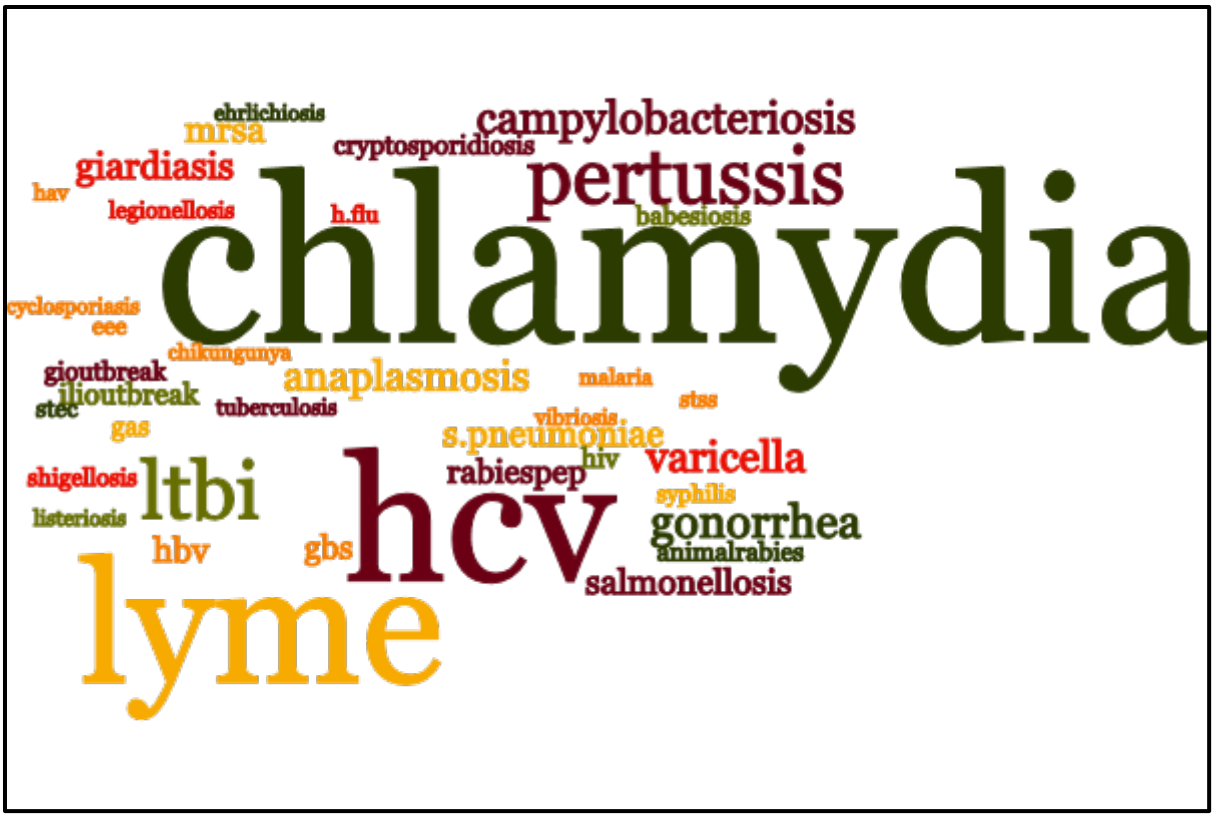
Reportable Infectious Diseases in Maine



2014 Summary

Maine Center for Disease Control and Prevention

An Office of the Department of Health and Human Services

Paul R. LePage, Governor

Mary C. Mayhew, Commissioner

Reportable Infectious Diseases in Maine

2014 Summary

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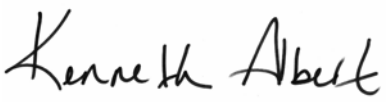
Maine Center for Disease Control and Prevention (Maine CDC) has published an annual report on infectious diseases in Maine for the last 20 years. This report is prepared by the Division of Infectious Disease and is intended to provide an overview of notifiable infectious diseases of public health importance in Maine.

We could not produce this report without the continued support of our healthcare and public health partners throughout the state. We greatly appreciate all of the laboratories, healthcare providers, childcare centers, school nurses, veterinarians, and others who provide disease surveillance information. Considerable time is spent assisting Maine CDC with infectious disease investigations and disease control measures that affect Maine residents. Public health partners' active and critical role in the infectious disease surveillance cycle informs statewide policies and programs that protect our residents from infectious disease through health promotion, disease prevention, early detection, containment, and treatment.

We appreciate and encourage your vigilance in the effort to protect the people of Maine through timely, complete, and accurate notifiable infectious disease reporting. It is through these collaborative efforts that we are able to respond to emerging infectious disease threats and prevent outbreaks.

We hope you find this report useful as we all work to protect and promote the health of Maine's residents. As always, we welcome your feedback on how we can provide more useful disease information to you, our partners.

For more information on what, when, and how to report infectious diseases please see *Appendix G (Notifiable Conditions List)* of this report, visit our website at www.mainepublichealth.gov, or call 1-800-821-5821.



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2014 Infectious Disease Surveillance Highlights

- The first case of Eastern Equine Encephalitis (EEE) occurred in a Maine resident in the fall of 2014.
- Tickborne diseases continued to increase in 2014, with 1,400 cases of Lyme disease reported. This highlights the importance of awareness and prevention efforts regarding tickborne diseases in Maine.
    - Anaplasmosis cases doubled in 2014, increasing to 191.
- The number of reported acute cases of hepatitis C tripled in 2014 to 31 cases; it is unclear if this is due to more disease transmission or enhanced reporting through provider awareness and electronic laboratory reporting.
- Maine CDC investigated 21 reports of possible enterovirus D-68 illness with four confirmed by federal CDC.
- Maine CDC monitored five travelers from Ebola-affected countries in 2014.
- Due to the high rate of giardiasis in Maine, enhanced surveillance occurred for six months. Despite not counting asymptomatic cases, Maine's rate is still higher than the US rate.
- Shigellosis cases increased from nine cases in 2013 to 29 cases in 2014. This was mostly due to a cluster of cases associated with a school in Androscoggin County.
- Pertussis continued to be reported in higher than expected numbers compared to five years ago with over 500 cases reported.
- Sexually transmitted diseases continued to disproportionately affect young people with 43% of gonorrhea and 68% of chlamydia cases reported in the 15-24 year age group. State sponsored testing programs targeted females in this age group.
- Fewer animals tested positive for rabies in 2014; only 44 positive animals, the lowest number in the previous ten years.
- The numbers of newly reported cases of chronic hepatitis C infections increased from 1,266 in 2013 to 1,425 in 2014.
- Maine CDC investigated four reports of suspect Middle East Respiratory Syndrome Coronavirus (MERS); all tested negative.
- Maine CDC created a school curriculum focusing on mosquito and tick prevention among 3-5th graders. The curriculum is now available at www.maine.gov/idepi.
- Diseases associated with international travel (such as malaria, chikungunya virus, dengue fever, and shigellosis) occurred in Maine residents in 2014. As international travel becomes more common and residents visit areas with endemic infectious diseases, there is a need to emphasize preventive strategies among travelers.

