provider] had expanded ACT services to include:</p> <ul style="list-style-type: none"> <li>Expanded medication assisted treatment</li> <li>Increasing provider involvement</li> <li>Investing in evidence-based practices</li> </ul>	<ul style="list-style-type: none"> <li>Is this information correct?</li> <li>How have the expanded ACT services contributed to improved access to community-based services for SMI beneficiaries during the timeframe?</li> </ul>
28	<p>In 2023, CMHCs had noted that they provide services with a wholistic approach to aid patients effectively (i.e., housing services, skills development, appointment coordination and referrals).</p> <p>In 2021, [provider] noted that to address SMI beneficiary chronic MH care needs, they focus on existing partnerships and try to be a presence at community meetings so that their services are well-communicated.</p>	<ul style="list-style-type: none"> <li>During the timeframe, how has [provider] addressed the chronic MH care needs of beneficiaries with SMI (e.g., increased integration of primary and behavioral health care)? How does that differ from 2020?</li> <li>Has [provider] built any additional relationships with community-based service providers during the timeframe? If so, how have those relationships impacted access to community-based services for SMI beneficiaries?</li> </ul>
29	<p>[Provider] had noted that wait times for patients could be up to 6 hours to see a provider.</p>	<ul style="list-style-type: none"> <li>What was the average wait time during the timeframe?</li> <li>If increase/decrease is identified, what contributed to the increase or decrease.</li> <li>If wait time remained the same, how can this lengthy wait time be mitigated?</li> </ul>
30	<p>In 2023, several stakeholders had indicated that part of improving access to care for beneficiaries with SMI to community-based services was to connect beneficiaries to stable housing. [Provider] even noted that at the CSU in Monroe County, 82% of the individuals served were unhoused.</p>	<ul style="list-style-type: none"> <li>How has [provider] addressed the housing needs to SMI beneficiaries during the timeframe? How has connecting beneficiaries to stable housing changed since 2020 (increased, decreased, stayed the same)?</li> <li>Please describe challenges related to connecting SMI beneficiaries to stable housing. What actions can the state take to help mitigate housing challenges?</li> </ul>
31	<p>In 2023, several stakeholders highlighted a few challenges regarding access and availability of treatment services for SMI beneficiaries, including:</p> <ul style="list-style-type: none"> <li>Providers noted that there was a workforce shortage.</li> <li>Beneficiaries had a difficult time finding appointments.</li> <li>Telehealth services were difficult for some individuals (i.e., difficulty focusing, feeling less connected, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>How have these challenges continued to impact [provider] as well as SMI beneficiaries during the timeframe?</li> <li>Are there additional challenges that should be highlighted?</li> <li>What initiatives have been successful in improving access and availability of treatment services to SMI beneficiaries (e.g. MCU/MRSS, 988)?</li> <li>What actions can the state take to help mitigate these challenges?</li> </ul>
32	<p>Other policies, initiatives, or procedures</p>	<ul style="list-style-type: none"> <li>Can you describe any state policies, initiatives, or processes that impacted access of beneficiaries with SMI to community-based services during CY2021 – CY2023?</li> <li>Are there policies, initiatives, or procedures that the state could implement to help improve access for beneficiaries with SMI to community-based services? If yes, please describe.</li> </ul>



**7. Goal 5: Improved care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities**

Goal 5 focuses on improved care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities. In addition to disparities in health outcomes, people with SMI often use the MH care system as their principal setting for access to medical and social care.<sup>142,143,144</sup> As such, community MH settings are challenged to address the many demands associated with comorbid chronic medical conditions and related primary and preventive care needs.<sup>145</sup>

Lewin interviewed providers in 2021 as well as 2023, and compiled insights specific to demonstration activities and their impact on care coordination among the SMI population. For today’s interview, we hope to continue prior discussions specific to demonstration activities and their impact on care coordination among the SMI population, focusing on the time-period of 2021-2023.

#	Background	Question(s)
33	From the 2023 interviews, inpatient providers had indicated that there were a variety of challenges when working with MCEs including the use of non-user-friendly portals, expectations for treating and discharging patients quickly despite need, and inconsistent messaging or communications specific to PA. Inpatient providers emphasized that increasing collaboration is beneficial and identified increased meetings as a strategy for improving relationships.	<ul style="list-style-type: none"> <li>• Please describe [provider] working relationships with MCEs during the timeframe. Please provide examples of success or challenges.</li> <li>• How has working with the MCEs impacted care coordination for Medicaid beneficiaries with SMI?</li> <li>• Please describe care coordination strategy for connecting patients in inpatient/residential to community care.</li> </ul>
34	In 2021, [provider] noted that they partnered with the Stride Coalition (a group of public, private, and not-for-profit organizations in Monroe County that [provider] helped form in 2017) to keep track of which law enforcement officers are utilizing their referrals.	<ul style="list-style-type: none"> <li>• Could you please elaborate on this process.</li> <li>• During the timeframe, how has this process impacted care coordination for SMI beneficiaries? How does this differ from 2020?</li> <li>• During the timeframe, what challenges or barriers has [provider] encountered with care coordination?</li> <li>• What can mitigate those challenges?</li> <li>• What has been successful regarding care coordination for SMI beneficiaries during the timeframe?</li> </ul>

<sup>142</sup> Bartels SJ (2003). Improving the system of care for older adults with mental illness in the United States: Findings and recommendations for the President’s new freedom commission on mental health. *American Journal of Geriatric Psychiatry*, 11, 486–497.

<sup>143</sup> De Hert M, Correll CU, Bobes J, Cetkovich-Bakmas M, Cohen D, Asai I, ... Leucht S (2011a). Physical illness in patients with severe mental disorders. I. Prevalence, impact of medications and disparities in health care. *World Psychiatry*, 10, 52–77.

<sup>144</sup> Bao Y, Casalino LP, & Pincus HA (2013). Behavioral health and health care reform models: Patient-centered medical home, health home, and accountable care organization. *Journal of Behavioral Health Services & Research*, 40, 121–132.

<sup>145</sup> Bao Y, Casalino LP, & Pincus HA (2013). Behavioral health and health care reform models: Patient-centered medical home, health home, and accountable care organization. *Journal of Behavioral Health Services & Research*, 40, 121–132.

#	Background	Question(s)
35	In 2021 and 2023, [provider] noted that the rates for reimbursement (for example, rates for case management) are based on rates from 2010 and 2011, and therefore, it is challenging to compete with large corporations in keeping frontline workers. [Provider] indicated that the rates needed to be addressed in order to address the staffing shortages and continue to improve programing for SMI beneficiaries.	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• Have the rates for reimbursement changed during the timeframe?</li> <li>• What actions can the state take to help mitigate these reimbursement challenges?</li> </ul>
36	In 2023, CMHCs had noted that one of the biggest challenges they faced was understanding what a member needed when they walked through the door.	<ul style="list-style-type: none"> <li>• During the timeframe, did [provider] continue to experience this challenge? How did this challenge impact SMI beneficiaries?</li> <li>• How was this challenge mitigated during the timeframe?</li> </ul>
37	In 2023, CMHCs had noted that one of the biggest challenges they faced was understanding what a member needed when they walked through the door.	<ul style="list-style-type: none"> <li>• During the timeframe, did [provider] continue to experience this challenge? How did this challenge impact SMI beneficiaries?</li> <li>• How was this challenge mitigated during the timeframe?</li> </ul>
38	Other policies, initiatives, or processes	<ul style="list-style-type: none"> <li>• From your perspective, were there state policies, initiatives, or processes that impacted care coordination for beneficiaries with SMI during CY2021 – CY2023?</li> <li>• Are there policies, initiatives, or procedures that the state could implement to help improve care coordination for beneficiaries with SMI? If yes, please describe.</li> </ul>

## D. Indiana 1115(a) SMI Demonstration Evaluation: Advocacy Organization KII Guide

### 1. Introduction:

This interview is part of a series of KIIs that will provide a better understanding of the state’s progress in meeting the five goals of the Indiana’s 1115 SMI Demonstration Evaluation.

Lewin, as the independent evaluator of the IN SMI Waiver, will be conducting a series of 30–60-minute interviews (with State officials, MCE representatives, providers, advocacy organizations, and members) to gather information on goal progress in relation to the IN SMI Waiver Demonstration, impact of the COVID-19 PHE, factors that supported progress, any challenges or barriers encountered, and pertinent follow-up based on insights gathered from previous interviews.

This interview guide is organized by topic area. For each topic area, we have included background information for context prior to each question. For this interview, we will focus on understanding the advocacy organization experience of, and perspective on, Indiana’s progress towards meeting the five goals of the IN SMI Waiver. ***In preparation for the interview, please be sure to read all background information as well as the questions.*** See topic areas below:

- Interviewee Background Information

- Goal 1: Reduced utilization and LOS EDs among Medicaid beneficiaries with SMI while awaiting MH treatment in specialized settings
- Goal 2: Reduced preventable readmissions to acute care hospitals and residential settings
- Goal 3: Improved availability of crisis stabilization services utilizing multiple service models to meet the unique needs across the state
- Goal 4: Improved access to community-based services to address the chronic MH care needs of beneficiaries with SMI including through increased integration of primary and behavioral health care
- Goal 5: Improved care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities

This interview will be 30 minutes in length.

**Please note:** You were chosen for this interview based on your expertise. We fully expect that you do not have answers to each question listed in the guide. If you are not sure of an answer to a question- that is OK. Please indicate as such, and we will move on to the next question.

**2. Background Information**

Background	Question(s)
Attendee Name and Role at [advocacy organization]	<ul style="list-style-type: none"> <li>• Please describe your current role at [advocacy organization].</li> <li>• How long have you been in this role?</li> </ul>
Role in respect to the IN SMI Waiver	<ul style="list-style-type: none"> <li>• What has been your role, if any, in relation to the IN SMI Waiver?</li> </ul>

**3. Goal 1: Reduced utilization and LOS in EDs among Medicaid beneficiaries with SMI while awaiting MH treatment in specialized settings**

Although the rates of ED visits per 100,000 persons nationally have remained stable between 2009 and 2018, visits associated with MH diagnoses continued to rise among Medicaid beneficiaries during this time-period.<sup>146</sup> Individuals with SMI are more likely to have higher rates of ED utilization than individuals without any MH diagnosis. A key goal of the evaluation is to understand how demonstration activities have contributed to reductions in ED utilization and ED LOS among Medicaid beneficiaries with SMI.

Lewin interviewed advocacy organizations in 2021 as well as 2023, and compiled insights specific to demonstration activities and their impact on ED utilization and ED LOS among the SMI population. For today’s interview, we hope to continue prior discussions specific to demonstration activities and their impact on ED utilization and ED LOS among the SMI population, focusing on the time-period of 2021-2023.

<sup>146</sup> Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health & Human Services. Trends in the Utilization of Emergency Department Services, 2009-2018. 2021. <https://aspe.hhs.gov/pdf-report/utilization-emergency-department-services>

#	Background	Question(s)
1	From interviews completed in 2021 and 2023, we have heard from various stakeholders that the LOS for Medicaid beneficiaries with SMI waiting for MH treatment has been conflated over the years due to the COVID-19 PHE and the 7-day instant authorization.	<ul style="list-style-type: none"> <li>Describe ED utilization for Medicaid beneficiaries with SMI in 2020 (Prompts: Were Medicaid beneficiaries with SMI high or low utilizers? Was utilization consistent across the year?). During the timeframe.</li> <li>Describe any observations specific to LOS for Medicaid beneficiaries with SMI during the timeframe (Prompts: ALOS; Changes to LOS across the time frame). How did LOS differ from 2020?</li> </ul>
2	There may be policies or procedures implemented by the state that have helped to reduce utilization and LOS in EDs among Medicaid beneficiaries with SMI while awaiting MH treatment in specialized settings.	<ul style="list-style-type: none"> <li>Were there state policies, initiatives, or processes that reduced utilization and LOS in EDs among SMI beneficiaries during CY2021 – CY2023? If yes, please describe?</li> <li>Are there policies, initiatives, or procedures that the State could implement to reduce utilization and LOS in EDs for SMI beneficiaries? If yes, please describe.</li> </ul>

**4. Goal 2: Reduced preventable readmissions to acute care hospitals and residential settings**

Patients with SMI may be vulnerable to unplanned hospital readmission.<sup>147</sup> Unplanned hospital readmission is a common but potentially preventable health care outcome and quality indicator associated with considerable health care costs. Recent studies have indicated that 30-day hospital readmissions among Medicaid beneficiaries with SMI are higher than rates of 30-day readmissions after medical hospitalizations than the general population.<sup>148,149</sup> A key goal of the evaluation is to understand how demonstration activities have contributed to reductions in preventable readmissions to acute care hospitals and residential settings.

Lewin interviewed advocacy organizations in 2021 as well as 2023, and compiled insights specific to demonstration activities and their impact on readmissions among the SMI population to acute care hospitals and residential settings. For today’s interview, we hope to continue prior discussions specific to demonstration activities and their impact on readmissions among the SMI population, focusing on the time-period of 2021-2023.

<sup>147</sup> Albrecht, J. S., Hirshon, J. M., Goldberg, R., Langenberg, P., Day, H. R., Morgan, D. J., Comer, A. C., Harris, A. D., & Furuno, J. P. (2012, April 26). *Serious mental illness and acute hospital readmission in diabetic patients*. American journal of medical quality : the official journal of the American College of Medical Quality. Retrieved April 22, 2022, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3677605/>

<sup>148</sup> Cook, J. A., Burke-Miller, J. K., Razzano, L. A., Steigman, P. J., Jonikas, J. A., & Santos, A. (2021, February 13). *Serious mental illness, other mental health disorders, and outpatient health care as predictors of 30-day readmissions following medical hospitalization*. General Hospital Psychiatry. Retrieved April 22, 2022, from <https://www.sciencedirect.com/science/article/pii/S0163834321000244>

<sup>149</sup> Cook, J. A., Burke-Miller, J. K., Jonikas, J. A., Aranda, F., & Santos, A. (2020, September). *Factors associated with 30-day readmissions following medical hospitalizations among Medicaid beneficiaries with schizophrenia, bipolar disorder, and major depressive disorder*. American Psychological Association PsycNet. Retrieved April 22, 2022, from <https://psycnet.apa.org/record/2020-66663-001>

#	Background	Question(s)
3	In the 2021 interviews, [advocacy organization] indicated that “using hospitalization” was a key method for reducing readmissions.	<ul style="list-style-type: none"> <li>• Can [advocacy organization] elaborate on the strategy “using hospitalization” to impact readmissions? When was this strategy implemented?</li> <li>• During the timeframe, how has this strategy helped to reduce preventable readmissions to acute care hospitals and residential settings? Is this consistent or different for 2020?</li> </ul>
4	In 2021, [advocacy organization] had noted that the PHE was a barrier to reducing readmissions to acute care in hospitals and residential settings for SMI beneficiaries	<ul style="list-style-type: none"> <li>• During the timeframe, did the PHE continue to impact the ability to reduce preventable readmissions to hospitals and residential settings for SMI beneficiaries? How so?</li> </ul>
5	In the 2021 interview, [advocacy organization] indicated that they were not actively aiming to reduce readmissions to acute care hospitals, but more so, support a member in whatever level of support they may need.	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• During the timeframe, how has this strategy impacted preventable readmissions to acute care hospitals and residential settings? Is this consistent or different for 2020?</li> </ul>
6	From the 2021 interviews, [advocacy organization] noted that though they do not consider themselves a crisis stabilization service, in instances of adverse MH scenarios, they would advise a member on reaching out to the Suicide Hotline or 911.	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> </ul>
7	In 2020, there was an effort to pilot two CSUs across the state to provide an alternative to crisis evaluations within EDs and divert admissions to inpatient psychiatric units. (CSUs serve as an alternative to an ED or jail for patients experiencing MH issues.) Advocacy organizations interviewed in 2023 described how CSUs prevented unnecessary visits to the ED for patients with SMI. We learned that legislation passed in 2023 ( <a href="#">house enrolled act 1006</a> ) helped to streamline the process of getting people into crisis stabilization because it required insurance providers to reimburse for any service for someone who is brought into a CSU under “emergency detention.”	<ul style="list-style-type: none"> <li>• How did the implementation of the CSUs impact SMI beneficiaries during the timeframe?</li> </ul>
8	In 2021 and 2023, we talked with stakeholders around the impact of telehealth on readmission rates, continuity of care, etc.	<ul style="list-style-type: none"> <li>• During the timeframe, what have you observed around the use of telehealth services amongst Medicaid beneficiaries?</li> </ul>
9	There may be other policies or procedures implemented by the state that have helped to reduce preventable readmissions to acute care hospitals and residential settings among Medicaid beneficiaries with SMI.	<ul style="list-style-type: none"> <li>• Were there state policies, initiatives, or processes that reduced preventable readmissions to acute care hospitals and residential settings among SMI beneficiaries during CY2021 – CY2023? If yes, please describe?</li> <li>• Are there policies, initiatives, or procedures that the State could implement to reduce preventable readmissions to acute care hospitals and residential settings for SMI beneficiaries? If yes, please describe.</li> </ul>

**5. Goal 3: Improved availability of crisis stabilization services utilizing multiple service models to meet the unique needs across the state**

Crisis response and stabilization (e.g., crisis call centers, crisis mobile team response, crises receiving and stabilization services) is a basic element of MH care and often serves as an access point for connecting individuals to community care resources. Although evidence regarding crisis response programs is emerging, research has indicated that crisis response is associated with improved health outcomes.<sup>150</sup> A key goal of the evaluation is to understand how demonstration activities have contributed to improving availability of crisis stabilization services.

Lewin interviewed advocacy organizations in 2021 as well as 2023, and compiled insights specific to demonstration activities and their impact on the availability of crisis stabilization services among the SMI population. For today’s interview, we hope to continue prior discussions specific to demonstration activities and their impact on the availability of crisis stabilization services among the SMI population, focusing on the time-period of 2021-2023.

#	Background	Question(s)
10	<p>From the 2021 interviews, we learned that [advocacy organization] Indiana had a number of initiatives focused on supporting crisis stabilization services including:</p> <ul style="list-style-type: none"> <li>• The Technical Assistance Center for crisis intervention teams (CITs) in Indiana.</li> <li>• Help line, which connects individuals to resources in the community (i.e., housing, criminal justice support, children’s insurance, etc.). Interviewees noted that the number of calls, as well as the intensity of the calls to the help line, had increased since the onset of the PHE.</li> </ul>	<ul style="list-style-type: none"> <li>• During the timeframe, has [advocacy organization] continued to implement these initiatives?</li> <li>• How have these initiatives impacted the availability of crisis stabilization services for SMI beneficiaries?</li> <li>• Describe SMI beneficiary utilization and satisfaction of these initiatives during the timeframe?</li> </ul>
11	<p>In 2021, [advocacy organization] spoke at length regarding a warm line answered by peers (with MH lived experience). Peers speak to individuals and try to connect them to 211, CMHCs, and/or CSUs. [Advocacy organization] had noted that during the PHE, there was an influx of phone calls to the warm line, with one month having over 515 calls (average is about 400).</p>	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• How has the warm line impacted connecting SMI beneficiaries to crisis stabilization services?</li> <li>• Describe SMI beneficiary utilization and satisfaction of the warm line during the timeframe?</li> </ul>
12	<p>In 2023, advocacy organizations highlighted a few challenges regarding access and availability of treatment services for SMI beneficiaries, including:</p> <ul style="list-style-type: none"> <li>• Providers noted that there was a workforce shortage.</li> <li>• Beneficiaries had a difficult time finding appointments.</li> <li>• Telehealth services were difficult for some individuals (i.e., difficulty focusing, feeling less connected, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• Is this information still correct? Are there additional challenges that should be highlighted?</li> <li>• What initiatives have been successful in improving access and availability of treatment services to SMI beneficiaries (e.g. MCU/MRSS, 988)?</li> <li>• What actions can the state take to help mitigate these challenges?</li> </ul>

<sup>150</sup> Vikki, W., & Natasha, C. (2021, May). *Building blocks: How Medicaid can advance mental health and substance use crisis response*. Well Being Trust. Retrieved April 22, 2022, from <https://wellbeingtrust.org/wp-content/uploads/2021/05/WBT-Medicaid-MH-and-CrisisCareFINAL.pdf>

#	Background	Question(s)
13	There may be other policies or procedures implemented by the state that have helped to improve availability of crisis stabilization services for SMI beneficiaries throughout the state.	<ul style="list-style-type: none"> <li>Were there state policies, initiatives, or processes that helped to improve the availability of crisis stabilization services for SMI beneficiaries during CY2021 – CY2023? If yes, please describe?</li> <li>Are there policies, initiatives, or procedures that the state could implement to help improve the availability of crisis stabilization services for SMI beneficiaries? If yes, please describe.</li> </ul>
14	Additionally, [advocacy organization] had noted in 2021 that a common occurrence was that individuals will approach the ER for assistance, but that the ER was unable to meet their needs and therefore, end up prematurely discharged while still withstanding a crisis.	<ul style="list-style-type: none"> <li>During the timeframe, has [advocacy organization] continued to see this?</li> <li>Are there policies, initiatives, or procedures that the State could implement to better support SMI beneficiaries in crisis while at the ER? If yes, please describe.</li> </ul>

**6. Goal 4: Improved access to community-based services to address the chronic MH care needs of beneficiaries with SMI including through increased integration of primary and behavioral health care**

Individuals with SMI suffer disproportionately from PH conditions than their non-SMI peers and are at increased risk for a range of acute and chronic diseases (e.g., diabetes, cardiovascular disease, respiratory disease, cancer, and infectious disease).<sup>151</sup> A key goal of the evaluation is to understand how demonstration activities have contributed to improving access to community-based services to address the chronic MH care needs of Medicaid beneficiaries with SMI.

Lewin interviewed advocacy organizations in 2021 as well as 2023, and compiled insights specific to demonstration activities and their impact on access to community-based services among the SMI population. For today’s interview, we hope to continue prior discussions specific to demonstration activities and their impact on access to community-based services among the SMI population, focusing on the time-period of 2021-2023.

#	Background	Question(s)
15	From the 2021 interview, [advocacy organization] noted that they coordinated support groups and education initiatives in order to widen accessibility and pivot services online.	<ul style="list-style-type: none"> <li>During the timeframe, has [advocacy organization] continued to coordinate support groups and education initiatives?</li> <li>How have support groups and education initiatives impacted access of SMI beneficiaries to community-based services during the timeframe? (Prompt: Examples of support groups or educational initiatives that were successful or unsuccessful).</li> </ul>

<sup>151</sup> Breslau, J., Sorbero, M. J., Kusuke, D., Yu, H., Scharf, D. M., Hackbarth, N. S., & Pincus, H. A. (2019, March 28). *Primary and behavioral health care integration program: Impacts on Health Care Utilization, cost, and quality*. Office of the Assistant Secretary for Planning and Evaluation. Retrieved April 22, 2022, from <https://aspe.hhs.gov/reports/primary-behavioral-health-care-integration-program-impacts-health-care-utilization-cost-quality-0>

#	Background	Question(s)
16	From the 2023 interviews, [advocacy organization] noted that, due to COVID, there was an effort to discharge members from inpatient facilities to community-based care, and that this had a domino effect on the entire behavioral health system. [Provider] had noted that access to care from CY2021-CY2022 had worsened due to COVID.	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• In 2023, had you continued to see this domino effect? What was the impact?</li> <li>• In CY2023, has access to care improved for SMI beneficiaries?</li> <li>• How can access be improved?</li> </ul>
17	From the 2021 interview, [advocacy organization] had noted that they saw an increase in peer run organizations, like Empowerment Center. Additionally, the state of Indiana was suffering from a lack of MH peer support.	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• How have these organizations impacted access of SMI beneficiaries to community-based services during the timeframe? Impacted the number of MH peer support for SMI beneficiaries?</li> </ul>
18	In 2023, several stakeholders had indicated that part of improving access to care for beneficiaries with SMI to community-based services was to connect members to stable housing.	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• Has access to housing improved during the timeframe?</li> <li>• What actions can the state take to help mitigate these challenges?</li> </ul>
19	There may be policies or procedures implemented by the state that have helped to improve access of beneficiaries with SMI to community-based services to address their chronic MH care needs.	<ul style="list-style-type: none"> <li>• Were there state policies, initiatives, or processes that helped improve access of beneficiaries with SMI to community-based services during CY2021 – CY2023? If yes, please describe?</li> <li>• Are there policies, initiatives, or procedures that the state could implement to help improve access for beneficiaries with SMI to community-based services? If yes, please describe.</li> </ul>

**7. Goal 5: Improved care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities**

Goal 5 focuses on improved care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities. In addition to disparities in health outcomes, people with SMI often use the MH care system as their principal setting for access to medical and social care.<sup>152,153,154</sup> As such, community MH settings are challenged to address the many demands associated with comorbid chronic medical conditions and related primary and preventive care needs.<sup>155</sup>

Lewin interviewed advocacy organizations in 2021 as well as 2023, and compiled insights specific to demonstration activities and their impact on care coordination among the SMI

<sup>152</sup> Bartels SJ (2003). Improving the system of care for older adults with mental illness in the United States: Findings and recommendations for the President’s new freedom commission on mental health. *American Journal of Geriatric Psychiatry*, 11, 486–497.

<sup>153</sup> De Hert M, Correll CU, Bobes J, Cetkovich-Bakmas M, Cohen D, Asai I, ... Leucht S (2011a). Physical illness in patients with severe mental disorders. I. Prevalence, impact of medications and disparities in health care. *World Psychiatry*, 10, 52–77.

<sup>154</sup> Bao Y, Casalino LP, & Pincus HA (2013). Behavioral health and health care reform models: Patient-centered medical home, health home, and accountable care organization. *Journal of Behavioral Health Services & Research*, 40, 121–132.

<sup>155</sup> Bao Y, Casalino LP, & Pincus HA (2013). Behavioral health and health care reform models: Patient-centered medical home, health home, and accountable care organization. *Journal of Behavioral Health Services & Research*, 40, 121–132.



population. For today’s interview, we hope to continue prior discussions specific to demonstration activities and their impact on care coordination among the SMI population, focusing on the time-period of 2021-2023.

#	Background	Question(s)
20	From the 2023 interviews, [advocacy organization] had noted that there was a lack of capacity and training available for case managers as well as a lack of flexibility built into the system (Allowing flexibility when case managers performance measures are tied to these objective outcomes, as opposed to being able to give them the time to truly do the individualized planning that is necessary for some folks.)	<ul style="list-style-type: none"> <li>• Is this information still correct?</li> <li>• What specific actions can the state take to help mitigate these challenges?</li> </ul>
21	There may be policies or procedures implemented by the state that have impacted care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities for SMI beneficiaries.	<ul style="list-style-type: none"> <li>• From your perspective, were there state policies, initiatives, or processes that impacted care coordination for beneficiaries with SMI during CY2021 – CY2023? If yes, please describe?</li> <li>• Are there policies, initiatives, or procedures that the State could implement to help improve care coordination for beneficiaries with SMI? If yes, please describe.</li> </ul>

**Stigma**

#	Background	Question(s)
22	From the last iteration of interviews all advocacy organizations asserted stigma as a significant barrier for early identification and engagement for SMI beneficiaries, with one organization noting that parents struggle with obtaining assessment and treatment services for children in schools.	<ul style="list-style-type: none"> <li>• During the timeframe, has stigma continued to impact earlier identification and engagement of SMI beneficiaries? If yes, please describe.</li> <li>• Are there policies, initiatives, or procedures that the state could implement focused on stigma reducing for beneficiaries with SMI? If yes, please describe.</li> </ul>

**E. Indiana 1115(a) SMI Demonstration Evaluation: Member KII Guide**

**1. Background:**

The goal of the 2024 Interim Report KIIs with beneficiaries is to better understand their experiences of SMI services from CY2021 to CY2023 timeframe.

The member interviews are scheduled to last up to 20 minutes.

**2. Voicemail Script:**

*Hello, my name is [insert first name], calling on behalf of Indiana Family Social Services Administration (FSSA). I would like to speak to [insert respondent name]. We are talking with Medicaid beneficiaries to get their opinions about MH and/or SUD services received during 2021-2023. Please call me back at 123-456-7890 to discuss further. Thank you.*

3. Script:

Section	Mapping	#	Question/Response
Intro	N/A	Introduction	<p>Hello, my name is _____, calling on behalf of Indiana Family Social Services Administration (FSSA). May I please speak with <b>(insert respondent name)</b>? (OBTAIN CORRECT RESPONDENT; REINTRODUCE IF NECESSARY)</p> <p>Today we are talking with Medicaid beneficiaries to get their opinions about MH or SUD services received during 2023. Your answers to all questions will remain anonymous and your participation will not affect your benefits. May we begin?</p> <ul style="list-style-type: none"> <li>• Yes [Go to I1]</li> <li>• No [Go to Closing]</li> </ul> <p>IF NEEDED: Your name was picked randomly from a list of all people who received MH services in 2023 and had Medicaid coverage through December 2023.</p> <p>IF NEEDED: This survey will take approximately 5 – 20 minutes.</p> <p>IF NEEDED: Our company was hired by Indiana FSSA to make these calls.</p> <p>IF NEEDED: The answers you give will be combined with answers from other interviewees and will be anonymous. Your participation does not affect your Medicaid benefits.</p>
	N/A	I1	<p>Are you enrolled in Medicaid at this time? (2023)</p> <ul style="list-style-type: none"> <li>• Yes [Go to A1]</li> <li>• No [Go to I2]</li> <li>• Don't know [Go to I2]</li> <li>• Refused [Go to I2]</li> </ul>
	N/A	I2	<p>Sorry, but just to confirm, the State of Indiana provides Medicaid coverage for Indiana residents between the ages of 21 to 64. Based on the information we have from the State, it looks like you had Medicaid coverage as of December 2023. You may know this program by the name of your health plan such as Anthem, CareSource, MDwise (M-D- WISE SOMETIMES PRONOUNCED MED-WISE), United Healthcare (UHC) or Managed Health Services (MHS), or traditional Medicaid (<b>Note to facilitator:</b> Fee-for-service (FFS), also known as traditional Medicaid is our non-managed care Medicaid. FFS is managed by the state. These beneficiaries also get SMI coverage). Is this correct?</p> <ul style="list-style-type: none"> <li>• Yes [Go to A1]</li> <li>• No [Go to Closing]</li> <li>• Don't know [Go to Closing]</li> <li>• Refused [Go to Closing]</li> </ul>
Access	N/A	A1	<p>During 2021-2023, did you receive MH or SUD care services? Examples of MH or SUD care services include individual screening or assessment, psychotherapy, group therapy, medication, resources, or any specific treatment for a MH or SUD condition.</p> <ul style="list-style-type: none"> <li>• Yes [Go to A.ER1]</li> <li>• No [Go to A.ER1]</li> <li>• Don't Know [Go to A.ER1]</li> <li>• Refused [Go to A.ER1]</li> </ul>

Section	Mapping	#	Question/Response
Access: ER	Goal 1	A.ER1	During 2021-2023, did you receive care ( <b>Prompt:</b> includes care for physical (e.g., diabetes, COPD), MH, and/or SUD conditions) in an emergency room (ER)- hospital? <ul style="list-style-type: none"> <li>• Yes [Go to <b>A.ER2</b>]</li> <li>• No [Go to <b>A.O1</b>]</li> <li>• Don't Know [Go to <b>A.O1</b>]</li> <li>• Refused [Go to <b>A.O1</b>]</li> </ul>
	Goal 1	A.ER2	How many times did you use the ER between 2021 and 2023? [ <b>Go to A.ER3</b> ]
	Goal 1	A.ER3	How long was your stay in the ER? [ <b>Prompt:</b> Approximate number of hours/days?]. <b>If multiple stays were identified:</b> On average, how long did you stay in the ER? [ <b>Go to A.ER4</b> ].
	Goal 1	A.ER4	Of the times you used the ER, how often was the visit for a MH or SUD condition? ( <b>Note:</b> Read the Likert scale below and ask interviewee to choose the most appropriate response) <ul style="list-style-type: none"> <li>• Never [Go to <b>S.ER1</b>].</li> <li>• Rarely [Go to <b>S.ER1</b>].</li> <li>• Occasionally [Go to <b>S.ER1</b>].</li> <li>• Frequently [Go to <b>S.ER1</b>].</li> <li>• Always [Go to <b>S.ER1</b>].</li> <li>• Unsure [Go to <b>S.ER1</b>].</li> </ul>
Satisfaction: ER	Goal 1	S.ER1	How satisfied were you with your care in the ER? <ul style="list-style-type: none"> <li>• Very satisfied [<b>Go to S.ER2</b>]</li> <li>• Somewhat satisfied [<b>Go to S.ER2</b>]</li> <li>• Neither satisfied nor dissatisfied [<b>Go to S.ER2</b>]</li> <li>• Somewhat dissatisfied [<b>Go to S.ER2</b>]</li> <li>• Very dissatisfied [<b>Go to S.ER2</b>]</li> <li>• Don't know [<b>Go to S.ER2</b>]</li> <li>• Refused [<b>Go to S.ER2</b>]</li> </ul>
	Goal 1	S.ER2	Thinking about your care in 2021-2023, please describe the most helpful things about the services you received in the ER [ <b>Prompt:</b> Staff Support; Treatment Plan During Discharge; Availability of Doctors; Wait Time; Access to Treatment, Care Coordination; Assistance with Medication Management; Symptom Improvement]. [ <b>Go to S.ER3</b> ]
	Goal 1	S.ER3	Thinking about your care in 2021-2023, what improvements could be made to the services you received in the ER [ <b>Prompt:</b> Staff Support; Treatment Plan During Discharge; Availability of Doctors; Wait Time; Access to Treatment, Care Coordination; Assistance with Medication Management; Symptom Improvement]. [ <b>Go to S.ER4</b> ]
	Goal 1	S.ER4	Thinking about your care in 2021-2023, are there services [ <b>Prompt:</b> other programs, treatments, or resources] that you wished were available? [ <b>Go to CC.ER1</b> ]

Section	Mapping	#	Question/Response
Care Coordination: ER	Goal 5	CC.ER1	Thinking about your care in the ER in 2021-2023, did a professional, such as a nurse or case manager help you coordinate care [Prompt: For example, did someone help you connect to transportation or needed medical appointments.]. <ul style="list-style-type: none"> <li>• Yes [Go to CC.ER2]</li> <li>• No [Go to A.CS1]</li> <li>• Don't Know [Go to A.CS1]</li> <li>• Refused [Go to A.CS1]</li> </ul>
	Goal 5	CC.ER2	Describe what you liked and didn't like about the care coordination you received in the ER. [Go to CC.ER3]
	Goal 5	CC.ER3	Thinking about individuals with MH and SUD, how could care coordination in the ER be improved? [Prompt: Timeliness of coordination, medical records, etc.; Smooth transitions of medical care (including medication management); Staff Support] [Go to A.CS1]
Access: Outpatient	Goal 3	A.01	During 2021-2023, did you receive MH or SUD care in an outpatient setting? <ul style="list-style-type: none"> <li>• Yes [Go to A.O2]</li> <li>• No [Go to A.I1]</li> <li>• Don't Know [Go to A.I1]</li> <li>• Refused [Go to A.I1]</li> </ul> <p><b>Notes for facilitator- Examples of Outpatient Services:</b></p> <ul style="list-style-type: none"> <li>• <b>Intensive Outpatient (IOP):</b> An IOP is a structured non-residential psychological treatment program which addresses MH disorders and SUD that do not require detox. Services offered are group therapy, individual therapy, family counseling, educational programs, etc. Does <b>NOT</b> offer the more intensive residential or partial day services typically offered by a larger, more comprehensive treatment facility. This is very similar to day treatment. The only difference is the number of hours spent in therapy each week. Goal is to provide stabilization and prevent admission to inpatient services.</li> <li>• <b>Partial Hospitalization:</b> A PHP is a structured, IOP treatment program for those who need a higher level of care for a serious MH condition. A PHP provides people with comprehensive MH services- from individual and group therapy to medication management- while allowing them to return home at night. This is often offered as an alternative to inpatient psychiatric care and providing more intense treatment than regular office visits. This program typically involves about 4-5 days a week on site, with multiple sessions, and regular check-ins.</li> <li>• <b>Outpatient- Hospital or Office Practice:</b> Might be referred to as an outpatient clinic, this type of treatment includes psychopharmacology management, individual therapy, group therapy, couples therapy, and family treatment. This way, individuals can receive care within their communities, without having to stay overnight. (Probably the least intensive)</li> </ul>

Section	Mapping	#	Question/Response
Access: Outpatient (cont.)	Goal 3	A.02	<p>Did you receive outpatient services as part of an IOP or partial hospitalization? [<b>Note:</b> May need to describe both services. See below.] [<b>Go to S.02</b>]</p> <p><b>Notes for facilitator- Examples of Outpatient Services:</b></p> <ul style="list-style-type: none"> <li>• <b>IOP:</b> An IOP is a <b>structured</b> non-residential psychological treatment program which addresses MH disorders and SUD that do not require detox. Services offered are group therapy, individual therapy, family counseling, educational programs, etc. Does <b>NOT</b> offer the more intensive residential or partial day services typically offered by a larger, more comprehensive treatment facility. This is very similar to day treatment. The only difference is the number of hours spent in therapy each week. Goal is to provide stabilization and prevent admission to inpatient services.</li> <li>• <b>Partial Hospitalization:</b> A PHP is a structured, IOP treatment program for those who need a higher level of care for a serious MH condition. A PHP provides people with comprehensive MH services- from individual and group therapy to medication management- while allowing them to return home at night. This is often offered as an alternative to inpatient psychiatric care and providing more intense treatment than regular office visits. This program typically involves about 4-5 days a week on site, with multiple sessions, and regular check-ins.</li> </ul>
Satisfaction: Outpatient	Goal 3	S.01	<p>How satisfied were you with your MH or SUD care you received in the outpatient setting?</p> <ul style="list-style-type: none"> <li>• Very satisfied [<b>Go to S.02</b>]</li> <li>• Somewhat satisfied [<b>Go to S.02</b>]</li> <li>• Neither satisfied nor dissatisfied [<b>Go to S.02</b>]</li> <li>• Somewhat dissatisfied [<b>Go to S.02</b>]</li> <li>• Very dissatisfied [<b>Go to S.02</b>]</li> <li>• Don't know [<b>Go to S.02</b>]</li> <li>• Refused [<b>Go to S.02</b>]</li> </ul>
	Goal 3	S.02	<p>Thinking about your MH and SUD care in 2021-2023, please describe the most helpful things about the services you received [<b>Prompt:</b> Staff Support; Treatment Plan During Discharge; Availability of Doctors; Wait Time; Access to Treatment, Care Coordination; Assistance with Medication Management; Symptom Improvement]. [<b>Go to S.03</b>]</p>
	Goal 3	S.03	<p>Thinking about your MH and SUD care in 2021-2023, what improvements could be made to the services you received [<b>Prompt:</b> Staff Support; Treatment Plan During Discharge; Availability of Doctors; Wait Time; Access to Treatment, Care Coordination; Assistance with Medication Management; Symptom Improvement]. [<b>Go to S.04</b>]</p>
	Goal 3	S.04	<p>Thinking about your MH and SUD care in 2021-2023, are there services [<b>Prompt:</b> other programs, treatments, or resources] that you wished were available? [<b>Go to CC.01</b>]</p>

Section	Mapping	#	Question/Response
Care Coordination: Outpatient	Goal 5	CC.01	Thinking about your outpatient MH and SUD care in 2021-2023, did a professional, such as a nurse or case manager help you coordinate care [ <b>Prompt:</b> For example, did someone help you connect to transportation or needed medical appointments.]. <ul style="list-style-type: none"> <li>• Yes [Go to <b>CC.02</b>]</li> <li>• No [Go to <b>A.11</b>]</li> <li>• Don't Know [Go to <b>A.11</b>]</li> <li>• Refused [Go to <b>A.11</b>]</li> </ul>
	Goal 5	CC.02	Describe what you liked and didn't like about the care coordination you received. [ <b>Go to CC.03</b> ]
	Goal 5	CC.03	How could care coordination in an outpatient setting for individuals with MH and SUD be improved? [ <b>Prompt:</b> Timeliness of coordination, medical records, etc.; Smooth transitions of medical care (including medication management); Staff Support] [ <b>Go to A.11</b> ]
Access: Inpatient	Goal 3	A.11	During 2021-2023, did you receive care in an inpatient setting? <ul style="list-style-type: none"> <li>• Yes [Go to <b>A.12</b>]</li> <li>• No [Go to <b>A.CS1</b>]</li> <li>• Don't Know [Go to <b>A.CS1</b>]</li> <li>• Refused [Go to <b>A.CS1</b>]</li> </ul> <p><b>Notes for facilitator- Example of Inpatient Services:</b></p> <ul style="list-style-type: none"> <li>• <b>Inpatient Unit- Hospital:</b> Also known as an inpatient psychiatric unit. For people who can no longer be supported at home and need to be admitted to the hospital due to severe MH problems.</li> </ul>
	Goal 3	A.12	How many stays did you have in an inpatient setting between 2021 and 2023? [ <b>Go to A.13</b> ]
	Goal 3	A.13	How long was your stay in inpatient? [ <b>Prompt:</b> Approximate number of hours/days?] <b>If multiple stays</b> , what was the average length of stay (ALOS). [ <b>Go to S.11</b> ]
Satisfaction: Inpatient	Goal 3	S.11	How satisfied were you with your MH or SUD care in the inpatient setting? <ul style="list-style-type: none"> <li>• Very satisfied [<b>Go to S.12</b>]</li> <li>• Somewhat satisfied [<b>Go to S.12</b>]</li> <li>• Neither satisfied nor dissatisfied [<b>Go to S.12</b>]</li> <li>• Somewhat dissatisfied [<b>Go to S.12</b>]</li> <li>• Very dissatisfied [<b>Go to S.12</b>]</li> <li>• Don't know [<b>Go to S.12</b>]</li> <li>• Refused [<b>Go to S.12</b>]</li> </ul>
	Goal 3	S.12	Thinking about your MH and SUD care in 2021-2023, please describe the most helpful things about the services you received in the inpatient setting [ <b>Prompt:</b> Staff Support; Treatment Plan During Discharge; Availability of Doctors; Wait Time; Access to Treatment, Care Coordination; Assistance with Medication Management; Symptom Improvement]. [ <b>Go to S.13</b> ]

Section	Mapping	#	Question/Response
Satisfaction: Inpatient (cont.)	Goal 3	S.I3	Thinking about your MH and SUD care in 2021-2023, what improvements could be made to the services you received in the inpatient setting [Prompt: Staff Support; Treatment Plan During Discharge; Availability of Doctors; Wait Time; Access to Treatment, Care Coordination; Assistance with Medication Management; Symptom Improvement]. [Go to S.I4]
	Goal 3	S.I4	Thinking about your MH and SUD care in 2021-2023, are there services [Prompt: other programs, treatments, or resources] that you wished were available? [Go to CC.I1]
Care Coordination: Inpatient	Goal 5	CC.I1	Thinking about your inpatient MH/SUD care in 2021-2023, did a professional, such as a nurse or case manager help you coordinate care during discharge? (Prompt: For example, did someone help you connect to another care setting for MH treatment or coordinate medication prescriptions at your pharmacy) <ul style="list-style-type: none"> <li>• Yes [Go to CC.I2]</li> <li>• No [Go to A.CS1]</li> <li>• Don't Know [Go to A.CS1]</li> <li>• Refused [Go to A.CS1]</li> </ul>
	Goal 5	CC.I2	When this individual helped to coordinate care, were you coordinated to care nearby (in their community)? [Go to CC.I3]
	Goal 5	CC.I3	Describe what you liked and didn't like about the care coordination you received. [Go to CC.I4]
	Goal 5	CC.I4	How could care coordination in an inpatient setting for individuals with MH and SUD be improved? [Prompt: Timeliness of coordination, medical records, etc.; Smooth transitions of medical care (including medication management); Staff Support] [Go to A.R1]
Access: Crisis Setting	Goal 3	A.CS1	<p>During 2021-2023, did you receive care or use any of the following services: CSUs, mobile crisis response units, 988?</p> <ul style="list-style-type: none"> <li>• Yes [Go to A.CS2]</li> <li>• No [Go to A.R1]</li> <li>• Don't Know [Go to A.R1]</li> <li>• Refused [Go to A.R1]</li> </ul> <p><b>Notes for facilitator- Examples of crisis services:</b></p> <ul style="list-style-type: none"> <li>• <b>CSU:</b> The CSU is a 23-hour voluntary crisis observation and receiving center. They provide immediate care to individuals experiencing a MH or SUD crisis. These units serve as a safe and secure environment that is less intense than a hospital and less restrictive than a jail. Individuals usually stay a few hours at a CSU.</li> <li>• <b>Mobile Crisis Response Units:</b> Teams (comprised of non-police) respond to MH crises, relieving the burden on law enforcement and medical providers. The teams consist of peers and behavioral health professionals who provide specialized crisis care on-site in the community.</li> <li>• <b>988:</b> This is a direct connection to specialists who are trained in suicide and crisis prevention. The line is open 24/7.</li> </ul>

Section	Mapping	#	Question/Response
Access: Crisis Setting (cont.)	Goal 3	A.CS2	Did you receive MH or SUD care via the computer or phone? <b>[Go to S.CS1]</b>
Satisfaction: Crisis Setting	Goal 3	S.CS1	Describe what you liked and didn't like about receiving MH or SUD care from the CSUs, mobile crises response units or 988. <b>[Go to S.CS2]</b>
	Goal 3	S.CS2	In general, how satisfied were you with your MH or SUD care from the CSU, mobile crisis response units or 988? <ul style="list-style-type: none"> <li>• Very satisfied <b>[Go to S.CS3]</b></li> <li>• Somewhat satisfied <b>[Go to S.CS3]</b></li> <li>• Neither satisfied nor dissatisfied <b>[Go to S.CS3]</b></li> <li>• Somewhat dissatisfied <b>[Go to S.CS3]</b></li> <li>• Very dissatisfied <b>[Go to S.CS3]</b></li> <li>• Don't know <b>[Go to S.CS3]</b></li> <li>• Refused <b>[Go to S.CS3]</b></li> </ul>
	Goal 3	S.CS3	Thinking about your MH and SUD care in 2021-2023, please describe the most helpful things about the services you received via CSUs, mobile crisis response units or 988 <b>[Prompt: Staff Support; Treatment Plan During Discharge; Availability of Doctors; Wait Time; Access to Treatment, Care Coordination; Assistance with Medication Management; Symptom Improvement]. [Go to S.CS4]</b>
	Goal 3	S.CS4	Thinking about your MH and SUD care in 2021-2023, what improvements could be made to the services you received via CSUs, mobile crisis response units or 988 <b>[Prompt: Staff Support; Treatment Plan During Discharge; Availability of Doctors; Wait Time; Access to Treatment, Care Coordination; Assistance with Medication Management; Symptom Improvement]. [Go to S.CS5]</b>
	Goal 3	S.CS5	Thinking about your MH and SUD care in CSUs, mobile crisis response units or 988 during 2021-2023, are there services <b>[Prompt: other programs, treatments, or resources]</b> that you wished were available? <b>[Go to CC.CS1]</b>
Care Coordination: Crisis Settings	Goal 5	CC.CS1	Thinking about your MH and SUD care via CSUs, mobile crisis response units or 988 in 2021-2023, did a professional, such as a nurse or case manager help you coordinate care <b>[Prompt: For example, did someone help you connect to transportation or needed medical appointments.]</b> <ul style="list-style-type: none"> <li>• Yes <b>[Go to CC.CS2]</b></li> <li>• No <b>[Go to A.R1]</b></li> <li>• Don't Know <b>[Go to A.R1]</b></li> <li>• Refused <b>[Go to A.R1]</b></li> </ul>
	Goal 5	CC.CS2	Describe what you liked and didn't like about the care coordination you received. <b>[Go to CC.CS3]</b>
	Goal 5	CC.CS3	How could care coordination in CSUs, mobile crisis response units or 988 settings be improved? <b>[Prompt: Timeliness of coordination, medical records, etc.; Smooth transitions of medical care (including medication management); Staff Support]</b> <b>[Go to A.R1]</b>



Section	Mapping	#	Question/Response
Access: Residential	Goal 2	A.R1	<p>During 2021-2023, did you receive care in a residential setting?</p> <ul style="list-style-type: none"> <li>• Yes [Go to <b>A.R2</b>]</li> <li>• No [Go to <b>P1</b>]</li> <li>• Don't Know [Go to <b>P1</b>]</li> <li>• Refused [Go to <b>P1</b>]</li> </ul> <p><b>Notes for facilitators- Example of Residential Services:</b></p> <ul style="list-style-type: none"> <li>• <b>Residential Treatment:</b> Residential treatment is a structured, live-in program at a licensed treatment facility for clients. Services include assessment, individual and group counseling, family counseling. The length of the residential services depends on an assessment of an individual's needs.</li> </ul>
	Goal 2	A.R2	How many stays did you have in a residential setting between 2021 and 2023? [Go to <b>A.R3</b> ]
	Goal 2	A.R3	How long was your stay in the residential setting? [Prompt: Approximate number of hours/days? If multiple stays, what was the ALOS. [Go to <b>S.R1</b> ]
Satisfaction: Residential	Goal 2	S.R1	<p>How satisfied were you with your MH or SUD care in the residential setting?</p> <ul style="list-style-type: none"> <li>• Very satisfied [Go to <b>S.R2</b>]</li> <li>• Somewhat satisfied [Go to <b>S.R2</b>]</li> <li>• Neither satisfied nor dissatisfied [Go to <b>S.R2</b>]</li> <li>• Somewhat dissatisfied [Go to <b>S.R2</b>]</li> <li>• Very dissatisfied [Go to <b>S.R2</b>]</li> <li>• Don't know [Go to <b>S.R2</b>]</li> <li>• Refused [Go to <b>S.R2</b>]</li> </ul>
	Goal 2	S.R2	Thinking about your MH and SUD care in 2021-2023, please describe the most helpful things about the services you received in the residential setting [Prompt: Staff Support; Treatment Plan During Discharge; Availability of Doctors; Wait Time; Access to Treatment, Care Coordination; Assistance with Medication Management; Symptom Improvement]. [Go to <b>S.R3</b> ]
	Goal 2	S.R3	Thinking about your MH and SUD care in 2021-2023, what improvements could be made to the services you received in the residential setting [Prompt: Staff Support; Treatment Plan During Discharge; Availability of Doctors; Wait Time; Access to Treatment, Care Coordination; Assistance with Medication Management; Symptom Improvement]. [Go to <b>S.R4</b> ]
	Goal 2	S.R4	Thinking about your MH and SUD care in 2021-2023, are there services [Prompt: other programs, treatments, or resources] that you wished were available? [Go to <b>CC.R1</b> ]
Care Coordination: Residential	Goal 5	CC.R1	<p>Thinking about your residential care during 2021-2023, did a professional, such as a nurse or case manager help you coordinate care during discharge? (Prompt: For example, did someone help you connect to another care setting for MH treatment or coordinate medication prescriptions at your pharmacy)</p> <ul style="list-style-type: none"> <li>• Yes [Go to <b>CC.R2</b>]</li> <li>• No [Go to <b>Physical Conditions Prompt</b>]</li> <li>• Don't Know [Go to <b>Physical Conditions Prompt</b>]</li> <li>• Refused [Go to <b>Physical Conditions Prompt</b>]</li> </ul>

Section	Mapping	#	Question/Response
Care Coordination: Residential (cont.)	Goal 5	CC.R2	When this individual helped to coordinate care, were you coordinated to care nearby (in their community)? <b>[Go to CC.R3]</b>
	Goal 5	CC.R3	Describe what you liked and didn't like about the care coordination you received. <b>[Go to CC.R4]</b>
	Goal 5	CC.R4	How could care coordination in a residential setting for individuals with MH and SUD be improved? <b>[Prompt: Timeliness of coordination, medical records, etc.; Smooth transitions of medical care (including medication management); Staff Support]</b> <b>[Go to Physical Conditions Prompt]</b>
Physical Conditions	N/A	Physical Conditions: Prompt	<b>Prompt:</b> Some medical settings provide care for physical (e.g., diabetes or COPD), MH, and SUD conditions. We call these settings integrated care. The next few questions focus on access to integrated care settings. <b>[Go to P1]</b>
	Goal 4	P1	During 2021-2023, did you receive any medical services (e.g., annual health exam or treatment for a physical condition, such as asthma) in the same setting as your MH and substance use care? <ul style="list-style-type: none"> <li>• Yes <b>[Go to P2]</b></li> <li>• No <b>[Go to Closing]</b></li> <li>• Don't Know <b>[Go to P3]</b></li> <li>• Refused <b>[Go to P3]</b></li> </ul>
	Goal 4	P2	What types of medical services did you receive in the integrated care setting? <ul style="list-style-type: none"> <li>• Preventative (<b>Prompt:</b> annual health exams, lab work, vaccines) <b>[Go to P3]</b></li> <li>• Primary Care (<b>Prompt:</b> diagnosis or treatment of medical conditions like asthma, diabetes, high blood pressure) <b>[Go to P3]</b></li> <li>• Specialty Care (<b>Prompt:</b> OBGYN, Cardiologist, Physical Therapist, Radiologist) <b>[Go to P3]</b></li> <li>• Urgent Care (<b>Prompt:</b> Walk-In Clinics, Express Care Centers) <b>[Go to P3]</b></li> <li>• Emergency Room (<b>Prompt:</b> confirm services for physical condition only) <b>[Go to P3]</b></li> </ul>
	Goal 4	P3	Thinking about your experience in integrated care settings receiving care for your PH and MH/SUD needs, please describe the most helpful things about the services you received <b>[Prompt: Staff Support; Access to Treatment, Care Coordination; Symptom Improvement]</b> . <b>[Go to P4]</b>
	Goal 4	P4	Thinking about your experience in integrated care settings receiving care for your PH and MH/SUD needs in 2021-2023, what improvements could be made to the services you received <b>[Prompt: Staff Support; Access to Treatment, Care Coordination; Symptom Improvement]</b> . <b>[Go to P5]</b>
	Goal 4	P5	Thinking about your experience in integrated care settings receiving care for your PH and MH/SUD needs in 2021-2023, are there services <b>[Prompt: other programs, treatments, or resources]</b> that you wished were available? <b>[Go to Closing]</b>
	Closing	N/A	N/A

## Attachment D: Quantitative Analysis Technical Specification

**Attachment D** provides the detailed technical specifications used for data processing (e.g., initial data preparation, population identification, and metrics specifications) across the demonstration goals.

### A. Claims Finalization

Prior to identifying the evaluation population and conducting evaluation analyses, a claims finalization process was run using claims layout data to identify and maintain the latest transaction record for each claim as well as remove claims paid by third parties. More specifically, the claims finalization process used the following data processing steps:

1. Combined both regular and denied claim layout records (i.e., to run the subsequent steps for both regular and denied claims).
2. Identified and kept the latest transaction record (`I_Latest_Trans = "Y"`) for each claim.
3. Split claims by pharmacy and non-pharmacy records.
4. Sorted each type of claim (pharmacy and non-pharmacy) by original claim number (`original_claim_num`), pharmacy sequence ID (`pharm_seq_id`; pharmacy claims only), Mom Medicaid claim number (`claim_num_mom`), system-assigned claim number (`claim_num`), adjudication date (`date_adjudication`), and claim transaction type (`claim_trans_type`).
  - a. From these sorted claims the first row was kept (i.e., the latest adjudication date).
5. Re-combined pharmacy and non-pharmacy claims.
6. Dropped denied claims.
7. Dropped claims that were paid through third parties (`Amt_TPL_Total > 0`).

### B. Analytic Population

The SMI beneficiary roster was constructed using the following data processing steps:

1. Extracted all finalized claims with an SMI diagnosis in the primary and secondary positions for both inpatient and outpatient claims.
  - a. SMI-related inpatient claims – i.e., claims with a claim type of institutional crossover, inpatient, or long-term care (`claim_type` in ("A","I","L"), respectively) – were identified using the claims’ primary diagnosis (`sequence_id = 1`), admission diagnosis (`sequence_id = 2`), and secondary diagnosis (`sequence_id = 4`) fields.
  - b. SMI-related outpatient claims (i.e., any claims not identified as “inpatient” according to the rules outlined above) were identified using primary diagnosis (`sequence_id = 1`) and secondary diagnosis (`sequence_id = 4`) fields.
  - c. Specific diagnosis codes used to identify SMI conditions are shown in **Exhibit D.1**, below.

**Exhibit D.1: SMI Diagnosis Categories and ICD10 Codes**

SMI Diagnosis Category	ICD10 Diagnosis Code
Bipolar	F310, F3110, F3111, F3112, F3113, F312, F3130, F3131, F3132, F314, F315, F3160, F3161, F3162, F3163, F3164, F3170, F3171, F3172, F3173, F3174, F3175, F3176, F3177, F3178, F3181, F3189, F319
MDD	F330, F331, F332, F333, F3340, F3341, F3342, F339
Schizophrenia	F200, F201, F202, F203, F205, F2081, F2089, F209, F250, F251, F258, F259

2. Determined monthly Medicaid enrollment for any SMI waiver eligible beneficiaries identified as having an SMI diagnosis (i.e., beneficiaries identified in Step 1). As noted in **Section I.H** (Target Population) and shown in **Exhibit D.2**, below, the SMI waiver-eligible Medicaid enrollment excluded beneficiaries with the following types of Medicaid enrollment:

**Exhibit D.2: Eligibility Groups Excluded from the Demonstration**

Eligibility Group Name	Social Security Act & CFR Citation
Limited Services Available to Certain Aliens	42 CFR §435.139
Qualified Medicare Beneficiaries (QMB)	1902(a)(10)(E)(i) 1905(p)
Specified Low Income Medicare Beneficiaries (SLMB)	1902(a)(10)(E)(iii)
Qualified Individual (QI) Program	1902(a)(10)(E)(iv)
Qualified Disabled Working Individual (QDWI) Program	1902(a)(10)(E)(ii) 1905(s)
Family Planning	1902(a)(10)(A)(ii)(XXI)

3. Beneficiaries were then added to the SMI beneficiary roster for each year according to the following rules:
  - a. Once a beneficiary was identified as having a claim with an SMI diagnosis, the beneficiary remained in a “possible roster” SMI beneficiary list for that CY and for all subsequent years within the study period.
    - i. For example, if a beneficiary had a claim with a principal or secondary diagnosis of MDD in June 2019, that beneficiary remained in the list of possible roster members for 2019 and in each subsequent year (2020 to 2023).
  - b. Medicaid eligibility and age eligibility were then checked for each “possible roster” beneficiary:
    - i. *Medicaid eligibility:* To be included in the roster for a given year, beneficiaries with SMI were required to have at least one month of SMI waiver-eligible Medicaid coverage during a roster year.
      1. Within each year, 95-97% of SMI beneficiaries were identified as having (SMI waiver-eligible) Medicaid coverage for at least one month.
    - ii. *Age eligibility:* To be included in the roster for a given year, beneficiaries with SMI and at least one month of enrollment in SMI waiver-eligible

Medicaid coverage were required to be between ages 21 and 64 at the end of each measurement year (i.e., as of December 31).

1. About 76% of eligible SMI beneficiaries met this criterion.

The final SMI beneficiary roster for each year therefore consisted of beneficiaries who:

- Had a claim with a primary or secondary diagnosis of SMI within that year or within a prior year within the study period, and
- Were enrolled in SMI waiver-eligible Medicaid coverage for at least one month during the year, and
- Were between ages 21 and 64 as of December 31 of that year.

### Metropolitan/Non-metropolitan Geographical Area

Beneficiary geographic location was identified based on county of residence available in the member enrollment data. Each county was mapped using RUCC to a metropolitan (metro) or non-metropolitan (non-metro) area based on the reported population information. The mapping of the RUCC to Indiana counties were obtained from United States Department of Agriculture publicly available data.<sup>156</sup> Based on the RUCC mapping, 44 counties were identified as metro areas, and 48 counties were identified as non-metro areas. **Exhibit D.3** categorizes the number of metro and non-metro counties by population size.

**Exhibit D.3: Indiana Counties by RUCC Classification**

RUCC Description	Metro	Non-Metro	Total
Metro - Counties in metro areas of 1 million population or more	22		22
Metro - Counties in metro areas of 250,000 to 1 million population	7		7
Metro - Counties in metro areas of fewer than 250,000 population	15		15
Nonmetro - Urban population of 20,000 or more, adjacent to a metro area		5	5
Nonmetro - Urban population of 20,000 or more, not adjacent to a metro area		2	2
Nonmetro - Urban population of 5,000 to 20,000, adjacent to a metro area		24	24
Nonmetro - Urban population of 5,000 to 20,000, not adjacent to a metro area		5	5
Nonmetro - Urban population of fewer than 5,000, adjacent to a metro area		11	11
Nonmetro - Urban population of fewer than 5,000, not adjacent to a metro area		1	1
<b>All Metro and non-Metro</b>	<b>44</b>	<b>48</b>	<b>92</b>

Source: RUCC 2023 mapping data.

### C. Sampling for Member KII

Stratified sampling was used to select member samples for the member KII. The sampling population was drawn from the SMI beneficiary roster using quarter-based Medicaid eligibility. This quarter-based SMI beneficiary roster included any beneficiaries with an SMI diagnosis during each quarter who were Medicaid eligible and between the ages of 21 and 64 at the end of the measurement year (December 2023). Consequently, the quarter-based SMI beneficiary roster

<sup>156</sup> <https://www.ers.usda.gov/data-products/rural-urban-continuum-codes.aspx>

included 67,516 beneficiaries (i.e., had an SMI diagnosis during last quarter of 2023, aged 21-64 and also eligible for Medicaid in December 2023). The following data processing steps were conducted to construct the member KII sample:

1. Excluded SMI beneficiaries who were deceased or did not have a valid phone number (about 7% of the sample were excluded).
2. Stratified the sample using three demographic variables: gender (male, female), age group (21-30, 31-50 and 51-64), and race (White/Caucasian, Black, and Other/Not available).

Given the potential for non-response, a sample of 500 beneficiaries was derived to maximize data collection efforts for completing 25 interviews (target number of responses from the evaluation design). The number of sample cohorts selected per strata (of the total 500) was proportional to the relative volume (number of beneficiaries) of each stratum. The PROC SURVEYSELECT procedure in SAS was used to construct the sample.

As interviews were expected to take weeks to complete and response rates typically vary by member characteristics, the sampled beneficiaries were split into five outreach waves and sorted by beneficiary characteristics to maximize the number of completed interviews from the varied member pool. **Exhibit D.4** summarizes the counts for the sampling population, outreach sample and respondent by gender, age, and race categories.

**Exhibit D.4: Counts of SMI Population, Outreach Sample, and Respondents by Gender, Age, and Race**

Population/Sample Group		N	Strata	Gender		Age Group			Race		
			Cat.	F	M	21-30	31-50	51-64	White/Caucasian	Af. Am./Black	Oth.
SMI Pop. in Dec. 2023	With Available Strata Info	67,516	N	43,012	24,504	16,129	32,611	18,776	6,158	41,873	19,485
			%	63.7%	36.3%	23.9%	48.3%	27.8%	9.1%	62.0%	28.9%
	Alive and With Valid Phone #	62,554	N	39,823	22,731	14,567	30,255	17,732	5,666	38,037	18,851
			%	63.7%	36.3%	23.3%	48.4%	28.3%	9.1%	60.8%	30.1%
SMI Sample	Overall	500	N	317	183	117	241	142	46	304	150
			%	63.4%	36.6%	23.4%	48.2%	28.4%	9.2%	60.8%	30.0%
SMI Respondents Interviewed	Overall	25	N	10	15	4	9	12	13	6	6
			%	40%	60%	16%	36%	48%	52%	24%	24%

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

## D. Goal 1

Changes in all-cause related ED service participation and utilization rates before and after the waiver extension were calculated for the SMI beneficiary roster who had at least 10 months of SMI waiver eligible Medicaid coverage in each respective year following their diagnosis. The rates the SMI population and relevant demographic subgroups used finalized claims data.

Monthly ED service participation rates were calculated as:

$$\frac{\text{\# of SMI roster beneficiaries who had at least one ED service visit in the month}}{\text{\# of SMI beneficiaries in the monthly roster}}$$

Annual ED service participation rates were calculated as:

$$\frac{\text{\# of SMI roster beneficiaries who had at least one ED service visit in the year}}{\text{\# of SMI beneficiaries in the annual roster}}$$

Annual ED service utilization rates were calculated as:

$$\frac{\text{\# of ED service visits per year}}{\text{member months}}$$

For monthly participation rates, ED service visits were counted for an individual if that individual was in the monthly SMI beneficiary roster in the month that the ED service visit occurred. For annual participation rates, ED service visits were counted for an individual if that individual was in the annual SMI beneficiary roster in the year that the ED service visit occurred. Only members who had at least 10 months of SMI waiver eligible Medicaid coverage after their first SMI diagnosis were included in these metrics.

For annual utilization rates, ED service visits were counted for an individual if the individual was in the annual SMI roster in that year. For the denominator of the utilization rate, member months were counted for those members if that member month occurred on or after a member's first SMI diagnosis date. Only members who had at least 10 months of SMI waiver eligible Medicaid coverage after their first SMI diagnosis were included in the metric.

To identify ED visits, the following data processing steps were used:

1. Identified claims where the service begin date (`date_begin_service_header`) occurred on or after the SMI beneficiary's first SMI diagnosis date, and the claim had a revenue code (`revenue_code`) or claim header procedure code (`proc_code`) in the HEDIS VSD *ED* value set.
2. Kept one ED service visit per beneficiary per day.

For analyses examining MH or SMI related ED service visits, the following steps were taken to flag ED service visits:

1. For MH related claims, if any claims from the ED service date had a primary diagnosis code in the following value sets, the ED service visit from that date was flagged as MH related:
  - a. The HEDIS VSD MH Diagnosis value set, or
  - b. The HEDIS VSD Intentional Self-Harm value set, or
  - c. The CCSR Suicidal Ideation, Attempt, and Intentional Self-Harm diagnosis categories.

