

February 1, 2012

A summary of incidence and information about infectious disease in the State of Illinois produced by the Communicable Disease Control Section of the Illinois Department of Public Health

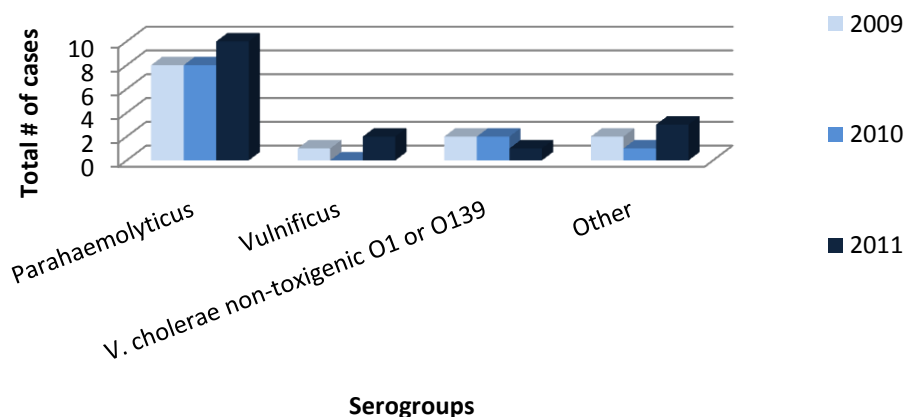
Infectious Disease in Review

Vibriosis: Definitely Not a Good Vibration

The Basic Facts about Vibriosis

Vibriosis is an illness caused by a group of bacteria in the family *Vibrionaceae*. Pioneer microbiologists claimed these bacteria seemed to vibrate, hence their name *Vibrio*. Perhaps the most notorious species is *Vibrio cholerae*, the bacteria causing the disease cholera. In 1849, the English investigator John Snow successfully linked cholera to water consumption in London. This discovery launched epidemiology as a reputable science. Cholera is an acute, diarrheal illness caused by infection of the intestine with the bacterium *Vibrio cholerae*. The infection is often mild or without symptoms, but can sometimes be severe. Approximately 5% of infected persons will have severe disease characterized by profuse watery diarrhea, vomiting, and leg cramps. In these people, rapid loss of body fluids leads to dehydration and shock. Without treatment, death can occur within hours. In the United States *V. cholerae* is very rare due to modern water treatment techniques. In 2011, one case of *V. cholerae* was reported in a Cook County woman who had recently traveled to the country of Benin in Africa.

Vibriosis 2009-2011



In Illinois, non-cholera *Vibrio* cases are entered into I-NEDSS as Vibriosis. The most commonly seen species of *Vibrio* in Illinois include *parahaemolyticus*, *vulnificus*, and *V. cholerae non-toxigenic O1 or O139* (see chart above). Most people become infected by eating raw or undercooked shellfish, particularly

In 1993, PFGE was used in a large outbreak of *E. coli* O157:H7 in the Northwest US related to a chain of fast food restaurants. The use of PFGE definitively linked cases to restaurant food, and this success led to the creation of PulseNet.

oysters. Less commonly, this organism can cause an infection in the skin when an open wound is exposed to warm seawater. *Vibrio* organisms can be isolated from cultures of stool, wound, or blood. When ingested, *Vibrio* causes watery diarrhea often with abdominal cramping, nausea, vomiting, fever and chills. Usually these symptoms occur within 24 hours of ingestion. During 2011, 16 cases of Vibriosis were reported in Illinois. The species identified for 2011 include *V. parahaemolyticus* (10 cases), *V. vulnificus* (2), *V. damsela* (1), *V. cholerae* non-toxicogenic O1 (1), and unspecified (2). Jurisdictions reporting cases include: Chicago (3), Christian, (1), Cook (6), Du Page (3), Madison (1), McLean (1), and Will (1).