The History of Public Health Surveillance

The responsibility of government to control and prevent disease dates back hundreds of years. Government responsibility was exercised during the epidemics of plague, syphilis, and smallpox in the Middle Ages to identify possible sources of disease, isolate infectious cases, and quarantine their contacts to prevent further spread of infection. Illness was monitored, regulations were enacted to prevent pollution of streets and public water supplies, and instructions issued for appropriate methods of burial and food handling.

Infectious disease surveillance in the United States began soon after the colonies were established. In 1741, Rhode Island passed legislation requiring tavern keepers to report contagious disease among their patrons. Two years later, Rhode Island enacted legislation requiring the reporting of smallpox, yellow fever, and cholera. National disease surveillance began in 1850, when mortality statistics were first published by the federal government based on the decennial census. The legal requirement to collect national morbidity data in the United States was initiated in 1878 when Congress authorized the US Public Health Service to collect reports of the occurrence of diseases that require quarantine including cholera, plague, smallpox, and yellow fever.

In 1885, the Maine State Board of Health was created and consisted of six members appointed by the Governor. Disease reporting for a select few diseases was conducted by the Maine Board of Health. In 1917 the Board was replaced by the Maine Department of Health.

Overview of Public Health Surveillance

Seventy-one infectious diseases are reportable in Maine with 55 considered nationally notifiable. The list of reportable infectious diseases in Maine changes periodically. The last update was in 2008. Diseases may be added to the list as new pathogens emerge or when a previously recognized pathogen becomes more important. Some diseases may be removed from the list as their incidence or importance declines. While modern advances in sanitation, personal hygiene, and immunizations provide greater control and prevention of some diseases, other infectious diseases continue to thrive and still other yet-to-be-identified infectious disease entities are constantly emerging. Vaccine preventable diseases are re-emerging in some parts of the world due to decreasing vaccination coverage among children.

The Maine Department of Health and Human Services (DHHS) Center for Disease Control and Prevention (Maine CDC) works with healthcare providers and laboratorians to gather infectious disease information, analyze it, and provide reports in a timely manner. Surveillance data assist us in identifying events that require immediate public health action, such as disease outbreaks and emerging diseases; identifying populations at higher risk of infection; monitoring trends in the burden of disease; guiding the planning, implementation, and evaluation of disease prevention and treatment programs; and informing public policy.

The public health "patient" is the community, and information about community health can be useful to the clinician providing care to the individual. Partnership between public health professionals, healthcare providers, and clinical laboratories is critical to assure accurate, representative and timely information for all.

Disease Reporting in Maine

Healthcare providers, medical laboratories, healthcare facilities, administrators, health officers, and veterinarians are required to report notifiable diseases to Maine CDC (Appendix G). Diseases that require specific and immediate public health response or are possible indicators

of bioterrorism are to be reported immediately by telephone. The remainder of notifiable conditions are to be reported within 24 or 48 hours of recognition or strong suspicion of disease.

Disease reports may be made by electronic laboratory report (ELR), telephone or fax to the Maine CDC 24 hours a day, 7 days a week. The reporting numbers are toll free: telephone 1-800-821-5821 and fax 1-800-293-7534. An epidemiologist is on call 24 hours a day, 7 days a week to respond to infectious disease emergencies. Disease reports may also be mailed to the Division of Infectious Disease, 286 Water Street, 8th Floor, 11 State House Station, Augusta, Maine 04333-0011. Non-confidential reports or non-urgent requests for consultation can be sent by email to disease.reporting@maine.gov.

Infectious disease conditions reportable in Maine, the Rules for the Control of Notifiable Conditions and current information regarding infectious disease incidence in Maine are available on the Maine CDC website (http://www.maine.gov/dhhs/mecdc/infectious-disease/epi/disease-reporting/index.shtml).

Maine's Health and Environmental Testing Laboratory (HETL) tests for most reportable conditions. Certain organisms are required to be sent to HETL for confirmatory testing and the rules for isolate submission can be found on the notifiable conditions list. Information on the testing performed at HETL is available at www.mainepublichealth.gov/lab.

Purpose of Report

The Reportable Infectious Diseases in Maine 2014 Summary provides descriptive epidemiology of reportable infectious diseases in Maine and serves as a document of public health surveillance data. The report allows public health officials to comprehend the burden of reportable infectious diseases in Maine. For example, surveillance data has demonstrated the spread of deer ticks and Lyme disease within Maine.

Methods

The data in this report are based on case definitions developed by the Council of State and Territorial Epidemiologists (CSTE) and adopted by federal CDC and Maine CDC. Case definitions may change from year to year. The case definitions used to classify 2014 data are available at http://wwwn.cdc.gov/nndss/case-definitions.html. Cases meeting the confirmed or probable case definitions are presented in the annual report.

Tables in the introduction section include all confirmed and probable cases reported to the federal CDC for their publications, unless otherwise noted. Rates are calculated by dividing the number of cases by the appropriate population from the yearly U.S. Census estimates and multiplying by 100,000. Charts and graphs may not include the total number of cases due to missing information on patient characteristics, such as county of residence, symptom onset date, age and gender.

Over time, additional information may necessitate review and updates of historical data. The most current published report will have the updated historical counts and trends for all diseases.

More detailed information about each disease condition, including educational materials for healthcare providers and the general public, is available at www.mainepublichealth.gov.