2. For SMI related claims, all claims from the date of the ED service visit (date\_begin\_service\_header) were checked for a primary diagnosis code (primary\_diag\_code) in the SMI diagnosis codes listed in **Exhibit D.1**. If any claims from the ED service date had a primary diagnosis code listed in this table, the ED service visit from that date was flagged as SMI related.

For each year in the valuation period, the participation and utilization rates were calculated and stratified for: gender, age group (21-30, 31-40, 41-50, 51-60, 60-64), race, ethnicity, metro/non-metro, dual eligibility, HIP/Non-HIP, SMI diagnosis groups, and chronic conditions.

## E. Goal 2

Changes in all-cause, unplanned 30-day readmission rates before and after the waiver extension were calculated for the SMI beneficiary roster population using claims data. The 30-day all-cause, unplanned readmission rate was calculated as:

$$\frac{\text{\# of "D" with all-cause acute inpatient or observation readmissions stays within 30 days of discharge}}{\text{\# of (eligible) acute inpatient or observation stays related to MH (D)}}$$

More specifically, to calculate this measure, MH-related acute inpatient and observation stays for the denominator (D) were first identified using the following data processing steps:

1. Identified and removed any beneficiaries within the SMI beneficiary roster who received hospice services within the given CY. Beneficiaries with hospice services were identified as those with claims with a service begin date (date\_begin\_service\_header) between January 1 and December 31 of the CY and:
  - a. A revenue code (revenue\_code) within the HEDIS VSD Hospice Encounter value set, or
  - b. A claim header procedure code (proc\_code) within the HEDIS VSD Hospice Encounter value set, or
  - c. A claim header procedure code (proc\_code) within the HEDIS VSD Hospice Intervention value set.
2. Extracted all acute and nonacute inpatient stays and observation stays with a discharge/service end date (date\_end\_service\_header) within the given CY among SMI beneficiary roster members who did not receive any hospice services within the given CY. Acute and nonacute inpatient stays and observation stays were identified as claims with:
  - a. A revenue code (revenue\_code) within the HEDIS VSD Inpatient Stay value set, or
  - b. A revenue code (revenue\_code) within the HEDIS VSD Observation Stay value set.
3. Excluded any claims corresponding to nonacute inpatient stays – i.e., excluded any claims with a revenue code (revenue\_code) or bill type (bill\_type) within the HEDIS VSD Nonacute Inpatient Stay value set.



4. Identified and concatenated any direct transfers among remaining stays as any stays with an admission date on the same day or one day after the discharge date of a previous stay. When a direct transfer or overlapping stay was identified, the stays were concatenated into a single stay, using the earliest admission date (`date_begin_service_header`) and the latest discharge date (`date_end_service_header`).
5. Removed any stays with a discharge date (`date_end_service_header`) before January 1 or after December 1 of the given CY.
6. Removed any stays where the discharge date (`date_end_service_header`) was the same as the admission date (`date_begin_service_header`) – i.e., all stays were required to have a LOS of at least one day.
7. Removed any stays where the beneficiary died during the stay (i.e., removed any stays where `date_begin_service_header` <= `date_death_recipient` <= `date_end_service_header`).
8. Removed any stays in which the beneficiary had a claim with a primary diagnosis (`diag_code`, where `sequence_id` = 1) related to pregnancy or perinatal care.
9. Pregnancy-related claims were identified as those with a primary diagnosis code within the HEDIS VSD Pregnancy value set.
10. Perinatal care-related claims were identified as those with a primary diagnosis code within the HEDIS VSD Perinatal Conditions value set.
11. Removed any stays without a claim with a primary or secondary diagnosis (`diag_code`, where `sequence_id` = 1 or `sequence_id` = 4) related to MH. MH-related diagnoses were identified as any diagnoses included in:
  - a. The HEDIS VSD MH Diagnosis value set, or
  - b. The HEDIS VSD Intentional Self-Harm value set, or
  - c. The CCSR Suicidal Ideation, Attempt, and Intentional Self-Harm diagnosis categories.
12. Removed any stays after which the beneficiary was not enrolled in SMI waiver-eligible Medicaid coverage for 30 days.

Possible readmission stays for the numerator were then identified using the following data processing rules:

1. Identified and removed any beneficiaries within the SMI beneficiary roster who received hospice services within the given CY. Beneficiaries with hospice services were identified as those with claims with a service begin date (`date_begin_service_header`) between January 1 and December 31 of the CY and:
  - a. A revenue code (`revenue_code`) within the HEDIS VSD Hospice Encounter value set, or
  - b. A claim header procedure code (`proc_code`) within the HEDIS VSD Hospice Encounter value set, or
  - c. A claim header procedure code (`proc_code`) within the HEDIS VSD Hospice Intervention value set.

2. Extracted all acute and nonacute inpatient stays and observation stays with an admission/service begin date (`date_begin_service_header`) within the given CY (among SMI beneficiary roster members who did not receive any hospice services within the given CY). Acute and nonacute inpatient stays and observation stays were identified as claims with:
  - a. A revenue code (`revenue_code`) within the HEDIS VSD Inpatient Stay value set, or
  - b. A revenue code (`revenue_code`) within the HEDIS VSD Observation Stay value set.
3. Excluded any claims corresponding to nonacute inpatient stays – i.e., excluded any claims with a revenue code (`revenue_code`) or bill type (`bill_type`) within the HEDIS VSD Nonacute Inpatient Stay value set.
4. Identified and concatenated any direct transfers among remaining stays as any stays with an admission date on the same day or one day after the discharge date of a previous stay. When a direct transfer or overlapping stay was identified, the stays were concatenated into a single stay, using the earliest admission date (`date_begin_service_header`) and the latest discharge date (`date_end_service_header`).
5. Removed any stays with an admission date (`date_begin_service_header`) before January 3 or after December 31 of the given CY.
6. Removed any stays in which the beneficiary had a claim with a primary diagnosis (`diag_code`, where `sequence_id = 1`) related to pregnancy or perinatal care.
  - a. Pregnancy-related claims were identified as those with a primary diagnosis code within the HEDIS VSD Pregnancy value set.
  - b. Perinatal care-related claims were identified as those with a primary diagnosis code within the HEDIS VSD Perinatal Conditions value set.
7. Removed any stays related to other types of planned visits or procedures. Specifically, the following types of stays were excluded:
  - a. Stays with a principal diagnosis (`diag_code`, where `sequence_id = 1`) of maintenance chemotherapy (as identified by the HEDIS VSD Chemotherapy Encounter value set).
  - b. Stays with a principal diagnosis (`diag_code`, where `sequence_id = 1`) of rehabilitation (as identified by the HEDIS VSD Rehabilitation value set).
  - c. Stays with procedure codes (`proc_code`) to an organ transplant (as identified by the HEDIS VSD Kidney Transplant, Bone Marrow Transplant, Organ Transplant Other Than Kidney, or Introduction of Autologous Pancreatic Cells value sets).
  - d. A potentially planned procedure (as identified by the HEDIS VSD Potentially Planned Procedures value set), without a principal acute diagnosis (as identified by the HEDIS VSD Acute Conditions value set).

Possible readmission stays were then merged with denominator stays to indicate whether a given denominator stay (D) had an all-cause, unplanned readmission within 30 days. A binary indicator

(i.e., 1 = “Yes”, 0 = “No”) to develop the numerator count of (D) with readmissions (as specified in the formula above) according to the following data processing rules:

1. A possible readmission stay was counted as a “readmission” (i.e., in the numerator) for a given denominator stay if the readmission stay occurred within one to 30 days after the denominator discharge date.
2. If a possible readmission stay could be counted as a “readmission” for more than one denominator stay, the possible readmission was counted toward the numerator for the denominator stay with the latest discharge date (date\_end\_service\_header).
  - a. Thus, each possible readmission stay would only be counted once (at most) toward the numerator.

For each year in the valuation period, the readmission rate was calculated and stratified for: gender, age group (21-30, 31-40, 41-50, 51-60, 60-64), race, ethnicity, metro/non-metro, dual eligibility, HIP/Non-HIP, SMI diagnosis groups, and chronic conditions.

#### **F. Goal 4**

For each measurement year of 2018-2023, participation rates were calculated for the following three community-based services from beneficiaries in the SMI beneficiary roster who had at least 10 months of SMI waiver eligible Medicaid coverage in each respective year following their diagnosis:

- Outpatient rehabilitation (including targeted case management services),
- HCBS & LTSS, and
- Outpatient MH using the analytic population.

Additionally, the overall community-based services participation rate was calculated. This participation rate calculated the proportion of the analytic population that had at least one paid claim in the measurement year related to any of the community-based service types listed above.

Participation rates were calculated as:

$$\frac{\text{\# of SMI roster beneficiaries who had at least one qualifying service visit in the year}}{\text{\# of SMI roster beneficiaries who had at least 10 months of SMI waiver eligible Medicaid coverage}}$$

#### **1. Outpatient Rehab - Percent of beneficiaries using MH-related Outpatient rehab (MRO Services) or other Outpatient rehab services.**

To identify these services the following data processing steps were used:

1. Identified claims where:
  - a. The service begin date (date\_begin\_service\_header) occurred on or after the SMI beneficiary’s first SMI diagnosis date and
  - b. The claim had the primary diagnosis code in the HEDIS VSD MH Diagnosis value set and

- c. The Date\_Begin\_Service\_Header is between January 1, 2018 and December 31, 2023 and
  - d. Neither the place\_of\_service\_header or the place\_of\_service\_detail (POS) are “2”, “02” or “10” or either of the proc\_mod (proc\_mod1- proc\_mod4) are “95”, “93” or “GT” (telehealth) for date\_begin\_service\_header in 2018 and 2019 only. No exclusions applied for date\_begin\_service\_header in 2020-2023.
2. From the claims identified above the number of beneficiaries with a claim that met any of the following criteria was calculated.
- a. MH related MRO services – These codes are obtained from Indiana Provider Reference Module for MRO services.
    - i. proc\_code\_L in ('H0004', 'H0005', 'H0031', 'H0034', 'H2012', 'H2014', 'H2017', 'H2019', 'H2035', 'T1016') AND
    - ii. POS in ('11', '12', '23', '31', '32', '53', '99')
  - b. Other Outpatient Rehab Services – These specifications were adapted from Metric 14: MH Services Utilization – IOP and Partial Hospitalization Technical Specifications for Monitoring Metrics Version 3.0 September 2021. Among claims identified in Step 1, claims were retained having a code from any of the following.
    - i. Partial Hospitalization or IOP- Partial Hospitalization or IOP Procedure Codes (HCPCS) and Revenue codes value sets
    - ii. Mental Health Utilization (MPT) IOP Program/Partial Hospitalization Group 1; Electroconvulsive Therapy; or Transcranial Magnetic Stimulation value sets with a corresponding POS code in Partial Hospitalization or IOP POS Value Set
    - iii. MPT IOP/Partial Hospitalization Group 1; Electroconvulsive Therapy; or Transcranial Magnetic Stimulation Value Sets with a corresponding code in CMHC POS Value set
    - iv. MPT IOP/Partial Hospitalization Group 2 Value Set with a corresponding code in Partial Hospitalization POS value set billed by a MH provider in with provider specialty in ('011', '090', '091', '092', '093', '095', '100', '11', '110', '111', '112', '113', '114', '115', '117', '339', '599', '611', '612', '613', '615', '615', '616', '617', '618', '619', '620', '621', '835', '836', '90', '91', '92', '93', '95', 'B05', 'C02', 'C12', 'C18', 'D08', 'F28', 'M07', 'M08', 'M09', 'M11', 'M12', 'M14', 'M16', 'O13', 'O27', 'O41', 'O60', 'O71')
    - v. MPT IOP/Partial Hospitalization Group 2 Value Set with a corresponding code in CMHC POS billed by a provider with MH provider specialty in ('011', '090', '091', '092', '093', '095', '100', '11', '110', '111', '112', '113', '114', '115', '117', '339', '599', '611', '612', '613', '615', '615', '616', '617', '618', '619', '620', '621', '835', '836', '90', '91', '92', '93', '95', 'B05', 'C02', 'C12', 'C18', 'D08', 'F28', 'M07', 'M08', 'M09', 'M11', 'M12', 'M14', 'M16', 'O13', 'O27', 'O41', 'O60', 'O71')

- vi. Targeted Case Management with procedure code in ('T1017', 'T2023', '99366', '99367', '99368', 'T2022')
3. For each year in the valuation period, the participation rate was calculated by dividing the total unique beneficiaries from Step 2 by the total unique beneficiaries from Step 1
4. For each year in the valuation period, the participation rate was calculated and stratified for: gender, age group (21-30, 31-40, 41-50, 51-60, 60-64), race, ethnicity, metro/non-metro, dual eligibility, HIP/Non-HIP, SMI diagnosis groups, and chronic conditions.

## **2. HCBS/LTSS - Percent of beneficiaries using MH related HCBS & Percent of beneficiaries using MH-related LTSS**

1. Subsetted the claims data to claims meeting the following conditions:
  - a. The service begin date (date\_begin\_service\_header) occurred on or after the SMI beneficiary's first SMI diagnosis date and
  - b. The claim had the primary diagnosis code in the HEDIS VSD MH Diagnosis value set and
  - c. The Date\_Begin\_Service\_Header between January 1, 2018 and December 31, 2023 and
  - d. Neither the POS was "2", "02" or "10" (telehealth) for date\_begin\_service\_header in 2018 and 2019 only. No exclusions applied for date\_begin\_service\_header in 2020-2023 and
  - e. The claim did not contain any revenue code in the Inpatient Stay Value Set
2. From Step 1, calculated the number of beneficiaries having a claim with procedure codes in HCBS-LTSS value set or revenue codes in HCBS-LTSS revenue codes<sup>157</sup>
3. For each year in the valuation period, the participation rate was calculated by dividing the total unique beneficiaries from Step 2 by the total unique beneficiaries from Step 1
4. For each year in the valuation period, the participation rate was calculated and stratified for: gender, age group (21-30, 31-40, 41-50, 51-60, 60-64), race, ethnicity, metro/non-metro, dual eligibility, HIP/Non-HIP, SMI diagnosis groups, and chronic conditions.

## **3. Outpatient MH - Percent of beneficiaries using Outpatient MH Services**

1. Divided the claims data to claims that meet the following conditions:
  - a. The service begin date (date\_begin\_service\_header) occurred on or after the SMI beneficiary's first SMI diagnosis date AND
  - b. The claim had the primary diagnosis code in the HEDIS VSD MH Diagnosis value set AND
  - c. The Date\_Begin\_Service\_Header between January 1, 2018 and December 31, 2023 AND

<sup>157</sup> HCBS/LTSS services were identified by a collaborative review of the FSSA fee schedule between FSSA and Lewin

- d. Neither the POS was “2”, “02” or “10” or either of the proc\_mod (proc\_mod1-proc\_mod4) are “95”, “93” or “GT” (telehealth) for date\_begin\_service\_header in 2018 and 2019 only. No exclusions applied for date\_begin\_service\_header in 2020-2023 AND
  - a. The claim did not contain any revenue code in *Inpatient Stay Value Set*
2. From above claims, the number of beneficiaries with a claim that met any of the following criteria was calculated. These specifications are adapted from Metric 15 – Medicaid Section 1115 SMI and SED Demonstrations: Technical Specifications for Monitoring Metrics Version 3.0 September 2021.
  - a. Procedure and Revenue code from MPT Stand Alone Outpatient Group 1 value set
  - b. Procedure and Revenue code from MPT Stand Alone Outpatient Group 2 Value Set billed by a MH provider with provider specialty in ('011', '090', '091', '092', '093', '095', '100', '11', '110', '111', '112', '113', '114', '115', '117', '339', '599', '611', '612', '613', '615', '615', '616', '617', '618', '619', '620', '621', '835', '836', '90', '91', '92', '93', '95', 'B05', 'C02', 'C12', 'C18', 'D08', 'F28', 'M07', 'M08', 'M09', 'M11', 'M12', 'M14', 'M16', 'O13', 'O27', 'O41', 'O60', 'O71')
  - c. Procedure code in Observation Value Set billed by MH provider with provider specialty in ('011', '090', '091', '092', '093', '095', '100', '11', '110', '111', '112', '113', '114', '115', '117', '339', '599', '611', '612', '613', '615', '615', '616', '617', '618', '619', '620', '621', '835', '836', '90', '91', '92', '93', '95', 'B05', 'C02', 'C12', 'C18', 'D08', 'F28', 'M07', 'M08', 'M09', 'M11', 'M12', 'M14', 'M16', 'O13', 'O27', 'O41', 'O60', 'O71')
  - d. Procedure code in Visit Setting Unspecified; Electroconvulsive Therapy; or Transcranial Magnetic Stimulation Value Sets with a corresponding code from Outpatient POS Value Set
  - e. Procedure code in Visit Setting Unspecified; Electroconvulsive Therapy; or Transcranial Magnetic Stimulation Value Sets with a corresponding code from CMHC POS Value Set
  - f. Procedure code in Electroconvulsive Therapy or Transcranial Magnetic Stimulation Value Sets with a corresponding code from Ambulatory Surgical Center POS Value Set
3. For each year in the valuation period, the participation rate was calculated by dividing total unique beneficiaries from Step 2 by total unique beneficiaries from Step 1
4. For each year in the valuation period, the participation rate calculated and stratified for: gender, age group (21-30, 31-40, 41-50, 51-60, 60-64), race, ethnicity, metro/non-metro, dual eligibility, HIP/Non-HIP, SMI diagnosis groups, and chronic conditions.

## G. Goal 5

### 1. Specification for Follow-Up After ED Visit for MH-Related Diagnosis

For each measurement year of 2018-2023, two follow-ups after ED visits for MH-related diagnosis rates were calculated and examined for the SMI beneficiary population, including:

- Seven-day follow-up within the ED visit, and
- Thirty-day follow-up within the ED visits.

The rates are calculated at the ED visit encounter level as follows:

$$\frac{\text{\# of ED Visits with Followup Visits within specified days}}{\text{\# of ED Visits with a principal diagnosis of MH}}$$

The finalized claims were used to establish both denominator and numerator of the measure.

The denominator ED visits were identified through the process listed below:

1. Identified ED claims with HEDIS VSD ED value set and a principal diagnosis of the following ICD10 diagnosis value sets for the annual SMI beneficiaries:
  - a. The HEDIS VSD MH Diagnosis value set, or
  - b. The HEDIS VSD Intentional Self-Harm value set, or
  - c. The CCSR Suicidal Ideation, Attempt, and Intentional Self-Harm diagnosis categories.

The principal diagnosis was required to be on the same day as an ED visit. Only one ED visit was counted per day.

2. Kept ED visits on or between January 1 and December 1 of each measurement year that occurred after the first SMI diagnosis per beneficiary. The first SMI diagnosis is the first SMI diagnosis during the six-year study period.
3. Removed multiple eligible ED visits within 31-day period and only kept the first eligible ED visit per beneficiary.
4. Excluded eligible ED visits that resulted in an inpatient stay within 31-day period. If an ED visit was followed by inpatient admission into an acute or nonacute inpatient care setting on the date of the ED visit or within 30 days after the ED visit, regardless of the principal diagnosis for the admission, the ED visit was excluded. Inpatient admissions were identified using the HEDIS VSD Inpatient Stay Value Set. The admission date was used to check if the admission occurred during 31-day time window of the ED visit date.
5. Excluded any ED visits for beneficiaries meeting the following criteria:
  - a. If a beneficiary was identified to have a year-long inpatient admission (LOS=365 days), all ED visits for the beneficiary in the same year were excluded.
  - b. Beneficiaries in hospice or using hospice services (the HEDIS VSD Hospice Encounter value set) anytime during the measurement year.
  - c. Beneficiaries who died anytime during the measurement year.

6. Enrollment eligibility was checked. A beneficiary with an ED visit was eligible in the month of the ED visit and the subsequent month after the ED visit.

Follow-up visits are defined as any follow-up visits with any practitioner, with a principal diagnosis of MH-related diagnosis (as listed in 1a-1c) within the specified time periods, seven or thirty days after eligible ED visits. The steps to identify follow-up visits are detailed below:

1. Among beneficiaries identified with eligible ED visits, any visits meeting criteria below were identified:
  - a. An outpatient visit (Visit Setting Unspecified value set with Outpatient POS value set).
  - b. An outpatient visit (behavioral health Outpatient value set)
  - c. An IOP encounter or partial hospitalization (Visit Setting Unspecified with Partial Hospitalization POS value set)
  - d. An IOP encounter or partial hospitalization (Partial Hospitalization IOP value set)
  - e. A CMHC visit (Visit Setting Unspecified value set with CMHC POS value set)
  - f. Electroconvulsive therapy (Electroconvulsive Therapy value set) with (Ambulatory Surgical Center POS value set; CMHC POS value set; Outpatient POS value set; Partial Hospitalization POS value set)
  - g. A telehealth visit (Visit Setting Unspecified value set with Telehealth POS value set)
  - h. An observation visit (Observation value set)
  - i. A telehealth visit (Telehealth Visit value set)
  - j. An e-visit or virtual check-in (Online Assessments value set).
2. All eligible visits specified above were required to have one of the following diagnoses on the same date of visits:
  - a. A principal diagnosis of a MH disorder (MH Diagnosis value set)
  - b. A principal diagnosis of intentional self-harm (Intentional Self-Harm value set) and any diagnosis of a MH disorder (MH Diagnosis value set)
  - c. A principal diagnosis of suicidal ideation, attempt, and intentional self-harm (CCSR Suicidal Ideation, Attempt, and Intentional Self-Harm Diagnosis value set) and any diagnosis of a MH disorder (MH Diagnosis value set)
3. The dates of identified visits were compared to the date of ED visits per beneficiary.
  - 7-day follow-up: a follow-up visit within 7 days after an ED visit (8 total days, including visits on the same day as the ED visit).
  - 30-day follow-up: a follow-up visit within 30 days after an ED visit (31 total days, including visits on the same day as the ED visit).

A binary indicator (i.e., 1 for Yes, 0 for No) was created for each ED visit encounter when any follow-up visits were identified within the specified period after ED visits. The



binary indicator allowed counting all eligible ED visits for the denominator and those with follow-up visits for the numerator and thus calculation of the rates at the ED visit encounter level.

For each year in the valuation period, rates were calculated and stratified for: gender, age group (21-30, 31-40, 41-50, 51-60, 60-64), race, ethnicity, metro/non-metro, dual eligibility, HIP/Non-HIP, SMI diagnosis groups, and chronic conditions.

## **2. Specification for Follow-Up After ED Visit for AOD Abuse or Dependence**

For each measurement year of 2018-2023, two follow-up rates after ED visits for a principal diagnosis of AOD abuse or dependence were calculated and examined for the SMI beneficiary population, including:

- Seven-day follow-up within the ED visit, and
- Thirty-day follow-up within the ED visits.

The rates are calculated at the ED visit encounter level as follows:

$$\frac{\# \text{ of ED Visits with Followup Visits within specified days}}{\# \text{ of ED Visits with a principal diagnosis of AOD}}$$

The finalized claims were used for both denominator and numerator of the measure.

The denominator ED visits were identified through the process listed below:

1. Identified ED claims with HEDIS VSD ED value set and a principal diagnosis of AOD abuse or dependence (AOD Abuse and Dependence value set) for the annual SMI beneficiaries.
2. Kept the ED visits on or between January 1 and December 1 of each measurement year that occurred after the date of first SMI diagnosis per beneficiary. The first SMI diagnosis date was the date of the first SMI diagnosis during the six-year study period.
3. Removed multiple eligible ED visits within 31-day period and only kept the first eligible ED visit per beneficiary.
4. Excluded eligible ED visits that resulted in an inpatient stay within 31-day period. If an ED visit was followed by inpatient admission into an acute or nonacute inpatient care setting on the date of the ED visit or within 30 days after the ED visit, regardless of the principal diagnosis for the admission, the ED visit was excluded. Inpatient admissions were identified using the HEDIS VSD Inpatient Stay Value Set. The admission date was used to check if the admission occurred during 31-day time window after the ED visit date.
5. Excluded any ED visits for beneficiaries meeting the following criteria:
  - a. If a beneficiary was identified to have a year-long inpatient admission (LOS=365 days), all ED visits for the beneficiary in the same year were excluded.
  - b. Beneficiaries in hospice or using hospice services (HEDIS VSD Hospice Encounter value set) anytime during the measurement year.

- c. Beneficiaries who died anytime during the measurement year.
6. Enrollment eligibility was checked. A beneficiary with an ED visit was eligible in the month of the ED visit and the subsequent month after the ED visit.

Follow-up visits are defined as any follow-up visits with any practitioner, with a principal diagnosis of AOD abuse or dependence within specified time periods, seven or thirty days after eligible ED visits. The steps to identify follow-up visits are detailed below:

1. Among beneficiaries identified with eligible ED visits, any visits with a principal diagnosis of AOD abuse or dependence (AOD Abuse and Dependence value set) and meeting criteria below were extracted:
  - a. Initiation and Engagement Treatment (IET) stand alone visits value set
  - b. Opioid Use Disorder (OUD) Weekly Non Drug Service value set
  - c. OUD Monthly Office Based Treatment value set
  - d. OUD Weekly Drug Treatment Service value set
  - e. IET Visits Group 1 value set with IET POS Group 1 value set
  - f. IET Visits Group 2 value set with IET POS Group 2 value set
  - g. An observation visit (Observation value set)
  - h. A telephone visit (Telephone Visits value set)
  - i. An e-visit or virtual check-in (Online Assessments value set)
2. The dates of identified visits were compared to the date of ED visits per beneficiary.
  - 7-day follow-up: a follow-up visit within 7 days after an ED visit (8 total days, including visits on the same day as the ED visit).
  - 30-day follow-up: a follow-up visit within 30 days after an ED visit (31 total days, including visits on the same day as the ED visit).

A binary indicator (i.e., 1 for Yes, 0 for No) was created for each ED visit encounter when any follow-up visits were identified within the specified period after ED visits. The binary indicator allowed counting all eligible ED visits for the denominator and those with follow-up visits for the numerator and thus calculation of the rates at the ED visit encounter level.

For each year in the valuation period, the rates were calculated and stratified for: gender, age group (21-30, 31-40, 41-50, 51-60, 60-64), race, ethnicity, metro/non-metro, dual eligibility, HIP/Non-HIP, SMI diagnosis groups, and chronic conditions.

## **Attachment E: Additional Quantitative Findings**

### **A. Population Summary**

Exhibits in this section provide additional detail for findings in **Section V.B (Population Summary)**.

**Exhibit E.1** provides the count of all beneficiaries with Medicaid coverage eligible for SMI waiver services, counts of beneficiaries included on the SMI beneficiary roster, as well as the count of new beneficiaries added to the roster each year. In addition, the exhibit displays the proportion of beneficiaries on the SMI roster who received any health care utilization (i.e., had any non-dental and non-pharmacy claims) and those with any MH-related utilization in each year. Although the proportion of beneficiaries with at least one utilization claim remained high (i.e., higher than 90%) in each year of the study period, the proportion of beneficiaries with MH-related utilization decreased considerably over the study period.

**Exhibit E.1: Waiver-Eligible Medicaid Beneficiaries, Overall and Within the SMI Roster by Year (2018 – 2023)**

Year	Medicaid beneficiaries Eligible for SMI Waiver (Age 21-64), Overall	SMI Beneficiary Roster		New Beneficiaries Included in SMI Roster		Roster Beneficiaries with Health Care Utilization in Year <sup>b</sup>		Roster Beneficiaries with MH Related Health Care Utilization <sup>c</sup>	
		N	% of Elig. Medicaid Pop.	N	% of SMI Beneficiary Roster	N	% of SMI Beneficiary Roster	N	% of SMI Beneficiary Roster
All Years	1,464,785	295,627	20.2%	-		-	-	-	
2018 <sup>a</sup>	735,240	88,393	12.0%	88,393	100.0%	88,393	100.0%	88,393	100.0%
2019 <sup>a</sup>	715,439	117,965	16.5%	39,097	33.1%	114,164	96.8%	100,739	85.4%
2020	796,534	147,715	18.5%	40,751	27.6%	141,399	95.7%	119,201	80.7%
2021	921,348	185,520	20.1%	43,253	23.3%	176,305	95.0%	142,845	77.0%
2022	1,026,666	220,287	21.5%	41,788	19.0%	204,759	93.0%	158,113	71.8%
2023	1,131,978	255,056	22.5%	42,345	16.6%	230,901	90.5%	172,565	67.7%

<sup>a</sup> Pre-demonstration period.

<sup>b</sup> Count of roster beneficiaries who had at least one paid claim (excluding pharmacy and dental) in the year.

<sup>c</sup> Count of roster beneficiaries who had at least one paid claim (excluding pharmacy and dental) related to MH in the year. MH-related claims were identified as those with a MH-related primary or secondary diagnosis using a combination of value sets, including the HEDIS VSD's MH Diagnosis and Intentional Self-Harm value sets, as well as the CCSR Suicidal Ideation, Attempt, and Intentional Self-Harm diagnosis category.

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**Exhibit E.2** summarizes the sociodemographic and clinical history characteristics of all Medicaid beneficiaries (i.e., all beneficiaries enrolled in SMI waiver-eligible Medicaid coverage) by year.

**Exhibit E.2: Beneficiary Characteristics, Among All Medicaid Beneficiaries Enrolled in SMI Waiver-Eligible Medicaid Coverage (2018-2023)**

Characteristics		Medicaid Recipients Eligible for SMI Waiver (Age 21-64), Overall					
		2018	2019	2020	2021	2022	2023
<b>Total Recipients</b>		<b>735,240</b>	<b>715,439</b>	<b>796,534</b>	<b>921,348</b>	<b>1,026,666</b>	<b>1,131,978</b>
<b>Gender</b>	Female	445,750 (60.6%)	433,746 (60.6%)	477,403 (59.9%)	545,002 (59.2%)	600,431 (58.5%)	652,215 (57.6%)
	Male	289,480 (39.4%)	281,689 (39.4%)	319,128 (40.1%)	376,339 (40.8%)	426,227 (41.5%)	479,759 (42.4%)
<b>Age</b>	21-30	224,875 (30.6%)	213,215 (29.8%)	237,901 (29.9%)	278,970 (30.3%)	314,562 (30.6%)	348,838 (30.8%)
	31-40	189,388 (25.8%)	185,467 (25.9%)	208,611 (26.2%)	244,909 (26.6%)	276,779 (27.0%)	308,488 (27.3%)
	41-50	138,266 (18.8%)	135,443 (18.9%)	151,836 (19.1%)	175,676 (19.1%)	195,586 (19.1%)	218,128 (19.3%)
	51-60	137,313 (18.7%)	134,145 (18.8%)	144,687 (18.2%)	160,432 (17.4%)	172,076 (16.8%)	183,082 (16.2%)
	61-64	45,398 (6.2%)	47,169 (6.6%)	53,499 (6.7%)	61,361 (6.7%)	67,663 (6.6%)	73,442 (6.5%)
<b>Race</b>	White/Caucasian	467,768 (63.6%)	445,948 (62.3%)	492,382 (61.8%)	566,770 (61.5%)	625,591 (60.9%)	680,177 (60.1%)
	Black	128,996 (17.5%)	124,820 (17.4%)	137,667 (17.3%)	161,776 (17.6%)	185,128 (18.0%)	211,176 (18.7%)
	Other	24,377 (3.3%)	22,079 (3.1%)	22,696 (2.8%)	26,560 (2.9%)	30,700 (3.0%)	34,846 (3.1%)
	Not Available	114,099 (15.5%)	122,592 (17.1%)	143,789 (18.1%)	166,242 (18.0%)	185,247 (18.0%)	205,779 (18.2%)
<b>Ethnicity</b>	Hispanic	35,696 (4.9%)	35,653 (5.0%)	42,936 (5.4%)	56,155 (6.1%)	67,416 (6.6%)	78,613 (6.9%)
	Non-Hispanic	649,916 (88.4%)	634,278 (88.7%)	684,201 (85.9%)	765,774 (83.1%)	832,913 (81.1%)	896,759 (79.2%)
<b>Geographic Location</b>	Metro	563,138 (76.6%)	547,035 (76.5%)	607,815 (76.3%)	706,087 (76.6%)	791,412 (77.1%)	878,582 (77.6%)
	Non-Metro	171,950 (23.4%)	168,277 (23.5%)	188,583 (23.7%)	215,121 (23.3%)	235,108 (22.9%)	253,234 (22.4%)
<b>Dual Eligibility <sup>a</sup></b>	Dually Eligible	84,025 (11.4%)	82,816 (11.6%)	86,629 (10.9%)	94,777 (10.3%)	99,353 (9.7%)	102,321 (9.0%)
<b>HIP/Non-HIP</b>	HIP	524,934 (71.4%)	500,043 (69.9%)	575,857 (72.3%)	674,087 (73.2%)	754,721 (73.5%)	848,088 (74.9%)
<b>SMI Diagnosis <sup>b</sup></b>	Bipolar Only	20,605 (2.8%)	24,443 (3.4%)	28,011 (3.5%)	32,431 (3.5%)	35,542 (3.5%)	37,867 (3.3%)
	MDD Only	43,870 (6.0%)	61,085 (8.5%)	78,836 (9.9%)	102,581 (11.1%)	125,373 (12.2%)	148,785 (13.1%)
	Schizophrenia Only	13,007 (1.8%)	13,096 (1.8%)	12,900 (1.6%)	12,891 (1.4%)	12,726 (1.2%)	12,572 (1.1%)
	Co-occurring SMI Dx	10,911 (1.5%)	19,341 (2.7%)	27,968 (3.5%)	37,617 (4.1%)	46,646 (4.5%)	55,832 (4.9%)

Characteristics		Medicaid Recipients Eligible for SMI Waiver (Age 21-64), Overall					
		2018	2019	2020	2021	2022	2023
<b>Total Recipients</b>		<b>735,240</b>	<b>715,439</b>	<b>796,534</b>	<b>921,348</b>	<b>1,026,666</b>	<b>1,131,978</b>
<b>Chronic Conditions</b>	Cancer	59,661 (8.1%)	57,204 (8.0%)	58,840 (7.4%)	63,072 (6.8%)	63,053 (6.1%)	62,082 (5.5%)
	Cardiovascular Disease	19,428 (2.6%)	19,084 (2.7%)	19,934 (2.5%)	22,594 (2.5%)	23,867 (2.3%)	25,158 (2.2%)
	COPD	42,133 (5.7%)	40,714 (5.7%)	42,436 (5.3%)	48,616 (5.3%)	49,542 (4.8%)	50,591 (4.5%)
	Diabetes	83,803 (11.4%)	82,355 (11.5%)	88,834 (11.2%)	101,375 (11.0%)	106,963 (10.4%)	112,547 (9.9%)
	Hypertension	180,412 (24.5%)	171,906 (24.0%)	189,603 (23.8%)	218,623 (23.7%)	227,479 (22.2%)	21.00%
	Infectious Disease	209,883 (28.5%)	195,921 (27.4%)	219,092 (27.5%)	269,187 (29.2%)	291,396 (28.4%)	316,012 (27.9%)
	Metabolic Disease	133,833 (18.2%)	122,456 (17.1%)	154,568 (19.4%)	209,499 (22.7%)	231,468 (22.5%)	198,563 (17.5%)
	Respiratory Disease	8,869 (1.2%)	8,659 (1.2%)	8,994 (1.1%)	10,264 (1.1%)	10,799 (1.1%)	11,044 (1.0%)
<b># of Chronic Conditions</b>	0	390,147 (53.1%)	389,247 (54.4%)	427,337 (53.6%)	471,974 (51.2%)	544,658 (53.1%)	641,005 (56.6%)
	1	146,581 (19.9%)	139,267 (19.5%)	159,368 (20.0%)	195,488 (21.2%)	211,061 (20.6%)	215,770 (19.1%)
	2	87,334 (11.9%)	81,607 (11.4%)	92,907 (11.7%)	114,670 (12.4%)	124,335 (12.1%)	129,136 (11.4%)
	3	56,957 (7.7%)	53,524 (7.5%)	60,267 (7.6%)	72,578 (7.9%)	77,246 (7.5%)	78,875 (7.0%)
	4	32,544 (4.4%)	30,825 (4.3%)	34,216 (4.3%)	40,786 (4.4%)	42,460 (4.1%)	41,573 (3.7%)
	5	15,214 (2.1%)	14,697 (2.1%)	15,992 (2.0%)	18,535 (2.0%)	19,164 (1.9%)	18,315 (1.6%)
	6	5,624 (0.8%)	5,479 (0.8%)	5,664 (0.7%)	6,401 (0.7%)	6,791 (0.7%)	6,415 (0.6%)
	7	800 (0.1%)	757 (0.1%)	754 (0.1%)	885 (0.1%)	916 (0.1%)	851 (0.1%)
	8	39 (0.0%)	36 (0.0%)	29 (0.0%)	31 (0.0%)	35 (0.0%)	38 (0.0%)

<sup>a</sup> Dually eligible in at least one month in the given year.

<sup>b</sup> SMI diagnoses were flagged cumulatively over time. For example, if a roster member had a claim with a (primary or secondary) diagnosis of MDD in 2018, followed by a claim with a diagnosis of bipolar disorder in 2020, they would be flagged as "MDD" in 2018-2019 and "Co-occurring SMI Dx" in 2020-2023.

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**Exhibit E.3** summarizes the sociodemographic and clinical history characteristics of all Medicaid beneficiaries (i.e., all beneficiaries enrolled in SMI waiver-eligible Medicaid coverage) by year.

**Exhibit E.3: Beneficiary Characteristics, Among Beneficiaries Included on the SMI Beneficiary Roster (2018-2023)**

Characteristics		Medicaid Recipients Eligible for SMI Waiver (Age 21-64), with SMI Diagnosis (SMI Roster)					
		2018	2019	2020	2021	2022	2023
<b>Total Recipients</b>		<b>88,393</b>	<b>117,965</b>	<b>147,715</b>	<b>185,520</b>	<b>220,287</b>	<b>255,056</b>
<b>Gender</b>	Female	55,524 (62.8%)	74,624 (63.3%)	94,354 (63.9%)	119,222 (64.3%)	142,078 (64.5%)	164,429 (64.5%)
	Male	32,869 (37.2%)	43,339 (36.7%)	53,360 (36.1%)	66,298 (35.7%)	78,207 (35.5%)	90,625 (35.5%)
<b>Age</b>	21-30	19,160 (21.7%)	27,167 (23.0%)	36,196 (24.5%)	48,127 (25.9%)	58,800 (26.7%)	69,098 (27.1%)
	31-40	21,619 (24.5%)	30,008 (25.4%)	38,725 (26.2%)	50,047 (27.0%)	60,983 (27.7%)	71,981 (28.2%)
	41-50	20,233 (22.9%)	26,306 (22.3%)	32,063 (21.7%)	39,197 (21.1%)	45,950 (20.9%)	53,022 (20.8%)
	51-60	21,228 (24.0%)	26,536 (22.5%)	30,933 (20.9%)	36,224 (19.5%)	40,687 (18.5%)	45,077 (17.7%)
	61-64	6,153 (7.0%)	7,948 (6.7%)	9,798 (6.6%)	11,925 (6.4%)	13,867 (6.3%)	15,878 (6.2%)
<b>Race</b>	White/Caucasian	57,181 (64.7%)	75,014 (63.6%)	93,720 (63.4%)	119,163 (64.2%)	142,921 (64.9%)	166,652 (65.3%)
	Black	9,526 (10.8%)	12,616 (10.7%)	15,285 (10.3%)	19,283 (10.4%)	23,224 (10.5%)	27,477 (10.8%)
	Other	843 (1.0%)	995 (0.8%)	1,049 (0.7%)	1,365 (0.7%)	1,742 (0.8%)	2,126 (0.8%)
	Not Available	20,843 (23.6%)	29,340 (24.9%)	37,661 (25.5%)	45,709 (24.6%)	52,400 (23.8%)	58,801 (23.1%)
<b>Ethnicity</b>	Hispanic	2,322 (2.6%)	3,191 (2.7%)	4,284 (2.9%)	5,836 (3.1%)	7,674 (3.5%)	9,667 (3.8%)
	Non-Hispanic	82,200 (93.0%)	109,572 (92.9%)	135,854 (92.0%)	167,593 (90.3%)	195,893 (88.9%)	223,385 (87.6%)
<b>Geographic Location</b>	Metro	65,393 (74.0%)	87,051 (73.8%)	108,532 (73.5%)	136,624 (73.6%)	162,768 (73.9%)	189,112 (74.1%)
	Non-Metro	22,983 (26.0%)	30,896 (26.2%)	39,159 (26.5%)	48,877 (26.3%)	57,503 (26.1%)	65,927 (25.8%)
<b>Dual Eligibility <sup>a</sup></b>	Dual Eligible	24,581 (27.8%)	28,886 (24.5%)	32,265 (21.8%)	37,131 (20.0%)	40,557 (18.4%)	43,045 (16.9%)
<b>HIP/Non-HIP</b>	HIP	46,897 (53.1%)	66,575 (56.4%)	88,463 (59.9%)	115,722 (62.4%)	142,774 (64.8%)	172,359 (67.6%)
<b>SMI Diagnosis <sup>b</sup></b>	Bipolar Only	20,605 (23.3%)	24,443 (20.7%)	28,011 (19.0%)	32,431 (17.5%)	35,542 (16.1%)	37,867 (14.8%)
	MDD Only	43,870 (49.6%)	61,085 (51.8%)	78,836 (53.4%)	102,581 (55.3%)	125,373 (56.9%)	148,785 (58.3%)
	Schizophrenia Only	13,007 (14.7%)	13,096 (11.1%)	12,900 (8.7%)	12,891 (6.9%)	12,726 (5.8%)	12,572 (4.9%)
	Co-occurring SMI Dx	10,911 (12.3%)	19,341 (16.4%)	27,968 (18.9%)	37,617 (20.3%)	46,646 (21.2%)	55,832 (21.9%)

Characteristics		Medicaid Recipients Eligible for SMI Waiver (Age 21-64), with SMI Diagnosis (SMI Roster)					
		2018	2019	2020	2021	2022	2023
<b>Total Recipients</b>		<b>88,393</b>	<b>117,965</b>	<b>147,715</b>	<b>185,520</b>	<b>220,287</b>	<b>255,056</b>
<b>Chronic Conditions</b>	Cancer	15,094 (17.1%)	18,195 (15.4%)	20,696 (14.0%)	23,498 (12.7%)	24,771 (11.2%)	25,966 (10.2%)
	Cardiovascular Disease	3,193 (3.6%)	3,930 (3.3%)	4,505 (3.0%)	5,480 (3.0%)	6,194 (2.8%)	6,977 (2.7%)
	COPD	9,201 (10.4%)	10,920 (9.3%)	12,292 (8.3%)	14,839 (8.0%)	15,966 (7.2%)	17,402 (6.8%)
	Diabetes	18,018 (20.4%)	21,949 (18.6%)	25,689 (17.4%)	30,478 (16.4%)	34,262 (15.6%)	37,873 (14.8%)
	Hypertension	36,513 (41.3%)	43,809 (37.1%)	52,978 (35.9%)	64,022 (34.5%)	70,510 (32.0%)	78,092 (30.6%)
	Infectious Disease	43,834 (49.6%)	51,581 (43.7%)	62,834 (42.5%)	80,246 (43.3%)	92,455 (42.0%)	106,075 (41.6%)
	Metabolic Disease	27,758 (31.4%)	33,228 (28.2%)	44,995 (30.5%)	61,936 (33.4%)	75,188 (34.1%)	70,382 (27.6%)
	Respiratory Disease	2,124 (2.4%)	2,556 (2.2%)	2,892 (2.0%)	3,579 (1.9%)	3,966 (1.8%)	4,302 (1.7%)
<b># of Chronic Conditions</b>	0	24,658 (27.9%)	40,106 (34.0%)	50,436 (34.1%)	61,858 (33.3%)	77,452 (35.2%)	99,265 (38.9%)
	1	21,146 (23.9%)	27,343 (23.2%)	35,737 (24.2%)	46,001 (24.8%)	54,362 (24.7%)	60,758 (23.8%)
	2	16,212 (18.3%)	19,681 (16.7%)	24,864 (16.8%)	32,390 (17.5%)	37,779 (17.1%)	41,403 (16.2%)
	3	12,055 (13.6%)	14,098 (12.0%)	17,028 (11.5%)	21,568 (11.6%)	24,579 (11.2%)	26,537 (10.4%)
	4	7,968 (9.0%)	9,274 (7.9%)	11,031 (7.5%)	13,497 (7.3%)	14,871 (6.8%)	15,631 (6.1%)
	5	4,302 (4.9%)	5,047 (4.3%)	5,873 (4.0%)	7,071 (3.8%)	7,753 (3.5%)	7,882 (3.1%)
	6	1,762 (2.0%)	2,093 (1.8%)	2,396 (1.6%)	2,710 (1.5%)	3,054 (1.4%)	3,124 (1.2%)
	7	274 (0.3%)	304 (0.3%)	333 (0.2%)	410 (0.2%)	414 (0.2%)	432 (0.2%)
	8	16 (0.0%)	19 (0.0%)	17 (0.0%)	15 (0.0%)	23 (0.0%)	24 (0.0%)

<sup>a</sup> Dually eligible in at least one month in the given year.

<sup>b</sup> SMI diagnoses were flagged cumulatively over time. For example, if a roster member had a claim with a (primary or secondary) diagnosis of MDD in 2018, followed by a claim with a diagnosis of bipolar disorder in 2020, they would be flagged as "MDD" in 2018-2019 and "Co-occurring SMI Dx" in 2020-2023.

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023



## B. Interrupted Time Series Logistic Regression Analysis

Interrupted time series (ITS) logistic regression analysis was conducted to assess any waiver intervention effect with other beneficiary and encounter characteristics controlled for. Specifically, as the formula shows below, a binary outcome variable was modeled as a function of the waiver intervention, time, and other social demographic characteristics.

$$Y_t = \beta_0 + \beta_1 t + \beta_2 x_t + \beta_3 t x_t + \beta_4 Z_t$$

where  $Y$  is the binary outcome, for example, for Goal 1, whether an SMI beneficiary had an ED visit, and for Goal 2, whether an inpatient discharge had unplanned readmission within 30 days after the discharge.  $t$  is the various time point during the study period of 2018-2023, that is, year one to year six.  $X$  is a binary indicator for the pre-waiver intervention period ( $X=0$  for years of 2018 and 2019) or the post-waiver intervention period ( $X=1$  for years of 2020-2023).  $Z$  is a list of social demographic variables such as gender, age group, race and geographic location, etc.

The waiver intervention effect was estimated through  $\beta_2$  and  $\beta_3$ . The OR was generated to show any significant difference in the likelihood of an outcome after the waiver intervention to the existing trend in the pre-waiver period.

## C. Goal 1

### 1. All-Cause ED Visits – Regression Estimates

Exhibits in this section list the estimated odds (or incidence rates) for the various factors included in the regressions for all-cause ED visit participation and utilization rates.

**Exhibit E.4** provides estimates from an ITS logistic regression model of all-cause ED visits excluding data from CY 2020.

**Exhibit E.4: Logistic ITS Regression Model of All-Cause ED Participation Rate (2018 – 2023, Excluding 2020)**

Variable	Level	OR	95% CI	p-Value
Intervention (Int.) Period (Ref: Pre-Int.)	Post-Intervention (Post-Int.)	0.96	(0.92, 0.99)	0.018
Time	Pre-Intervention	1.07	(1.04, 1.10)	< 0.001
	Post-Intervention	0.96	(0.96, 0.97)	< 0.001
Int. Period * Year (Ref: Pre-Int. * 2018)	Pre-Int. * 2019	1.07	(1.04, 1.10)	< 0.001
	Post-Int. * 2021	0.86	(0.84, 0.88)	< 0.001
	Post-Int. * 2022	0.83	(0.81, 0.85)	< 0.001
	Post-Int. * 2023	0.80	(0.78, 0.82)	< 0.001
Gender (Ref: Female)	Male	0.87	(0.86, 0.88)	< 0.001
Age Group (Ref: Age 21-30)	Age 31-40	0.86	(0.85, 0.87)	< 0.001
	Age 41-50	0.68	(0.67, 0.69)	< 0.001
	Age 51-60	0.45	(0.44, 0.46)	< 0.001
	Age 61-64	0.34	(0.33, 0.35)	< 0.001

Variable	Level	OR	95% CI	p-Value
Race (Ref: White/Caucasian)	Black	1.28	(1.26, 1.30)	< 0.001
	Other/Not Available	1.27	(1.26, 1.29)	< 0.001
Ethnicity (Ref: Non-Hispanic/Unknown)	Hispanic	0.83	(0.80, 0.85)	< 0.001
Geographic Location (Ref: Metro)	Non-metro	1.07	(1.05, 1.08)	< 0.001
Dual Eligibility (Ref: Non-dual Eligible)	Dual-Eligible	0.85	(0.84, 0.86)	< 0.001
SMI Diagnosis (Ref: MDD Only)	Bipolar only	1.12	(1.11, 1.14)	< 0.001
	Schizophrenia only	0.88	(0.87, 0.90)	< 0.001
	Co-occurring SMI	1.67	(1.65, 1.69)	< 0.001
Chronic Conditions (Ref: No)	Cancer	1.24	(1.20, 1.28)	< 0.001
	Cardiovascular Disease	1.90	(1.86, 1.95)	< 0.001
	COPD	1.91	(1.88, 1.95)	< 0.001
	Diabetes	1.09	(1.07, 1.11)	< 0.001
	Hypertension	1.94	(1.91, 1.96)	< 0.001
	Infectious Disease	2.60	(2.57, 2.63)	< 0.001
	Metabolic Disease	1.25	(1.23, 1.26)	< 0.001

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

Exhibit E.5 provides estimates from an ITS negative binomial regression model of all-cause ED visits excluding data from CY 2020.

**Exhibit E.5: Negative Binomial ITS Regression Model of All-Cause ED Utilization Rate (2018 – 2023, Excluding 2020)**

Variable	Level	IRR	95% CI	p-Value
Intervention (Int.) Period (Ref: Pre-Int.)	Post-Intervention (Post-Int.)	0.91	(0.89, 0.93)	< 0.001
Time	Pre-Intervention	1.03	(1.01, 1.05)	< 0.001
	Post-Intervention	0.97	(0.97, 0.98)	< 0.001
Int. Period * Year (Ref: Pre-Int. * 2018)	Pre-Int. * 2019	1.03	(1.01, 1.05)	< 0.001
	Post-Int. * 2021	0.84	(0.83, 0.86)	< 0.001
	Post-Int. * 2022	0.82	(0.81, 0.83)	< 0.001
	Post-Int. * 2023	0.80	(0.79, 0.81)	< 0.001
Gender (Ref: Female)	Male	1.03	(1.02, 1.04)	< 0.001
Age Group (Ref: Age 21-30)	Age 31-40	0.86	(0.86, 0.87)	< 0.001
	Age 41-50	0.69	(0.68, 0.70)	< 0.001
	Age 51-60	0.50	(0.49, 0.50)	< 0.001
	Age 61-64	0.40	(0.39, 0.41)	< 0.001
Race (Ref: White/Caucasian)	Black	1.26	(1.24, 1.27)	< 0.001
	Other/Not Available	1.29	(1.28, 1.30)	< 0.001
Ethnicity (Ref: Non-Hispanic/Unknown)	Hispanic	0.79	(0.78, 0.81)	< 0.001
Geographic Location (Ref: Metro)	Non-metro	1.01	(1.00, 1.02)	0.003

Variable	Level	IRR	95% CI	p-Value
<b>Dual Eligibility (Ref: Non-dual Eligible)</b>	Dual-Eligible	0.89	(0.88, 0.90)	< 0.001
<b>SMI Diagnosis (Ref: MDD Only)</b>	Bipolar only	1.07	(1.06, 1.08)	< 0.001
	Schizophrenia only	1.00	(0.99, 1.02)	0.999
	Co-occurring SMI	1.67	(1.66, 1.69)	< 0.001
<b>Chronic Conditions (Ref: No)</b>	Cancer	1.16	(1.14, 1.18)	< 0.001
	Cardiovascular Disease	1.58	(1.56, 1.60)	< 0.001
	COPD	1.55	(1.53, 1.57)	< 0.001
	Diabetes	1.08	(1.07, 1.09)	< 0.001
	Hypertension	1.69	(1.68, 1.71)	< 0.001
	Infectious Disease	2.13	(2.11, 2.15)	< 0.001
	Metabolic Disease	1.28	(1.27, 1.29)	< 0.001

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

## 2. All-Cause ED Visits – By Sociodemographic Characteristics

Exhibit E.6 provides all-cause ED participation rates from 2018 through 2023 by sociodemographic characteristic.

**Exhibit E.6: All-Cause ED Participation Rate by Year and Demographic Characteristics (2018 – 2023) – Analytic Population**

Beneficiary Characteristics		(All-Cause) ED Participation Rate					
		2018	2019	2020	2021	2022	2023
		N=42,677	N=72,901	N=105,596	N=148,410	N=185,753	N=196,826
<b>All SMI Beneficiaries</b>		56.4%	57.6%	53.0%	53.4%	51.1%	50.3%
<b>Gender</b>	Female	59.3%	59.8%	54.1%	54.9%	52.8%	52.2%
	Male	51.7%	53.6%	51.0%	50.6%	47.8%	46.7%
<b>Age</b>	Age 21-30	58.2%	59.6%	55.1%	55.0%	51.6%	50.3%
	Age 31-40	57.4%	58.9%	54.2%	54.2%	51.1%	50.3%
	Age 41-50	58.1%	58.5%	53.6%	54.1%	52.0%	50.5%
	Age 51-60	54.1%	55.3%	50.2%	51.2%	50.0%	50.7%
	Age 61-64	53.1%	53.6%	49.4%	49.2%	48.4%	48.8%
<b>Race</b>	White/ Caucasian	54.1%	54.7%	50.2%	51.1%	48.5%	47.9%
	Black	55.8%	60.2%	54.7%	55.6%	54.2%	52.7%
	Other	46.7%	46.6%	41.7%	43.1%	41.8%	38.3%
	Not Available	62.6%	63.3%	58.9%	58.6%	56.8%	56.0%
<b>Ethnicity</b>	Hispanic	53.8%	54.9%	49.7%	50.4%	47.0%	45.9%
	Non-Hispanic	56.4%	57.6%	53.0%	53.5%	51.4%	50.8%
	Unknown	58.1%	58.9%	55.2%	53.8%	48.9%	47.0%
<b>Geographic Location</b>	Metro	56.1%	57.4%	52.9%	52.9%	50.7%	49.9%
	Non-Metro	57.1%	58.2%	53.3%	54.9%	52.2%	51.5%
<b>Dual Eligibility</b>	Dual Eligible	54.6%	56.0%	50.9%	51.5%	50.5%	50.3%
	Not Dual Eligible	57.5%	58.3%	53.7%	54.0%	51.2%	50.3%
<b>HIP/Non-HIP</b>	HIP	57.2%	57.5%	53.0%	52.8%	49.7%	49.1%
	Non-HIP	55.8%	57.7%	53.0%	54.3%	53.3%	52.7%

Beneficiary Characteristics		(All-Cause) ED Participation Rate					
		2018	2019	2020	2021	2022	2023
		N=42,677	N=72,901	N=105,596	N=148,410	N=185,753	N=196,826
SMI Diagnosis	Bipolar only	57.0%	57.8%	52.2%	52.6%	50.1%	48.3%
	MDD only	55.6%	55.5%	50.1%	50.0%	47.9%	47.2%
	Schizophrenia only	45.0%	45.7%	42.8%	43.8%	41.9%	41.3%
	Co-Occurring Diagnoses	73.3%	70.2%	64.7%	65.0%	61.4%	60.7%
Chronic Conditions	Cancer	65.0%	66.2%	62.8%	62.1%	61.6%	63.6%
	No Cancer	56.0%	57.2%	52.7%	53.2%	50.8%	49.9%
	Cardiovascular Disease	75.3%	76.6%	74.4%	75.0%	75.0%	74.5%
	No Cardiovascular Disease	53.8%	55.2%	50.9%	51.5%	49.2%	48.5%
	COPD	72.1%	73.1%	68.8%	69.7%	69.6%	69.8%
	No COPD	52.4%	54.1%	50.0%	50.9%	48.6%	47.9%
	Diabetes	64.9%	66.3%	62.7%	64.4%	63.5%	64.1%
	No Diabetes	53.5%	55.1%	50.7%	51.1%	48.7%	47.7%
	Hypertension	65.1%	67.3%	64.0%	65.4%	64.4%	64.8%
	No Hypertension	48.8%	50.4%	46.0%	46.8%	44.6%	43.4%
	Infectious Disease	70.1%	72.5%	70.2%	71.7%	70.2%	70.2%
	No Infectious Disease	49.4%	50.8%	45.0%	44.0%	41.0%	42.1%
	Metabolic Disease	61.2%	63.4%	59.9%	61.1%	60.1%	60.2%
	No Metabolic Disease	50.1%	51.6%	47.0%	47.2%	44.3%	42.6%
	Respiratory Disease	68.9%	68.2%	64.6%	65.2%	62.6%	64.1%
	No Respiratory Disease	56.0%	57.3%	52.7%	53.2%	50.8%	50.1%
Number of Chronic Conditions	0	40.1%	41.3%	36.3%	35.2%	32.4%	32.1%
	1	51.6%	56.8%	53.7%	55.9%	54.8%	54.3%
	2	56.7%	59.7%	57.2%	59.5%	58.8%	58.5%
	3	61.9%	64.0%	60.7%	63.4%	62.7%	63.0%
	4+	75.1%	76.4%	74.2%	75.1%	74.5%	75.1%

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

Exhibit E.7 provides all-cause ED utilization rates from 2018 through 2023 by sociodemographic characteristic.

**Exhibit E.7: All-Cause ED Utilization Rate by Year and Demographic Characteristics (2018 – 2023)**

Beneficiary Characteristics		(All-Cause) ED Utilization Rate					
		2018	2019	2020	2021	2022	2023
		N=42,677	N=72,901	N=105,596	N=148,410	N=185,753	N=196,826
All SMI Beneficiaries (with 10+ months enrollment after First SMI Dx Date)		2,070	2,041	1,763	1,727	1,575	1,571
Gender	Female	2,156	2,066	1,730	1,706	1,574	1,576
	Male	1,934	1,997	1,822	1,765	1,578	1,560
Age	Age 21-30	2,321	2,234	1,877	1,761	1,566	1,537
	Age 31-40	2,268	2,146	1,843	1,773	1,567	1,552
	Age 41-50	2,088	2,110	1,784	1,771	1,634	1,627
	Age 51-60	1,844	1,844	1,634	1,651	1,568	1,608
	Age 61-64	1,785	1,723	1,495	1,507	1,478	1,499
Race	White/Caucasian	1,851	1,793	1,538	1,513	1,365	1,362
	Black	2,168	2,241	1,878	1,871	1,727	1,696
	Other	1,331	1,538	1,315	1,176	1,178	1,039
	Not Available	2,591	2,528	2,231	2,213	2,078	2,079
Ethnicity	Hispanic	1,700	1,769	1,410	1,357	1,216	1,221
	Non-Hispanic	2,080	2,052	1,772	1,744	1,599	1,604
	Unknown	2,042	1,920	1,799	1,635	1,442	1,341
Geographic Location	Metro	2,079	2,043	1,785	1,732	1,581	1,576
	Non-Metro	2,045	2,035	1,702	1,712	1,561	1,554
Dual Eligibility	Dual Eligible	1,940	1,957	1,718	1,694	1,587	1,601
	Not Dual Eligible	2,150	2,079	1,779	1,736	1,573	1,564
HIP/ Non-HIP	HIP	1,990	1,910	1,640	1,588	1,427	1,427
	Non-HIP	2,121	2,158	1,910	1,933	1,832	1,834
SMI Diagnosis	Bipolar only	1,938	1,840	1,507	1,478	1,373	1,341
	MDD only	1,829	1,774	1,466	1,431	1,302	1,291
	Schizophrenia only	1,417	1,390	1,318	1,341	1,232	1,253
	Co-Occurring Diagnoses	3,812	3,314	2,842	2,715	2,442	2,414

Beneficiary Characteristics		(All-Cause) ED Utilization Rate					
		2018	2019	2020	2021	2022	2023
		N=42,677	N=72,901	N=105,596	N=148,410	N=185,753	N=196,826
Chronic Conditions	Cancer	2,689	2,768	2,378	2,365	2,247	2,339
	No Cancer	2,045	2,012	1,742	1,707	1,556	1,548
	Cardiovascular Disease	3,740	3,744	3,541	3,597	3,471	3,532
	No Cardiovascular Disease	1,842	1,832	1,585	1,560	1,427	1,419
	COPD	3,266	3,243	2,858	2,915	2,833	2,903
	No COPD	1,763	1,768	1,558	1,542	1,409	1,404
	Diabetes	2,827	2,822	2,559	2,574	2,491	2,573
	No Diabetes	1,813	1,815	1,569	1,550	1,401	1,380
	Hypertension	2,718	2,773	2,537	2,576	2,430	2,496
	No Hypertension	1,499	1,495	1,269	1,254	1,163	1,128
	Infectious Disease	3,204	3,315	2,970	2,906	2,708	2,850
	No Infectious Disease	1,496	1,466	1,199	1,120	979	1,041
	Metabolic Disease	2,460	2,519	2,293	2,272	2,158	2,175
	No Metabolic Disease	1,553	1,544	1,307	1,286	1,142	1,095
	Respiratory Disease	2,842	2,717	2,364	2,448	2,266	2,269
	No Respiratory Disease	2,048	2,023	1,749	1,712	1,562	1,558
Number of Chronic Conditions	0	999	972	795	743	651	657
	1	1,582	1,742	1,540	1,557	1,465	1,455
	2	1,927	2,080	1,902	1,945	1,853	1,858
	3	2,405	2,429	2,315	2,352	2,273	2,296
	4+	3,665	3,718	3,445	3,514	3,365	3,536

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

### 3. All-Cause ED Visits – Sensitivity Analyses

Exhibit E.8 provides estimates from an ITS logistic regression model of all-cause ED visits including interactions between the intervention period and age, dual eligibility, and SMI diagnosis. OR estimates were similar to those in the primary ED visit ITS logistic regression model.

**Exhibit E.8: Logistic ITS Regression Model of All-Cause ED Participation Rate (2018 – 2023, Excluding 2020, Including Intervention Period Interactions with Age, Dual Eligibility, and SMI Diagnosis)**

Variable	Level	OR	95% CI	p-Value
Intervention (Int.) Period (Ref: Pre-Int.)	Post-Intervention (Post-Int.)	0.96	(0.92, 0.99)	0.026
Time	Pre-Intervention	1.06	(1.03, 1.08)	< 0.001
	Post-Intervention	0.97	(0.96, 0.97)	< 0.001
Int. Period * Year (Ref: Pre-Int. * 2018)	Pre-Int. * 2019	1.06	(1.03, 1.08)	< 0.001
	Post-Int. * 2021	0.86	(0.84, 0.88)	< 0.001
	Post-Int. * 2022	0.83	(0.81, 0.85)	< 0.001
	Post-Int. * 2023	0.80	(0.79, 0.83)	< 0.001
Int. Period * Age Group (Ref: Pre-Int. * Age Group)	Post-Int. * Age 21-30	0.90	(0.85, 0.94)	< 0.001
	Post-Int. * Age 31-40	0.91	(0.87, 0.95)	< 0.001
	Post-Int. * Age 41-50	0.96	(0.92, 1.01)	0.111
	Post-Int. * Age 51-60	1.02	(0.98, 1.07)	0.284
	Post-Int. * Age 61-64	1.00	(0.94, 1.07)	0.913
Int. Period * Dual-Eligibility (Ref: Pre-Int. * Dual Eligibility)	Post-Int. * Dual-Eligible	0.95	(0.91, 0.99)	0.022
	Post-Int. * Non-dual Eligible	0.96	(0.93, 1.00)	0.076
Int. Period * SMI Diagnosis (Ref: Pre-Int. * SMI Diagnosis)	Post-Int. * Bipolar Only	0.94	(0.90, 0.99)	0.012
	Post-Int. * MDD Only	0.94	(0.90, 0.98)	0.002
	Post-Int. * Schizophrenia Only	1.12	(1.06, 1.17)	< 0.001
	Post-Int. * Co-occurring SMI	0.85	(0.81, 0.90)	< 0.001
Gender (Ref: Female)	Male	0.87	(0.86, 0.88)	< 0.001
Age Group (Ref: Age 21-30)	Age 31-40	0.85	(0.84, 0.87)	< 0.001
	Age 41-50	0.66	(0.65, 0.68)	< 0.001
	Age 51-60	0.43	(0.42, 0.44)	< 0.001
	Age 61-64	0.33	(0.32, 0.34)	< 0.001
Race (Ref: White/Caucasian)	Black	1.28	(1.26, 1.30)	< 0.001
	Other/Not Available	1.27	(1.25, 1.29)	< 0.001
Ethnicity (Ref: Non-Hispanic/Unknown)	Hispanic	0.83	(0.80, 0.85)	< 0.001
Geographic Location (Ref: Metro)	Non-metro	1.07	(1.05, 1.08)	< 0.001
Dual Eligibility (Ref: Non-dual Eligible)	Dual-Eligible	0.85	(0.84, 0.86)	< 0.001
SMI Diagnosis (Ref: MDD Only)	Bipolar only	1.12	(1.10, 1.14)	< 0.001
	Schizophrenia only	0.86	(0.84, 0.88)	< 0.001
	Co-occurring SMI	1.73	(1.70, 1.76)	< 0.001



Variable	Level	OR	95% CI	p-Value
Chronic Conditions (Ref: No)	Cancer	1.24	(1.20, 1.28)	< 0.001
	Cardiovascular Disease	1.90	(1.86, 1.95)	< 0.001
	COPD	1.91	(1.88, 1.95)	< 0.001
	Diabetes	1.09	(1.07, 1.11)	< 0.001
	Hypertension	1.94	(1.91, 1.96)	< 0.001
	Infectious Disease	2.60	(2.57, 2.63)	< 0.001
	Metabolic Disease	1.25	(1.23, 1.26)	< 0.001

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

Exhibit E.9 provides estimates from an ITS negative binomial regression model of all-cause ED visits including interactions between the intervention period and age, dual eligibility, and SMI diagnosis. IRR estimates were similar to those in the primary ED visit ITS negative binomial regression model, with the exception of the effect of SMI diagnosis. In this model, those with schizophrenia only have a lower incidence rate of ED visits compared to those with MDD only (no effect was observed in the primary model).

