Indiana Epidemiology Newsletter

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Importance of Laboratory Confirmation of Mumps Suspects

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The Indiana State Department of Health (ISDH) investigates several cases of suspected mumps each year. However, infections caused by many organisms can present with the same symptoms as mumps virus. Most sporadic mumps suspects can be ruled out with attention to the clinical case definition of mumps and appropriate laboratory testing.

Clinical Case Definition

The clinical case definition for mumps requires an illness with acute onset of unilateral or bilateral tender, self-limited swelling of the **parotid and/or other salivary gland(s)** [http://www.cdc.gov/mumps/clinical/qa-physical-complic.html], lasting at least 2 days, and without other apparent cause. Clinically compatible illnesses (such as aseptic meningitis, encephalitis, or orchitis) may also be caused by mumps virus. Since mumps disease can be difficult to clinically diagnose and be a potentially serious condition, it is essential to confirm mumps virus through appropriate laboratory testing.

Laboratory Testing

Laboratory criteria for confirmation of mumps include:

- Isolation of mumps virus from a clinical specimen, or
- Detection of mumps nucleic acid through polymerase chain reaction (PCR), or
- Detection of mumps IgM antibody, or
- Demonstration of specific mumps antibody response in absence of recent vaccination, either a four-fold increase in IgG titer as measured by quantitative assays, or a seroconversion from negative to positive using a standard serologic assay of paired acute and convalescent serum specimens.

Even with appropriate laboratory testing, challenges remain in the confirmation of mumps. The immunofluorescence assays (IFA) used for the detection of mumps IgM antibody at most reference laboratories is subject to nonspecific fluorescence, and thus, false positive results.

Additionally, parainfluenza viruses 1 and 3 are known to interfere with mumps serological assays and produce false positive results for mumps. Timing of the collection of an acute IgM serum specimen also can pose a challenge – false negative results may occur in individuals with no or unknown vaccine histories if the specimen is collected within three days of onset, and the IgM result in vaccinated individuals can vary.

The collection of a viral specimen (ideally, a buccal swab) can provide more definitive results for mumps testing. Virus culture remains the gold standard for the confirmation of mumps, but culture requires time that is not readily available before the implementation of control measures in public health investigations. Detection of mumps nucleic acid through PCR provides a rapid, sensitive alternative for identifying the presence of mumps virus. However, viral specimens for PCR or culture must be collected properly and early after onset of symptoms (ideally, within three days of parotitis) for maximum viral shedding and, therefore, optimal results.

Reporting and Case Investigation

If mumps is suspected, the health care provider should notify the local or state health department within 72 hours per the Indiana Communicable Disease Reporting Rule for Physicians, Hospitals, and Laboratories (410 IAC 1-2.3). Immediate reporting, however, is preferred, as it helps to ensure that the appropriate public health agencies are notified, the appropriate specimens are collected, and the appropriate control measures are implemented.

The ISDH investigates all suspect cases of mumps. It is preferred that specimens from mumps suspects be sent to the ISDH Laboratories. The ISDH Serology Laboratory recently validated an enzyme immunoassay (EIA) for the detection of mumps IgM antibody in serum specimens. The EIA test is more specific and less susceptible to false positive results than the IFA tests used by many commercial laboratories. The ISDH Virology Laboratory performs PCR on viral specimens (buccal swabs) and cultures viral specimens. If mumps virus is isolated, the isolate is sent to the Centers for Disease Control and Prevention Laboratory for genotyping, which can help to identify the source of the virus. In many circumstances, serologic and PCR results are available within 24 hours of specimen receipt.

The ISDH Laboratories regularly rule out suspect mumps cases and are able to identity other pathogenic viruses. In 2009, several other viruses were identified through culture from mumps suspects, including adenovirus, enterovirus, Influenza A, Parainfluenza-3, Parainfluenza-2, and Coxsackie B virus.

The burden caused by failure to notify public health authorities and appropriately rule out mumps suspects is great. Delayed reporting can result in inability to collect appropriately timed specimens necessary to confirm or rule out cases of mumps. Additionally, 410 IAC 1-2.3 requires schools, daycares, and workplaces to implement control measures if mumps is not ruled out: exposed individuals without appropriate evidence of immunity to mumps (for any reason, including medical contraindication to vaccine) must be excluded from the 12th day through 25th day following the last exposure, resulting in lost educational time and lost wages. Additionally, mumps suspects must be isolated through nine days after the onset of parotitis unless mumps is ruled out in the meantime.

In the health care setting, suspected mumps cases should be placed on droplet precautions. If appropriate precautions are not taken and mumps is not ruled out or confirmed appropriately, exclusions of health care workers may also be necessary. Following an exposure of a confirmed case or suspect case not appropriately ruled out by laboratory results, exposed health care workers without documentation of two valid doses of live mumps vaccine, laboratory evidence of immunity, or laboratory confirmation of disease should be excluded from the 12th day through the 25th day post-exposure.

The ISDH works diligently to rule out mumps suspects and reduce undue burden caused by exclusions on our schools, daycares, workplaces, and health care settings. To do this and to identify true cases of mumps and other public health risks, the cooperation of the medical community is essential. If you suspect a case of mumps, contact the state or local health department immediately to ensure that appropriate specimens are collected at the right time and appropriate control measures are implemented.

To report a suspect case of mumps, contact your local health department or the ISDH at 317.233.7125.

References:

Centers for Disease Control and Prevention. Laboratory testing for mumps infection. Centers for Disease Control and Prevention, Atlanta, GA, 2009. Retrieved December 3, 2009, from http://www.cdc.gov/mumps/clinical/qa-lab-test-infect.html.

Centers for Disease Control and Prevention. Manual for the surveillance of vaccine-preventable diseases. Centers for Disease Control and Prevention, Atlanta, GA, 2008. Retrieved December 3, 2009, from http://www.cdc.gov/vaccines/pubs/surv-manual/default.htm.