Counts of Selected Reportable Disease by Year, Maine, 2005 – 2014*

Disease	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Anaplasmosis	5	10	9	17	15	17	26	52	94	191
Babesiosis	11	9	11	11	3	5	9	10	36	42
Campylobacteriosis	159	137	149	151	171	148	195	189	229	224
Chikungunya	NA	NA	NA	NA	NA	NA	0	0	1	6
Chlamydia	2253	2304	2543	2594	2443	2586	3094	3413	3439	3531
Cryptosporidiosis	30	52	56	46	67	93	51	58	35	51
Dengue Fever	NR	NR	NR	NR	3	6	0	0	1	1
Ehrlichia chaffeensis	1	4	3	1	1	4	1	3	3	8
Giardiasis	202	192	197	188	223	223	171	169	218	154
Gonorrhea	142	137	118	96	143	162	272	456	246	237
Group A Streptococcal Disease (invasive)	14	19	28	28	21	47	43	37	37	52
Group B Streptococcal Disease, Infant (invasive)	3	1	1	6	2	8	2	5	2	2
H. Influenzae (invasive)	12	21	13	21	21	13	26	23	25	21
Hemolytic uremic syndrome	0	6	1	1	2	1	2	2	2	1
Hepatitis A, acute	9	8	5	18	1	7	6	9	10	8
Hepatitis B, acute	14	26	19	15	15	13	8	9	11	12
Hepatitis B, chronic	NA	NA	139	142	125	101	105	105	107	108
Hepatitis C, acute	0	2	1	3	2	2	21	13	9	31
Hepatitis C, chronic	NA	NA	NA	NA	NA	1142	1184	1214	1266	1425
HIV Infection	59	62	64	46	56	59	54	48	39	58
Legionellosis	7	11	9	11	10	12	18	18	23	19
Listeriosis	3	6	5	5	4	1	4	5	4	8
Lyme disease	245	338	530	909	976	752	1012	1113	1384	1400
Malaria	5	4	8	1	2	6	6	5	10	7
Meningococcal disease	2	9	8	6	4	5	5	3	4	2
MRSA, invasive	NR	NR	NR	47	122	90	121	116	130	143
Mumps	2	0	24	5	6	2	2	0	1	0
Pertussis	55	174	83	49	80	53	205	737	332	557
Rabies, animal	61	127	86	70	63	67	66	91	50	44
Salmonellosis	163	161	138	159	121	133	134	161	131	127
Shiga toxin-producing *E. coli*	29	49	41	26	19	21	28	20	27	33
Shigellosis	15	10	14	20	5	8	32	7	5	29
Streptococcus pneumoniae, nvasive	NA	NA	NA	NA	NA	151	136	102	121	137
Streptococcus pneumoniae (drug resistant invasive)	8	12	13	18	23	30	32	20	31	24
Streptococcal Toxic Shock Syndrome	0	0	1	0	0	21	12	10	16	18
Syphilis (early)	3	16	14	20	14	39	20	19	16	21
Tuberculosis	17	16	19	9	9	8	9	17	15	14
Varicella (Chickenpox)	318	238	366	269	235	247	226	258	140	207
Vibriosis	2	5	0	3	4	5	4	10	9	9

*Counts may change from year to year. Data final as of 6/29/2015
NR = not reportable; NA = not available

Rates per 100,000 persons of Selected Reportable Disease by Year, Maine, 2005 – 2014*

Disease	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Anaplasmosis	0.4	0.8	0.7	1.3	1.1	1.3	2.0	3.9	7.1	14.4
Babesiosis	0.8	0.7	0.8	0.8	0.2	0.4	0.7	0.8	2.7	3.2
Campylobacteriosis	12.1	10.4	11.3	11.5	13.0	11.3	14.7	14.2	17.2	16.8
Chikungunya	NA	NA	NA	NA	NA	NA	0.0	0.0	0.1	0.5
Chlamydia	170.9	174.3	192.9	197.0	185.3	197.0	233.0	256.8	258.9	265.5
Cryptosporidiosis	2.3	3.9	4.3	3.5	5.1	7.1	3.8	4.4	2.6	3.8
Dengue Fever	NR	NR	NR	NR	0.2	0.5	0.0	0.0	0.1	0.1
Ehrlichia chaffeensis	0.0	0.3	0.2	0.1	0.1	0.3	0.1	0.2	0.2	0.6
Giardiasis	15.3	14.5	15.0	14.3	16.9	17.0	12.9	12.7	16.4	11.6
Gonorrhea	10.8	10.4	9.0	7.3	10.9	12.3	20.5	34.3	18.5	17.8
Group A Streptococcal Disease (invasive)	1.1	1.4	2.1	2.1	1.6	3.6	3.2	2.8	2.8	3.9
H. Influenzae (invasive)	0.9	1.6	1.0	1.6	1.6	1.0	2.0	1.7	1.9	1.6
Hemolytic uremic syndrome	0.0	0.5	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.1
Hepatitis A, acute	0.7	0.6	0.4	1.4	0.1	0.5	0.5	0.7	0.8	0.6
Hepatitis B, acute	1.1	2.0	1.4	1.1	1.1	1.0	0.6	0.7	0.8	0.9
Hepatitis B, chronic	NA	NA	10.6	10.8	9.5	7.7	7.9	7.9	8.1	8.1
Hepatitis C, acute	0.0	0.2	0.1	0.2	0.2	0.2	0.9	1.0	0.7	2.3
Hepatitis C, chronic	NA	NA	NA	NA	NA	87.0	89.1	91.3	95.3	107.1
HIV Infection	4.4	4.3	3.9	3.5	4.3	4.3	4.1	3.6	2.9	4.4
Legionellosis	0.5	0.8	0.7	0.8	0.8	0.9	1.4	1.4	1.7	1.4
Listeriosis	0.2	0.5	0.4	0.4	0.3	0.1	0.3	0.4	0.3	0.6
Lyme disease	18.6	25.6	40.2	69.1	74.0	57.3	76.2	83.7	104.2	105.3
Malaria	0.4	0.3	0.6	0.1	0.2	0.5	0.5	0.4	0.8	0.5
Meningococcal disease	0.2	0.7	0.6	0.5	0.3	0.4	0.4	0.2	0.3	0.2
MRSA, invasive	NR	NR	NR	3.6	9.3	6.9	9.1	8.7	9.8	10.8
Mumps	0.2	0.0	1.8	0.4	0.5	0.2	0.2	0.0	0.1	0.0
Pertussis	4.2	13.2	6.3	3.7	6.1	4.0	15.4	55.5	25.0	41.9
Rabies, animal	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Salmonellosis	12.4	12.2	10.5	12.1	9.2	10.1	10.1	12.1	9.9	9.5
Shiga toxin-producing *E. coli*	2.2	3.7	3.1	2.0	1.4	1.6	2.1	1.5	2.0	2.5
Shigellosis	1.1	0.8	1.1	1.5	0.4	0.6	2.4	0.5	0.4	2.2
Streptococcus pneumoniae, nvasive	NA	NA	NA	NA	NA	9.9	10.2	7.7	9.1	10.3
Streptococcus pneumoniae (drug resistant invasive)	0.6	0.9	1.0	1.4	1.7	2.3	2.4	1.5	2.3	1.8
Syphilis (early)	0.2	1.2	0.7	1.5	1.1	2.9	1.5	1.4	1.2	1.6
Tuberculosis	1.3	1.2	1.4	0.7	0.7	0.6	0.7	1.3	1.1	1.1
Varicella (Chickenpox)	24.1	18.0	27.8	20.4	17.8	18.8	17.0	19.4	10.5	15.6
Vibriosis	0.2	0.4	0.0	0.2	0.3	0.4	0.3	0.8	0.7	0.7

