

**Recreational Water Illness**

[The following information was obtained from the Centers for Disease Control and Prevention at <http://www.cdc.gov/healthywater/swimming/rwi/index.html>]

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Recreational water illnesses (RWIs) are caused by germs spread by swallowing, breathing in mists or aerosols of, or having contact with contaminated water in swimming pools, hot tubs, water parks, water play areas, interactive fountains, lakes, rivers, or oceans. RWIs can also be caused by chemicals in the water or chemicals that evaporate from the water and cause indoor air quality problems.

Contrary to popular belief, chlorine does not kill all germs instantly. There are germs today that are very tolerant to chlorine and were not known to cause human disease until recently. Once these germs get in the pool, it can take anywhere from minutes to days for chlorine to kill them. Swallowing just a little water that contains these germs can make you sick.

RWIs include a wide variety of infections, such as gastrointestinal, skin, ear, respiratory, eye, neurologic, and wound infections. The most commonly reported RWI is diarrhea. Diarrheal illnesses are caused by germs such as Crypto (short for [*Cryptosporidium*](http://www.cdc.gov/parasites/crypto/index.html)), [*Giardia*](http://www.cdc.gov/parasites/giardia/index.html), [*Shigella*](http://www.cdc.gov/nczved/divisions/dfbmd/diseases/shigellosis/), [norovirus](http://www.cdc.gov/Norovirus/index.html) and [*E. coli* O157:H7](http://www.cdc.gov/ecoli/index.html). With RWI outbreaks on the rise, swimmers need to [take an active role](http://www.cdc.gov/healthywater/swimming/protection/triple-a-healthy-swimming.html) in helping to protect themselves and prevent the spread of germs. It is important for swimmers to [learn the basic facts about RWIs](http://www.cdc.gov/healthywater/swimming/rwi/rwi-basics.html) so they can keep themselves and their family healthy every time they swim.

In the past two decades, there has been a substantial increase in the number of RWI outbreaks associated with swimming. Crypto, which can stay alive for days even in well-maintained pools, has become the leading cause of swimming pool-related outbreaks of diarrheal illness. From 2004 to 2008, reported Crypto cases increased over 200% (from 3,411 cases in 2004 to 10,500 cases in 2008) [1](http://www.cdc.gov/healthywater/swimming/rwi/index.html#one).

Although Crypto is tolerant to chlorine, most germs are not. Keeping chlorine at recommended levels is essential to maintain a healthy pool. However, a 2010 study found that 1 in 8 public pool inspections resulted in pools being closed immediately due to serious code violations such as improper chlorine levels [2](http://www.cdc.gov/healthywater/swimming/rwi/index.html#two).

**Where RWIs are Found**

* **Swimming Pools, Water Parks, Water Play Areas**

The most common RWI is diarrhea. Swallowing water that has been contaminated with feces containing germs can cause diarrheal illness.

Swimmers share the water—and the germs in it—with every person who enters the pool. On average, people have about 0.14 grams of feces on their bottoms which, when rinsed off, can contaminate recreational water. In addition, when someone is ill with diarrhea, their stool can contain millions of germs.

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This means that just one person with diarrhea can easily contaminate the water in a large

pool or water park. People may not realize that although there is no standing water in interactive fountains/water play areas, the spray water will rinse any contaminants (for example, diarrhea, vomit, and dirt) down into the water holding area and be sprayed again. In other words, the water is recycled through the system.

Swallowing even a small amount of recreational water that has been contaminated with feces containing germs can make you sick.

To ensure that most germs are killed, check [chlorine or other disinfectant levels and pH](http://www.cdc.gov/healthywater/swimming/pools/disinfection-team-chlorine-ph.html) regularly as part of [good pool operation Adobe PDF file [PDF - 86 kb]](http://www.cdc.gov/healthywater/pdf/swimming/resources/operating-public-swimming-pools-factsheet.pdf).

For more information, please see the [Pools and Hot Tubs](http://www.cdc.gov/healthywater/swimming/pools/) section and the [Water Play Areas and Interactive Fountains](http://www.cdc.gov/healthywater/swimming/pools/water-play-areas-interactive-fountains.html) page.

* **Hot Tubs**

Skin infections like "[hot tub rash](http://www.cdc.gov/healthywater/swimming/rwi/illnesses/hot-tub-rash.html)" are a common RWI spread through hot tubs and spas. [Respiratory illnesses](http://www.cdc.gov/healthywater/disease/symptom.html#respiratory) are also associated with the use of improperly maintained hot tubs.