Centers for Disease Control and Prevention. Mumps: 2008 case definition. Centers for Disease Control and Prevention, Atlanta, GA, 2008. Retrieved December 3, 2009, from http://www.cdc.gov/ncphi/disss/nndss/casedef/mumps_2008.htm.

Centers for Disease Control and Prevention. Physical findings and complications: Clinical questions & answers on mumps. Centers for Disease Control and Prevention, Atlanta, GA, 2009. Retrieved December 8, 2009, from http://www.cdc.gov/mumps/clinical/qa-physical-complic.html.

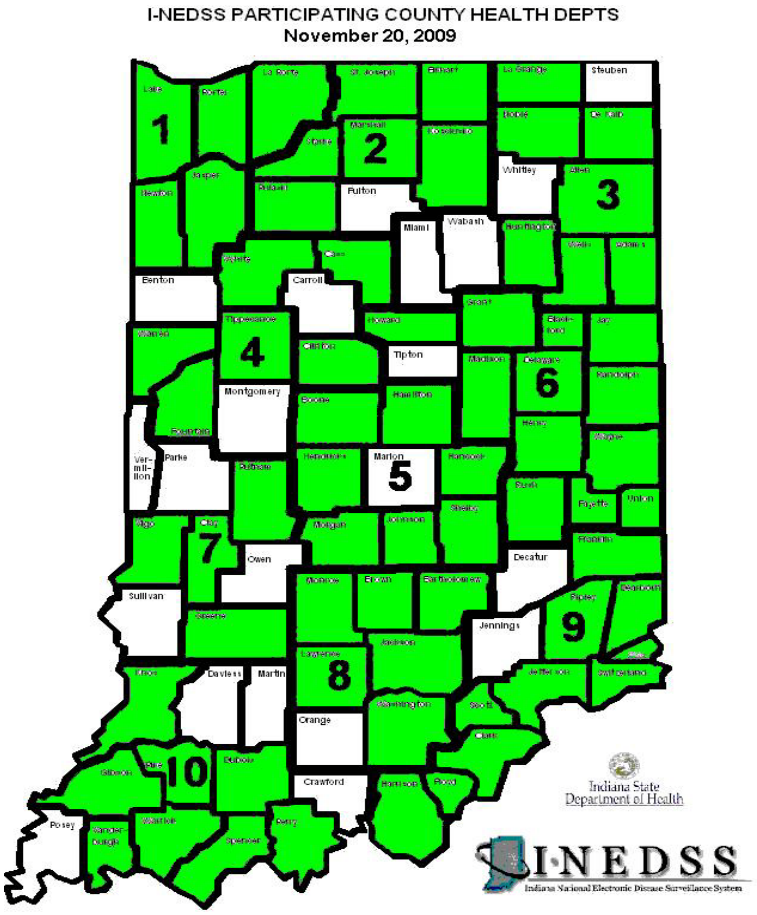
December 2009 I-NEDSS Update

Les Brumbaugh
IT Project Manager I-NEDSS, PHIN

The Indiana National Electronic Disease Surveillance System (I-NEDSS) is a web-based application that promotes the collection, integration, and sharing of data at federal, state, and local levels. The purpose of I-NEDSS is to automate the current paper-based process for reporting of lab reports, communicable disease reports (CDR), and case investigations.

I-NEDSS is a tool to support and enhance the reporting process outlined in IAC 410 (http://www.in.gov/legislative/iac/T04100/A00010.PDF). Benefits of I-NEDSS include an increase of speed, accuracy, and accountability in our disease surveillance efforts. This will be accomplished by having the reporting and investigation forms accessed, completed, and submitted electronically.

Statewide Rollout - 2009



The I-NEDSS Project Team set a goal of ten district trainings during 2009. We have completed our goal and have trained public health professionals at 72 of the 93 local health departments. Twenty-four hospital Infection Control Practitioners have also joined us for training classes.

We have are continuing to learn and have implemented several of your ideas which will improve communicable disease reporting in Indiana.

I-NEDSS is improving reporting in Indiana…

The original communication from this project team the beginning of the year included the following benefits of I-NEDSS:

1. **increased speed**
2. **increased accuracy**
3. **increased accountability**
4. **increased security**
5. **increased situational awareness for state and local investigators**

As 2009 is drawing to a close, we have realized these benefits in the counties that continue to utilize I-NEDSS.
Hospitals and local health departments are able to electronically log their labs, communicable disease reports, and case investigations, process them in a standardized manner, and have historic reports available to them for their own daily purposes.

ISDH Epidemiologists are able to review and respond to data more quickly and are now alerted that a case investigation has started, allowing them to more rapidly determine if the issue may be linked to a wider public health threat.

The system features I-Mail messaging, disease notifications, and other communication devices to allow for communication to flow between state and local health departments in a secure environment.

I-NEDSS feeds the CDC directly via the Public Health Information Network (PHIN), fulfilling our requirements for disease reporting.
I-NEDSS data is combined with other types of surveillance data and Outbreak Management Systems to build a "big picture" of the disease threat facing Indiana at any given time.

The I-NEDSS Helpdesk continues to remain available to all users or potential users. It serves as a clearing-house for ideas and system improvements that all users can share.

We're not done yet

Planning for 2010 is well underway. If you have suggestions, questions, or concerns please do not hesitate to contact the I-NEDSS Helpdesk by email at I-NEDSS@isdh.in.gov. The I-NEDSS Helpdesk can also be reached by phone at (317) 233-7379. You may also use the I-FORUM tab on your I-NEDSS application to join others in the I-NEDSS community in a discussion board.

The I-NEDSS Project Team is focusing on recurring training. We will offer a training overview at the Public Health Nurses Conference in May, 2010. We have training materials available on-line under the TRAINING tab at I-NEDSS and will soon have a live training database available for "practice" scenarios.

The I-NEDSS Project Team will focus on hospital and clinic participation in 2010. We are working in conjunction with the ISDH Sexually Transmitted Disease (STD) program area to bring electronic STD reporting to the hospitals. Look for a specific rollout to the hospitals to begin sometime after March, 2010.