**Exhibit E.9: Negative Binomial ITS Regression Model of All-Cause ED Utilization Rate (2018 – 2023, Excluding 2020, Including Intervention Period Interactions with Age, Dual Eligibility, and SMI Diagnosis)**

Variable	Level	IRR	95% CI	p-Value
Intervention (Int.) Period (Ref: Pre-Int.)	Post-Intervention (Post-Int.)	0.93	(0.90, 0.95)	< 0.001
Time	Pre-Intervention	1.02	(1.00, 1.04)	0.019
	Post-Intervention	0.98	(0.97, 0.98)	< 0.001
Int. Period * Year (Ref: Pre-Int. * 2018)	Pre-Int. * 2019	1.02	(1.00, 1.04)	0.019
	Post-Int. * 2021	0.86	(0.84, 0.87)	< 0.001
	Post-Int. * 2022	0.84	(0.82, 0.85)	< 0.001
	Post-Int. * 2023	0.82	(0.80, 0.83)	< 0.001
Int. Period * Age Group (Ref: Pre-Int. * Age Group)	Post-Int. * Age 21-30	0.86	(0.83, 0.89)	< 0.001
	Post-Int. * Age 31-40	0.86	(0.84, 0.89)	< 0.001
	Post-Int. * Age 41-50	0.95	(0.92, 0.98)	< 0.001
	Post-Int. * Age 51-60	0.99	(0.96, 1.02)	0.619
	Post-Int. * Age 61-64	0.98	(0.94, 1.02)	0.256
Int. Period * Dual-Eligibility (Ref: Pre-Int. * Dual Eligibility)	Post-Int. * Dual-Eligible	0.92	(0.90, 0.95)	< 0.001
	Post-Int. * Non-dual Eligible	0.93	(0.90, 0.95)	< 0.001
Int. Period * SMI Diagnosis (Ref: Pre-Int. * SMI Diagnosis)	Post-Int. * Bipolar Only	0.90	(0.87, 0.93)	< 0.001
	Post-Int. * MDD Only	0.89	(0.87, 0.92)	< 0.001
	Post-Int. * Schizophrenia Only	1.04	(1.01, 1.08)	0.024
	Post-Int. * Co-occurring SMI	0.88	(0.85, 0.90)	< 0.001
Gender (Ref: Female)	Male	1.03	(1.02, 1.04)	< 0.001

Variable	Level	IRR	95% CI	p-Value
Age Group (Ref: Age 21-30)	Age 31-40	0.86	(0.85, 0.87)	< 0.001
	Age 41-50	0.67	(0.66, 0.68)	< 0.001
	Age 51-60	0.48	(0.47, 0.48)	< 0.001
	Age 61-64	0.39	(0.38, 0.39)	< 0.001
Race (Ref: White/Caucasian)	Black	1.26	(1.24, 1.27)	< 0.001
	Other/Not Available	1.28	(1.27, 1.29)	< 0.001
Ethnicity (Ref: Non-Hispanic/Unknown)	Hispanic	0.80	(0.78, 0.81)	< 0.001
Geographic Location (Ref: Metro)	Non-metro	1.01	(1.00, 1.02)	0.002
Dual Eligibility (Ref: Non-dual Eligible)	Dual-Eligible	0.89	(0.88, 0.90)	< 0.001
SMI Diagnosis (Ref: MDD Only)	Bipolar only	1.06	(1.05, 1.08)	< 0.001
	Schizophrenia only	0.98	(0.96, 0.99)	0.007
	Co-occurring SMI	1.68	(1.66, 1.70)	< 0.001
Chronic Conditions (Ref: No)	Cancer	1.16	(1.13, 1.18)	< 0.001
	Cardiovascular Disease	1.58	(1.56, 1.60)	< 0.001
	COPD	1.55	(1.53, 1.57)	< 0.001
	Diabetes	1.08	(1.07, 1.09)	< 0.001
	Hypertension	1.69	(1.67, 1.71)	< 0.001
	Infectious Disease	2.13	(2.12, 2.15)	< 0.001
	Metabolic Disease	1.28	(1.27, 1.29)	< 0.001

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

Exhibit E.10 provides estimates from an ITS logistic regression model of all-cause ED visits including HIP status as a covariate. OR estimates were similar to those in the primary ED visit ITS logistic regression model. The effect of HIP status was not significant.

**Exhibit E.10: Logistic ITS Regression Model of All-Cause ED Participation Rate (2018 – 2023, Excluding 2020, Including HIP Status as a Covariate)**

Variable	Level	OR	95% CI	p-Value
Intervention (Int.) Period (Ref: Pre-Int.)	Post-Intervention (Post-Int.)	0.96	(0.92, 0.99)	0.017
Time	Pre-Intervention	1.07	(1.04, 1.10)	< 0.001
	Post-Intervention	0.96	(0.96, 0.97)	< 0.001
Int. Period * Year (Ref: Pre-Int. * 2018)	Pre-Int. * 2019	1.07	(1.04, 1.10)	< 0.001
	Post-Int. * 2021	0.86	(0.84, 0.88)	< 0.001
	Post-Int. * 2022	0.83	(0.81, 0.85)	< 0.001
	Post-Int. * 2023	0.80	(0.78, 0.82)	< 0.001
Gender (Ref: Female)	Male	0.87	(0.86, 0.88)	< 0.001
Age Group (Ref: Age 21-30)	Age 31-40	0.86	(0.85, 0.87)	< 0.001
	Age 41-50	0.68	(0.67, 0.69)	< 0.001
	Age 51-60	0.45	(0.44, 0.46)	< 0.001
	Age 61-64	0.34	(0.33, 0.35)	< 0.001

Variable	Level	OR	95% CI	p-Value
Race (Ref: White/Caucasian)	Black	1.28	(1.26, 1.30)	< 0.001
	Other/Not Available	1.28	(1.26, 1.29)	< 0.001
Ethnicity (Ref: Non-Hispanic/Unknown)	Hispanic	0.83	(0.80, 0.85)	< 0.001
Geographic Location (Ref: Metro)	Non-metro	1.07	(1.05, 1.08)	< 0.001
Dual Eligibility (Ref: Non-dual Eligible)	Dual-Eligible	0.85	(0.84, 0.86)	< 0.001
SMI Diagnosis (Ref: MDD Only)	Bipolar only	1.12	(1.11, 1.14)	< 0.001
	Schizophrenia only	0.89	(0.87, 0.90)	< 0.001
	Co-occurring SMI	1.67	(1.65, 1.69)	< 0.001
Chronic Conditions (Ref: No)	Cancer	1.24	(1.20, 1.28)	< 0.001
	Cardiovascular Disease	1.91	(1.86, 1.95)	< 0.001
	COPD	1.91	(1.88, 1.95)	< 0.001
	Diabetes	1.09	(1.07, 1.11)	< 0.001
	Hypertension	1.94	(1.91, 1.96)	< 0.001
	Infectious Disease	2.60	(2.57, 2.63)	< 0.001
	Metabolic Disease	1.25	(1.23, 1.26)	< 0.001
HIP Status (Ref: Non-HIP)	HIP	1.01	(0.99, 1.02)	0.252

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

Exhibit E.11 provides estimates from an ITS negative binomial regression model of all-cause ED visits including HIP status as a covariate. IRR estimates were similar to those in the primary ED visit ITS negative binomial regression model, with the exception of the effect of SMI diagnosis. In this model, those with schizophrenia only have a lower incidence rate of ED visits compared to those with MDD only (no effect was observed in the primary model). The effect of HIP status was significant, with those in HIP being 0.92 times less likely to have ED visits compared to those not in HIP.

**Exhibit E.11: Negative Binomial ITS Regression Model of All-Cause ED Utilization Rate (2018 – 2023, Excluding 2020, Including HIP Status as a Covariate)**

Variable	Level	IRR	95% CI	p-Value
Intervention (Int.) Period (Ref: Pre-Int.)	Post-Intervention (Post-Int.)	0.93	(0.90, 0.95)	< 0.001
Time	Pre-Intervention	1.02	(1.01, 1.04)	0.011
	Post-Intervention	0.98	(0.97, 0.98)	< 0.001
Int. Period * Year (Ref: Pre-Int. * 2018)	Pre-Int. * 2019	1.02	(1.01, 1.04)	0.011
	Post-Int. * 2021	0.86	(0.85, 0.88)	< 0.001
	Post-Int. * 2022	0.84	(0.83, 0.86)	< 0.001
	Post-Int. * 2023	0.82	(0.81, 0.84)	< 0.001
Gender (Ref: Female)	Male	1.03	(1.02, 1.04)	< 0.001
Age Group (Ref: Age 21-30)	Age 31-40	0.87	(0.85, 0.88)	< 0.001
	Age 41-50	0.67	(0.66, 0.68)	< 0.001
	Age 51-60	0.48	(0.47, 0.48)	< 0.001
	Age 61-64	0.38	(0.37, 0.39)	< 0.001

Variable	Level	IRR	95% CI	p-Value
Race (Ref: White/Caucasian)	Black	1.25	(1.23, 1.26)	< 0.001
	Other/Not Available	1.27	(1.26, 1.28)	< 0.001
Ethnicity (Ref: Non-Hispanic/Unknown)	Hispanic	0.80	(0.78, 0.82)	< 0.001
Geographic Location (Ref: Metro)	Non-metro	1.01	(1.00, 1.02)	0.004
Dual Eligibility (Ref: Non-dual Eligible)	Dual-Eligible	0.85	(0.84, 0.86)	< 0.001
SMI Diagnosis (Ref: MDD Only)	Bipolar only	1.06	(1.04, 1.07)	< 0.001
	Schizophrenia only	0.96	(0.94, 0.98)	< 0.001
	Co-occurring SMI	1.67	(1.65, 1.69)	< 0.001
Chronic Conditions (Ref: No)	Cancer	1.16	(1.13, 1.18)	< 0.001
	Cardiovascular Disease	1.58	(1.56, 1.60)	< 0.001
	COPD	1.54	(1.52, 1.56)	< 0.001
	Diabetes	1.08	(1.07, 1.09)	< 0.001
	Hypertension	1.69	(1.67, 1.70)	< 0.001
	Infectious Disease	2.13	(2.11, 2.15)	< 0.001
	Metabolic Disease	1.28	(1.27, 1.29)	< 0.001
HIP Status (Ref: Non-HIP)	HIP	0.92	(0.92, 0.93)	< 0.001

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

Exhibit E.12 provides estimates from an ITS logistic regression model of all-cause ED visits including interactions between the intervention period and age, dual eligibility, SMI diagnosis, and HIP status. OR estimates were similar to those in the primary ED visit ITS logistic regression model.

**Exhibit E.12: Logistic ITS Regression Model of All-Cause ED Participation Rate (2018 – 2023, Excluding 2020, Including Intervention Period Interactions with Age, Dual Eligibility, SMI Diagnosis, and HIP Status)**

Variable	Level	OR	95% CI	p-Value
Intervention (Int.) Period (Ref: Pre-Int.)	Post-Intervention (Post-Int.)	0.95	(0.92, 0.99)	0.013
Time	Pre-Intervention	1.06	(1.03, 1.08)	< 0.001
	Post-Intervention	0.97	(0.96, 0.97)	< 0.001
Int. Period * Year (Ref: Pre-Int. * 2018)	Pre-Int. * 2019	1.06	(1.03, 1.08)	< 0.001
	Post-Int. * 2021	0.86	(0.84, 0.88)	< 0.001
	Post-Int. * 2022	0.83	(0.81, 0.85)	< 0.001
	Post-Int. * 2023	0.80	(0.78, 0.82)	< 0.001
Int. Period * Age Group (Ref: Pre-Int. * Age Group)	Post-Int. * Age 21-30	0.89	(0.85, 0.94)	< 0.001
	Post-Int. * Age 31-40	0.91	(0.87, 0.95)	< 0.001
	Post-Int. * Age 41-50	0.96	(0.92, 1.00)	0.073
	Post-Int. * Age 51-60	1.02	(0.97, 1.06)	0.465
	Post-Int. * Age 61-64	0.99	(0.93, 1.06)	0.846
Int. Period * Dual-Eligibility (Ref: Pre-Int. * Dual Eligibility)	Post-Int. * Dual-Eligible	0.94	(0.90, 0.98)	0.007
	Post-Int. * Non-dual Eligible	0.97	(0.93, 1.01)	0.095

Variable	Level	OR	95% CI	p-Value
Int. Period * SMI Diagnosis (Ref: Pre-Int. * SMI Diagnosis)	Post-Int. * Bipolar Only	0.94	(0.90, 0.98)	0.006
	Post-Int. * MDD Only	0.94	(0.90, 0.98)	0.002
	Post-Int. * Schizophrenia Only	1.10	(1.05, 1.16)	< 0.001
	Post-Int. * Co-occurring SMI	0.85	(0.81, 0.89)	< 0.001
Int. Period * HIP Status (Ref: Pre-Int * HIP Status)	Post-Int * HIP	0.94	(0.90, 0.98)	0.007
	Post-Int * Non-HIP	0.97	(0.93, 1.00)	0.083
Gender (Ref: Female)	Male	0.87	(0.86, 0.88)	< 0.001
Age Group (Ref: Age 21-30)	Age 31-40	0.85	(0.83, 0.87)	< 0.001
	Age 41-50	0.66	(0.65, 0.68)	< 0.001
	Age 51-60	0.43	(0.42, 0.44)	< 0.001
	Age 61-64	0.33	(0.32, 0.34)	< 0.001
Race (Ref: White/Caucasian)	Black	1.28	(1.26, 1.30)	< 0.001
	Other/Not Available	1.27	(1.26, 1.29)	< 0.001
Ethnicity (Ref: Non-Hispanic/Unknown)	Hispanic	0.83	(0.80, 0.85)	< 0.001
Geographic Location (Ref: Metro)	Non-metro	1.07	(1.05, 1.08)	< 0.001
Dual Eligibility (Ref: Non-dual Eligible)	Dual-Eligible	0.86	(0.84, 0.87)	< 0.001
SMI Diagnosis (Ref: MDD Only)	Bipolar only	1.12	(1.10, 1.14)	< 0.001
	Schizophrenia only	0.87	(0.85, 0.89)	< 0.001
	Co-occurring SMI	1.73	(1.70, 1.77)	< 0.001
Chronic Conditions (Ref: No)	Cancer	1.24	(1.20, 1.28)	< 0.001
	Cardiovascular Disease	1.91	(1.86, 1.95)	< 0.001
	COPD	1.91	(1.88, 1.95)	< 0.001
	Diabetes	1.09	(1.07, 1.11)	< 0.001
	Hypertension	1.94	(1.91, 1.96)	< 0.001
	Infectious Disease	2.60	(2.57, 2.63)	< 0.001
	Metabolic Disease	1.25	(1.23, 1.26)	< 0.001
HIP Status (Ref: Non-HIP)	HIP	1.02	(1.00, 1.04)	0.090

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

Exhibit E.13 provides estimates from an ITS negative binomial regression model of all-cause ED visits including interactions between the intervention period and age, dual eligibility, SMI diagnosis, and HIP status. IRR estimates were similar to those in the primary ED visit ITS negative binomial regression model, with the exception of the effect of SMI diagnosis. In this model, those with schizophrenia only have a lower incidence rate of ED visits compared to those with MDD only (no effect was observed in the primary model).

**Exhibit E.13: Negative Binomial ITS Regression Model of All-Cause ED Utilization Rate (2018 – 2023, Excluding 2020, Including Intervention Period Interactions with Age, Dual Eligibility, SMI Diagnosis, and HIP Status)**

Variable	Level	IRR	95% CI	p-Value
Intervention (Int.) Period (Ref: Pre-Int.)	Post-Intervention (Post-Int.)	0.93	(0.91, 0.95)	< 0.001
Time	Pre-Intervention	1.02	(1.01, 1.04)	0.010
	Post-Intervention	0.98	(0.97, 0.98)	< 0.001
Int. Period * Year (Ref: Pre-Int. * 2018)	Pre-Int. * 2019	1.02	(1.01, 1.04)	0.010
	Post-Int. * 2021	0.86	(0.85, 0.88)	< 0.001
	Post-Int. * 2022	0.84	(0.83, 0.86)	< 0.001
	Post-Int. * 2023	0.82	(0.81, 0.84)	< 0.001
Int. Period * Age Group (Ref: Pre-Int. * Age Group)	Post-Int. * Age 21-30	0.86	(0.83, 0.89)	< 0.001
	Post-Int. * Age 31-40	0.87	(0.84, 0.89)	< 0.001
	Post-Int. * Age 41-50	0.95	(0.92, 0.98)	0.002
	Post-Int. * Age 51-60	1.00	(0.97, 1.03)	0.903
	Post-Int. * Age 61-64	0.98	(0.94, 1.02)	0.387
Int. Period * Dual-Eligibility (Ref: Pre-Int. * Dual Eligibility)	Post-Int. * Dual-Eligible	0.93	(0.90, 0.95)	< 0.001
	Post-Int. * Non-dual Eligible	0.93	(0.91, 0.96)	< 0.001
Int. Period * SMI Diagnosis (Ref: Pre-Int. * SMI Diagnosis)	Post-Int. * Bipolar Only	0.91	(0.88, 0.94)	< 0.001
	Post-Int. * MDD Only	0.89	(0.87, 0.92)	< 0.001
	Post-Int. * Schizophrenia Only	1.05	(1.01, 1.09)	0.010
	Post-Int. * Co-occurring SMI	0.88	(0.85, 0.91)	< 0.001
Int. Period * HIP Status (Ref: Pre-Int * HIP Status)	Post-Int * HIP	0.93	(0.90, 0.96)	< 0.001
	Post-Int * Non-HIP	0.93	(0.90, 0.95)	< 0.001
Gender (Ref: Female)	Male	1.03	(1.02, 1.04)	< 0.001
Age Group (Ref: Age 21-30)	Age 31-40	0.87	(0.85, 0.88)	< 0.001
	Age 41-50	0.67	(0.66, 0.68)	< 0.001
	Age 51-60	0.48	(0.47, 0.48)	< 0.001
	Age 61-64	0.38	(0.37, 0.39)	< 0.001
Race (Ref: White/Caucasian)	Black	1.25	(1.23, 1.26)	< 0.001
	Other/Not Available	1.27	(1.26, 1.28)	< 0.001
Ethnicity (Ref: Non-Hispanic/Unknown)	Hispanic	0.80	(0.78, 0.82)	< 0.001
Geographic Location (Ref: Metro)	Non-metro	1.01	(1.00, 1.02)	0.004
Dual Eligibility (Ref: Non-dual Eligible)	Dual-Eligible	0.85	(0.84, 0.86)	< 0.001
SMI Diagnosis (Ref: MDD Only)	Bipolar only	1.06	(1.04, 1.07)	< 0.001
	Schizophrenia only	0.96	(0.94, 0.98)	< 0.001
	Co-occurring SMI	1.67	(1.65, 1.69)	< 0.001

Variable	Level	IRR	95% CI	p-Value
<b>Chronic Conditions (Ref: No)</b>	Cancer	1.16	(1.13, 1.18)	< 0.001
	Cardiovascular Disease	1.58	(1.56, 1.60)	< 0.001
	COPD	1.54	(1.52, 1.56)	< 0.001
	Diabetes	1.08	(1.07, 1.09)	< 0.001
	Hypertension	1.69	(1.67, 1.70)	< 0.001
	Infectious Disease	2.13	(2.11, 2.15)	< 0.001
	Metabolic Disease	1.28	(1.27, 1.29)	< 0.001
<b>HIP Status (Ref: Non-HIP)</b>	HIP	0.92	(0.91, 0.93)	< 0.001

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

Exhibit E.14 provides estimates from an ITS logistic regression model of all-cause ED visits including interactions between the intervention period and SMI diagnosis. OR estimates were similar to those in the primary ED visit ITS logistic regression model.

**Exhibit E.14: Logistic ITS Regression Model of All-Cause ED Participation Rate (2018 – 2023, Excluding 2020, Including Intervention Period Interaction with SMI Diagnosis)**

Variable	Level	OR	95% CI	p-Value
<b>Intervention (Int.) Period (Ref: Pre-Int.)</b>	Post-Intervention (Post-Int.)	0.93	(0.90, 0.96)	< 0.001
<b>Time</b>	Pre-Intervention	1.06	(1.03, 1.09)	< 0.001
	Post-Intervention	0.97	(0.97, 0.98)	< 0.001
<b>Int. Period * Year (Ref: Pre-Int. * 2018)</b>	Pre-Int. * 2019	1.06	(1.03, 1.09)	< 0.001
	Post-Int. * 2021	0.85	(0.83, 0.87)	< 0.001
	Post-Int. * 2022	0.83	(0.81, 0.85)	< 0.001
	Post-Int. * 2023	0.80	(0.78, 0.82)	< 0.001
<b>Int. Period * SMI Diagnosis (Ref: Pre-Int. * SMI Diagnosis)</b>	Post-Int. * Bipolar Only	0.91	(0.88, 0.95)	< 0.001
	Post-Int. * MDD Only	0.91	(0.88, 0.94)	< 0.001
	Post-Int. * Schizophrenia Only	1.08	(1.03, 1.12)	< 0.001
	Post-Int. * Co-occurring SMI	0.83	(0.80, 0.87)	< 0.001
<b>Gender (Ref: Female)</b>	Male	0.88	(0.87, 0.89)	< 0.001
<b>Age Group (Ref: Age 21-30)</b>	Age 31-40	0.86	(0.85, 0.87)	< 0.001
	Age 41-50	0.67	(0.66, 0.68)	< 0.001
	Age 51-60	0.45	(0.44, 0.45)	< 0.001
	Age 61-64	0.34	(0.33, 0.35)	< 0.001
<b>Race (Ref: White/Caucasian)</b>	Black	1.27	(1.25, 1.29)	< 0.001
	Other/Not Available	1.28	(1.26, 1.29)	< 0.001
<b>Ethnicity (Ref: Non-Hispanic/Unknown)</b>	Hispanic	0.82	(0.80, 0.85)	< 0.001
<b>Geographic Location (Ref: Metro)</b>	Non-metro	1.06	(1.05, 1.07)	< 0.001
<b>Dual Eligibility (Ref: Non-dual Eligible)</b>	Dual-Eligible	0.85	(0.84, 0.86)	< 0.001

Variable	Level	OR	95% CI	p-Value
SMI Diagnosis (Ref: MDD Only)	Bipolar only	1.12	(1.10, 1.14)	< 0.001
	Schizophrenia only	0.86	(0.84, 0.87)	< 0.001
	Co-occurring SMI	1.73	(1.70, 1.77)	< 0.001
Chronic Conditions (Ref: No)	Cancer	1.24	(1.20, 1.28)	< 0.001
	Cardiovascular Disease	1.91	(1.87, 1.95)	< 0.001
	COPD	1.91	(1.87, 1.94)	< 0.001
	Diabetes	1.08	(1.07, 1.10)	< 0.001
	Hypertension	1.93	(1.91, 1.96)	< 0.001
	Infectious Disease	2.57	(2.55, 2.60)	< 0.001
	Metabolic Disease	1.24	(1.22, 1.25)	< 0.001

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

Exhibit E.15 provides estimates from an ITS negative binomial regression model of all-cause ED visits including interactions between the intervention period and SMI diagnosis. IRR estimates were similar to those in the primary ED visit ITS negative binomial regression model, with the exception of SMI diagnosis. In this model, those with schizophrenia only have a lower incidence rate of ED visits compared to those with MDD only (no effect was observed in the primary model).

**Exhibit E.15: Negative Binomial ITS Regression Model of All-Cause ED Utilization Rate (2018 – 2023, Excluding 2020, Including Intervention Period Interaction with SMI Diagnosis)**

Variable	Level	IRR	95% CI	p-Value
Intervention (Int.) Period (Ref: Pre-Int.)	Post-Intervention (Post-Int.)	0.94	(0.92, 0.96)	< 0.001
Time	Pre-Intervention	1.02	(1.01, 1.04)	0.009
	Post-Intervention	0.97	(0.97, 0.97)	< 0.001
Int. Period * Year (Ref: Pre-Int. * 2018)	Pre-Int. * 2019	1.02	(1.01, 1.04)	0.009
	Post-Int. * 2021	0.86	(0.85, 0.87)	< 0.001
	Post-Int. * 2022	0.83	(0.82, 0.85)	< 0.001
	Post-Int. * 2023	0.81	(0.80, 0.82)	< 0.001
Int. Period * SMI Diagnosis (Ref: Pre-Int. * SMI Diagnosis)	Post-Int. * Bipolar Only	0.92	(0.89, 0.94)	< 0.001
	Post-Int. * MDD Only	0.91	(0.89, 0.93)	< 0.001
	Post-Int. * Schizophrenia Only	1.06	(1.03, 1.09)	< 0.001
	Post-Int. * Co-occurring SMI	0.89	(0.87, 0.92)	< 0.001
Gender (Ref: Female)	Male	1.04	(1.03, 1.05)	< 0.001
Age Group (Ref: Age 21-30)	Age 31-40	0.86	(0.86, 0.87)	< 0.001
	Age 41-50	0.68	(0.68, 0.69)	< 0.001
	Age 51-60	0.49	(0.49, 0.50)	< 0.001
	Age 61-64	0.40	(0.39, 0.40)	< 0.001
Race (Ref: White/Caucasian)	Black	1.25	(1.23, 1.26)	< 0.001
	Other/Not Available	1.28	(1.27, 1.29)	< 0.001
Ethnicity (Ref: Non-Hispanic/Unknown)	Hispanic	0.79	(0.77, 0.81)	< 0.001



Variable	Level	IRR	95% CI	p-Value
Geographic Location (Ref: Metro)	Non-metro	1.01	(1.00, 1.02)	0.049
Dual Eligibility (Ref: Non-dual Eligible)	Dual-Eligible	0.89	(0.89, 0.90)	< 0.001
SMI Diagnosis (Ref: MDD Only)	Bipolar only	1.06	(1.05, 1.08)	< 0.001
	Schizophrenia only	0.97	(0.95, 0.98)	< 0.001
	Co-occurring SMI	1.69	(1.67, 1.71)	< 0.001
Chronic Conditions (Ref: No)	Cancer	1.16	(1.14, 1.18)	< 0.001
	Cardiovascular Disease	1.58	(1.56, 1.60)	< 0.001
	COPD	1.55	(1.53, 1.56)	< 0.001
	Diabetes	1.08	(1.07, 1.09)	< 0.001
	Hypertension	1.69	(1.68, 1.71)	< 0.001
	Infectious Disease	2.11	(2.10, 2.13)	< 0.001
	Metabolic Disease	1.28	(1.27, 1.29)	< 0.001

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

Exhibit E.16 provides estimates from an ITS logistic regression model of all-cause ED visits including data from CY 2020. OR estimates were similar to those in the primary ED visit ITS logistic regression model.

**Exhibit E.16: Logistic ITS Regression Model of All-Cause ED Participation Rate (2018 – 2023, Including 2020)**

Variable	Level	OR	95% CI	p-Value
Intervention (Int.) Period (Ref: Pre-Int.)	Post-Intervention (Post-Int.)	0.93	(0.91, 0.96)	< 0.001
Time	Pre-Intervention	1.07	(1.04, 1.10)	< 0.001
	Post-Intervention	0.97	(0.97, 0.97)	< 0.001
Int. Period * Year (Ref: Pre-Int. * 2018)	Pre-Int. * 2019	1.07	(1.04, 1.10)	< 0.001
	Post-Int. * 2020	0.88	(0.86, 0.90)	< 0.001
	Post-Int. * 2021	0.85	(0.83, 0.87)	< 0.001
	Post-Int. * 2022	0.82	(0.81, 0.84)	< 0.001
Gender (Ref: Female)	Male	0.88	(0.87, 0.89)	< 0.001
	Age Group (Ref: Age 21-30)	Age 31-40	0.86	(0.85, 0.87)
	Age 41-50	0.67	(0.66, 0.68)	< 0.001
	Age 51-60	0.45	(0.44, 0.45)	< 0.001
	Age 61-64	0.34	(0.33, 0.35)	< 0.001
Race (Ref: White/Caucasian)	Black	1.27	(1.25, 1.29)	< 0.001
	Other/Not Available	1.28	(1.27, 1.30)	< 0.001
Ethnicity (Ref: Non-Hispanic/Unknown)	Hispanic	0.82	(0.80, 0.85)	< 0.001
Geographic Location (Ref: Metro)	Non-metro	1.06	(1.05, 1.07)	< 0.001
Dual Eligibility (Ref: Non-dual Eligible)	Dual-Eligible	0.85	(0.84, 0.86)	< 0.001

Variable	Level	OR	95% CI	p-Value
SMI Diagnosis (Ref: MDD Only)	Bipolar only	1.12	(1.11, 1.14)	< 0.001
	Schizophrenia only	0.88	(0.87, 0.90)	< 0.001
	Co-occurring SMI	1.67	(1.65, 1.69)	< 0.001
Chronic Conditions (Ref: No)	Cancer	1.24	(1.21, 1.28)	< 0.001
	Cardiovascular Disease	1.91	(1.87, 1.95)	< 0.001
	COPD	1.91	(1.87, 1.94)	< 0.001
	Diabetes	1.08	(1.07, 1.10)	< 0.001
	Hypertension	1.93	(1.91, 1.96)	< 0.001
	Infectious Disease	2.57	(2.54, 2.60)	< 0.001
	Metabolic Disease	1.24	(1.22, 1.25)	< 0.001

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

Exhibit E.17 provides estimates from an ITS negative binomial regression model of all-cause ED visits including data from CY 2020. Incidence rate ratio estimates were similar to those in the primary ED visit ITS negative binomial regression model.

**Exhibit E.17: Negative Binomial ITS Regression Model of All-Cause ED Utilization Rate (2018 – 2023, Including 2020)**

Variable	Level	IRR	95% CI	p-Value
Intervention (Int.) Period (Ref: Pre-Int.)	Post-Intervention (Post-Int.)	0.93	(0.91, 0.95)	< 0.001
Time	Pre-Intervention	1.03	(1.01, 1.05)	< 0.001
	Post-Intervention	0.97	(0.97, 0.97)	< 0.001
Int. Period * Year (Ref: Pre-Int. * 2018)	Pre-Int. * 2019	1.03	(1.01, 1.05)	< 0.001
	Post-Int. * 2020	0.88	(0.86, 0.89)	< 0.001
	Post-Int. * 2021	0.85	(0.84, 0.86)	< 0.001
	Post-Int. * 2022	0.82	(0.81, 0.83)	< 0.001
	Post-Int. * 2023	0.80	(0.79, 0.81)	< 0.001
Gender (Ref: Female)	Male	1.04	(1.03, 1.05)	< 0.001
Age Group (Ref: Age 21-30)	Age 31-40	0.86	(0.86, 0.87)	< 0.001
	Age 41-50	0.68	(0.68, 0.69)	< 0.001
	Age 51-60	0.49	(0.49, 0.50)	< 0.001
	Age 61-64	0.40	(0.39, 0.40)	< 0.001
Race (Ref: White/Caucasian)	Black	1.25	(1.23, 1.26)	< 0.001
	Other/Not Available	1.28	(1.27, 1.29)	< 0.001
Ethnicity (Ref: Non-Hispanic/Unknown)	Hispanic	0.79	(0.77, 0.81)	< 0.001
Geographic Location (Ref: Metro)	Non-metro	1.01	(1.00, 1.02)	0.055
Dual Eligibility (Ref: Non-dual Eligible)	Dual-Eligible	0.89	(0.89, 0.90)	< 0.001
SMI Diagnosis (Ref: MDD Only)	Bipolar only	1.07	(1.06, 1.08)	< 0.001
	Schizophrenia only	1.00	(0.99, 1.01)	0.970
	Co-occurring SMI	1.67	(1.66, 1.69)	< 0.001

Variable	Level	IRR	95% CI	p-Value
<b>Chronic Conditions (Ref: No)</b>	Cancer	1.16	(1.14, 1.18)	< 0.001
	Cardiovascular Disease	1.58	(1.57, 1.60)	< 0.001
	COPD	1.55	(1.53, 1.56)	< 0.001
	Diabetes	1.08	(1.07, 1.09)	< 0.001
	Hypertension	1.69	(1.68, 1.71)	< 0.001
	Infectious Disease	2.11	(2.10, 2.13)	< 0.001
	Metabolic Disease	1.28	(1.27, 1.29)	< 0.001

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

## D. Goal 2

### 1. Analytic Cohort for 30-Day All-Cause Readmissions

Detailed results from the claims/encounter data-based analytics for Goal 2 are included in this section. **Exhibit E.18** displays the counts of MH-related acute inpatient and observation stays and unique SMI roster beneficiaries with stays for the 30-day all-cause readmission metric denominator.

**Exhibit E.18: Counts of Stays and Beneficiaries for 30-Day All-Cause Readmission Metric Denominator, by Data Processing Step (2018 – 2023)**

30-Day All-Cause Readmission Calculation Step: Denominator	Count of Acute Inpatient / Observation Stays and Unique Beneficiaries with Stay(s)											
	2018		2019		2020		2021		2022		2023	
	Unique Bene.	Total Stays	Unique Bene.	Total Stays	Unique Bene.	Total Stays	Unique Bene.	Total Stays	Unique Bene.	Total Stays	Unique Bene.	Total Stays
Total SMI Roster beneficiaries	88,393	N/A	117,965	N/A	147,715	N/A	185,520	N/A	220,287	N/A	255,056	N/A
Total SMI Roster beneficiaries without hospice services in the year	88,159	N/A	117,598	N/A	147,300	N/A	185,044	N/A	219,783	N/A	254,503	N/A
With acute inpatient/observation stay(s) <sup>a</sup>	27,264	62,176	29,404	51,294	34,378	60,102	39,045	67,941	38,208	64,715	41,741	71,578
After applying direct transfer algorithm	27,264	46,570	29,404	48,988	34,378	57,235	39,045	64,960	38,208	62,104	41,741	68,540
After excluding stays with discharge date after Dec. 1	25,607	42,843	27,704	45,006	32,414	52,716	37,246	60,649	35,941	57,187	39,551	63,656
After excluding stays where with LOS = 0 (i.e., admission date = discharge date)	25,102	40,911	26,874	42,355	31,419	49,683	36,274	57,920	35,031	54,958	38,647	61,475
After excluding stays where beneficiary died during stay	25,012	40,749	26,755	42,145	31,219	49,346	36,025	57,493	34,785	54,559	38,435	61,103
After excluding cases with pregnancy/perinatal-related principal (primary) dx code	23,843	39,031	25,070	39,848	28,551	45,873	32,782	53,334	31,744	50,654	34,717	56,453
After excluding cases without enrollment on the discharge date	23,631	38,676	24,832	39,397	28,279	45,431	32,699	53,166	31,663	50,468	34,509	56,080
After excluding cases without continuous enrollment in the 30 days after discharge date	23,021	37,568	24,172	38,305	27,885	44,745	32,439	52,705	31,408	50,027	33,932	55,133
After excluding non-MH-related stays (primary or secondary dx code)	11,474	15,348	11,565	15,568	12,970	17,800	14,274	19,888	12,735	17,579	13,682	19,249

<sup>a</sup> "Acute Inpatient and Observation stays" were identified via the following process: 1) Identify all acute and nonacute inpatient stays (HEDIS VSD Inpatient Stay Value Set) and observation stays (HEDIS VSD Observation Stay Value Set), 2) Exclude nonacute inpatient stays (HEDIS VSD Nonacute Inpatient Stay Value Set).

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

Exhibit E.19 displays the counts of MH-related acute inpatient and observation stays and unique SMI roster beneficiaries with stays for the 30-day all-cause readmission metric numerator.

**Exhibit E.19: Counts of Stays and Beneficiaries for 30-Day All-Cause Readmission Metric Numerator, by Data Processing Step (2018 – 2023)**

30-Day All-Cause Readmission Calculation Step: Numerator	Count of Acute Inpatient / Observation Stays and Unique Beneficiaries with Stay(s)											
	2018		2019		2020		2021		2022		2023	
	Unique Bene.	Total Stays	Unique Bene.	Total Stays	Unique Bene.	Total Stays	Unique Bene.	Total Stays	Unique Bene.	Total Stays	Unique Bene.	Total Stays
Total SMI Roster beneficiaries	88,393	N/A	117,965	N/A	147,715	N/A	185,520	N/A	220,287	N/A	255,056	N/A
Total SMI Roster beneficiaries without hospice services in the year	88,159	N/A	117,598	N/A	147,300	N/A	185,044	N/A	219,783	N/A	254,503	N/A
(With) acute inpatient/observation stay(s) <sup>a</sup>	27,401	62,603	29,404	51,370	34,328	60,080	38,966	67,857	38,164	64,731	41,689	71,493
After applying direct transfer algorithm	27,401	46,958	29,404	49,038	34,328	57,166	38,966	64,851	38,164	62,105	41,689	68,451
After excluding stays with admission date before Jan. 3 or after Dec. 31	26,881	46,164	29,265	48,742	34,164	56,823	38,842	64,528	38,031	61,803	41,513	68,076
After excluding cases with pregnancy/perinatal-related principal (primary) diagnosis code	25,636	43,935	27,405	45,610	31,317	52,340	35,367	59,514	34,622	56,860	37,398	62,445
After excluding cases with principal (primary) diagnosis and/or procedure code indicating a pre-planned stay <sup>b</sup>	25,309	43,283	27,396	45,572	31,308	52,299	35,362	59,467	34,615	56,811	37,382	62,369

<sup>a</sup> "Acute Inpatient and Observation stays" were identified via the following process: 1) Identify all acute and nonacute inpatient stays (HEDIS VSD Inpatient Stay Value Set) and observation stays (HEDIS VSD Observation Stay Value Set), 2) Exclude nonacute inpatient stays (HEDIS VSD Nonacute Inpatient Stay Value Set).

<sup>b</sup> Pre-planned stays included those with diagnosis and/or procedure codes as identified in the following HEDIS VSD value sets: Chemotherapy Encounter, Rehabilitation, Kidney Transplant, Bone Marrow Transplant, Organ Transplant Other Than Kidney, Introduction of Autologous Pancreatic Cells, and Potentially Planned Procedures (excluding Acute Conditions).

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

## 2. Overall 30-Day All-Cause Readmissions

Exhibit E.20 shows 30-day all-cause readmission rates when outlier beneficiaries (i.e., those with four or more MH-related (denominator) stays were excluded. When compared with the readmission rates calculated in Section II.D, the removal of these outlier beneficiaries resulted in a notable reduction of readmission rates within each year. For example, removing these outliers reduced the 2018 readmission rate from 15.7% to 11.2%; similarly, the 2023 all-cause readmission rate decreased from 17.8% to 11.1%.

**Exhibit E.20: 30-Day All-Cause, Unplanned Readmission Rates Following MH-Related Acute Inpatient and Observation Stays, Among SMI Beneficiaries (2018 – 2023), with Outliers (>= 4 or More MH-Related Visits) Excluded**

Year	# of SMI Benes with at Least 1 MH-Related Stay	# of SMI Benes with a 30-day Readmission	# of MH-Related Stays Among SMI Benes (Denom.)	# of MH-Related Stays with All-Cause 30-Day Readmission (Numer.)	30-Day All-Cause Readmission Rate
2018	11,145	1,348	13,720	1,539	11.2%
2019	11,225	1,319	13,815	1,508	10.9%
2020	12,522	1,504	15,557	1,703	10.9%
2021	13,750	1,663	17,125	1,908	11.1%
2022	12,273	1,365	15,135	1,580	10.4%
2023	13,139	1,556	16,288	1,805	11.1%

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

## 3. 30-Day All-Cause Readmissions – By Sociodemographic Characteristics

Exhibit E.21 includes the 30-day all-cause readmission rates by beneficiary characteristics.

**Exhibit E.21: 30-Day All-Cause Readmission Rate to Acute Care Hospitals and Residential Settings Following Psychiatric Hospitalization, by Year and Demographic Characteristics (2018 – 2023)**

Beneficiary Characteristics		(All-Cause) 30-Day Readmission Rate <sup>a</sup>					
		2018	2019	2020	2021	2022	2023
		N=15,348	N=15,568	N=17,800	N=19,888	N=17,579	N=19,249
All Beneficiaries		15.7%	15.8%	16.1%	16.9%	16.3%	17.8%
Gender	Female	13.3%	13.0%	14.3%	14.7%	14.4%	15.5%
	Male	18.3%	18.4%	17.7%	18.8%	18.0%	19.9%
Age	21-30	14.9%	16.6%	14.9%	16.0%	14.9%	16.4%
	31-40	16.8%	15.7%	16.2%	17.2%	16.4%	16.9%
	41-50	16.0%	15.8%	17.3%	16.9%	17.0%	19.2%
	51-60	16.0%	15.3%	16.8%	17.6%	17.1%	19.7%
	61-64	11.8%	13.7%	16.2%	17.3%	17.3%	18.1%

Beneficiary Characteristics		(All-Cause) 30-Day Readmission Rate <sup>a</sup>					
		2018	2019	2020	2021	2022	2023
		N=15,348	N=15,568	N=17,800	N=19,888	N=17,579	N=19,249
Race	White/Caucasian	14.7%	13.8%	13.7%	14.6%	14.3%	15.6%
	Black	12.5%	14.1%	14.2%	16.9%	14.7%	15.1%
	Other	14.6%	19.4%	21.0%	22.3%	15.3%	14.6%
	Not Available	18.8%	19.6%	20.5%	20.3%	19.8%	22.1%
Ethnicity	Hispanic	10.3%	10.9%	9.0%	12.9%	9.3%	11.5%
	Non-Hispanic	16.2%	16.0%	16.5%	17.2%	16.6%	18.4%
	Unknown	10.1%	15.1%	13.4%	13.7%	15.2%	13.8%
Geographic Location	Metro	15.9%	16.3%	16.4%	17.0%	16.4%	18.0%
	Non-Metro	15.0%	14.1%	15.1%	16.4%	15.9%	17.2%
Dual Eligibility <sup>c</sup>	Dual Eligible	8.4%	9.0%	7.4%	11.7%	11.1%	11.7%
	Not Dual Eligible	17.9%	17.8%	18.3%	18.2%	17.8%	19.4%
HIP/Non-HIP	HIP	16.9%	16.3%	16.9%	16.1%	15.7%	16.8%
	Non-HIP	14.2%	15.3%	15.1%	17.9%	17.0%	19.1%
SMI Dx <sup>a</sup>	Bipolar Only	9.5%	8.1%	8.7%	8.8%	9.9%	9.4%
	MDD Only	12.2%	13.1%	12.5%	12.0%	10.6%	10.4%
	Schizophrenia Only	12.4%	11.9%	12.5%	12.7%	10.9%	12.2%
	Co-occurring SMI Dx	21.8%	20.7%	20.6%	21.5%	21.0%	23.1%
Chronic Conditions	Cancer	16.0%	21.3%	18.6%	23.5%	18.1%	17.7%
	No Cancer	15.7%	15.7%	16.1%	16.7%	16.2%	17.8%
	Cardiovascular Disease	21.8%	21.9%	25.1%	25.5%	24.7%	28.6%
	No Cardiovascular Disease	15.0%	15.0%	15.1%	15.8%	15.3%	16.5%
	COPD	18.7%	21.0%	21.0%	22.0%	22.5%	24.2%
	No COPD	15.1%	14.6%	15.2%	15.9%	15.1%	16.7%
	Diabetes	20.2%	19.6%	22.4%	21.1%	22.1%	24.2%
	No Diabetes	14.7%	14.9%	14.7%	15.9%	14.9%	16.3%
	Hypertension	18.9%	19.2%	20.1%	21.4%	20.4%	23.0%
	No Hypertension	13.0%	12.9%	12.5%	12.6%	12.7%	13.0%
	Infectious Disease	20.6%	20.8%	21.7%	21.8%	21.0%	23.3%
	No Infectious Disease	12.8%	12.8%	12.2%	13.0%	12.1%	14.0%
	Metabolic Disease	18.9%	19.1%	20.0%	20.6%	19.9%	21.8%
No Metabolic Disease	12.4%	12.6%	12.3%	12.9%	12.3%	13.0%	

Beneficiary Characteristics		(All-Cause) 30-Day Readmission Rate <sup>a</sup>					
		2018	2019	2020	2021	2022	2023
		N=15,348	N=15,568	N=17,800	N=19,888	N=17,579	N=19,249
Chronic Conditions (cont.)	Respiratory Disease	16.3%	16.5%	19.1%	17.2%	13.6%	18.0%
	No Respiratory Disease	15.7%	15.8%	16.1%	16.8%	16.3%	17.8%
# of Chronic Conditions	0	9.2%	9.2%	8.8%	9.2%	9.3%	9.5%
	1	14.0%	14.2%	13.7%	13.4%	12.3%	13.9%
	2	16.0%	16.7%	16.0%	17.6%	17.5%	19.0%
	3	21.6%	20.2%	20.6%	23.0%	20.4%	22.1%
	4+	21.5%	22.8%	25.7%	24.8%	25.2%	28.4%

<sup>a</sup> N values shown in header row correspond to the number of acute inpatient and observation stays within the given year.

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

#### 4. 30-Day All-Cause Readmissions – Regression Estimates

Exhibit E.22 displays OR estimates from the ITS logistic regression model; each OR shows the odds of a MH-related inpatient or observation stay being followed by an all-cause readmission within 30 days, relative to the reference group. Estimates suggest that when adjusting for other beneficiary characteristics, there was a significant decrease in the likelihood of readmission in the post-intervention period.

**Exhibit E.22: Logistic ITS Regression Model of 30-Day All-Cause Readmission Rate (2018 – 2023, Excluding 2020)**

Variable	Level	OR	95% CI	p-Value
Intervention (Int.) Period (Ref: Pre-Int.)	Post-Intervention (Post-Int.)	0.82	(0.72, 0.93)	0.001
Time	Pre-Intervention	0.93	(0.87, 1.00)	0.063
	Post-Intervention	1.01	(0.98, 1.04)	0.607
Int. Period * Year (Ref: Pre-Int. * 2018)	Pre-Int. * 2019	0.93	(0.87, 1.00)	0.063
	Post-Int. * 2021	0.84	(0.77, 0.92)	< 0.001
	Post-Int. * 2022	0.85	(0.77, 0.93)	< 0.001
	Post-Int. * 2023	0.85	(0.77, 0.95)	0.004
Likelihood of Having an ED Visit		0.50	(0.28, 0.88)	0.017
Gender (Ref: Female)	Male	1.60	(1.51, 1.69)	< 0.001
Age Group (Ref: Age 21-30)	Age 31-40	0.95	(0.90, 1.00)	0.074
	Age 41-50	0.86	(0.80, 0.92)	< 0.001
	Age 51-60	0.77	(0.70, 0.83)	< 0.001
	Age 61-64	0.68	(0.60, 0.77)	< 0.001
Race (Ref: White/Caucasian)	Black	1.02	(0.96, 1.09)	0.557
	Other/Not Available	1.24	(1.19, 1.29)	< 0.001
Ethnicity (Ref: Non-Hispanic/Unknown)	Hispanic	0.62	(0.54, 0.72)	< 0.001
Geographic Location (Ref: Metro)	Non-metro	0.93	(0.89, 0.98)	0.003



Variable	Level	OR	95% CI	p-Value
Dual Eligibility (Ref: Non-dual Eligible)	Dual-Eligible	0.41	(0.39, 0.44)	< 0.001
SMI Diagnosis (Ref: MDD Only)	Bipolar only	0.84	(0.77, 0.92)	< 0.001
	Schizophrenia only	1.29	(1.19, 1.40)	< 0.001
	Co-occurring SMI	2.29	(2.07, 2.53)	< 0.001
Chronic Conditions (Ref: No)	Cancer	1.03	(0.92, 1.16)	0.605
	Cardiovascular Dis.	1.32	(1.24, 1.40)	< 0.001
	COPD	1.27	(1.20, 1.34)	< 0.001
	Diabetes	1.10	(1.05, 1.16)	< 0.001
	Hypertension	1.46	(1.38, 1.55)	< 0.001
	Infectious Disease	1.60	(1.53, 1.68)	< 0.001
	Metabolic Disease	1.51	(1.44, 1.58)	< 0.001

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

### 5. 30-Day All-Cause Readmissions – Sensitivity Analyses

This section details the results of sensitivity analyses for Goal 2 (30-day all-cause readmission rate) regression analyses.

Exhibit E.23 provides estimates from an ITS logistic regression model of 30-day all-cause readmissions including data from the CY 2020 (with 2020 categorized as part of the “post-intervention” period). OR estimates were similar to those in the primary readmission rate ITS logistic regression model (i.e., the model with 2020 data excluded).

**Exhibit E.23: Logistic ITS Regression Model of 30-Day All-Cause Readmission Rate (2018 – 2023, Including 2020)**

Variable	Level	OR	95% CI	p-Value
Intervention (Int.) Period (Ref: Pre-Int.)	Post-Intervention (Post-Int.)	0.85	(0.78, 0.92)	< 0.001
Int. Period * Time (Year)	Pre-Intervention * Time	0.94	(0.88, 1.01)	0.086
	Post-Intervention * Time	1.00	(0.98, 1.03)	0.777
Int. Period * Year (Ref: Pre-Int. * 2018)	Pre-Int. * 2019	0.94	(0.88, 1.01)	0.086
	Post-Int. * 2020	0.85	(0.80, 0.92)	< 0.001
	Post-Int. * 2021	0.86	(0.79, 0.93)	< 0.001
	Post-Int. * 2022	0.86	(0.79, 0.94)	< 0.001
	Post-Int. * 2023	0.86	(0.78, 0.96)	0.005
Likelihood of Having an ED Visit		0.55	(0.32, 0.93)	0.026
Gender (Ref: Female)	Male	1.57	(1.49, 1.66)	< 0.001
Age Group (Ref: Age 21-30)	Age 31-40	0.96	(0.92, 1.01)	0.12
	Age 41-50	0.88	(0.83, 0.93)	< 0.001
	Age 51-60	0.78	(0.72, 0.84)	< 0.001
	Age 61-64	0.71	(0.63, 0.79)	< 0.001
Race (Ref: White/Caucasian)	Black	1.02	(0.96, 1.08)	0.552
	Other/Not Available	1.25	(1.20, 1.30)	< 0.001

Variable	Level	OR	95% CI	p-Value
<b>Ethnicity (Ref: Non-Hispanic/Unknown)</b>	Hispanic	0.60	(0.53, 0.69)	< 0.001
<b>Geographic Location (Ref: Metro)</b>	Non-metro	0.93	(0.89, 0.97)	< 0.001
<b>Dual Eligibility (Ref: Non-dual Eligible)</b>	Dual-Eligible	0.39	(0.37, 0.41)	< 0.001
<b>SMI Diagnosis (Ref: MDD Only)</b>	Bipolar only	0.83	(0.77, 0.90)	< 0.001
	Schizophrenia only	1.28	(1.18, 1.37)	< 0.001
	Co-occurring SMI	2.19	(2.00, 2.41)	< 0.001
<b>Chronic Conditions (Ref: No)</b>	Cancer	1.02	(0.92, 1.14)	0.663
	Cardiovascular Dis.	1.33	(1.26, 1.40)	< 0.001
	COPD	1.26	(1.20, 1.32)	< 0.001
	Diabetes	1.13	(1.08, 1.19)	< 0.001
	Hypertension	1.44	(1.37, 1.53)	< 0.001
	Infectious Disease	1.61	(1.54, 1.67)	< 0.001
	Metabolic Disease	1.50	(1.44, 1.56)	< 0.001

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

### E. Goal 3

#### 1. Crisis Stabilization Services – Provider Availability

This section provides detailed exhibits related to findings for Goal 3. **Exhibit E.24** provides the distribution (e.g., minimum, median, and maximum) of counts of CSUs among Indiana counties (with a CSU), as well as the number of counties without a CSU. **Exhibit E.25** provides maps of CSUs by county for 2020 to 2022.

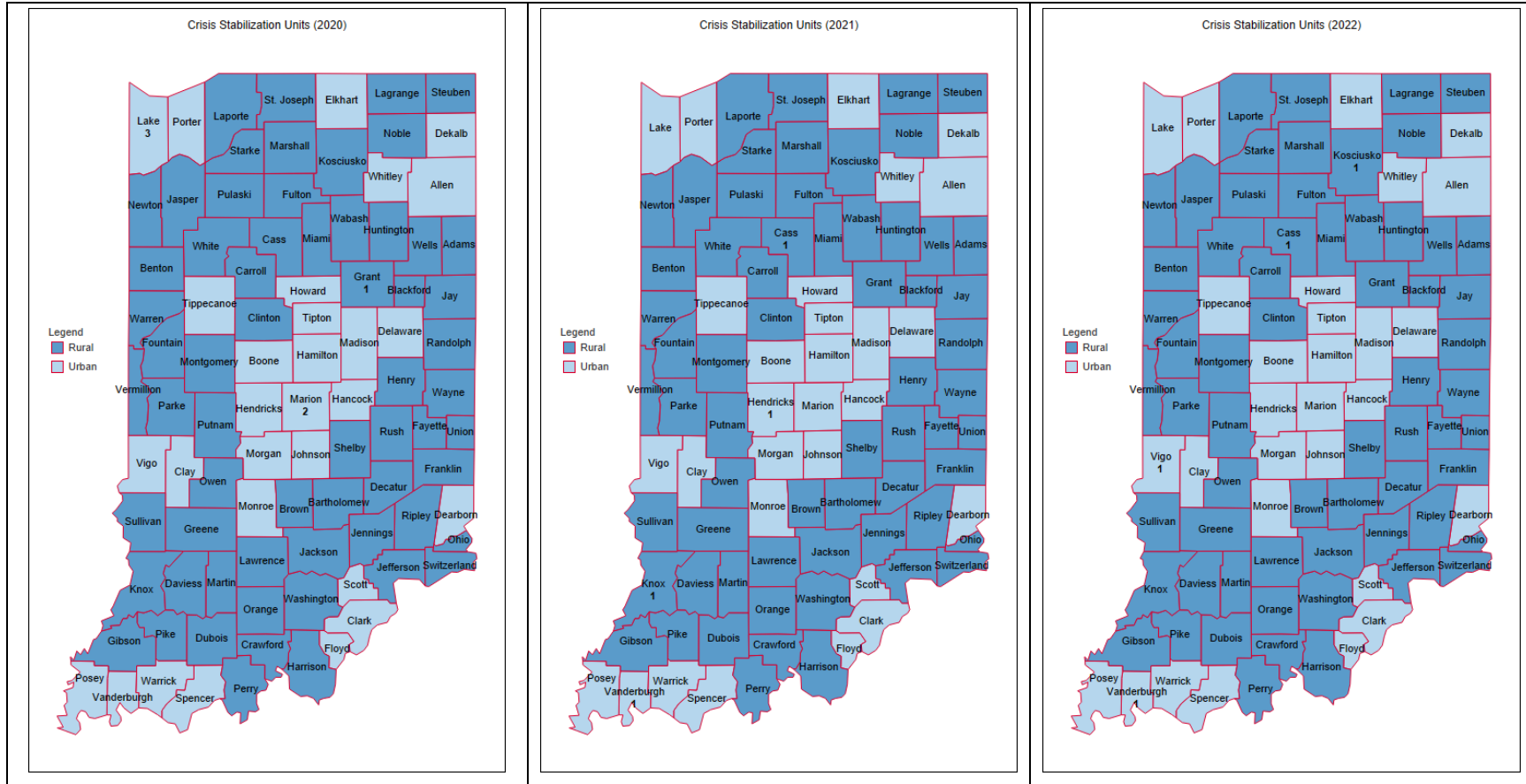
**Exhibit E.24: Distribution of Crisis Services Per County by Year – CSUs**

Provider	Year	Total # of CSUs	# of Counties with CSUs	Distribution of # of Providers in a County (Among Counties with Available Assessment Data)						# of Counties with No CSUs
				Mean	Min	P25	Median	P75	Max	
CSUs	2020	6	3	2.0	1	1	2	3	3	89
	2021	4	4	1.0	1	1	1	1	1	88
	2022	4	4	1.0	1	1	1	1	1	88
	2023 <sup>158</sup>	18	16	1.1	1	1	1	1	2	76

Source: Annual PAA, 2020 – 2023.

<sup>158</sup> Beginning in 2023, PAA counts reported in the CSU measure represent a broader classification of crisis stabilization services, which include crisis observation/assessment centers. Prior to 2023, the state reported two crisis observation/assessment centers operating in 2020, and three were reported in 2022. Crisis observation/assessment centers were unavailable for 2021.

**Exhibit E.25: Number of Crisis Services by County – CSUs (2020-2022)**



Source: Annual PAA, 2020 – 2022.

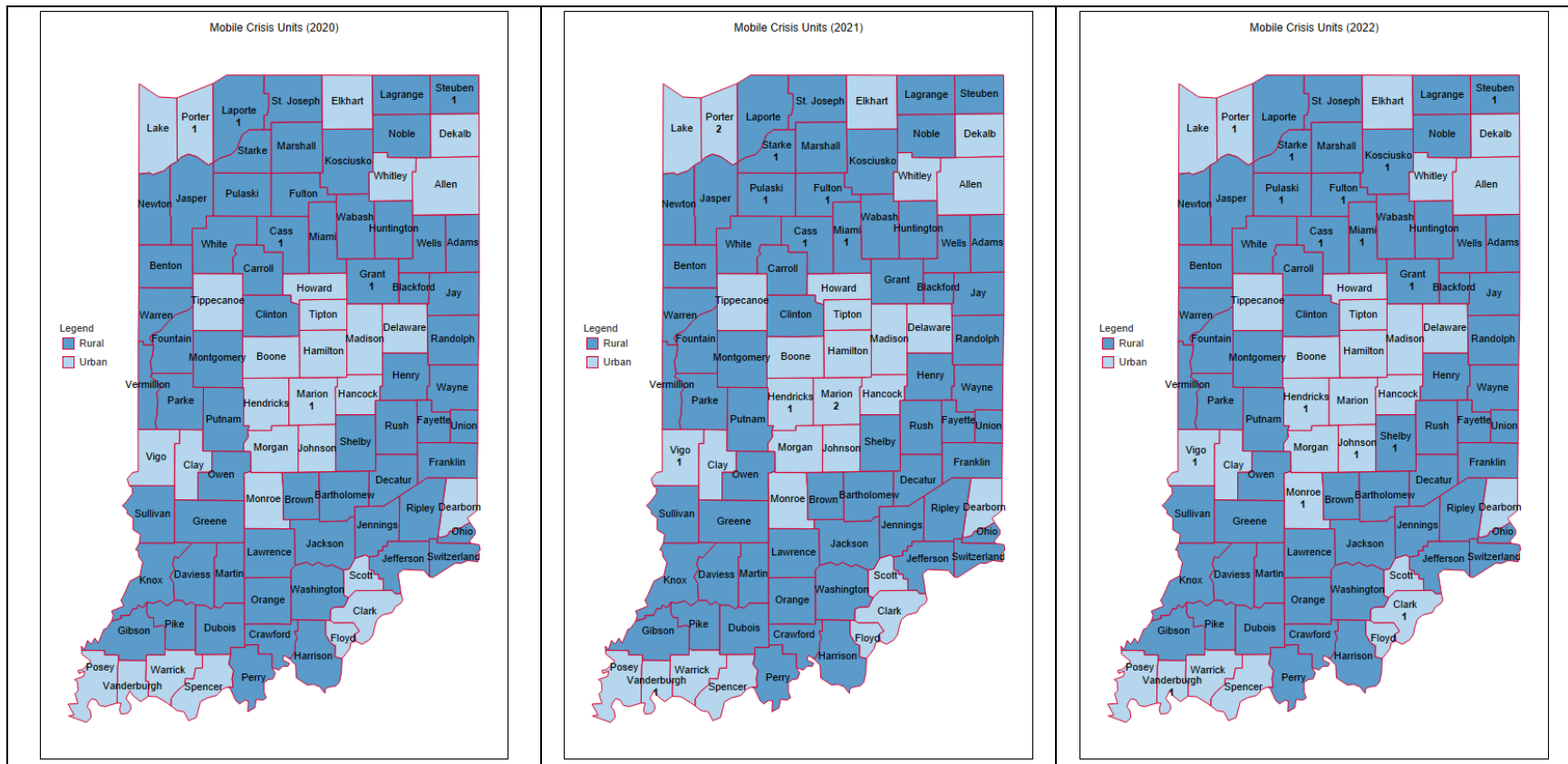
**Exhibit E.26** provides the distribution (e.g., minimum, median, and maximum) of counts of MCU/MRSS among Indiana counties (with an MCU/MRSS), as well as the number of counties without a MCU/MRSS. **Exhibit E.27** provides maps of MCU/MRSS by county for 2020 to 2022.

**Exhibit E.26: Distribution of Crisis Services Per County by Year – MCU/MRSS**

Provider	Year	Total # of MCU/MRSS	# of Counties with MCU/MRSS	Distribution of # of Providers in a County (Among Counties with Available Assessment Data)						# of Counties with No MCU/MRSS
				Mean	Min	P25	Median	P75	Max	
MCU/MRSS	2020	6	6	1.0	1	1	1	1	1	86
	2021	12	10	1.2	1	1	1	1	2	82
	2022	16	16	1.0	1	1	1	1	1	76
	2023	20	19	1.1	1	1	1	1	2	73

Source: Annual PAA, 2020 – 2023.

**Exhibit E.27: Number of Crisis Services by County – MCU/MRSS (2020-2022)**



Source: Annual PAA, 2020 – 2022.

**Exhibit E.28** identifies the number of crisis stabilization services by type of service (e.g., CSU, MCU/MRSS, call center) by county. The exhibit also includes information detailing the reach of counties served by the crisis stabilization services for a given county.

**Exhibit E.28: Crisis Service Location and Served Counties, 2023**

County: Service Location	CSU	MCU/MRSS	Call Center	Counties Served by Available Services
Allen	1	1	1	Call Center: Whole state; MCU/CRSS: Adams, Wells, DeKalb, Noble, LaGrange, Kosciusko, Whitley, Huntington, and Wabash
Cass	1	1		Fulton, Miami, Tipton, White, and Howard
Clark	1	1		Spencer, Perry, Crawford, Dubois, Orange, Harrison, Washington, Scott, Jefferson, and Floyd
Dearborn	1	1		Ohio, Switzerland, Franklin, and Ripley
Dekalb	1	1		Noble, Steuben, and Lagrange
Grant	1	1		Blackford, Howard, Wabash, and Hamilton
Hamilton	1	1		MCU/CRSS: Boone, Madison, and Marion
Johnson		1		Johnson, Morgan, and Shelby
Knox	1	1		Daviess, Martin, and Pike
Kosciusko	1	1		Huntington, Marshall, Whitley, and Wabash
Lake	2	2	1	Call Center: Whole state; MCU/CRSS: Porter and LaPorte
Marion	1	1	1	Call Center: Whole state; MCU/CRSS: Johnson
Monroe	1	1		Bartholomew, Brown, Decatur, Jackson, Jennings, Johnson, Lawrence, Morgan, and Owen
Morgan		1		Johnson, Morgan, and Shelby
Porter	1	1		Porter and Starke
Shelby		1		Johnson, Morgan, and Shelby
St. Joseph	1	1		Elkhart
Steuben		1		Dekalb, LaGrange, Noble, and Steuben
Tippecanoe	2		1	Call Center: Whole state; NAMI CRSS serves: Benton, White, Carroll, Clinton, Montgomery, Fountain, Warren; Valley Oaks CRSS serves: White, Carroll, Benton, Jasper, Newton, Montgomery, Warren and Fountain
Vanderburgh	1	1		Posey, Gibson, and Warrick

Source: Annual PAA, 2023; state-provided administrative data (Updated September 2023).

**Exhibit E.29** provides the distribution (e.g., minimum, median, and maximum) of counts of IOPs among Indiana counties (with an IOP), as well as the number of counties without an IOP.