Vibriosis and *V. cholerae* cases are one of the few diseases that still require a CDC form to be filled out while completing the investigation. The "Cholera and Other Vibrio Illness Surveillance Report" (COVIS) form is required and should be filled out on all cases. Information from this form has been used by CDC, FDA, and other government partners to identify contaminated shellfish in the past. Once completed, please fax this form to the IDPH Communicable Disease Control Section (attention Nicole Gualandi.)

Enhanced Pattern Recognition

PFGE Results in I-NEDSS

Recently, the results of PFGE (Pulsed Field Gel Electrophoresis) testing performed by the IDPH Laboratory Molecular Section are available in the I-NEDSS Lab/Provider Reporting system. PFGE testing breaks down DNA of an organism by applying an electric field, which produces a visible pattern. This leads to the ability to distinguish between many strains of the same organism that can make it easier to trace clusters of disease which, in turn, may lead to the detection of outbreaks. A typical result is Xba1 JJPX01.0617, with Xba1 being the restricting enzyme used to perform the test and a name assigned by PulseNet, a national network of laboratory databases and laboratory technicians. The pattern "*" indicates that the pattern does not match any known pattern, and that a name may be assigned later. In I-NEDSS, these results are to be handled in the same manner as other lab results, by importing the laboratory record into an I-NEDSS case record.

Special Handling for HIV/AIDS Information

HIV/AIDS Information Has No Place in I-NEDSS

IDPH staff has found I-NEDSS records for communicable diseases that have notations in the record comments indicating that the case is positive for HIV or AIDS. While I-NEDSS does manage data for most communicable diseases, HIV/AIDS is an exception. At IDPH, as mandated by administrative rules, electronic records of HIV/AIDS cases are strictly confidential and accessible to only HIV/AIDS Surveillance staff. As a result, rather than listing HIV or AIDS in the I-NEDSS record for any disease as an underlying illness/condition; we request that health care providers and local health departments enter "Yes" in the "Immunosuppressed" field in the symptoms section, but not specifically state that the patient is HIV positive or has AIDS anywhere in the record.

and all cases recovered without complication. This cluster was unique as no bat or bird roosting dwellings were found. Additionally, there was no soil disturbance in the restoration effort and all cases worked exclusively indoors.

The second cluster occurred at a state facility and involved 2 acute cases and 2 cases with evidence of previous infection. Symptoms varied across the four cases and there was one fatality.

The prompt reporting of histoplasmosis cases can result in the identification of clusters. In response, public health action can be taken to decrease the risk of further histoplasmosis infection in these situations.

Trust, but Verify

Verify the Diagnosis

In this era of rapid communication, the public health community can receive notification of infectious disease more quickly than ever before. Unfortunately, errors or misunderstandings can be transmitted faster too. So, before proceeding with urgent control measures, it is helpful to confirm the diagnosis.

Abbreviations can mean one thing to someone, but another thing entirely to someone else. The IDPH CD Section once received notification of a case of Congo-Crimean Hemorrhagic Fever, a very serious condition which would lead to intense infection control measures. Tracing back to the original reporter led to the discovery that the doctor had written CHF as the diagnosis, meaning Congestive Heart Failure. However, when staff entered the record into a database, CHF was converted to Crimean Hemorrhagic Fever setting into motion the notification of public health authorities.

Serotypes can make all the difference. In the late 1980's, when *Salmonella enteritidis* was first identified from whole intact eggs, PFGE testing and electronic reporting were nonexistent. Laboratories would report the Genus, Species and Serotype which would translate to Salmonella (Genus), Enteritidis (Species) and (Serotype) Enteritidis or Salmonella Enteritidis serotype Typhimurium etc.

The day before a long holiday weekend, the IDPH Lab called to report a higher than normal number of *Salmonella enteritidis* cases in east central Illinois. Local health departments and IDPH CD staff changed holiday plans and began gearing up to investigate another possible egg associated *Salmonella* outbreak and were ready to search for common factors among cases.