The I-NEDSS Project Team will work on improving the lab and CDR process, streamlining the communication, and working with our partners at the various labs to increase the accuracy and timeliness of the reports.

In this space in the future, look forward to announcements that will cover new version releases, usage statistics, best practices, and case studies for I-NEDSS.

Indiana Tuberculosis Annual Summary 2008

Sarah Burkholder, RN, MPH,
TB/Refugee Health Division Director

Tina Feaster, RM(NRCM), M(ASCP)
Tuberculosis Epidemiologist

Cases = 118

Crude Incidence Rate per 100,000 population = 1.9 (U.S. 2007 = 4.4)
U.S.-born = 1.1 (U.S. 2007 = 2.1)
Foreign-born = 18.9 (U.S. 2007 = 20.7)

Race and Ethnicity-specific Incidence Rates per 100,000 population[1]
White = 1.3
Black or African-American = 4.2
Asian = 31
Hawaiian Native or other Pacific Islander = N/A
American Indian or Alaska Native = 8
Hispanic or Latino, all races = 7.7

Gender-specific Incidence Rates per 100,000 population
Male = 2.2
Female = 1.5

Executive Summary

The mission of the Indiana State Department of Health (ISDH) Tuberculosis and Refugee Health Division is to decrease tuberculosis incidence within the state of Indiana and to progress toward its elimination by providing technical assistance and support, education, policy development and surveillance in collaboration with local health departments, health and medical providers and the Center for Disease Control and Prevention (CDC) in the care of those infected and affected by tuberculosis.

Our vision is that by 2015, the incidence rate of tuberculosis among U.S.-born residents of Indiana will not exceed 0.5/100,000 as the result of the initiative and collaboration of all local health departments, health care providers, the ISDH, and the CDC.

During 2008, there were 118 new cases of tuberculosis (TB) reported to the ISDH. This is a decrease of 11 counted cases from 2007, the lowest number of cases for Indiana in seven years. Figures 1 and 2 show long-term and 6-year trends, respectively.

Figure 1

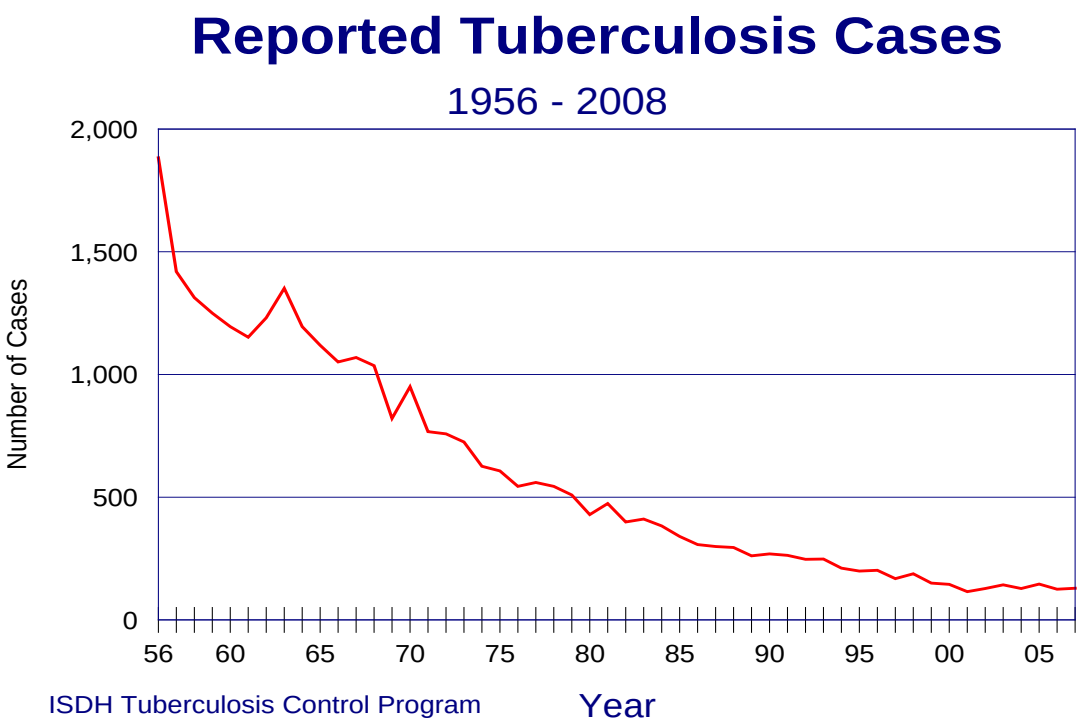
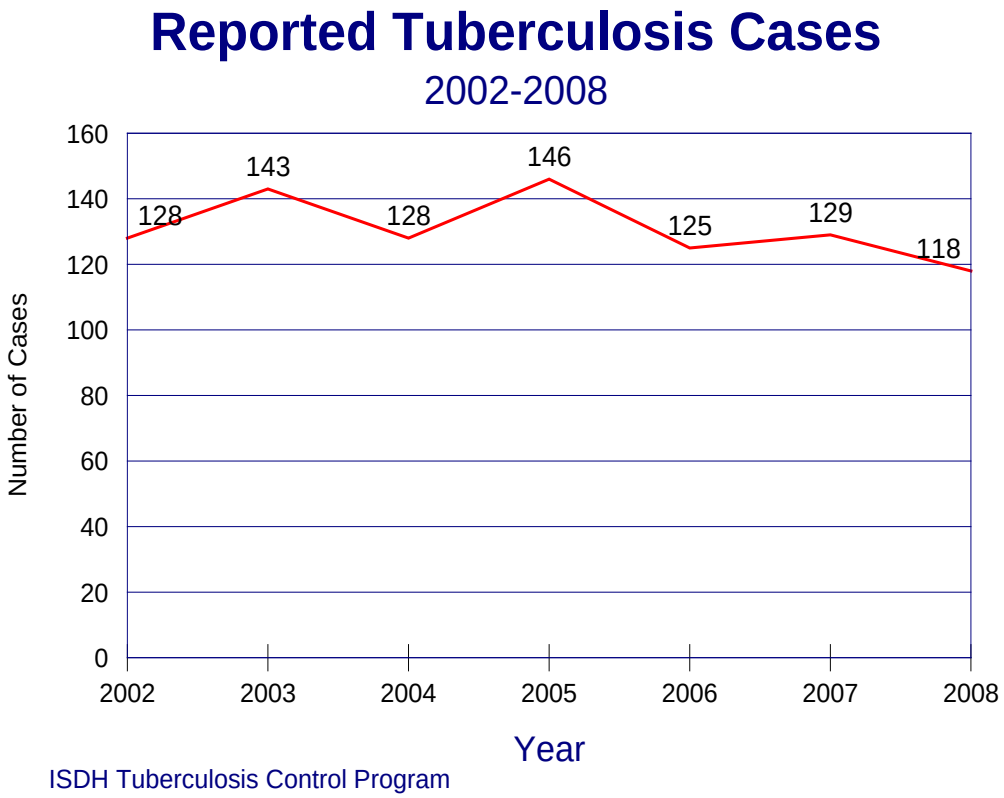


