



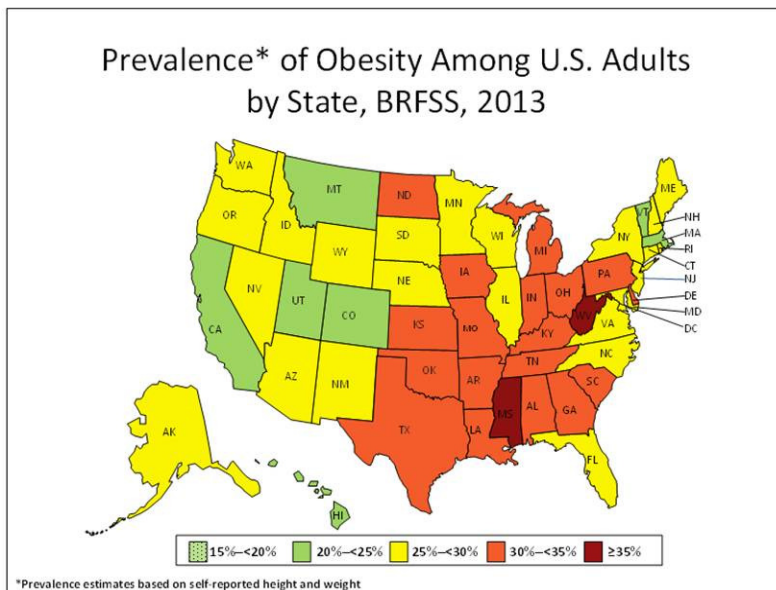
## Adult Obesity Results from the 2013 Indiana BRFSS

Linda Stemnock  
BRFSS Coordinator

There has been a dramatic increase in the prevalence of obesity during the past 20 years in the United States, with over one-third of adults considered to be obese, based on body mass index (BMI) of 30 or greater calculated from their height and weight. Although BMI correlates with the amount of body fat, BMI does not directly measure body fat. A number of conditions increase with being overweight or obese, including type 2 diabetes, cancer (breast, colon and endometrial), hypertension and stroke. The annual medical costs associated with obesity amount to \$147 billion (2008 dollars) (Centers for Disease Control and Prevention).

The prevalence of adult obesity varies by state, with Colorado (21.3%) having the lowest prevalence and Mississippi (35.1%) having the highest (Figure 1). Indiana's prevalence of 31.8% corresponded to a rank of 9<sup>th</sup> highest in 2013. Indiana's 2013 prevalence was not significantly different than 2011 (30.8%) or 2012 (31.4%).

Figure 1



Many health conditions are not reportable; hence, prevalence data must be obtained from another source. The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based system of health surveys created by the Centers for Disease Control and Prevention (CDC) in 1984 to gather information on the health of non-institutionalized adults ages 18 years and older.