As the investigation continued over the weekend, no common exposure was found among the reported cases. On the Tuesday following the holiday, staff gathered to develop a new plan for the investigation. Later that day, written lab reports were received and it became apparent that during the initial phone report from the lab the Genus and Species were reported but not the serotype because it was not yet completed.

Some of the confusion with Salmonella stems from the fact that a serotype can be referred to by a short name such as Salmonella Typhi, or by a long name Salmonella enterica enterica, serovar Typhi.

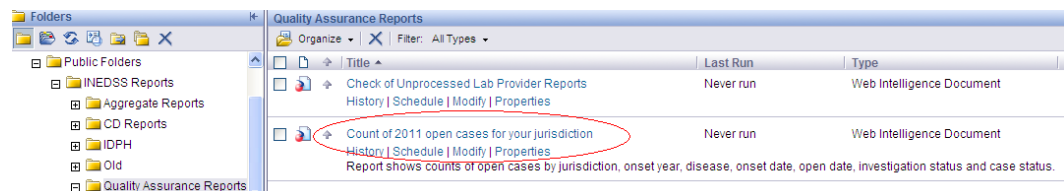
Much to everyone's surprise, all of the serotypes were different so this meant that much effort had been expended on a pseudo-outbreak on a holiday weekend. All of this work, a result of the diagnosis not being verified.

Similar sounding organism names can lead to confusion. IDPH staff has received several reports of Shigellosis cases that upon further scrutiny were not a reportable condition at all. The lab result indicated that the specimen was *Plesiomonas shigelloides*. While the word shigelloides is very similar to *Shigella*, they are two entirely different organisms.

Time to Start Closing the Door on 2011

I-NEDSS Report Can Help Identify Open 2011 Cases

IDPH CD staff is in the process of closing out all 2011 cases and preparing the year's final CDC report. It is extremely important that all 2011 cases in I-NEDSS be closed out as rapidly as possible. In I-NEDSS, you will find all opened cases in your health department's My Cases. However, it may be difficult to identify the 2011 cases from the new 2012 cases if you are a large local health department. To identify opened 2011 cases, you can run a canned report in the I-NEDSS AVR set to show all opened cases. To run this report, click on the Reports tab found on the top of all I-NEDSS pages, and then go into the Public Folders. You'll find the report, "Count of 2011 open cases for your jurisdiction" within I-NEDSS Reports/Quality Assurance Reports (see below). The second tab in the report includes a hyperlink that will open the I-NEDSS case.



In past years, IDPH has also needed to remind health departments to process past year Lab & Provider Reports. However, thanks to your hard work and excellent performance last year, this is not needed. In fact, the mean and median for processing Lab and Provider Reports in 2011 were both 0 days for Class 1a and 1b diseases.

Of course, if any 2011 cases have not yet been entered into I-NEDSS, that should be done and the cases closed out as soon as possible.

IDPH staff would like to thank all I-NEDSS users for all of your efforts, as the work of disease surveillance could not function without you. Keep up the great work in 2012!

