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Disease Bulletin

Alarming Increases in Reported Cases of STDs and Invasive Group A Strep continued in 2017

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Alarming Increases in Reported Cases of STDs and Invasive Group A Strep continued in 2017

BUREAU OF COMMUNICABLE DISEASE PREVENTION

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The Idaho Division of Public Health, Bureau of Communicable Disease Prevention's (BCDP) Epidemiology Program has finalized the 2017 reports of diseases and conditions submitted by physicians and other mandated reporters in the state. The biggest news in 2017 was the significant rise in reported cases of sexually transmitted diseases (STDs). Idaho, like the rest of the United States, continues to see incidence rates of STDs much higher than expected. The table summarizes incidence and incidence rate of cases of selected communicable diseases reported in Idaho during calendar year 2017.

Sexually Transmitted Diseases

Almost half (48%) of chlamydia cases reported in 2017 were among females aged 15–24 years. This age group accounted for over 70% of cases among females. Reports of chlamydia among males had a more variable age distribution, but over one third (36%) were aged 20–24 years.

Unlike chlamydia, only 37% of gonorrhea cases reported were among females. Although increases were observed statewide, incidence rates among residents of North Central Idaho (public health district 2) were more than 30% higher than in any other public health district. The highest proportion of cases (60%) was reported among persons aged 20–29 years.

Reports of early syphilis among Treasure Valley area residents declined in 2017 after an outbreak peaked in 2015. However, reports of syphilis remained highly elevated statewide. Men, and particularly men who have sex with men, were reported much more frequently than women; however, increasing proportions were reported among women during 2013–2017 compared with previous years.

STD trends and recommendations for prevention are in the Idaho Disease Bulletin April 2018 edition, https://healthandwelfare.idaho.gov/tabid/682/Default.aspx.

Shiga toxin-producing *E. coli* (STEC)

Idaho annual incidence rates of STEC infection are usually 3 to 4 times higher than U.S. incidence rates. During the last 15 years, the proportion of STEC infections identified as being caused by *E. coli* O157:H7 has decreased significantly, from an average of 60% of reported STEC infections during 2002-2008 to an average of 35% during 2009-2017. During 2017, Idaho received 29 reports of *E. coli* O157:H7 STEC infections, which represented just 28% of all STEC infections reported. This is the fewest number of E. coli O157:H7 cases reported since Idaho began receiving reports of all STEC infections in 2001 and not just those caused by O157:H7. The reason for the modest, but downward trend in O157:H7 reports over time in Idaho is unclear; however, several factors are thought to contribute to the downward trend seen nationally including improved outbreak recognition and response, food production process improvements that reduce contamination, more rapid recalls of contaminated food, and increased public awareness of the risk associated with consuming ground beef that is not fully cooked.[1] The increase in the proportion of STEC non-O157:H7 reports is likely due, in part, to improvements in non-O157:H7 testing methodologies resulting in the ability to identify serotypes more easily.

Invasive Group A *Streptococcus*

Since 2012, the annual number of reported group A *Streptococcus pyogenes* (GAS) infections that resulted in invasive disease (i.e., GAS isolated from a normally sterile site) has continued to increase. The 2017 invasive GAS infection incidence rate in Idaho represents a 13.5% increase from 2016 and a 436% increase from 2012. In response, Idaho public health officials conducted epidemiologic analyses and implemented routine M protein gene (*emm*) typing on isolates submitted to the Idaho Bureau of Laboratories (IBL) to try to explain the observed increase.

During 2017, 13.5% of reported invasive GAS infections were among Idaho children (aged <18 years); 69.5% of reports were among those aged 50 years or older. Only 17 (29%) of isolates from persons with invasive GAS reported in 2017 were sent to IBL for *emm* typing; among these, no predominate *emm* type emerged. Since the summer of 2016, when *emm* typing was more widely implemented, 15% of the 111 isolates *emm* typed have been determined to be *emm*12, 10% were *emm*11, and 9% were *emm*1; all of these are common *emm* types expected to be circulating in the United States.[2] Despite a low rate of isolate submission to IBL for reported invasive GAS infections, *emm* typing has contributed to the identification of two clusters in Idaho both potentially involving healthcare facility exposures. A 2014 identified cluster involved 5 Idahoans with *emm* type 59 GAS infections. All reported underlying medical conditions and some received recurring healthcare procedures from the same facility in a neighboring state. A 2016 cluster of *emm* type 11.0 GAS infections was identified in residents and staff of a skilled nursing facility. The infections occurred over a period of 5 months and *emm* typing provided laboratory confirmation that all 9 cluster-associated cases were related.