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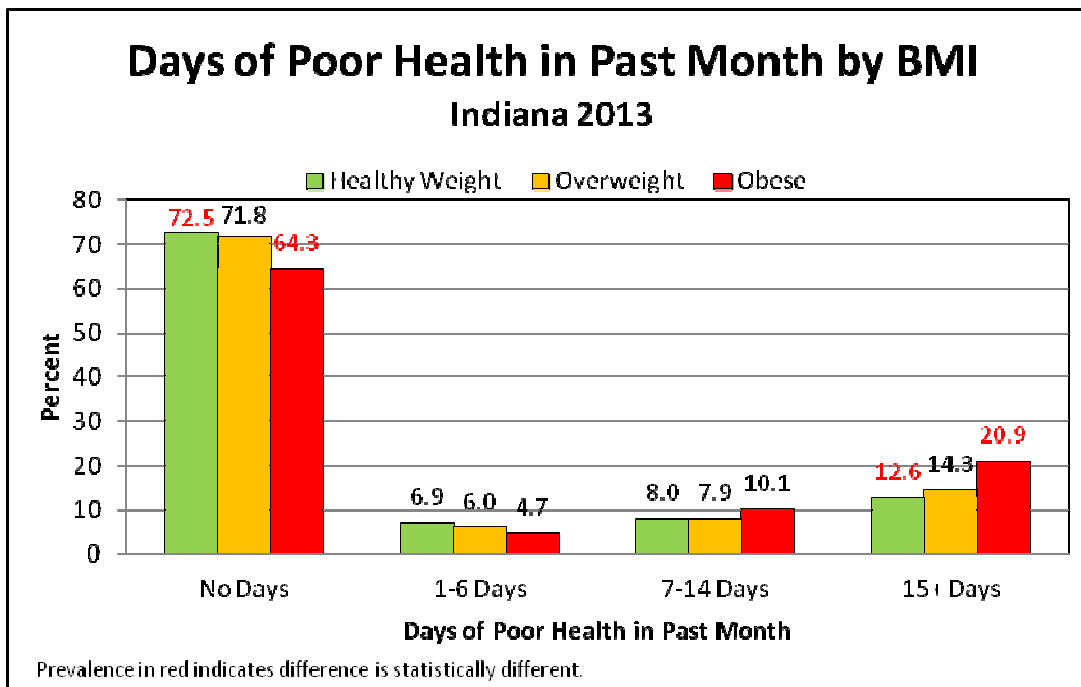
The BRFSS survey uses a complex sample design to randomly select respondents with either listed or unlisted landline and cell telephones. The BRFSS is an annual random digit-dial telephone survey conducted through a cooperative agreement with the CDC, and all states and the District of Columbia participate.

State health departments conduct the BRFSS surveys continuously through the year using a standardized core questionnaire and optional modules. The BRFSS is the sole source of state-level health risk factors, behaviors, and prevalence of certain chronic conditions. The BRFSS relies on self-reported data. This type of survey has certain limitations that should be understood when interpreting the data. Respondents have the tendency to underreport behaviors that may be considered socially unacceptable, such as smoking and driving after drinking alcohol. Conversely, respondents may overreport behaviors that are desirable, such as physical activity. The differences reported in this article are statistically significant ( $p < 0.05$ ) unless otherwise noted. The prevalence of healthy weight and obesity is obtained from self-reported height and weight. The prevalence of obesity is most likely underreported.

### Poor Mental/Physical Health

Respondents are asked to report their general health status, and the number of days in the past month that their physical and/or mental health kept them from doing their usual activities. Adults with a healthy BMI were more likely than adults who were obese to report good or better health status (87.4% vs. 73.2%, respectively). Adults with a healthy BMI were also more likely than adults who are obese to report no days of poor health and less likely to have 15 or more days of poor health in the past month (Figure 2).