Epidemiology of Infectious Diseases

| | 2010 | | | | | 2011* | | | | | | |
|----------------------------------|---------|---------|---------|---------|------|---------|---------|---------|---------|--------------|------|----------------|
| | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec | Year | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec | Qtr % diff.# | Year | Year % diff.** |
| Brucellosis | 0 | 0 | 1 | 0 | 1 | 1 | 5 | 0 | 2 | --- | 8 | 700% |
| Cryptosporidiosis | 46 | 49 | 189 | 50 | 334 | 30 | 47 | 106 | 36 | -28% | 219 | -34% |
| Ehrlichiosis / Anaplasmosis | 0 | 12 | 11 | 5 | 28 | 3 | 11 | 22 | 2 | -60% | 38 | 36% |
| Giardiasis | 169 | 163 | 236 | 123 | 691 | 143 | 130 | 217 | 105 | -15% | 595 | -14% |
| Hepatitis A | 13 | 10 | 19 | 6 | 48 | 12 | 12 | 26 | 24 | 300% | 74 | 54% |
| Hep C Acute | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 4 | 1 | 0% | 8 | 700% |
| Histoplasmosis | 36 | 29 | 17 | 34 | 116 | 32 | 33 | 38 | 39 | 15% | 142 | 22% |
| Legionella | 14 | 49 | 68 | 18 | 149 | 12 | 19 | 68 | 39 | 117% | 138 | -7% |
| Listeriosis | 5 | 3 | 11 | 7 | 26 | 5 | 5 | 20 | 6 | -14% | 36 | 38% |
| Lyme Disease | 6 | 60 | 57 | 12 | 135 | 9 | 69 | 100 | 10 | -17% | 188 | 39% |
| Malaria | 9 | 14 | 29 | 8 | 60 | 11 | 19 | 23 | 12 | 50% | 65 | 8% |
| Neisseria meningitidis, Invasive | 7 | 10 | 2 | 5 | 24 | 10 | 6 | 7 | 12 | 140% | 35 | 46% |
| Q Fever | 2 | 2 | 1 | 1 | 6 | 0 | 3 | 0 | 1 | 0% | 4 | -33% |
| Rabies- positive animals | 1 | 31 | 77 | 6 | 115 | 4 | 12 | 30 | 5 | -17% | 51 | -56% |
| Rabies- potential human exposure | 38 | 104 | 218 | 58 | 418 | 45 | 101 | 181 | 64 | 10% | 391 | -6% |
| Rocky Mountain Spotted Fever | 0 | 17 | 18 | 2 | 37 | 7 | 40 | 38 | 8 | 300% | 93 | 151% |
| Salmonellosis | 275 | 650 | 670 | 387 | 1982 | 242 | 485 | 644 | 315 | -19% | 1686 | -15% |
| STEC O157:H7 | 8 | 19 | 34 | 19 | 80 | 7 | 26 | 67 | 26 | 37% | 126 | 58% |
| Shigellosis | 473 | 122 | 145 | 101 | 841 | 54 | 38 | 113 | 55 | -46% | 260 | -69% |
| Streptococcus, Group A, invasive | 92 | 78 | 47 | 76 | 293 | 146 | 101 | 57 | 71 | -7% | 375 | 28% |
| Typhoid Fever | 8 | 0 | 11 | 1 | 20 | 7 | 4 | 10 | 7 | 600% | 28 | 40% |
| Vibrio spp. Non-cholera | 1 | 2 | 9 | 1 | 13 | 1 | 2 | 10 | 2 | 100% | 15 | 15% |
| Yersiniosis | 7 | 6 | 2 | 7 | 22 | 3 | 4 | 2 | 6 | -14% | 15 | -32% |
| West Nile Virus Infection (WNV) | 0 | 0 | 58 | 3 | 61 | 0 | 0 | 33 | 1 | -67% | 34 | -44% |

| | | | | | | | | | | | | |
|------------------------------|-----------|-----------|-----------|------------|------------|-----------|-----------|-----------|-----------|-------------|------------|-------------|
| OUTBREAKS[^] | 83 | 33 | 44 | 144 | 304 | 86 | 29 | 49 | 88 | -39% | 252 | -17% |
| Foodborne Outbreaks | 18 | 20 | 12 | 20 | 70 | 13 | 11 | 16 | 19 | -5% | 59 | -16% |
| Waterborne Outbreaks | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 1 | 0 | --- | 1 | -80% |
| Person-to-person Outbreaks | 61 | 12 | 25 | 133 | 231 | 65 | 15 | 22 | 63 | -53% | 165 | -29% |

Not all reportable diseases are contained in this table.

*2011 data are provisional and subject to change.

#Change from the same quarter of the previous year.

[^] Total number of outbreaks includes those with unknown mode of transmission.