**Exhibit E.30** provides maps of IOPs by county for 2021 to 2022.

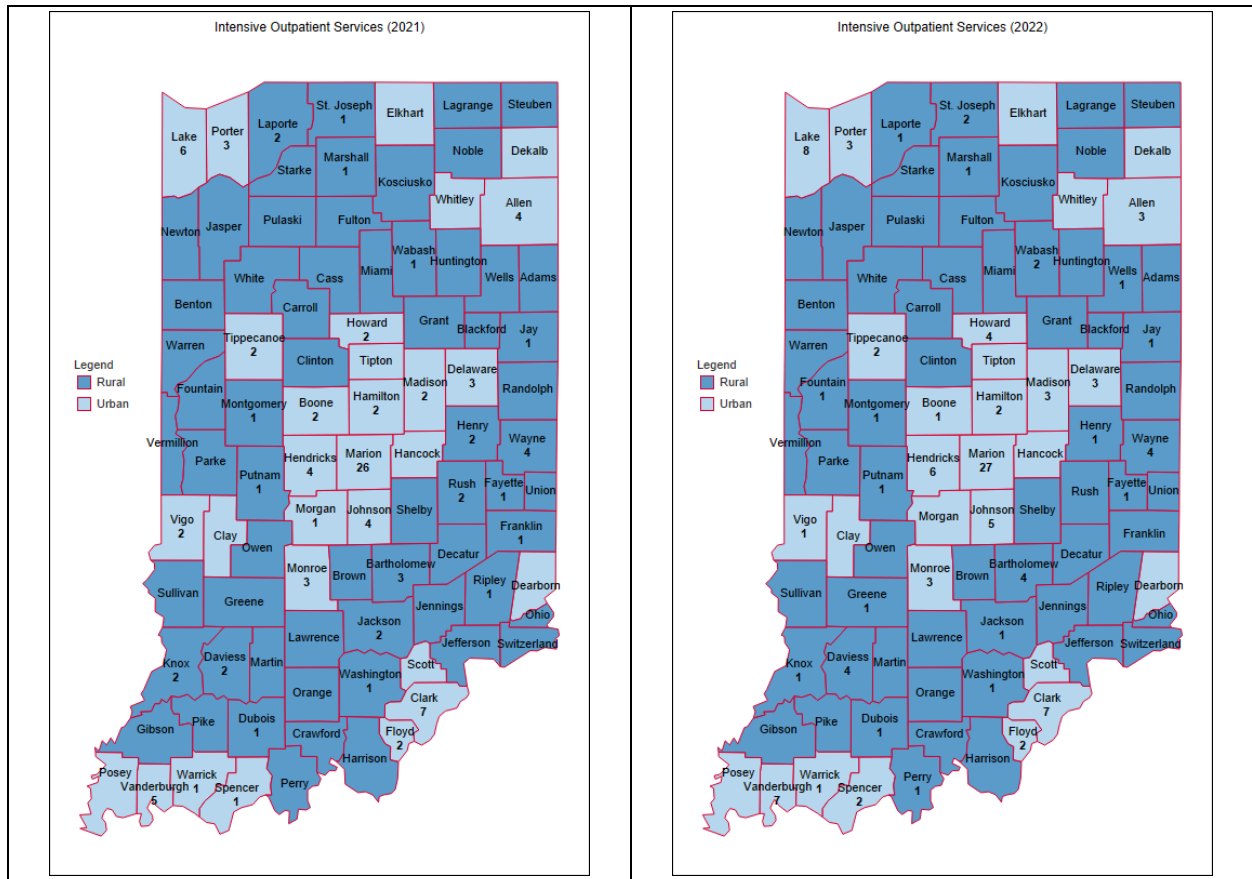
**Exhibit E.29: Distribution of Crisis Services Per County by Year – IOP Services (2020 – 2023)**

Provider	Year	Total # of IOPs	# of Counties with IOPs	Distribution of # of Providers in a County (Among Counties with Available Assessment Data)						# of Counties with No IOPs
				Mean	Min	P25	Median	P75	Max	
IOP	2020	*	*	*	*	*	*	*	*	*
	2021	112	39	2.9	1	1	2	3	26	53
	2022	121	39	3.1	1	1	2	4	27	53
	2023	139	39	3.6	1	1	2	5	29	53

\*Data not available.

Source: State-provided administrative data, 2021-2023 (Updated September 2024).

**Exhibit E.30: Number of Crisis Services by County – IOP Services (2021 – 2022)**



Source: State-provided administrative data, 2021-2022 (Updated September 2024).

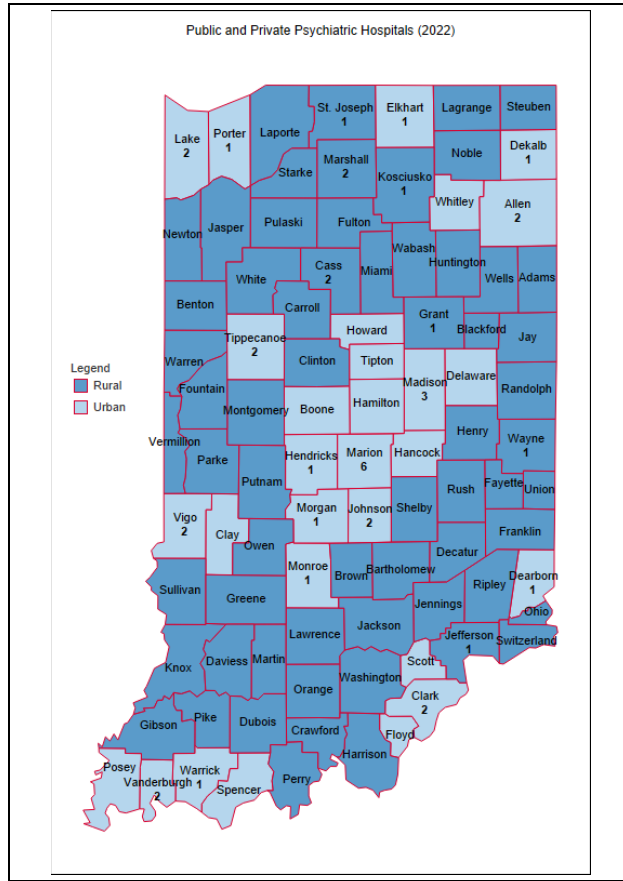
**Exhibit E.31** provides the distribution (e.g., minimum, median, and maximum) of counts of public and private psychiatric hospitals and psychiatric hospitals that qualify as IMDs among Indiana counties (with these providers), as well as the number of counties without these providers. **Exhibits E.32 to E.33** provide maps of public and private psychiatric hospitals and psychiatric hospitals that qualify as IMDs by county and year (for years in which data was available), respectively.

**Exhibit E.31: Distribution of Crisis Services Per County by Year – Psychiatric Hospitals (2020 – 2023)**

Provider	Year	Total # of Providers	# of Counties with Providers	Distribution of # of Providers in a County (Among Counties with Available Assessment Data)						# of Counties with No Provider
				Mean	Min	P25	Median	P75	Max	
Public and Private Psychiatric Hospitals	2020	*	*	*	*	*	*	*	*	*
	2021	*	*	*	*	*	*	*	*	*
	2022	40	24	1.7	1	1	1	2	6	68
	2023	40	24	1.7	1	1	1	2	6	68
Psychiatric Hospitals That Qualify as IMDs	2020	19	14	1.4	1	1	1	1	4	78
	2021	20	14	1.4	1	1	1	2	4	78
	2022	22	15	1.5	1	1	1	2	5	77
	2023	21	14	1.5	1	1	1	2	5	78

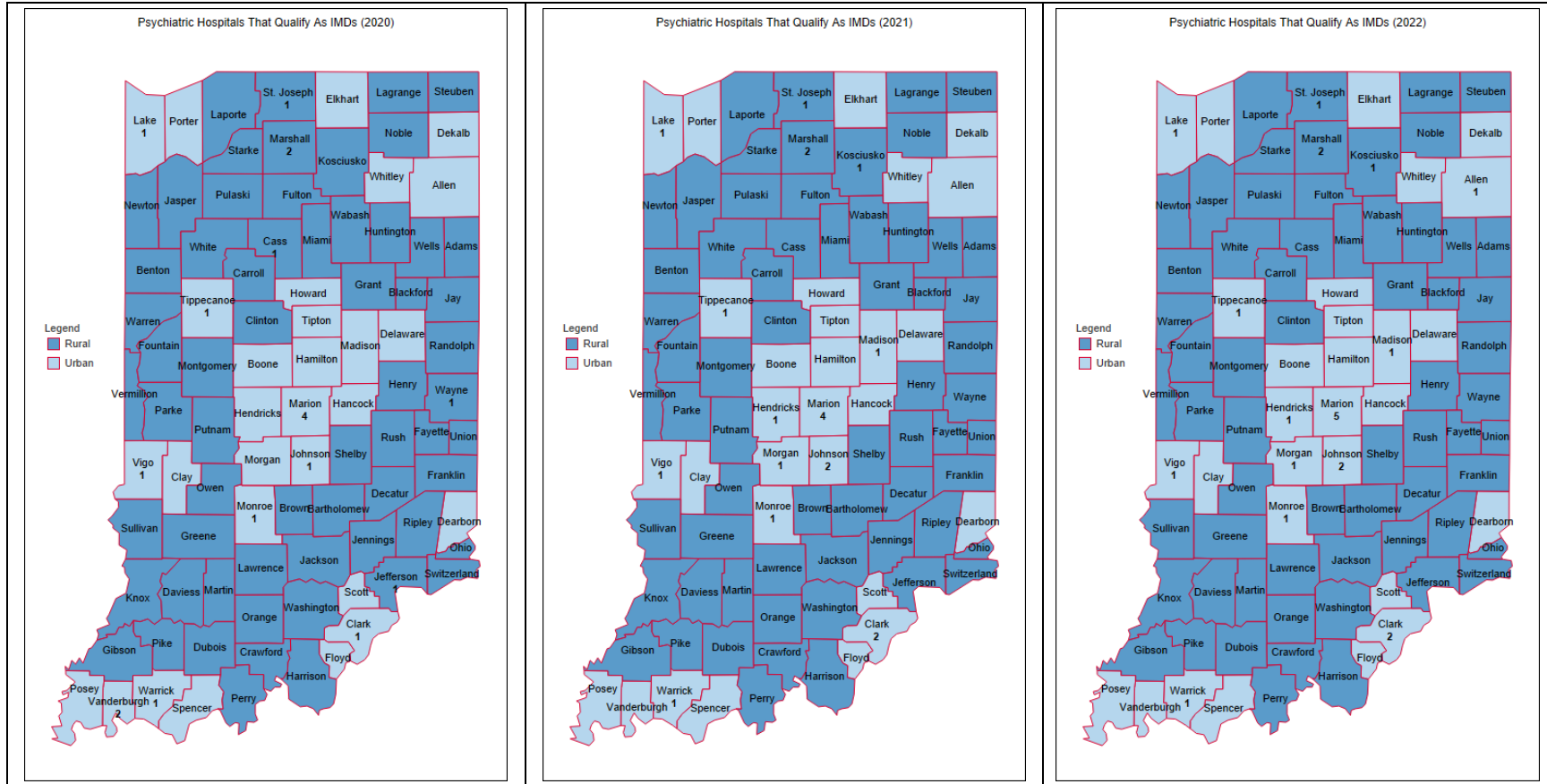
Source: Public and Private Psychiatric Hospitals: State-provided administrative data, 2022-2023 (Updated September 2024). Psychiatric Hospitals That Qualify as IMDs: Annual PAA, 2020 – 2023.

**Exhibit E.32: Number of Crisis Services by County – Public and Private Psychiatric Hospitals (2022)**



Source: State-provided administrative data, 2022 (Updated September 2024).

**Exhibit E.33: Number of Crisis Services by County – Psychiatric Hospitals That Qualify as IMDs (2020 – 2022)**



Source: Annual PAA, 2020 – 2022.



**Exhibit E.34** provides the distribution (e.g., minimum, median, and maximum) of counts of Medicaid-enrolled acute care hospitals offering psychiatric services among Indiana counties (with these providers), as well as the number of counties without a Medicaid-enrolled acute care hospitals offering psychiatric services. **Exhibit E.35** provides maps of Medicaid-enrolled acute care hospitals offering psychiatric services by county for 2021 to 2022.

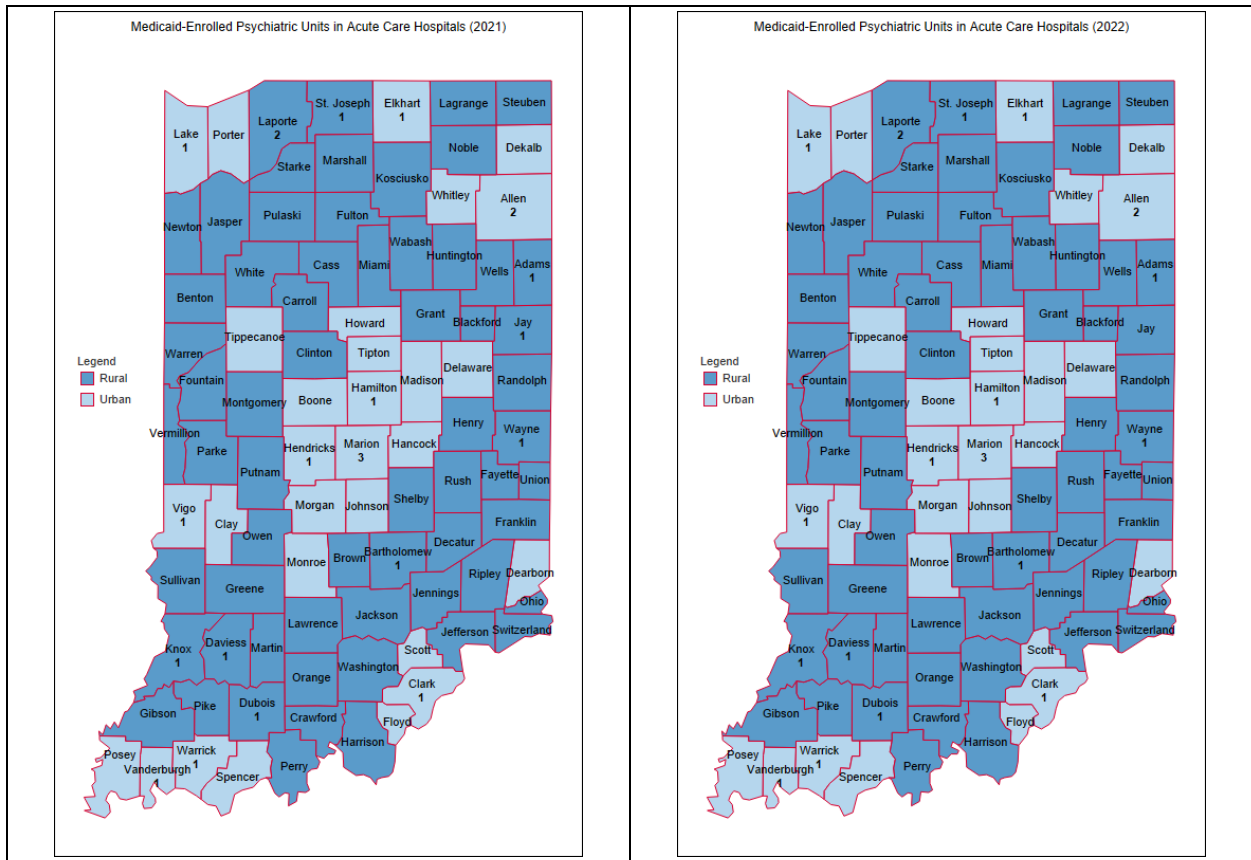
**Exhibit E.34: Distribution of Crisis Services Per County by Year – Acute Care Hospitals Offering Psychiatric Services**

Provider	Year	Total # of Providers	# of Counties with Providers	Distribution of # of Providers in a County (Among Counties with Available Assessment Data)					# of Counties with No Provider	
				Mean	Min	P25	Median	P75		Max
Medicaid-enrolled Acute Care Hospitals Offering Psychiatric Services	2020	*	*	*	*	*	*	*	*	*
	2021	23	19	1.2	1	1	1	1	3	73
	2022	22	18	1.2	1	1	1	1	3	74
	2023	19	16	1.2	1	1	1	1	3	76

\*Data not available.

Source: State-provided administrative data, 2021 – 2023 (Updated September 2024).

**Exhibit E.35: Number of Crisis Services by County – Medicaid-enrolled Acute Care Hospitals Offering Psychiatric Services (2021-2022)**



Source: State-provided administrative data, 2021 – 2022 (Updated September 2024).

**Exhibit E.36** provides the distribution (e.g., minimum, median, and maximum) of counts of licensed psychiatric hospital and psychiatric unit beds among Indiana counties (with these providers), as well as the number of counties without these providers. **Exhibit E.37** provides maps of licensed psychiatric hospital and psychiatric unit beds by county for 2021 to 2022.

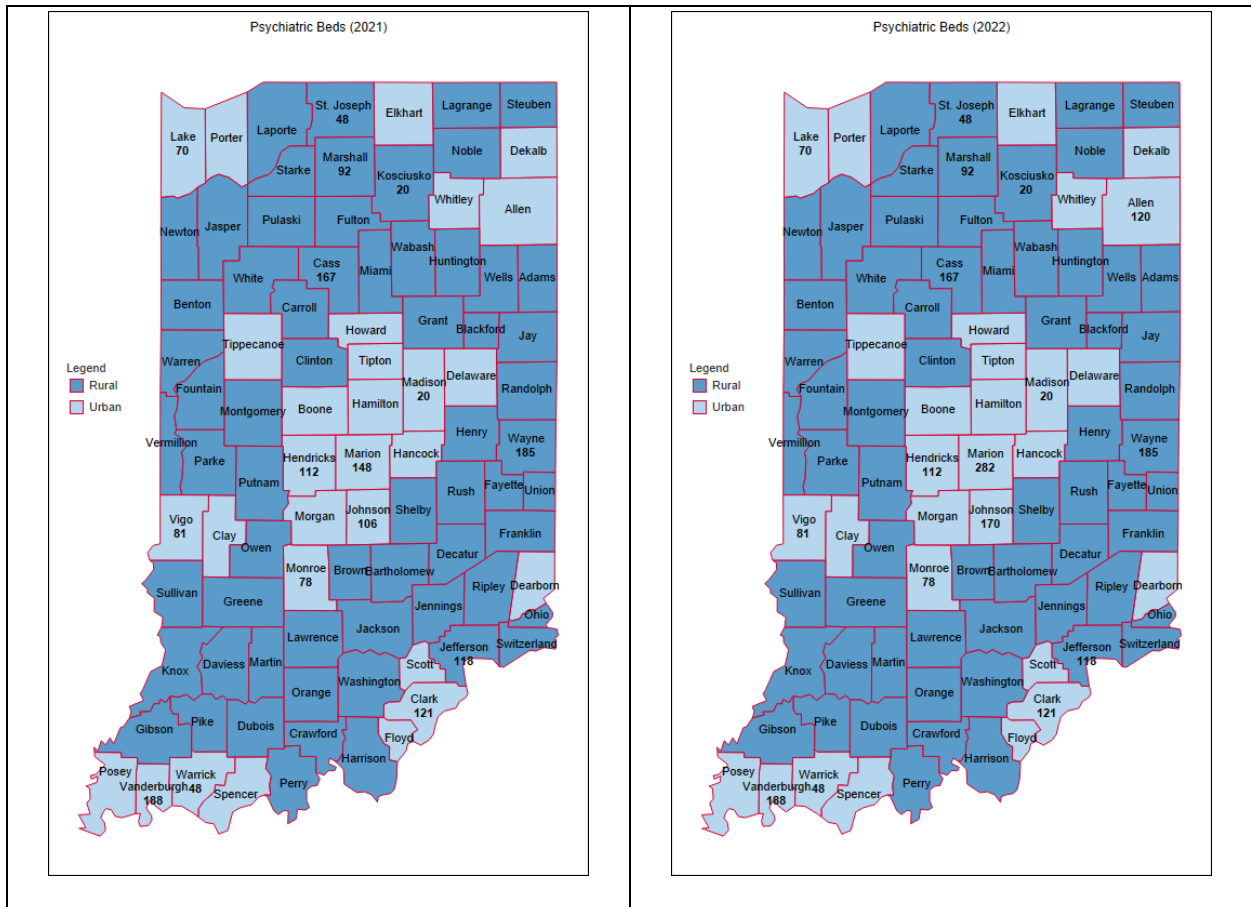
**Exhibit E.36: Distribution of Crisis Services Per County by Year – Licensed Psychiatric Hospital and Psychiatric Unit Beds**

Provider	Year	Total # of Providers	# of Counties with Providers	Distribution of # of Providers in a County (Among Counties with Available Assessment Data)					# of Counties with No Provider	
				Mean	Min	P25	Median	P75		Max
Licensed Psychiatric Hospital and Psychiatric Unit Beds	2020	*	*	*	*	*	*	*	*	*
	2021	1,602	16	100.1	20	59	99	134.5	188	76
	2022	1,920	17	112.9	20	70	112	167	282	75
	2023	2,010	18	111.7	20	48	102	167	324	74

\*Data not available.

Source: State-provided administrative data, 2021 – 2023 (Updated September 2024).

**Exhibit E.37: Number of Crisis Services by County – Licensed Psychiatric Hospital and Psychiatric Unit Beds (2021 – 2022)**



Source: State-provided administrative data, 2021 – 2022 (Updated September 2024).

Exhibit E.38 provides the distribution (e.g., minimum, median, and maximum) of counts of RMHT facilities and RMHT facility beds among Indiana counties (with these providers), as well as the number of counties without these providers. Exhibits E.39 to E.40 provide maps of RMHT facilities and RMHT facility beds by county and year (for years in which data was available), respectively.

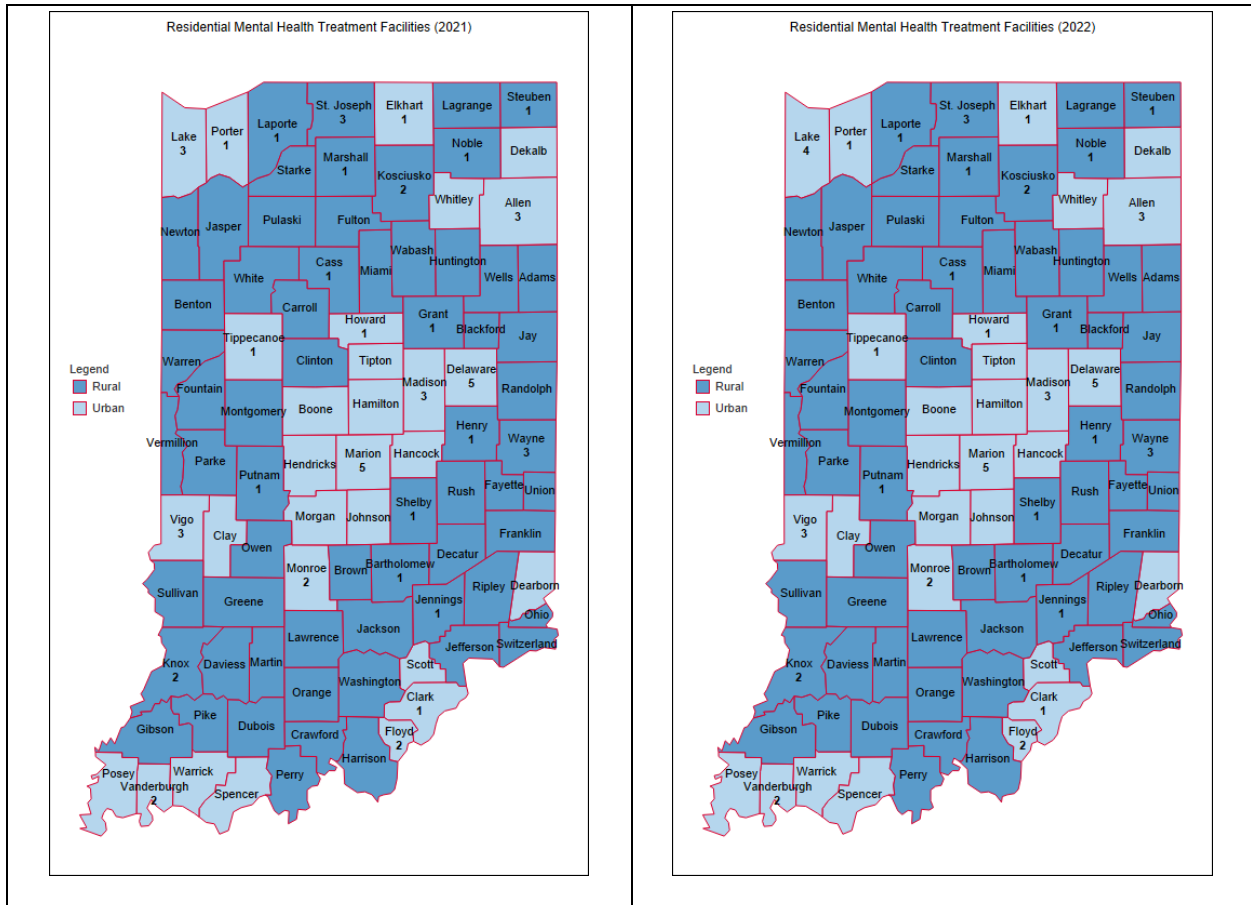
**Exhibit E.38: Distribution of Crisis Services Per County by Year – RMHT Facilities and Beds (2020 – 2023)**

Provider	Year	Total # of Providers	# of Counties with Providers	Distribution of # of Providers in a County (Among Counties with Available Assessment Data)						# of Counties with No Provider
				Mean	Min	P25	Median	P75	Max	
RMHT Facilities	2020	*	*	*	*	*	*	*	*	*
	2021	54	29	1.9	1	1	1	3	5	63
	2022	55	29	1.9	1	1	1	3	5	63
	2023	56	28	2.0	1	1	1.5	3	5	64
RMHT Facility Beds	2020	*	*	*	*	*	*	*	*	*
	2021	*	*	*	*	*	*	*	*	*
	2022	565	29	19.5	6	10	14	27	55	63
	2023	543	27	20.1	6	10	15	27	55	65

\*Data not available.

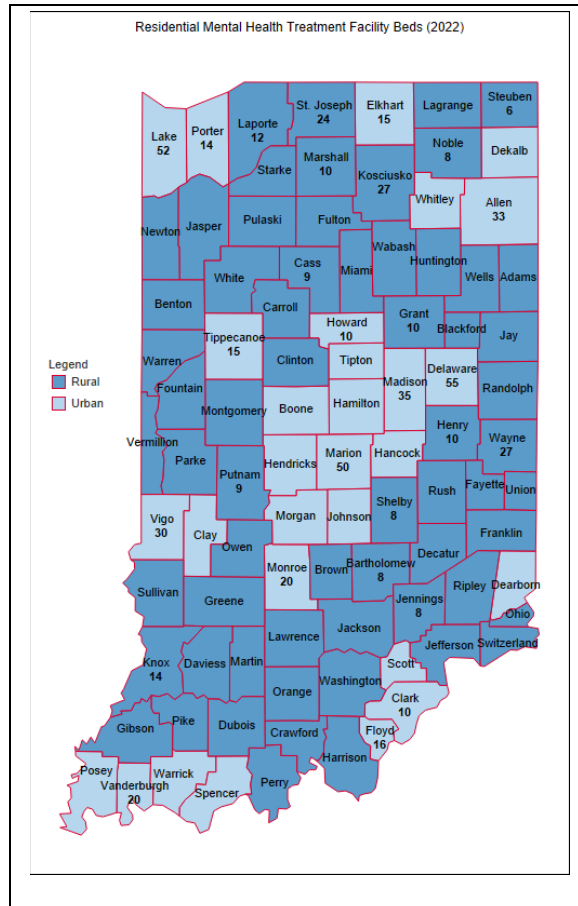
Source: RMHT Facilities: Annual PAA, 2021 – 2023. RMHT Facility Beds: State-provided administrative data, 2022 (Updated September 2024); Annual PAA, 2023.

**Exhibit E.39: Number of Crisis Services by County – RMHT Facilities (2021 – 2022)**



Source: Annual PAA, 2021 – 2022.

**Exhibit E.40: Number of Crisis Services by County – RMHT Facility Beds (2022)**



Source: State-provided administrative data, 2022 (Updated September 2024)

Exhibit E.41 provides the distribution (e.g., minimum, median, and maximum) of counts of CMHC satellite sites among Indiana counties (with these providers), as well as the number of counties without a CMHC satellite site. Exhibit E.42 provides maps of CMHC satellite sites by county for 2021 to 2022.

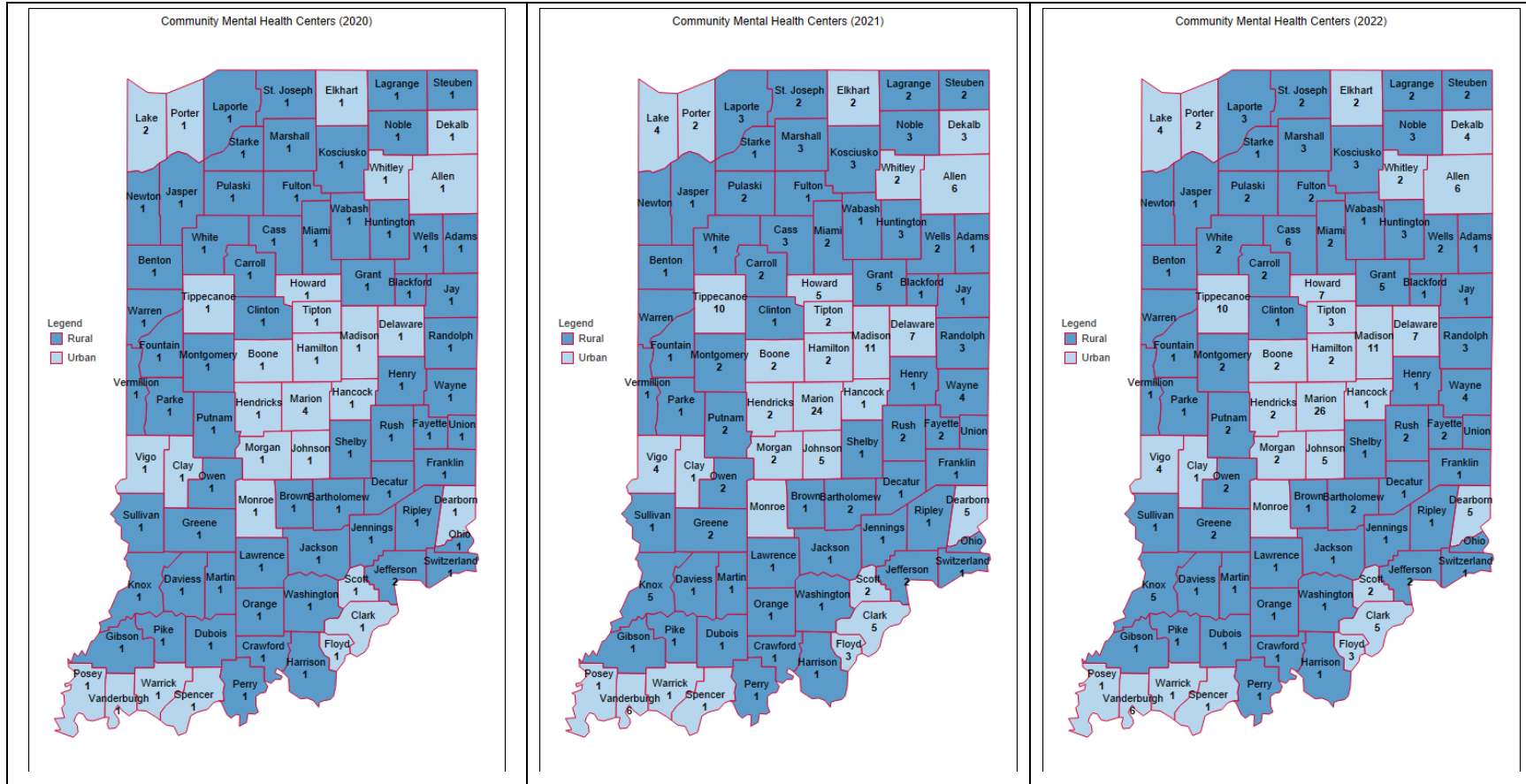
**Exhibit E.41: Distribution of Crisis Services Per County by Year – CMHCs**

Provider	Year	Total # of CMHC Satellite Sites	# of Counties with CMHC Satellite Sites	Distribution of # of Providers in a County (Among Counties with Available Assessment Data)						# of Counties with No CMHC Satellite Sites
				Mean	Min	P25	Median	P75	Max	
CMHCs (Satellite Sites)	2020	97	92	1.1	1	1	1	1	4	0
	2021	220	87	2.5	1	1	2	3	24	5
	2022	231	87	2.7	1	1	2	3	26	5
	2023 <sup>a</sup>	324	87	3.7	1	1	2	5	33	5

<sup>a</sup> Prior to 2023, the state only reported CMHC satellite locations that provided MH-related services. Beginning in 2023, however, the state began reporting all CMHC satellite locations without differentiating among sites providing MH services. Thus, readers cannot assess growth in CMHCs in 2023 compared to prior years.

Source: Annual PAA, 2020 – 2023.

**Exhibit E.42: Number of Crisis Services by County – CMHC Satellite Sites (2020 – 2022)**



Source: Annual PAA, 2020 – 2022.

**F. Goal 4**

This section lists detailed exhibits related to Goal 4 claims/encounter-based analyses.

## 1. Overall Community-Based Service Participation

**Exhibit E.43** displays the number of SMI beneficiaries with each type of community-based services and the participation rates out of the yearly SMI beneficiary rosters. The majority (over 98%) of the SMI beneficiaries with a community-based service had used an outpatient MH service.

**Exhibit E.43: Community-Based Services Participation Rate Among SMI Beneficiaries, by Year (2018 – 2023)**

Service Type	Measure	2018*	2019*	2020	2021	2022	2023
	# SMI Beneficiaries	42,677	72,901	105,596	148,410	185,753	196,826
All MH-Related Community-Based Services	# SMI Beneficiaries with Service	37,441	49,932	63,566	83,039	94,096	96,184
	Participation Rate	87.7%	68.50%	60.20%	56.00%	50.70%	48.90%
Outpatient Rehab with Targeted Case Management	# SMI Beneficiaries with Service	21,103	24,565	28,142	32,342	30,434	26,590
	Participation Rate	49.4%	33.7%	26.7%	21.8%	16.4%	13.5%
HCBS & LTSS	# SMI Beneficiaries with Service	4,057	4,150	3,525	3,976	4,843	5,651
	Participation Rate	9.5%	5.7%	3.3%	2.7%	2.6%	2.9%
Outpatient MH Services	# SMI Beneficiaries with Service	36,837	49,185	62,991	82,236	93,258	95,320
	Participation Rate	86.3%	67.5%	59.7%	55.4%	50.2%	48.4%

**Source:** Monthly claims/encounter and enrollment files, January 2018 – December 2023.

\*2018 and 2019 data excludes Telehealth claims (POS code 02 or 10 or Telehealth Modifier 95, 93 or GT)

## 2. Community-Based Service Participation – By Sociodemographic Characteristics

**Exhibits E.44 – E.47** provide the overall participation rates and the participation rates of each type of community-based services in the six years, by beneficiary characteristics.

**Exhibit E.44: Community-Based Services Participation Rate Among SMI Beneficiaries, by Year and Beneficiary Characteristics: All MH-related Community-based Services (2018 – 2023)**

Member Characteristics		Participation Rate: All Community-Based Services					
		2018*	2019*	2020	2021	2022	2023
		N=42,677	N=72,901	N=105,596	N=148,410	N=185,753	N=196,826
All SMI Beneficiaries (with 10+ months enrollment after First SMI Diagnosis Date)		87.7%	68.49%	60.20%	55.95%	50.66%	48.87%
Gender	87.4%	67.8%	60.3%	57.0%	52.2%	50.1%	41.4%
	88.3%	69.8%	60.0%	54.0%	47.8%	46.5%	39.9%
Age	87.7%	67.1%	60.2%	56.2%	50.3%	48.6%	40.3%
	88.4%	68.2%	60.2%	56.0%	50.7%	49.2%	40.4%
	89.0%	70.6%	61.9%	57.2%	52.1%	50.0%	42.0%
	87.5%	68.9%	60.4%	55.9%	50.9%	48.8%	41.8%
	83.4%	65.2%	54.3%	51.0%	46.3%	45.1%	38.8%
Race	White/Caucasian	86.4%	67.0%	58.4%	54.3%	49.4%	47.9%
	Black	89.5%	66.9%	55.0%	49.4%	43.1%	40.7%
	Other	84.1%	63.8%	57.8%	55.2%	47.5%	42.7%
	Not Available	90.4%	72.4%	66.2%	62.6%	57.2%	55.2%
Ethnicity	Hispanic	90.9%	66.0%	56.6%	53.2%	47.1%	45.2%
	Non-Hispanic	87.7%	68.8%	60.5%	56.3%	51.1%	49.4%
	Unknown	85.7%	61.1%	53.7%	51.6%	46.1%	44.2%
Geographic Location	Metro	87.9%	68.1%	59.4%	55.3%	49.8%	47.9%
	Non-Metro	87.2%	69.6%	62.3%	57.9%	53.1%	51.7%
Dual Eligibility	Dual Eligible	89.5%	74.3%	64.7%	60.6%	56.8%	54.5%
	Medicaid Eligible Only	86.6%	65.9%	58.6%	54.6%	49.1%	47.6%
HIP	HIP	84.7%	63.9%	57.2%	53.5%	48.4%	46.9%
	Non-HIP	89.7%	72.6%	63.8%	59.5%	54.6%	52.5%



Member Characteristics		Participation Rate: All Community-Based Services					
		2018*	2019*	2020	2021	2022	2023
		N=42,677	N=72,901	N=105,596	N=148,410	N=185,753	N=196,826
SMI Diagnosis	Bipolar only	86.2%	66.7%	59.2%	53.9%	48.6%	46.5%
	MDD only	84.5%	59.8%	51.7%	48.2%	43.4%	41.4%
	Schizophrenia only	93.3%	84.0%	75.5%	71.0%	64.7%	62.2%
	Co-Occurring Diagnoses	91.0%	79.6%	73.2%	70.4%	65.4%	64.5%
Chronic Conditions	Cancer	85.8%	66.8%	59.6%	57.3%	54.3%	53.7%
	No Cancer	87.8%	68.6%	60.2%	55.9%	50.6%	48.7%
	Cardiovascular Dis.	83.8%	64.6%	56.8%	54.9%	50.1%	49.8%
	No Cardiovascular Dis.	88.3%	69.0%	60.5%	56.0%	50.7%	48.8%
	COPD	86.4%	68.4%	60.4%	57.7%	53.1%	51.7%
	No COPD	88.1%	68.5%	60.2%	55.7%	50.3%	48.5%
	Diabetes	88.9%	71.2%	63.8%	60.5%	56.1%	54.3%
	No Diabetes	87.3%	67.7%	59.3%	55.0%	49.6%	47.8%
	Hypertension	87.0%	69.4%	62.0%	59.0%	55.2%	54.2%
	No Hypertension	88.3%	67.8%	59.1%	54.3%	48.5%	46.3%
	Metabolic Disease	87.8%	71.8%	65.0%	62.7%	59.0%	57.7%
	No Metabolic Disease	87.7%	65.1%	56.0%	50.5%	44.4%	41.9%
	Infectious Disease	84.9%	67.3%	60.9%	59.1%	55.5%	55.2%
	No Infectious Disease	89.1%	69.0%	59.8%	54.3%	48.1%	46.3%
	Respiratory Disease	90.4%	71.1%	63.9%	61.1%	57.5%	56.8%
	No Respiratory Disease	87.7%	68.4%	60.1%	55.8%	50.5%	48.7%
Number of Chronic Conditions	0	89.6%	64.6%	54.0%	47.1%	40.3%	37.6%
	1	87.2%	69.0%	62.2%	58.9%	54.5%	54.0%
	2	87.5%	71.6%	64.6%	61.9%	57.9%	57.2%
	3	88.3%	71.7%	64.9%	62.0%	58.7%	57.0%
	4+	86.2%	67.9%	60.3%	58.3%	54.3%	53.5%

\*2018 and 2019 data excludes Telehealth claims (POS code 02 or 10 or Telehealth Modifier 95, 93 or GT)

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023

**Exhibit E.45: Community-Based Services Participation Rate Among SMI Beneficiaries, by Year and Beneficiary Characteristics: Outpatient Rehab and Targeted Case Management Services (2018 – 2023)**

Member Characteristics		Participation Rate: Outpatient Rehab with Targeted Case Management					
		2018*	2019*	2020	2021	2022	2023
		N=42,677	N=72,901	N=105,596	N=148,410	N=185,753	N=196,826
<b>All SMI Beneficiaries (with 10+ months enrollment after First SMI Diagnosis Date)</b>		49.4%	33.7%	26.7%	21.8%	16.4%	13.5%
<b>Gender</b>	Female	46.2%	30.8%	24.6%	20.5%	15.3%	12.3%
	Male	54.8%	38.9%	30.3%	24.1%	18.3%	15.8%
<b>Age</b>	Age 21-30	47.6%	31.7%	24.6%	20.4%	15.0%	11.9%
	Age 31-40	48.1%	32.0%	24.8%	20.4%	15.1%	12.5%
	Age 41-50	49.6%	34.4%	27.2%	22.2%	16.9%	14.0%
	Age 51-60	51.7%	36.1%	29.6%	24.3%	18.9%	15.8%
	Age 61-64	48.8%	34.0%	28.0%	23.5%	18.6%	16.0%
<b>Race</b>	White/Caucasian	46.7%	31.0%	24.1%	19.4%	14.6%	11.8%
	Black	55.6%	37.1%	26.7%	21.3%	15.0%	11.5%
	Other	38.3%	28.2%	26.6%	19.3%	14.8%	10.3%
	Not Available	54.2%	38.6%	32.3%	28.0%	21.8%	19.1%
<b>Ethnicity</b>	Hispanic	43.9%	27.2%	19.4%	15.1%	9.8%	8.1%
	Non-Hispanic	49.9%	34.2%	27.1%	22.3%	16.9%	14.1%
	Unknown	41.1%	24.7%	20.5%	16.2%	12.2%	9.1%
<b>Geographic Location</b>	Metro	47.9%	32.4%	25.5%	20.8%	15.5%	12.5%
	Non-Metro	53.9%	37.5%	29.9%	24.6%	18.9%	16.4%
<b>Dual Eligibility</b>	Dual Eligible	55.6%	42.0%	36.2%	31.5%	26.2%	23.3%
	Medicaid Eligible Only	45.8%	30.0%	23.3%	19.0%	14.0%	11.3%
<b>HIP</b>	HIP	40.1%	25.9%	20.4%	16.9%	12.4%	9.9%
	Non-HIP	55.6%	40.8%	34.2%	29.1%	23.2%	20.2%
<b>SMI Diagnosis</b>	Bipolar only	42.6%	29.1%	22.8%	17.9%	12.8%	10.6%
	MDD only	40.6%	23.6%	18.4%	14.8%	10.9%	8.5%
	Schizophrenia only	69.5%	59.9%	51.5%	45.6%	37.8%	33.6%
	Co-Occurring Diagnoses	55.2%	44.0%	37.1%	32.9%	26.2%	22.4%

Member Characteristics		Participation Rate: Outpatient Rehab with Targeted Case Management					
		2018*	2019*	2020	2021	2022	2023
		N=42,677	N=72,901	N=105,596	N=148,410	N=185,753	N=196,826
Chronic Conditions	Cancer	45.1%	30.4%	25.8%	22.2%	18.3%	14.9%
	No Cancer	49.7%	33.9%	26.7%	21.8%	16.3%	13.5%
	Cardiovascular Dis.	45.0%	31.9%	27.2%	23.5%	18.7%	16.3%
	No Cardiovascular Dis.	50.1%	34.0%	26.6%	21.6%	16.2%	13.3%
	COPD	50.2%	35.1%	29.5%	26.3%	20.9%	17.9%
	No COPD	49.3%	33.4%	26.1%	21.1%	15.8%	13.0%
	Diabetes	52.6%	37.5%	31.9%	27.4%	22.1%	18.8%
	No Diabetes	48.4%	32.6%	25.4%	20.6%	15.3%	12.5%
	Hypertension	50.1%	35.7%	29.5%	25.1%	19.8%	16.9%
	No Hypertension	48.9%	32.3%	24.8%	19.9%	14.8%	11.9%
	Metabolic Disease	50.6%	36.6%	30.3%	25.6%	20.2%	16.9%
	No Metabolic Disease	48.0%	30.8%	23.5%	18.7%	13.6%	10.8%
	Infectious Disease	46.6%	33.3%	27.0%	23.1%	17.7%	15.4%
	No Infectious Disease	50.9%	33.9%	26.5%	21.1%	15.7%	12.7%
	Respiratory Disease	45.1%	31.2%	25.7%	22.9%	17.1%	14.8%
	No Respiratory Disease	49.6%	33.8%	26.7%	21.8%	16.4%	13.5%
	Number of Chronic Conditions	0	49.1%	30.1%	22.5%	17.2%	12.4%
1		48.6%	33.2%	25.8%	21.4%	16.1%	13.7%
2		49.9%	35.8%	29.2%	24.3%	18.6%	15.9%
3		51.5%	37.3%	30.8%	25.9%	20.4%	17.9%
4+		48.9%	34.9%	30.0%	26.5%	21.4%	18.2%

\*2018 and 2019 data excludes Telehealth claims (POS code 02 or 10 or Telehealth Modifier 95, 93 or GT)

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023

**Exhibit E.46: Community-Based Services Participation Rate Among SMI Beneficiaries, by Year and Beneficiary Characteristics: HCBS/LTSS (2018 – 2023)**

Member Characteristics		Participation Rate: HCBS/LTSS					
		2018*	2019*	2020	2021	2022	2023
		N=42,677	N=72,901	N=105,596	N=148,410	N=185,753	N=196,826
All SMI Beneficiaries (with 10+ months enrollment after First SMI Dx Date)		9.5%	5.7%	3.3%	2.7%	2.6%	2.9%
Gender	Female	9.2%	5.5%	3.3%	2.7%	2.7%	2.8%
	Male	9.9%	5.9%	3.3%	2.7%	2.5%	2.9%
Age	Age 21-30	8.5%	5.5%	3.8%	3.0%	2.9%	3.1%
	Age 31-40	8.2%	5.1%	3.4%	3.0%	2.7%	3.1%
	Age 41-50	9.2%	5.3%	3.2%	2.5%	2.4%	2.7%
	Age 51-60	10.3%	6.1%	3.0%	2.3%	2.3%	2.6%
	Age 61-64	13.1%	7.6%	3.3%	2.1%	2.1%	2.3%
Race	White/Caucasian	9.5%	5.5%	3.2%	2.6%	2.5%	2.6%
	Black	10.2%	5.8%	2.8%	2.0%	2.0%	2.5%
	Other	8.1%	5.0%	2.1%	2.3%	1.9%	2.5%
	Not Available	9.2%	6.1%	3.9%	3.2%	3.2%	3.7%
Ethnicity	Hispanic	9.1%	5.7%	2.6%	2.3%	2.0%	2.5%
	Non-Hispanic	9.5%	5.7%	3.4%	2.7%	2.6%	2.9%
	Unknown	8.6%	4.2%	2.6%	2.3%	2.3%	2.6%
Geographic Location	Metro	9.9%	5.9%	3.4%	2.8%	2.7%	3.0%
	Non-Metro	8.5%	5.1%	3.1%	2.5%	2.3%	2.5%
Dual Eligibility	Dual Eligible	11.8%	6.9%	4.2%	3.2%	3.3%	3.6%
	Medicaid Eligible Only	8.1%	5.1%	3.1%	2.5%	2.4%	2.7%
HIP	HIP	7.7%	4.7%	3.0%	2.5%	2.4%	2.6%
	Non-HIP	10.7%	6.6%	3.7%	3.0%	3.0%	3.3%

Member Characteristics		Participation Rate: HCBS/LTSS					
		2018*	2019*	2020	2021	2022	2023
		N=42,677	N=72,901	N=105,596	N=148,410	N=185,753	N=196,826
SMI Diagnosis	Bipolar only	7.5%	4.6%	2.8%	2.3%	2.3%	2.3%
	MDD only	8.0%	4.4%	2.7%	2.0%	2.0%	2.2%
	Schizophrenia only	10.5%	6.1%	3.9%	3.1%	2.9%	3.5%
	Co-Occurring Diagnoses	15.1%	9.5%	5.1%	4.4%	4.2%	4.6%
Chronic Conditions	Cancer	11.6%	6.4%	3.2%	2.8%	2.5%	2.5%
	No Cancer	9.4%	5.7%	3.3%	2.7%	2.6%	2.9%
	Cardiovascular Dis.	13.1%	7.6%	2.9%	2.5%	2.2%	2.7%
	No Cardiovascular Dis.	9.0%	5.5%	3.4%	2.7%	2.6%	2.9%
	COPD	11.7%	6.9%	3.2%	2.7%	2.6%	2.8%
	No COPD	8.9%	5.4%	3.4%	2.7%	2.6%	2.9%
	Diabetes	11.7%	7.0%	3.7%	2.8%	2.8%	3.1%
	No Diabetes	8.8%	5.3%	3.3%	2.7%	2.6%	2.8%
	Hypertension	11.1%	6.7%	3.5%	2.8%	2.7%	3.1%
	No Hypertension	8.1%	4.9%	3.2%	2.6%	2.5%	2.8%
Chronic Conditions (cont.)	Metabolic Disease	10.6%	6.6%	3.8%	3.1%	3.1%	3.3%
	No Metabolic Disease	8.1%	4.7%	2.9%	2.3%	2.2%	2.5%
	Infectious Disease	12.2%	7.5%	3.9%	3.2%	3.2%	3.4%
	No Infectious Disease	8.2%	4.9%	3.1%	2.4%	2.3%	2.7%
	Respiratory Disease	8.7%	5.9%	3.3%	3.0%	3.0%	2.7%
	No Respiratory Disease	9.5%	5.7%	3.3%	2.7%	2.6%	2.9%
Number of Chronic Conditions	0	7.2%	4.4%	2.7%	2.1%	1.9%	2.2%
	1	8.4%	4.9%	3.5%	3.0%	2.9%	3.3%
	2	9.3%	6.0%	3.7%	3.0%	3.0%	3.3%
	3	9.8%	6.1%	3.5%	2.9%	3.2%	3.3%
	4+	13.3%	8.1%	3.7%	3.0%	2.8%	3.0%

\*2018 and 2019 data excludes Telehealth claims (POS code 02 or 10 or Telehealth Modifier 95, 93 or GT)

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**Exhibit E.47: Community-Based Services Participation Rate Among SMI Beneficiaries, by Year and Beneficiary Characteristics: Outpatient MH Related Services (2018 – 2023)**

Member Characteristics		Participation Rate: Outpatient MH Services					
		2018	2019	2020	2021	2022	2023
		N=42,677	N=72,901	N=105,596	N=148,410	N=185,753	N=196,826
All SMI Beneficiaries (with 10+ months enrollment after First SMI Dx Date)		86.3%	67.5%	59.7%	55.4%	50.2%	48.4%
Gender	Female	86.1%	66.9%	59.8%	56.5%	51.8%	49.8%
	Male	86.6%	68.5%	59.3%	53.3%	47.3%	45.9%
Age	Age 21-30	86.8%	66.6%	59.6%	55.6%	49.9%	48.1%
	Age 31-40	87.5%	67.6%	59.6%	55.5%	50.3%	48.8%
	Age 41-50	87.9%	69.7%	61.5%	56.7%	51.7%	49.5%
	Age 51-60	85.6%	67.5%	59.8%	55.3%	50.4%	48.4%
	Age 61-64	80.1%	62.7%	53.6%	50.2%	45.6%	44.7%
Race	White/Caucasian	85.0%	66.0%	57.9%	53.8%	49.0%	47.4%
	Black	87.4%	65.4%	54.3%	48.7%	42.5%	40.3%
	Other	81.4%	63.2%	57.0%	54.5%	47.3%	42.4%
	Not Available	89.2%	71.5%	65.7%	62.0%	56.6%	54.7%
Ethnicity	Hispanic	89.9%	65.2%	56.3%	52.8%	46.7%	45.0%
	Non-Hispanic	86.3%	67.7%	60.0%	55.7%	50.7%	49.0%
	Unknown	85.1%	60.6%	53.0%	51.2%	45.6%	43.8%
Geographic Location	Metro	86.5%	67.1%	58.9%	54.7%	49.4%	47.5%
	Non-Metro	85.9%	68.4%	61.8%	57.3%	52.6%	51.2%
Dual Eligibility	Dual Eligible	87.8%	72.6%	63.9%	59.6%	56.1%	53.7%
	Medicaid Eligible Only	85.4%	65.1%	58.2%	54.2%	48.8%	47.2%
HIP	HIP	83.8%	63.5%	56.8%	53.2%	48.0%	46.5%
	Non-HIP	88.0%	71.1%	63.1%	58.7%	54.0%	51.9%

Member Characteristics		Participation Rate: Outpatient MH Services					
		2018	2019	2020	2021	2022	2023
		N=42,677	N=72,901	N=105,596	N=148,410	N=185,753	N=196,826
SMI Diagnosis	Bipolar only	85.4%	66.1%	58.8%	53.4%	48.1%	46.1%
	MDD only	83.0%	59.0%	51.2%	47.7%	43.1%	41.0%
	Schizophrenia only	92.1%	82.9%	74.7%	70.1%	64.1%	61.5%
	Co-Occurring Diagnoses	88.4%	77.9%	72.5%	69.8%	64.9%	64.0%
Chronic Conditions	Cancer	83.2%	65.0%	58.9%	56.5%	53.7%	53.2%
	No Cancer	86.4%	67.6%	59.7%	55.4%	50.1%	48.3%
	Cardiovascular Dis.	80.0%	62.0%	56.2%	54.2%	49.4%	49.4%
	No Cardiovascular Dis.	87.2%	68.1%	60.0%	55.5%	50.3%	48.4%
	COPD	83.7%	66.5%	59.8%	57.0%	52.6%	51.2%
	No COPD	87.0%	67.7%	59.6%	55.2%	49.9%	48.1%
	Diabetes	86.6%	69.5%	63.2%	60.0%	55.6%	53.9%
	No Diabetes	86.2%	66.9%	58.8%	54.5%	49.2%	47.4%
	Hypertension	85.1%	67.9%	61.4%	58.4%	54.7%	53.8%
	No Hypertension	87.4%	67.1%	58.5%	53.7%	48.0%	45.9%
	Metabolic Disease	86.2%	70.6%	64.5%	62.2%	58.6%	57.3%
	No Metabolic Disease	86.5%	64.3%	55.5%	49.9%	44.0%	41.5%
	Infectious Disease	82.4%	65.4%	60.3%	58.5%	55.0%	54.8%
	No Infectious Disease	88.3%	68.4%	59.3%	53.8%	47.7%	45.8%
	Respiratory Disease	89.0%	69.7%	63.5%	60.6%	57.1%	56.2%
	No Respiratory Disease	86.2%	67.4%	59.6%	55.3%	50.1%	48.3%
Number of Chronic Conditions	0	88.7%	64.0%	53.5%	46.5%	39.8%	37.1%
	1	86.3%	68.5%	61.7%	58.4%	54.1%	53.5%
	2	86.5%	70.9%	64.1%	61.3%	57.5%	56.8%
	3	87.1%	70.7%	64.4%	61.5%	58.3%	56.6%
	4+	82.8%	65.4%	59.7%	57.7%	53.7%	53.1%

\*2018 and 2019 data excludes Telehealth claims (POS code 02 or 10 or Telehealth Modifier 95, 93 or GT)

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023

### 3. Community-Based Service Participation – Regression Estimates

Exhibit E.48 displays OR estimates from the ITS logistic regression model; each OR shows the estimated odds of an eligible SMI beneficiary having community-based services, relative to the reference group.

**Exhibit E.48: Logistic Regression Model of MH Community-based Services Participation Rates (2018 – 2023, Excluding 2020)**

Variable	Level	All Community-Based Services			Outpatient Rehab with Targeted Case Management			HCBS/LTSS			Outpatient MH Services		
		OR	95% CI	p-Value	OR	95% CI	p-Value	OR	95% CI	p-Value	OR	95% CI	p-Value
Intervention (Int.) Period (Ref: Pre-Int.)	Post-Intervention (Post-Int.)	0.27	(0.26, 0.28)	< 0.001	0.74	(0.71, 0.77)	< 0.001	0.22	(0.20, 0.25)	< 0.001	0.30	(0.29, 0.31)	< 0.001
Time	Pre-Intervention	0.31	(0.30, 0.32)	< 0.001	0.54	(0.53, 0.56)	< 0.001	0.58	(0.55, 0.61)	< 0.001	0.33	(0.32, 0.35)	< 0.001
	Post-Intervention	0.87	(0.87, 0.88)	< 0.001	0.76	(0.75, 0.76)	< 0.001	1.05	(1.03, 1.07)	< 0.001	0.88	(0.87, 0.88)	< 0.001
Int. Period * Year (Ref: Pre-Int. * 2018)	Pre-Int. * 2019	0.31	(0.30, 0.32)	< 0.001	0.54	(0.53, 0.56)	< 0.001	0.58	(0.55, 0.61)	< 0.001	0.33	(0.32, 0.35)	< 0.001
	Post-Int. * 2021	0.18	(0.18, 0.19)	< 0.001	0.32	(0.31, 0.33)	< 0.001	0.26	(0.25, 0.27)	< 0.001	0.20	(0.20, 0.21)	< 0.001
	Post-Int. * 2022	0.16	(0.15, 0.16)	< 0.001	0.24	(0.24, 0.25)	< 0.001	0.27	(0.26, 0.28)	< 0.001	0.18	(0.17, 0.18)	< 0.001
	Post-Int. * 2023	0.14	(0.14, 0.14)	< 0.001	0.18	(0.18, 0.19)	< 0.001	0.29	(0.28, 0.30)	< 0.001	0.16	(0.15, 0.16)	< 0.001
Gender (Ref: Female)	Male	0.81	(0.80, 0.82)	< 0.001	1.05	(1.04, 1.07)	< 0.001	0.98	(0.95, 1.01)	0.137	0.80	(0.79, 0.81)	< 0.001
Age Group (Ref: Age 21-30)	Age 31-40	0.93	(0.91, 0.94)	< 0.001	0.91	(0.89, 0.93)	< 0.001	0.89	(0.86, 0.93)	< 0.001	0.93	(0.92, 0.94)	< 0.001
	Age 41-50	0.88	(0.86, 0.89)	< 0.001	0.89	(0.87, 0.91)	< 0.001	0.76	(0.73, 0.79)	< 0.001	0.88	(0.87, 0.90)	< 0.001
	Age 51-60	0.77	(0.76, 0.79)	< 0.001	0.90	(0.88, 0.92)	< 0.001	0.74	(0.70, 0.77)	< 0.001	0.78	(0.76, 0.79)	< 0.001
	Age 61-64	0.63	(0.61, 0.64)	< 0.001	0.82	(0.80, 0.85)	< 0.001	0.75	(0.70, 0.79)	< 0.001	0.62	(0.61, 0.64)	< 0.001
Race (Ref: White/Caucasian)	Black	0.76	(0.75, 0.77)	< 0.001	1.03	(1.01, 1.05)	0.015	0.86	(0.82, 0.90)	< 0.001	0.75	(0.74, 0.77)	< 0.001
	Other/Not Available	1.25	(1.23, 1.26)	< 0.001	1.52	(1.50, 1.54)	< 0.001	1.15	(1.11, 1.18)	< 0.001	1.24	(1.23, 1.26)	< 0.001
Ethnicity (Ref: Non-Hispanic/Unknown)	Hispanic	0.82	(0.80, 0.84)	< 0.001	0.57	(0.55, 0.60)	< 0.001	0.83	(0.76, 0.90)	< 0.001	0.82	(0.80, 0.85)	< 0.001
Geographic Location (Ref: Metro)	Non-metro	1.11	(1.10, 1.13)	< 0.001	1.35	(1.33, 1.37)	< 0.001	0.84	(0.82, 0.87)	< 0.001	1.11	(1.09, 1.12)	< 0.001
Dual Eligibility (Ref: Non-dual Eligible)	Dual-Eligible	1.21	(1.19, 1.23)	< 0.001	1.63	(1.60, 1.65)	< 0.001	1.34	(1.30, 1.39)	< 0.001	1.19	(1.17, 1.20)	< 0.001



Variable	Level	All Community-Based Services			Outpatient Rehab with Targeted Case Management			HCBS/LTSS			Outpatient MH Services		
		OR	95% CI	p-Value	OR	95% CI	p-Value	OR	95% CI	p-Value	OR	95% CI	p-Value
SMI Diagnosis (Ref: MDD Only)	Bipolar only	1.23	(1.22, 1.25)	< 0.001	1.19	(1.17, 1.21)	< 0.001	1.03	(0.99, 1.08)	0.123	1.24	(1.22, 1.26)	< 0.001
	Schizophrenia only	2.92	(2.85, 2.98)	< 0.001	4.16	(4.07, 4.26)	< 0.001	1.42	(1.36, 1.50)	< 0.001	2.88	(2.81, 2.94)	< 0.001
	Co-occurring SMI	2.44	(2.41, 2.47)	< 0.001	2.53	(2.49, 2.57)	< 0.001	2.01	(1.95, 2.08)	< 0.001	2.40	(2.37, 2.43)	< 0.001
Chronic Conditions (Ref: No)	Cancer	1.05	(1.02, 1.08)	0.003	0.94	(0.91, 0.98)	0.001	1.00	(0.92, 1.07)	0.918	1.04	(1.01, 1.07)	0.013
	Cardiovascular Dis.	0.77	(0.76, 0.79)	< 0.001	0.81	(0.79, 0.83)	< 0.001	0.98	(0.93, 1.03)	0.408	0.76	(0.75, 0.78)	< 0.001
	COPD	0.92	(0.90, 0.93)	< 0.001	1.04	(1.02, 1.06)	< 0.001	0.98	(0.94, 1.02)	0.406	0.91	(0.90, 0.93)	< 0.001
	Diabetes	0.98	(0.96, 1.00)	0.015	1.11	(1.09, 1.13)	< 0.001	0.99	(0.95, 1.03)	0.565	0.98	(0.96, 0.99)	0.005
	Hypertension	1.09	(1.08, 1.11)	< 0.001	1.07	(1.05, 1.09)	< 0.001	1.06	(1.03, 1.10)	< 0.001	1.09	(1.08, 1.11)	< 0.001
	Infectious Disease	1.13	(1.11, 1.14)	< 0.001	1.02	(1.00, 1.03)	0.010	1.32	(1.28, 1.36)	< 0.001	1.11	(1.10, 1.13)	< 0.001
	Metabolic Disease	1.73	(1.71, 1.75)	< 0.001	1.35	(1.33, 1.38)	< 0.001	1.28	(1.24, 1.32)	< 0.001	1.73	(1.71, 1.76)	< 0.001

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023 (Excluding 2020).

#### 4. Community-Based Service Participation – Sensitivity Analyses

Exhibit E.49 presents the results of the logistic regression with 2020 data included for MH Community-based Services. The OR estimates were consistent with the logistic regressions with 2020 data excluded.