Figure 2



TB was reported by 37 of the 92 counties. According to the estimated 2008 census, the three most populous counties (Marion, Lake, and Allen counties) accounted for 50% of all new cases. Marion County's reported cases decreased from 42 cases in 2007 to 33 cases in 2008. Lake and

Allen Counties both reported thirteen cases in 2008, which is a decrease for both counties (2007 numbers were 16 and 15 respectively). Twelve new Indiana genotype clusters (two or more molecular matched isolates), were identified in 2008. One new Indiana cluster is part of a homeless investigation that originated in Ohio. The 2007 CDC aggregate reports for contact investigations of active cases reveal 46 contacts per case (average is 100), 12% latent infection rate (average is 20-30%) and of those who started latent TB treatment, 69 % completed the drug regimen (75% is the CDC goal).

High risk populations include: HIV infection, children, and drug and alcohol abuse. Known HIV status decreased for 2008 cases, 79% for the 25 to 44 age group, compared to 87% in 2007 (Table 1).

Table 1

HIV Counseling and Testing

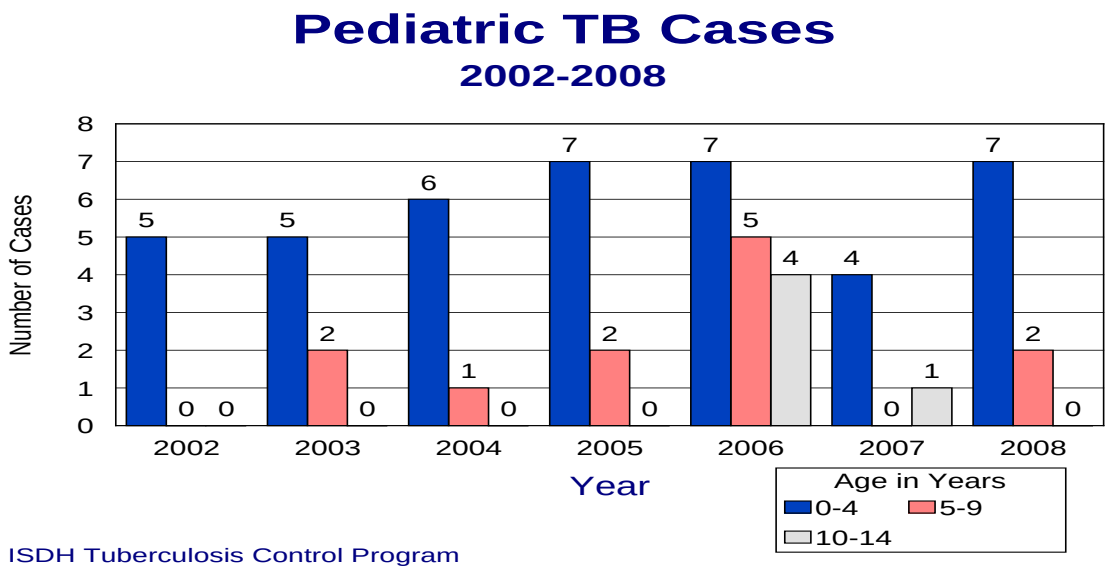
Number and percent of adult patients reported in 2008 offered counseling and testing

Status	Age group 25-44 (n=33)	All adult cases >=15 years of age (n=109)
Tested, results known or pending	26(79%)	76(72%)
Patient refused	2(6%)	6(6%)
Test not offered	5(15%)	27(23%)

ISDH Tuberculosis Control Program

Pediatric cases increased in 2008 to seven from four cases in 2007 (Figure 3).

Figure 3



Excess alcohol use decreased from 26% in 2007 to 23% in 2008 (Table 2).