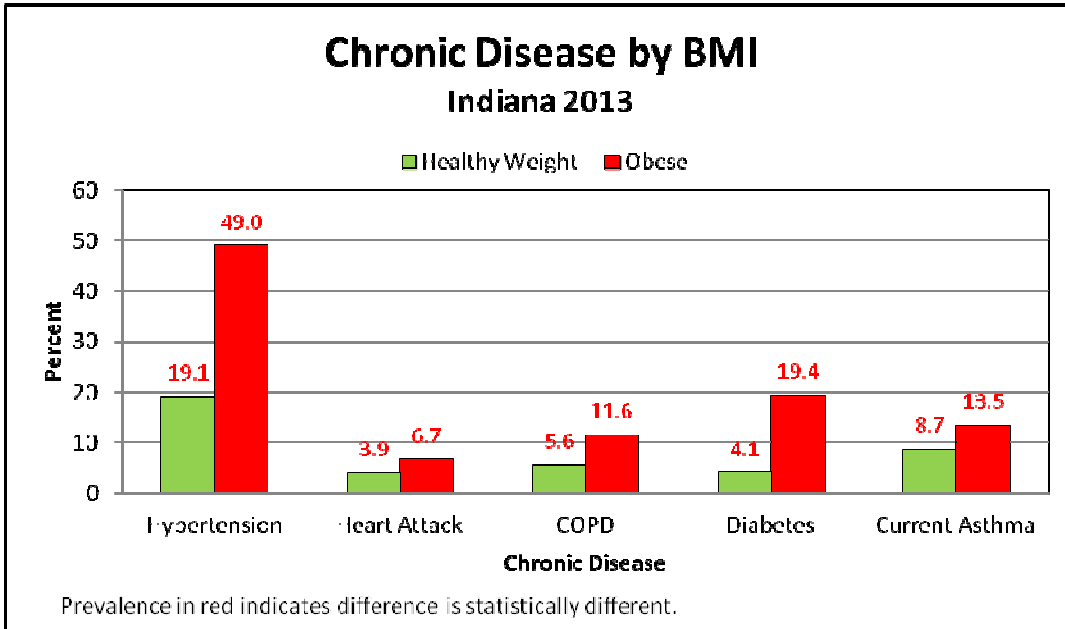
Figure 2



### Chronic Disease

Respondents are asked if they have ever been told by a doctor or health care provider that they have certain chronic diseases. Adults with a healthy BMI were more likely than those considered obese to report a lower prevalence of select chronic conditions (Figure 3).

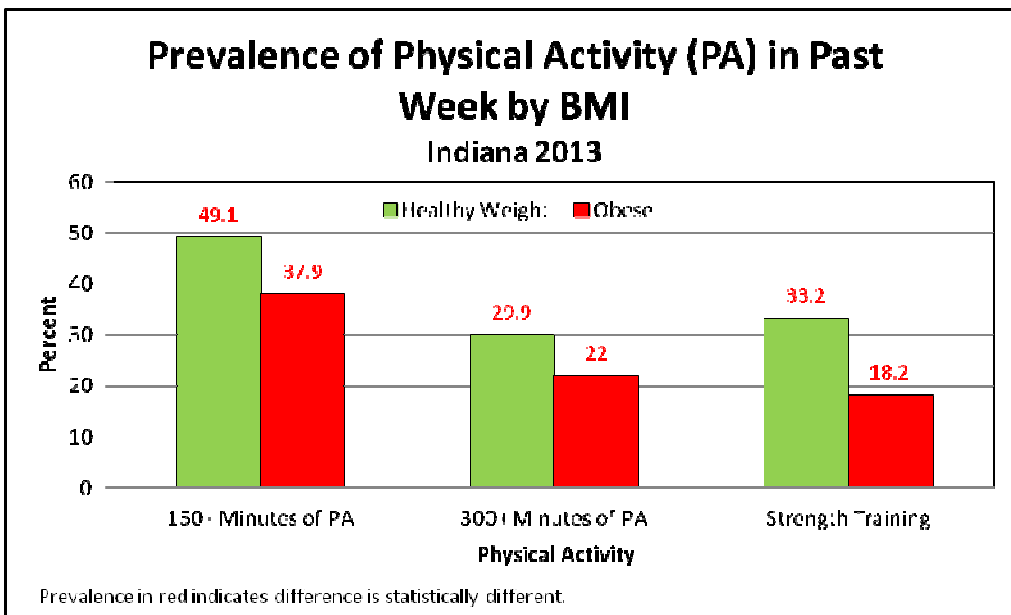
Figure 3



**Physical Activity**

Respondents were also asked about physical activity: type of activity (or activities) done, how often, and the duration. This information is used to categorize level of physical activity as well as whether the activity was moderate or vigorous in effort. Adults at a healthy weight were more likely than those considered obese to report a higher prevalence of physical activity (Figure 4).

Figure 4



Even a modest weight loss (5-10 percent of your body weight) is likely to produce health benefits that include reducing blood pressure and blood sugars (National Heart Lung and Blood Institute). For additional information on Indiana’s strategic public health efforts to prevent and decrease overweight and obesity through policy and environmental changes, please visit the Indiana Healthy Weight Initiative at [www.in.gov/isdh/25140.htm](http://www.in.gov/isdh/25140.htm).