**Exhibit E.49: Logistic Regression Model of MH Community-based Services Participation Rates (2018 – 2023)**

Variable	Level	All Services			Outpatient Rehab with Targeted Case Management			HCBS/LTSS			Outpatient MH Services		
		OR	95% CI	p-Value	OR	95% CI	p-Value	OR	95% CI	p-Value	OR	95% CI	p-Value
<b>Intervention (Int.) Period (Ref: Pre-Int.)</b>	Post-Intervention (Post-Int.)	0.29	(0.28, 0.30)	< 0.001	0.70	(0.68, 0.73)	< 0.001	0.32	(0.30, 0.34)	< 0.001	0.32	(0.31, 0.33)	< 0.001
<b>Time</b>	Pre-Intervention	0.31	(0.30, 0.32)	< 0.001	0.54	(0.53, 0.56)	< 0.001	0.58	(0.56, 0.61)	< 0.001	0.34	(0.32, 0.35)	< 0.001
	Post-Intervention	0.86	(0.86, 0.87)	< 0.001	0.77	(0.76, 0.77)	< 0.001	0.97	(0.96, 0.98)	< 0.001	0.87	(0.86, 0.87)	< 0.001
<b>Int. Period * Year (Ref: Pre-Int. * 2018)</b>	Pre-Int. * 2019	0.31	(0.30, 0.32)	< 0.001	0.54	(0.53, 0.56)	< 0.001	0.58	(0.56, 0.61)	< 0.001	0.34	(0.32, 0.35)	< 0.001
	Post-Int. * 2020	0.22	(0.21, 0.22)	< 0.001	0.41	(0.40, 0.42)	< 0.001	0.30	(0.29, 0.31)	< 0.001	0.24	(0.23, 0.25)	< 0.001
	Post-Int. * 2021	0.19	(0.18, 0.19)	< 0.001	0.32	(0.31, 0.32)	< 0.001	0.29	(0.28, 0.30)	< 0.001	0.21	(0.20, 0.21)	< 0.001
	Post-Int. * 2022	0.16	(0.16, 0.17)	< 0.001	0.24	(0.24, 0.25)	< 0.001	0.28	(0.27, 0.29)	< 0.001	0.18	(0.17, 0.18)	< 0.001
	Post-Int. * 2023	0.14	(0.13, 0.14)	< 0.001	0.18	(0.18, 0.19)	< 0.001	0.27	(0.26, 0.29)	< 0.001	0.15	(0.15, 0.16)	< 0.001
<b>Gender (Ref: Female)</b>	Male	0.81	(0.80, 0.82)	< 0.001	1.05	(1.04, 1.07)	< 0.001	0.97	(0.95, 1.00)	0.043	0.81	(0.80, 0.82)	< 0.001
<b>Age Group (Ref: Age 21-30)</b>	Age 31-40	0.93	(0.92, 0.94)	< 0.001	0.92	(0.90, 0.93)	< 0.001	0.89	(0.86, 0.92)	< 0.001	0.93	(0.92, 0.95)	< 0.001
	Age 41-50	0.88	(0.87, 0.90)	< 0.001	0.89	(0.88, 0.91)	< 0.001	0.76	(0.73, 0.79)	< 0.001	0.89	(0.88, 0.90)	< 0.001
	Age 51-60	0.79	(0.77, 0.80)	< 0.001	0.92	(0.90, 0.93)	< 0.001	0.73	(0.70, 0.76)	< 0.001	0.79	(0.78, 0.80)	< 0.001
	Age 61-64	0.63	(0.62, 0.65)	< 0.001	0.83	(0.81, 0.86)	< 0.001	0.74	(0.70, 0.79)	< 0.001	0.63	(0.61, 0.64)	< 0.001
<b>Race (Ref: White/Caucasian)</b>	Black	0.76	(0.75, 0.78)	< 0.001	1.02	(1.00, 1.05)	0.020	0.85	(0.82, 0.89)	< 0.001	0.76	(0.75, 0.77)	< 0.001
	Other/Not Available	1.26	(1.24, 1.27)	< 0.001	1.51	(1.49, 1.53)	< 0.001	1.15	(1.12, 1.19)	< 0.001	1.25	(1.24, 1.27)	< 0.001
<b>Ethnicity (Ref: Non-Hispanic/Unknown)</b>	Hispanic	0.81	(0.79, 0.84)	< 0.001	0.58	(0.56, 0.60)	< 0.001	0.81	(0.75, 0.88)	< 0.001	0.82	(0.80, 0.84)	< 0.001
<b>Geographic Location (Ref: Metro)</b>	Non-metro	1.12	(1.10, 1.13)	< 0.001	1.35	(1.33, 1.37)	< 0.001	0.85	(0.82, 0.87)	< 0.001	1.11	(1.10, 1.12)	< 0.001
<b>Dual Eligibility (Ref: Non-dual Eligible)</b>	Dual-Eligible	1.20	(1.19, 1.22)	< 0.001	1.61	(1.59, 1.64)	< 0.001	1.36	(1.32, 1.40)	< 0.001	1.18	(1.17, 1.20)	< 0.001
<b>SMI Diagnosis (Ref: MDD Only)</b>	Bipolar only	1.25	(1.23, 1.26)	< 0.001	1.20	(1.18, 1.22)	< 0.001	1.03	(0.99, 1.07)	0.100	1.25	(1.24, 1.27)	< 0.001
	Schizophrenia only	2.95	(2.89, 3.01)	< 0.001	4.17	(4.08, 4.25)	< 0.001	1.43	(1.37, 1.49)	< 0.001	2.91	(2.85, 2.97)	< 0.001
	Co-occurring SMI	2.44	(2.41, 2.47)	< 0.001	2.51	(2.48, 2.55)	< 0.001	1.98	(1.93, 2.04)	< 0.001	2.41	(2.38, 2.44)	< 0.001

Variable	Level	All Services			Outpatient Rehab with Targeted Case Management			HCBS/LTSS			Outpatient MH Services		
		OR	95% CI	p-Value	OR	95% CI	p-Value	OR	95% CI	p-Value	OR	95% CI	p-Value
Chronic Conditions (Ref: No)	Cancer	1.04	(1.01, 1.07)	0.010	0.93	(0.90, 0.97)	< 0.001	0.99	(0.93, 1.07)	0.846	1.03	(1.00, 1.06)	0.036
	Cardiovascular Dis.	0.77	(0.76, 0.79)	< 0.001	0.81	(0.79, 0.83)	< 0.001	0.95	(0.91, 0.99)	0.029	0.76	(0.75, 0.78)	< 0.001
	COPD	0.92	(0.90, 0.93)	< 0.001	1.03	(1.02, 1.05)	< 0.001	0.97	(0.94, 1.01)	0.146	0.91	(0.90, 0.93)	< 0.001
	Diabetes	0.99	(0.97, 1.00)	0.117	1.11	(1.09, 1.12)	< 0.001	0.99	(0.96, 1.03)	0.681	0.99	(0.97, 1.00)	0.058
	Hypertension	1.08	(1.07, 1.09)	< 0.001	1.07	(1.05, 1.08)	< 0.001	1.06	(1.03, 1.10)	< 0.001	1.08	(1.07, 1.09)	< 0.001
	Infectious Disease	1.10	(1.09, 1.12)	< 0.001	1.01	(1.00, 1.03)	0.067	1.30	(1.26, 1.33)	< 0.001	1.09	(1.08, 1.10)	< 0.001
	Metabolic Disease	1.70	(1.68, 1.72)	< 0.001	1.35	(1.33, 1.37)	< 0.001	1.29	(1.25, 1.32)	< 0.001	1.71	(1.69, 1.72)	< 0.001

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023

**5. Community-Based Service Participation – Provider Availability**

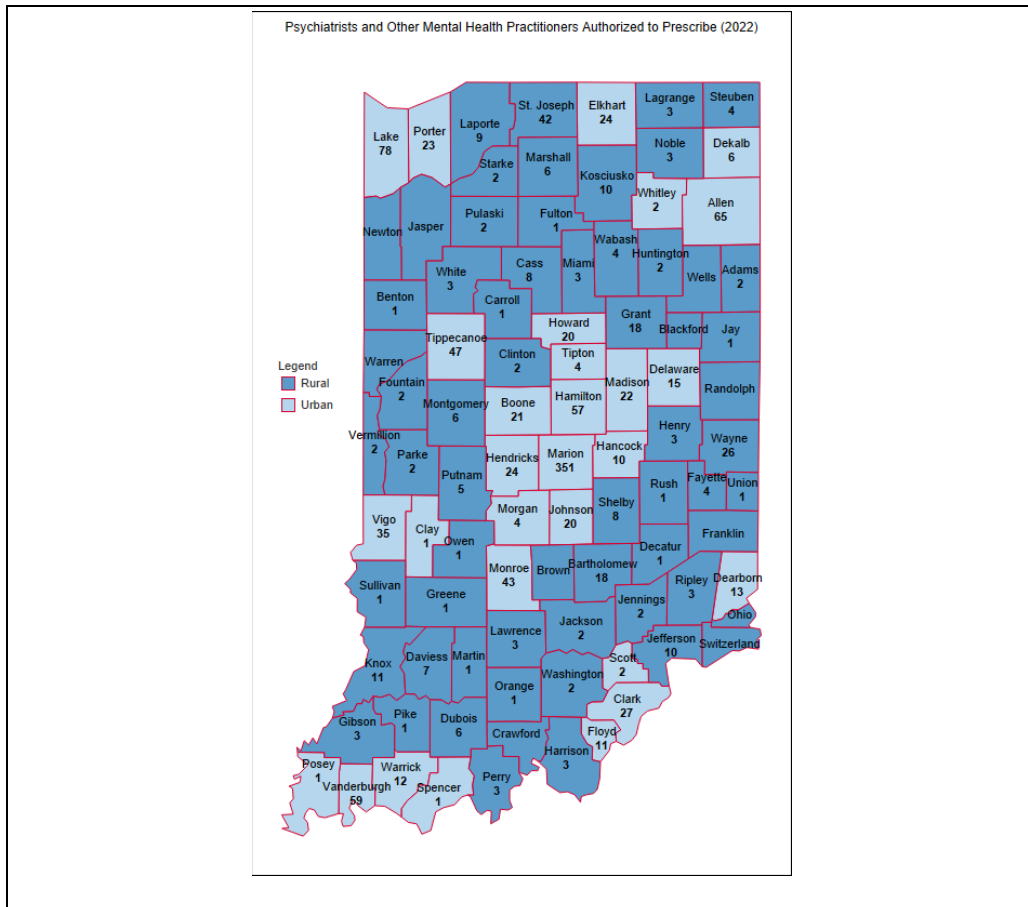
**Exhibit E.50** provides the distribution (e.g., minimum, median, and maximum) of counts of psychiatrists and other MH practitioners authorized to prescribe (overall and those Medicaid-enrolled only) among Indiana counties (with these providers), as well as the number of counties without these providers. **Exhibit E.51** maps the counts of psychiatrists and other MH practitioners authorized to prescribe (overall) by county for 2022.

**Exhibit E.50: Distribution of Community-based Services Providers Per County by Year – Psychiatrists and Other MH Practitioners Authorized to Prescribe, Overall and Medicaid-enrolled (2020 – 2023)**

Provider	Year	Total # of Providers	# of Counties with Providers	Distribution of # of Providers in a County (Among Counties with Available Assessment Data)						# of Counties with No Provider
				Mean	Min	P25	Median	P75	Max	
Psychiatrists Other MH Practitioners Authorized to Prescribe	2020	*	*	*	*	*	*	*	*	*
	2021	*	*	*	*	*	*	*	*	*
	2022	1,265	81	15.6	1	2	4	15	351	11
	2023	1,274	73	17.5	1	2	4	14	341	19
Medicaid- enrolled Psychiatrists Other MH Practitioners Authorized to Prescribe	2020	*	*	*	*	*	*	*	*	*
	2021	*	*	*	*	*	*	*	*	*
	2022	*	*	*	*	*	*	*	*	*
	2023	842	70	12.0	1	1	3.5	11	220	22

**Source:** Psychiatrists and Other MH Practitioners Authorized to Prescribe: Annual PAA, 2022 – 2023.  
 Medicaid-enrolled Psychiatrists and Other MH Practitioners Authorized to Prescribe: State-provided administrative data, 2022 (Updated September 2024); Annual PAA, 2023.  
 \*Data not available.

**Exhibit E.51: Number of Community-Based Service Providers – Psychiatrists and Other Practitioners Authorized to Prescribe, Overall (2022)**



Source: Psychiatrists and Other MH Practitioners Authorized to Prescribe: Annual PAA, 2022.  
 Medicaid-enrolled Psychiatrists and Other MH Practitioners Authorized to Prescribe:  
 State-provided administrative data, 2022 (Updated September 2024).

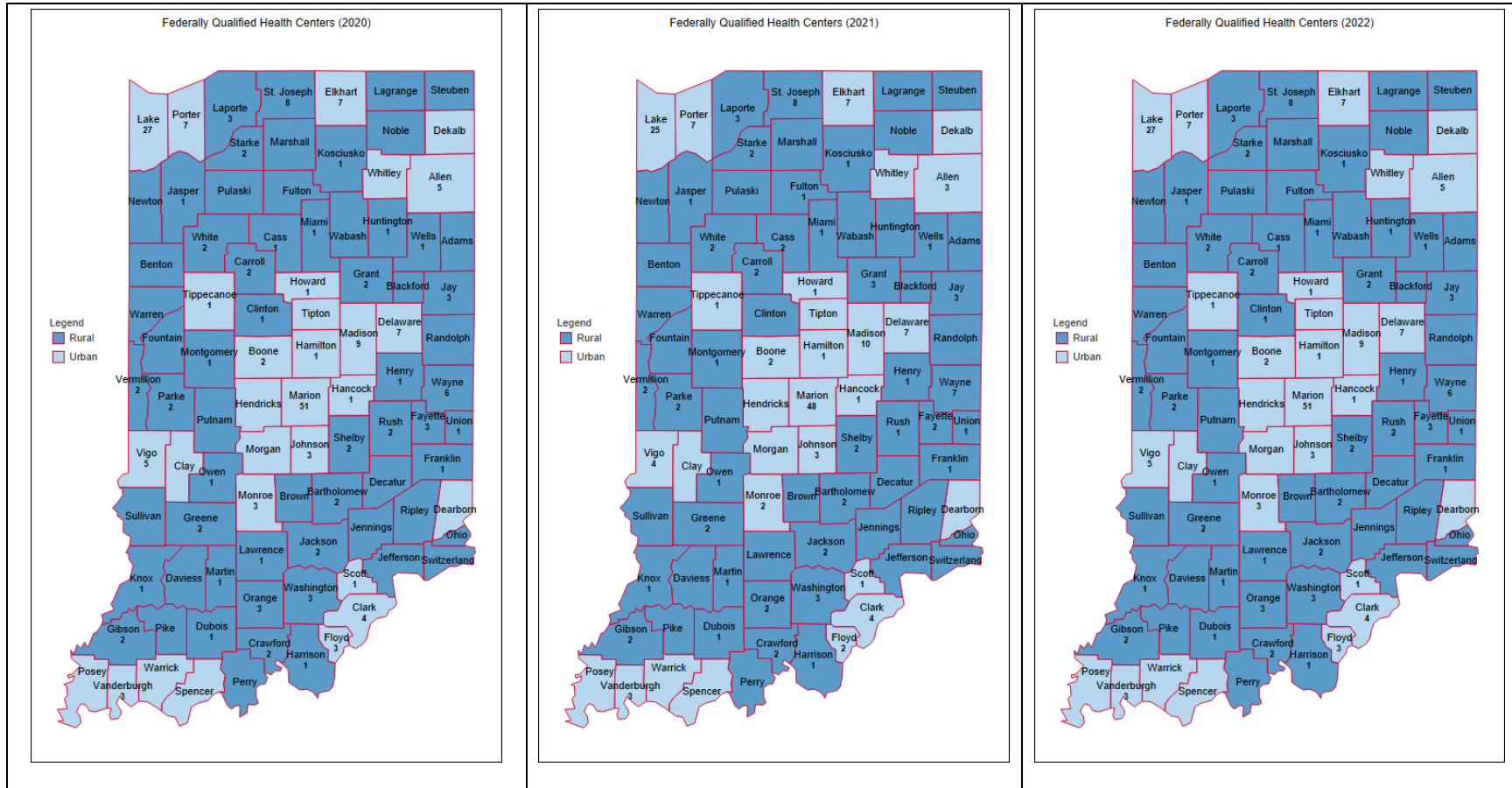
**Exhibit E.52** provides the distribution (e.g., minimum, median, and maximum) of counts of FQHCs among Indiana counties (with a FQHC), as well as the number of counties without a FQHC. **Exhibit E.53** provides maps of FQHCs by county for 2020 to 2022.

**Exhibit E.52: Distribution of Crisis Services Per County by Year – FQHCs**

Provider	Year	Total # of FQHCs	# of Counties with FQHCs	Distribution of # of Providers in a County (Among Counties with Available Assessment Data)						# of Counties with No FQHC
				Mean	Min	P25	Median	P75	Max	
FQHCs	2020	213	56	3.8	1	1	2	3	51	36
	2021	202	54	3.7	1	1	2	3	48	38
	2022	213	56	3.8	1	1	2	3	51	36
	2023	343	70	4.9	1	1	2	4	81	22

Source: Annual PAA, 2020 – 2023.

**Exhibit E.53: Number of Community-Based Service Providers by County – FCHCs (2020 – 2022)**



Source: Annual PAA, 2020 – 2022.

**G. Goal 5**

Detailed results from the claims/encounter data-based analytics for Goal 5 are listed in this section. The exhibits include tables showing: (1) the step-by-step approach to identifying the index ED visits/discharges, the count for numerator and the follow-up rates, (2) 7- and 30-day follow-up rates by selected beneficiary sociodemographic characteristics, and (3) findings from the regression-based analyses.

**1. Analytic Cohort for Follow-up After ED Visits with MH Diagnosis**

Exhibit E.54 displays the step-by-step approach to identifying the index ED visits, the count for numerator and the follow-up rates after MH-related ED visits.

**Exhibit E.54: Step-by-Step Attrition of Follow-Up After ED Visits for MH-Related Diagnosis Among SMI Beneficiaries, (2018 – 2023)**

Measurement Year		2018		2019		2020		2021		2022		2023	
All SMI Beneficiaries		88,393		117,965		147,715		185,520		220,287		255,056	
Measure Unit		B <sup>a</sup>	V <sup>b</sup>	B	V	B	V	B	V	B	V	B	V
Step-by-step attrition to generate denominator	All ED visits between January 1 and December 1	51,699	173,307	65,503	207,045	76,555	232,366	96,502	292,572	109,592	319,338	120,910	347,733
	On or after First SMI diagnosis	41,070	120,535	58,210	175,356	68,962	202,845	88,832	262,489	102,252	291,728	113,917	321,586
	With primary MH-related diagnosis	10,594	18,119	12,489	21,768	13,855	24,846	15,787	28,308	15,828	28,729	17,172	30,838
	Earliest ED visits only within 30-day period	10,594	13,779	12,489	16,297	13,855	18,246	15,787	20,819	15,828	20,904	17,172	22,297
	Exclude ED visits followed by inpatient admission within 30 days	4,948	5,875	7,116	8,463	7,605	9,088	8,980	10,610	9,954	11,968	10,365	12,307
	Exclude beneficiaries with hospice claims or deceased	4,875	5,787	7,034	8,370	7,484	8,950	8,843	10,447	9,821	11,809	10,260	12,187
	Eligible in the month of ED visit and the following month	4,692	5,570	6,821	8,100	7,380	8,823	8,811	10,408	9,795	11,777	10,090	11,990
Numerator	7-Day follow-up	2,164	2,467	2,709	3,045	3,214	3,615	3,588	3,993	3,766	4,210	3,843	4,273
	30-Day follow-up	2,986	3,473	3,892	4,474	4,338	5,007	4,971	5,685	5,395	6,212	5,515	6,287
Rates	7-Day follow-up		44.3%		37.6%		41.0%		38.4%		35.7%		35.6%
	30-Day follow-up		62.4%		55.2%		56.7%		54.6%		52.7%		52.4%

<sup>a</sup> Number of beneficiaries.

<sup>b</sup> Number of ED visits.

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.



**2. Follow-up After ED Visits with MH Diagnosis – By Sociodemographic Characteristics**

Exhibit E.55 provides the follow-up rates after MH-related ED visits by beneficiary characteristics.

**Exhibit E.55: Follow-up (with Any Provider) After ED Visits for MH-Related Diagnosis, by Beneficiary Characteristics (2018 – 2023)**

Beneficiary Characteristics		MH-Related ED Visit Follow-up Rate											
		2018		2019		2020		2021		2022		2023	
		N = 5,570*		N = 8,100*		N = 8,823*		N = 10,408*		N = 11,777*		N = 11,990*	
		7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate
<b>All SMI Beneficiaries: Follow-up Rate</b>		44.3%	62.4%	37.6%	55.2%	41.0%	56.7%	38.4%	54.6%	35.7%	52.7%	35.6%	52.4%
<b>Gender</b>	Female	44.4%	64.4%	38.5%	56.9%	41.5%	58.9%	39.6%	57.6%	36.6%	54.8%	37.1%	55.5%
	Male	44.1%	60.0%	36.6%	53.4%	40.4%	54.3%	36.9%	51.2%	34.7%	50.4%	33.8%	48.7%
<b>Age</b>	Age 21-30	42.9%	62.2%	38.4%	57.1%	42.1%	57.6%	41.9%	57.7%	38.0%	56.0%	37.9%	55.7%
	Age 31-40	43.5%	60.9%	34.2%	52.4%	38.5%	53.8%	36.0%	53.1%	35.2%	51.3%	34.0%	51.2%
	Age 41-50	45.2%	63.4%	38.6%	55.8%	40.1%	57.4%	36.3%	51.8%	33.8%	50.5%	34.3%	50.7%
	Age 51-60	46.6%	64.0%	39.6%	56.1%	43.7%	59.6%	39.3%	54.6%	33.7%	51.1%	35.3%	50.4%
	Age 61-64	44.1%	61.6%	43.1%	56.3%	46.6%	59.9%	34.8%	56.4%	40.3%	54.8%	38.9%	51.5%
<b>Race</b>	White/Caucasian	44.0%	62.3%	36.3%	53.9%	39.1%	54.9%	36.0%	52.0%	33.6%	49.9%	34.4%	50.8%
	Black	44.4%	61.5%	39.1%	52.9%	44.2%	57.3%	41.3%	55.0%	39.1%	51.5%	38.2%	51.7%
	Other	51.4%	51.4%	45.0%	51.7%	51.9%	63.5%	40.8%	59.2%	35.6%	61.1%	45.9%	63.5%
	Not Available	44.6%	62.9%	38.9%	58.1%	42.4%	59.0%	41.0%	58.5%	37.9%	57.2%	36.7%	55.1%
<b>Ethnicity</b>	Hispanic	41.6%	63.7%	37.0%	58.7%	37.6%	53.5%	32.0%	52.2%	31.9%	52.5%	34.1%	47.9%
	Non-Hispanic	44.9%	62.8%	37.8%	55.4%	41.3%	57.2%	39.0%	55.3%	36.4%	53.4%	36.1%	53.1%
	Unknown	29.4%	49.5%	31.8%	47.3%	36.4%	49.9%	31.8%	45.8%	29.3%	44.8%	31.5%	47.0%
<b>Geographic Location</b>	Metro	44.1%	62.1%	36.7%	54.2%	40.5%	56.2%	38.7%	54.5%	36.2%	52.9%	35.8%	52.4%
	Non-Metro	44.9%	63.1%	40.0%	58.4%	42.4%	58.5%	37.5%	55.1%	34.4%	52.3%	35.3%	52.7%

Beneficiary Characteristics		MH-Related ED Visit Follow-up Rate											
		2018		2019		2020		2021		2022		2023	
		N = 5,570*		N = 8,100*		N = 8,823*		N = 10,408*		N = 11,777*		N = 11,990*	
		7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate
Dual Eligibility	Dual Eligible	50.5%	69.6%	44.6%	64.8%	47.5%	64.5%	44.7%	61.9%	41.5%	60.4%	40.3%	57.7%
	Not Dual Eligible	41.6%	59.2%	35.3%	52.1%	39.2%	54.6%	36.9%	52.9%	34.7%	51.3%	34.8%	51.5%
HIP	HIP	38.7%	56.1%	32.8%	49.8%	37.2%	53.1%	35.2%	51.3%	32.7%	49.4%	33.2%	49.7%
	Non-HIP	48.3%	66.8%	42.8%	61.2%	46.1%	61.6%	43.5%	60.0%	41.2%	58.6%	40.5%	57.8%
SMI Diagnosis	Bipolar only	36.9%	54.6%	34.4%	51.3%	34.3%	50.1%	31.6%	46.7%	28.8%	45.3%	32.4%	47.2%
	MDD only	43.2%	60.2%	33.5%	49.0%	37.8%	51.8%	35.4%	49.6%	32.2%	47.6%	32.8%	48.8%
	Schizophrenia only	51.1%	66.9%	42.7%	59.6%	46.2%	58.4%	45.8%	60.2%	42.4%	58.0%	38.8%	54.0%
	Co-Occurring Diagnoses	45.3%	65.7%	39.9%	59.6%	43.5%	61.3%	40.5%	58.6%	38.2%	56.5%	37.7%	55.5%
Chronic Conditions	Cancer	40.1%	60.5%	43.2%	56.3%	42.4%	60.5%	38.0%	58.7%	37.4%	54.8%	41.2%	61.4%
	No Cancer	44.4%	62.4%	37.5%	55.2%	40.9%	56.7%	38.4%	54.5%	35.7%	52.7%	35.5%	52.2%
	Cardiovascular Dis.	42.1%	60.4%	37.4%	56.0%	41.1%	56.3%	36.3%	53.1%	35.9%	49.5%	35.3%	52.1%
	No Cardiovascular Dis.	44.5%	62.6%	37.6%	55.2%	41.0%	56.8%	38.6%	54.8%	35.7%	53.0%	35.7%	52.5%
	COPD	41.7%	61.8%	38.8%	57.6%	41.1%	58.2%	35.5%	52.4%	36.8%	52.7%	34.5%	49.9%
	No COPD	44.9%	62.5%	37.4%	54.8%	41.0%	56.5%	38.8%	55.0%	35.6%	52.7%	35.8%	52.8%
	Diabetes	51.4%	67.9%	43.7%	62.0%	47.5%	63.2%	46.1%	61.6%	41.5%	60.1%	39.5%	56.4%
	No Diabetes	42.4%	60.9%	36.2%	53.7%	39.6%	55.4%	37.0%	53.3%	34.7%	51.4%	35.0%	51.7%
	Hypertension	44.2%	62.4%	39.0%	56.3%	42.8%	58.9%	38.7%	55.1%	35.9%	53.0%	36.3%	53.5%
	No Hypertension	44.4%	62.4%	36.6%	54.4%	39.5%	55.0%	38.1%	54.2%	35.6%	52.6%	35.2%	51.7%

Beneficiary Characteristics		MH-Related ED Visit Follow-up Rate											
		2018		2019		2020		2021		2022		2023	
		N = 5,570*		N = 8,100*		N = 8,823*		N = 10,408*		N = 11,777*		N = 11,990*	
		7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate
Chronic Conditions (cont.)	Infectious Disease	43.8%	61.5%	39.3%	56.5%	41.6%	57.8%	38.9%	54.8%	35.9%	53.9%	35.8%	52.9%
	No Infectious Disease	44.6%	62.9%	36.7%	54.5%	40.6%	56.1%	37.9%	54.5%	35.6%	51.8%	35.5%	52.1%
	Metabolic Disease	48.3%	67.2%	41.7%	61.8%	45.6%	62.9%	42.3%	60.6%	38.2%	57.9%	38.4%	57.0%
	No Metabolic Disease	40.4%	57.6%	34.1%	49.7%	37.2%	51.8%	35.4%	50.1%	33.8%	48.8%	33.3%	48.6%
	Respiratory Disease	37.6%	60.0%	44.8%	58.7%	39.6%	53.9%	36.5%	54.1%	36.1%	45.8%	44.9%	59.9%
	No Respiratory Disease	44.5%	62.4%	37.5%	55.2%	41.0%	56.8%	38.4%	54.6%	35.7%	52.8%	35.5%	52.3%
Number of Chronic Conditions	0	42.7%	58.9%	32.8%	49.4%	37.0%	51.1%	36.0%	50.2%	33.6%	48.7%	33.3%	48.2%
	1	43.3%	61.3%	36.6%	54.0%	40.2%	55.8%	37.8%	54.5%	35.9%	51.8%	35.5%	52.6%
	2	45.0%	64.4%	39.2%	56.4%	42.2%	59.7%	38.2%	56.1%	35.1%	54.4%	37.3%	55.0%
	3	43.5%	64.4%	42.7%	62.4%	43.5%	58.7%	41.3%	57.3%	36.5%	55.8%	35.9%	54.9%
	4+	47.9%	64.3%	41.0%	59.5%	45.3%	62.4%	41.2%	57.8%	39.8%	56.8%	38.2%	54.3%

<sup>a</sup> MH-related visits were identified using the primary diagnoses from all claims in the same day as an ED visit. MH-related diagnoses were identified using a combination of value sets, including the HEDIS VSD's MH Diagnosis and Intentional Self-Harm value sets, as well as the Clinical Classifications Software Refined (CCSR) Suicidal Ideation, Attempt, and Intentional Self-Harm diagnosis category.

<sup>b</sup> ED visits were calculated after a beneficiary's first SMI diagnosis within the evaluation period. In addition, ED visits were only counted if the beneficiary had (SMI waiver-eligible) Medicaid coverage in the same month as the ED visit and during the following 30 days. Only one ED visit was counted per day (e.g., if a recipient had multiple ED-related claims in a single day, that day was counted as one "visit").

\* Note: N = denominator (ED visits)

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

### 3. Follow-up After ED Visits with MH Diagnosis – Regression Estimates

Exhibit E.56 displays OR estimates from the ITS logistic regression model; each OR shows the odds of a MH-related ED visit being followed by any follow-up visit within 7 or 30 days, relative to the reference group.

**Exhibit E.56: Logistic Regression Model for Follow-up After MH-Related ED Visit (2018 – 2023, Excluding 2020)**

Variable	Level	7-Day Follow-up Rate			30-Day Follow-up Rate		
		OR	95% CI	p-Value	OR	95% CI	p-Value
<b>Intervention (Int.) Period (Ref: Pre-Int.)</b>	Post-Intervention (Post-Int.)	0.95	(0.84,1.08)	0.449	0.85	(0.75,0.97)	0.012
<b>Time</b>	Pre-Intervention	0.78	(0.72, 0.83)	<0.001	0.76	(0.71, 0.81)	<0.001
	Post-Intervention	0.94	(0.92, 0.97)	<0.001	0.96	(0.93, 0.99)	0.002
<b>Int. Period * Year (Ref: Pre-Int. * 2018)</b>	Pre-Int. * 2019	0.78	(0.72,0.83)	<0.001	0.76	(0.70,0.81)	<0.001
	Post-Int. * 2021	0.80	(0.75,0.86)	<0.001	0.75	(0.70,0.80)	<0.001
	Post-Int. * 2022	0.76	(0.71,0.81)	<0.001	0.72	(0.67,0.77)	<0.001
	Post-Int. * 2023	0.72	(0.67,0.77)	<0.001	0.69	(0.64,0.74)	<0.001
<b>Likelihood of Having an ED Visit</b>		1.01	(0.36,2.80)	0.984	1.75	(0.64,4.76)	0.272
<b>Gender (Ref: Female)</b>	Male	0.88	(0.84,0.92)	<0.001	0.78	(0.74,0.81)	<0.001
<b>Age Group (Ref: Age 21-30)</b>	Age 31-40	0.83	(0.79,0.87)	<0.001	0.82	(0.78,0.86)	<0.001
	Age 41-50	0.83	(0.77,0.88)	<0.001	0.79	(0.74,0.84)	<0.001
	Age 51-60	0.84	(0.77,0.92)	<0.001	0.79	(0.73,0.86)	<0.001
	Age 61-64	0.87	(0.76,1.00)	0.044	0.80	(0.70,0.92)	0.001
<b>Race (Ref: White/Caucasian)</b>	Black	1.12	(1.05,1.19)	<0.001	1.00	(0.94,1.06)	0.984
	Other/Not Available	1.12	(1.06,1.17)	<0.001	1.16	(1.11,1.22)	<0.001
<b>Ethnicity (Ref: Non-Hispanic/Unknown)</b>	Hispanic	0.84	(0.75,0.94)	0.003	0.90	(0.81,1.01)	0.062
<b>Geographic Location (Ref: Metro)</b>	Non-metro	0.99	(0.95,1.03)	0.564	0.96	(0.92,1.00)	0.057
<b>Dual Eligibility (Ref: Non-dual Eligible)</b>	Dual-Eligible	1.29	(1.23,1.36)	<0.001	1.40	(1.33,1.47)	<0.001
<b>SMI Diagnosis (Ref: MDD Only)</b>	Bipolar only	0.89	(0.84,0.95)	<0.001	0.91	(0.86,0.97)	0.005
	Schizophrenia only	1.44	(1.33,1.56)	<0.001	1.48	(1.36,1.60)	<0.001
	Co-occurring SMI	1.20	(1.09,1.33)	<0.001	1.29	(1.17,1.42)	<0.001

Variable	Level	7-Day Follow-up Rate			30-Day Follow-up Rate		
		OR	95% CI	p-Value	OR	95% CI	p-Value
Chronic Conditions (Ref: No)	Cancer	1.09	(0.96,1.24)	0.173	1.15	(1.02,1.31)	0.027
	Cardiovascular Dis.	0.88	(0.82,0.95)	<0.001	0.85	(0.79,0.92)	<0.001
	COPD	0.90	(0.84,0.95)	<0.001	0.89	(0.84,0.95)	<0.001
	Diabetes	1.24	(1.17,1.31)	<0.001	1.18	(1.11,1.25)	<0.001
	Hypertension	0.95	(0.89,1.01)	0.074	0.92	(0.87,0.98)	0.005
	Infectious Disease	0.98	(0.93,1.03)	0.420	0.94	(0.89,0.98)	0.008
	Metabolic Disease	1.26	(1.21,1.31)	<0.001	1.47	(1.41,1.54)	<0.001

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

#### 4. Follow-up After ED Visits with MH Diagnosis – Sensitivity Analyses

Exhibit E.57 presents the results of the logistic regression with 2020 data included. The OR estimates were consistent with the logistic regressions with 2020 data excluded for follow-up after MH-Related ED visits.

**Exhibit E.57 Logistic Regression Model for Follow-up After MH-Related ED Visit (2018 - 2023)**

Variable	Level	7-Day Follow-up Rate			30-Day Follow-up Rate		
		OR	95% CI	p-Value	OR	95% CI	p-Value
Intervention (Int.) Period (Ref: Pre-Int.)	Post-Intervention (Post-Int.)	1.02	(0.94,1.11)	0.623	0.89	(0.82,0.97)	0.011
Time	Pre-Intervention	0.77	(0.72, 0.83)	<0.001	0.76	(0.70, 0.81)	<0.001
	Post-Intervention	0.93	(0.91, 0.95)	<0.001	0.95	(0.93, 0.97)	<0.001
Int. Period * Year (Ref: Pre-Int. * 2018)	Pre-Int. * 2019	0.77	(0.72,0.83)	<0.001	0.76	(0.70,0.81)	<0.001
	Pre-Int. * 2020	0.87	(0.83,0.90)	<0.001	0.90	(0.87,0.93)	<0.001
	Post-Int. * 2021	0.83	(0.78,0.88)	<0.001	0.76	(0.72,0.81)	<0.001
	Post-Int. * 2022	0.77	(0.72,0.82)	<0.001	0.72	(0.68,0.77)	<0.001
	Post-Int. * 2023	0.72	(0.67,0.77)	<0.001	0.69	(0.64,0.74)	<0.001
Likelihood of Having an ED Visit		1.54	(0.61,3.87)	0.360	2.29	(0.92,5.70)	0.075
Gender (Ref: Female)	Male	0.88	(0.85,0.92)	<0.001	0.77	(0.74,0.81)	<0.001

Variable	Level	7-Day Follow-up Rate			30-Day Follow-up Rate		
		OR	95% CI	p-Value	OR	95% CI	p-Value
Age Group (Ref: Age 21-30)	Age 31-40	0.84	(0.80,0.87)	<0.001	0.82	(0.78,0.86)	<0.001
	Age 41-50	0.84	(0.79,0.90)	<0.001	0.81	(0.77,0.86)	<0.001
	Age 51-60	0.88	(0.81,0.96)	0.003	0.83	(0.77,0.90)	<0.001
	Age 61-64	0.92	(0.81,1.04)	0.198	0.84	(0.74,0.95)	0.005
Race (Ref: White/Caucasian)	Black	1.13	(1.06,1.20)	<0.001	1.01	(0.96,1.07)	0.667
	Other/Not Available	1.11	(1.06,1.16)	<0.001	1.15	(1.10,1.21)	<0.001
Ethnicity (Ref: Non-Hispanic/Unknown)	Hispanic	0.84	(0.76,0.94)	0.002	0.90	(0.81,1.00)	0.044
Geographic Location (Ref: Metro)	Non-metro	1.03	(0.99,1.07)	0.180	1.05	(1.01,1.10)	0.009
Dual Eligibility (Ref: Non-dual Eligible)	Dual-Eligible	1.29	(1.23,1.35)	<0.001	1.40	(1.33,1.47)	<0.001
SMI Diagnosis (Ref: MDD Only)	Bipolar only	0.89	(0.84,0.94)	<0.001	0.92	(0.86,0.97)	0.002
	Schizophrenia only	1.40	(1.30,1.51)	<0.001	1.43	(1.33,1.54)	<0.001
	Co-occurring SMI	1.16	(1.06,1.27)	0.001	1.26	(1.16,1.38)	<0.001
Chronic Conditions (Ref: No)	Cancer	1.07	(0.95,1.21)	0.244	1.13	(1.01,1.28)	0.036
	Cardiovascular Dis.	0.87	(0.82,0.93)	<0.001	0.84	(0.79,0.90)	<0.001
	COPD	0.89	(0.84,0.94)	<0.001	0.89	(0.84,0.94)	<0.001
	Diabetes	1.24	(1.17,1.30)	<0.001	1.17	(1.11,1.24)	<0.001
	Hypertension	0.94	(0.89,0.99)	0.024	0.92	(0.87,0.97)	0.002
	Infectious Disease	0.97	(0.93,1.01)	0.165	0.94	(0.90,0.98)	0.003
	Metabolic Disease	1.28	(1.23,1.33)	<0.001	1.48	(1.42,1.54)	<0.001

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023

Exhibit E.58 displays the estimated OR and their statistical significance from one-stage logistic regression. The estimates were consistent with that generated from the two-stage model for follow-up after ED visits for MH-related diagnosis.

**Exhibit E.58: One-Stage Logistic Regression Model for Follow-up After MH-Related ED Visit (2018 – 2023, Excluding 2020)**

Variable	Level	7-Day Follow-up Rate			30-Day Follow-up Rate		
		OR	95% CI	p-Value	OR	95% CI	p-Value
Intervention (Int.) Period (Ref: Pre-Int.)	Post-Intervention (Post-Int.)	0.95	(0.84,1.08)	0.449	0.86	(0.76,0.97)	0.013
Time	Pre-Intervention	0.78	(0.72, 0.83)	<0.001	0.76	(0.71, 0.82)	<0.001
	Post-Intervention	0.94	(0.92, 0.97)	<0.001	0.96	(0.93, 0.98)	<0.001
Int. Period * Year (Ref: Pre-Int. * 2018)	Pre-Int. * 2019	0.78	(0.72,0.83)	<0.001	0.76	(0.71,0.82)	<0.001
	Post-Int. * 2021	0.80	(0.75,0.86)	<0.001	0.74	(0.70,0.80)	<0.001
	Post-Int. * 2022	0.76	(0.71,0.80)	<0.001	0.71	(0.67,0.75)	<0.001
	Post-Int. * 2023	0.72	(0.67,0.76)	<0.001	0.68	(0.64,0.72)	<0.001
Gender (Ref: Female)	Male	0.88	(0.85,0.92)	<0.001	0.79	(0.76,0.82)	<0.001
Age Group (Ref: Age 21-30)	Age 31-40	0.83	(0.79,0.87)	<0.001	0.81	(0.77,0.85)	<0.001
	Age 41-50	0.83	(0.78,0.87)	<0.001	0.77	(0.73,0.82)	<0.001
	Age 51-60	0.84	(0.79,0.90)	<0.001	0.77	(0.72,0.82)	<0.001
	Age 61-64	0.87	(0.78,0.97)	0.015	0.77	(0.69,0.86)	<0.001
Race (Ref: White/Caucasian)	Black	1.12	(1.05,1.19)	<0.001	1.00	(0.94,1.07)	0.909
	Other/Not Available	1.12	(1.07,1.16)	<0.001	1.18	(1.13,1.23)	<0.001
Ethnicity (Ref: Non-Hispanic/Unknown)	Hispanic	0.84	(0.75,0.94)	0.003	0.89	(0.80,1.00)	0.046
Geographic Location (Ref: Metro)	Non-metro	1.01	(0.97,1.06)	0.563	1.04	(1.00,1.09)	0.050
Dual Eligibility (Ref: Non-dual Eligible)	Dual-Eligible	1.29	(1.23,1.35)	<0.001	1.39	(1.32,1.46)	<0.001
SMI Diagnosis (Ref: MDD Only)	Bipolar only	0.89	(0.84,0.95)	<0.001	0.92	(0.86,0.98)	0.007
	Schizophrenia only	1.44	(1.35,1.55)	<0.001	1.51	(1.41,1.62)	<0.001
	Co-occurring SMI	1.21	(1.15,1.26)	<0.001	1.35	(1.29,1.41)	<0.001
Chronic Conditions (Ref: No)	Cancer	1.09	(0.96,1.24)	0.172	1.15	(1.01,1.30)	0.033
	Cardiovascular Dis.	0.88	(0.82,0.95)	<0.001	0.85	(0.80,0.92)	<0.001
	COPD	0.90	(0.84,0.95)	<0.001	0.89	(0.84,0.95)	<0.001
	Diabetes	1.24	(1.17,1.31)	<0.001	1.17	(1.11,1.24)	<0.001
	Hypertension	0.95	(0.91,0.99)	0.018	0.94	(0.90,0.98)	0.005
	Infectious Disease	0.98	(0.94,1.02)	0.323	0.95	(0.92,0.99)	0.014
	Metabolic Disease	1.26	(1.21,1.31)	<0.001	1.47	(1.41,1.53)	<0.001

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023 (2020 data excluded)

### 5 Analytic Cohort for ED Visits Related to AOD Dependence

Exhibit E.59 displays the step-by-step approach to identifying the index ED visits, the count for numerator and the follow-up rates after AOD-related ED visits.

**Exhibit E.59: Step-by-Step Attrition of Follow-Up After ED Visits for AOD Diagnosis Among SMI Beneficiaries (2018 – 2023)**

Measurement Year		2018		2019		2020		2021		2022		2023	
Total SMI Recipients		88,393		117,965		147,715		185,520		220,287		255,056	
Measure Unit		B <sup>a</sup>	V <sup>b</sup>	B	V	B	V	B	V	B	V	B	V
Step-by-step attrition to generate denominator	All ED visits between January 1 and December 1	51,699	173,307	65,503	207,045	76,555	232,366	96,502	292,572	109,592	319,338	120,910	347,733
	On or after first SMI diagnosis	41,070	120,535	58,210	175,356	68,962	202,845	88,832	262,489	102,252	291,728	113,917	321,586
	With primary diagnosis of AOD	2,746	5,019	4,098	7,745	5,450	10,413	6,832	13,305	6,516	12,389	6,836	12,262
	Earliest ED visits only within 30-day period	2,746	3,511	4,098	5,457	5,450	7,368	6,832	9,255	6,516	8,705	6,836	9,018
	Exclude ED visits followed by inpatient admission within 30 days	1,797	2,113	2,994	3,672	3,972	4,852	5,061	6,138	5,136	6,290	5,215	6,371
	Exclude beneficiaries with hospice claims or deceased	1,755	2,061	2,943	3,605	3,865	4,725	4,936	5,988	5,020	6,149	5,118	6,262
	Eligible in the month of ED visit and the following month	1,679	1,972	2,831	3,468	3,817	4,660	4,919	5,965	5,009	6,137	5,051	6,166
Numerator	7-day follow-up	233	249	392	422	712	773	930	995	957	1,037	1,028	1,125
	30-day follow-up	352	381	643	726	1,062	1,194	1,371	1,527	1,365	1,515	1,540	1,739
Rates	7-day follow-up		12.6%		12.2%		16.6%		16.7%		16.9%		18.2%
	30-day follow-up		19.3%		20.9%		25.6%		25.6%		24.7%		28.2%

<sup>a</sup> Number of beneficiaries.

<sup>b</sup> Number of ED visits

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.



**6. Follow-up After ED Visits with AOD Diagnosis – By Sociodemographic**

Exhibit E.60 provides the follow-up rates after AOD-related ED visits by beneficiary characteristics.

**Exhibit E.60: Follow-up (with Any Provider) After ED Visits for AOD Diagnosis, by Beneficiary Characteristics (2018 – 2023)**

SMI Recipient Characteristics		AOD-Related ED Visit Follow-up Rate											
		2018		2019		2020		2021		2022		2023	
		N = 1,972*		N = 3,468*		N = 4,660*		N = 5,965*		N = 6,137*		N = 6,166*	
		7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate
<b>All SMI Beneficiaries: Follow-up Rate</b>		12.6%	19.3%	12.2%	20.9%	16.6%	25.6%	16.7%	25.6%	16.9%	24.7%	18.2%	28.2%
<b>Gender</b>	Female	13.0%	21.0%	11.2%	19.3%	16.5%	25.3%	16.6%	25.3%	16.9%	23.9%	16.9%	26.4%
	Male	12.4%	18.2%	12.8%	22.0%	16.7%	25.8%	16.7%	25.8%	16.9%	25.2%	19.3%	29.5%
<b>Age</b>	Age 21-30	11.0%	16.9%	11.3%	19.0%	16.7%	24.1%	13.6%	20.0%	15.4%	21.9%	14.6%	22.6%
	Age 31-40	13.8%	21.5%	11.5%	20.4%	18.9%	29.5%	17.5%	27.3%	18.3%	26.8%	20.9%	32.2%
	Age 41-50	12.6%	19.5%	12.8%	22.2%	15.1%	24.7%	18.3%	28.8%	17.2%	25.9%	17.5%	27.6%
	Age 51-60	12.3%	19.1%	13.2%	21.7%	14.8%	22.4%	17.0%	25.5%	16.3%	23.2%	19.1%	29.5%
	Age 61-64	14.6%	16.9%	12.7%	23.1%	13.9%	22.2%	17.1%	23.8%	13.9%	20.6%	15.1%	21.6%
<b>Race</b>	White/Caucasian	14.9%	21.9%	13.3%	23.3%	18.2%	28.0%	17.2%	26.7%	17.4%	25.6%	19.7%	31.2%
	Black	10.4%	15.6%	6.1%	11.3%	10.4%	14.8%	13.3%	18.2%	15.9%	20.2%	14.1%	19.9%
	Other	9.1%	18.2%	0.0%	5.6%	16.7%	25.0%	11.5%	23.1%	18.2%	27.3%	21.6%	37.8%
	Not Available	10.2%	17.0%	12.1%	19.8%	15.6%	24.5%	16.7%	25.6%	16.2%	24.2%	16.6%	24.9%
<b>Ethnicity</b>	Hispanic	9.5%	19.0%	9.1%	15.6%	7.1%	19.2%	16.5%	27.0%	20.9%	31.7%	16.1%	23.6%
	Non-Hispanic	12.5%	18.9%	12.3%	21.2%	16.9%	25.9%	16.7%	25.6%	16.7%	24.5%	18.1%	28.1%
	Unknown	18.9%	29.7%	11.1%	17.8%	14.5%	23.7%	17.0%	24.7%	18.3%	25.2%	19.9%	30.6%
<b>Geographic Location</b>	Metro	13.1%	20.0%	12.3%	21.4%	16.2%	25.3%	17.1%	25.8%	17.0%	24.8%	18.4%	28.3%
	Non-Metro	10.2%	15.9%	11.5%	19.1%	18.2%	26.9%	15.3%	24.9%	16.3%	24.1%	17.7%	27.8%
<b>Dual Eligibility</b>	Dual Eligible	10.4%	15.3%	8.9%	14.3%	9.0%	14.9%	14.9%	24.5%	12.6%	17.6%	11.5%	19.1%
	Not Dual Eligible	13.1%	20.2%	12.7%	22.0%	17.5%	26.9%	16.9%	25.7%	17.3%	25.3%	18.9%	29.0%

SMI Recipient Characteristics		AOD-Related ED Visit Follow-up Rate											
		2018		2019		2020		2021		2022		2023	
		N = 1,972*		N = 3,468*		N = 4,660*		N = 5,965*		N = 6,137*		N = 6,166*	
		7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate
HIP	HIP	15.5%	23.9%	13.3%	23.6%	18.2%	28.1%	17.3%	26.7%	17.9%	26.3%	19.6%	30.5%
	Non-HIP	8.6%	13.0%	9.9%	15.5%	12.2%	18.6%	14.9%	22.3%	13.4%	18.8%	13.4%	19.8%
SMI Diagnosis	Bipolar only	12.7%	19.4%	8.7%	15.6%	14.8%	21.0%	14.2%	20.8%	14.0%	20.0%	14.5%	22.6%
	MDD only	14.9%	22.6%	16.0%	25.2%	17.8%	28.0%	17.5%	27.1%	17.9%	25.3%	19.2%	29.3%
	Schizophrenia only	7.9%	12.3%	7.7%	15.2%	10.3%	15.8%	9.8%	13.7%	9.7%	14.4%	10.3%	14.7%
	Co-Occurring Diagnoses	12.3%	19.0%	10.3%	19.7%	17.3%	26.9%	17.7%	27.6%	17.5%	26.6%	19.2%	30.0%
Chronic Conditions	Cancer	11.5%	19.2%	10.6%	21.2%	17.5%	26.8%	20.0%	31.8%	20.0%	27.4%	15.9%	23.0%
	No Cancer	12.7%	19.3%	12.2%	20.9%	16.6%	25.6%	16.6%	25.5%	16.8%	24.6%	18.3%	28.3%
	Cardiovascular Dis.	11.7%	15.9%	17.0%	25.4%	13.7%	21.9%	18.9%	29.4%	16.5%	24.2%	20.0%	30.1%
	No Cardiovascular Dis.	12.8%	19.8%	11.6%	20.4%	16.9%	26.0%	16.4%	25.2%	16.9%	24.7%	18.1%	28.0%
	COPD	11.8%	18.3%	15.0%	24.6%	16.7%	23.7%	19.3%	28.5%	17.7%	26.4%	19.0%	29.8%
	No COPD	12.9%	19.6%	11.5%	20.1%	16.6%	26.0%	16.2%	25.0%	16.8%	24.4%	18.1%	28.0%
	Diabetes	9.7%	15.2%	16.5%	22.9%	14.0%	22.5%	15.2%	26.3%	15.2%	23.7%	15.8%	23.8%
	No Diabetes	13.2%	20.1%	11.6%	20.7%	16.9%	26.0%	16.9%	25.5%	17.1%	24.8%	18.6%	28.8%
	Hypertension	12.6%	19.2%	14.0%	23.3%	18.2%	27.5%	19.4%	29.4%	18.6%	27.3%	20.7%	32.1%
	No Hypertension	12.7%	19.5%	10.5%	18.7%	15.0%	23.8%	14.1%	22.1%	15.5%	22.6%	16.0%	24.6%
	Infectious Disease	13.4%	21.5%	13.8%	23.6%	17.9%	28.8%	19.5%	29.3%	18.8%	28.1%	20.1%	32.4%
	No Infectious Disease	12.0%	17.6%	11.0%	19.0%	15.6%	23.1%	14.2%	22.4%	15.3%	21.8%	16.9%	25.1%
	Metabolic Disease	11.4%	18.1%	14.6%	23.7%	19.0%	28.5%	19.2%	30.0%	19.5%	28.0%	21.0%	32.7%
	No Metabolic Dis	13.6%	20.3%	10.6%	19.2%	15.0%	23.8%	15.0%	22.7%	15.2%	22.5%	16.1%	24.7%
	Respiratory Disease	8.1%	10.8%	13.3%	24.4%	10.9%	23.4%	14.5%	22.4%	13.8%	24.1%	27.9%	37.7%
No Respiratory Disease	12.7%	19.5%	12.2%	20.9%	16.7%	25.7%	16.7%	25.6%	16.9%	24.7%	18.1%	28.1%	

SMI Recipient Characteristics		AOD-Related ED Visit Follow-up Rate											
		2018		2019		2020		2021		2022		2023	
		N = 1,972*		N = 3,468*		N = 4,660*		N = 5,965*		N = 6,137*		N = 6,166*	
		7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate	7-Day Rate	30-Day Rate
Number of Chronic Conditions	0	13.6%	17.7%	9.9%	16.9%	12.7%	20.5%	10.5%	17.2%	13.7%	19.5%	13.4%	19.0%
	1	13.8%	21.3%	9.2%	18.3%	16.0%	24.5%	17.2%	25.6%	15.8%	23.1%	18.2%	28.5%
	2	12.9%	23.0%	14.1%	24.0%	20.8%	31.4%	17.9%	28.0%	18.9%	27.8%	19.5%	31.7%
	3	8.3%	13.0%	14.9%	24.1%	18.1%	27.6%	19.7%	29.0%	20.4%	29.7%	22.6%	35.3%
	4+	13.1%	19.0%	16.5%	25.1%	15.8%	24.8%	20.8%	32.4%	17.9%	26.8%	20.0%	29.9%

\* Note: N = denominator (ED visits)

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023.

**7. Follow-up After ED Visits with AOD Diagnosis – Regression Estimates**

Exhibit E.61 displays OR estimates from the ITS logistic regression model; each OR shows the odds of an AOD-related ED visit being followed by any follow-up visit within 7 or 30 days, relative to the reference group.

**Exhibit E.61: Logistic Regression Model for Follow-up After AOD-Related ED Visit (2018 – 2023, Excluding 2020)**

Variable	Level	7-Day Follow-up Rate			30-Day Follow-up Rate		
		OR	95% CI	p-Value	OR	95% CI	p-Value
Intervention (Int.) Period (Ref: Pre-Int.)	Post-Intervention (Post-Int.)	1.05	(0.82,1.34)	0.699	1.01	(0.82,1.25)	0.889
Time	Pre-Intervention	0.91	(0.77, 1.08)	0.265	1.05	(0.91, 1.21)	0.535
	Post-Intervention	1.06	(1.01, 1.11)	0.026	1.07	(1.02, 1.12)	0.002
Int. Period * Year (Ref: Pre-Int. * 2018)	Pre-Int. * 2019	0.91	(0.77,1.08)	0.265	1.05	(0.91,1.20)	0.535
	Post-Int. * 2021	1.24	(1.07,1.44)	0.005	1.24	(1.09,1.41)	<0.001
	Post-Int. * 2022	1.31	(1.14,1.51)	<0.001	1.33	(1.18,1.49)	<0.001
	Post-Int. * 2023	1.39	(1.20,1.61)	<0.001	1.42	(1.25,1.61)	<0.001
Likelihood of Having an ED Visit		4.06	(0.56,29.35)	0.165	2.43	(0.44,13.50)	0.310
Gender (Ref: Female)	Male	1.04	(0.94,1.15)	0.445	1.09	(1.00,1.19)	0.050
Age Group (Ref: Age 21-30)	Age 31-40	1.22	(1.10,1.36)	<0.001	1.31	(1.20,1.43)	<0.001
	Age 41-50	1.11	(0.99,1.24)	0.083	1.20	(1.09,1.32)	<0.001
	Age 51-64	1.06	(0.93,1.20)	0.383	1.08	(0.97,1.21)	0.152
Race (Ref: White/Caucasian)	Black	0.77	(0.67,0.88)	<0.001	0.65	(0.58,0.73)	<0.001
	Other/Not Available	0.86	(0.80,0.93)	<0.001	0.83	(0.77,0.88)	<0.001
Geographic Location (Ref: Metro)	Non-metro	1.11	(1.01,1.21)	0.029	1.10	(1.02,1.19)	0.016
Dual Eligibility (Ref: Non-dual Eligible)	Dual-Eligible	0.75	(0.65,0.87)	<0.001	0.72	(0.64,0.82)	<0.001
SMI Diagnosis (Ref: MDD Only)	Bipolar only	0.75	(0.67,0.85)	<0.001	0.74	(0.66,0.82)	<0.001
	Schizophrenia only	0.57	(0.47,0.68)	<0.001	0.57	(0.49,0.66)	<0.001
	Co-occurring SMI	0.89	(0.80,1.00)	0.043	0.96	(0.88,1.06)	0.456
Chronic Conditions (Ref: No)	Cardiovascular Dis.	0.99	(0.88,1.13)	0.929	0.95	(0.86,1.06)	0.388
	COPD	1.03	(0.93,1.15)	0.540	1.03	(0.94,1.14)	0.493
	Diabetes	0.83	(0.72,0.94)	0.004	0.81	(0.73,0.91)	<0.001
	Hypertension	1.19	(1.08,1.32)	<0.001	1.23	(1.13,1.34)	<0.001
	Infectious Disease	1.19	(1.09,1.30)	<0.001	1.29	(1.19,1.39)	<0.001
	Metabolic Disease	1.26	(1.16,1.37)	<0.001	1.27	(1.19,1.37)	<0.001

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023, (2020 data excluded).

**8. Follow-up After ED Visits with AOD Diagnosis – Sensitivity Analyses**

Exhibit E.62 presents the results of the logistic regression with 2020 data included. The OR estimates were consistent with the logistic regression with 2020 data excluded for follow-up after AOD-Related ED visits.

**Exhibit E.62: Logistic Regression Model for Follow-up After AOD-Related ED Visit (2018 – 2023)**

Variable	Level	7-Day Follow-up Rate			30-Day Follow-up Rate		
		OR	95% CI	p-Value	OR	95% CI	p-Value
Intervention (Int.) Period (Ref: Pre-Int.)	Post-Intervention (Post-Int.)	1.16	(0.97,1.40)	0.109	1.19	(1.01,1.39)	0.034
Time	Pre-Intervention	0.91	(0.77, 1.08)	0.278	1.04	(0.91, 1.20)	0.560
	Post-Intervention	1.03	(1.00, 1.07)	0.064	1.03	(1.00, 1.06)	0.044
Int. Period * Year (Ref: Pre-Int. * 2018)	Pre-Int. * 2019	0.91	(0.77,1.08)	0.278	1.04	(0.91,1.20)	0.560
	Pre-Int. * 2020	1.24	(1.07,1.44)	0.005	1.26	(1.11,1.43)	<0.001
	Post-Int. * 2021	1.28	(1.11,1.47)	<0.001	1.30	(1.15,1.46)	<0.001
	Post-Int. * 2022	1.32	(1.15,1.52)	<0.001	1.33	(1.18,1.50)	<0.001
	Post-Int. * 2023	1.36	(1.18,1.58)	<0.001	1.37	(1.21,1.56)	<0.001
Likelihood of Having an ED Visit		2.35	(0.39,14.31)	0.354	2.19	(0.46,10.38)	0.326
Gender (Ref: Female)	Male	1.05	(0.96,1.16)	0.272	1.09	(1.00,1.17)	0.043
Age Group (Ref: Age 21-30)	Age 31-40	1.20	(1.09,1.32)	<0.001	1.30	(1.20,1.41)	<0.001
	Age 41-50	1.05	(0.95,1.16)	0.356	1.16	(1.06,1.27)	<0.001
	Age 51-64	1.00	(0.89,1.12)	0.974	1.05	(0.95,1.16)	0.320
Race (Ref: White/Caucasian)	Black	0.74	(0.65,0.84)	<0.001	0.62	(0.56,0.69)	<0.001
	Other/Not Available	0.86	(0.80,0.93)	<0.001	0.83	(0.78,0.88)	<0.001
Geographic Location (Ref: Metro)	Non-metro	0.93	(0.86,1.01)	0.095	0.93	(0.86,1.00)	0.039
Dual Eligibility (Ref: Non-dual Eligible)	Dual-Eligible	0.70	(0.61,0.80)	<0.001	0.69	(0.61,0.77)	<0.001
SMI Diagnosis (Ref: MDD Only)	Bipolar only	0.77	(0.69,0.86)	<0.001	0.74	(0.67,0.81)	<0.001
	Schizophrenia only	0.59	(0.50,0.69)	<0.001	0.58	(0.50,0.66)	<0.001
	Co-occurring SMI	0.92	(0.84,1.02)	0.127	0.97	(0.89,1.06)	0.475
Chronic Conditions (Ref: No)	Cardiovascular Dis.	0.95	(0.85,1.07)	0.385	0.92	(0.83,1.02)	0.113
	COPD	1.04	(0.95,1.15)	0.393	1.01	(0.92,1.10)	0.882
	Diabetes	0.80	(0.71,0.91)	<0.001	0.81	(0.73,0.90)	<0.001
	Hypertension	1.23	(1.12,1.35)	<0.001	1.23	(1.14,1.34)	<0.001
	Infectious Disease	1.18	(1.09,1.28)	<0.001	1.28	(1.19,1.37)	<0.001
	Metabolic Disease	1.28	(1.18,1.38)	<0.001	1.28	(1.20,1.37)	<0.001

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023

Exhibit E.63 displays the estimated OR and their statistical significance from one-stage logistic regression. The estimates were consistent with that generated from the two-stage model for follow-up after ED visits for AOD-related diagnosis.

**Exhibit E.63: One-Stage Logistic Regression Model for Follow-up After AOD-Related ED Visit (2018 – 2023, Excluding 2020)**

Variable	Level	7-Day Follow-up Rate			30-Day Follow-up Rate		
		OR	95% CI	p-Value	OR	95% CI	p-Value
Intervention (Int.) Period (Ref: Pre-Int.)	Post-Intervention (Post-Int.)	1.09	(0.86,1.39)	0.463	1.04	(0.85,1.28)	0.698
Time	Pre-Intervention	0.92	(0.78, 1.09)	0.337	1.05	(1.00, 1.10)	0.455
	Post-Intervention	1.05	(1.00, 1.10)	0.052	1.06	(1.02, 1.11)	0.004
Int. Period * Year (Ref: Pre-Int. * 2018)	Pre-Int. * 2019	0.92	(0.78,1.09)	0.337	1.06	(0.92,1.21)	0.455
	Post-Int. * 2021	1.26	(1.08,1.46)	0.002	1.25	(1.10,1.42)	<0.001
	Post-Int. * 2022	1.32	(1.15,1.52)	<0.001	1.33	(1.18,1.50)	<0.001
	Post-Int. * 2023	1.38	(1.19,1.60)	<0.001	1.41	(1.25,1.60)	<0.001
Gender (Ref: Female)	Male	1.09	(1.02,1.17)	0.017	1.12	(1.06,1.20)	<0.001
Age Group (Ref: Age 21-30)	Age 31-40	1.25	(1.13,1.38)	<0.001	1.33	(1.22,1.45)	<0.001
	Age 41-50	1.12	(1.00,1.25)	0.051	1.21	(1.10,1.33)	<0.001
	Age 51-64	1.05	(0.92,1.19)	0.462	1.08	(0.97,1.20)	0.182
Race (Ref: White/Caucasian)	Black	0.77	(0.67,0.87)	<0.001	0.65	(0.58,0.73)	<0.001
	Other/Not Available	0.87	(0.80,0.94)	<0.001	0.83	(0.78,0.89)	<0.001
Geographic Location (Ref: Metro)	Non-metro	0.89	(0.81,0.97)	0.010	0.90	(0.83,0.97)	0.006
Dual Eligibility (Ref: Non-dual Eligible)	Dual-Eligible	0.72	(0.63,0.82)	<0.001	0.70	(0.63,0.79)	<0.001
SMI Diagnosis (Ref: MDD Only)	Bipolar only	0.75	(0.67,0.85)	<0.001	0.74	(0.66,0.82)	<0.001
	Schizophrenia only	0.57	(0.48,0.68)	<0.001	0.57	(0.49,0.66)	<0.001
	Co-occurring SMI	0.94	(0.87,1.02)	0.139	1.00	(0.93,1.07)	0.964
Chronic Conditions (Ref: No)	Cardiovascular Dis.	1.00	(0.88,1.13)	0.938	0.95	(0.86,1.06)	0.393
	COPD	1.05	(0.95,1.17)	0.333	1.05	(0.95,1.15)	0.341
	Diabetes	0.79	(0.71,0.90)	<0.001	0.79	(0.72,0.88)	<0.001
	Hypertension	1.25	(1.15,1.35)	<0.001	1.27	(1.18,1.36)	<0.001
	Infectious Disease	1.23	(1.15,1.33)	<0.001	1.32	(1.24,1.40)	<0.001
	Metabolic Disease	1.23	(1.14,1.33)	<0.001	1.26	(1.18,1.34)	<0.001

Source: Monthly claims/encounter and enrollment files, January 2018 – December 2023 (2020 data excluded).

**Attachment F: IN SMI Evaluation Plan (2021-2025) Waiver**

# **Serious Mental Illness/Serious Emotional Disturbance 2021-2025 Waiver Evaluation Plan**

***Final***



***Prepared for:* Indiana Family and Social Services Administration**

***Submitted by:* The Lewin Group, Inc.**

***February 28, 2022***



**Indiana Family and Social Services  
Administration**

**Serious Mental Illness/Serious Emotional Disturbance  
2021-2025 Waiver Evaluation Plan**

*Final for CMS Review*

*October 27, 2021\**

*\*Revised on February 28, 2022*

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## A. General Background Information

The Centers for Medicare & Medicaid Services (CMS) initially approved the Indiana Family and Social Services Administration's (FSSA) §1115(a) demonstration waiver for adults with serious mental illness (SMI) on December 20, 2019 for a period of January 1, 2020 through December 31, 2020. On October 26, 2020 CMS granted approval for the waiver to remain in effect for five years, from January 1, 2021 through December 31, 2025. Through this demonstration, Indiana will be allowed to receive federal financial participation for services furnished to Medicaid beneficiaries who are primarily receiving short-term treatment services for a serious mental illness (SMI) in facilities that meet the definition of an institution for mental diseases (IMD).

A 2015 report to the Indiana General Assembly highlighted the need for expanded crisis services, access to inpatient psychiatric beds, and improved coordination for individuals transitioning from inpatient services back into the community. Specifically, the report indicated that there is a need for increased options for individuals in psychiatric crises, with survey results suggesting that Indiana residents rely heavily on general hospital emergency rooms to handle individuals in acute crisis.<sup>1</sup> In 2018, the FSSA received authority from the CMS to reimburse IMDs for Medicaid-eligible individuals aged 21-64 years with substance use disorders (SUDs). In 2019, Indiana sought to expand this authority to reimburse for acute inpatient stays in IMDs for individuals diagnosed with SMI.<sup>2</sup>

Through the §1115(a) demonstrations and waiver authorities in the Social Security Act, states can test and evaluate innovative solutions to improve quality, accessibility, and health outcomes in a budget-neutral manner. Indiana's approved §1115 waiver Specific Terms and Conditions (STCs) to implement the SMI waiver require an evaluation of this program's ability to meet its intended goals. This Evaluation Plan will guide the federally required, independent evaluation of this program, and is organized as follows:

- Section A: General Background Information
- Section B: Evaluation Questions and Hypotheses
- Section C: Methodology
- Section D: Methodological Limitations
- Section E: Attachments
  - Attachment E.1: Summary of Independent Evaluator Approach
  - Attachment E.2: Evaluation Budget
  - Attachment E.3: Timeline and Major Milestones
- Section F: Analytic Plans by Goal

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<sup>1</sup> DMHA distributed the Psychiatric and Addiction Crisis Survey in December 2014 and January 2015. Tailored surveys went out to respondent groups including mental health and addiction providers, hospital emergency department staff, first responders, consumer and family advocates, and probation and parole officers.

<sup>2</sup> Reimbursement will not be extended to IMDs for residential stays; additionally, state mental health hospitals will not be classified as IMDs eligible for reimbursement under this waiver. Facilities with more than 16 beds that are certified as Private Mental Health Institution (PMHI) by the Division of Mental Health and Addiction qualify as IMDs under this waiver.

## 1. Demonstration Goals

In an effort to ensure a comprehensive continuum of behavioral health services, the State will monitor the new approaches and flexibilities in Indiana’s Medicaid program to reimburse for acute inpatient stays in IMDs for Medicaid enrollees with SMI. Over the demonstration period (from January 1, 2021 through December 31, 2025), the State seeks to achieve several demonstration goals (**Exhibit A.1**). These goals inform the State’s evaluation of the SMI demonstration and include, but are not limited to, the following:

1. Reduced utilization and length of stay in emergency departments (EDs) among Medicaid beneficiaries with SMI/SED while awaiting mental health treatment in specialized settings;
2. Reduced preventable readmissions to acute care hospitals and residential settings;
3. Improved availability of crisis stabilization services, including services made available through call centers and mobile crisis units, intensive outpatient services, as well as services provided during acute short-term stays in residential crisis stabilization programs, psychiatric hospitals, and residential treatment settings throughout the state;
4. Improved access to community-based services to address the chronic mental health care needs of beneficiaries with SMI/SED, including through increased integration of primary and behavioral health care; and
5. Improved care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities.

**Exhibit A.1: Indiana §1115(a) Demonstration**

**Name of Demonstration:**  
SMI/SED Amendment Request for the Healthy Indiana Plan (HIP)

**Amendment Approval Date of Demonstration:**  
October 26, 2020

**Demonstration Period:** January 1, 2021 - December 31, 2025

The above goals address key milestones of §1115(a) demonstrations outlined in **Exhibit A.2**.