*Rates may change from year to year. Data final as of 6/29/2015

NR = not reportable

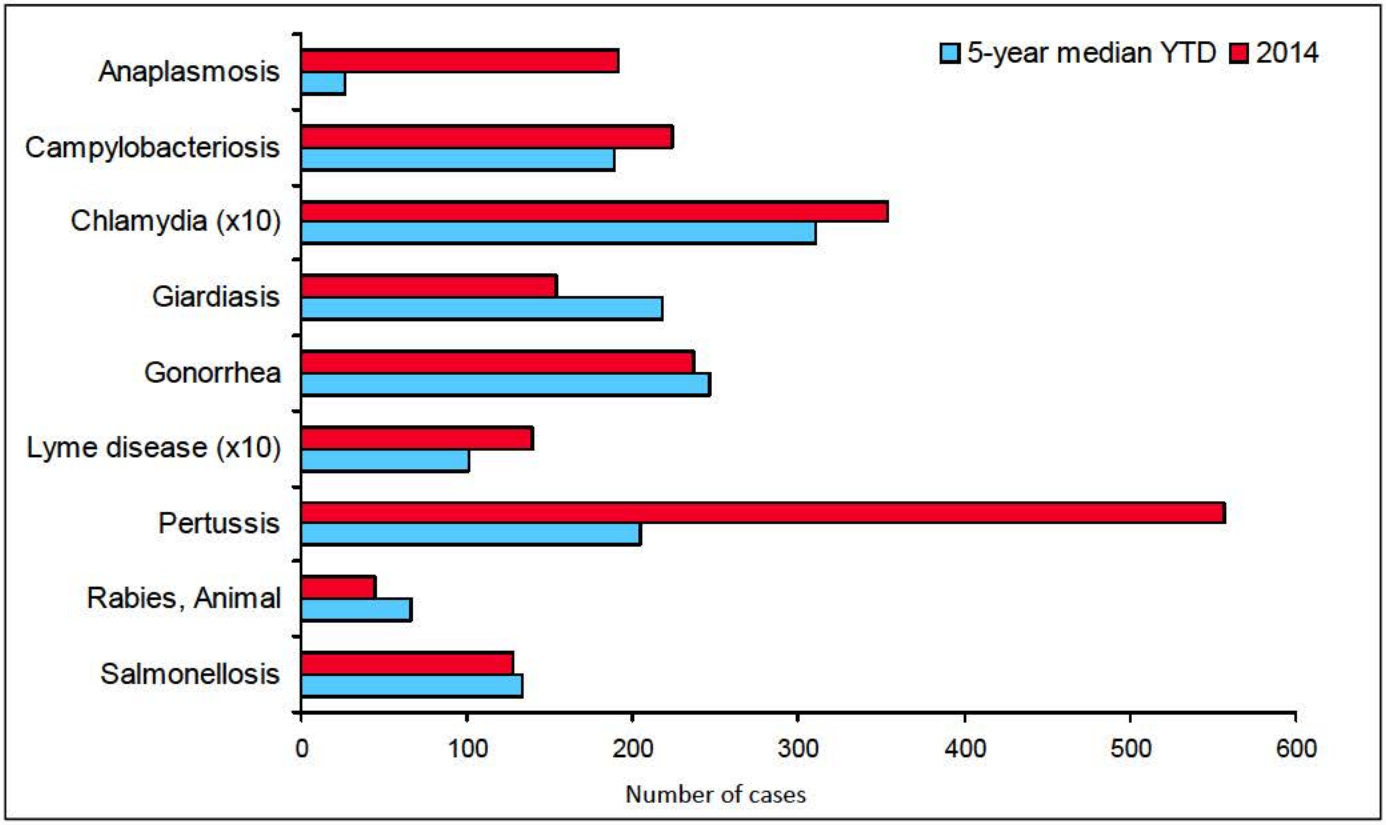
NA = not available

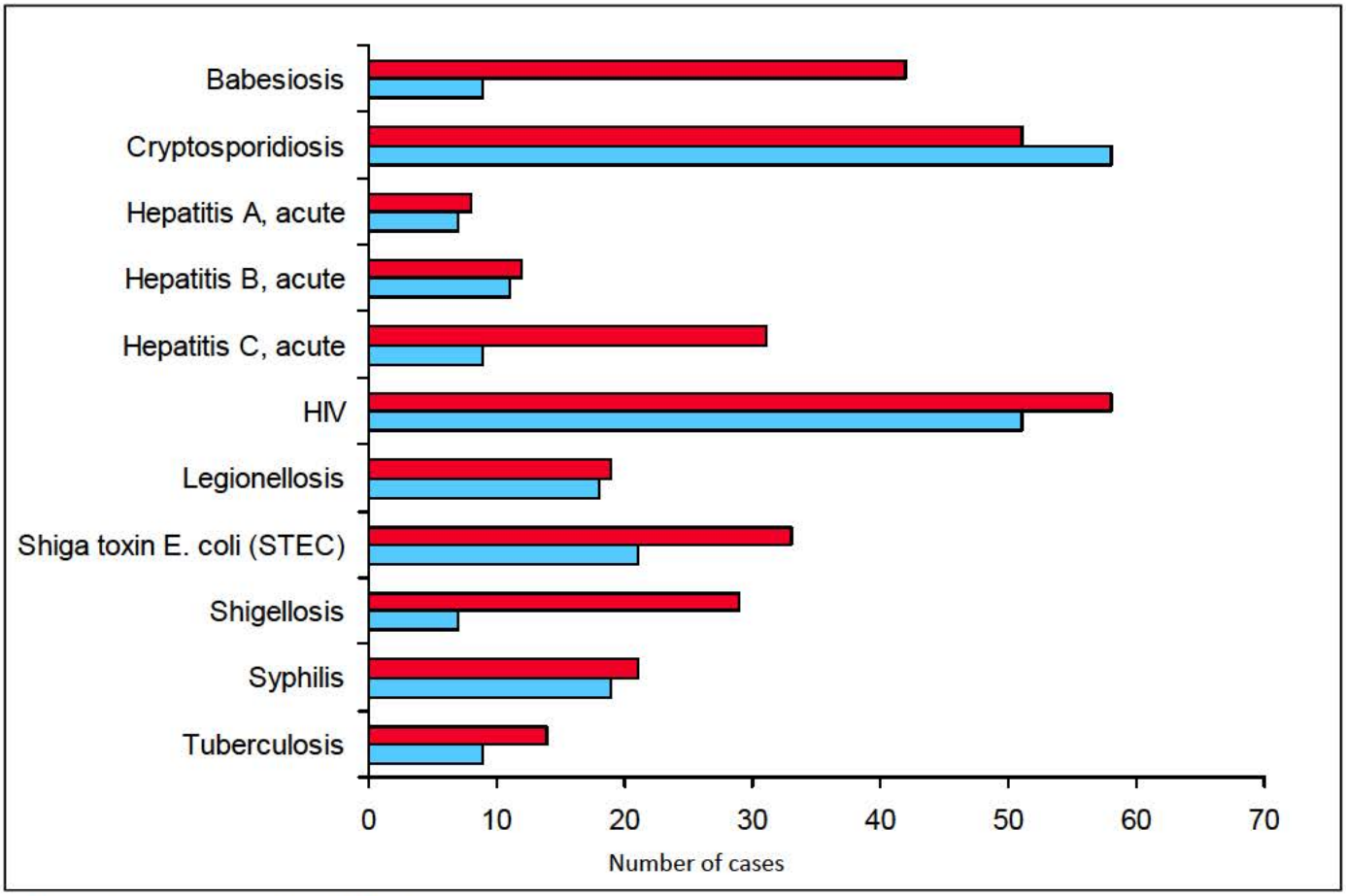
Reportable Diseases with Historically Small Numbers of Cases, Maine, 2005 - 2014