## Backyard Poultry Popularity and Public Health Concerns

Jill Stauffer

Field & Epidemiologist

Raising live poultry in the backyard has become increasingly popular over the past few years. More people are enjoying the benefits of fresh eggs and find their small flocks to be educational and entertaining. The benefits of raising poultry do not come without some risk of illness. Poultry owners need to be aware that their flocks can carry organisms that can make them sick. Handling the live poultry or anything that has been in the area where they live and roam, could pose some risk if the flock is not safely managed. In recent years, several poultry associated *Salmonella* outbreaks have been reported that are associated with live poultry.

It is estimated that *Salmonella* bacteria cause 1.2 million illnesses, 19,000 hospitalizations, and 370 deaths in the United States every year. Although a majority of these illnesses are foodborne, 11% are attributed to live animal exposures. *Salmonella* is found in the intestinal tract of many animals including poultry.



Human *Salmonella* infections can be acquired by both direct and indirect contact with an infected animal. Direct contact transmission can occur through handling the animal and coming in contact with its waste. Indirect contact can occur from contact with anything in the areas where the poultry live and roam, or by eating food prepared in contaminated environments.

It is common for live poultry to carry *Salmonella*. The *Salmonella* bacteria can naturally live in the intestines of poultry and many other animals. Poultry can appear healthy and still intermittently shed the bacteria causing human illness. Consequently, birds in a seemingly healthy looking flock could be shedding harmful bacteria.

In humans, the incubation period for *Salmonella* infection is 12-72 hours and the duration of illness is usually four to seven days. Symptoms are typically an acute uncomplicated gastroenteritis. However, children less than 5 years old, the elderly, and immunocompromised individuals are at a higher risk for serious illness. *Salmonella* can be excreted for weeks after human illness. Antibiotic treatment does not reduce symptoms and could prolong shedding.

In recent years, numerous outbreaks of human *Salmonella* infections have been investigated and linked to contact with live poultry in both the household and public settings. Even though the public has a general awareness of the association of *Salmonella* infections and handling raw poultry, they are not as aware of the risk of infection between raising live poultry and humans. The increasing popularity in ownership of backyard flocks has likely contributed to the rise in live poultry associated *Salmonella* illnesses in the United States.

Numerous *Salmonella* outbreaks have associated human infections after contact with chicks. From 1996 to 2012, there were 45 documented outbreaks of human *Salmonella* infections linked to live poultry, resulting in more than 1,581 illnesses, 221 hospitalizations, and 5 deaths. Because only a portion of *Salmonella* infections are diagnosed and reported, many more infections likely occurred in association with these outbreaks.

Historically, these outbreaks involved chicks purchased as pets for young children in the spring months around Easter. Currently public health officials are seeing outbreaks linked to backyard poultry flocks. These outbreaks are occurring year-round with peaks in the spring. Illnesses occur in the adult poultry caretakers and in their children. The first backyard flock that was recognized in a multistate outbreak was in 2007. Since that time

the popularity of backyard flocks has increased dramatically and is on the rise in rural as well as suburban and urban areas.

Some human behaviors have been attributed to illness in outbreak investigations. Young chicks have been brought into the home to keep warm, watering dishes were washed in the kitchen sink, and even some reported kissing or snuggling with poultry.

The backyard poultry owner will typically purchase their small quantities of chicks from an agricultural feed store. The feed stores will purchase large quantities of chicks from the mail-order hatchery industry. Disease can be introduced and spread within the feed store if displays are not properly cleaned between adding new birds or by mixing batches of chicks. Public health and animal health officials should distribute information annually to feed stores about the safe handling of poultry. Education information to consumers should also be displayed.