### Exhibit A.2: SMI/SED Demonstration Milestones

Milestones	
<b>Milestone 1</b>	Ensuring quality of care in psychiatric hospitals and residential settings
<b>Milestone 2</b>	Improving care coordination and transitioning to community-based care
<b>Milestone 3</b>	Increasing access to the continuum of care, including crisis stabilization services
<b>Milestone 4</b>	Earlier identification and engagement in treatment, including through increased integration

## 2. Description of the Demonstration and Implementation Plan

In 2018, the FSSA received authority from the CMS to reimburse for inpatient and residential stays in institutions for mental diseases (IMDs) for Medicaid eligible individuals ages 21-64 with substance use disorders (SUD). In 2019, Indiana sought to expand this authority to reimburse for acute inpatient stays in IMDs for individuals diagnosed with SMI.<sup>3</sup> The SMI demonstration was approved by CMS on December 20, 2019 and became effective January 1, 2020. On October 26, 2020, CMS granted approval for the waiver to remain in effect for five years (January 1, 2021 through December 31, 2025).

Under this demonstration, beneficiaries have access to high-quality, evidence-based mental health treatment services. These services range in intensity from short-term acute care in settings that qualify as an IMD to ongoing chronic care for such conditions in cost-effective community-based settings. Indiana must achieve a statewide average length of stay of no more than 30 days in inpatient treatment settings and will be continuously monitored.

### *Overview of Indiana's Behavioral Health System of Care*

Indiana's publicly funded behavioral health (both mental health and addiction) system of care supports access to prevention, early intervention, and recovery-oriented services and supports in all 92 counties, blending federal, state and local funding streams to a provider network of agencies and individual practitioners. Indiana's FSSA and specifically its Office of Medicaid Planning and Policy (OMPP) and Division of Mental Health and Addiction (DMHA) partner to provide policy oversight and primary funding of services and supports for individuals in need of behavioral health services. OMPP includes a robust continuum of behavioral health services as a benefit to enrollees in its fee-for service and Medicaid managed care programs. DMHA leverages its block grant funding from the Substance Abuse and Mental Health Services Administration (SAMHSA) and state appropriations to complement the Medicaid service array, with a focus on serving adults with SMI, youth with SED, and individuals with SUD of any age, and who are at or below 200% of the federal poverty level (FPL). OMPP and DMHA also partner with the Department of Child Services (DCS) and the Department of Corrections (DOC) in supporting access to and oversight of behavioral services for Indiana's most vulnerable Hoosiers.

### **Provider Network**

OMPP maintains a large network of behavioral health providers including hospitals, psychiatric residential treatment facilities (PRTF), SUD residential providers, community-based agencies, and individual practitioners. Individual practitioners are certified and/or licensed by the Indiana Professional Licensing Agency (IPLA). While IPLA is separate and independent from FSSA, both OMPP and DMHA maintain a strong collaborative relationship with the agency. DMHA is responsible for certification and licensure for SUD provider agencies, freestanding psychiatric hospitals, and community mental health centers (CMHCs). Indiana Administrative Code (IAC) outlines provider requirements that assist in assuring quality and program integrity. Addiction, residential, CMHCs, and Clubhouse providers participating within the Medicaid program must be certified/licensed by DMHA prior to provider enrollment with OMPP.

### *Community Mental Health Centers*

There are currently 24 certified CMHCs in Indiana. DMHA is responsible for CMHC certification and requirements under the IAC and/or contracts which include responsibility for respective geographic

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<sup>3</sup> Reimbursement will not be extended to IMDs for residential stays; additionally, state mental health hospitals will not be classified as IMDs eligible for reimbursement under this waiver. Facilities certified as PMHI by the DMHA with more than 16 beds qualify as IMDs under this waiver.

## Indiana §1115(a) SMI/SED Demonstration Evaluation Plan

### A. General Background Information

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service areas to ensure statewide coverage of the continuum of behavioral health services. The CMHCs are required to provide a defined continuum of care that includes:

- Individualized treatment planning;
- Access to 24 hour-a-day crisis intervention;
- Case management;
- Outpatient services, including intensive outpatient services, substance abuse services, and treatment;
- Acute stabilization services including detoxification services;
- Residential services;
- Day treatment, partial hospitalization, or psychosocial rehabilitation;
- Family support;
- Medication evaluation and monitoring; and
- Services to prevent unnecessary and inappropriate treatment and hospitalization and the deprivation of a person's liberty.

Many of these services are part of Medicaid Rehabilitation Option (MRO) state plan services, under which an assessment confirms a need for services with an eligible diagnosis and level-of-care determination using the Child and Adolescent Needs and Strengths Assessment (CANS) or Adult Needs and Strengths Assessment (ANSA).

#### **Current Service Continuum**

##### *Prevention/Early Intervention*

Prevention/early intervention occur through the Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program. These services are available to Medicaid members from birth through the month of the member's 21st birthday. Members eligible for EPSDT services may be enrolled in the Healthy Indiana Plan (HIP), Hoosier Care Connect (HCC), Hoosier Healthwise (HHW), or Traditional Medicaid. A psychosocial/behavioral assessment is required at each EPDST visit. This assessment is family-centered and may include an assessment of a child's social-emotional health, caregiver depression, as well as social risk factors. The Indiana Health Coverage Programs (IHCP) also provide coverage for annual depression screening and screening and brief intervention (SBI) services. Providers are expected to use validated, standardized tests for the depression screening. These tests include, but are not limited to, the Patient Health Questionnaire (PHQ), Beck Depression Inventory, Geriatric Depression Scale, and Edinburgh Postnatal Depression Scale (EPDS). SBI identifies and intervenes with individuals who are at risk for substance abuse related problems or injuries. SBI services use established systems, such as trauma centers, emergency departments, community clinics, and school clinics, to screen patients who are at risk for substance abuse and, if necessary, provide the patients with brief interventions or referrals to appropriate treatment.

##### *Outpatient Mental Health Services*

The IHCP covers outpatient mental health services provided by a licensed medical doctor, doctor of osteopathy, psychologist endorsed as a health service provider in psychology (HSPP), psychiatric hospitals, psychiatric wings of acute care hospitals, and outpatient mental health facilities.

Reimbursement is also available for services provided by mid-level practitioners when a physician or an HSPP supervises those services. The physician, psychiatrist, or HSPP is responsible for certifying the diagnosis and supervising the treatment plan.

### *Adult Mental Health Habilitation Services*

Effective November 1, 2014, Indiana implemented the §1915(i) Adult Mental Health Habilitation (AMHH) services program. Indiana adopted AMHH services to provide community-based opportunities for the care of adults with SMI who may most benefit from keeping or learning skills to maintain a healthy safe lifestyle in the community. AMHH services are intended for individuals who meet all of the following core target group criteria: 1) enrolled in Medicaid; 2) aged 19 years or older; 3) reside in a setting which meets federal setting requirements for home and community-based services (HCBS); and 4) has an AMHH-eligible, DMHA-approved diagnosis.<sup>4</sup> Once approved by the State Evaluation Team, an eligible AMHH enrollee is able to receive an AMHH service package, according to an individualized care plan. All services covered under the AMHH program are applicable for an additional prior authorization (PA) option. This will allow additional units to be authorized above the initial listed limit. Additional units can be requested via the Data Assessment Registry Mental Health and Addiction (DARMHA) system. The State Evaluation Team (SET) will review all PA requests and approve or deny additional units requested. Initial eligibility in the program is for one year and can be extended if medical need remains. The following are the AMHH services:

- Adult day services
- Home- and Community-Based Habilitation and Support Services
- Respite care
- Therapy and behavioral support services
- Addiction counseling
- Supported community engagement services
- Care coordination
- Medication training and support

### *Inpatient/Acute Care*

Prior authorization is required for all inpatient psychiatric admissions, rehabilitation, and substance abuse inpatient stays. Each Medicaid-eligible patient admitted to an acute psychiatric facility or unit must have an individually developed plan of care (POC). For members aged 22 years and older, a POC must be developed by the attending or staff physician. For members aged 21 years old and younger, POCs must be developed by a physician and interdisciplinary team. All POCs must be developed within 14 days of the admission date, regardless of the member's age. For a patient who becomes eligible for

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<sup>4</sup> Indiana recently amended its AMHH SPA, which became effective April 1, 2020. The modifications are intended to make the program more accessible for members and remove administrative burden for providers. Specific changes are as follows:

- Eligibility age was changed from 35 years and older to 19 years and older;
- The required Adult Needs and Strengths Assessment (ANSA) score was changed from 4 and above to 3 and above; and
- Each AMHH service will no longer require an individual justification. Instead, an individual service package will be assigned.



## Indiana §1115(a) SMI/SED Demonstration Evaluation Plan

### A. General Background Information

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Medicaid after admission to a facility, the POC must be prepared to cover all periods for which Medicaid coverage is claimed. The following components must be documented in each member's POC:

1. Treatment objectives and goals, including an integrated program of appropriate therapies, activities, and experiences designed to meet the objectives; and
2. A post-discharge plan and a plan for coordination of inpatient services with partial discharge plans, including appropriate services in the member's community to ensure continuity of care when the patient returns to their family and community upon discharge.

The POC is developed as a result of a diagnostic evaluation that includes an examination of the medical, psychological, social, and behavioral aspects of the member's presenting problem and previous treatment interventions. The attending or staff physician reviews the POC to ensure that appropriate services are provided and that they continue to be medically necessary. The attending or staff physician also recommends necessary adjustments in the plan, as indicated by the member's overall adjustment while an inpatient. The POC must be in writing and must be part of the member's record.

#### *State Hospitals*

Indiana's six state psychiatric hospitals provide intermediate and longer-term inpatient psychiatric stays for adults who have co-occurring mental health and addiction issues; who are deaf or hearing impaired; and who have forensic involvement; as well as youth with SED. Individuals are admitted to a state hospital only after a screening by a CMHC. CMHCs are responsible for providing case management to the individual in both the hospital and their transition to the community following discharge. The state psychiatric hospitals are accredited by the Joint Commission (JC). To maintain JC accreditation, all hospitals are required to participate in a performance measurement program. This is accomplished through participation in the National Research Institute Performance Measurement System, which provides a framework within which the state psychiatric hospitals can identify and implement consistent measures of performance and outcomes.

On March 15, 2019, Indiana opened its NeuroDiagnostic Institute (NDI) and Advanced Treatment Center located on the campus of Community East Hospital in Indianapolis. Operated in partnership with Community Health Network, NDI delivers advanced evaluation and treatment for patients with the most challenging and complex neuropsychiatric illnesses and transitions them more efficiently into the most appropriate treatment settings within the community or to a state-operated inpatient system of care. The NDI is a key component of FSSA's initiative to modernize and reengineer Indiana's network of state-operated inpatient mental health facilities, including reducing lengths of stay. The NDI also serves as a teaching hospital by partnering with local universities for medical and nursing students, as well as social work and psychology interns, which affords them hands-on experience helping NDI patients in their recovery.

#### *Telehealth*

Effective March 1, 2020 and through the duration of Indiana's coronavirus disease 2019 (COVID-19) Public Health Emergency (PHE), the OMPP was authorized via executive order to expand the variety of services, providers, and modalities rendered via telehealth. This expansion included the following allowances: 1) voice-only modalities (e.g., telephones) could be utilized for telehealth purposes, 2) health care services that were allowed via telehealth were no longer limited to procedure codes on IHCP's Telemedicine Services Code Set, and 3) the set of providers who could use telehealth was no

longer limited by licensure restrictions defined under the Indiana Professional Licensing Agency (IPLA) section of Indiana Code.

Due to these changes in policy, IHCP saw an increase in the number of claims billed when using telehealth services. In 2019, there were only 63,844 paid claims for telehealth services, versus 2,673,241 claims in 2020, an increase of over 4000%. A majority of these claims were submitted by behavioral health providers, with claims for psychotherapy services making up a significant portion of health care services provided via telehealth.

As a result of this increase in access to services using telehealth, OMPP was supportive of Indiana Senate Bill 3: “Telehealth Matters,” which expanded the “telemedicine” section of code under the IPLA to include an expanded list of “practitioners” able to utilize telehealth service delivery under their scope of licensure and updated the term “telemedicine” to instead the more inclusive term of “telehealth.” The bill therefore allowed OMPP to keep some of the policy expansions bestowed to the agency during the PHE in relation to telehealth. The bill was signed into law April 20th, 2021 and is effective starting at the end of executive order permissions. OMPP is currently working to adopt this new legislation into permanent telehealth policy.

### **State Strategies for Addressing Waiver Milestones**

#### **Current Oversight of Institutions for Mental Disease (IMDs)**

In order to operate in the state of Indiana, all free-standing psychiatric hospitals must be licensed as a private mental health institution (PMHI) by DMHA. 440 IAC 1.5 currently requires PMHIs to be accredited by an accrediting body approved by the Division. This list only includes accrediting agencies also approved by CMS for deeming authority for Medicare requirements under 42 CFR 488.5 or 42 CFR 488.6. PMHI licensure must be renewed annually. DMHA conducts annual visits to ensure requirements are being met. In SFY 2019, all PMHI renewal site visits were unannounced. In SFY 2020, all site visits were conducted virtually due to the PHE. DMHA utilizes a site visit checklist that crosswalks with licensure requirements. The site visit checklist includes confirmation that individuals receive a physical within 24 hours of admission as well as an initial emotional, behavioral, social and legal assessment per IAC requirements. This includes screening for chronic health conditions and substance use disorders. Prior authorization is currently required for inpatient psychiatric care under both managed care and for fee for service enrollees, and, with the implementation of the State’s SMI demonstration, includes IMD admissions as well. There are currently 29 freestanding psychiatric hospitals licensed in the state of Indiana with a capacity of 1,193 beds. Only 11 of the 29 PMHIs have 16 or fewer beds. DMHA is in the process of reviewing the IAC related to PMHIs with attention to quality assurance and monitoring for these providers based on the most recent cycle of onsite reviews and compliance with the goals and milestones under Indiana’s current §1115 SMI waiver authority.

#### **Improving Integration and Care Coordination, including Transitions to Community Based Care**

Indiana has several initiatives, leveraging different authorities outside the §1115(a) waiver, to promote and expand care coordination and integrated delivery of behavioral health and primary care. These efforts focus on both youths with SED and adults with SMI and include cross-collaboration with Indiana’s DMHA and State Department of Health (ISDH).

***Indiana's Primary Care and Behavioral Health Integration***

FSSA in partnership with ISDH launched an initiative in 2012 to develop a statewide strategic plan to integrate primary and behavioral health care services in Indiana. Indiana's Primary Care and Behavioral Health Integration (PCBHI) efforts include the formation of a statewide stakeholder group, formalized definition for integration for Indiana, and the original creation of five subcommittees that spearheaded research and collaboration in the following areas that support integrated care:

- Data/Technology
- Education/Training
- Funding/Reimbursement
- Health Homes/Care Coordination
- Policy Development

In addition, FSSA applied for and was awarded the SAMHSA and National Association of State Mental Health Program Directors (NASMHPD) Transformation Transfer Initiative (TTI) Grant, which allowed Indiana to complete the following initiatives toward integration:

- Eight integration educational training events in 2013;
- Completion of a statewide integration survey;
- Cross-training opportunities for Community Health Workers (CHW) and Certified Recovery Specialists;
- Creation of an established process for state approved integrated care CHW certification; and
- Creation of established PCBHI Guiding Principles.

FSSA and ISDH established a process by which CMHCs, Federally Qualified Health Centers (FQHCs), Community Health Centers (CHCs), and Rural Health Clinics (RHCs) could become a state-certified, integrated care entity (ICE). ICE providers are required to provide care coordination that includes partnering with physicians, nurses, social workers, discharge planners, pharmacists, representatives in the education system, representatives of the legal system, representatives of the criminal justice system and others during any transition of care. The goals of this coordination include reducing unnecessary inpatient and emergency room use and increasing consumer and family members' ability to manage their own care and live safely in the community. Due to the Covid-19 pandemic, the State has to postpone this project. OMPP and DMHA are reevaluating the changes that need to be made within the Behavioral Health System in order to successfully transition from the ICE model to a health home program.

***Behavioral and Primary Healthcare Coordination Service Program***

Conceived under a separate §1915(i) state plan amendment, the Behavioral and Primary Healthcare Coordination (BPHC) program offers a service that consists of the coordination of health care services to manage the mental health/addiction and physical health care needs of eligible recipients. This includes logistical support, advocacy and education to assist individuals in navigating the health care system and activities that help recipients gain access necessary to manage their physical and behavioral health conditions.

## Indiana §1115(a) SMI/SED Demonstration Evaluation Plan

### A. General Background Information

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BPHC service activities may include support in adhering to health regimens, scheduling and keeping medical appointments, obtaining and maintaining a primary medical provider and facilitating communication across providers. In addition, BPHC includes direct assistance in gaining access to services; coordination of care within and across systems; oversight of the entire case; linkage to appropriate services; needs-based assessment of the eligible recipient to identify service needs; development of an individualized integrated care plan (IICP); referral and related activities to help the recipient obtain needed services; monitoring and follow-up; and evaluation.

#### *Child Mental Health Wraparound (CMHW) Services*

The §1915(i) Child Mental Health Wraparound (CMHW) Services Program is authorized through Medicaid state plan authority. The §1915(i) CMHW Services are outlined in 405 IAC 5- 21.7. CMHW services provide youth with SED with intensive home and community-based wraparound services provided within a system of care (SOC) philosophy and consistent with wraparound principles. Services are intended to augment the youth's existing or recommended behavioral health treatment plan. The State's purpose for providing CMHW services is to serve eligible participants who have SED and enable them to benefit from receiving intensive wraparound services within their home and community with natural family/caregiver supports and provided sustainability of these services, which were originally offered under the CMS Community Alternatives to Psychiatric Residential Treatment Facilities (CA-PRTF) demonstration. Under the demonstration, Indiana was able to provide a quicker and more seamless transition of youth from PRTF placement as well as prevent some youth from placement within a PRTF setting. The CMHW services available to the eligible participant include wraparound facilitation, habilitation, respite care, and training and support for the unpaid caregiver. In 2020, the State incorporated auto-renewals to ensure that individuals did not lose coverage during the PHE.

#### **Increasing Access to Continuum of Care Including Crisis Stabilization Services**

On March 18, 2019, CMS approved a state plan amendment that expands crisis intervention services, intensive outpatient program services, and peer recovery services to all Indiana Medicaid programs. Previously, these services were limited to the MRO program. This change expands the potential number of providers eligible to deliver these services to Indiana enrollees. This SPA became effective July 1, 2019.

This expansion of the crisis continuum specifically began in 2014. DMHA partnered with the National Alliance on Mental Illness of Indiana (NAMI Indiana), Mental Health America of Indiana (MHAI), the Indiana Hospital Association (IHA), Key Consumer, and the Indiana Council on Community Mental Health Centers (ICCMHC) to conduct a review of Indiana's mental health and substance use crisis services. The review was in response to Indiana Senate Enrolled Act No. 248 of 2014, which mandated DMHA to conduct a psychiatric crisis intervention study ("crisis study") and report the results to the legislative council by September 2015. The crisis study included a review of psychiatric and addiction crisis services available in Indiana, a survey of professionals and individuals in Indiana who have experience with the current state of Indiana's crisis response, and a review of crisis services and models implemented by other states that could improve outcomes for individuals who experience psychiatric or addiction crises.

In Indiana's application for the Serious Mental Illness (SMI) 1115 Waiver, the State indicated interest in expanding and improving the crisis services available to members across the State. These programmatic changes were supposed to be implemented by DMHA during calendar year 2020 but due to the COVID-19 pandemic were put on hold. Prior to the PHE, the State covered many of the crisis services that the SAMHSA suggests should be included in Community-Based Mobile Crisis Units. With the passing of the

## Indiana §1115(a) SMI/SED Demonstration Evaluation Plan

### A. General Background Information

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American Rescue Plan in March 2021, the State is looking into applying for the federal match opportunity related to Community-Based Mobile Crisis Response Services. In addition to establishing mobile response units, the State hopes to establish Crisis Stabilization Units (CSU). The goals for these units are to provide an alternative to crisis evaluations within emergency departments and divert admissions to inpatient psychiatric units. Currently, OMPP and DMHA are working together to develop a plan to expand crisis services as outlined in the approved SMI 2020 Evaluation Plan.

Additionally, in accordance with 440 IAC 9-2-2, all CMHCs must provide 24/7 crisis intervention services which meet the following minimum requirements:

- Operation and promotion of a toll-free or local call crisis telephone number staffed by individual(s) trained to recognize emergencies and refer calls to the appropriate clinician or program;
- When a determination is made by the crisis telephone line that a clinician needs to be involved, a trained clinician is available to reach the consumer by telephone within 15 minutes;
- When the assessment indicates a face-to-face meeting between the clinician and consumer is necessary, an accessible safe place is available within 60 minutes driving distance of any part of the CMHC's service area, with a transportation plan for consumers without their own mode of transportation to be able to access the safe place; and
- Participation in a quality assurance/quality improvement system that includes a review of individual cases and identification and resolution of systemic issues including review by supervisory or management level staff for appropriateness of disposition for each crisis case.

Some of the State's CMHCs are providing the following additional crisis services:

- Mobile crisis teams
- Assertive community treatment (ACT)
- 23-hour crisis stabilization units
- Short-term crisis residential
- Peer crisis services

Additionally, Hoosier Care Connect managed care entities (MCEs), who serve the State's aged, blind and disabled Medicaid population are contractually required to ensure the availability of behavioral health crisis intervention services 24/7.

### Earlier Identification and Engagement in Treatment

Indiana has expanded coverage for mental health screening, SUD screening, and referral under Medicaid. In 2014, OMPP expanded provider types eligible for reimbursement of screening and brief intervention for SUD to include midlevel licensed individuals under the supervision of a physician, including nurse practitioners (NP), health service providers in psychology (HSPP), licensed clinical social workers (LCSW), licensed mental health counselors (LMHC), and licensed marriage and family therapists (LMFT). In October 2016, OMPP began coverage for annual depression screening. Providers are expected to use validated standardized tests for the screening. These tests include, but are not limited to, the Patient Health Questionnaire (PHQ), Beck Depression Inventory, Geriatric Depression Scale, and Edinburgh Postnatal Depression Scale (EPDS). Coverage applies to all IHCP programs under Medicaid.

**A. General Background Information**

The State has also focused on school-based initiatives to increase behavioral health integration. Indiana Medicaid allows enrolled school corporations reimbursement for Medicaid-covered services in an Individualized Education Program (IEP) or Individualized Family Service Plan (IFSP). Medicaid-covered IEP services include occupational, physical, speech and applied behavior analysis therapy, hearing, nursing and behavioral health evaluation and treatment services as well as IEP-required specialized transportation. In addition, CMHCs across the State work in close collaboration with Indiana schools. Currently 85% of school districts have partnerships with the CMHC in their area. Through these partnerships behavioral health staff are co-located within the schools and providing behavioral health services to youth and their families.

**3. Population Groups Impacted by the Demonstration**

Indiana will evaluate whether the demonstration has the intended effects on the target population. This waiver of the IMD exclusion includes all Medicaid beneficiaries aged 21-64 years, regardless of the delivery system. All enrollees will continue to receive services through their current delivery system and payment methodologies will be consistent with those approved in the Medicaid State Plan.

***Demonstration Eligibility***

Individuals apply for Medicaid services through the Division of Family Resources, which determines eligibility for Indiana Health Coverage Programs. If an individual is determined eligible, beneficiaries will have access to high quality, evidence-based mental health treatment services under this demonstration.

All enrollees eligible for a mandatory or optional eligibility group approved for full Medicaid coverage, and aged 21-64 years, would be eligible for acute inpatients stays in an IMD under the waiver. The eligibility groups outlined in **Exhibit A.3** below are not eligible for stays in an IMD as they receive limited Medicaid benefits only.

**Exhibit A.3: Eligibility Groups Excluded from the Demonstration**

<b>Eligibility Group Name</b>	<b>Social Security Act &amp; CFR Citation</b>
<b>Limited Services Available to Certain Aliens</b>	42 CFR §435.139
<b>Qualified Medicare Beneficiaries (QMB)</b>	1902(a)(10)(E)(i) 1905(p)
<b>Specified Low Income Medicare Beneficiaries (SLMB)</b>	1902(a)(10)(E)(iii)
<b>Qualified Individual (QI) Program</b>	1902(a)(10)(E)(iv)
<b>Qualified Disabled Working Individual (QDWI) Program</b>	1902(a)(10)(E)(ii) 1905(s)
<b>Family Planning</b>	1902(a)(10)(A)(ii)(XXI)

## B. Evaluation Questions and Hypotheses

The evaluation will focus on the demonstration policy goals described in **Section A**. This section provides the hypotheses and research questions (RQs) that correspond to each of the goals. Logic models, depicting the expected relationship between activities and short- and long-term outcomes, are included for each research question.

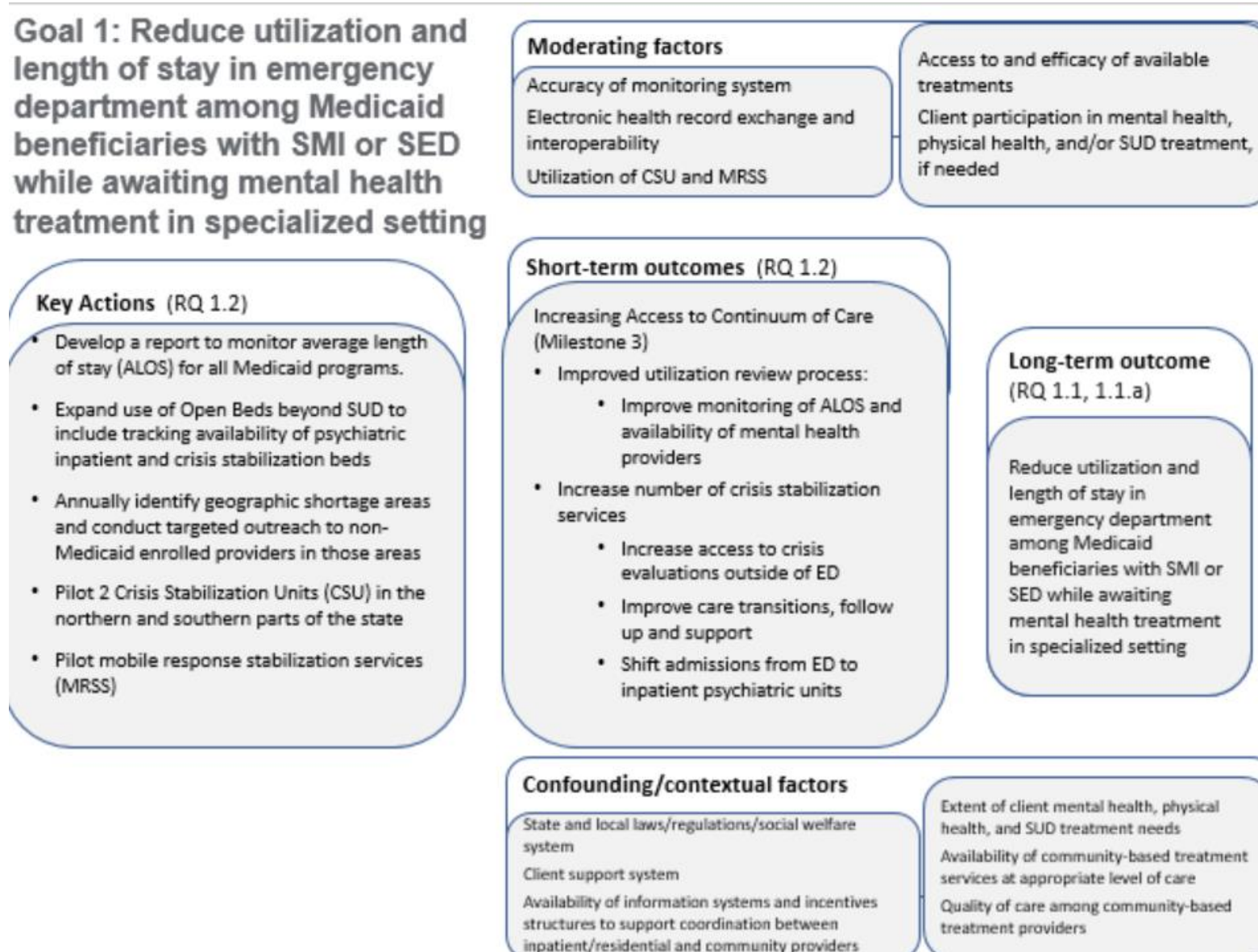
### 1. Goal One: Reduced utilization and length of stay in emergency departments (EDs) among Medicaid beneficiaries with SMI/SED while awaiting mental health treatment in specialized settings

The evaluation explores the impact of expanding access to high-quality, evidence-based mental health treatment services in IMDs on utilization and length of stay in EDs among Medicaid beneficiaries with SMI/SED while awaiting mental health treatment in specialized settings. **Exhibit B.1.a.** lists the hypothesis and research questions and **Exhibit B.1.b.** outlines the logic model corresponding to this goal.

#### Exhibit B.1.a.: Hypothesis and Research Questions for Goal 1

Hypotheses	Research Questions
<p><b>Hypothesis 1:</b> The SMI/SED demonstration will result in reductions in utilization and length of stay in EDs among Medicaid beneficiaries with SMI/SED while awaiting mental health treatment.</p>	<p><b>Primary research question 1:</b> Does the SMI/SED demonstration result in reductions in utilization and length of stay in EDs among Medicaid beneficiaries with SMI/SED while awaiting mental health treatment?</p> <p><b>Subsidiary research question 1.1:</b> How do the SMI/SED demonstration effects on reducing utilization and length of stay in EDs among Medicaid beneficiaries with SMI/SED vary by geographic area or beneficiary characteristics?</p> <p><b>Subsidiary research question 1.2:</b> How do SMI/SED demonstration activities contribute to reductions in utilization and length of stay in EDs among Medicaid beneficiaries with SMI/SED while awaiting mental health treatment in specialized settings?</p>

Exhibit B.1.b.: Logic Model for Goal 1





## 2. Goal Two: Reduced preventable readmissions to acute care hospitals and residential settings

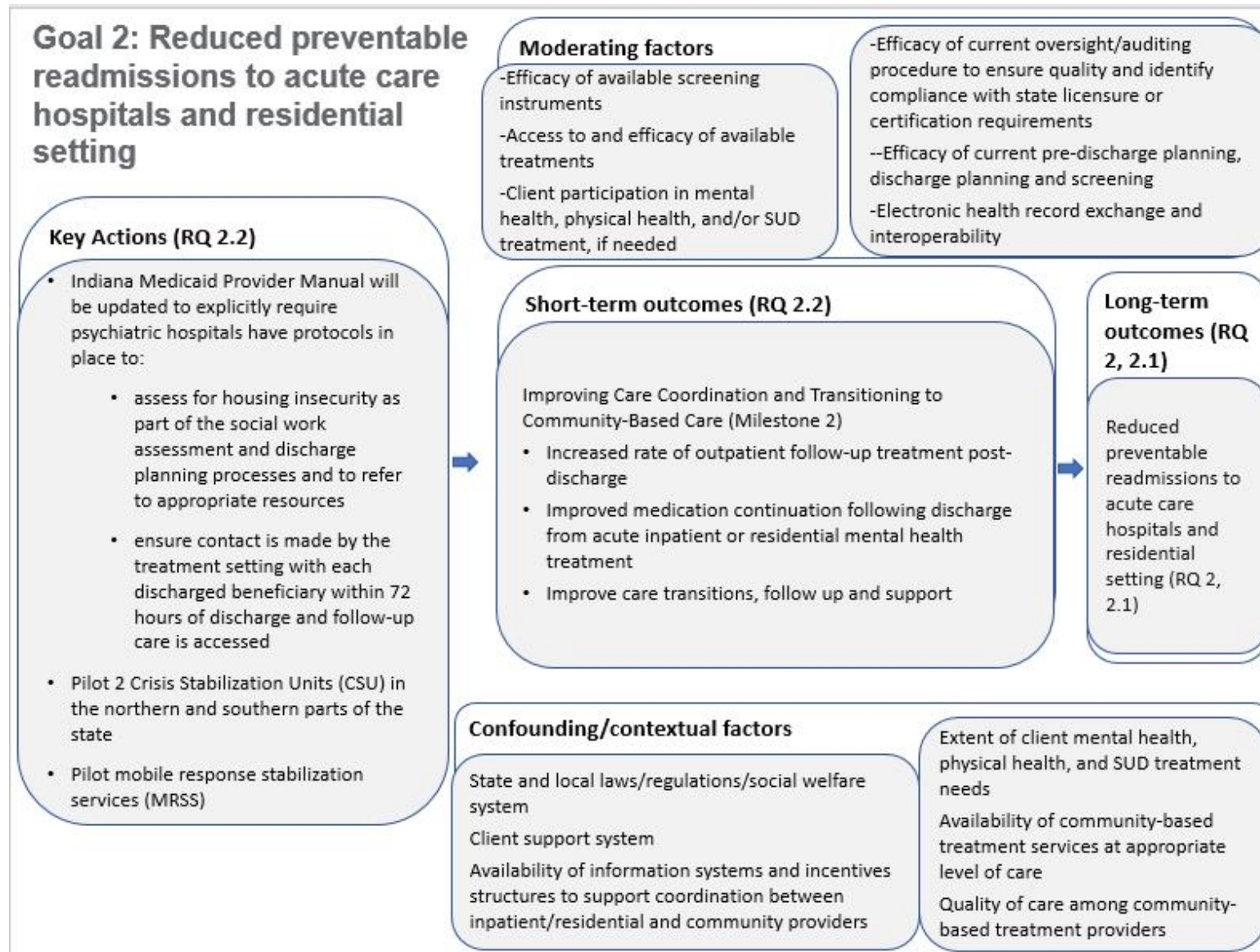
The evaluation explores the impact of expanding access to high-quality, evidence-based mental health treatment services in IMDs on reductions to preventable readmissions to acute care hospitals and residential settings. **Exhibit B.2.a.** below lists the hypothesis and research questions and **Exhibit B.2.b.** outlines the logic model corresponding to this goal.

### Exhibit B.2.a.: Hypothesis and Research Questions for Goal 2<sup>5</sup>

Hypotheses	Research Questions
<p><b>Hypothesis 2:</b> The SMI/SED demonstration will result in reductions in preventable readmissions to acute care hospitals and residential settings.</p>	<p><b>Primary research question 2:</b> Does the SMI/SED demonstration result in reductions in preventable readmissions to acute care hospitals and residential settings (including, short-term inpatient and residential admissions to both IMDs and non-IMD acute care hospitals, critical access hospitals, and residential settings)?</p> <p><b>Subsidiary research question 2.1:</b> How do the SMI/SED demonstration effects on reducing preventable readmissions to acute care hospitals and residential settings vary by geographic area or beneficiary characteristics?</p> <p><b>Subsidiary research question 2.2:</b> How do demonstration activities contribute to reductions in preventable readmissions to acute care hospitals and residential settings?</p> <p><b>Subsidiary research question 2.3:</b> Does the SMI/SED demonstration result in increased screening and intervention for comorbid SUD and physical health conditions during acute care psychiatric hospital and residential setting stays and increased treatment for such conditions after discharge?</p>

<sup>5</sup> Indiana is not including Subsidiary Research Question 2.3: “Does the SMI/SED demonstration result in increased screening and intervention for comorbid SUD and physical health conditions during acute care psychiatric hospital and residential setting stays and increased treatment for such conditions after discharge?” Calculation and monitoring of such a metric will require medical reviews be performed which would require substantial resources. As this research question is not associated with primary objective of the waiver, the State determined not to monitor and calculate this metric during time of preparation of this evaluation plan.

Exhibit B.2.b.: Logic Model for Goal 2



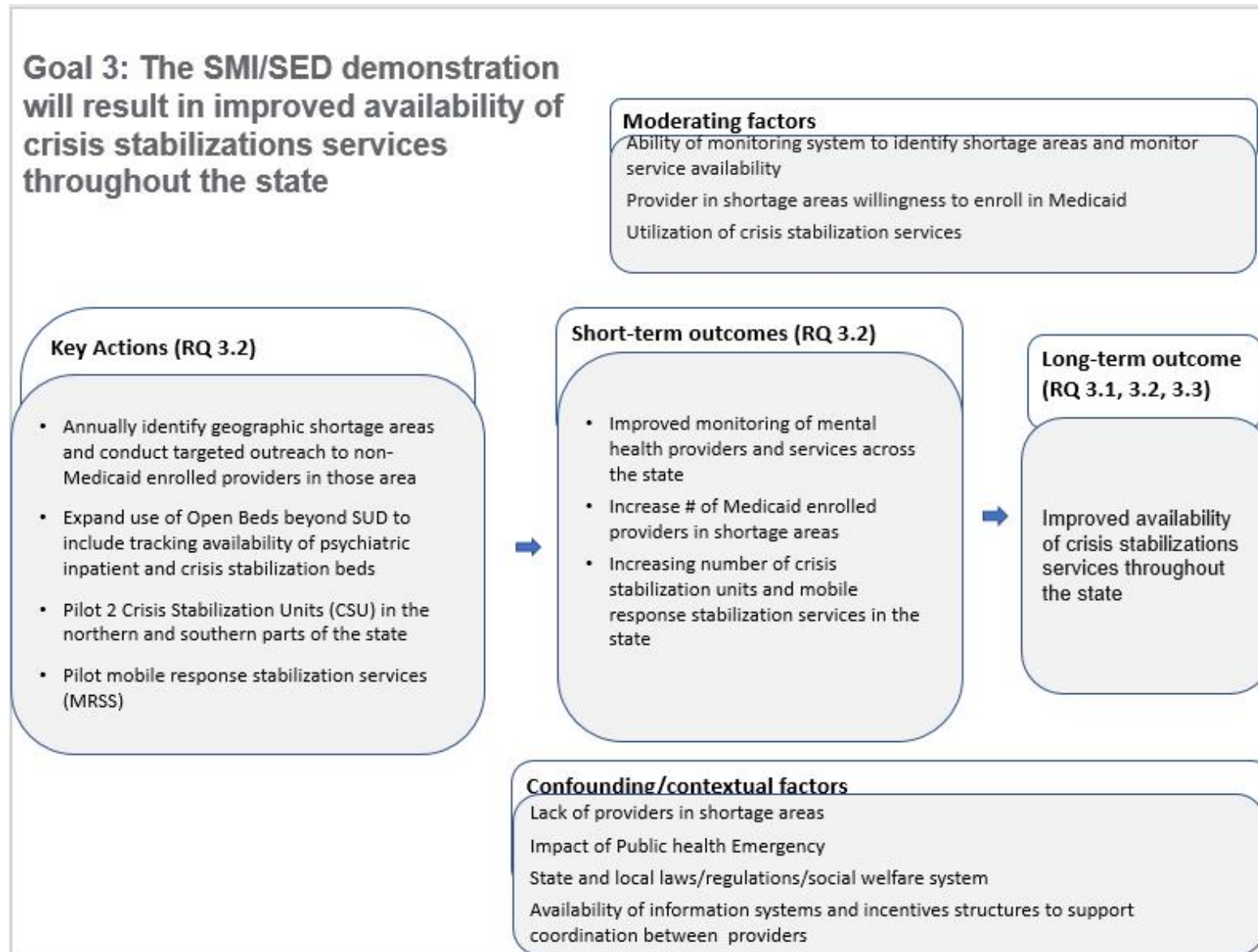
### 3. Goal Three: Improved availability of crisis stabilization services utilizing multiple service models to meet the unique needs across the state

Indiana will assess the availability of crisis stabilization services across the state. **Exhibit B.3.a.** below lists the hypotheses and research questions and **Exhibit B.3.b.** outlines the logic model corresponding to this goal.

**Exhibit B.3.a.: Hypothesis and Research Questions for Goal 3**

Hypotheses	Research Questions
<p><b>Hypothesis 3:</b> The SMI/SED demonstration will result in improved availability of crisis stabilization services throughout the state.</p>	<p><b>Primary research question 3.1:</b> To what extent does the SMI/SED demonstration result in improved availability of crisis outreach and response services (including crisis call centers, mobile crisis units, crisis observation/assessment centers, and coordinated community crisis response teams) throughout the state?</p> <p><b>Primary research question 3.2:</b> To what extent does the SMI/SED demonstration result in improved availability of intensive outpatient services and partial hospitalization?</p> <p><b>Primary research question 3.3:</b> To what extent does the SMI/SED demonstration improve the availability of crisis stabilization services provided during acute short-term stays in each of the following: public and private psychiatric hospitals; residential treatment facilities; general hospital psychiatric units; and community-based settings (such as residential crisis stabilization programs, small inpatient units in community mental health centers, peer-run crisis respite programs, and so on)?</p>

Exhibit B.3.b.: Logic Model for Goal 3



**B. Evaluation Questions and Hypotheses**

**4. Goal Four: Improved access to community-based services to address the chronic mental health care needs of beneficiaries with SMI or SED including through increased integration of primary and behavioral health care.**

Indiana will assess the access to community-based services to address the chronic mental health care needs of beneficiaries with SMI or SED including through increased integration of primary and behavioral health care. **Exhibit B.4.a.** below lists the hypotheses and research questions and **Exhibit B.4.b.** outlines the logic model corresponding to this goal.

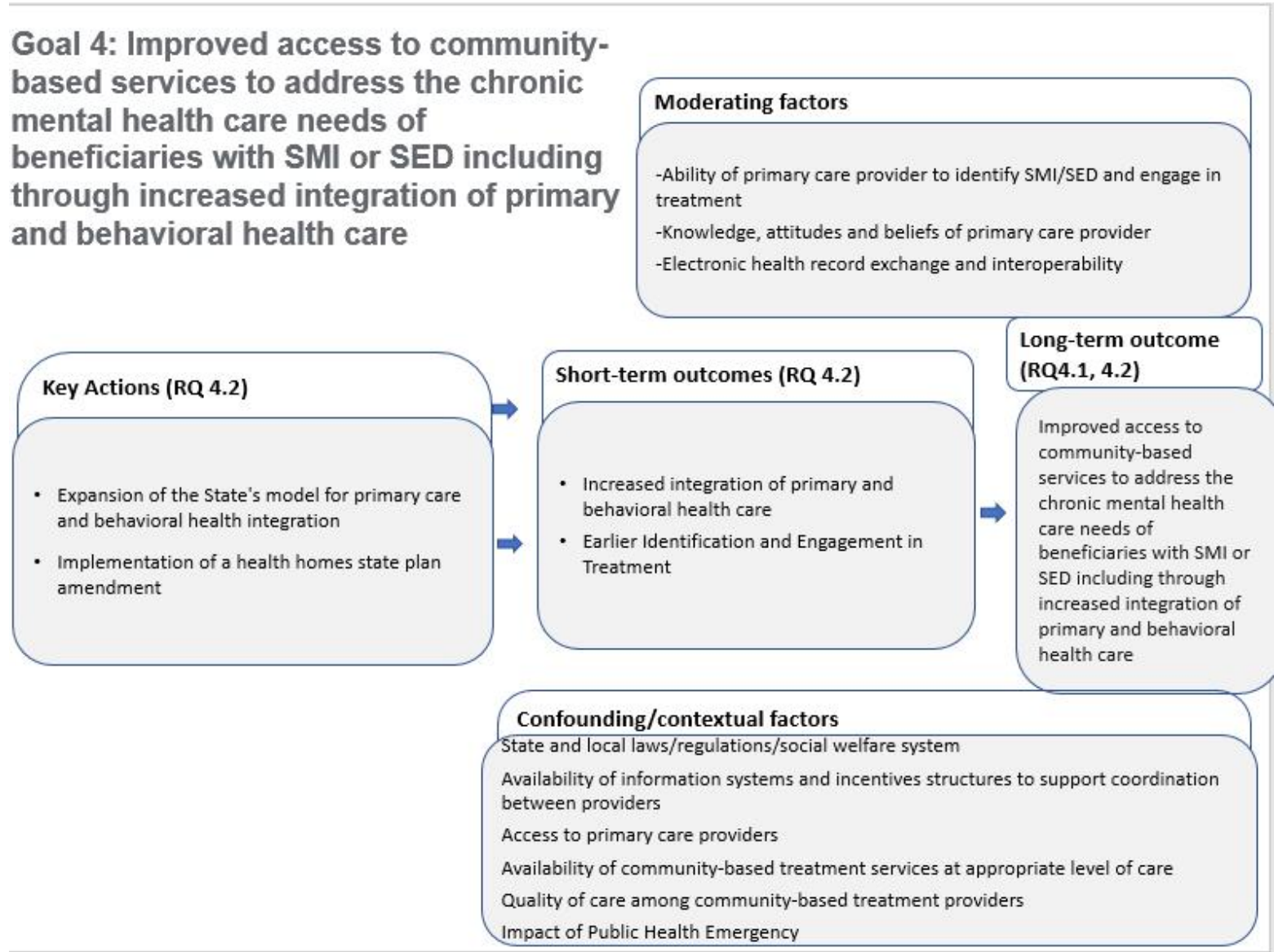
**Exhibit B.4.a.: Hypothesis and Research Questions for Goal 4<sup>6</sup>**

Hypotheses	Research Questions
<p><b>Hypothesis 4:</b> Access of beneficiaries with SMI/SED to community-based services to address their chronic mental health care needs will improve under the demonstration, including through increased integration of primary and behavioral health care.</p>	<p><b>Primary research question 4.1:</b> Does the demonstration result in improved access of beneficiaries with SMI/SED to community-based services to address their chronic mental health care needs?</p> <p><b>Subsidiary research question 4.1a:</b> To what extent does the demonstration result in improved availability of specific types<sup>7</sup> of community-based services needed to comprehensively address the chronic needs of beneficiaries with SMI/SED?</p> <p><b>Subsidiary research question 4.1b:</b> To what extent does the demonstration result in improved access of SMI/SED beneficiaries to the specific types of community-based services that they need?</p> <p><b>Primary research question 4.2:</b> Does the integration of primary and behavioral health care to address the chronic mental health care needs of beneficiaries with SMI/SED increase under the demonstration?</p>

<sup>6</sup> Indiana is not including Subsidiary Research Question 4.1c in this Evaluation Plan: “How do the SMI/SED demonstration effects on access to community-based services vary by geographic area or beneficiary characteristics?” The provider type summaries seen in Goal 3 can address this subsidiary RQ and streamline evaluation efforts and State resources.

<sup>7</sup> Types of community-based services to address the chronic mental health care needs of beneficiaries with SMI/SED may include certified community behavioral health clinics, supportive housing, illness self-management, evidence-based psychotherapy, peer-support and consumer-operated services, psychosocial habilitation or rehabilitation, outreach to and engagement of those who are homeless, systematic medication management, integrated treatment for co-occurring substance use disorders and other disabilities, supported employment, education and family supports, school-based services, and trauma-informed care, among others.

Exhibit B.4.b.: Logic Model for Goal 4



## 5. Goal Five: Improved care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities

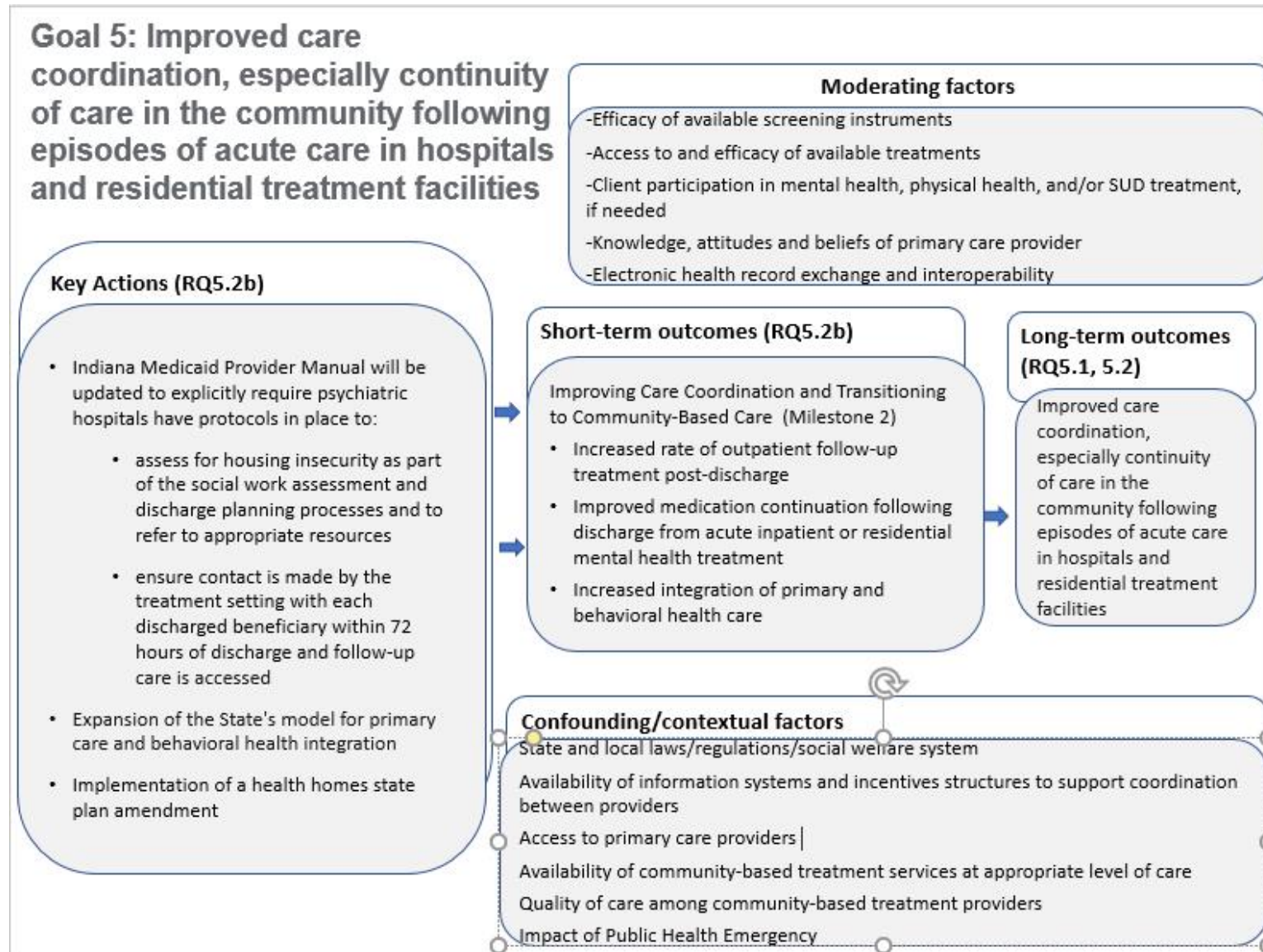
Indiana will assess care coordination for beneficiaries with SMI/SED, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities. **Exhibit B.5.a.** below lists the hypotheses and research questions and **Exhibit B.5.b.** outlines the logic model corresponding to this goal.

### Exhibit B.5.a.: Hypotheses and Research Questions for Goal 5<sup>8</sup>

Hypotheses	Research Questions
<p><b>Hypothesis 5:</b> The SMI/SED demonstration will result in improved care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities.</p>	<p><b>Primary research question 5.1:</b> Does the SMI/SED demonstration result in improved care coordination for beneficiaries with SMI/SED?</p> <p><b>Primary research question 5.2:</b> Does the SMI/SED demonstration result in improved continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities?</p> <p><b>Subsidiary research question 5.2b:</b> How do demonstration activities contribute to improved continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities?</p>

<sup>8</sup> Indiana is not including Subsidiary Research Question 5.2a: “Does the SMI/SED demonstration result in improved discharge planning and outcomes regarding housing for beneficiaries transitioning out of acute psychiatric care in hospitals and residential treatment facilities?” The rationale for not addressing this question is that it is a subsidiary question (versus a primary research question), and the level of effort involved in obtaining and reviewing the facility records/facility discharge records (required for any of the CMS-recommended outcome measures) would be substantial.

Exhibit B.5.b.: Logic Model for Goal 5





## C. Methodology

This section provides a summary of Indiana’s evaluation design, including data sources, target populations, evaluation period, and analytic methods. This Evaluation Plan aims to provide a baseline of the demonstration through descriptive quantitative analyses and qualitative data collection and analysis to reflect all five of the program goals and to incorporate CMS’ §1115(a) SMI/SED and SUD Evaluation Guidance.<sup>9</sup>

This Evaluation Plan covers Interim Evaluation and Summative Evaluation for SMI Demonstration (2021-2025 waiver) which will be submitted to CMS in December 2024 and June 2027 respectively. The observation period for the evaluation will be calendar years (CYs) 2018 to 2025. This period includes three years before the SMI/SED amendment took effect on January 1, 2021 through December 31, 2025.

For the Interim Evaluation, the time period is limited to fewer years (through 2023). Since we will be estimating the outcome measures based on data from the observation period, the interim evaluation will not provide conclusions about the impact of the waiver (e.g., related to health status, service use) beyond this period. The evaluation will include descriptive analyses of changes in the composition of the enrolled population, and the evaluator will consider any findings from this analysis when interpreting the results of the analyses described in the Evaluation Plan.

The evaluator will use a mixed-methods approach employing both quantitative and qualitative analyses to answer the identified research questions. Qualitative analyses will support an understanding of stakeholders’ perspectives related to context, implementation, and outcomes and will identify contextual factors that help to explain outcomes. Quantitative analyses will examine changes in outcomes and estimate the impact of policy changes, as demonstration design and data permit. Quantitative and qualitative analyses will reinforce each other and contribute to understanding context, implementation, impact, and variation. Findings from evaluation activities will be summarized in key deliverables for CMS, including the Mid-Point Assessment Report, Interim Evaluation Report, and Summative Evaluation Report. Additional information on deliverables and associated timelines can be found in **Attachment E.3. Timeline and Major Milestones**.

The ongoing PHE, which began in March 2020, has continued to cause substantial changes to HIP policies, service utilization and provider availability, and will have short- and long-term impacts on Indiana’s health care system. Due to the PHE, the State suspended policies regarding disenrollment of members and programmatic changes to establishing crisis services like Crisis Stabilization Units (CSU) and also expanded behavioral health telemedicine services.<sup>10-11-12</sup> The PHE is in effect as of this evaluation plan development and is likely to impact the evaluation of SMI/SED waiver policies. Social distancing and prioritization of health care resources are anticipated to affect utilization of a wide variety of services in 2020 and beyond, including inpatient admissions and emergency visits, demand for behavioral health care services, as well as mode of care changes such as increased use of telehealth. For example, mental health-related ED use in 2020 may be reduced due to concerns about acquiring the COVID-19 virus at the hospital; access to community-based services may be restricted due to temporary provider closures

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<sup>9</sup> CMS. 1115 Demonstration State Monitoring & Evaluation Resources. Released and Accessed May 1, 2021 at <https://www.medicaid.gov/medicaid/section-1115-demo/evaluation-reports/evaluation-designs-and-reports/index.html>

<sup>10</sup> Indiana Medicaid allows telemedicine and telephone options for most health care and mental health interactions, FSSA News Release, March 19 2020, Accessed from [https://www.in.gov/fssa/files/telemedicine\\_release\\_3\\_19\\_FINAL.pdf](https://www.in.gov/fssa/files/telemedicine_release_3_19_FINAL.pdf)

<sup>11</sup> Senate Bill No. 3: Telehealth Matters, Accessed from <http://iga.in.gov/legislative/2021/bills/senate/3#document-742b0b09>

<sup>12</sup> These policies were suspended March 17, 2020. Based on State “Medicaid Policy Changes: re COVID-19” updated on July 28, 2020 and in discussion with State as of May 2021.

C. Methodology

and/or limited hours and the use of telehealth; and initiatives to integrate physical and behavioral health and to expand crisis stabilization services may be delayed. Additionally, Medicaid enrollment is impacted due to beneficiary loss of income during the PHE, some health care providers experience financial stress due to the short-term loss of income, and there may be changes in payer mix as individuals lose employer-based coverage and Medicaid enrollment and the number of uninsured increases.

The use of data starting from 2020 to analyze the impact of the SMI/SED waiver requires careful consideration including the time frame for implementation of all waiver policies and the economic impact of COVID-19. We will consider this impact in our evaluation of the research questions, data and appropriate analytic methods during Interim and Summative Evaluation Report development.

**Section F** includes the analytic design tables for each goal, detailing the relevant hypotheses, research questions, data sources, outcome measures, analytic methods, and comparison group(s) (if applicable). These tables also specify the years of data to be used for individual research questions.

### 1. Data Sources and Collection

The evaluator will compile data from claims/encounter and enrollment data. The evaluator will also capture qualitative data via key informant interviews (i.e., State officials, MCEs, and providers). **Exhibit C.1** summarizes the data sources anticipated to be used to evaluate each goal (“X” indicates relevant sources for each goal), followed by detailed descriptions of key data sources. **Section F** provides specific information regarding how these data sources will be used in the evaluation.

**Exhibit C.1: Data Sources by Goal**

Type	Data Sources	Goal 1 ED Utilization and LOS	Goal 2 Preventable Readmissions	Goal 3 Crisis Stabili- zation	Goal 4 Community -based Services	Goal 5 Care Coordi- nation
Indiana- Quantitative	1. Member Eligibility, Application, and Enrollment Data  <i>Note: Enrollment data will be used to select members for key informant interviews across goals.</i>	X	X	-	X	X
	2. Claims / Encounter Data	X	X	-	X	X
	3. State administrative data (2018-2025) collected via the Monitoring Protocol <sup>13</sup>	-	X	X	X	-

<sup>13</sup> Other sources of State administrative data may be leveraged as available.

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Type	Data Sources	Goal 1 ED Utilization and LOS	Goal 2 Preventable Readmissions	Goal 3 Crisis Stabili- zation	Goal 4 Community -based Services	Goal 5 Care Coordi- nation
Indiana – Qualitative	1. Key Informant Interviews with Members	X	X	X	X	X
	2. Key Informant Interviews with State Officials	X	X	X	X	X
	3. Key Informant Interviews with MCEs	X	X	X	X	X
	4. Key Informant Interviews with Other Stakeholders (including consumer advocates)	X	X	X	X	X
	5. Key Informant Interviews with Providers	X	X	X	X	X

Note: We will build on the metric specifications developed for the 2020 Summative Evaluation (making any required refinements) for the 2021-2025 waiver. Metrics not developed for 2020 Evaluation will need to be created for the 2021-2025 waiver accounting for any changes to billing codes and service specifications.

### **Internal Data Source Descriptions – Quantitative**

Current sources include:

- *Member Eligibility, Application, and Enrollment Data:* Member application and enrollment data provide information on the size, location, and socio-demographic makeup of SMI enrollees.
- *Claims / Encounter Data:* The claims records (encounter data) that the MCEs submit to the State provide information about the health care utilization patterns of SMI enrollees and identifies enrolled providers that are actively providing services.
- *State Administrative Data:* Program administrative data will include items such as the number of FQHCs that offer behavioral health services and the number of enrolled Medicaid providers of various types.

Other applicable data sources may be included as available and validated.

The data acquisition process will include identifying the data elements of interest (e.g., coverage information, beneficiary demographic characteristics, claims / encounter data including at least first two diagnosis codes) and appropriate data sources or data tables. Different data are captured in different systems and for appropriate interpretation and use of data, supporting data dictionaries from the data owners will be used. Enrollment and claims data from Enterprise Data Warehouse (EDW) will be used in conjunction to identify the SMI population. The population total will be benchmarked to State reports to ensure accurate identification of the target SMI population. Claims associated with individuals identified as having SMI and covered under the waiver will be used to develop utilization-based outcome measures (example ED visits in a year). Administrative data like summary information of number of crisis

call centers, mobile centers will be studied for anomalies (e.g., very large or small numbers, benchmark to published reports).

### ***External Data Source Descriptions – Quantitative***

The State will consider using external data sources as needed – specifically for any benchmark or comparison of the evaluation measures. For example, selected adult core set quality measures can be used to benchmark the research question outcome measures. Data for these measures are publicly available on CMS website.

### ***Internal Data Source Descriptions – Qualitative***

In addition to quantitative data collection and analysis, Indiana will conduct key informant interviews to capture member, State Official, MCE, provider, and other stakeholder experience and evaluate other outcomes related to each goal. Indiana will identify potential participants based on existing contacts from the 2018-2020 HIP and the 2020 SMI/SED Summative Evaluation Report, and other member and stakeholder lists. Indiana is not planning to use any monetary incentives for recruitment, and participation will not affect member enrollment status. Indiana will use findings from the key informant interviews to answer research questions in the Mid-Point and two (Interim and Summative) Evaluation reports.<sup>14</sup> The evaluator will conduct three rounds of key informant interviews in the spring/summer of 2023, 2024, and 2026.

Interview topics will vary from year to year and by interviewee role, although there will be continuity in the overall topic domains. As the evaluation progresses, additional topics may surface. **Exhibit C.2** describes the targeted number of interviewees and potential topics.

For each round of key informant interviews, the evaluator will work with FSSA to develop interview protocols tailored to each role. The protocols will include semi-structured questions and potential probes and last approximately 15-60 depending on the interview type. A trained interviewer will facilitate the interviews with the support of note taker who will also provide logistical support. With participant consent, interviews will be recorded and transcribed with brief summaries written up by facilitators immediately afterwards.

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<sup>14</sup> The evaluator will also perform key informant interviews in 2021 for purposes of the 2020 Summative Evaluation Report and will leverage findings for the 2021-2025 evaluation reports.

Indiana §1115(a) SMI/SED Demonstration Evaluation Plan  
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Exhibit C.2: Summary of Indiana-Specific Qualitative Data Collection – Key Informant Interviews by Type, to be performed in 2021

Type	Potential Topics	Targeted Number of Interviewees	Approach to Selecting Participants
<b>Member</b> (15-minute interviews)	<ul style="list-style-type: none"> <li>• Demonstration activities or their components or characteristics that stakeholders identify as most effective or hindering the effectiveness in:               <ul style="list-style-type: none"> <li>○ Reducing ED visits, preventable readmissions</li> <li>○ Improved availability to the range of community-based mental health services (including crisis stabilization), care coordination and continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities.</li> <li>○ Reducing preventable readmissions to acute care hospitals and residential settings</li> </ul> </li> </ul>	25 interviews	Stratified random sample of beneficiaries
<b>State Officials</b> (60-minute interviews)	<ul style="list-style-type: none"> <li>• Changes made to systems, processes, or policies</li> <li>• Demonstration activities most effective in:               <ul style="list-style-type: none"> <li>○ Reducing utilization and lengths of stays in EDs</li> <li>○ Reducing preventable readmissions to acute care hospitals and residential settings</li> </ul> </li> <li>• Identify any obstacles as hindering the effectiveness of the demonstration in:               <ul style="list-style-type: none"> <li>○ Reducing utilization and lengths of stays in EDs</li> <li>○ Reducing preventable readmissions to acute care hospitals and residential settings</li> </ul> </li> </ul>	Two semi-structured interviews (including group interviews)	The evaluator will identify key state officials involved in the development, planning and administrative of the SMI/SED waiver.
<b>MCEs</b> (30–60-minute interviews)	<ul style="list-style-type: none"> <li>• Demonstration activities most effective in:               <ul style="list-style-type: none"> <li>○ Reducing preventable readmissions to acute care hospitals and residential settings</li> <li>○ Data sharing systems, processes, or policies that staff identify as most effective for improving care coordination</li> </ul> </li> <li>• Identify any obstacles as hindering the effectiveness of the demonstration in:               <ul style="list-style-type: none"> <li>○ Reducing preventable readmissions to acute care hospitals and residential settings</li> <li>○ Data sharing systems, processes, or policies aimed at improving care coordination</li> </ul> </li> </ul>	Four semi-structured interviews with representatives from the four MCEs each year	Evaluator will interview staff from each contracted MCE involved in supporting the SMI/SED waiver

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Type	Potential Topics	Targeted Number of Interviewees	Approach to Selecting Participants
<b>Providers</b> (15–30-minute interviews – individual providers 30–60-minute interviews – provider associations)	<ul style="list-style-type: none"> <li>• Demonstration activities most effective in:               <ul style="list-style-type: none"> <li>○ Reducing utilization and lengths of stays in EDs</li> <li>○ Reducing preventable readmissions to acute care hospitals and residential settings</li> <li>○ Systems, processes, or policies that staff identify as most effective for improving care coordination</li> </ul> </li> <li>• Identify any obstacles as hindering the effectiveness of the demonstration in:               <ul style="list-style-type: none"> <li>○ Reducing utilization and lengths of stays in EDs</li> <li>○ Reducing preventable readmissions to acute care hospitals and residential settings</li> <li>○ Systems, processes, or policies aimed at improving care coordination</li> </ul> </li> </ul>	A total of 13 provider/provider association interviews will be performed and inform all hypotheses. Interviews will include provider associations and certified navigators.	Evaluator will identify key provider associations serving this population (e.g., Indiana Hospital Association)
<b>Other Stakeholders</b> (30-60 minutes)	<ul style="list-style-type: none"> <li>• Demonstration activities regarding systems, processes, or policies that staff identify as most effective for improving care coordination</li> <li>• Obstacles that staff identify as hindering the effectiveness of demonstration activities regarding data sharing systems, processes, or policies aimed at improving care coordination</li> </ul>	A total of three interviews will be conducted. The interviewee will be determined based on stakeholder availability.	TBD

### Data Quality and Validation

Accuracy of any data driven analyses is dependent on the quality of the underlying data used. The program evaluation will use quantitative data based primarily on state claims, enrollment and other administrative data. Qualitative analyses will be based on information collected from key informant interviews.

Prior to developing any outcome metrics based on the enrollment, claims, administrative or other identified data, the evaluator will perform data validation. Validation of data will include obtaining data dictionaries that outline the variable names and possible values for the variables included in the data. The evaluator will develop descriptive statistics (e.g., count of beneficiaries by month and sociodemographic characteristics) for trend and outlier analyses to test if the variables have the correct values and to identify potential outliers or data anomalies. In case of identified data anomalies, the evaluator will coordinate with data stakeholders to identify strategies for data resolution or as needed account for the anomalies for program impact estimation.