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	**10 year total**
Anthrax	0	0	0	0	0	0	0	0	0	0	**0**
Botulism, foodborne	0	0	0	0	0	0	0	0	0	0	**0**
Brucellosis	0	0	0	0	0	2	0	0	0	0	**2**
Creutzfeld-Jacob disease (<55 yo)	0	0	0	0	1	0	0	0	0	0	**1**
Cyclosporiasis	0	0	0	0	0	1	0	0	0	7	**8**
Diphtheria	0	0	0	0	0	0	0	0	0	0	**0**
Eastern Equine Encephalitis (EEE)	0	0	0	0	0	0	0	0	0	1	**1**
Ehrlichiosis/Anaplamsosis, undetermined^	NR	NR	NR	0	0	0	0	0	2	6	**8**
Ehrlichiosis, ewingii	0	0	0	0	0	0	0	0	1	0	**1**
Hantavirus Pulmonary Syndrome	0	0	0	0	0	0	1	0	0	0	**1**
Measles	0	0	0	0	0	0	0	0	0	0	**0**
Plague	0	0	0	0	0	0	0	0	0	0	**0**
Psittacosis	0	0	0	0	0	0	0	0	0	0	**0**
Poliomyelitis	0	0	0	0	0	0	0	0	0	0	**0**
Powassan Virus	0	0	0	0	0	0	0	0	1	0	**1**
Q Fever	2	4	7	0	0	0	2	0	0	0	**15**
Rubella	0	0	0	0	0	0	0	0	0	0	**0**
Rocky Mountain Spotted Fever^	NR	NR	NR	1	5	2	1	3	2	3	**17**
Severe Acute Respiratory Syndrome (SARS)	0	0	0	0	0	0	0	0	0	0	**0**
Smallpox	0	0	0	0	0	0	0	0	0	0	**0**
Tetanus	0	0	0	0	0	0	0	0	1	0	**1**
Toxoplasmosis	0	0	0	0	0	0	0	0	0	0	**0**
Trichinosis	0	0	0	0	0	1	1	0	0	0	**2**
Tularemia	0	0	0	0	0	0	0	0	0	0	**0**
Typhoid Fever	0	1	0	0	0	2	0	0	0	0	**3**
Venezuelan Equine Encephalitis	0	0	0	0	0	0	0	0	0	0	**0**
West Nile Virus	0	0	0	0	0	0	0	1	0	0	**1**
Yellow Fever	0	0	0	0	0	0	0	0	0	0	**0**

NR=Not reportable, ^Reported cases were probable only in 2014

Selected Reportable Diseases in Maine, Year-to-Date (YTD) and Five Year Median, 2014





Note: Data are final as of 6/18/2015

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2014

	Anaplasmosis		Babesiosis		Campylobacteriosis		Cryptosporidiosis		*Ehrlichia chaffeensis*		Giardiasis	
County	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Androscoggin	11	10.2	3	2.8	16	14.9	1	0.9	1	0.9	10	9.3
Aroostook	1	1.4	0	0.0	10	14.4	0	0.0	0	0.0	5	7.2
Cumberland	34	11.8	11	3.8	42	14.6	9	3.1	5	1.7	40	13.9
Franklin	0	0.0	0	0.0	6	8.0	0	0.0	0	0.0	8	26.4
Hancock	3	5.5	0	0.0	4	7.3	5	9.1	1	1.8	6	11.0
Kennebec	7	5.8	0	0.0	30	24.8	7	5.8	0	0.0	9	7.4
Knox	32	80.7	7	17.6	4	10.1	1	2.5	0	0.0	5	12.6
Lincoln	27	79.0	3	8.8	15	43.9	0	0.0	0	0.0	10	29.3
Oxford	5	8.7	0	0.0	14	24.5	0	0.0	1	1.7	6	10.5
Penobscot	3	2.0	0	0.0	27	17.6	14	9.1	0	0.0	17	11.1
Piscataquis	1	5.9	0	0.0	1	5.9	2	11.7	0	0.0	2	11.7
Sagadahoc	22	62.8	3	8.6	5	14.3	2	5.7	0	0.0	8	22.8
Somerset	1	2.0	0	0.0	12	23.5	0	0.0	0	0.0	17	33.2
Waldo	0	0.0	0	0.0	2	5.1	4	10.2	0	0.0	2	5.1
Washington	0	0.0	0	0.0	5	15.7	4	12.6	0	0.0	3	9.4
York	44	21.9	15	7.5	31	15.4	2	1.0	0	0.0	6	3.0
Maine Total	191	14.4	42	3.2	224	16.8	51	3.8	8	0.6	154	11.6