Raising poultry can be an entertaining and rewarding act for individuals and families. Even though interactions with animals have proven benefits, the risks associated with poultry contact and their environments exist. Information gathered from outbreak investigations indicate that consumers are often unaware of the risks of *Salmonella* and raising live poultry and are not adequately informed at the time of purchase. Precautions are necessary to keep it a health activity at all levels from the hatchery to the home to reduce the risk of all diseases associated with raising backyard poultry.

Backyard poultry owners can take these steps to reduce risks of infection:

- Wash hands with soap and water after touching live poultry or anything in the area where they live and roam. Hand sanitizer can be used when soap and water are unavailable.
- Adults should supervise young children when around poultry.
- Do not allow live poultry to be kept inside the house or outside in areas where food is prepared or served.
- Children under 5 years, older adults, or immune compromised individuals should not handle live poultry.
- It is important not to snuggle or kiss or eat or drink around live poultry.
- All equipment used to feed, water and house the birds should be cleaned and disinfected regularly.
- Surfaces in the home such as tables, sinks, floors and rugs that come in contact with live poultry waste have potential to be contaminated with *Salmonella* and should be cleaned and disinfected.

Mail-order hatcheries, agricultural feed stores and others that sell or display live poultry can take these steps to reduce transmission of *Salmonella* infections:

- Provide educational information to potential buyers on the risk of *Salmonella* and contact with live poultry.
- Mail-order hatcheries and agricultural feed stores should implement interventions to prevent contamination and infection of poultry with *Salmonella*.
- Display disease risk information and hand washing signs near areas where birds are displayed for sale.
- Provide hand washing stations in the display area.
- Display poultry so customers do not have direct contact with the birds.

## References

1. Scallan E, Hoekstra R, Angulo F, et al. Foodborne illness acquired in the United States—major pathogens. *Emerg Infect Dis* 2011; 17:7-15.
2. Behravesh, C. B. (2014, May 15). Backyard Poultry Flocks and Salmonellosis: A Recurring, Yet Preventable Public Health Challenge. *Food Safety*, pp. 1432-1438.
3. Centers for Disease Control and Prevention, (April 2013). *Multistate outbreak of human Salmonella infections linked to live poultry*.
4. Centers for Disease Control and Prevention, (April 2014). *Healthy Pets Healthy People, Backyard Poultry*.
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## Field Epidemiology in Indiana

Donna Allen

Field 1 Epidemiologist

**Background:** In 2003, the Indiana State Department of Health (ISDH) hired nine Field Epidemiologists (Field Epis) to work throughout the state in each preparedness district (1 through 10). One epidemiologist covered districts 7 & 8 until a few years later when a tenth Field Epi was hired. The staff hired had a wide range of experience in various health-related fields, which included: immunizations, environmental practices, policy development, STD/HIV and military health care. Overall they represented 169 years of public health experience. **Figure One** is the current map of ISDH Field Epis. Originally, the Field Epi staff also served as Preparedness Coordinators for their districts. This was taken over by the ISDH Public Health Preparedness Division eventually.

**Role of the ISDH Field Epidemiologist:** The responsibilities of the Field Epis have changed slightly over the years. Their presence in the field makes them a valuable asset for many responsibilities which may require immediate assistance, such as staffing flood recovery sites or transporting lab samples to the ISDH laboratories. However, the main focus has remained the same, which is to provide rapid on-site assistance within their districts to local health departments, health care providers, schools, and others. Also, they share information with the support epidemiologists located at the state office, who may contact the Center for Disease Control and Prevention as needed to provide local public health partners with pertinent and timely disease information.