Healthcare providers should continue to report all cases of invasive GAS infections. Laboratories are encouraged to submit isolates from invasive GAS infections to IBL for *emm* typing. A high isolate submission rate to IBL will allow public health officials to: a) pair *emm* typing with clinical information gathered through case investigations, b) better understand the increase in incidence, c) describe risk factors for invasive GAS, d) assess severity of disease, and e) help inform activities to prevent continuing increases in the incidence of invasive GAS among Idahoans.

Arboviral diseases

All arboviral infections were made reportable in 2017; previously only West Nile virus (WNV) was an explicitly reportable arboviral infection. During 2017, twenty-seven (27) arboviral infections were reported. Etiologies were dengue virus (1), WNV (25), and Zika virus (1). Dengue virus and Zika virus infections were acquired in persons traveling to areas of endemicity. WNV infections, typically locally acquired, occur seasonally in Idaho (June through September) corresponding to mosquito activity. During 2008–2017, an average of 20 cases of WNV were reported annually (range: 3 to 40). Although all forms of WNV infection are reportable, WNV neuroinvasive disease is reported more frequently than WNV fever, as neuroinvasive disease is more severe and severely ill persons are more likely to seek medical attention. To learn more about WNV in Idaho, see *http://westnile.idaho.gov*.

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An electronic version of the Idaho Reportable Diseases Rules may be found at http://adminrules.idaho.gov/rules/current/16/0210.pdf.

Current and past issues are archived online at www.idb.dhw.idaho.gov.

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Idaho Reportable Diseases Laws

Communicable diseases and other health conditions are reported pursuant to Idaho Reportable Diseases rules (Idaho Administrative Code 16.02.10). Physicians, healthcare facilities, laboratories, and others are required to report these diseases and conditions. Reporting sources can designate an individual within an institution to perform routine reporting duties (e.g., an infection preventionist for a hospital). Provisions of the Health Insurance Portability and Accountability Act (HIPAA) allow for routine disease reporting to public health officials without patient authorization. Data maintained for reportable disease surveillance purposes are private and protected from redisclosure under state and federal law.

Reports of disease are responded to in a timely manner by local public health district (PHD) epidemiologists who implement control measures that are most likely to be effective in preventing additional cases. In Idaho, disease reporting is not centralized: reports can be submitted to the state or PHDs.

References

[1]Vital Signs: Incidence and Trends of Infection with Pathogens Transmitted Commonly Through Food — Foodborne Diseases Active Surveillance Network, 10 U.S. Sites, 1996—2010 https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6022a5.htm Accessed 12/13/2018

[2]Gherardi G, Vitali LA and Creti R Prevalent *emm* Types among Invasive GAS in Europe and North America since Year 2000. *Front. Public Health 2018*; 6:59. doi: 10.3389/fpubh.2018.00059

Table. Incidence and incidence rates for selected communicable diseases—Idaho, 2017

Disease/Condition	Incidence	Incidence Rate
Amebiasis	2	0.1
Botulism, infant	2	0.1
Campylobacteriosis	506	29.5
Chlamydia	6,194	360.8
Cryptosporidiosis	123	7.3
Dengue	1	0.1
E. coli (STEC)	132	7.7
Giardiasis	160	9.3
Gonorrhea	966	56.3
H. influenzae, invasive disease	27	1.6
Hantavirus pulmonary syndrome	1	0.1
Hemolytic uremic syndrome	5	0.3
Hepatitis A	5	0.3
Hepatitis B, acute	6	0.4
Hepatitis C, acute	12	0.7
HIV	53	3.1
Lead, elevated blood levels	163	9.5
Legionellosis	12	0.7
Listeriosis	2	0.1
Lyme Disease	20	1.2
Malaria	5	0.3
Meningitis, viral or aseptic	13	0.8
Meningococcal disease	2	0.1
MRSA infection, invasive	77	4.5
Mumps	5	0.3
Pertussis	89	5.2
Q fever	2	0.1
Relapsing fever	2	0.1
Respiratory syncytial virus	879	51.2
Salmonellosis	207	12.1
Shigellosis	36	2.1
S. pyogenes (Group A Strep), invasive	59	3.4
Syphilis, all stages	134	7.8
Tetanus	1	0.1
Transmissible Spongiform encephalopathy	2	0.1
Tuberculosis	10	0.6
Tularemia	1	0.1
West Nile virus infection	25	1.5
Yersiniosis	11	0.6
Zika virus infection	1	0.1

*Incidence rate is per 100,000 population. Incidence rates were calculated using disease-specific numerator data collected during 2017 and a standardized set of denominator data derived from United States Census data.