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2014

	***Haemophilus influenzae*, invasive**		**Hepatitis A, acute**		**Hepatitis B, acute**		**Hepatitis B, chronic**		**Hepatitis C, acute**		**Legionellosis**	
County	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Androscoggin	2	1.9	0	0.0	1	0.9	18	16.8	4	3.7	5	4.7
Aroostook	0	0.0	0	0.0	0	0.0	5	7.2	1	1.4	0	0.0
Cumberland	2	0.7	2	0.7	1	0.3	56	19.5	4	1.4	3	1.0
Franklin	1	3.3	0	0.0	1	3.3	3	9.9	0	0.0	0	0.0
Hancock	2	3.7	1	1.8	1	1.8	1	1.8	1	1.8	1	1.8
Kennebec	3	2.5	0	0.0	5	4.1	4	3.3	4	3.3	0	0.0
Knox	1	2.5	0	0.0	0	0.0	1	2.5	2	5.0	0	0.0
Lincoln	0	0.0	0	0.0	0	0.0	1	2.9	2	5.9	0	0.0
Oxford	2	3.5	0	0.0	0	0.0	0	0.0	1	1.7	1	1.7
Penobscot	4	2.6	0	0.0	1	0.7	6	3.9	7	4.6	3	2.0
Piscataquis	0	0.0	0	0.0	0	0.0	2	11.7	0	0.0	0	0.0
Sagadahoc	2	5.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Somerset	0	0.0	0	0.0	0	0.0	1	2.0	1	2.0	3	5.9
Waldo	0	0.0	4	10.2	0	0.0	2	5.1	0	0.0	0	0.0
Washington	0	0.0	0	0.0	1	3.1	0	0.0	2	6.3	0	0.0
York	2	1.0	1	0.5	1	0.5	8	4.0	2	1.0	3	1.5
Maine Total	21	1.6	8	0.6	12	0.9	108	8.1	31	2.3	19	1.4

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2014

	Listeriosis		Lyme disease		Malaria		Meningococcal invasive disease		MRSA, invasive		Mumps	
County	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Androscoggin	0	0.0	94	87.5	0	0.0	0	0.0	10	9.3	0	0.0
Aroostook	0	0.0	5	7.2	0	0.0	0	0.0	17	24.5	0	0.0
Cumberland	5	1.7	338	117.4	4	1.4	0	0.0	25	8.7	0	0.0
Franklin	1	3.3	10	33.0	0	0.0	0	0.0	1	3.3	0	0.0
Hancock	0	0.0	120	219.4	0	0.0	0	0.0	5	9.1	0	0.0
Kennebec	0	0.0	138	113.9	0	0.0	0	0.0	19	15.7	0	0.0
Knox	0	0.0	106	267.2	0	0.0	1	2.5	3	7.6	0	0.0
Lincoln	1	2.9	82	240.0	1	2.9	0	0.0	3	8.8	0	0.0
Oxford	0	0.0	42	73.4	0	0.0	0	0.0	4	7.0	0	0.0
Penobscot	0	0.0	50	32.6	0	0.0	1	0.7	19	12.4	0	0.0
Piscataquis	0	0.0	2	11.7	2	11.7	0	0.0	4	23.5	0	0.0
Sagadahoc	0	0.0	64	182.6	0	0.0	0	0.0	1	2.9	0	0.0
Somerset	0	0.0	17	33.2	0	0.0	0	0.0	8	15.6	0	0.0
Waldo	0	0.0	49	125.5	0	0.0	0	0.0	5	12.8	0	0.0
Washington	0	0.0	14	44.0	0	0.0	0	0.0	8	25.2	0	0.0
York	1	0.5	269	134.0	0	0.0	0	0.0	11	5.5	0	0.0
Maine Total	8	0.6	1400	105.3	7	0.5	2	0.2	143	10.8	0	0.0

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2014

	Pertussis		Rabies, animal		Salmonellosis		Shiga toxin-producing *E. coli*		Shigellosis	
County	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	No.
Androscoggin	37	34.4	7		10	9.3	3	2.8	13	12.1
Aroostook	68	97.9	0		13	18.7	2	2.9	2	2.9
Cumberland	30	10.4	8		21	7.3	6	2.1	4	1.4
Franklin	50	165.0	1		9	29.7	1	3.3	2	6.6
Hancock	8	14.6	0		1	1.8	1	1.8	0	0.0
Kennebec	17	14.0	6		13	10.7	4	3.3	3	2.5
Knox	18	45.4	1		1	2.5	1	2.5	0	0.0
Lincoln	20	58.5	0		6	17.6	1	2.9	0	0.0
Oxford	16	28.0	2		7	12.2	0	0.0	2	3.5
Penobscot	97	63.2	2		8	5.2	5	3.3	0	0.0
Piscataquis	28	164.5	0		5	29.4	0	0.0	0	0.0
Sagadahoc	9	25.7	2		5	14.3	1	2.9	0	0.0
Somerset	44	86.0	5		6	11.7	0	0.0	0	0.0
Waldo	52	133.2	2		2	5.1	1	2.6	0	0.0
Washington	40	125.8	6		2	6.3	0	0.0	0	0.0
York	23	11.5	2		18	9.0	7	3.5	3	1.5
Maine Total	557	41.9	44		127	9.5	33	2.5	29	2.2

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2014

	Streptococcus, invasive Group A		***Streptococcus pneumoniae*, invasive**		**Tuberculosis**		**Varicella (Chickenpox)**		**Vibriosis**	
County	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Androscoggin	4	3.7	11	10.2	4	3.7	15	14.0	0	0.0
Aroostook	5	7.2	6	8.6	0	0.0	17	24.5	0	0.0
Cumberland	12	4.2	25	8.7	5	1.7	34	11.8	1	0.3
Franklin	0	0.0	1	3.3	0	0.0	6	19.8	1	3.3
Hancock	5	9.1	10	18.3	1	1.8	8	14.6	0	0.0
Kennebec	7	5.8	10	8.3	1	0.8	21	17.3	0	0.0
Knox	0	0.0	5	12.6	0	0.0	11	27.7	0	0.0
Lincoln	1	2.9	6	17.6	0	0.0	3	8.8	3	8.8
Oxford	0	0.0	5	8.7	0	0.0	1	1.7	0	0.0
Penobscot	5	3.3	24	15.6	0	0.0	45	29.3	0	0.0
Piscataquis	1	5.9	2	11.7	0	0.0	3	17.6	0	0.0
Sagadahoc	1	2.9	3	8.6	0	0.0	4	11.4	0	0.0
Somerset	3	5.9	11	21.5	0	0.0	7	13.7	0	0.0
Waldo	0	0.0	1	2.6	0	0.0	4	10.2	0	0.0
Washington	1	3.1	4	12.6	0	0.0	5	15.7	0	0.0
York	7	3.5	13	6.5	3	1.5	23	11.5	4	2.0
Maine Total	52	3.9	137	10.3	14	1.1	207	15.6	9	0.7