Some of the main activities of the field staff include:

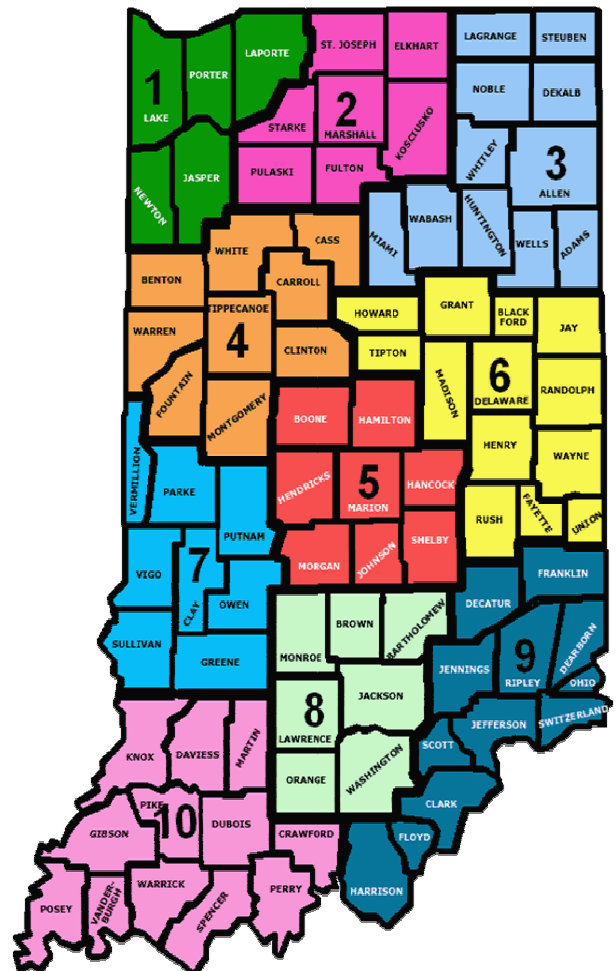
1. Providing rapid on-site assistance during outbreak situations, assisting local health partners and the state staff epidemiologists with gathering information to first verify the existence of an outbreak and then determine the cause, develop preventative measures and track all possible contacts. The ISDH Field Epis assist as needed with all long term care outbreaks and many enteric outbreaks. Outbreak investigations can be laborious and intensive requiring many local health partners to be involved or they can be as simple as one phone call. Some of the major outbreaks that the field staff assisted with are listed in **Table One**.



2. Assisting local health partners with reportable disease issues: surveillance, timely control measures and accurate disease data analysis. The field staff has the opportunity to meet many local partners which builds trust, cooperation and increased timeliness in reporting of suspected disease issues.
3. Serving as a liaison between ISDH and local partners. Communication is essential and works both ways. Provide education at the local level as requested and maintain knowledge of epidemiological methods and emerging infectious diseases. Local partners include: schools, daycares, nursing homes, over 160 hospitals, 93 health departments, correctional facilities, animal control personnel, county extension offices, Department of Natural Resources, physician offices, clinics, government officials, and preparedness personnel.
4. Supporting and training on the state electronic disease reporting system (INEDSS), this is used by 134 hospitals and 91 local health depts. Following-up on syndromic disease alerts collected from emergency rooms and major pharmacy chains.
5. Investigating most of the vaccine preventable diseases, whether they are confirmed cases or not. This includes gathering information: demographic data, immunization history, clinical symptoms, treatments, lab results and identifying possible contacts that may need prophylaxis. Education is an important part of the investigation; making sure control measures such as restrictions, exclusions, immunizations, and proper hygiene measures are implemented to control any further spread of the disease.

**Figure One: Current Field Epidemiologists**

District #	Name	Phone #
1	Donna Allen	317-430-3844
2	Dawn McDevitt	317-439-9648
3	Ericka Pitcher	317-412-2137
4	Susan Pickerill	317-508-1675
5	Ali Snively	317-430-3848
6	Vacant	
7	Lindsay Joy	317-697-8683
8	Jill Stauffer	317-605-6829
9	Jim Ignaut	317-412-2138
10	Karen Gordon	317-430-3852



**Table One: Major Outbreaks**

Year	Outbreak Description	Year	Outbreak Description
2003	Monkey Pox	2012	H3N2v outbreak at county/state fairs
2004/2012	Hepatitis A in food worker	2012-2013	Fungal meningitis
2005/2011/2012	Measles	2012	Salmonella in cantaloupe
2006	Norovirus, multistate riverboat cruise,	2012	Lymphocytic Choriomeningitis at a rodent breeding facility
2007	Eczema vaccinatum in child and mother	2012	Large county wide school outbreak of varicella
2007	Botulism due to hot dog chili sauce, later recalled	2013	Typhoid fever at a university
2008	Salmonella Typhimurium due to peanut butter recall	2013	Rubella in a university camp attendee
2009	H1N1 pandemic	2014	Enterovirus D68
2012	Primary Amebic Meningoencephalitis	2014	MERS , first case in the U.S.