Highlights October to December 2011

- **Brucellosis** – Two cases of *Brucella* were reported in the fourth quarter of 2011. The first case was in an adult female from Ogle County who had been to Mexico several months prior to illness onset but did not report consuming unpasteurized dairy products. She had a serum which was sent to CDC and tested positive for *Brucella* by agglutination. The second case in an adult male from Will County who was born in Mexico was confirmed as *B. melitensis*. The patient had not traveled in the past year and onset was in December.
- **Cryptosporidiosis** – There were 8 confirmed and 28 probable cases reported in the fourth quarter. The cases had onsets in October (17), November (11) and December (eight). Ages ranged from less than one to 84 years (mean age = 36 years). There were 17 female and 19 male cases. Cases resided in 21 counties with Montgomery County (5 cases) and Cook County (4 cases) reporting the most cases. Fourteen of the cases were hospitalized. One cluster was reported in 2011 including one case in the fourth quarter in students who handled calves.
- **Ehrlichia/Anaplasma** – There were two cases of ehrlichioses reported in the fourth quarter of 2011. Both were reported cases of *Ehrlichia chaffeensis* infection with ages in the late 50's to mid 60's. Both cases had onsets in October and both were males. Cases resided in the counties of Marion and Saline.
- **Hepatitis A** - There were 24 cases reported in the fourth quarter (October - five, November - seven, and December - twelve). Twelve cases were male and twelve were female. Ages ranged from one to eighty years of age (mean = 30 years). Cases resided in the following jurisdictions: Chicago (16), Cook (1), DuPage (4), Fayette (1), St. Clair (1), and Winnebago (1). Ten cases were hospitalized.
- **Giardiasis** - There were 105 giardia cases in the 4th quarter (October - 48, November - 33, and December - 24). Two were hospitalized. Ages ranged from younger than one year to 86 years of age and the median is 38. Forty-nine were female and fifty-six were male. Cases resided in Adams (1), Bureau (1), Champaign (6), Cook(41), DeKalb (2), Douglas (1), DuPage (13), Effingham (2), Kane (10), Kendall (1), Knox (1), Lake (2), LaSalle (1), Logan (1), Macoupin (1), Madison (2), Marshall (1), McLean (7), Peoria (1), Sangamon (2), Shelby (1), Will (2), and Winnebago (1) counties.
- **Histoplasmosis** – There were 12 confirmed and 25 probable cases reported in October (22), November (9) and December (8). Seventeen were female and 22 were male. Ages ranged from 10 to 88 with a mean of 50 years. Thirty-one cases were hospitalized. One fatal case was reported. Seventeen counties reported cases with Cook County reporting the most cases – 16, followed by Macon - four. One small cluster of cases was reported in this quarter.
- **Legionellosis** - There were 39 confirmed cases of legionellosis during the fourth quarter. Jurisdictions with more than one case include Chicago (10), Cook (9), Du Page (7), Rock Island (2), and Tazewell (2). Twenty-nine cases were male and ten were female, with ages ranging from 30 to 91 years. Cases had onsets in October (22), November (11), and