Table 2

Reported Tuberculosis Cases in 2008

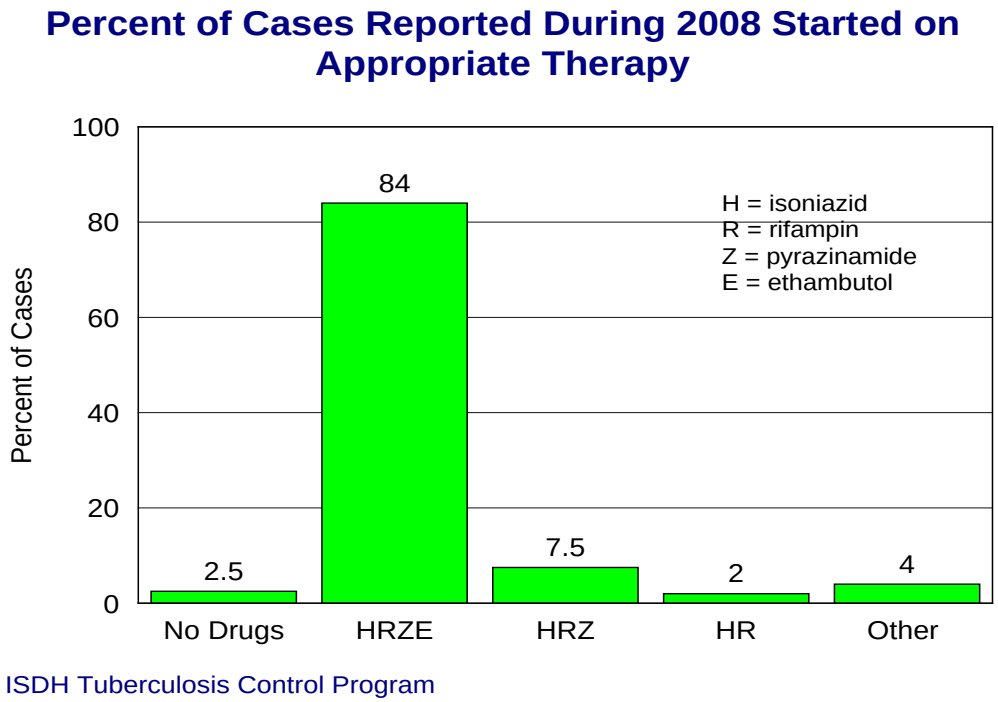
with Selected Exposure and Medical Risk Factors*
(n=118)

Risk Factor	Number of Cases	Percent of Cases
Excess alcohol use	27	23
Injection drug use	2	2
Non-injection drug use	13	11
Homelessness	8	7
Resident of long-term care facility	1	1
Resident of correctional facility	2	2

*at the time of diagnosis

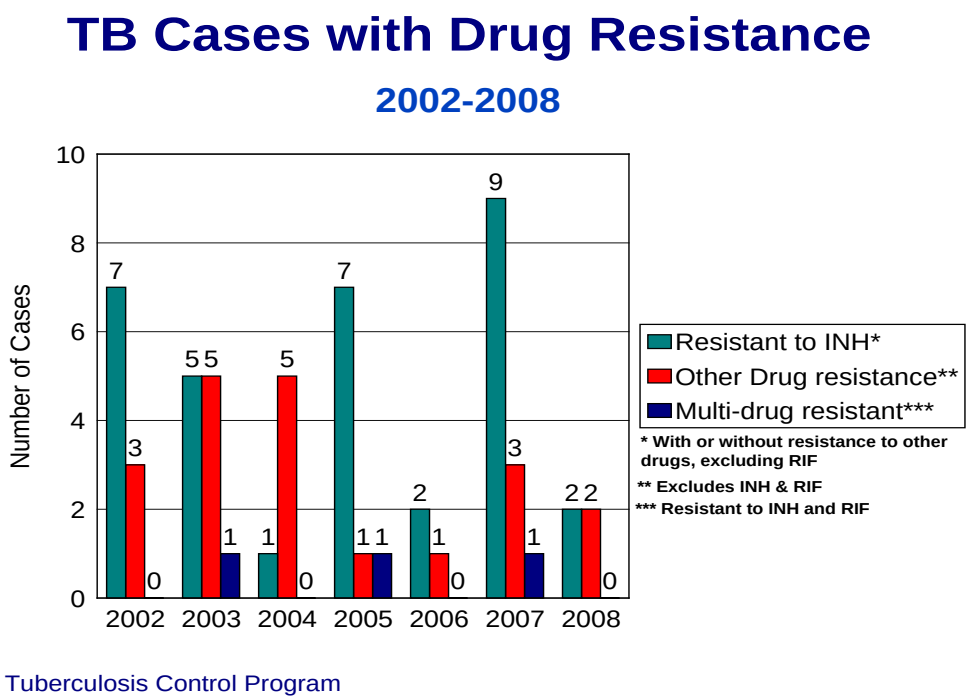
Non-injection drug use increased in 2008 to 11% compared to 9% in 2007. The percentage of cases started on appropriate therapy decreased from 88% in 2007 to 84% in 2008 (Figure 4).

Figure 4



One active case returned to the country of origin before medications were started. Isoniazid resistance decreased to two cases in 2008 compared to nine cases in 2007 (Figure 5).

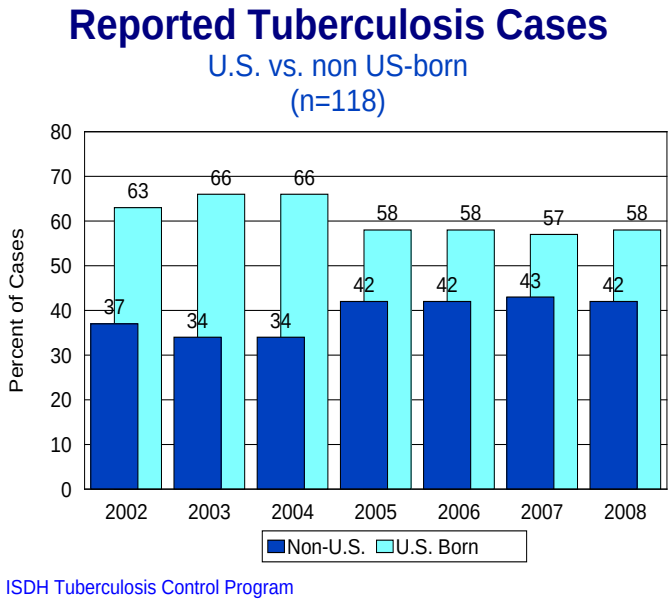
Figure 5



Indiana had zero cases of multi drug resistant or extensively drug resistant counted cases for 2008.