The high water temperatures in most hot tubs make it hard to maintain the disinfectant levels needed to kill germs. That’s why it’s important to [check disinfectant levels Adobe PDF file [PDF - 98 kb]](http://www.cdc.gov/healthywater/pdf/swimming/resources/operating-public-hot-tubs-factsheet.pdf) in hot tubs even more regularly than in swimming pools.

The germs that cause "hot tub rash" can also be spread in pools that do not have proper disinfectant levels and in natural bodies of water such as oceans, lakes, or rivers.

* **Oceans, Lakes and Rivers**

Oceans, lakes, and rivers can be contaminated with germs from sewage spills, animal waste, water runoff following rainfall, fecal incidents, and germs rinsed off the bottoms of swimmers. It is important to avoid swallowing the water because natural recreational water is not disinfected. Avoid swimming after rainfalls or in areas identified as unsafe by health departments. Contact your state or local health department for water testing results in your area or go to EPA's [beach site](http://www.epa.gov/OST/beaches/)[External Web Site Icon](http://www.cdc.gov/Other/disclaimer.html).

For more information, please see the [Oceans, Lakes, and Rivers](http://www.cdc.gov/healthywater/swimming/oceans/index.html) page.

For more information on recreational water illnesses, including brochures, posters, and educational materials, please see Healthy Swimming's [Health Promotion Materials](http://www.cdc.gov/healthywater/swimming/resources/index.html) page.

**How RWIs are Spread**

Swallowing water that has been contaminated with feces containing germs can cause diarrheal illness. Remember, chlorine does not kill germs instantly, and some germs, such as [Cryptosporidium](http://www.cdc.gov/parasites/crypto/index.html) (or "Crypto"), are extremely chlorine tolerant.

In addition, lakes, rivers, and the ocean can be contaminated with germs from sewage spills, animal waste, and water runoff following rainfall. Some common germs can also live for long periods of time in salt water.

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**At-Risk Groups**

Children, pregnant women, and people with weakened immune systems (for example, people living with AIDS, individuals who have received an organ transplant, or people receiving certain types of chemotherapy) can suffer from more severe illness if infected. People with weakened immune systems should be aware that recreational water might be contaminated with human or animal feces containing Crypto (short for Cryptosporidium). Crypto can cause a life-threatening infection in persons with weakened immune systems.

People with a weakened immune system should consult their health care provider before participating in activities that place them at risk for illness.

**Prevention**

Here are a few easy and effective healthy swimming steps **all swimmers** can take each time we swim to help protect ourselves, our families, and our friends from recreational water illnesses (RWIs):

* **Keep the poop, germs, and pee out of the water.**
  + Don't swim when you have diarrhea.
  + Shower with soap before you start swimming.
    - Take a rinse shower before you get back into the water.
  + Take bathroom breaks every 60 minutes.
  + Wash your hands after using the toilet or changing diapers.
* **Check the free chlorine level and pH before getting into the water.**
  + Pools: Proper free chlorine level (1–3 mg/L or parts per million [ppm]) and pH (7.2–7.8) maximize germ-killing power.
  + Hot tubs/spas: Proper disinfectant level (chlorine [2–4 parts per million or ppm] or bromine [4–6 ppm] and pH [7.2–7.8]) maximize germ-killing power.
  + Most superstores, hardware stores, and pool-supply stores sell pool test strips.
* **Don't swallow the water you swim in.**
* **Parents of young children should take a few extra steps:**
  + Take children on bathroom breaks every 60 minutes or check diapers every 30-60 minutes.
  + Change diapers in the bathroom or diaper-changing area and not at poolside where germs can rinse into the water.

**References:**

1. CDC. [Cryptosporidiosis surveillance — United States, 2009–2010](http://www.cdc.gov/mmwr/preview/mmwrhtml/ss6105a1.htm?). Morbidity and Mortality Weekly Report (MMWR). 2012;61(SS05):1-12.
2. CDC. [Violations identified from routine swimming pool inspections — Selected states and counties, United States, 2008](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5919a2.htm). MMWR. 2010;59(SS19):582-587.