The proposed qualitative data collection strategy efficiently focuses on collecting information through key informant interviews that cannot be obtained through other means. The data collection process will emphasize continual improvement and we will reflect on the data collected over initial interviews to revise protocols and select participants for subsequent rounds of data collection. The evaluator will leverage best practices from experience conducting data collection for other large-scale evaluations to train team members in interviewing and note-taking techniques to ensure consistency.

## 2. Target and Comparison Populations

The target population for analyses encompasses all Medicaid beneficiaries covered by an IHCP program aged 21-64 years with SMI regardless of their delivery system (e.g., managed care or fee-for-service). The SMI population is identified through four diagnosis codes in the primary or secondary diagnosis position (F20.xx [Schizophrenia and sub codes up to 2 places], F25.xx [Schizoaffective Disorder and sub codes up to two places], F31.xx [Bipolar and all sub codes up to 2 places], F33.xx [Major depression Recurrent and all sub codes up to two places]). Individuals not included in this target population are outlined in **Exhibit A.3**. IHCP programs include HIP members who are low-income, non-disabled adults ages 19 to 64; other adults eligible for Medicaid in Indiana include individuals who are 65 and older, blind, or disabled and who are also not eligible for Medicare, or low-income adults who can receive home and community-based services or who are in nursing homes and other facilities.

During the development of strategies for comparative analyses, both within-state and other-state comparison groups who are similar to HIP members but not subject to the policies being evaluated were considered. Ideally, a comparison group used to evaluate the impact of program implementation is a population with similar demographics but without comparable program or policy changes.

CMS' guidance outlined several possible comparison groups<sup>15</sup> (like similar beneficiaries in states without SMI/SED 1115 waivers, states without SMI/SED 1115, similar non-Medicaid beneficiaries, population prior to demonstration). Some of the suggested comparison groups are not feasible or ideal for this evaluation due to specific aspects of Indiana SMI waiver, specifically:

- The State includes all Medicaid beneficiaries with SMI and thus limits the availability of appropriate within-state comparison groups.
- SMI/SED Waiver Demonstration does not involve random assignment and the State has not staged policy implementation based on beneficiary characteristics.
- Requesting claims data directly from other states will be challenging given that other states have limited resources available for such an exchange, and also often have concerns related to how their results are publicized and expressed.
- While CMS' T-MSIS contains Medicaid claims data from other states, the availability, access, and timeliness of relevant claims data for states appropriate for comparisons to Indiana for purposes of this waiver would need to be further explored. Accessing, processing, and interpreting this data will be time-consuming and potentially challenging given variances in Medicaid programs and related billing and payment requirements. T-MSIS data has not been available in a timely manner for analytic purposes until recently.
- Indiana does not have an All-Payer Claims Database (APCD) that contains claims for hospital and community-based services for non-Medicaid beneficiaries with SMI/SED diagnoses.
- Some non-claims-based data sources will not be available in a timely manner. For example, using the measures in the CMS Adult Core Set to compare Indiana to other states may not be possible to the timing of the release of measure results.

For these reasons, depending on the research question, Indiana's Evaluation Plan uses population prior to Demonstration. The evaluator will develop quasi-experimental analyses (e.g., ITS) when adequate

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<sup>15</sup> <https://www.medicaid.gov/medicaid/section-1115-demo/downloads/evaluation-reports/smi-sed-eval-guide-appendix-a.pdf>.

data are available before and after policy implementation. For such analyses, the SMI population post-policy implementation is the target while the member population prior to policy implementation is the comparison group. As necessary, the evaluator will explain in the Interim and Summative Evaluation Reports why regression discontinuity designs using factors like age, medical frailty was not used.

### 3. Analytic Methods

Indiana will use a mixed-methods approach employing both quantitative and qualitative analyses to answer the research questions in this evaluation. Qualitative analyses will support an understanding of stakeholders' perspectives related to context, implementation, and outcomes and will identify contextual factors that help to explain outcomes. Quantitative analyses will examine changes in outcomes and estimate the impact of policy changes, as demonstration design and data permit. Quantitative and qualitative analyses will reinforce each other and contribute to understanding context, implementation, impact, and variation.

**Qualitative Analyses:** Qualitative data collected through key informant interviews will be analyzed using thematic analysis, a systematic data coding and analysis process during which information is categorized with codes developed iteratively to reflect themes or patterns within the data. In general, the evaluation team will first analyze the data from each individual interview and then analyze data across all of the interviews as well as meaningful sub-groups. Indiana will use findings from the key informant interviews to answer research questions in the Mid-Point and two (Interim and Summative) Evaluation reports.

**Quantitative Descriptive and Trend Analyses:** Descriptive statistics (e.g., total, average, median, maximum, proportion) will be calculated to develop an understanding of characteristics of members participating in the SMI/SED waiver program (across time where necessary) as well as for observational inference on trends in outcomes of interest. The descriptive statistics will include information like the number of members, number of ED visits, proportion of beneficiaries who use certain services and so on by characteristics of interest (e.g., age, gender, race, health condition [e.g., depression, diabetes], region). To identify underlying trends, seasonal patterns and outliers, in addition to the descriptive statistics, the evaluator will also leverage data visualizations (e.g., line chart showing disenrollment rate over time, clustered bar chart showing beneficiary composition over time).

Where applicable and feasible, appropriate statistical tests (e.g., Chi-Square test for independence) will be used to test for differences between beneficiaries covered by SMI/SED waiver and comparison groups (e.g., non-SMI/SED waiver members included in the coverage) or to test for differences between subgroups of interest. These tests will use, as appropriate, regression-based adjustments to control for changes in member characteristics to estimate changes in measures of interest across time. The descriptive statistics along with related statistical analyses (test for difference or regression adjustments as appropriate) will be used to analyze impact of the waiver program.

**Cross-Sectional Analyses:** Where feasible, cross-sectional models will be used to assess associations and compare risk-adjusted outcomes for SMI beneficiaries to comparison beneficiaries (non-SMI/SED beneficiaries included in the coverage). The evaluator will conduct standard power calculations to ensure adequacy of sample sizes in available data for model development. A variety of parametric models and techniques to estimate the models are available. We will use the outcome variable characteristics, for example type (e.g., categorical or continuous) and distribution (e.g., normal, skewed), to determine the model specifications (e.g., logistic, linear, log-linear). Models will include beneficiary and geographic-level covariates to control for differences between the groups of interest. The covariates



## C. Methodology

will include demographic characteristics, income level, health status, regional characteristics, and other factors that are relevant and available within the data sources used. **Given the lack of appropriate comparison groups (as discussed above), the evaluator does not anticipate utilizing cross-sectional analyses.**

**Quantitative Impact Analyses:** Because the implementation of Indiana’s policy changes did not involve a randomized control design, the evaluation will use quasi-experimental approaches to estimate the impact of policy changes. For some research questions, CMS guidance indicates that states should consider a difference in differences (DiD) approach. DiD is a regression technique that measures the impact of the model by comparing changes in risk-adjusted outcomes for the target population to changes in outcomes in a comparison group, between the baseline and intervention periods. Standard power calculations would be necessary to assess adequacy of sample size in available data for model development. If this approach is used, the evaluator would ensure model specifications are appropriate for the outcome variable (e.g., logit for dichotomous outcomes) of interest. Models would include beneficiary and geographic-level covariates to control for differences between the groups of interest. The covariates would include demographic characteristics, income level, health status, regional characteristics, and other variables that are relevant and available in the data sources used. The validity of the DiD approach relies on the assumption that intervention and comparison groups were on parallel trends in the baseline. As such, it would be necessary to perform tests for parallel trends in the baseline period for key outcomes using statistical testing and visual trend analysis. **The evaluator does not anticipate utilizing such analytics for due to limitation of availability of appropriate comparison groups (as discussed above).**

As the intervention is at the population level and multiple years of data (before and after the policy change) are available, the evaluator proposes leveraging another quasi-experimental method called ITS. The ITS analysis (or a pre/post design) assesses change in an outcome of interest (e.g., readmission rate) after the policy change compared to the expected trend if there were no policy change. To strengthen this analysis, the evaluator will consider the method (e.g., extended time series, controlled segmented regression, propensity score based weighted) appropriate for the outcome of interest and control for possible confounders. For example, a segmented regression model with indicator variables to identify pre/post implementation time-period (like below) can be used in instances where an outcome variable has a linear trend:  $y$

$$y_{it} = \beta_0 + \beta_1 T_t + \beta_2 P_t + \beta_3 PT_t + X_{it} + \varepsilon_{it}$$

where

- $y_{it}$  = measure of interest for beneficiary ‘i’ at time ‘t’
- $\beta_0$  represents the baseline level
- $\beta_1$  represents the trend coefficient pre-intervention,  $T_t$  indicates time from first baseline period
- $\beta_2$  is the coefficient for the change in level of outcome post intervention,  $P_t$  indicates program implementation indicator
- $\beta_3$  indicates the slope change following intervention (or program start),  $PT_t$  indicates post implementation period (2021 and later)
- $X_{it}$  state or program beneficiary characteristics
- $\varepsilon$  = error term for variability not captured by the model

### C. Methodology

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The model specifications will be dependent on the outcome of interest as well as any other confounding factors (or presence of autocorrelation) that might need to be considered. Since the SMI demonstration began in January 2020 (first waiver), the baseline period for the model is prior to the implementation of any waiver policies (2018 – 2019). The first year of the demonstration (2020) overlapped with onset of the COVID-19 pandemic. A separate indicator variable for the 2020 time-period will likely aide capture information on changes that were caused by reasons other than the demonstration. Prior to implementing these analyses, the evaluator would evaluate pre-implementation trends and assess comparability over time. CMS guidance indicates reviewers will consider such an approach when credible comparison groups are not available. This approach will require multiple years of baseline data (e.g., 2018-2019) to enable an estimate of the baseline trend before the implementation of the waiver amendment and is best employed over longer time spans. Additionally, prior to regression model estimation, the evaluator will perform any needed checks for multicollinearity among the independent variables (e.g., beneficiary characteristics) of interest.

**Subgroup Analysis:** These analyses will be part of descriptive, cross-sectional, and quantitative impact analyses as listed in **Section F**. The evaluator will determine the type and number of subgroup analyses by appropriateness for the research question, and as data and sample sizes allow. ITS or DiD analysis will produce estimates of the average impact of a policy change. However, the impact may vary by beneficiary subgroups (e.g., by older and younger members, by length of enrollment, by income, by region within state). To inform the selection of characteristics that will define subgroups, information gathered through interviews as well as through the descriptive analysis will be considered. The key informant interviews will provide perspective on potential subgroups for analysis, e.g., differences in care between geographic areas, historically marginalized populations, and individuals receiving services through the Medicaid Rehabilitation Option. The evaluator will use Medicaid administrative and enrollment data to identify these populations (e.g., based on zip code of residence, reported race/ethnicity, dual eligibility, receiving Medicaid Rehabilitation Option services via fee-for-service) for analysis. We will first test whether subgroups are adequately balanced across key characteristics. If necessary, we will use matching methods to develop subgroup-specific comparison groups, to balance intervention and comparison groups in observed characteristics. The ability to look at subgroups and differentiated effects is ultimately limited by the number of beneficiaries in each group and the variability in the data. Lewin will weigh the value of testing for differences among subgroups against having adequate sample size and power to do so precisely.

**Implications of the COVID-19 pandemic:** Onset of COVID-19 PHE coincides with implementation of the first year of SMI waiver – resulting in complexity in parsing out the effect of the pandemic and implementation of new policies on outcomes of interest (e.g., utilization of ED visits, readmission, follow-up provider visits). The pandemic affects program enrollment, beneficiary behavior (related to varied factors like service utilization, mental health and substance use), and provider behavior and has also affected how the waiver policies were implemented. Program impact estimation will thereby need to address these confounding effects. Some commonly adapted approaches are inclusion of time period indicators (e.g., pre-2020, first year of SMI waiver / COVID (2020), post-2020), covariates capturing COVID-19 severity in regression models, developing beneficiary-level sub-group analyses that control for

## Indiana §1115(a) SMI/SED Demonstration Evaluation Plan

### C. Methodology

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individual level factors including socio-economic status and health factors. A beneficiary level analysis will typically include a regression like:

$$y_{it} = \beta_0 + \beta_1 T_t + \beta_{41} P_{1t} + \beta_{42} P_t + \beta_2 P_t + \beta_3 PT_t + X_{it} + Z_t$$

where:

- $y_{it}$  = beneficiary level measure of interest at time 't'
- $\beta_0$  represents the baseline level
- $\beta_1$  is the trend coefficient pre-intervention,  $T_t$  indicates time from first baseline period
- $\beta_2$  is the coefficient for the change in level of outcome post intervention,  $P_t$  indicates program implementation indicator
- $\beta_3$  indicates the slope change following intervention (or program start),  $PT_t$  indicates post implementation period
- $X_{it}$  beneficiary characteristics at time 't'
- $Z_t$  regional or economic factors (e.g. prevalence of COVID-19) at time 't'
- $\beta_{42}$  is the coefficient for the change in level of outcome and  $\beta_{42}$  indicates the change in trend of the outcome after implementation of demonstration in 2020

COVID-19 has had varying impact – especially among racial and ethnic minorities, individuals with low income, and access to care.<sup>16</sup> The evaluator will develop sensitivity analyses by performing sub-group analyses by identified population sub-cohort (e.g., race, ethnicity, dual eligible status, geographic location) to provide valid program estimates.

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<sup>16</sup> Accessed on 02/21/2022 from: [https://www.milbank.org/wp-content/uploads/2021/06/Issue\\_Brief\\_COVID-19.pdf](https://www.milbank.org/wp-content/uploads/2021/06/Issue_Brief_COVID-19.pdf) and <https://aspe.hhs.gov/sites/default/files/private/pdf/265366/medicaid-churning-ib.pdf>

## D. Methodological Limitations

**Exhibit D.1** describes the known limitations of the evaluation and anticipated approaches to minimizing those limitations and/or acknowledges where limitations might preclude casual inferences about the effects of demonstration policies. **Section C** contained information on limitations regarding identification of comparison groups and the potential impacts of the COVID-19 PHE on the use of data from 2020 and onwards for evaluation purposes. The Interim and Summative Evaluation Reports will describe in detail the limitations of the evaluation, which may include data and methodological challenges and other limitations identified during the evaluation process that are not described below. These reports will acknowledge approaches taken by the independent evaluator and necessary modifications made to the Evaluation Plan to address these challenges and limitations.

**Exhibit D.1: Summary of Methodological Limitations and Approach to Minimizing Limitations**

Area	Issue	Description	Anticipated Approaches to Minimizing Limitations
Overall issues	Impact of COVID-19	The ongoing COVID-19 PHE, which began in March 2020, is anticipated to cause substantial changes to: <ul style="list-style-type: none"> <li>• Service utilization</li> <li>• Medicaid enrollment</li> <li>• Provider networks</li> </ul>	<ul style="list-style-type: none"> <li>• Use and inclusion of data from CY 2020 and onwards to analyze impact of policies will require careful analyses and be dependent on multiple factors including the period for reinstatement of policies, any long-term changes to service delivery (e.g., telehealth), and COVID-19’s economic impact.</li> <li>• Provide context for interpretation of results.</li> </ul>
	Quality of provider contact information for key informant interviews	Reliability of provider contact information made completing provider key informant interviews challenging. For example, provider email addresses and phone numbers listed in the MCE provider list often provided only generic office email addresses.	<ul style="list-style-type: none"> <li>• Obtain support from key provider associations to identify providers for key informant interview purposes.</li> <li>• Use interviews with key provider associations in lieu of individual providers as necessary.</li> </ul>
	Impact of changes in population over time	Changes in the SMI case mix over time may have an impact on a variety of areas of this evaluation, including service utilization, member enrollment, and access to services.	<ul style="list-style-type: none"> <li>• Provide context for interpretation of results.</li> </ul>

## E. Attachments

The following attachments appear in this section:

- Exhibit E.1: Organizational Conflict of Interest
- Exhibit E.2: Evaluation Budget-Total Costs
- Exhibit E.3: Evaluation Budget-Deliverables by State Fiscal Year
- Exhibit E.4: Timeline and Milestones

## Attachment E.1. Summary of Independent Evaluator Approach

Due to the COVID-19 PHE issued in Indiana, and the impact of COVID-19 on the State's budget, an independent evaluator was not procured in time for the initial Evaluation Design submission. However, Indiana has selected an independent evaluator and is in the process of finalizing a contract. The State is committed to securing an independent evaluator in a timely fashion to work through iterations of this Plan with CMS. Indiana will ensure that there are no conflicts of interest to report as stated in Section XVI, Paragraph 1 of CMS's STCs for this Waiver Evaluation.

In order to ensure an independent evaluation, the evaluation process will be independent of any process involving program policy making, management, or activity implementation of the waiver demonstration. The State's responsibility towards an independent evaluation is the assurance of quality data to the evaluator, support in understanding program context of any data anomalies, and identifying the program components that are important for the evaluation.

CMS recommended inclusion of cost analysis to understand how the demonstration affected health care spending. Analyses developed by State's actuary, Milliman Inc., will be included for this portion of the evaluation.

**Exhibit E.1: Organizational Conflict of Interest**

**Indiana Department of Administration  
Healthy Indiana Plan 1115 Waiver Evaluation**

**Professional Services Contract #000000000000000000051455**

**Organizational Conflict of Interest Disclosure**

The Lewin Group, Inc. (“Lewin”) is performing Professional Services Contract #000000000000000000051455 entitled, “Serious Mental Illness (“SMI”) and Serious Emotional Disturbance (“SED”) Waiver Evaluation Services” (“Contract”), for the Indiana Department of Administration, Indiana Family and Social Services Administration (“FSSA”).

In accordance with the Centers for Medicare and Medicaid (“CMS”) Special Terms and Conditions (“STC”) 11-W-00296/5 (as extended through December 31, 2030), Attachment A-Developing the Evaluation Design, Section F-Conflict of Interest, FSSA is required to assure CMS that it will obtain an Independent Evaluator which will “conduct a fair and impartial evaluation, prepare an objective Evaluation Report, and that there would be no conflict of interest.” These types of COIs are normally referred to as Organizational Conflicts of Interest (“OCI”). Accordingly, what follows in this OCI disclosure (“Disclosure”) is an explanation of why Lewin’s performance as the SMIE/SED Waiver Evaluation Contractor under the Contract does not create an actual or potential OCI. This Disclosure is organized to describe: 1) Lewin’s relevant corporate affiliates and, 2) Lewin’s OCI analysis.

**I. Lewin’s Affiliate Interests**

Lewin is part of UnitedHealth Group, Incorporated (“UHG”), a diversified health and well-being company dedicated to improving the health care system in the United States. UHG is organized into six businesses. Three of those businesses — UnitedHealthcare Community & State, UnitedHealthcare Medicare & Retirement and UnitedHealthcare Employer & Individual — provide network-based health care benefits and related services under the “UnitedHealthcare” brand. The other three businesses operate under the “Optum” brand and include OptumHealth, OptumRx, and OptumInsight. Amongst its services, the Optum businesses offer a large variety of services that include but are not limited to third party administration of specialty benefits, pharmacy benefit management, disease and care management, direct care delivery, consulting, health technology and innovation support to government agencies and external third party insurers and health plans as well as to UnitedHealthcare plans. Although UHG provides certain shared services across the enterprise, Optum and UnitedHealthcare operate as separate businesses with separate operational structures and separately reported financial results. For more information, please see [www.unitedhealthgroup.com](http://www.unitedhealthgroup.com) and [www.optum.com](http://www.optum.com).

In conducting a current OCI analysis, Lewin identified three (3) affiliated businesses relevant for discussion, and are as follows:

- *UnitedHealthcare Community and State (“UHC C&S”):* UHC C&S is one of the nation’s largest health benefits companies dedicated to providing diversified solutions to states that care for the economically disadvantaged, the medically underserved and those without employer-funded health care coverage. C&S Managed Care Organizations (“MCOs”) contract with networks of participating providers and facilities to serve more than 5 million beneficiaries covered under Medicaid (Title 19), CHIP (the Title 21, Children’s Health Insurance Program), Dually Eligible (Medicaid-Medicare enrollees), Long Term Care and Children with Special Care Needs (a Title V Program) and other federal and state health care programs. UHC C&S is also a government programs Administrative Services Organization where it acts in the capacity of an administrator on a non-risk basis. C&S participates in Medicaid programs throughout the country. Presently, UHC C&S is not an MCO in the State of Indiana. However, UHC C&S is intending to bid on FSSA Request for Proposal RFP #22-68152 Risk-Based Managed Care Services for Medicaid Beneficiaries (Hoosier Healthwise and Healthy Indiana Plan Programs) (hereby referred to as the “RFP”) for which proposals are due August 9, 2021.

## Indiana §1115(a) SMI/SED Demonstration Evaluation Plan

### E. Attachments, Attachment E.1. Summary of Independent Evaluator Approach

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- *MedExpress*: MedExpress, which is part of OptumHealth, includes primary and urgent care centers in multiple states that provide walk-in neighborhood care, wellness and prevention service. MedExpress currently provides services to eligible Indiana Medicaid recipients in seven (7) locations throughout the State which include Anderson, Bloomington, Indianapolis, Kokomo, Lafayette, and Muncie.
- *OptumRx*: OptumRx is one of the three largest pharmacy benefit managers and specializes in the delivery, clinical management and affordability of prescription medications and consumer health products. OptumRx provides full-service pharmacy benefits management services, including mail order and specialty pharmacy benefits, and a synchronized pharmacy care experience that combines member engagement with health data and analytics. Its additional services include claims processing, retail network contracting, rebate contracting and management, and clinical programs, such as step therapy, formulary management and disease/drug therapy management programs. OptumRx serves customers in multiple markets and government programs, including commercial, managed care, Medicaid, Medicare, labor and trust, workers compensation and others. OptumRx is presently under contract with FSSA to provide pharmacy benefit management services for the Indiana Health Coverage Program.

#### II. Lewin's OCI Analysis

For the purpose of this OCI Analysis, Lewin refers to the Federal Acquisition Regulation Part 9.5 which defines three types of conflicts. Upon review, Lewin is not aware of any facts or circumstances that would create an actual or potential OCI. To the extent that an OCI may be perceived to exist, Lewin will explain how the OCI is avoided, neutralized, or mitigated. These conclusions are based on the following:

##### A. Biased Ground Rules

A Biased Ground Rules OCI arises where a company, as part of its performance of a government contract, sets the ground rules for a later government procurement by, for example, writing the statement of work or the specifications. The primary concern is that the company could create an unfair competitive advantage by biasing the competition in favor of itself or its affiliate. Neither Lewin nor any of its affiliates developed or assisted FSSA in the procurement of the Contract. Accordingly, no Biased Ground Rules OCI exists.

##### B. Impaired Objectivity

An Impaired Objectivity OCI commonly occurs when a company's work under one government contract could require the company to evaluate the work that company itself or its affiliates performed under a separate government contract. The primary concern is that the company's ability to render impartial advice to the government could be impaired, where that advice involves the use of subjective judgment, and where the advice could affect the economic interests of the company as broadly construed.

Lewin has not identified any situation while performing work as the contracted Independent Evaluator under the Contract would create an actual or potential Impaired Objectivity OCI. Where it might be perceived that the risk of a potential OCI might exist, Lewin will explain why that perceived risk would not become an actual or potential OCI.

Lewin's OCI analysis determined that primary purpose of proposed evaluation is to determine the impact of HIP with regard to eligible Indiana Medicaid recipients and their access to health care services, utilization of those services, and health outcomes. Lewin's OCI analysis concluded that Optum's MedExpress and OptumRx affiliates do not present any risk of an Impaired Objectivity OCI in the conduct of this evaluation. Lewin also established that should its UHC C&S affiliate be awarded a future role as a Managed Care Entity ("MCE") it might be perceived that Lewin would conduct the HIP evaluation in such a manner that could financially and/or contractually benefit UHC C&S. However, after conducting a thorough review of the facts surrounding the scope of Lewin's evaluation support to FSSA, it was determined that no such OCI risk would be created for the following reasons:

- *The Objective Focus of the Evaluation*: The evaluation of the HIP is to support FSSA's continuous effort to assure Indiana Medicaid recipients are receiving the best possible health care as defined by CMS' Triple Aim for better access to care, better health care outcomes, and reduced cost to beneficiaries. At no time



## Indiana §1115(a) SMI/SED Demonstration Evaluation Plan

### E. Attachments, Attachment E.1. Summary of Independent Evaluator Approach

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during the course of the evaluation will Lewin be required to evaluate the performance of any HIP MCE including its UHC C&S affiliate as an awarded MCE under the RFP.

- *Lewin's Significant Limitations to Exercise Subjective Judgment:* Lewin will execute all evaluation tasks under an FSSA/CMS-approved evaluation design in accordance with evaluation guidance set forth in CMS STC 11-W-00296/5. Data for the evaluation data is collected from FSSA-directed sources to include statewide Medicaid member surveys, focus groups, key informant interviews, and prescribed data sets from the Indiana Medicaid Management Information System ("MMIS"). Data sets required by Lewin for analysis from state MCOs are provided to Lewin directly from state staff members. Any recommended changes to the evaluation design made by Lewin must go through a review by FSSA and its stakeholders and must be approved by CMS. Combined, these FSSA/CMS mandated requirements and parameters, significantly restricts Lewin from exercising subjective judgment. Furthermore, there is no nexus between the outcomes of Lewin's evaluation of this demonstration and the financial interests of Lewin or any of its affiliates providing healthcare services to Indiana Medicaid recipients. As such, no Impaired Objectivity OCI exists.
- *Transparency:* FSSA will have complete oversight of Lewin's in-progress work and through the review of required evaluation deliverables. Additionally, FSSA has final approval of all Lewin's work with CMS being the ultimate approver.

Given these facts and circumstances as they have been presented above, Lewin's ability to perform its HIP evaluation work will not create any risk of an actual or potential Impaired Objectivity OCI should UHC C&S serve FSSA as an MCE under the RFP.

#### C. Unequal Access to Information

An Unequal Access to Information OCI exists where a company has access to non-public information as part of its performance of a government contract and that information may provide the company with an unfair competitive advantage in a later competition for a government contract.

In the performance of the Contract, Lewin has access to non-public and confidential information such as claims and benefit data from Indiana MCOs. If this information was inadvertently accessed by Lewin's UHC C&S affiliate it could conceivably generate an unfair competitive advantage under the current RFP and future MCE bid opportunities. However, any such OCI concerns are unfounded because Lewin understands and complies with its obligation to handle non-public and confidential information in accordance with applicable laws, regulations, and contract requirements. As a result, in the regular course of its business, Lewin has implemented measures that would prospectively prevent any Unequal Access to Information OCI from occurring and that includes the following:

- *Information and Security Firewalls:* Lewin has established effective firewalls to prevent unauthorized use or disclosure of protected information and to guard against the risk of even inadvertent disclosure of such information. These firewalls provide an information disclosure barrier between Lewin and other business units and employees of UHG, including without limitation MedExpress, OptumRx, and UHC C&S. All protected program information in electronic form will be maintained on a secure, password-protected server that is dedicated to Lewin. Electronic documents or data files containing protected information area accessible only to Lewin employees on a need to know basis.
- *Separate Staffing:* The personnel that Lewin uses for the Contract are separate and distinct from the staff used by Lewin's MedExpress, OptumRx, and C&S affiliates. There is no overlap of staffing in this regard between the very separate businesses.
- *Information Security Policies and Procedures:* Lewin has implemented numerous policies and procedures regarding the way employees are to handle and disclose confidential information. This includes, a "need-to-know" policy, which provides that individual employees have access to the minimal amount of confidential information necessary to perform his or her work on the specific project to which the employee

## Indiana §1115(a) SMI/SED Demonstration Evaluation Plan

### E. Attachments, Attachment E.1. Summary of Independent Evaluator Approach

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is assigned. Furthermore, Lewin employees are annually trained on the firewall and its policies and have a continuing obligation to report suspected violations of the policy, including any suspected violations of the information firewall. This obligation is emphasized as part of their training on the enterprise Code of Conduct. The policy identifies the company hotline and other means through which they may make such a report (anonymously, if desired). Employees are advised that violations could result in consequences such as termination of employment.

- *Contract Requirements:* In accordance with Section 12 of the Contract (Confidentiality, Security and Privacy of Personal Information), Lewin is required to abide by HIPAA Rules as such Rules apply to Business Associates.

#### **IV. Conclusion**

For all the foregoing reasons, Lewin's continued performance of the Contract does not create an actual or potential OCI nor adversely affect or impact FSSA. Lewin understands that there is a continuing obligation to provide assurance to FSSA that no OCIs arise in the course of performing the work. In the event there is a change in facts that would give rise to an actual or significant, potential OCI, Lewin will promptly disclose the circumstances to FSSA, along with a mitigation plan, and Lewin will not proceed with performing the conflicted work until a mutually acceptable mitigation plan is in place.

## Attachment E.2. Evaluation Budget

The budget for the Independent Evaluation from the awarded evaluator contract is included below. Oversight and support of this contract and provision of data to the evaluator on behalf of the state are considered to be encompassed in general program administrative costs and are not reported in this document. The state will leverage its existing contract with Milliman Inc. for the required cost analysis.

### Exhibit E.2: Evaluation Budget-Total Costs

Base Contract	State Fiscal Year	Dates	Total Required Work
	2021	7/1/20 to 6/30/21	\$ 44,820
	2022	7/1/21 to 6/30/22	
	2023	7/1/22 to 6/30/23	\$ 158,828
	2024	7/1/23 to 6/30/24	\$ 368,019
	2025	7/1/24 to 6/30/25	\$ 629,620
	2026	7/1/25 to 6/30/26	\$ 291,962
	2027	7/1/26 to 6/30/27	\$ 623,970
	2028	7/1/27 to 6/30/28	\$ 149,459
	<b>Contract Total:</b>		

### Exhibit E.3: Evaluation Budget-Deliverables by State Fiscal Year

Deliverable	SFY 2021	SFY 2022	SFY 2023	SFY 2024	SFY 2025	SFY 2026	SFY 2027	SFY 2028
Task 1: Project Management	\$3,645		\$42,510	\$40,177	\$24,601	\$25,368	\$26,135	
Task 2: Develop FSSA's Evaluation Plan for the 2021-2025 waiver	\$41,175		\$2,866					
Task 3: Conduct Key Informant Interviews			\$113,452	\$117,176		\$121,192		
Task 4: Develop Mid-Point Assessment Report				\$210,666	\$23,406			
Task 5: Develop Interim Evaluation Report for 2021-2025 Waiver					\$581,612	\$145,403		

**Indiana §1115(a) SMI/SED Demonstration Evaluation Plan**

**E. Attachments, Attachment E.2. Evaluation Budget**

<b>Deliverable</b>	<b>SFY 2021</b>	<b>SFY 2022</b>	<b>SFY 2023</b>	<b>SFY 2024</b>	<b>SFY 2025</b>	<b>SFY 2026</b>	<b>SFY 2027</b>	<b>SFY 2028</b>
<b>Task 6: Develop Summative Evaluation Report for 2021-2025 Waiver</b>							\$597,836	\$149,459
<b>Total</b>	<b>\$44,820</b>	<b>\$ 0</b>	<b>\$158,828</b>	<b>\$368,019</b>	<b>\$629,620</b>	<b>\$291,962</b>	<b>\$623,970</b>	<b>\$149,459</b>

## Attachment E.3. Timeline and Major Milestones

This section describes the timeline for conducting the various evaluation activities, including dates for evaluation-related milestones and deliverables, including both interim and summative evaluations.

### Mid-Point Assessment

The Mid-Point Assessment is designed to summarize progress towards meeting the SMI/SED milestones and identify related risks. Consistent with Section XI.6 of the STC, the Mid-Point Assessment will contain a description of the methodologies used for examining progress and assessing risk, the limitations of the methodologies, the evaluator's determinations regarding progress towards key milestones, and any recommendations. As required by CMS, this report will include the following elements (STC Sections 5 and 6):

- An examination of progress toward meeting each milestone and timeframe approved in the SMI/SED Implementation Plan, the SMI/SED Financing Plan, and toward meeting the targets for performance measures as approved in the SMI/SED Monitoring Protocol
- A determination of factors that affected achievement on the milestones and performance measure gap closure percentage points to date
- A determination of selected factors likely to affect future performance in meeting milestones and targets not yet met and information about the risk of possibly missing those milestones and performance targets
- For milestones or targets at medium to high risk of not being met, recommendations for adjustments in the State's SMI/SED or SMI/SED Financing Plan or to pertinent factors that the State can influence that will support improvement
- An assessment of whether the State is on track to meet the budget neutrality
- An assessment if the State is meeting the STC requirement of a 30 day or less average length of stay (ALOS). If the State cannot show that it is meeting a 30 day or less ALOS requirement within one standard deviation at the Mid-Point Assessment, the State may only claim Federal financial participation (FFP) for stays up to 45 days until such time that the State can demonstrate that it is meeting a 30 day or less ALOS requirement.

The Mid-Point Assessment will also include findings from key informant interviews with stakeholders, including, but not limited to: representatives of MCEs, SMI/SED providers, members and other key partners.

The major activities associated with the development of the Mid-Point Assessment are:

- **Conduct key informant interviews** – The evaluator will use findings from key informant interviews conducted in 2021 and 2023.
- **Request and review data and key resources** – The evaluator will develop an information/data request, including FSSA monitoring reports and other program documentation. The evaluator assumes that the FSSA monitoring reports will inform the quantitative aspects of the evaluation and that primary data collection or calculation of metrics identified in the monitoring protocol will not be necessary.
- **Develop Mid-Point Assessment outline** – The evaluator will develop an outline for the Mid-

## Indiana §1115(a) SMI/SED Demonstration Evaluation Plan

### E. Attachments, Attachment E.3. Timeline and Major Milestones

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Point Assessment for review and comment by FSSA. This outline will help provide a common understanding of the content to be included within each of the sections of the assessment.

- **Develop draft and final Mid-Point Assessment Reports** – The evaluator will use FSSA’s monitoring reports (based on the CMS-approved monitoring protocol), the results of the 2020 Summative Evaluation Report, and themes from key informant interviews (2021, 2023) to develop the draft Mid-Point Assessment Report.
- **Responding to CMS Feedback** – The evaluator will support FSSA in responding to feedback from CMS on the Mid-Point Assessment report.
- **CMS briefing** – The evaluator will support FSSA in briefing the Mid-Point Assessment findings to CMS. This briefing will be delivered virtually or in-person, as requested by CMS.

#### Interim Evaluation Report for 2021-2025 waiver

Indiana will develop the 2021-2025 Interim Evaluation Report per requirements outlined in Appendix B of the STCs, and according to the approved final evaluation plan. As such, it will include the following sections:

- Executive summary
- General background information
- Evaluation questions and hypotheses
- Methodology
- Methodological limitations
- Results
- Conclusions
- Interpretations, policy implications and interactions with other state initiatives
- Lessons learned and recommendations
- Attachment(s), including the approved evaluation design

The main activities in the development of the Interim Evaluation Report are as follows:

- **Collect quantitative data** – The evaluator will develop and submit an information/data request based on the data sources, described in Attachment F, to FSSA and will coordinate with FSSA data team members to receive and process the data.
- **Prepare collected data for analysis** – the evaluator will leverage the data dictionaries and information shared by State data team to develop data intake and processing. Additionally, data preparation will include development of basic summaries (e.g., count of beneficiaries by year and age group. The evaluator will develop multiple analytical tables (e.g., yearly count of utilization, yearly enrollment data containing beneficiary characteristics) for use across quantitative analyses.
- **Conduct quantitative analyses** – The evaluator will conduct the quantitative analyses outlined in the **Methodology Section**.

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### E. Attachments, Attachment E.3. Timeline and Major Milestones

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- **Collect qualitative data and conduct qualitative analysis** – The evaluator will incorporate findings from key informant interviews.
- **Develop Report outline** – The evaluator will develop an outline for the Interim report for review and comment by FSSA. This outline will help provide a common understanding of the content to be included within each of the sections of the report.
- **Develop Draft Evaluation Report** – The evaluator will use the quantitative and qualitative analyses described above to develop the draft Interim Evaluation Report for public comment. The evaluator will review public comments and adjust the draft report in consultation with FSSA, as appropriate. FSSA will submit the report to CMS by December 31, 2024.
- **Respond to CMS feedback** – Indiana review CMS feedback on the draft 2021-2025 Interim Evaluation Report, revise as appropriate and necessary and submit the final report to CMS

#### **Develop Summative Evaluation Report for 2021-2025 waiver**

The 2021-2025 Summative Evaluation Report will be based on the requirements outlined in Appendix B of the STCs, and according to the approved Evaluation Plan. As such, it will include the following sections:

- Executive summary
- General background information
- Evaluation questions and hypotheses
- Methodology
- Methodological limitations
- Results
- Conclusions
- Interpretations, policy implications and interactions with other state initiatives
- Lessons learned and recommendations
- Attachment(s), including the approved evaluation design

This report will reflect additional key informant interviews and quantitative data analyses that reflect the full waiver time period (as described in the Methods section). The main activities in the development of the Summative Evaluation Report will be similar to those described above (development of Interim Evaluation Report) including:

- Data request (enrollment, claims / encounters, administrative)
- 2021-2025 Summative Evaluation Report outline
- Draft 2021-2025 Summative Evaluation Report for FSSA review
- Revised 2021-2025 Summative Evaluation Report for public comment
- 2021-2025 Summative Evaluation Report for CMS Review
- Final 2021-2025 Summative Evaluation Report

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**E. Attachments, Attachment E.3. Timeline and Major Milestones**

**Exhibit E.4: Timeline and Milestones**

		2021		2022		2023		2024		2025		2026		2027		2028	
		CY 2021		CY 2022		CY 2023		CY 2024		CY 2025		CY 2026		CY 2027		CY 2028	
Task	Activity/Deliverable	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>1</b>	<b>Conduct Project Management and Monitoring Activities</b>																
<b>2</b>	<b>Develop Evaluation Plan</b>																
	Draft Evaluation Plan																
	Submit to CMS																
	Respond to CMS feedback, Final Report																
<b>3</b>	<b>Perform Key Informant Interviews</b>																
<b>4</b>	<b>Develop Mid-Point Assessment Report</b>																
	Outline																
	Data request																
	Draft Report																
	Revised Report for submission to CMS																
	Respond to CMS feedback, Final Report																
<b>5</b>	<b>Develop 2021-2025 Interim Evaluation Report</b>																
	Outline																
	Data request																
	Draft Report																
	Revised Report for public comment																
	Revised Report for submission to CMS																
	Respond to CMS feedback, Final Report																
<b>6</b>	<b>Develop 2021-2025 Summative Evaluation Report</b>																
	Outline																
	Data request																
	Draft Report																
	Revised Report for public comment																
	Revised Report for submission to CMS																
	Respond to CMS feedback, Final Report																



## F. Analytic Tables

The tables include research questions, outcome measures and time specification for the interim and summative report. Assumption: all measures will be used for both Interim and Summative Evaluation Reports. To study trends over time and develop observational analyses, outcome measures will be calculated for a 12-month time-period (calendar year). All regression-based analyses (e.g., ITS) will use beneficiary level data. Depending on the research question, other time frame (e.g., quarterly, monthly) will be considered for analysis.

## Goal 1: Reduced utilization and length of stay in emergency departments among Medicaid beneficiaries with SMI or SED while awaiting mental health treatment in specialized settings

Exhibit F.1: Goal 1

Hypothesis	Research Question	Outcome Measure(s)	Data Sources	Analytic Approach	Comparison Strategy
H.1: The SMI/ SED demonstrations will result in reductions in utilization and length of stay in EDs among Medicaid beneficiaries with SMI/SED while awaiting mental health treatment.	<b>Primary RQ 1.1:</b> Does the SMI/SED demonstration result in reductions in utilization and length of stay in EDs among Medicaid beneficiaries with SMI/SED while awaiting mental health treatment? <sup>17</sup>	<ul style="list-style-type: none"> <li>Number of all-cause ED visits per 1,000 beneficiary-months among adult Medicaid beneficiaries aged 18 and older who met the eligibility criteria of beneficiaries with SMI</li> <li>(Denominator = total months of enrollment for beneficiaries aged 18 and older and had SMI diagnosis, Numerator = total number of all cause ED visits for beneficiaries included in Denominator)</li> </ul> <p><i>Measure steward, endorsement (benchmark): Milestone 2 monitoring metric SMI/SED demonstration monitoring metric #3 All-Cause Emergency Department (ED) Utilization Rate for Medicaid Beneficiaries who may Benefit From Integrated Physical and Behavioral Health Care (PMH-20).</i><sup>18</sup></p>	<ul style="list-style-type: none"> <li>Claims/encounter data (2018-2025)</li> <li>Enrollment data (2018-2025)</li> </ul>	Descriptive quantitative analysis of trends over time during the demonstration  Interrupted time series analysis	n.a.

<sup>17</sup> The research questions were drafted to align with CMS guidance (<https://www.medicaid.gov/medicaid/section-1115-demo/downloads/evaluation-reports/smi-sed-eval-guide-appendix-a.pdf>). For each research question, the State identified one outcome measure for the evaluation. For this research question, the State is assessing impact of program based on reduced number of ED visits.

<sup>18</sup> Based on Technical Specifications and Resource Manual, this measure is defined as the number of all-cause ED visits per 1,000 beneficiary months among adult Medicaid beneficiaries aged 18 and older who meet the eligibility criteria of beneficiaries with SMI in a year. The Technical Specifications and Resource Manual is available at: <https://www.medicaid.gov/resources-for-states/innovation-accelerator-program/functional-areas/quality-measurement/physical-and-mental-health-integration-quality-measures/index.html>

**Indiana §1115(a) SMI/SED Demonstration Evaluation Plan**

**F. Analytic Tables, Attachment E.3. Timeline and Major Milestones**

Hypothesis	Research Question	Outcome Measure(s)	Data Sources	Analytic Approach	Comparison Strategy
H.1, continued	Subsidiary RQ 1.1: How do the SMI/SED demonstration effects on reducing utilization and lengths of stays in EDs among Medicaid beneficiaries with SMI/SED vary by geographic area or beneficiary characteristics?	<ul style="list-style-type: none"> <li>Number of all-cause ED visits per 1,000 beneficiary-months among adult Medicaid beneficiaries aged 18 and older who met the eligibility criteria of beneficiaries with SMI</li> </ul> <p>(Refer to Primary RQ 1.1 for measure calculation) <i>Measure steward, endorsement (benchmark): Milestone 2 monitoring metric #3</i></p>	<ul style="list-style-type: none"> <li>Claims/encounter data (2018-2025)</li> <li>Enrollment data (2018-2025)</li> </ul>	Descriptive quantitative analysis of trends over time during the demonstration  Interrupted time series analysis	n.a.
H.1, continued	Subsidiary RQ 1.2: How do SMI/SED demonstration activities contribute to reductions in utilization and length of stay in EDs among Medicaid beneficiaries with SMI/SED while awaiting mental health treatment in specialized settings?	<ul style="list-style-type: none"> <li>Demonstration activities or their components or characteristics that stakeholders identify as most effective in reducing utilization and lengths of stays in EDs among Medicaid beneficiaries with SMI or SED</li> <li>Obstacles that stakeholders identify as hindering the effectiveness of the demonstration in reducing utilization and lengths of stays in EDs</li> </ul>	Key informant interviews with members, MCEs, State staff and ED providers	Descriptive qualitative analysis of demonstration activities most effective, and obstacles that stakeholders identify, in reducing utilization and lengths of stays in EDs	n.a.

## Goal 2: Reduced preventable readmissions to acute care hospitals and residential settings

Exhibit F.2: Goal 2,<sup>19</sup> Hypothesis 2

Hypothesis	Research Question	Outcome Measure(s)	Data Sources	Analytic Approach	Comparison Strategy
H.2: The SMI/SED demonstration will result in reductions in preventable readmissions to acute care hospitals and residential settings.	<b>Primary RQ 2:</b> Does the SMI/SED demonstration result in reductions in preventable readmissions to acute care hospitals and residential settings (including, short-term inpatient and residential admissions to both IMDs and non-IMD acute-care hospitals, critical access hospitals, and residential settings)?	<p>Number of thirty-day, all-cause unplanned readmissions (acute care hospitals and residential settings) following psychiatric hospitalization</p> <p>(Study population = all beneficiaries aged 18 and older and had SMI diagnosis having psychiatric hospitalization, measure calculation = Among beneficiaries included in study population number of admission, for any reason, to acute care hospital (including Critical Access Hospitals) or residential care that occurs within 3-30 days after the discharge date from a psychiatric hospitalization)</p> <p>(Benchmark to State published NQF #2860 measure - <i>SMI/SED demonstration monitoring metrics#4. Metric #4 is 30-Day All-Cause Unplanned Readmission Following Psychiatric Hospitalization in an Inpatient Psychiatric Facility (IPF)</i>)<sup>20</sup></p>	<ul style="list-style-type: none"> <li>• Claims/encounter data (2018-2025)</li> <li>• Enrollment data (2018-2025)</li> <li>• Adult Core Set (for NQF #2860)</li> </ul>	<p>Descriptive quantitative analysis of trends over time during the demonstration</p> <p>Interrupted time series analysis</p>	n.a.

<sup>19</sup> Indiana is not including Subsidiary Research Question 2.3: “Does the SMI/SED demonstration result in increased screening and intervention for comorbid SUD and physical health conditions during acute care psychiatric hospital and residential setting stays and increased treatment for such conditions after discharge?” Calculation and monitoring of such a metric will require medical reviews be performed which would require substantial resources. As this research question is not associated with primary objective of the waiver, the State determined not to monitor and calculate this metric during time of preparation of this evaluation plan.

<sup>20</sup> This measure is based on the 30-Day All-Cause Unplanned Readmission Following Psychiatric Hospitalization in an Inpatient Psychiatric Facility (IPF) in the IPFQR program. The program manual for IPFQR is available at: [https://qualitynet.org/files/5df7a5ca62faad001ffd7a87?filename=FY20\\_IPFQR\\_CBM\\_Sp\\_ecs.pdf](https://qualitynet.org/files/5df7a5ca62faad001ffd7a87?filename=FY20_IPFQR_CBM_Sp_ecs.pdf).

**Indiana §1115(a) SMI/SED Demonstration Evaluation Plan**

**F. Analytic Tables, Attachment E.3. Timeline and Major Milestones**

Hypothesis	Research Question	Outcome Measure(s)	Data Sources	Analytic Approach	Comparison Strategy
H.2, continued	<b>Subsidiary RQ 2.1:</b> How do the SMI/SED demonstration effects on reducing preventable readmissions to acute care hospitals and residential settings vary by geographic area or beneficiary characteristics?	Number of thirty-day, all-cause unplanned readmissions following psychiatric hospitalization (Refer to Primary RQ 2 for measure calculation)  (Benchmark to State published NQF #2860 measure - <i>SMI/SED demonstration monitoring metrics #4. Metric #4 is 30-Day All-Cause Unplanned Readmission Following Psychiatric Hospitalization in an Inpatient Psychiatric Facility (IPF)</i> )	<ul style="list-style-type: none"> <li>• Claims/encounter data (2018-2025)</li> <li>• Enrollment data (2018-2025)</li> <li>• Adult Core Set (for NQF #2860)</li> </ul>	Descriptive quantitative analysis of trends over time during the demonstration  Interrupted time series analysis	n.a.
H.2, continued	<b>Subsidiary RQ 2.2:</b> How do demonstration activities contribute to reductions in preventable readmissions to acute-care hospitals and residential settings?	<ul style="list-style-type: none"> <li>• Demonstration activities or their components or characteristics that stakeholders identify as most effective in reducing preventable readmissions to acute care hospitals and residential settings</li> <li>• Obstacles that stakeholders identify as hindering the effectiveness of the demonstration in reducing preventable readmissions to acute care hospitals and residential settings</li> </ul>	Key informant interviews with members, State staff, MCEs, providers, and other stakeholders (including consumer advocates)	Qualitative analysis to identify themes associated with the effectiveness of demonstration activities for reducing preventable readmissions to acute care hospitals and residential settings	n.a.

### Goal 3: The SMI/SED demonstration will result in improved availability of crisis stabilization services throughout the state

Exhibit F.6: Goal 3

Hypothesis	Research Question	Outcome Measure(s)	Data Sources	Analytic Approach	Comparison Strategy
<b>H.3:</b> The SMI/SED demonstration will result in improved availability of crisis stabilization services throughout the state.	<b>Primary RQ 3.1:</b> To what extent does the SMI/SED demonstration result in improved availability of crisis outreach and response services (including crisis call centers, mobile crisis units, crisis observation/assessment centers, and coordinated community crisis response teams) throughout the state?	<ul style="list-style-type: none"> <li>Number of crisis call centers</li> <li>Number of mobile crisis units</li> <li>Number of crisis observation/assessment centers</li> <li>Number of coordinated community crisis response teams</li> </ul>	State administrative data (2018-2025) <sup>21</sup> collected via the Quarterly Monitoring Reports submitted to CMS. These data are updated annually in the Q1 report.	Descriptive quantitative analysis of trends over time during the demonstration	Baseline assessment at the start of the demonstration
	<b>Primary RQ 3.2:</b> To what extent does the SMI/SED demonstration result in improved availability of intensive outpatient services and partial hospitalization?	Number of intensive outpatient and partial hospitalization providers  <i>Note: The metric is based on State Availability Assessment. The Assessment gets submitted annually by May 30 as part of the monitoring report. The Assessment is point in time and performed on Feb 1 of that year.</i>	State administrative data (2018-2025) collected via the Quarterly Monitoring Reports submitted to CMS. These data are updated annually in the Q1 report.	Descriptive quantitative analysis of trends over time during the demonstration  Lookback time period for trend will depend on available data	Baseline assessment at the start of the demonstration

<sup>21</sup> Once CMS publishes monitoring reports, they can be found here: <https://www.medicaid.gov/medicaid/section-1115-demo/demonstration-and-waiver-list/81641>

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**F. Analytic Tables, Attachment E.3. Timeline and Major Milestones**

Hypothesis	Research Question	Outcome Measure(s)	Data Sources	Analytic Approach	Comparison Strategy
H.3, continued	<p><b>Primary RQ 3.2:</b> To what extent does the SMI/SED demonstration result in improved availability of intensive outpatient services and partial hospitalization?</p>	<ul style="list-style-type: none"> <li>• Demonstration activities or their components or characteristics that stakeholders identify as most effective in improved availability of intensive outpatient services and partial hospitalization</li> <li>• Obstacles that stakeholders identify as hindering the effectiveness of the demonstration in improved availability of intensive outpatient services and partial hospitalization</li> </ul>	<p>Key informant interviews with members, State staff, MCEs, providers, and other stakeholders (including consumer advocates)</p>	<p>Qualitative analysis to identify themes associated with the effectiveness of demonstration activities for improved availability of intensive outpatient services and partial hospitalization</p>	<p>n.a.</p>

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**F. Analytic Tables, Attachment E.3. Timeline and Major Milestones**

Hypothesis	Research Question	Outcome Measure(s)	Data Sources	Analytic Approach	Comparison Strategy
<p><b>H.3, continued</b></p>	<p><b>Primary RQ 3.3:</b> To what extent does the SMI/SED demonstration improve the availability of crisis stabilization services provided during acute short-term stays in each of the following: public and private psychiatric hospitals; residential treatment facilities; general hospital psychiatric units; and community-based settings (such as residential crisis stabilization programs, small inpatient units in community mental health centers, peer-run crisis respite programs, and so on)?</p>	<p>Number of:</p> <ul style="list-style-type: none"> <li>• Intensive outpatient and partial hospitalization providers</li> <li>• Psychiatric hospitals</li> <li>• Residential mental health treatment facilities and beds</li> <li>• Medicaid-enrolled psychiatric units in acute care and critical access hospitals</li> <li>• Licensed psychiatric hospital and psychiatric unit beds</li> <li>• Community Mental Health Centers</li> </ul>	<p>State administrative data (2018-2025) collected via the Quarterly Monitoring Reports submitted to CMS. These data are updated annually in the Q1 report.</p>	<p>Descriptive quantitative analysis of trends over time during the demonstration</p> <p>Lookback time period for trend will depend on available data</p>	<p>Baseline assessment at the start of the demonstration</p>



## Goal 4: Improved access to community-based services to address the chronic mental health care needs of beneficiaries with SMI or SED including through increased integration of primary and behavioral health care

Exhibit F.7: Goal 4<sup>22</sup>

Hypothesis	Research Question	Outcome Measure(s)	Data Sources	Analytic Approach	Comparison Strategy
H.4: Access of beneficiaries with SMI/SED to community-based services to address their chronic mental health care needs will improve under the demonstration, including through increased integration of primary and behavioral health care.	<b>Primary RQ 4.1:</b> Does the demonstration result in improved access of beneficiaries with SMI/SED to community-based services to address their chronic mental health care needs?	<p>Proportion of beneficiaries with SMI/SED who use mental-health-related (1) outpatient, rehabilitation, and targeted case management services; (2) home and community-based services; and (3) long-term services and supports</p> <p>(Denominator = total number of beneficiaries aged 18 and older and having SMI diagnosis and meeting Medicaid coverage eligibility, Numerator = number of beneficiaries included in denominator and using specific services)</p> <p><i>Measure steward for (1): Milestone 3 monitoring metric for outpatient mental health services utilization (metric # 15) divided by Milestone 4 monitoring metric for count of beneficiaries with SMI/SED (metric #21)</i></p> <p>(Benchmark to State published monitoring metrics)</p> <p><i>SMI/SED demonstration monitoring Metric SMI/SED demonstration monitoring metric #15: Mental Health Services Utilization – Outpatient, #21: Count of Beneficiaries With SMI/SED (monthly)</i></p>	<ul style="list-style-type: none"> <li>• Enrollment data (2018-2025)</li> <li>• Claims/encounter data (2018-2025)                             <ul style="list-style-type: none"> <li>○ Institutional</li> <li>○ Non-institutional</li> <li>○ Pharmacy</li> </ul> </li> </ul>	<p>Descriptive quantitative analysis of trends over time during the demonstration</p> <p>Interrupted time series analysis</p>	n.a.

<sup>22</sup> Indiana is not including Subsidiary Research Question 4.1c: “How do the SMI/SED demonstration effects on access to community-based services vary by geographic area or beneficiary characteristics?” in this Evaluation Plan. The outcome measures from Goal 3, the summaries of provider types, address this question. Furthermore, this Evaluation Plan is limited to one year of the demonstration and because this is a subsidiary research question.

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**F. Analytic Tables, Attachment E.3. Timeline and Major Milestones**

Hypothesis	Research Question	Outcome Measure(s)	Data Sources	Analytic Approach	Comparison Strategy
H.4, continued	<b>Subsidiary RQ 4.1a:</b> To what extent does the demonstration result in improved availability of community-based services needed to comprehensively address the chronic mental health needs of beneficiaries with SMI/SED?	Number of Medicaid-enrolled: <ul style="list-style-type: none"> <li>Community mental health centers</li> <li>Psychiatrists and other mental health practitioners authorized to prescribe</li> <li>Mental health practitioners (other than psychiatrists) who are certified and licensed by the state to independently treat mental illness</li> <li>Federally qualified health centers (FQHCs) that offer behavioral health services</li> </ul>	State administrative data (2018-2025) collected via the Quarterly Monitoring Reports submitted to CMS. These data are updated annually in the Q1 report.	Descriptive quantitative analysis of trends over time during the demonstration  Level of granularity of analysis and lookback time period for trend will depend on available data	Baseline assessment at the start of the demonstration
H.4, continued	<b>Primary RQ 4.2:</b> Does the integration of primary and behavioral health care to address the chronic mental health care needs of beneficiaries with SMI/SED improve under the demonstration?	<ul style="list-style-type: none"> <li>Demonstration activities or their components or characteristics that stakeholders identify as most effective in the integration of primary and behavioral health care to address the chronic mental health care needs of beneficiaries with SMI/SED</li> <li>Obstacles that stakeholders identify as hindering the effectiveness of the demonstration in the integration of primary and behavioral health care to address the chronic mental health care needs of beneficiaries with SMI/SED</li> </ul>	Key informant interviews with members, State staff, MCEs, ED providers, and other stakeholders (including consumer advocates)	Qualitative analysis to identify themes associated with the effectiveness of demonstration activities for the integration of primary and behavioral health care to address the chronic mental health care needs of beneficiaries with SMI/SED	n.a.

## Goal 5: Improved care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities

Exhibit F.9: Goal 5<sup>23</sup>

Hypothesis	Research Question	Outcome Measure(s)	Data Sources	Analytic Approach	Comparison Strategy
H.5: The SMI/SED demonstration will result in improved care coordination, especially continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities.	<b>Primary RQ 5.1:</b> Does the SMI/SED demonstration result in improved care coordination for beneficiaries with SMI/SED?	Percentage of discharges for patients aged 18 and older who had a visit to the ED with a primary diagnosis of mental health or alcohol or other drug dependence during the measurement year AND who had a follow-up visit with any provider with a corresponding primary diagnosis of mental health or alcohol or other drug dependence within 7 and 30 days of discharge  (Denominator = total number discharges for beneficiaries aged 18 and older and having SMI diagnosis and a primary diagnosis of mental health or alcohol or other drug dependence, meeting Medicaid coverage eligibility and had ED visit, Numerator = number of discharges in denominator that had a follow-up visit with provider within 7 and 30 days of discharge)  <i>(Benchmark to Milestone 2 monitoring metric, NCQA, NQF #0576 (adapted)</i>  <i>SMI/SED demonstration monitoring metric #8 (NQF #0576 adapted): Follow-up After Hospitalization for Mental Illness: Age 18 and older</i>	<ul style="list-style-type: none"> <li>• Enrollment data (2018-2025)</li> <li>• Claims/ encounter data (2018-2025)                             <ul style="list-style-type: none"> <li>○ Institutional</li> <li>○ Non-institutional</li> <li>○ Pharmacy</li> </ul> </li> <li>• Adult Core Set (for NQF #0576)</li> </ul>	Descriptive quantitative analysis of trends over time during the demonstration <sup>24</sup>  Interrupted time series analysis	n.a.

<sup>23</sup> Indiana is not including Subsidiary Research Question 5.2a: “Does the SMI/SED demonstration result in improved discharge planning and outcomes regarding housing for beneficiaries transitioning out of acute psychiatric care in hospitals and residential treatment facilities?” This is because this Evaluation Plan is limited to one year of analysis and the level of effort involved in obtaining and reviewing facility records, and facility discharge records, is substantial especially considering Indiana’s budget and the impact of COVID-19.

<sup>24</sup> This measure is part of the CMS Adult Core Set. The developed measure can be used to compare against other states using State report to CMS. Differences in results will not necessarily be due to impact of SMI waiver. The evaluation team will consider feasibility of the comparison during analysis process.)

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**F. Analytic Tables, Attachment E.3. Timeline and Major Milestones**

Hypothesis	Research Question	Outcome Measure(s)	Data Sources	Analytic Approach	Comparison Strategy
H.5, continued	<b>Primary RQ 5.1:</b> Does the SMI/SED demonstration result in improved care coordination for beneficiaries with SMI/SED?	<ul style="list-style-type: none"> <li>• Changes made through the demonstration to data-sharing systems, processes, or policies</li> <li>• Demonstration activities regarding data-sharing systems, processes, or policies that staff identify as most effective for improving care coordination</li> <li>• Obstacles that staff identify as hindering the effectiveness of demonstration activities regarding data sharing systems, processes, or policies aimed at improving care coordination</li> </ul>	<ul style="list-style-type: none"> <li>• Key informant interviews with members, State staff, MCEs, providers, and other stakeholders (including consumer advocates)</li> </ul>	Qualitative analysis to identify themes associated with the effectiveness of demonstration activities to improve data sharing systems, processes, and policies to support care coordination	n.a.
H.5, continued	<b>Primary RQ 5.2:</b> Does the SMI/SED demonstration result in improved continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities?	<ul style="list-style-type: none"> <li>• Demonstration activities or their components or characteristics that stakeholders identify as most effective in improving continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities</li> <li>• Obstacles that stakeholders identify as hindering the effectiveness of the demonstration in improving continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities.</li> </ul>	<ul style="list-style-type: none"> <li>• Key informant interviews with members, State staff, MCEs, providers, and other stakeholders (including consumer advocates)</li> </ul>	Qualitative analysis to identify themes associated with the effectiveness of demonstration activities for improving continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities	n.a.

**Indiana §1115(a) SMI/SED Demonstration Evaluation Plan**

**F. Analytic Tables, Attachment E.3. Timeline and Major Milestones**

Hypothesis	Research Question	Outcome Measure(s)	Data Sources	Analytic Approach	Comparison Strategy
H.5, continued	<p><b>Subsidiary RQ 5.2b:</b> How do demonstration activities contribute to improved continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities?</p>	<ul style="list-style-type: none"> <li>• Demonstration activities or their components or characteristics that stakeholders identify as most effective in improving continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities</li> <li>• Obstacles that stakeholders identify as hindering the effectiveness of the demonstration in improving continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities.</li> </ul>	<ul style="list-style-type: none"> <li>• Key informant interviews with members, State staff, MCEs, providers, and other stakeholders (including consumer advocates)</li> </ul>	<p>Qualitative analysis to identify themes associated with the effectiveness of demonstration activities for improving continuity of care in the community following episodes of acute care in hospitals and residential treatment facilities</p>	n.a.

## G. Impact of Demonstration on Health Care Spending

The State's actuary, Milliman, Inc. will be performing the cost analyses required as part of evaluation reports for Section 1115 demonstrations for individuals with SMI/SED or SUD. This analysis will follow the structure outlined in Appendix C of related CMS guidance.<sup>25</sup>

This analysis will assess how the demonstration impacts health care spending (increase, decrease or remain unchanged). Even though total costs might remain unchanged or even increase with the implementation of the demonstration as new services become available to Medicaid members, certain costs might decrease (such as emergency department visits). This is ascertained by modeling the impact of the demonstration on different types of costs.

The analysis will be conducted using costs expressed in dollars per beneficiary per month (PBPM). In Indiana, individuals with SMI diagnoses receive services through both the fee-for-service (FFS) and managed care (MC) delivery systems; therefore, this analysis will utilize the following types of claims:

- FFS claims for those receiving services on a FFS basis. This also includes FFS claims paid for members enrolled in managed care, where the services are currently or were previously carved out of the managed care capitation payments during the pre- and post-demonstration; or
- MC encounter claims (indicating the amount paid to providers as recorded by Managed Care Entities (MCEs)) as submitted to the fiscal agent and deduplicated by Milliman.

Both FFS claims and MC encounters will be summarized from the Enterprise Data Warehouse (EDW) with data provided by the fiscal agent, Gainwell, and maintained by Optum.

Administrative costs associated with SMI 1115 demonstration will also be included and will be provided to Milliman by the State.

The following three levels of cost analysis will be conducted as recommended in the CMS guidance:

1. The first level focuses on the total costs for SMI beneficiaries by adding up all the claim costs and administrative costs.
2. The second level of analysis focuses on identifying cost drivers by splitting the total costs into components based on the presence of SMI/SED diagnosis and the setting for the SMI services (IMD or other).
3. The third level of analysis strives to identify cost drivers for the SMI population by stratifying the total costs into the component for different type of care (based on T-MSIS mapping). Outpatient services are further stratified into ED services and non-ED services as ED services represent an area of potential saving given better service access to those with SMI diagnosis.

The state will utilize the interrupted time series analysis (ITS) approach. The preferred difference-in-difference analysis (DiD) has not been selected, due to the absence of a valid comparison group.

The cost analysis will be performed using the steps described below.

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<sup>25</sup> <https://www.medicaid.gov/medicaid/section-1115-demo/downloads/evaluation-reports/smi-sed-sud-cost-appendix-c.pdf>

## STEP 1 – Beneficiary Pool Identification

Starting two years prior to the demonstration (January 1, 2018), we will identify beneficiary-months (member IDs and the month and year) for all SMI/SED treatment events. SMI/SED treatment events will be identified by the diagnosis or provider type/provider specialty combination on the claim or encounter.

- Any diagnosis on the claim that meets the following SMI criteria
  - F20.xx (Schizophrenia and sub codes up to 2 places)
  - F25.xx (Schizoaffective Disorder and sub codes up to two places)
  - F31.xx (Bipolar and all sub codes up to 2 places)
  - F33.xx (Major depression Recurrent and all sub codes up to two places)
- The following provider type/provider specialty combination on the claim

Provider Type	Provider Specialty
01-Hospital	011-Psych Facility (IMDs)
11-Behavioral Health Provider	110-Outpatient Mental Health Clinic 111-CMHC 114-Health Service Provider in Psych (HSPP) 115-Adult Mental Health & Habilitation Provider 613-MRO Clubhouse 616-Licensed Psychologist 617-Licensed Independent Practice School Psychologist 618-Licensed Clinical Social Worker 619-Licensed Marriage & Family Therapist 620-Licensed Mental Health Counselor 621-Licensed Clinical Addiction Counselor

The analytic file will include an observation (beneficiary-month) for each month of service containing an SMI/SED treatment event for the beneficiary as well as up to 11 beneficiary-months following each identified event, as long as the beneficiary remains enrolled in Medicaid. If there are no subsequent claims with SMI/SED treatment events, the beneficiary may be dropped from the exposure after the initial 12 months of observation. However, if another SMI/SED treatment event occurs before the observation period is over, the observation period will be extended for up to another 11 months after the subsequent event, or through the last month of Medicaid eligibility, whichever comes first.