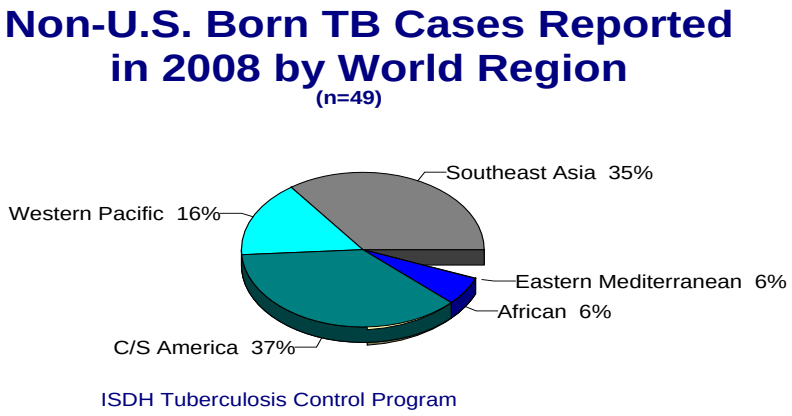
U.S. born cases continue to make up the majority of TB cases diagnosed in Indiana (Figure 6).

Figure 6



Of those non-U.S. born cases, 37% come from Central/South America and 35% come from Southeast Asia (Figure 7).

Figure 7



National trends show most non-U.S. born cases are diagnosed within the first three years after entry into the U.S.

Please view the web link for the full report:

http://www.in.gov/isdh/files/2008AnnuaTBReport(final).pdf

References:

[1] http://www.census.gov/popest/states/tables/NST-EST2008-01.xls

http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5415a1.htm

Tetanus

Karen Gordon
ISDH Field Epidemiologist, District 10

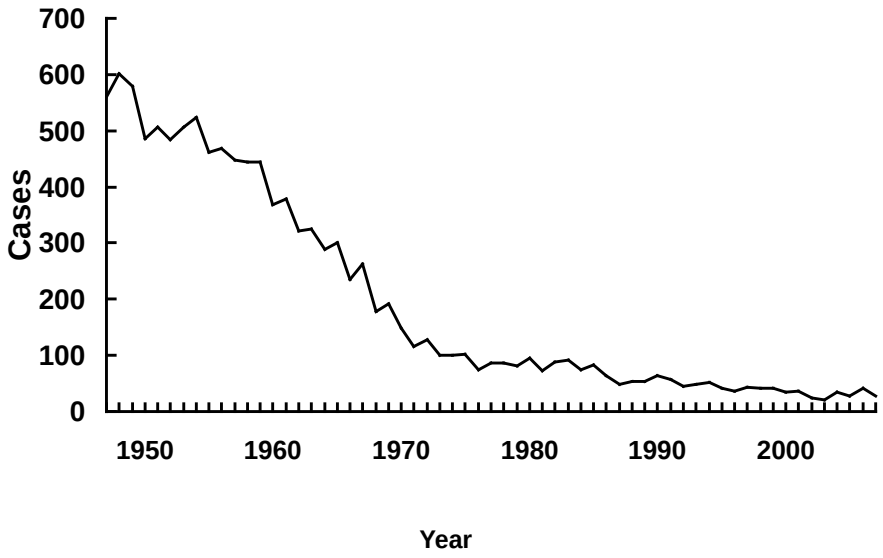
Although very rare due to successful vaccination, a confirmed case of tetanus was recently identified in Indiana. A person suffering from generalized tetanus, the most common form, undergoes convulsive muscle contractions of the jaw termed trismus, or “lockjaw.” It can lead to "locking" of the jaw, which makes it impossible to open your mouth or swallow. Suffocation can result. Other presenting complaints include stiffness, neck rigidity, dysphagia, and generalized muscle spasms. Subsequently, muscle rigidity becomes the major manifestation. Muscle rigidity spreads in a descending pattern from the jaw and facial muscles to the abdomen and the limbs. Other symptoms include elevated temperature, sweating, elevated blood pressure, and episodic rapid heart rate. The contractions by the muscles of the back and extremities may become so violent and strong that bone fractures may occur. Unfortunately, the affected individual is conscious throughout the illness, but cannot stop these painful contractions which might endure for 3-4 weeks.

Tetanus is caused by a neurotoxin produced by *Clostridium tetani,* an anaerobic gram-positive bacillus. This bacterium is nonencapsulated and forms spores, which are resistant to heat, desiccation, and disinfectants. The spores are ever-present and are found in soil, house dust, animal intestines, and human feces. Spores are introduced into the body through when an injury occurs and becomes contaminated with dirt or fecal material. Punctures, scratches, burns, lacerations, abrasions, surgery, body piercing, tattooing, and injection drug use—all provide avenues for tetanus bacilli to enter. After exposure, symptoms develop in 3-21 days, averaging about eight days. In recent years, tetanus has been fatal in about 11% of reported cases, and those over 60 years of age or those who are unvaccinated are at higher risk for death. Tetanus is not spread from person to person.

Because *C. tetani* exhibits such a high level of sensitivity to oxygen, it is very difficult to recover and/or grow bacteria from clinical specimens. As a result, diagnosis is made on the basis of clinical findings and does not depend upon bacteriologic confirmation. A confirmed case is classified as a clinically compatible case, as reported by a health care professional.

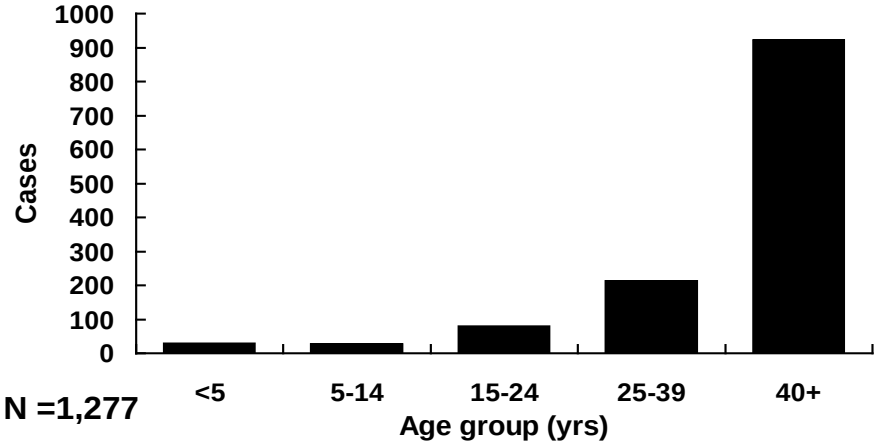
Despite widespread immunization of infants and children in the United States since the 1940s, tetanus still occurs in the United States. Currently, tetanus is a severe disease primarily of older adults and occurs almost exclusively among people who are unvaccinated or inadequately vaccinated or whose vaccination histories are unknown or uncertain. The annual incidence of tetanus has dropped to fewer than 50 cases per year in the United States.