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**A New Arrival to Indiana among Recreational Water Illnesses**

*Karen S. Gordon, B.A.*

*Field Epidemiologist*

Recreational water users should assume that there is always a low level of risk for illness or injury whenever they enter warm freshwater lakes, rivers, and hot springs for swimming, diving, or waterskiing. One exceedingly low incidence, high impact disease that has never shown itself before to be a threat in Indiana has now emerged. In the 10 years from 2003 to 2012, 31 infections were reported in the United States of primary amebic meningoencephalitis (PAM). By comparison, in the ten years from 1996 to 2005, there were more than 39,000 drowning deaths in the US. Epidemiologic study of PAM is difficult given the low incidence. It’s unknown why a low number of infections arise while hundreds of millions of visits are made to swimming venues each year in the U.S. in the same or similar waters. Without data to accurately estimate the true risk of PAM, it is problematic to devise standards to protect human health.

An infection can result when water containing the ameba, *Naegleria fowleri* enters the nose, usually while swimming. Trophozoites, one of three stages in the organism’s life cycle, infect humans or animals by penetrating the nasal tissue and migrating to the brain via the olfactory nerves causing PAM. It is **not** transmitted by drinking contaminated water.

*Naegleria fowleri* is a thermophilic, free-living ameba which naturally occurs throughout the world in warm, freshwater environments like lakes and rivers, naturally hot (geothermal) water like hot springs, warm water discharge from industrial or power plants, insufficiently chlorinated swimming pools, and in the soil where it feeds on bacteria. It was identified by Dr. M. Fowler as the cause of PAM in Australia in 1962 and is the only species known to be associated with PAM. Sampling has indicated that it is commonly present in southern tier lakes in the United States during summer.

The onset of symptoms occurs, on average, within 5 days of exposure. The range can be from 1-7 days. The time from symptom onset to death happens on average 5.3 days with a range from 1-12. During the first stage, symptoms like fever, headache, nausea and vomiting are experienced. Second stage symptoms advance to neck stiffness, altered mental status and seizures, and are clinically similar to bacterial meningitis.

Total case reports of PAM across the world since 1962 number between 300 to 400. Through 2012, 128 of those cases originated in the U. S., with the year-to-year reports ranging from a low of zero to the highest annual number of eight. Texas and Florida combined account for half of all U.S. cases. Only one of the known cases is documented as a survivor. In our country, the month of onset is primarily in July or August when surface water temperatures peak. Greater than 75% of the frequency is in males in the U.S. Speculation for this disparity is that males may be more aggressive or daring in their water activities, making them more vulnerable to the introduction of the parasite. The predominant sources of water exposure in the U.S. are lakes, ponds or reservoirs. There were 2 PAM deaths reported in 2011 from Louisiana of adults who had no surface water exposure but were regular users of a nasal rinse container known as a neti pot. Irrigating, flushing and rinsing sinuses with contaminated tap water is now known to be a risk factor for PAM.

Prior to 2012, Indiana had never reported a case of primary amebic meningoencephalitis or PAM. The Indiana case was reported in August 2012 and initially recorded as meningitis subsequent to the patient’s death. Diagnosis was post-mortem and confirmed by Centers for Disease Control and Prevention (CDC) laboratories through polymerase chain reaction (PCR) testing. The patient was exposed participating in recreational water activities while in Indiana.

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It is unknown why certain persons become infected with the ameba while millions of others exposed to warm recreational fresh waters do not; including those who were swimming with and engaging in the same activities with people who did became infected. No recommendation exists to test recreational water where the organism is commonly found. The CDC does not recommend testing for *Naegleria fowleri* in bodies of water or posting signs. These measures are unlikely to be an effective way to prevent infections for several reasons:

* *Naegleria fowleri* occurrence is common in bodies of water but infections are rare.
* Rapid, standardized testing to find and qualify *Naegleria fowleri* in water is not available.
* There is not a clear relationship between finding *Naegleria fowleri* in water and the occurrence of infections.

The only certain way to prevent *Naegleria fowleri* infection is to refrain from water-related activities in or with warm, contaminated water. Personal actions can reduce the risk of infection by limiting the amount of water going up the nose and lowering the chances that *Naegleria fowleri* may be in the water. CDC recommendations are:

* Avoid outdoor water activity during periods of high water temperature and low water levels
* Hold the nose shut, use nose clips, or keep your head above water while swimming
* Avoid digging in, or stirring up the sediment while swimming
* If you are irrigating, flushing or rinsing your sinuses, use distilled, sterilized or boiled water

Sources:

The Changing Epidemiology of *Naegleri fowleri* Infections in the United States, Jonathan Yoder, Centers for Disease Control and Prevention, Waterborne Disease Prevention Branch, WASH webinar, August 21, 2012 http://www.cdc.gov/parasites/naegleria/







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**Heat-Related Illness**

*Linda Stemnock, BSPH*

*Data Analyst/BRFSS Coordinator*

Along with pool time and cookouts, summer brings hot weather and heat waves. Heat-related illness occurs when the body’s temperature control system is overloaded. The body normally cools itself by sweating, but this isn’t enough in some conditions. Heat-related illness and deaths are preventable, but many people will succumb to extreme heat each year. From 1999 to 2010, 7,415 people died of heat-related deaths in the U.S., approximately 618 deaths annually. Certain populations are more likely to be affected by heat: infants, children, people who do not have access to air conditioning, have chronic medical conditions (e.g., heart disease), outdoor workers, athletes, and those ages 65 years and older.