Reportable HIV/STDs, Number of Cases and Rate per 100,000 Persons by County, Maine, 2014

	Chlamydia		Gonorrhea		Syphilis, Primary and Secondary		HIV	
County	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Androscoggin	522	485.9	68	63.3	4	3.7	3	2.8
Aroostook	112	161.3	1	1.4	0	0.0	0	0.0
Cumberland	827	287.4	60	20.8	6	2.1	32	11.1
Franklin	65	214.5	5	16.5	0	0.0	0	0.0
Hancock	90	164.5	2	3.7	0	0.0	1	1.8
Kennebec	358	295.6	23	19.0	0	0.0	4	3.3
Knox	51	128.5	3	7.6	0	0.0	1	2.5
Lincoln	64	187.3	3	8.8	0	0.0	0	0.0
Oxford	125	218.4	1	1.7	0	0.0	0	0.0
Penobscot	537	350.0	18	11.7	5	3.3	6	3.9
Piscataquis	36	211.4	0	0.0	0	0.0	0	0.0
Sagadahoc	77	219.7	4	11.4	1	2.9	0	0.0
Somerset	118	230.6	5	9.8	0	0.0	3	5.9
Waldo	100	256.1	4	10.2	1	2.6	2	5.1
Washington	50	157.2	5	15.7	2	6.3	0	0.0
York	399	198.8	35	17.4	2	1.0	6	3.0
Maine Total	3531	265.5	237	17.8	21	1.6	58	4.4

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by District*, Maine, 2014

Condition	Aroostook		Central		Cumberland		Downeast		Mid Coast	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Anaplasmosis	1	1.4	8	4.6	34	11.8	3	3.5	81	54.8
Babesiosis	0	0.0	0	0.0	11	3.8	0	0.0	13	8.8
Campylobacteriosis	10	14.4	42	24.4	42	14.6	9	10.4	26	17.6
Chlamydia	112	161.3	476	276.3	827	287.4	140	161.8	292	197.4
Cryptosporidiosis	0	0.0	7	4.1	9	3.1	9	10.4	7	4.7
Ehrlichia chaffeensis	0	0.0	0	0.0	5	1.7	1	1.2	0	0.0
Giardiasis	5	7.2	26	15.1	40	13.9	9	10.4	25	16.9
Gonorrhea	1	1.4	28	16.3	60	20.8	7	8.1	14	9.5
Haemophilus influenzae, invasive	0	0.0	3	1.7	2	0.7	2	2.3	3	2.0
Hemolytic uremic syndrome	1	1.4	0	0.0	0	0.0	0	0.0	0	0.0
HIV	0	0.0	7	4.1	32	11.1	1	1.2	3	2.0
Hepatitis A	0	0.0	0	0.0	2	0.7	1	1.2	4	2.7
Hepatitis B, acute	0	0.0	5	2.9	1	0.3	2	2.3	0	0.0
Hepatitis B, chronic	5	7.2	5	2.9	56	19.5	1	1.2	4	2.7
Hepatitis C, acute	1	1.4	5	2.9	4	1.4	3	3.5	4	2.7
Legionellosis	0	0.0	3	1.7	3	1.0	1	1.2	0	0.0
Listeriosis	0	0.0	0	0.0	5	1.7	0	0.0	1	0.7

*See map in Appendix H for location of districts

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by District*, Maine, 2014

Condition	Penquis		Western		York		State	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Anaplasmosis	4	2.3	16	8.2	44	21.9	191	14.4
Babesiosis	0	0.0	3	1.5	15	7.5	42	3.2
Campylobacteriosis	28	16.4	36	18.5	31	15.4	224	16.8
Chlamydia	573	336.2	712	365.2	399	198.8	3531	265.5
Cryptosporidosis	16	9.4	1	0.5	2	1.0	51	3.8
Ehrlichia chaffeensis	0	0.0	2	1.0	0	0.0	8	0.6
Giardiasis	19	11.1	24	12.3	6	3.0	154	11.6
Gonorrhea	18	10.6	74	38.0	35	17.4	237	17.8
Haemophilus influenzae, invasvie	4	2.3	5	2.6	2	1.0	21	1.6
Hemolytic uremic syndrome	0	0.0	0	0.0	0	0.0	1	0.1
HIV	6	3.5	3	1.5	6	3.0	58	4.4
Hepatitis A	0	0.0	0	0.0	1	0.5	8	0.6
Hepatitis B, acute	1	0.6	2	1.0	1	0.5	12	0.9
Hepatitis B, chronic	8	4.7	21	10.8	8	4.0	108	8.1
Hepatitis C, acute	7	4.1	5	2.6	2	1.0	31	2.3
Legionellosis	3	1.8	6	3.1	3	1.5	19	1.4
Listeriosis	0	0.0	1	0.5	1	0.5	8	0.6

*See map in Appendix H for location of districts

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by District*, Maine, 2014

Condition	Aroostook		Central		Cumberland		Downeast		Mid Coast	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Lyme disease	5	7.2	155	90.0	338	117.4	134	154.9	301	203.5
Meningococcal invasive disease	0	0.0	0	0.0	0	0.0	0	0.0	1	0.7
MRSA, invasive	17	24.5	27	15.7	25	8.7	13	15.0	12	8.1
Mumps	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pertussis	68	97.9	61	35.4	30	10.4	48	55.5	99	66.9
Rabies, animal	0		11		8		6		5	
Salmonellosis	13	18.7	19	11.0	21	7.3	3	3.5	14	9.5
Shiga toxin-producing *E. coli*	2	2.9	4	2.3	6	2.1	1	1.2	4	2.7
Shigellosis	2	2.9	3	1.7	4	1.4	0	0.0	0	0.0
Streptococcus, invasive Group A	5	7.2	10	5.8	12	4.2	6	6.9	2	1.4
Streptococcus pneumoniae, invasive	6	8.6	21	12.2	25	8.7	14	16.2	15	10.1
Syphilis	0	0.0	0	0.0	6	2.1	2	2.3	2	1.4
Tuberculosis	0	0.0	1	0.6	5	1.7	1	1.2	0	0.0
Varicella (chickenpox)	17	24.5	28	16.3	34	11.8	13	15.0	22	14.9
Vibriosis	0	0.0	0	0.0	1	0.3	0	0.0	3	2.0