**Conclusion:** In the book Field Epidemiology, Michael B. Gregg states, “Field Epidemiology involves the application of epidemiologic methods to unexpected health problems when a rapid on site investigation is necessary for timely interventions.” The ISDH Field Epis try to exemplify this in their responsibilities while realizing that to achieve this goal, a good working relationship with many collaborative partners at the local, state and federal levels is required.

**References:**

1. Field Epidemiology, Michael B Gregg, 2<sup>nd</sup> Edition, 2002.
2. Past issues of the ISDH Epidemiology Newsletter, <http://www.in.gov/isdh/17458.htm>



## ISDH Data Reports

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

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

<a href="#">HIV/STD/Viral Hepatitis Semi-Annual Report</a> (June 2007 - December 2013)	<a href="#">Indiana Mortality Report</a> (1999–2013)
<a href="#">Indiana Cancer Reports:</a> Incidence; Mortality; Facts & Figures	<a href="#">Indiana Linked Infant Birth/Death Report</a> (1999, 2002, 1990-2003)
<a href="#">Indiana Health Behavior Risk Factors Report</a> (1999–2013)	<a href="#">Indiana Natality Report</a> (1998–2013)
<a href="#">Indiana Health Behavior Risk Factors</a> <a href="#">(BRFSS) Newsletter</a> (2003–2014)	<a href="#">Indiana Induced Termination of Pregnancy Report</a> (1998–2013)
<a href="#">Indiana Hospital Consumer Guide</a> (1996)	<a href="#">Indiana Marriage Report</a> (1995, 1997-2004)
<a href="#">Public Hospital Discharge Data</a> (1999–2013)	<a href="#">Indiana Infectious Disease Report</a> (1997-2012)
<a href="#">Assessment of Statewide Health Needs</a> (2007)	<a href="#">Indiana Maternal &amp; Child Health Outcomes &amp; Performance Measures</a> (1989-1998 through 2002–2011)

## HIV Disease Summary

**Information as of December 31, 2014 based on 2014 population of 6,596,855**

### **HIV - without AIDS:**

88	New HIV cases from October 1, 2014 thru December 31, 2014	3-month incidence	1.33 cases/100,000
5,388	Total HIV-positive, alive and without AIDS on December 31, 2014	Point prevalence	81.67 cases/100,000

### **AIDS cases:**

61	New AIDS cases from October 1, 2014 thru December 31, 2014	3-month incidence	0.92 cases/100,000
6,180	Total AIDS cases, alive on December 31, 2014	Point prevalence	93.68 cases/100,000
12,593	Total AIDS cases, cumulative (alive and dead) on December 31, 2014		