## STEP 2 – Demographic Information

For each beneficiary-month we will collect the following demographic information:

- Age
- Gender
- Race
- Dual status
- County
- Condition (stratified by the four diagnosis categories)

## STEP 3 – Create the Analytic File

For each beneficiary-month identified in the Step 1 above, we will collect all the beneficiary’s Medicaid costs incurred during the month, and stratify the costs based on the 10 categories specified in Table C.1 of the CMS guidance:

1. Total costs
2. Total federal costs
3. SMI IMD costs
4. Other SMI costs
5. Non-SMI costs
6. Outpatient costs, non-ED
7. Outpatient costs, ED
8. Inpatient costs
9. Pharmacy costs
10. Long-term care costs

IMD costs will be identified using billing provider IDs for facilities identified by the state as an IMD provider (consistent with IDs being used for the quarterly monitoring of the 1115 demonstration). Stratification by category of service will be performed consistent with T-MSIS mapping.

## STEP 4 – Regression Indicators

We will use indicator variables to mark time periods prior to the beginning of the demonstration (2018 and 2019), the first year of the demonstration (2020), and demonstration time periods after the implementation period (2021 and later). Since the implementation corresponds to the onset of the COVID-19 pandemic, separately collecting information for 2020 may help to account for changes that were caused by reasons other than the demonstration.

We will add the following indicators:

- Impl – 0 for the period through December 2019, prior to implementing the SMI/SED 1115 waiver, 1 starting in January 2020
- Demo – 0 through the first year of the SMI/SED demo (December 2020), 1 starting with the current demonstration as of January 2021

Indiana is not planning on using a comparison group, so there is no need for the treatment group indicator.

## STEP 5 – Data Validation

To verify that month-to-month variation is within expected bounds, we will calculate average costs for each of the 10 service categories and summarize mean costs for each calendar quarter and service category in the format of Table C.2 (without a comparison group) from the CMS guidance. Means will be graphed for visual inspection of trends, and to check for data errors.



We plan to summarize monthly data by quarters as this is the count variable utilized in the regression in the next step. However, we will do testing and graphing on a monthly basis.

## STEP 6 – Regression Analysis

As indicated above, we will utilize ITS to understand the impact of the demonstration on health spending as it is well suited for the interventions being evaluated here.<sup>26</sup> This time series will be run separately for each of the 10 types of costs listed in Step 3 as specified in the CMS guidance on page C.9.

We will implement ITS using the following regression model:

$$\text{Cost}_{it} = \beta_0 + \beta_1 * \text{time}_t + \beta_2 * \text{impl}_t + \beta_3 * \text{time}_t * \text{impl}_t + \beta_4 * \text{demo}_t + \beta_5 * \text{time}_t * \text{demo}_t + \beta_i * \text{Controls}_{it} + \varepsilon_{it}$$

Where:

- Cost– expenditures being evaluated (quarterly expenditures for each beneficiary)
- *i* – individual beneficiary
- *t* – indexes time (quarter as indicated in Step 5)
- impl – binary indicator for implementation of the SMI/SED 1115 as of January 2020, as described in Step 4
- demo – binary indicator for a year after implementation period (starting January 2021) as described in Step 4
- Controls – covariates (demographic characteristics defined in Step 2)
- $\beta_0$  – estimates the baseline level of the cost at time 0
- $\beta_1$  – estimates the change in the costs during the baseline period (baseline trend)
- $\beta_2$  – estimates the change in the costs immediately after the implementation of the SMI/SED demonstration as of January 2020
- $\beta_3$  – estimates the change in the trend after the implementation of the SMI/SED demonstration as of January 2020
- $\beta_4$  – estimates the change in the costs immediately after the initial year of the demonstration, starting January 2021
- $\beta_5$  – estimates the change in the trend after the initial year of the demonstration, starting January 2021
- $\varepsilon$  – error terms that represents random variability not explained by the model

We are interested in the PBPM cost trends demonstrated by the ITS. If the average marginal effect of the interaction terms ( $\beta_3 * \text{time}_t * \text{impl}_t$  and  $\beta_5 * \text{time}_t * \text{demo}_t$ ) is a positive dollar amount, then the costs in the post-demonstration and post-implementation periods are higher than the costs in the pre-demonstration period. However, if the interaction terms are negative, then post-demonstration and

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<sup>26</sup> James Lopez Bernal, Steven Cummins, Antonio Gasparrini; Interrupted time series regression for the evaluation of public health interventions: a tutorial, *International Journal of Epidemiology*, Volume 46, Issue 1, 1 February 2017, Pages 348–355, <https://doi.org/10.1093/ije/dyw098>

post-implementation costs are lower than pre-demonstration costs. We will also assess whether the effect is statistically significant from zero.

### **Challenges and limitations**

#### **Seasonality**

Errors for quarters separated by multiples of 12 months can be examined to detect seasonal correlation. If seasonality is detected, a term could be introduced in the regression model to reduce the potentially confounding effect of seasonality.

#### **Additional autocorrelation of error terms**

Linear regression assumes that errors are independent. If errors are found to not be independent, steps would need to be taken to correct for that. A plot of residuals will be inspected, and the Durbin-Watson statistic will be examined for serial autocorrelation of the error terms. Durbin-Watson reported statistic is between 0 and 4, where 2 indicates no correlation, with values under 1 or over 3 indicating a positive or negative correlation, respectively. If autocorrelation of the error terms is detected, an autoregressive regression model, such as Cochrane-Orcutt model or auto-regressive integrated moving average (ARIMA) model will be used instead of the linear regression.

#### **Heteroscedasticity check**

Linear regression assumes that the variance in the error terms over time is constant. Heteroscedasticity occurs when the variance for all observations in the data is not the same. To test for the heteroscedasticity, we will examine the plot of error terms against predicted cost values. If the points are not symmetrically distributed around a horizontal line, then the data may be nonlinear, and transformation of the dependent variable will need to take place. This will be accomplished by logging/or deflating.

#### **Heterogeneity check**

Heterogeneity in a dataset occurs when there is a high variability in the underlying data characteristics. For the cost analysis, we will examine the difference between the FFS claims and encounter data for MC enrolled members to understand if there is variability in reimbursement levels or treatment patterns. The existence of this variability can increase the noise and possibly understate the impact of the demonstration. In order to understand the impact of heterogeneity of the underlying claims, the cost analysis could be performed separately for those receiving services through FFS or MC delivery systems to understand if these populations were impacted differently by the demonstration.

#### **Multicollinearity check**

Multicollinearity in the regression model occurs when the independent variables of the model are highly correlated. This correlation in the independent variables will cause the model results to be unstable and have significant fluctuations making it harder to interpret the results of the cost analysis. This can also cause overfitting of the model. There are bivariate correlation checks that can be performed, such as looking for correlation between Age and Dual Status or Age and condition. Another method that can be applied is Variance Inflation Factor (VIF) for each independent variable. If the value of VIF is higher than 10, then a high correlation exists with other independent variables. If multicollinearity is identified between the independent variables, we would perform cost analysis using one demographic variable at a time.

### Impact of the COVID-19 pandemic

Pandemic onset corresponded closely with the implementation of the SMI 1115 waiver demonstration as of January 2020. Given the close timing, the impact of COVID-19 on service utilization and outcomes could be conflated with the impact of the demonstration. As described in Step 4 above, the addition of the implementation period indicator may help us separate the effect of the pandemic on the cost of the members, since the impact of the pandemic on service utilization and treatment was heaviest during CY 2020, while the impact of the demonstration is expected to be more sustained. We will examine the data after December 2020 and, if necessary, add another indicator or extend the period for the initial implementation indicator, in order to isolate the cost impact created by the pandemic and not the demonstration itself.

### STEP 7 – Reporting Results of the Cost Analysis

The results for the marginal effects and standard errors will be reported utilizing a format similar to that illustrated in Table C.4 of the CMS guidance. CMS has offered to provide future assistance on best presentation of the results.

**Attachment G: Impact on Healthcare Spending**

MILLIMAN REPORT

# Indiana SMI 1115 Demonstration Cost Analysis – Interim Evaluation

Prepared for: State of Indiana, Family and Social Services  
Administration

October 8, 2024

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## Executive Summary

In 2018, the State of Indiana, Family and Social Services Administration (FSSA) received authority from CMS to cover Institutions for Mental Disease (IMDs) for Medicaid eligible individuals ages 21-64 with substance use disorder (SUD). In 2019, FSSA received a §1115 waiver amendment to expand this authority and reimburse acute inpatient stays in IMDs for individuals diagnosed with a serious mental illness (SMI). The §1115 waiver amendment, effective on January 1, 2020, and extended through December 31, 2025, is part of broader efforts within the FSSA to ensure a comprehensive continuum of behavioral health services for Indiana residents. Indiana's approved §1115 waiver's Specific Terms and Conditions (STC) requires the Interim Report to include a cost analysis assessing how the demonstration impacted health care spending (increase, decrease, or remain unchanged).

Milliman has been retained by FSSA to conduct the cost analyses required for evaluation reports related to the Section 1115 SMI demonstration. Milliman generally applied the cost analysis methodology laid out by Section G of the *Serious Mental Illness/Serious Emotional Disturbance 2021-2025 Waiver Evaluation Plan*<sup>1</sup> (Evaluation Plan), as filed with CMS as part of the overall SUD-SMI monitoring protocol. We also referred to Appendix C of the SMI/SED and SUD Evaluation Design Guidance as published by CMS<sup>2</sup> (CMS Guidance).

The analysis reviews cost experience for individuals with SMI events, including 11 months of post-event experience. Milliman collected this information for CY 2018 through CY 2022 and applied regression techniques to isolate pre-demonstration costs from post-demonstration costs, while controlling for other changes present in the data.

The results of the analysis were inconclusive. The first year of the demonstration was CY 2020, which was heavily impacted by COVID-19, leading to model results that vary depending on whether CY 2020 is considered pre-demonstration or post-demonstration. If CY 2020 experience is counted as post-demonstration, the interrupted time series (ITS) model suggests that costs in CY 2020 and after are higher than prior year costs. If CY 2020 experience is counted as pre-demonstration, the ITS model suggests that costs in CY 2021 and after are lower than prior years. However, these results may be capturing the impact that increased Medicaid enrollment had on overall average per capita Medicaid expenditures, which have decreased as the average acuity of enrolled members has decreased.

The rest of this report describes the methodology used in this analysis and offers additional thoughts on the results and lessons learned from this analysis.

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<sup>1</sup> <https://www.medicaid.gov/medicaid/section-1115-demonstrations/downloads/in-healthy-indiana-plan-support-20-ca-20230321.pdf>

<sup>2</sup> <https://www.medicaid.gov/medicaid/section-1115-demo/downloads/evaluation-reports/smi-sed-sud-cost-appendix-c.pdf>

## Introduction

In 2018, the State of Indiana, Family and Social Services Administration (FSSA) received authority from CMS to cover Institutions for Mental Disease (IMDs) for Medicaid eligible individuals ages 21-64 with substance use disorder (SUD). In 2019, FSSA received a §1115 waiver amendment to expand this authority and reimburse acute inpatient stays in IMDs for individuals diagnosed with a serious mental illness (SMI). The §1115 waiver amendment, effective on January 1, 2020, and extended through December 31, 2025, is part of broader efforts within the FSSA to ensure a comprehensive continuum of behavioral health services for Indiana residents. Indiana's approved §1115 waiver's Specific Terms and Conditions (STC) requires the Interim Report to include a cost analysis assessing how the demonstration impacted health care spending (increase, decrease, or remain unchanged). The waiver amendment effective January 2020 added two Medicaid Eligibility Groups (MEGs) for Medicaid eligible individuals with SMI. The two new MEGs allow Serious Mental Illness (SMI) reporting to be stratified by delivery system, fee-for-service (FFS) vs managed care.

Milliman has been retained by FSSA to conduct the cost analyses required for evaluation reports related to the Section 1115 SMI demonstration. Milliman generally applied the cost analysis methodology laid out by Section G of the Evaluation Plan, as filed with CMS as part of the overall SUD-SMI monitoring protocol. We also referred to Appendix C of the SMI/SED and SUD Evaluation Design Guidance as published in the CMS Guidance.

The analysis reviews cost experience for individuals with SMI events, including 11 months of post-event experience. Milliman collected this information for CY 2018 through CY 2022 and applied regression techniques to isolate pre-demonstration costs from post-demonstration costs, while controlling for other changes present in the data.

The demonstration is subject to quarterly budget neutrality (BN) reporting using the standard CMS excel BN template. Reported expenditures for this demonstration are considered hypothetical, as they could have otherwise been covered via state plan authority. Milliman populates the template with information from Schedule C of Indiana's CMS 64 Waiver Expenditure report and also develops projections of future recipients and expenditures.

During the current SMI demonstration period (CY 2021 through CY 2025), PMPM costs for the FFS MEG have grown faster than BN targets, while cost growth for the managed care MEG has remained below targets. In total, considering all MEGs together, the SMI waiver complies with budget neutrality.



## Data and Methodology

Milliman applied the cost analysis methodology as outlined in Section G of the State's *Serious Mental Illness/Serious Emotional Disturbance 2021-2025 Waiver Evaluation Plan* while also referring to guidance published by CMS in Appendix C of the *SMI/SED and SUD Evaluation Design Guidance*<sup>3</sup>. This section documents our development of the cost analysis including development of the analytic file and regression methodology.

### DATA SOURCES

The data used for this analysis was based on enrollment and claims information reported through FSSA's Enterprise Data Warehouse (EDW) for dates of services beginning January 1, 2018 (two years prior to the demonstration). The analysis included enrollment and eligibility information reported as of August 31, 2024. Cost information reflected in this analysis is primarily based on fee-for-service (FFS) claim payments and encounter claim payments (for managed care program enrollees). FFS claim payments reflect services reported as of August 31, 2024, while managed care encounter payments reflect services reported as of July 31, 2024. Additionally, non-emergency medical transportation (NEMT) encounter payments were included where appropriate, reported as of August 31, 2024. The evaluation period for this analysis is intended to cover 2021 through 2023, and claims/encounter data was available through early 2024. However, we limited the definition of SMI events to dates of service in CY2022 to allow for sufficient run out of the 11-month post-event window (further described in the following section). Therefore, this analysis focuses on calendar years 2018 through 2022.

Additionally, we included administrative expenses in the analysis of total costs and total federal costs, as further explained in the next section of this report. For these costs, Milliman used historical administrative expenses as reported on CMS64 filings, including total administrative costs as well as the federal share portion of costs.

Milliman reviewed the EDW data and CMS 64 filings for reasonability, but did not perform a full audit of this information. The following section further describes the use of the enrollment, claims, encounters and administrative expense information to create the analytic file.

### ANALYTIC FILE DEVELOPMENT

#### Step 1 – Beneficiary Pool Identification

Milliman identified SMI events by applying demographic and provider type/specialty criteria to FFS and encounter claims for dates of service beginning January 1, 2017. Consistent with the approach prescribed in the Evaluation Plan, we considered a claim as an SMI event if the claim included either an ICD-10 diagnosis code or a provider type/specialty combination based on the specific codes listed below:

- **SMI Event Diagnostic Criteria:**
  - F20.xx: Schizophrenia
  - F25.xx: Schizoaffective disorders
  - F31.xx: Bipolar disorder
  - F33.xx: Major depressive disorder, recurrent
- **SMI Event Provider Criteria**
  - Provider Type 01: Hospital
    - Provider Specialty 011: Psych Facility (IMDs)
  - Provider Type 11: Behavioral Health Provider
    - Provider Specialty 110: Outpatient Mental Health Clinic
    - Provider Specialty 111: Community Mental Health Clinic (CMHC)
    - Provider Specialty 114: Health Service Provider in Psych (HSPP)
    - Provider Specialty 115: Adult Mental Health & Habilitation Provider
    - Provider Specialty 613: MRO Clubhouse

<sup>3</sup> <https://www.medicaid.gov/medicaid/section-1115-demo/downloads/evaluation-reports/smi-sed-sud-cost-appendix-c.pdf>

- Provider Specialty 616: Licensed Psychologist
- Provider Specialty 617: Licensed Independent Practice School Psychologist
- Provider Specialty 618: Licensed Clinical Social Worker
- Provider Specialty 619: Licensed Marriage & Family Therapist
- Provider Specialty 620: Licensed Mental Health Counselor
- Provider Specialty 621: Licensed Clinical Addiction Counselor

Figure 1 illustrates the number of SMI event months identified for each diagnosis group and provider type/specialty combination, as well as the number of unique SMI events identified for a given beneficiary month. Please note that a single claim could be listed through multiple criteria, and a single beneficiary could have multiple SMI events identified in a month.

**FIGURE 1: AVERAGE MONTHLY SMI EVENTS BY IDENTIFICATION CRITERIA**

Diagnosis Code	Diagnosis Description	CY 2018	CY 2019	CY 2020	CY 2021	CY 2022
F20.xx	Schizophrenia	7,944	8,047	7,958	7,973	7,798
F25.xx	Schizoaffective disorders	6,636	7,067	7,401	7,747	7,849
F31.xx	Bipolar disorder	16,861	17,695	18,840	20,839	21,177
F33.xx	Major depressive disorder, recurrent	32,021	36,053	39,862	46,713	50,177
Provider Type	Provider Specialty	CY 2018	CY 2019	CY 2020	CY 2021	CY 2022
01-Hospital	011-Psych Facility (IMDs)	16,885	19,502	21,677	22,312	21,987
11-Behavioral Health Provider	110-Outpatient Mental Health Clinic	39,794	38,787	36,341	38,740	38,521
11-Behavioral Health Provider	111-Community Mental Health Clinic (CMHC)	50,954	54,506	63,788	67,481	67,841
11-Behavioral Health Provider	114-Health Service Provider in Psych (HSPP)	5,986	6,198	6,357	6,928	6,504
11-Behavioral Health Provider	115-Adult Mental Health & Habilitation Provider	0	0	8	21	0
11-Behavioral Health Provider	613-MRO Clubhouse	0	0	0	0	0
11-Behavioral Health Provider	616-Licensed Psychologist	0	0	0	4	305
11-Behavioral Health Provider	617-Licensed Independent Practice School Psychologist	0	0	0	0	0
11-Behavioral Health Provider	618-Licensed Clinical Social Worker	0	1	110	700	1,781
11-Behavioral Health Provider	619-Licensed Marriage & Family Therapist	0	0	0	8	21
11-Behavioral Health Provider	620-Licensed Mental Health Counselor	0	0	2	173	907
11-Behavioral Health Provider	621-Licensed Clinical Addiction Counselor	0	0	0	65	94
<b>Unique Events per Month</b>		<b>110,824</b>	<b>116,918</b>	<b>126,266</b>	<b>141,085</b>	<b>147,120</b>

Note: A single SMI event may be identified via multiple criteria in the same month.

After identifying SMI events, Milliman reviewed eligibility data to include 11 months of experience following the SMI event, resulting in a 12-month observation period (inclusive of the SMI event month). In cases where a member had an additional SMI event, prior to the end of the 12-month observation period, we extended the observation window an additional 11 months. Additionally, a small portion of claims that met the SMI event criteria spanned multiple months of service, primarily certain inpatient/institutional claims. In these cases, we considered all months within a claim's admit and discharge date to be a month with an SMI event and extended the observation window 11 months beyond the claim's discharge month.

Please note that the cost analysis focuses on the period beginning January 2018, representing two years of experience preceding the demonstration. To allow for sufficient build-up of experience during the 11-month post-event observation window we considered the identification of SMI events within February 2017 experience month. Similarly, to keep the mix of members consistent in the post-demonstration period, we focused on beneficiary months and claims costs beginning CY 2018 through CY 2022. While more recent cost information is available, utilizing that information would result in a higher mix of members having an SMI event (rather than members within the 11-month observation window).

Figure 2 summarizes the number of beneficiary months included in the analysis, inclusive of the 11-month observation window following an SMI event, for those months the member remained enrolled in Medicaid. It also provides a count of average Unique Beneficiaries Per Month for reference. As mentioned previously, we included SMI events identified through CY2022 to allow sufficient run out of experience for the 11-month observation window.

**FIGURE 2: TOTAL BENEFICIARIES PER MONTH (EVENTS + OBSERVATION WINDOW) BY IDENTIFICATION CRITERIA**

Diagnosis Code	Diagnosis Description	CY 2018	CY 2019	CY 2020	CY 2021	CY 2022
F20.xx	Schizophrenia	16,920	17,329	17,707	18,419	18,730
F25.xx	Schizoaffective disorders	12,639	13,506	14,340	15,213	15,899
F31.xx	Bipolar disorder	46,598	48,488	52,913	60,061	63,812
F33.xx	Major depressive disorder, recurrent	88,163	97,477	108,171	129,722	147,422
Provider Type	Provider Specialty	CY 2018	CY 2019	CY 2020	CY 2021	CY 2022
01-Hospital	011-Psych Facility (IMDs)	55,378	58,423	65,492	71,640	74,781
11-Behavioral Health Provider	110-Outpatient Mental Health Clinic	99,145	101,910	104,387	104,033	108,008
11-Behavioral Health Provider	111-Community Mental Health Clinic (CMHC)	110,411	110,673	124,308	140,213	147,949
11-Behavioral Health Provider	114-Health Service Provider in Psych (HSPP)	18,176	18,498	19,011	21,673	20,884
11-Behavioral Health Provider	115-Adult Mental Health & Habilitation Provider	0	0	22	126	29
11-Behavioral Health Provider	613-MRO Clubhouse	0	0	0	0	0
11-Behavioral Health Provider	616-Licensed Psychologist	0	0	0	15	498
11-Behavioral Health Provider	617-Licensed Independent Practice School Psychologist	0	0	0	0	0
11-Behavioral Health Provider	618-Licensed Clinical Social Worker	0	5	144	1,267	3,548
11-Behavioral Health Provider	619-Licensed Marriage & Family Therapist	0	0	0	16	51
11-Behavioral Health Provider	620-Licensed Mental Health Counselor	0	1	4	292	1,614
11-Behavioral Health Provider	621-Licensed Clinical Addiction Counselor	0	0	0	123	375
<b>Unique Monthly Beneficiaries</b>		<b>241,067</b>	<b>247,991</b>	<b>269,086</b>	<b>307,218</b>	<b>336,789</b>

Note: A single beneficiary month may be identified via multiple criteria.

Please note that provider specialty codes 616, 617, 618, 619, 620, and 621 were not covered by Indiana Medicaid prior to November 1, 2020<sup>4</sup>.

## Step 2 – Demographic Information

Milliman reviewed eligibility data associated with the beneficiary months identified in step 1 to include demographic information within the analysis. The Evaluation Plan specifies the use of the following demographic variables:

- Age
- Gender
- Race
- Dual status
- County
- Condition (stratified by F20.xx; F25.xx; F31.xx; F33.xx)

Certain demographic variables were grouped into classification to represent variables most likely to explain cost variation. For example, county information was grouped based on the number of IMD providers located within a county, with potential options of classification to be: 0 IMD providers, 1 IMD provider, or 2+ IMD providers within the county.

<sup>4</sup> <https://provider.indianamedicaid.com/ihcp/Bulletins/BT2020108.pdf>

### Step 3 – Cost Information

The Evaluation Plan specifies 10 cost variables for inclusion in the analytic file, as listed below:

1. Total costs
2. Total federal costs
3. SMI IMD costs
4. Other SMI costs
5. Non-SMI costs
6. Outpatient costs, non-ED
7. Outpatient costs, ED
8. Inpatient costs
9. Pharmacy costs
10. Long-term care costs

Cost variables reflect the paid amounts reported on FFS and encounter claims as summarized from the State's EDW. Total costs include an additional provision for administrative expense estimates based on a per member month allocation of quarterly administrative expenses as reported on the State's CMS64 filings. Demonstration specific administrative costs were not available for this analysis so we used the allocation as a proxy.

Total federal costs reflect an estimated federal share of the total claim costs summarized through the EDW, based on the anticipated Federal Medical Assistance Percentage (FMAP) effective at the time of service for each claim and specific to each member's eligibility category. Total federal costs also include an administrative expense allocation based on the CMS64 filings, but this amount is only reflective of federal costs.

We identified SMI costs consistent with the diagnostic and provider type/specialty criteria used to identify SMI events, as described previously.

Milliman identified SMI IMD costs using billing provider IDs and a list of IMD provider IDs as identified by FSSA. It is also worth noting that although the SMI demonstration and associated IMD authorizations did not begin until January 2020, the State gained approval for a SUD demonstration (including IMD authorization) effective February 2018. Therefore, the SMI event identification criteria resulted in the inclusion of IMD costs beginning in February 2018, rather than beginning in January 2020 when the SMI demonstration started. The list of IMD provider IDs is consistent with the identification process used for monitoring analyses for both the SUD and SMI 1115 demonstrations.

For variables 6 – 10, Milliman categorized claim costs by service grouping (outpatient non-ED, outpatient ED, inpatient, pharmacy, and long-term care) consistent with the service category logic utilized by the State's Transformed Medicaid Statistical Information System (T-MSIS) reporting.

## DATA REVIEW AND REGRESSION ANALYSIS

### Step 4 – Regression Indicators

To apply the interrupted time series model, Milliman defined indicator variables to identify time periods prior to the demonstration (CY 2018 – 2019), the first year of the demonstration (CY 2020), and the years following the demonstration (CY 2021 – 2022). These indicator variables were defined as follows:

- Impl
  - 0 indicates time periods prior to the demonstration (January 2018 – December 2019)
  - 1 indicates time periods during the demonstration (January 2020 through December 2022)
- Demo
  - 0 indicates time periods prior to and including the first demonstration year (January 2018 – December 2020)

- 1 indicates time periods following the first demonstration year (January 2021 – December 2022)

### Step 5 – Data Validation

This step of the Evaluation Plan requests a review of the cost information and variables developed in previous steps for reasonability and validation. Figure 3 below presents a summary of the cost information, reported on a per member per month (PMPM) basis, in a format consistent with Table C.2 of the CMS Guidance, except reported on an annual basis. Appendix 1 of this document presents this same information by quarter, consistent with the approach requested in the Evaluation Plan and CMS Guidance.

**FIGURE 3: PMPM COSTS FOR SMI BENEFICIARIES BY CALENDAR YEAR**

Type of Cost	CY 2018	CY 2019	CY 2020	CY 2021	CY 2022
Total Costs	\$ 1,430	\$ 1,529	\$ 1,495	\$ 1,536	\$ 1,552
Total Federal Costs	1,027	1,104	1,144	1,184	1,198
SMI-IMD Costs	24	28	32	36	39
Other SMI Costs	368	412	416	407	393
Non-SMI Costs	1,029	1,080	1,040	1,087	1,115
Outpatient Costs, Non-ED	631	682	668	691	705
Outpatient Costs, ED	42	47	50	62	64
Inpatient Costs	200	206	201	219	207
Pharmacy Costs	226	236	237	245	249
Long-term Care Costs	323	350	331	313	321

In reviewing the data for reasonableness, we also reviewed the demographic information for completeness. One variable that appeared inconsistently reported was race/ethnicity, with approximately 1.6% of CY 2022 expenditures and 1.5% of CY 2022 beneficiary months reported with an unknown value (either “Not Available” or “Not Provided”). It is important to recognize the potential shortfalls in utilizing incomplete race/ethnicity information, as unknown responses are commonly biased toward underrepresented populations. However, given the focus of the analysis being on the demonstration program and the predictive power offered by the race/ethnicity information available, we decided it was appropriate to utilize this information and provide a more accurate picture of the impact of the demonstration. Therefore, the coefficients associated with individual race/ethnicity responses should not be analyzed or used for drawing conclusions.

### Step 6 – Regression Analysis

As indicated in the Evaluation Plan, the evaluation method is an interrupted time series (ITS) regression model. The ITS methodology is commonly used to review data prior to and following an intervention to assess its impact, however the ITS methodology cannot determine whether the intervention directly caused the impact due to the lack of a comparison group.

The ITS methodology utilizes indicator variables with interaction effects to isolate the time period in which the demonstration was implemented. The regression equation, as published in the Evaluation Plan, is as follows:

$$Cost_{it} = \beta_0 + \beta_1 * time_t + \beta_2 * impl_t + \beta_3 * time_t * impl_t + \beta_4 * demo_t + \beta_5 * time_t * demo_t + B_i * Controls_{it} + \varepsilon_{it}$$

Where:

- Cost – expenditures being evaluated (quarterly expenditures for each beneficiary)
- i – individual beneficiary
- t – indexes time (quarter as indicated in Step 5)
- impl – binary indicator for implementation of the SMI 1115 as of January 2020, as described in Step 4
- demo – binary indicator for a year after implementation period (starting January 2021) as described in Step 4
- Controls – covariates (demographic characteristics defined in Step 2)
- $\beta_0$  – estimates the baseline level of the cost at time 0

- $\beta_1$  – estimates the change in the costs during the baseline period (baseline trend)
- $\beta_2$  – estimates the change in the costs immediately after the implementation of the SMI demonstration as of January 2020
- $\beta_3$  – estimates the change in the trend after the implementation of the SMI demonstration as of January 2020 (identified as Quarter\_x\_Impl in this report)
- $\beta_4$  – estimates the change in the costs immediately after the initial year of the demonstration, starting January 2021
- $\beta_5$  – estimates the change in the trend after the initial year of the demonstration, starting January 2021 (identified as Quarter\_x\_Demo in this report)
- $\epsilon$  – error terms that represents random variability not explained by the model

The Evaluation Plan provides flexibility to model control variables based on review of the demographic information compiled in the analytic file, as discussed previously. The Evaluation Plan also outlines several potential challenges and limitations. These items are discussed further below, outlining our review of the results and decisions impacting the final model used to evaluate the demonstration's impact.

### Seasonality

In a healthcare context, Seasonality refers to the potential for demand for certain healthcare services to vary by season. For example, there may be a higher incidence of flu or depression during the winter months.

To control for seasonality, we implemented indicator variables identifying which quarter a claim occurred in. This allows the regression model to identify a level change associated with each quarter.

### Autocorrelation

Autocorrelation in regression refers to the correlation of a variable with itself across different time periods. For example, with positive autocorrelation, if a member was admitted to a hospital this month, that would make the member more likely to be admitted next month as well.

As outlined in the Evaluation Plan, we estimated the regression model's resulting Durbin-Watson (DW) statistic, a statistical test designed to detect autocorrelation in a regression model's residuals. The DW statistic values range from 0 to 4. A value of 2 indicates no autocorrelation detected, while values above or below 2 indicate negative autocorrelation or positive autocorrelation, respectively. Per the Evaluation Plan, if the regression model's DW statistic was below 1 (positive autocorrelation) or above 3 (negative autocorrelation), an autoregressive model would have been utilized for the analysis.

Figure 4 below presents the DW statistics for the regression model, including both the baseline model (all members meeting the criteria) and a model restricted to individuals ages 21-64 (further described in the Heterogeneity section on the following page).

**FIGURE 4: ESTIMATED DURBIN-WATSON STATISTICS (LINEAR REGRESSION)**

Type of Cost	All Ages	Adults Age 21-64 Only
Total Costs	1.3	1.3
Total Federal Costs	1.3	1.3
SMI-IMD Costs	1.8	1.8
Other SMI Costs	1.3	1.6
Non-SMI Costs	1.2	1.2
Outpatient Costs, Non-ED	0.8	0.9
Outpatient Costs, ED	1.6	1.6
Inpatient Costs	1.8	1.8
Pharmacy Costs	0.8	0.9
Long-term Care Costs	0.3	0.2

Note that while certain cost variables do exhibit autocorrelation, specifically non-ED outpatient costs, pharmacy costs, and long-term care costs, the total cost profile of the beneficiaries in the pool do not exhibit strong autocorrelation. Therefore, autoregressive models were not utilized for this analysis.

## Heteroskedasticity

The term heteroskedasticity is used to describe a regression model with residuals, or error terms, that do not have a constant variance. For example, inpatient costs may exhibit more variability than outpatient counseling, which may be received weekly or monthly. Or a model with heteroskedasticity may exhibit results that reasonably estimate a specific demographic grouping (for example, black) but are less reliable for other demographic groupings within the same analysis. Heteroscedastic data does not cause coefficient results to be biased, but may make it difficult to estimate statistical significance.

The Evaluation Plan suggests reviewing plots of error terms against predicted cost values to detect heteroskedasticity in the model. However, given the large sample size of data points present in the analytic file, a visual representation of heteroskedasticity proved challenging. While we suspect that non-linear models may be better suited toward modeling claim costs, as these costs tend to be non-linear, we relied on the linear model to complete this analysis. As described further in the Conclusions section of this report, there are a variety of challenges associated with this evaluation approach. We do not anticipate that the use of a non-linear model would better address the issue at hand related to comparing costs prior to and following the demonstration.

## Heterogeneity

The term heterogeneity in context of a regression analysis generally refers to variability present in the data due to unidentified factors.

The Evaluation Plan presents one possible driver of heterogeneity related to individuals enrolled in Medicaid FFS vs managed care. In order to control for differences in treatment patterns, reimbursement levels, and other factors that may vary between FFS and managed care, we included indicator variables for each of the primary managed care programs present in Indiana Medicaid: Healthy Indiana Plan (HIP), Hoosier Healthwise (HHW), and Hoosier Care Connect (HCC). These variables allow the regression model to control for not only differences between FFS and managed care, but also differences that may arise between individual managed care programs.

Figure 5 below provides an overview of the beneficiary months (event months and 11-month observation window) included in the analysis, stratified by program and based on CY 2022 experience.

**FIGURE 5: CY 2022 TOTAL COSTS EXPERIENCE BY BENEFICIARY PROGRAM ENROLLMENT**

Program	Beneficiary Months	Total Costs (\$ Millions)	PMPM
FFS	1,019,902	\$ 2,863.7	\$ 2,807.84
HIP	1,733,826	2,174.6	1,254.20
HHW	917,214	545.2	594.41
HCC	370,523	689.3	1,860.22
<b>CY 2022 Total</b>	<b>4,041,465</b>	<b>\$ 6,272.7</b>	<b>\$ 1,552.10</b>

Another factor we considered regarding heterogeneity was age. While the Evaluation Plan mentions using age as a control variable, it provides flexibility for incorporating it within the regression analysis. In the baseline model age was included directly as a continuous independent variable, however the relationship between age and claim costs varies substantially across different age groups. For example, 1 year of age difference has a significant impact on claim costs in the case of a newborn age 0 vs infant age 1, however the difference on claims costs for an adult age 30 vs an adult age 31 is more subtle.

One consideration related to age is that the SMI event criteria presented in step 1 casts a wide net to capture beneficiaries to include in the study. However, the SMI 1115 waiver demonstration targets a rather narrow population: Indiana Medicaid provides IMD or residential treatment services to less than 1,000 enrollees (SMI + SUD) per month, all of whom are between the ages of 21-64 as this is the population with traditionally limited access to IMD services.

Therefore, we developed two versions of the regression model, one including all beneficiaries identified under the criteria presented previously, and another limited to only beneficiaries between the ages of 21-64. This restriction reduces the beneficiary pool by approximately 40% per year, and results in a pool with demographic characteristics more closely resembling those of the demographic pool served by the waiver.

Further analysis may be warranted to examine other potential sources of heterogeneity, especially given the substantial beneficiary pool size relative to the small number of members enrolled in the demonstration. Additional ideas for consideration are presented in the Conclusions section of this report.

### Multicollinearity

Multicollinearity occurs when one or more independent variables in the regression model are strongly correlated. For example, we would anticipate that all or most Dual eligible enrollees are Fee-for-Service because the three managed care programs disenroll members who become eligible for Medicare. It is important to review multicollinearity results to understand whether this correlation is a serious concern.

Multicollinearity can introduce several concerns in the regression model, such as poor estimates and large standard errors. The Evaluation Plan suggests reviewing Variance Inflation Factors (VIF), a statistical measure examining this relationship, for each of the control variables in the model, suggesting that values over 10 indicate high correlation within the independent variables.

Figure 6 below illustrates estimated VIFs for each of the model's demographic (control) variables. As indicated below, all variables exhibit low VIFs, so no variables appear to be highly correlated. This suggests that the coefficient associated with each control variable reflects only the impact of that variable, and not overlapping impacts of other variables.

**FIGURE 6: TOTAL COSTS REGRESSION MODEL VARIANCE INFLATION FACTORS (VIF)**

<b>Control Variable</b>	<b>Baseline Model</b>	<b>Adults Age 21-64 Only</b>
Age	2.56	1.22
I_Female	1.07	1.05
I_Dual	3.61	3.37
I_American_Indian_Alaskan_Native	1.00	1.00
I_Asian	1.00	1.00
I_Black	1.12	1.11
I_Hispanic	1.04	1.02
I_Pacific_Islands	1.00	1.00
I_F20xx	1.17	1.17
I_F25xx	1.14	1.13
I_F31xx	1.10	1.09
I_F33xx	1.22	1.12
County_IMDs_1	1.17	1.17
County_IMDs_2_Plus	1.21	1.20
I_Q2	1.61	1.61
I_Q3	1.89	1.90
I_Q4	2.38	2.39
I_HCC	1.99	2.39
I_HHW	2.93	N/A
I_HIP	3.35	3.86

**Note:** I\_HHW is excluded from the adults age 21-64 model as the HHW program primarily covers children under age 18.

### Impact of the COVID-19 pandemic

As discussed in the Evaluation Plan, as a result of the COVID-19 pandemic's impact on costs primarily in CY 2020, the Evaluation Plan specifies two indicator variables for use in the ITS regression. The 2<sup>nd</sup> indicator provides an alternative interaction variable to interpret results from, in order to separate potential COVID-19 impacts reflected in CY 2020 experience from the time period the model associates with the start of the demonstration. We discuss the results of these interaction variables in the Conclusions section of this report.

It is worth noting that the COVID-19 pandemic had substantial impacts on health care costs in general, especially in Medicaid. One of the most notable impacts was the freeze on redetermination activities resulting in Medicaid enrollment growth and subsequent changes in the average acuity of covered members. Other changes include impacts on treatment patterns, service coverage in response to the pandemic, and claim costs directly tied to COVID-19 itself, among many others. While the Evaluation Plan's suggested approach is to count CY 2020 experience as



either “pre” or “post” demonstration, COVID-19 resulted in significant long-term impacts lasting beyond CY 2020. It is not possible to control for all impacts caused by the pandemic within the Interrupted Time Series modeling approach.

**Step 7 – Reporting Results of the Cost Analysis**

Appendix 2 provides the regression model marginal effects (i.e., coefficients as a linear regression model was used) and standard error coefficients. As noted in the prior section, results for multiple model iterations are presented, including variations by age group and the shifted model as discussed previously. The following section of this report discusses these results.

## Conclusions

In this section of the report, we discuss the regression model results as presented in Appendix 2 and offer suggestions for improving monitoring in the future.

### INTERPRETATION OF RESULTS

As might be expected, expenditures for IMDs and residential treatment appear to have increased with the augmented scope of authorization provided by the demonstration. However, beyond this narrow range of services, the impact on expenditures is difficult to ascertain.

In the ITS regression model, the value of the coefficients for the interaction variables (Quarter\_x\_Impl and Quarter\_x\_Demo as listed in Appendix 2) indicate the observed relationship between pre-demonstration and post-demonstration costs. If the coefficient for the interaction term is positive, the model detected higher costs in the post-demonstration period. If the coefficient for the interaction term is negative, the model detected lower costs in the post-demonstration period. **It should be emphasized that the ITS regression model is unable to determine whether changes in observed costs are a result of the demonstration, due to the absence of a comparison group.**

Figure 7 and Figure 8 below presents these coefficients for each iteration of the model discussed in the Data and Methodology section of this report.

**FIGURE 7: INTERACTION TERM REGRESSION COEFFICIENTS – QUARTER\_X\_IMPL**

Type of Cost	All Ages	Adults Age 21-64 Only
Total Costs	14	24
Total Federal Costs	8	15
SMI/SED-IMD Costs	1	0
Other SMI/SED Costs	0	8
Non-SMI/SED Costs	14	16
Outpatient Costs, Non-ED	7	3
Outpatient Costs, ED	2	3
Inpatient Costs	12	16
Pharmacy Costs	1	1
Long-term Care Costs	(7)	2

**FIGURE 8: INTERACTION TERM REGRESSION COEFFICIENTS – QUARTER\_X\_DEMO**

Type of Cost	All Ages	Adults Age 21-64 Only
Total Costs	(13)	(33)
Total Federal Costs	(9)	(25)
SMI/SED-IMD Costs	(1)	(1)
Other SMI/SED Costs	(8)	(13)
Non-SMI/SED Costs	(5)	(20)
Outpatient Costs, Non-ED	(8)	(7)
Outpatient Costs, ED	(2)	(3)
Inpatient Costs	(13)	(18)
Pharmacy Costs	(1)	(5)
Long-term Care Costs	10	(0)

Prior to inferring results based on the regression analysis, an important consideration is to validate statistical significance of the coefficients by reviewing the potential for variance in the estimates. One such measure of is the standard error, which reflects estimated variance in the coefficient. These values are presented in Figure 9 and Figure 10 below.

**FIGURE 9: INTERACTION TERM REGRESSION STANDARD ERROR – QUARTER\_X\_IMPL**

Type of Cost	All Ages	Adults Age 21-64 Only
Total Costs	2.5	3.6
Total Federal Costs	2.0	2.9
SMI/SED-IMD Costs	0.3	0.4
Other SMI/SED Costs	1.1	1.4
Non-SMI/SED Costs	2.2	3.3
Outpatient Costs, Non-ED	1.3	1.9
Outpatient Costs, ED	0.2	0.3
Inpatient Costs	1.7	2.5
Pharmacy Costs	0.8	1.1
Long-term Care Costs	0.8	0.8

**FIGURE 10: INTERACTION TERM REGRESSION STANDARD ERROR – QUARTER\_X\_DEMO**

Type of Cost	All Ages	Adults Age 21-64 Only
Total Costs	2.5	3.6
Total Federal Costs	1.9	2.8
SMI/SED-IMD Costs	0.3	0.4
Other SMI/SED Costs	1.1	1.4
Non-SMI/SED Costs	2.2	3.2
Outpatient Costs, Non-ED	1.3	1.9
Outpatient Costs, ED	0.2	0.3
Inpatient Costs	1.7	2.5
Pharmacy Costs	0.7	1.1
Long-term Care Costs	0.8	0.8

While there is some variability for specific cost types, overall the standard errors are relatively low compared to the coefficient values, which indicates minimal variance for the coefficients.

Based on the standard errors we can feel reasonably confident that the story told by the coefficients is reflected in the data, however, the coefficients themselves tell a mixed message. The interaction term for the Impl (which considers 2020 cost experience as post-demonstration) overwhelmingly indicate that costs are higher following the demonstration implementation (2020 and after) than costs pre-demonstration (2020 and prior). The only exception to this is the long-term care cost category for all ages.

However, the interaction term for the Demo variable (which considers 2020 cost experience as pre-demonstration) tells a different story, with nearly all cost variables (except for long-term care for all ages) indicating that costs in 2021 and 2022 are lower than prior years. This effect is consistent with trends observed in the overall Medicaid program due to changes in acuity as Medicaid enrollment has grown.

Ultimately the results do not draw definitive conclusions on the cost differentials between pre-demonstration experience and post-demonstration experience. We offer additional thoughts surrounding this conclusion, and potential suggestions to improve future analysis in the next section of this report.

## LESSONS LEARNED AND RECOMMENDATIONS

Overall, the regression model exhibited a poor fit of the cost data captured. While we attempted to improve the model's fit with control variables, following the guidelines presented in the Evaluation Plan, we believe the size of the beneficiary pool relative to the target population of the demonstration made it challenging to create a model that efficiently fit the costs included in the pool. While a more detailed analysis would be necessary to confirm, we suspect that the single claim nature of the SMI event criteria is inadvertently capturing experience for individuals with a broad

range of acuity levels, including those with lower acuity who would not necessarily benefit from IMD or residential treatment authorized under this demonstration.

The CMS Guidance for 1115 waiver demonstrations provides three primary options for evaluating demonstration costs. As mentioned previously, the Evaluation Plan selected the Interrupted Time Series (ITS) model. One issue of this model is that it is unable to isolate impacts specific to an intervention (such as the demonstration) from other factors impacting health care costs, such as the COVID-19 pandemic, changes in treatment patterns, etc. While many of these factors can be controlled by other means, the differences in differences approach recommended by CMS, which utilizes a comparison group, allows for more control over separating the demonstration impact from other factors. Especially in light of the COVID-19 pandemic and its long-lasting impacts on healthcare, this method may have reduced the need to specifically control for these impacts while providing a clearer picture of the outcomes associated with the demonstration.

## Disclaimers

The information contained in this report has been prepared for the State of Indiana, Family and Social Services Administration (FSSA) to perform a cost evaluation related to the SMI 1115 waiver demonstration. The data and information presented may not be appropriate for any other purpose.

The information contained in this report, including the enclosures, may not be distributed to any other party without the prior consent of Milliman. To the extent that the information contained in this correspondence is provided to any approved third parties, the information should be distributed in its entirety. Any user of the data must possess a certain level of expertise in actuarial science and healthcare modeling so as not to misinterpret the data presented.

Milliman makes no representations or warranties regarding the contents of this correspondence to third parties. Likewise, third parties are instructed that they are to place no reliance upon this correspondence prepared for FSSA by Milliman that would result in the creation of any duty or liability under any theory of law by Milliman or its employees to third parties. Other parties receiving this letter must rely upon their own experts in drawing conclusions about the capitation rates, assumptions, and trends.

Milliman has developed certain models to estimate the values included in this report. The intent of the models was to analyze costs within the Indiana Medicaid program prior to and following the implementation of the SMI 1115 waiver demonstration. We have reviewed the models, including their inputs, calculations, and outputs for consistency, reasonableness, and appropriateness to the intended purpose and in compliance with generally accepted actuarial practice and relevant actuarial standards of practice (ASOP).

The models rely on data and information as input to the models. We have relied upon certain data and information provided by FSSA for this purpose and accepted it without audit. To the extent that the data and information provided is not accurate, or is not complete, the values provided in this report may likewise be inaccurate or incomplete.

Guidelines issued by the American Academy of Actuaries require actuaries to include their professional qualifications in all actuarial communications. The actuaries preparing this report are members of the American Academy of Actuaries and meet the qualification standards for performing the analyses in this report.

## **Appendix 1: Quarterly Analysis Pool Data: Beneficiary Months and Expenditures**

State of Indiana Family and Social Services Administration SMI 1115 Waiver Cost Evaluation Appendix 1 - SMI/SED Data Review																						
PMPM Costs by Quarter																						
Review Level	Type of Cost	Pre-Demonstration								Post-Demonstration												
		18 Q1	18 Q2	18 Q3	18 Q4	19 Q1	19 Q2	19 Q3	19 Q4	20 Q1	20 Q2	20 Q3	20 Q4	21 Q1	21 Q2	21 Q3	21 Q4	22 Q1	22 Q2	22 Q3	22 Q4	
Total Costs	Total costs	\$ 1,362	\$ 1,415	\$ 1,459	\$ 1,485	\$ 1,506	\$ 1,538	\$ 1,562	\$ 1,510	\$ 1,522	\$ 1,409	\$ 1,557	\$ 1,492	\$ 1,519	\$ 1,542	\$ 1,567	\$ 1,517	\$ 1,499	\$ 1,525	\$ 1,603	\$ 1,579	
	Total federal costs	977	1,016	1,046	1,072	1,087	1,113	1,131	1,084	1,159	1,076	1,194	1,145	1,168	1,189	1,207	1,172	1,159	1,181	1,240	1,213	
SMI/SED Cost Drivers	SMI/SED-IMD costs	17	26	27	27	28	30	29	27	30	30	35	33	36	35	36	37	38	38	41	37	
	Other SMI/SED costs	350	361	378	385	394	409	421	422	423	396	436	407	414	413	411	392	383	384	406	398	
	Non-SMI/SED costs	984	1,020	1,049	1,064	1,075	1,090	1,105	1,051	1,058	975	1,078	1,045	1,062	1,087	1,115	1,081	1,072	1,099	1,150	1,139	
Type or source of care cost drivers	Outpatient costs, non-ED	606	634	640	644	667	685	692	682	693	613	698	666	698	697	697	672	685	704	724	707	
	Outpatient costs, ED	40	42	44	43	46	49	50	45	47	42	57	55	56	64	66	62	60	64	66	66	
	Inpatient costs	191	194	203	210	215	217	202	189	183	182	225	212	213	220	223	220	207	205	207	208	
	Pharmacy costs	219	226	227	232	231	235	250	226	236	231	234	247	248	248	251	247	233	242	250	253	252
	Long-term Care costs	295	311	340	347	339	343	361	358	352	334	336	305	296	303	328	323	299	297	346	341	
Number of Unique SMI/SED Events		335,470	336,315	325,356	332,749	348,375	355,141	346,269	353,230	374,830	360,184	383,865	396,315	422,542	429,411	417,932	423,136	445,472	444,938	434,696	440,339	
Number of SMI/SED Beneficiary Months		737,370	726,477	711,735	717,221	730,450	741,593	745,691	758,154	778,029	791,716	814,280	845,003	870,402	911,577	939,792	964,850	988,055	1,006,447	1,013,112	1,033,851	
Total Costs by Quarter (\$ Millions)																						
Review Level	Type of Cost	Pre-Demonstration								Post-Demonstration												
		18 Q1	18 Q2	18 Q3	18 Q4	19 Q1	19 Q2	19 Q3	19 Q4	20 Q1	20 Q2	20 Q3	20 Q4	21 Q1	21 Q2	21 Q3	21 Q4	22 Q1	22 Q2	22 Q3	22 Q4	
Total Costs	Total costs	\$ 1,004.5	\$ 1,028.0	\$ 1,038.7	\$ 1,065.4	\$ 1,100.3	\$ 1,140.2	\$ 1,165.0	\$ 1,144.9	\$ 1,183.8	\$ 1,115.3	\$ 1,267.8	\$ 1,260.7	\$ 1,321.9	\$ 1,405.4	\$ 1,473.1	\$ 1,463.7	\$ 1,481.2	\$ 1,535.3	\$ 1,623.9	\$ 1,632.3	
	Total federal costs	720.7	737.8	744.5	769.0	793.7	825.7	843.5	822.0	901.4	852.1	972.5	967.9	1,016.7	1,083.5	1,134.2	1,130.7	1,145.3	1,188.6	1,255.9	1,253.9	
SMI/SED Cost Drivers	SMI/SED-IMD costs	12.2	18.9	18.9	19.1	20.6	22.1	21.5	20.4	23.3	23.6	28.5	27.6	31.1	32.3	33.6	35.8	38.0	38.7	41.4	38.2	
	Other SMI/SED costs	258.2	262.1	269.0	276.4	288.0	303.4	313.6	320.0	329.5	313.3	355.3	343.8	360.0	376.3	386.1	377.9	378.0	386.2	411.6	411.6	
	Non-SMI/SED costs	725.7	740.7	746.9	763.4	784.9	808.4	824.1	796.5	823.5	772.3	878.0	883.0	924.4	990.9	1,047.5	1,043.1	1,058.9	1,105.8	1,165.4	1,177.1	
Type or source of care cost drivers	Outpatient costs, non-ED	446.5	460.2	455.4	461.8	487.0	508.3	516.2	516.9	539.3	485.1	568.4	562.8	607.2	635.8	654.9	648.1	676.7	708.7	733.9	730.9	
	Outpatient costs, ED	29.8	30.4	31.5	31.1	33.4	36.1	36.9	34.2	36.6	33.1	46.5	46.1	48.7	58.1	61.9	59.4	59.6	64.9	67.3	67.9	
	Inpatient costs	140.6	141.2	144.6	150.6	157.2	160.9	150.3	143.4	142.6	144.0	183.3	179.2	185.8	200.9	209.4	212.7	204.8	206.3	210.1	214.6	
	Pharmacy costs	161.7	164.2	161.5	166.3	168.4	174.5	186.7	171.2	183.7	182.7	190.3	208.4	215.9	228.4	232.4	225.3	238.9	252.0	256.4	260.8	
	Long-term Care costs	217.5	225.7	241.7	249.0	247.6	254.0	269.0	271.1	274.0	264.3	273.3	257.8	257.9	276.3	308.7	311.3	295.0	298.8	350.6	352.6	

## **Appendix 2: Regression Coefficients and Standard Errors**



State of Indiana Family and Social Services Administration SMI 1115 Waiver Cost Evaluation Appendix 2 - Regression Results - All Ages										
Independent Variables	Linear Regression Coefficients by Cost Variable									
	Total Costs	Federal Costs	SMI IMD Costs	Other SMI Costs	Non-SMI Costs	Outpatient Non-ED Costs	Outpatient ED Costs	Inpatient Costs	Pharmacy Costs	LTC Costs
Intercept	1,730	1,125	50	365	1,306	1,290	18	133	122	157
Quarter	8	8	1	6	2	8	1	(2)	1	(1)
Impl	(169)	(54)	(8)	(1)	(166)	(100)	(20)	(124)	(18)	88
<b>Quarter_x_Impl</b>	<b>14</b>	<b>8</b>	<b>1</b>	<b>0</b>	<b>14</b>	<b>7</b>	<b>2</b>	<b>12</b>	<b>1</b>	<b>(7)</b>
Demo	196	136	11	100	89	112	24	157	7	(101)
<b>Quarter_x_Demo</b>	<b>(13)</b>	<b>(9)</b>	<b>(1)</b>	<b>(8)</b>	<b>(5)</b>	<b>(8)</b>	<b>(2)</b>	<b>(13)</b>	<b>(1)</b>	<b>10</b>
Age	43	32	(1)	10	34	3	1	8	6	26
I_Female	(220)	(188)	(13)	(59)	(148)	(86)	0	(58)	(2)	(75)
I_Dual	(2,503)	(1,819)	(58)	(591)	(1,854)	(615)	(104)	(702)	(561)	(521)
I_American_Indian_Alaskan_Native	57	44	2	34	20	51	7	12	(23)	9
I_Asian	4	(13)	(15)	63	(43)	100	(21)	(33)	(24)	(17)
I_Black	(110)	(87)	(17)	(23)	(71)	(67)	9	28	(61)	(19)
I_Hispanic	(194)	(144)	(14)	(23)	(156)	(98)	(4)	(4)	(43)	(45)
I_Pacific_Islands	(36)	(44)	16	(33)	(18)	(243)	(9)	69	(124)	272
I_F20xx	670	503	49	602	19	113	38	233	140	146
I_F25xx	652	492	55	517	80	151	25	185	171	121
I_F31xx	398	321	41	202	155	102	47	187	153	(91)
I_F33xx	397	310	64	193	141	40	29	152	56	120
County_IMDs_1	55	44	0	1	54	62	(1)	26	(3)	(29)
County_IMDs_2_Plus	103	82	9	(12)	107	125	8	45	(15)	(60)
I_Q2	(5)	(3)	1	(2)	(2)	(9)	1	0	1	3
I_Q3	45	33	1	13	32	7	4	7	1	28
I_Q4	5	0	(1)	2	4	(16)	0	2	(4)	23
I_HCC	(1,842)	(1,316)	(28)	(482)	(1,333)	(781)	(2)	(181)	147	(1,024)
I_HHW	(1,827)	(1,232)	(20)	(316)	(1,491)	(1,044)	(24)	(209)	(119)	(431)
I_HIP	(2,399)	(1,503)	(27)	(692)	(1,680)	(987)	2	(229)	(80)	(1,106)

**Note:** As discussed in this report, the SMI Evaluation focuses on the Quarter\_x\_Impl and Quarter\_x\_Demo variables. This analysis and the resulting coefficients are not appropriate for any other purpose.

State of Indiana Family and Social Services Administration SMI 1115 Waiver Cost Evaluation Appendix 2 - Regression Results - All Ages											
Independent Variables	Standard Errors by Cost Variable										
	Total Costs	Federal Costs	SMI IMD Costs	Other SMI Costs	Non-SMI Costs	Outpatient Non-ED Costs	Outpatient ED Costs	Inpatient Costs	Pharmacy Costs	LTC Costs	
Intercept	6.0	4.7	0.7	2.6	5.4	3.1	0.5	4.1	1.8	1.9	
Quarter	0.8	0.7	0.1	0.4	0.8	0.4	0.1	0.6	0.3	0.3	
Impl	26.3	20.4	3.0	11.4	23.3	13.5	2.0	17.9	7.9	8.3	
<b>Quarter_x_Impl</b>	<b>2.5</b>	<b>2.0</b>	<b>0.3</b>	<b>1.1</b>	<b>2.2</b>	<b>1.3</b>	<b>0.2</b>	<b>1.7</b>	<b>0.8</b>	<b>0.8</b>	
Demo	27.3	21.2	3.1	11.8	24.2	14.0	2.0	18.6	8.1	8.6	
<b>Quarter_x_Demo</b>	<b>2.5</b>	<b>1.9</b>	<b>0.3</b>	<b>1.1</b>	<b>2.2</b>	<b>1.3</b>	<b>0.2</b>	<b>1.7</b>	<b>0.7</b>	<b>0.8</b>	
Age	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	
I_Female	2.3	1.8	0.3	1.0	2.0	1.2	0.2	1.5	0.7	0.7	
I_Dual	4.9	3.8	0.6	2.1	4.4	2.5	0.4	3.4	1.5	1.6	
I_American_Indian_Alaskan_Native	22.3	17.3	2.6	9.7	19.8	11.4	1.7	15.2	6.7	7.1	
I_Asian	14.7	11.4	1.7	6.4	13.0	7.5	1.1	10.0	4.4	4.6	
I_Black	3.2	2.5	0.4	1.4	2.9	1.7	0.2	2.2	1.0	1.0	
I_Hispanic	5.5	4.3	0.6	2.4	4.9	2.8	0.4	3.8	1.7	1.8	
I_Pacific_Islands	112.8	87.6	12.9	48.9	100.1	57.9	8.4	77.0	33.7	35.8	
I_F20xx	4.8	3.7	0.5	2.1	4.2	2.4	0.4	3.3	1.4	1.5	
I_F25xx	5.2	4.1	0.6	2.3	4.6	2.7	0.4	3.6	1.6	1.7	
I_F31xx	2.9	2.2	0.3	1.2	2.5	1.5	0.2	2.0	0.9	0.9	
I_F33xx	2.4	1.9	0.3	1.0	2.1	1.2	0.2	1.6	0.7	0.8	
County_IMDs_1	2.7	2.1	0.3	1.2	2.4	1.4	0.2	1.9	0.8	0.9	
County_IMDs_2_Plus	2.7	2.1	0.3	1.2	2.4	1.4	0.2	1.9	0.8	0.9	
I_Q2	3.2	2.5	0.4	1.4	2.8	1.6	0.2	2.2	0.9	1.0	
I_Q3	3.4	2.7	0.4	1.5	3.0	1.8	0.3	2.3	1.0	1.1	
I_Q4	3.8	3.0	0.4	1.7	3.4	2.0	0.3	2.6	1.1	1.2	
I_HCC	4.9	3.8	0.6	2.1	4.4	2.5	0.4	3.3	1.5	1.6	
I_HHW	4.4	3.4	0.5	1.9	3.9	2.3	0.3	3.0	1.3	1.4	
I_HIP	4.1	3.2	0.5	1.8	3.6	2.1	0.3	2.8	1.2	1.3	

**Note:** As discussed in this report, the SMI Evaluation focuses on the Quarter\_x\_Impl and Quarter\_x\_Demo variables. This analysis and the resulting coefficients are not appropriate for any other purpose.

State of Indiana Family and Social Services Administration SMI 1115 Waiver Cost Evaluation Appendix 2 - Regression Results - Ages 21-64											
Independent Variables	Standard Errors by Cost Variable										
	Total Costs	Federal Costs	SMI IMD Costs	Other SMI Costs	Non-SMI Costs	Outpatient Non-ED Costs	Outpatient ED Costs	Inpatient Costs	Pharmacy Costs	LTC Costs	
Intercept	10.5	8.3	1.0	4.1	9.4	5.5	0.9	7.2	3.1	2.4	
Quarter	1.2	1.0	0.1	0.5	1.1	0.7	0.1	0.8	0.4	0.3	
Impl	38.0	30.0	3.7	14.7	34.3	20.1	3.1	26.1	11.3	8.7	
<b>Quarter_x_Impl</b>	<b>3.6</b>	<b>2.9</b>	<b>0.4</b>	<b>1.4</b>	<b>3.3</b>	<b>1.9</b>	<b>0.3</b>	<b>2.5</b>	<b>1.1</b>	<b>0.8</b>	
Demo	39.3	31.1	3.9	15.2	35.4	20.7	3.2	27.0	11.7	9.0	
<b>Quarter_x_Demo</b>	<b>3.6</b>	<b>2.8</b>	<b>0.4</b>	<b>1.4</b>	<b>3.2</b>	<b>1.9</b>	<b>0.3</b>	<b>2.5</b>	<b>1.1</b>	<b>0.8</b>	
Age	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	
I_Female	3.3	2.6	0.3	1.3	2.9	1.7	0.3	2.2	1.0	0.7	
I_Dual	6.7	5.3	0.7	2.6	6.0	3.5	0.5	4.6	2.0	1.5	
I_American_Indian_Alaskan_Native	30.8	24.3	3.0	11.9	27.7	16.2	2.5	21.2	9.2	7.1	
I_Asian	21.1	16.7	2.1	8.2	19.0	11.2	1.7	14.5	6.3	4.8	
I_Black	4.7	3.7	0.5	1.8	4.2	2.5	0.4	3.2	1.4	1.1	
I_Hispanic	9.6	7.6	0.9	3.7	8.7	5.1	0.8	6.6	2.9	2.2	
I_Pacific_Islands	165.4	130.7	16.2	64.2	149.1	87.3	13.5	113.7	49.3	37.9	
I_F20xx	6.0	4.7	0.6	2.3	5.4	3.2	0.5	4.1	1.8	1.4	
I_F25xx	6.4	5.0	0.6	2.5	5.8	3.4	0.5	4.4	1.9	1.5	
I_F31xx	3.6	2.8	0.4	1.4	3.2	1.9	0.3	2.5	1.1	0.8	
I_F33xx	3.3	2.6	0.3	1.3	2.9	1.7	0.3	2.2	1.0	0.8	
County_IMDs_1	3.9	3.1	0.4	1.5	3.5	2.1	0.3	2.7	1.2	0.9	
County_IMDs_2_Plus	3.9	3.1	0.4	1.5	3.5	2.1	0.3	2.7	1.2	0.9	
I_Q2	4.5	3.6	0.4	1.8	4.1	2.4	0.4	3.1	1.4	1.0	
I_Q3	4.9	3.9	0.5	1.9	4.4	2.6	0.4	3.4	1.5	1.1	
I_Q4	5.5	4.3	0.5	2.1	4.9	2.9	0.4	3.7	1.6	1.3	
I_HCC	7.6	6.0	0.7	2.9	6.8	4.0	0.6	5.2	2.3	1.7	
I_HIP	6.2	4.9	0.6	2.4	5.6	3.3	0.5	4.3	1.9	1.4	

**Note:** As discussed in this report, the SMI Evaluation focuses on the Quarter\_x\_Impl and Quarter\_x\_Demo variables. This analysis and the resulting coefficients are not appropriate for any other purpose.

State of Indiana Family and Social Services Administration SMI 1115 Waiver Cost Evaluation Appendix 2 - Regression Results - Ages 21-64										
Independent Variables	Linear Regression Coefficients by Cost Variable									
	Total Costs	Federal Costs	SMI IMD Costs	Other SMI Costs	Non-SMI Costs	Outpatient Non-ED Costs	Outpatient ED Costs	Inpatient Costs	Pharmacy Costs	LTC Costs
Intercept	2,975	1,860	46	274	2,645	1,610	47	350	77	882
Quarter	9	9	0	2	6	7	1	(3)	5	(2)
Impl	(277)	(147)	(0)	(76)	(207)	(58)	(29)	(163)	(31)	(2)
<b>Quarter_x_Impl</b>	<b>24</b>	<b>15</b>	<b>0</b>	<b>8</b>	<b>16</b>	<b>3</b>	<b>3</b>	<b>16</b>	<b>1</b>	<b>2</b>
Demo	427	320	6	151	273	98	41	224	53	16
<b>Quarter_x_Demo</b>	<b>(33)</b>	<b>(25)</b>	<b>(1)</b>	<b>(13)</b>	<b>(20)</b>	<b>(7)</b>	<b>(3)</b>	<b>(18)</b>	<b>(5)</b>	<b>(0)</b>
Age	29	24	(1)	7	22	5	0	9	7	8
I_Female	(265)	(232)	(23)	(43)	(199)	(93)	(4)	(97)	19	(90)
I_Dual	(3,213)	(2,299)	(54)	(612)	(2,547)	(929)	(115)	(863)	(529)	(777)
I_American_Indian_Alaskan_Native	207	151	3	100	104	78	12	26	(22)	114
I_Asian	(172)	(145)	(18)	(31)	(124)	(55)	(32)	(74)	(10)	(2)
I_Black	(131)	(108)	(20)	(28)	(84)	(87)	14	32	(80)	(10)
I_Hispanic	(348)	(260)	(17)	(50)	(280)	(213)	(5)	(3)	(53)	(74)
I_Pacific_Islands	(357)	(296)	(6)	61	(411)	(180)	(10)	35	(110)	(91)
I_F20xx	616	482	49	601	(34)	83	37	229	146	121
I_F25xx	636	493	57	513	65	145	23	182	175	111
I_F31xx	458	383	36	287	135	79	46	189	146	(2)
I_F33xx	444	362	46	203	196	57	31	188	72	97
County_IMDs_1	96	75	(0)	14	82	71	(0)	36	(5)	(7)
County_IMDs_2_Plus	119	96	14	(7)	113	94	14	65	(24)	(29)
I_Q2	5	4	3	(2)	5	(3)	2	2	3	2
I_Q3	51	38	4	9	40	14	6	15	3	16
I_Q4	4	(1)	0	1	3	(11)	0	7	(7)	15
I_HCC	(2,687)	(1,920)	(28)	(511)	(2,147)	(1,224)	(10)	(409)	218	(1,261)
I_HIP	(3,089)	(1,946)	(13)	(514)	(2,563)	(1,353)	(20)	(454)	(99)	(1,163)

**Note:** As discussed in this report, the SMI Evaluation focuses on the Quarter\_x\_Impl and Quarter\_x\_Demo variables. This analysis and the resulting coefficients are not appropriate for any other purpose.

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