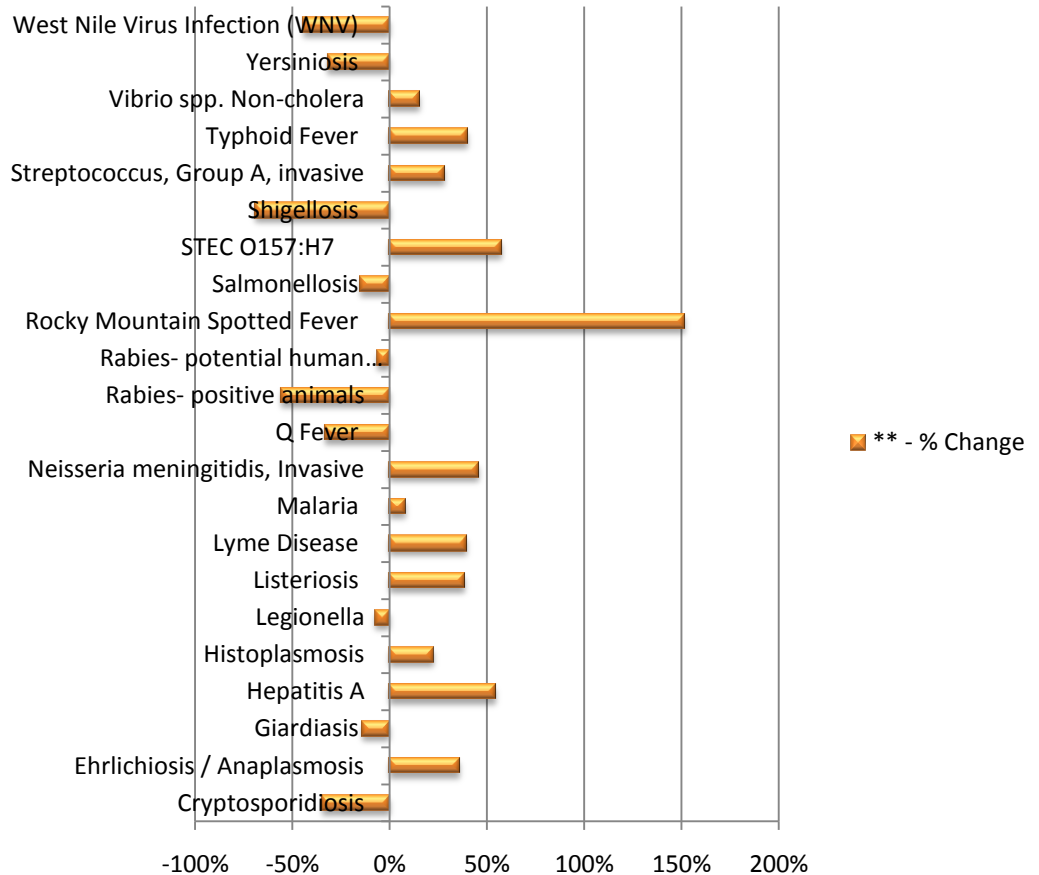
*Lyme disease
derives its name
after it was
identified as the
cause of a cluster
of disease in
Lyme,
Connecticut in
1975.*

*Rabies takes its
name from the
Latin word for
madness.*

December (6). Most cases were serogroup 1 (36), one case was *L. feeleii*, and two cases were not further specified. None of these cases were known to be associated with an outbreak.

- **Listeriosis** – Six confirmed cases of listeriosis were reported in the fourth quarter. Cases resided in the following jurisdictions: Chicago (3 cases), Cook (1), Lake (1), and Will (1). Four cases (67%) were female. Five of the six cases were analyzed by PFGE testing and each case had a unique pattern. One case matched an outbreak linked to cantaloupes from Colorado.
- **Lyme** - Ten cases of Lyme disease were reported in residents of Illinois in the last quarter of 2011. Onsets of illness were in October (5), November (3), and December (2). Three cases were female and seven were male. Ages ranged from 17 years to 70 years (median = 53 years), with cases residing in 5 counties. Counties with affected residents included Cook (five), DuPage (one), Edwards (one), Grundy (two), La Salle (one), and Marion (one). The probable sites of tick exposure for two cases were out-of-state both in Wisconsin. Three cases had tick exposures within Illinois and four cases had an unknown exposure location. In Illinois, known exposures were reported in Cook County for two of the cases and LaSalle County for one case.
- **Malaria** – There were 12 cases of malaria reported in Illinois for the fourth quarter for 2011. The age range was 20 to 61 years with a median of 34. Eighty two percent are males. The cases resided in the counties of Cook (four), DuPage (two), Kane (one), Champaign (one), Knox (one), and Will (two). Five of the cases had onsets in October, five in November, and two in December. Sixty-four percent of the cases reported out of the country travel exposures within the incubation period and four cases had unknown possible exposures. The known out of the country travel were to the countries of India (one), Ghana (one), Nigeria (two), Liberia (one), and Pakistan (one).
- **N. meningitidis** – There were 12 cases reported in the fourth quarter including October (two), November (six) and December (four). All cases were confirmed. Eight were female and four were male. Cases were reported from seven counties. Counties with more than one case included Cook (five) and Lake (two). Ages ranged from one to 101 years with a mean of 42. All cases were admitted to the hospital. One case was fatal. Serogroups reported included Y (five), B (three), C (two), 29E (one) and unknown (one).
- **Q Fever** – There was one case of Q fever reported in the fourth quarter of 2011. He resided in St. Clair County and reported travel to Iraq.
- **Rabies, Potential Human Exposure** - There were 64 rabies, potential human exposure cases reported in the fourth quarter (October - 17, November – 28, and December - 22). Ages ranged from 3 to 86 years. Thirty-eight were male and 26 were female. Rabies PEP was started for 60 of the cases. Exposures were reported from 25 counties. Fifty percent of the animals were classified as wild and 50 percent as domesticated. The types of animals that resulted in exposures included bats (24), dogs (18), cats (12), raccoons (five), other (three), and unknown (two).