In Indiana, there were 1,563 visits to emergency rooms with a heat-related primary diagnosis (ICD-9-CM code 992) in 2011. Heat exhaustion, unspecified, was the primary diagnosis for 78% of the visits (n=1,219). The majority of the visits were in July (59.9%, n=936) and 27.8% occurred in the months of June and August (n=434). Males had a higher age-specific rate than females for ages 15 years and older (Figure 1).

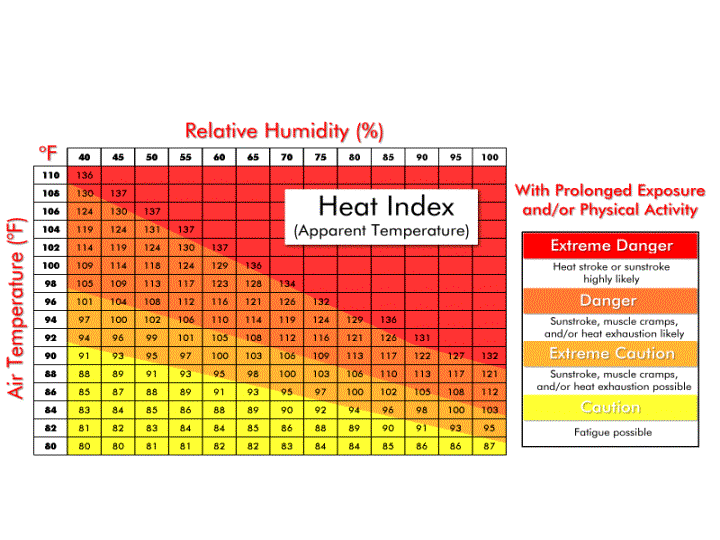
Figure 1.

The Heat Index is a measure of how hot it really feels when relative humidity is factored with the actual air temperature (Figure 2). When humidity is high, sweat does not evaporate as fast as in lower humidity, which prevents the body from releasing heat quickly and causes the body’s temperature to increase. When the Heat Index is in the yellow band (approximately 80o-90o Fahrenheit), caution is urged since fatigue is possible with prolonged exposure and activity. When the Heat Index is in the red band (over 130o Fahrenheit), conditions are dangerous and heat stroke is very likely. During summer months, heat index advisories are regularly provided through the media, and this information should be taken into account when planning outdoor activities.

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Figure 2.



Prevention tips:

* Never leave children or pets in a parked car, even with the windows open.
* Air-conditioning is the number one protective factor against heat-related illness and death. Stay indoors, in air-conditioning, if possible. If your home is not air-conditioned, many public areas such as shopping malls or libraries are air-conditioned.
* Reduce exercise and other difficult outdoor tasks and limit your activity to morning and evening hours when it is cooler. If working or exercising outdoors, rest often in shady areas.
* Drink two to four glasses of cool, non-alcoholic fluids each hour. Avoid drinks with large amounts of sugar. Drinks that are very cold in temperature can lead to stomach cramps.
* Wear light clothing and protect yourself and family members from the sun with a wide-brimmed hat, sunglasses and sunscreen of SPF 15 or higher.

A written plan that identifies partners and vulnerable populations can reduce the number of people adversely affected by extreme heat. One source is the *Excessive Heat Events Guidebook*, developed with the National Oceanic and Atmospheric Administration, the Centers for Disease Control and Prevention, and the Department of Homeland Security. It is available through <http://www.epa.gov/heatisland/about/heatguidebook.html>.

Additional heat-related information can be found at <http://www.cdc.gov/extremeheat/index.html>.

Sources: *Extreme Heat: A Prevention Guide to Promote Your Personal Health and Safety*, Centers for Disease Control and Prevention. Accessed from <http://emergency.cdc.gov/disasters/extremeheat/heat_guide.asp> on May 22, 2013.