Tetanus—United States, 1947-2007



Source: http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/tetanus.pdf

Tetanus—United States, 1980-2003
Age Distribution



Source: http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/tetanus.pdf

Globally, most reported cases of tetanus are the neonatal type, which is a form of generalized tetanus that occurs in newborn infants. It is still very common in developing countries, causing several hundred thousand deaths per year. Poor immunization standards and inadequate hygiene both play a role in these neonatal deaths. Babies are born without protective passive immunity because of the mother's unvaccinated status, and infection results when bacteria enter an unhealed umbilical stump after being cut with an unsterile instrument.

Tetanus immune globulin (TIG) is recommended for persons with tetanus. TIG does not affect toxin already bound to nerve endings but can help remove unbound tetanus toxin. TIG can also provide temporary immunity for persons with an incomplete history of tetanus toxoid who suffer a serious, contaminated wound. Refer to the following chart for the use of active and passive immunization to manage wounds:

Tetanus Wound Management

	Clean, minor wounds		All other wounds	
Vaccination History	**Td***	**TIG**	**Td***	**TIG**
Unknown or less than 3 doses	**Yes**	**No**	**Yes**	**Yes**
3 or more doses	**No+**	**No**	**No****	**No**

*** Tdap may be substituted for Td if the person has not previously received Tdap and is 10 years or older**
+ Yes, if more than 10 years since last dose
**** Yes, if more than 5 years since last dose**

Source: http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/tetanus.pdf

The schedule for tetanus toxoid immunization consists of a primary series of four appropriately spaced doses in children under 7 years of age and three properly spaced doses in individuals 7 years of age and older. Booster doses are recommended every 10 years thereafter. Tetanus toxoid should be administered with diphtheria toxoid as DTaP, DT, Td, or Tdap. Please refer to CDC's website (http://www.cdc.gov/nip) for the most current immunization recommendations of the ACIP, vaccination schedules, and vaccine safety information.

This recent case was a young adult male whose infection developed at the site of a self-piercing and illustrates the importance of timely tetanus vaccination. Tetanus disease does not induce immunity because of the extreme potency of the toxin. and there is no herd immunity with tetanus. Since tetanus bacterial spores are widely spread in the environment and found in the intestinal flora of domestic animals, horses, chickens, and humans, the disease will not likely be eradicated. Tetanus is preventable by proper and timely immunization.

References:

Manual for the Surveillance of Vaccine-Preventable Diseases, 4th Edition, 2008, Tetanus: Chapter 16
Epidemiology and Prevention of Vaccine-Preventable Diseases, 11th Edition, May, 2009, Tetanus: Chapter 19

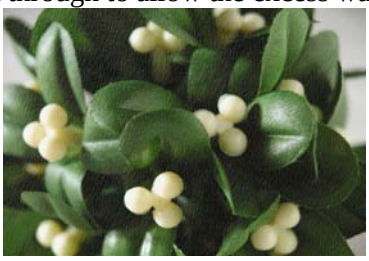
Centers for Disease Control and Prevention. Epidemiology and Prevention of Vaccine-Preventable Diseases. Atkinson W, Hamborsky J, Wolfe S, eds. 8th ed. Washington DC: Public Health Foundation, 2004. http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/tetanus.pdf

The Facts on Christmas Plants

Donna Allen, MS
ISDH Field Epidemiologist, District 1

Our most popular Christmas plant has been rumored to be poisonous. The poinsettia (*Euphorbia pulcherrima*) was introduced to the United States from Mexico in the 1820's. It takes its name from Joel Robert Poinsett, who was the first US ambassador to Mexico. A poinsettia bloom is composed of several yellow flowers surrounded by colorful bracts which could be red, white or pink. Although rumored to be poisonous, several university tests have showed **no** signs of toxicity or any apparent illness from the leaves, bracts or flowers. In fact, one study completed by The Ohio State University showed that a child could eat 500 to 600 leaves and not display any signs of poisoning. In 1975, the U.S. Consumer Products Safety Commission exonerated the poinsettia of the false rumor. However, a few sensitive individuals could develop a mild dermatitis from the plant's milky sap.

Poinsettia owners should be more concerned with getting the plant home without exposing it to the cold (50 degrees Fahrenheit or below). Since the plant is grown in greenhouses, it likes temperatures between 60-70 degrees with a high relative humidity and maximum sunlight. The plant does best near a sunny window, but do not allow it to touch the cold glass. Avoid temperature fluctuations from drafts or heat outlets. Always add enough water so that water drains from the pot. Don't let the plant sit in water. Pots wrapped with foil should have a hole punched through to allow the excess water to drain.



MISTLETOE

HOLLY

There are other popular Christmas plants that can be potentially hazardous. The berries of mistletoe (*Phoradendron flavescens*) and holly (*Ilex aquifolium*) are poisonous and can cause severe stomach craps and diarrhea. Some Web sites report that holly berries are highly toxic. All parts of the Jerusalem Cherry Plant (*solanum pseudocapsicum*) are poisonous. A few wreaths and Christmas decorations use boxwood, laurel, rhododendron, or yew plants, which are also listed as poisonous.

In general, do not eat plants not known to be useful as food. Some children like to place everything in their mouths, and the attractive colorful leaves and berries can attract their curiosity. Place potentially hazardous plants in a location where children or pets cannot reach them. Holiday plants make ideal gifts, but use caution in giving a plant to a family with young children or pets. If a child ingests any part of these plants, contact your health care provider or the Indiana Poison Center at 1-800-222-1222.