Reported cases of selected notifiable diseases				
Disease	Cases Reported in October-December MMWR Weeks 40-52		Cases Reported in January – December MMWR Weeks 1-52	
	2013	2014	2013	2014
<b>Arbovirus:</b>				
California serogroup (La Crosse) encephalitis virus	0	0	1	0
Chikungunya virus	0	0	0	0
Dengue virus	0	0	1	1
Eastern equine encephalitis virus	0	0	0	0
St. Louis encephalitis virus	0	0	0	0
West Nile Virus	0	0	7	1
Animal Bites	1,266	1,019	6,727	6,511
Brucellosis	0	0	1	0
Campylobacteriosis	121	85	565	484
Chlamydia	6,461	7,677	28,023	28,333
Cryptococcus neoformans	6	10	33	26
Cryptosporidiosis	33	21	108	84
Cyclosporiasis	1	0	1	1
<i>E. coli</i> , shiga toxin-producing	29	7	115	102
Ehrlichiosis	0	1	22	28
Giardiasis	47	22	203	149
Gonorrhea	1,329	1,981	7,144	7,251
<i>Haemophilus influenzae</i> , invasive	37	25	140	94
Hansen's Diseases (Leprosy)	0	0	1	0
Hemolytic Uremic Syndrome (HUS)	4	0	9	6
Hepatitis A	7	2	32	18
Hepatitis B (acute)	27	1	104	79
Hepatitis B, infant born to HBsAG-positive mother	0	0	3	0
Hepatitis C (acute)	34	0	140	79
Hepatitis D	0	0	2	2
Hepatitis E	1	0	4	1
Histoplasmosis	30	15	94	79
Influenza Deaths (all ages)	7	35	69	94
Legionellosis	13	28	91	125
Listeriosis	4	3	11	6
Lyme Disease	10	4	101	92
Malaria	6	0	20	18
Measles (rubeola)	0	0	2	1
Meningitis, other	1	1	21	10
Meningococcal, invasive	0	0	14	4

<b>Reported cases of selected notifiable diseases (cont.)</b>				
<b>Diseases</b>	<b>Cases Reported in October - December</b>		<b>Cases Reported in January - December</b>	
	<b>2013</b>	<b>2014*</b>	<b>2013</b>	<b>2014*</b>
Mumps	2	0	4	26
Pertussis (Whooping Cough)	258	90	622	452
Rabies, Animal	0	0	10	4
Rocky Mountain Spotted Fever	1	0	2	0
Salmonellosis	151	53	703	640
Shigellosis	37	278	115	1,195
Severe <i>Staphylococcus aureus</i> Infection in Previously Healthy Person	1	0	21	9
Group A Streptococcus, invasive	41	34	162	204
Group B, Streptococcus, Invasive (All ages)	97	66	381	367
Group B, Streptococcus, invasive Newborn	10	4	30	34
<i>Streptococcus pneumoniae</i> (invasive, all ages)	192	80	724	490
<i>Streptococcus pneumoniae</i> (invasive, <5 years of age)	10	6	35	27
Syphilis (Primary and Secondary)	30	47	215	164
Toxic Shock Syndrome, streptococcal (STSS)	3	1	12	11
Tuberculosis	20	35	94	108
Tularemia	0	0	2	1
Typhoid Fever	1	0	4	5
Typhus/Rickettsial disease	0	0	0	0
Varicella (Chickenpox, confirmed and probable)	13	2	94	57
Varicella (Hospitalization or Death)	0	1	6	13
Vibriosis (non-cholera Vibro species infections)	0	1	9	6
Yersiniosis	1	0	6	13
*Provisional				
<b>For information on reporting of communicable diseases in Indiana, call the <i>ERC Surveillance and Investigation Division</i> at 317.233.7125.</b>				



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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.

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<http://www.in.gov/isdh/25154.htm>



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## FastStats



Responding to the needs of an increasingly mobile public health community, The National Center for Health Statistics (NCHS) has launched its first-ever mobile app, FastStats, that provides on-the-go access to current statistics on topics of public health importance.

FastStats for iOS puts access to topic-specific NCHS content at the fingertips of health care providers and clinicians. Topics include diseases and conditions, injuries, life stages and populations, health care and insurance, and birth and mortality data for each U.S. state and territory. Content is updated automatically when the device is connected to the internet, giving the user the most up-to-date health statistics available.

FastStats incorporates the latest innovations in mobile app development. It is optimized to give users the ability to personalize their mobile experience, including highlighting, annotations, and bookmarks. Users can also share their data discoveries with colleagues through social media such as Facebook and Twitter.

FastStats is the first mobile application to be released by NCHS. It is currently available from Apple's App Store for iOS 6.0 and later. An Android version is currently in development.