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**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:

1. Principles of Vaccination
2. Childhood and Adolescent Vaccine—Preventable Diseases
3. 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 visit <http://www.in.gov/isdh/17193.htm>**.**

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**ISDH Data Reports**

**The following data reports and the *Indiana Epidemiology Newsletter* are available on the ISDH webpage:** http://www.IN.gov/isdh/

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| [HIV/STD/Viral Hepatitis Semi-Annual Report](http://www.in.gov/isdh/23266.htm)  (June 2007 - June 2012) | [Indiana Mortality Report](http://www.in.gov/isdh/19096.htm) (1999–2010) |
| [Indiana Cancer Reports:](http://www.in.gov/isdh/22689.htm)  Incidence; Mortality; Facts & Figures | [Indiana Linked Infant Birth/Death Report](http://www.in.gov/isdh/19096.htm)  (1999, 2002, 1990-2003) |
| [Indiana Health Behavior Risk Factors](http://www.in.gov/isdh/22860.htm) Report  (1999–2010) | [Indiana Natality Report](http://www.in.gov/isdh/19095.htm) (1998–2010) |
| [Indiana Health Behavior Risk Factors (BRFSS) Newsletter](http://www.in.gov/isdh/22860.htm) (2003–2013) | [Indiana Induced Termination of Pregnancy Report](http://www.in.gov/isdh/20951.htm)  (1998–2012) |
| [Indiana Hospital Consumer Guide](http://www.in.gov/isdh/20624.htm) (1996) | [Indiana Marriage Report](http://www.in.gov/isdh/20687.htm) (1995, 1997-2004) |
| [Public Hospital Discharge Data](http://www.in.gov/isdh/20624.htm) (1999–2011) | [Indiana Infectious Disease Report](http://www.in.gov/isdh/20667.htm) (1997-2009) |
| [Assessment of Statewide Health Needs](http://www.in.gov/isdh/files/state_health_needs_2007.pdf) (2007) | [Indiana Maternal & Child Health Outcomes & Performance Measures](http://www.in.gov/isdh/23506.htm) (1989-1998 through 1999–2008) |

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| **HIV Disease Summary** | | | | |
| ***Information as of March 31, 2013\**** | | | | |
| ***HIV*** *-* ***without AIDS:*** | | | | |
| 419 | New HIV cases from January 1, 2012 thru March 31, 2013 | 12-month incidence | | 6.89 cases/100,000 | |
| 4,936 | Total HIV-positive, alive and without AIDS on March 31, 2013 | Point prevalence | | 81.18 cases/100,000 | |
| ***AIDS cases:*** | | | | |
| 356 | New AIDS cases from January 1, 2012 thru March 31, 2012 | 12-month incidence | 5.85 cases/100,000 | |
| 5,869 | Total AIDS cases, alive on March 31, 2013 | Point prevalence | 96.52 cases/100,000 | |
| 11,998 | Total AIDS cases, cumulative (alive and dead) on March 31, 2013 | | | |
| \*rates based on Indiana 2000 population | | | | |

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| **Reported cases of selected notifiable diseases** | | |
| **Disease** | **Cases Reported in**  **January - March** | |
| **2012\*** | **2013** |
| Animal Bites | N/A | 1,284 |
| Brucellosis | 0 | 0 |
| Campylobacteriosis | 153 | 56 |
| Chlamydia | 8,344 | 7,588\*\* |
| Cryptococcus | 19 | 11 |
| Cryptosporidiosis | 30 | 20 |
| Dengue | 0 | 1 |
| *E. coli*, shiga toxin-producing | 30 | 15 |
| Giardiasis | 82 | 34 |
| Gonorrhea | 1,956 | 1,916\*\* |
| *Haemophilus influenzae,* invasive | 44 | 32 |
| Hemolytic Uremic Syndrome (HUS) | 1 | 3 |
| Hepatitis A | 7 | 3 |
| Hepatitis B | 28 | 18 |
| Hepatitis C (acute) | 27 | 17 |
| Hepatitis D | 0 | 1 |
| Hepatitis E | 0 | 2 |
| Histoplasmosis | 47 | 23 |
| Influenza Deaths (all ages) | 2 | 58 |
| Legionellosis | 12 | 13 |
| Listeriosis | 4 | 1 |
| Lyme Disease | 3 | 2 |
| Malaria | 0 | 3 |
| Measles (rubeola) | 15 | 1 |
| Meningitis, other | 0 | 11 |
| Meningococcal, invasive | 1 | 5 |
| Mumps | 2 | 1 |
| Pertussis (Whooping Cough) | 67 | 72 |
| Rabies, Animal | 0 | 0 |
| Rocky Mountain Spotted Fever | 0 | 0 |
| Rubella | 0 | 0 |
| Salmonellosis | 139 | 93 |
| Shigellosis | 18 | 14 |
| Severe *Staphylococcous aureus* Infection in Previously Healthy Person | 12 | 0 |