Percentage Change for Select Diseases 2010 - 2011



** - 2011 Totals are Provisional

- **Rocky Mountain Spotted Fever** – Eight cases of RMSF were reported in the fourth quarter of 2011. Cases ranged in age from 25 years to 84 years (median age = 52 years). Known onsets of illness occurred in October (four), November (2) and December (two).
- **Salmonellosis** – There were 315 (313 confirmed and 2 probable) cases reported in October (130), November (96) and December (89). There were 161 male and 154 female cases. Ages ranged from 0 to 90 with a mean of 35 years. There were 61 serotypes reported. The most commonly reported serotypes were Enteritidis (80), Typhimurium (30), Infantis (20) and Newport (19). There were 106 hospitalized cases. No cases were fatal. Cases were reported from 53 counties. Counties with the highest number of cases included Cook (127), DuPage (22), Will (20), Lake (20), Kane (15) and Winnebago (10).
- **Streptococcus, Group A, Invasive** - There were 71 invasive GAS infections reported in the fourth quarter (October - 16, November - 24, and December - 31). Cases were reported from 25 counties with Cook County reporting the most cases - 32. Forty-two percent were female.

Typhoid fever and Typhus both derive their name from the Greek word for stupor.

Ages ranged from less than one year to 95 years of age (mean=58). Seven cases were reported as streptococcal toxic shock, one has necrotizing fasciitis and the rest as invasive group A streptococcus. Ninety-six percent were hospitalized. Six cases were fatal.

- **Shigellosis** – Fifty-five cases were reported in the fourth quarter (October - 15, November – 26, and December - 14). All but once case were confirmed. Ages ranged from one to 63 years (mean=25). Fifty-one percent were male. Thirty-six percent were hospitalized and there were no fatalities. No outbreaks were reported this quarter. Cases were reported from nine counties with 36 cases residing in Cook County and seven cases residing in DuPage County. Serogroups reported were sonnei (41), flexneri 2A (three), flexneri 1B (two), flexneri 31 (one) and boydii 2 (one).
- **Typhoid fever** - There were four cases reported in the fourth quarter including four with onsets in October and three with December onsets. Ages ranged from five to 33 years with a mean of 19 years. Five were female and two were male. Cases were reported from four counties including Cook (three), Lake (two), Knox (one) and Winnebago (one). Five cases were hospitalized and none were fatal. Six persons had travel to India prior to onset and for one the travel history was not yet available.
- **West Nile Virus** – There was one case of West Nile Virus infection reported in the last quarter of 2011. The case was a resident of Cook County and had onset of illness in October.
- **Yersinia** - There were six yersiniosis cases reported in the fourth quarter (October - 1, November – 2, and December - 3). Ages ranged from younger than one year to 93 years of age. Four were male and two were female. Cases resided in Cook (three) and one each in Du Page, Iroquois and St Clair counties.
- **E. coli O157:H7** - There were 26 STEC O157:H7 cases reported in the last quarter of 2011 (October = 19, November = 6, and December = 1). Fifty-eight percent were female, and ages ranged from one to 93 with a median of 23 years. Fifteen cases were hospitalized. Cases resided in 15 counties. The jurisdictions reporting the most cases were Chicago (2), Cook County (2), DuPage County (2), Lake County (2), St. Clair County (3), Will County (2) and Winnebago County (5). Twenty-two confirmed cases of Shiga toxin-producing *E. coli* that were not the O157 serotype were reported during this timeframe. The serotypes of these cases included O103 (9), O111 (3), O26 (6), O121 (1), O145 (1), O45 (1) and O69 (1).