References:

1. **The Poinsettia** by Michael N. Dana and B. Rosie Lerner, Purdue University Cooperative Extension Service, HO-73-W.

2. **Christmas Plants Enjoy the Holidays . . . Beware of Hazards,** www.upstatepoison.org.

3. **Myths Persist About Poisonous Holiday Plants** by Penn State College of Agricultural Sciences, http://aginfo.psu.edu/news/1997/12/poison.html

Training Room

INDIANA STATE DEPARTMENT OF HEALTH IMMUNIZATION PROGRAM PRESENTS:

Immunizations from A to Z

Immunization Health Educators offer this FREE, one-day educational course that includes:

- Principles of Vaccination
- Childhood and Adolescent Vaccine-Preventable Diseases
- Adult Immunizations
    - Pandemic Influenza
- General Recommendations on Immunization
    - Timing and Spacing
    - Indiana Immunization Requirements
    - Administration Recommendations
    - Contraindications and Precautions to Vaccination
- Safe and Effective Vaccine Administration
- Vaccine Storage and Handling
- Vaccine Misconceptions
- Reliable Resources

This course is designed for all immunization providers and staff. Training manual, materials, and certificate of attendance are provided to all attendees. Please see the Training Calendar for presentations throughout Indiana. Registration is required. To attend, schedule/host a course in your area or for more information, please reference http://www.in.gov/isdh/17193.htm.

ISDH Data Reports Available

The following data reports and the *Indiana Epidemiology Newsletter* are available on the ISDH Web Page:

http://www.IN.gov/isdh/

HIV/STD Spotlight Reports (June 2007, December 2007, June 2008, January 2009)	Indiana Mortality Report (1999-2006)
Indiana Cancer Report: Incidence; Mortality; Facts & Figures	Indiana Infant Mortality Report (1999, 2002, 1990-2003)
Indiana Health Behavior Risk Factors (1999-2006)	Indiana Natality Report (1998-2006)
Indiana Health Behavior Risk Factors (BRFSS) Newsletter (2003-2008)	Indiana Induced Termination of Pregnancy Report (1998-2005)
Indiana Hospital Consumer Guide (1996)	Indiana Marriage Report (1995, 1997, & 2000-2004)
Public Hospital Discharge Data (1999-2006)	Indiana Infectious Disease Report (1997-2007)
Assessment of Statewide Health Needs – 2007	Indiana Maternal & Child Health Outcomes & Performance Measures (1989-1998, 1990-1999, 1991-2000, 1992-2001, 1993-2002, 1994-2003, 1995-2004, 1996-2005)

HIV Disease Summary

Information as of November 30, 2009 **based on 2000 population of 6,080,485)**

HIV - without AIDS to date:

285	New HIV cases October 2008 thru September 30, 2009	12-month incidence	4.95 cases/100,000
3,886	Total HIV-positive, alive and without AIDS on September 30, 2009	Point prevalence	67.56 cases/100,000

AIDS cases to date:

349	New AIDS cases from October 2008 thru September 30, 2009	12-month incidence	6.07 cases/100,000
4,414	Total AIDS cases, alive on September 30, 2009	Point prevalence	76.74 cases/100,000
9,164	Total AIDS cases, cumulative (alive and dead) on November 30, 2009		

REPORTED CASES of selected notifiable diseases

Disease	Cases Reported in October - November *MMWR* Weeks 40-48		Cases Reported in January – November *MMWR* Weeks 1-48	
	2008	2009	2008	2009
Campylobacteriosis	100	23	612	410
Chlamydia	3,500	1,984	19,694	19,471
Cryptococcus	2	8	19	34
Cryptosporidiosis	33	13	178	192
E. coli, shiga toxin-producing	13	1	86	30
Giardiasis	Not Reportable	10	Not Reportable	188
Haemophilus influenzae, invasive	9	9	66	69
Hemolytic Uremic Syndrome (HUS)	0	0	1	0
Hepatitis A	3	0	19	16
Hepatitis B	18	4	46	56
Hepatitis C Acute	4	2	5	16
Histoplasmosis	11	1	75	98
Influenza Deaths (all ages)	0	20	15	34
Gonorrhea	1,281	479	7,780	6,188
Legionellosis	13	5	53	46
Listeriosis	1	0	7	6
Lyme Disease	4	2	40	47
Measles	0	0	0	0
Meningococcal, invasive	2	4	24	30
Mumps	0	0	1	2
Pertussis	53	33	100	317
Rocky Mountain Spotted Fever	0	0	6	3
Salmonellosis	100	22	564	348
Shigellosis	36	3	561	56

REPORTED CASES of selected notifiable diseases (cont.)

Disease	Cases Reported in October - November *MMWR* Weeks 40-48		Cases Reported in January – November *MMWR* Weeks 1-48	
	2008	2009	2008	2009
Severe *Staphylococcous aureus* in Previously Healthy Person	Not Reportable	0	Not Reportable	13
Group A Streptococcus, invasive	10	4	118	130
Group B, Streptococcus, Invasive (All ages)	3	21	26	209
Streptococcus pneumoniae (invasive, all ages)	90	47	699	361
Streptococcus pneumoniae (invasive, drug resistant)	23	8	188	191
Streptococcus pneumoniae (invasive, <5 years of age)	7	5	54	37
Syphilis (Primary and Secondary)	16	8	124	128
Tuberculosis	14	28	107	106
Vibriosis	Not Reportable	0	Not Reportable	0
Varicella	Not Reportable	26	Not Reportable	348
Yersiniosis	1	0	8	7
Animal Rabies	3 (bats)	2 (bats)	10 (bats)	40 (bats)

For information on reporting of communicable diseases in Indiana, call the *Surveillance and Investigation Division* at 317.233.7125.

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Cover photo of Cryo-EM reconstruction of a norovirus capsid.courtesy of Dr. B.V.V. Prasad, Baylor College of Medicine, Houston, TX 77030

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