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| **Reported cases of selected notifiable diseases (cont.)** | | |
| **Disease** | **Cases Reported in**  **January - March** | |
| **2012\*** | **2013** |
| Group A Streptococcus, invasive | 79 | 48 |
| Group B, Streptococcus,  Invasive (All ages) | 64 | 62 |
| *Streptococcus pneumoniae* (invasive, all ages) | 275 | 268 |
| *Streptococcus pneumoniae* (invasive, drug resistant) | 68 | 86 |
| *Streptococcus pneumoniae* (invasive, <5 years of age) | 12 | 8 |
| Syphilis (Primary and Secondary) | 48 | 51\*\* |
| Toxic Shock Syndrome, streptococcal (STSS) | 0 | 4 |
| Tuberculosis | 14 | 19 |
| Tularemia | 0 | 0 |
| Typhoid Fever | 0 | 3 |
| Typhus/Rickettsial disease | 0 | 0 |
| Varicella (Chickenpox, confirmed and probable) | 56 | 38 |
| Varicella (Hospitalization or Death) | 0 | 3 |
| Vibriosis (non-cholera Vibro species infections) | 3 | 1 |
| West Nile Virus neuroinvasive disease | 0 | 0 |
| Yersiniosis | 4 | 3 |
| *\**Cases reported January-April  \*\*Data are preliminary | | |
| **For information on reporting of communicable diseases in Indiana, call the *ERC Surveillance and Investigation Division* at 317.233.7125.** | | |

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| ISDH_Epidemiologybb_rdax_100.jpg  Indiana State Department of Health  Epidemiology Resource Center  2 North Meridian St., 5K  Indianapolis, IN 46204  317.233.7125  [epinewsletter@isdh.in.gov](mailto:epinewsletter@isdh.in.gov)  The *Indiana Epidemiology Newsletter* is published quarterly by the Indiana State Department of Health to provide epidemiologic information to Indiana health care professionals, public health officials and communities.  **FIND US ON THE WEB.**  C:\Users\kholzhau\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\O5S9KMS8\MC900431546[1].png  <http://www.in.gov/isdh/25154.htm> | Epi_Logo.png  *Editorial Staff*  Linda Stemnock, BSPH  Pam Pontones, MA  State Epidemiologist  *Design/Layout*  Kristy Holzhausen  *State Health Commissioner*  William C. VanNess II, MD  *Chief of Staff*  James Huston  *Assistant Commissioner*  James F. Howell, DVM, MPH, DACVPM    *Disease Reports*  Andrea Allen, MPH  Michelle Amar  Laura Gano, MPH  Dan Hillman, MPH  Ryan Ly, MPH  *Contributing Authors*  Linda Stemnock, BSPH  Karen S. Gordon, BA      *State Health Commissioner Editor*  William C. VanNess II MD Linda Stemnock, BSPH    *Chief of Staff Director, Data Analysis Team*  James Huston Gary Ordway, BA    *Assistant Commissioner Design/Layout*  James F. Howell, DVM, MPH, DACVPM Kristy Holzhausen    *Data Provider* *Surveys*  Centers for Disease Control and Prevention Clearwater Research, Inc. |
| **Social Media**  The Indiana State Health Department is on social media! Check out our social media pages for the latest health information, updates, event information and photos. Like us on Facebook at [www.facebook.com/ISDH1](http://www.facebook.com/ISDH1).  Follow us on Twitter [@StateHealthIN](https://twitter.com/statehealthin). [Watch videos on YouTube](http://www.youtube.com/INStateHealthDept).    Link. Log in. Learn. CDC Learning Connection (CDC LC) is a one-stop learning resource that can help increase public health knowledge and skills and meet professional development needs. CDC LC was created to increase access to quality public health learning.  **Features include…**   * Quality e-learning * A monthly spotlight on public health topics * CDC TRAIN, a dynamic public health learning management system (LMS) * Quick Learn lessons for mobile learning on the go   These features form a learning system that provides free access to products developed by CDC, CDC partners, and other organizations recognized for developing public health education and training resources. Although the CDC LC is intended for the public health community, it can be accessed by healthcare professionals and the general public.  CDC Learning Connect Logo | |