A multi-state outbreak of shiga toxin-producing *E. coli* (STEC) O157:H7 occurred between October and November which was linked to consumption of romaine lettuce, predominantly at grocery store salad bars. Ten cases from Illinois had pulsed field gel electrophoresis patterns that matched the outbreak strain. The Illinois cases had onset dates that ranged from October 20 to November 1, and seven of the cases were hospitalized. Cases resided in Monroe County, St. Clair County and Winnebago County. When interviewed with a supplemental questionnaire, eight of the cases reported eating lettuce from grocery store salad bars owned by the same chain. A traceback of the lettuce

was conducted by FDA and a single lot of romaine lettuce harvested from a common farm was found to have been supplied to the grocery store chain as well as another location where a case consumed lettuce. The farm was no longer in production during the time of the investigation.

• **Reported Outbreaks** - The provisional count of outbreaks in Illinois for the fourth quarter of 2011 is 88.

▪ **Foodborne Outbreaks** - Nineteen suspect or confirmed foodborne outbreaks were reported in the last quarter of 2011. Four outbreaks began in October, seven in November and eight in December. The majority were suspected or confirmed to be due to norovirus (58%), along with one outbreak each of *Salmonella*, *E. coli* O157:H7 and *S. aureus* with the etiologic agent not identified in five outbreaks. Locations of exposure for these outbreaks included Champaign County (1), Chicago (3), Clark County (1), suburban Cook County (6), DuPage County (4), Grundy County (1), Kane County (1) and Madison County (1). There was also one multi-county and multi-state foodborne outbreak reported during this time.

▪ **Person-to-person Outbreaks** - There were 63 non-foodborne non-waterborne outbreaks reported in the fourth quarter. Fifty-six of the outbreaks were person-to-person and seven have unknown mode of transmission. Of the 56 person-to-person outbreaks, 12 were laboratory confirmed. Person-to-person outbreaks occurred in the following counties: Brown (one), Cass (one), Champaign (two), Coles (one), Cook (15), DuPage (five), Ford (one), Fulton (one), Hancock (one), Iroquois (two), Kane (four), LaSalle (two), Lake (one), Lee (one), Livingston (one), Logan (one), Macoupin (one), Madison (three), Marion (one), Mason (one), McLean (one), Rock Island (one), Sangamon (one), St. Clair (one), Will (two), Williamson (one), Winnebago (two), and Woodford (one). There were ten confirmed and 33 suspect norovirus outbreaks, one confirmed MRSA outbreak, two suspect scabies outbreaks, one confirmed group A *Streptococcus* outbreak, and nine with unknown etiology. Thirty-five of the person-to-person outbreaks occurred in long-term care, assisted or supportive living facilities, one occurred in a hospital, two in a prison, five in school or daycare facilities, and 12 were classified as "other." Nine of the outbreaks occurred in October, 11 in November, and 36 in December.

▪ **Waterborne Outbreaks** – There were no waterborne outbreaks reported in the fourth quarter of 2011.

▪ **Outbreaks with other transmission mode** – Of the outbreaks with a different or unknown transmission route, all of them were suspected to be related to norovirus.