*See map in Appendix H for location of districts

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by District*, Maine, 2014

Condition	Penquis		Western		York		State	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Lyme disease	52	30.5	146	74.9	269	134.0	1400	105.3
Meningococcal invasive disease	1	0.6	0	0.0	0	0.0	2	0.2
MRSA, invasive	23	13.5	15	7.7	11	5.5	143	10.8
Mumps	0	0.0	0	0.0	0	0.0	0	0.0
Pertussis	125	73.3	103	52.8	23	11.5	557	41.9
Rabies, animal	2		10		2		44	
Salmonellosis	13	7.6	26	13.3	18	9.0	127	9.5
Shiga toxin-producing *E. coli*	5	2.9	4	2.1	7	3.5	33	2.5
Shigellosis	0	0.0	17	8.7	3	1.5	29	2.2
Streptococcus, invasive Group A	6	3.5	4	2.1	7	3.5	52	3.9
Streptococcus pneumoniae, invasive	26	15.3	17	8.7	13	6.5	137	10.3
Syphilis	5	2.9	4	2.1	2	1.0	21	1.6
Tuberculosis	0	0.0	4	2.1	3	1.5	14	1.1
Varicella	48	28.2	22	11.3	23	11.5	207	15.6
Vibriosis	0	0.0	1	0.5	4	2.0	9	0.7

*See map in Appendix H for location of districts

Race and Ethnicity of Selected Reportable Conditions, Maine, 2014

	Race					Ethnicity		
Condition	**American Indian or Alaskan Native**	**Asian or Pacific Islander**	**Black or African American**	**White**	**Other/ Unknown**	**Hispanic**	**Non-Hispanic**	**Unknown**
Anaplasmosis	0	2	0	175	14	2	162	27
Babesiosis	1	0	0	39	2	0	39	3
Campylobacteriosis	0	1	2	206	15	4	208	12
Chikungunya	0	0	0	6	0	0	6	0
Chlamydia	4	22	139	1893	1473	23	2022	1486
Cryptosporidiosis	0	1	0	44	6	0	46	5
Dengue Fever	0	0	0	1	0	0	1	0
Ehrlichia chaffeensis	0	0	0	8	0	0	8	0
Gonorrhea	0	2	25	138	72	1	165	71
Giardiasis	1	0	2	84	67	2	73	79
GAS	0	0	0	47	5	2	43	7
H. influenzae (invasive)	0	0	2	19	0	0	19	2
Hemolytic uremic syndrome		0	0	1	0	0	1	0
Hepatitis A, acute	0	0	0	7	1	1	7	0
Hepatitis B, acute	0	0	0	12	0	0	12	0
Hepatitis B, chronic	0	9	54	37	8	2	95	11
Hepatitis C, acute	0	0	1	28	2	0	29	2
Hepatitis C, chronic	9	1	10	324	1081	6	195	1224
HIV Infection	0	0	25	30	3	3	52	3

Race and Ethnicity of Selected Reportable Conditions, Maine, 2014

	Race					Ethnicity		
Condition	**American Indian or Alaskan Native**	**Asian or Pacific Islander**	**Black or African American**	**White**	**Other/ Unknown**	**Hispanic**	**Non-Hispanic**	**Unknown**
Latent TB Infection	0	57	280	92	126	10	422	123
Legionellosis	0	1	1	15	2	0	16	3
Listeriosis	0	0	0	7	1	0	7	1
Lyme disease	0	2	2	1118	278	6	413	981
Malaria	0	0	4	3	0	0	7	0
Meningococcal disease	0	0	0	2	0	0	2	0
MRSA, invasive	0	0	0	61	82	8	32	103
Pertussis	2	2	5	525	23	3	516	38
Salmonellosis	0	0	4	114	9	2	115	10
Shiga toxin-producing *E. coli*	0	0	1	30	2	0	31	2
Shigellosis	0	1	0	25	3	0	27	2
Streptococcus pneumoniae, invasive	1	1	1	130	4	5	90	42
Streptococcal Toxic Shock Syndrome	0	0	0	16	2	0	16	2
Syphilis (early)	0	1	0	18	2	0	19	2
Tuberculosis	0	4	7	3	0	1	13	0
Varicella (Chickenpox)	0	1	3	86	117	1	69	137
Vibriosis	0	0	0	8	1	0	8	1

Anaplasmosis

2014 Case Total	**191**
Maine Rate	**14.4 per 100,000**
U.S. rate (2013)	**0.9 per 100,000**

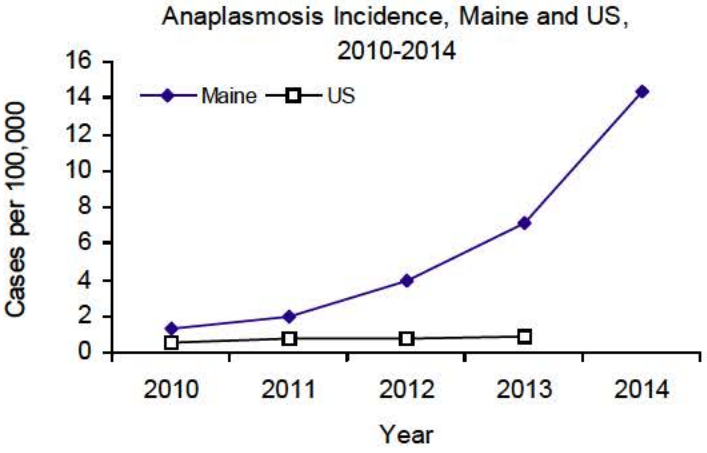
Anaplasmosis is a disease caused by the bacterium *Anaplasma phagocytophilum*.

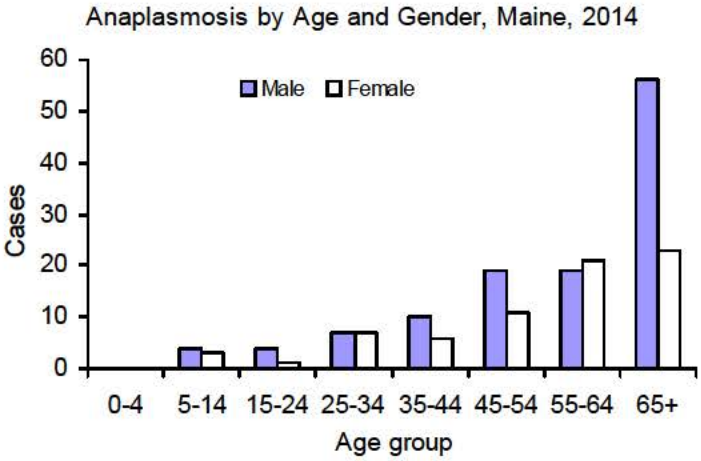
Signs and symptoms of anaplasmosis include: fever, headache, malaise, and body aches. Anaplasmosis is transmitted to a person by the bite of an infected deer tick (*Ixodes scapularis*), one of the most common ticks in Maine.

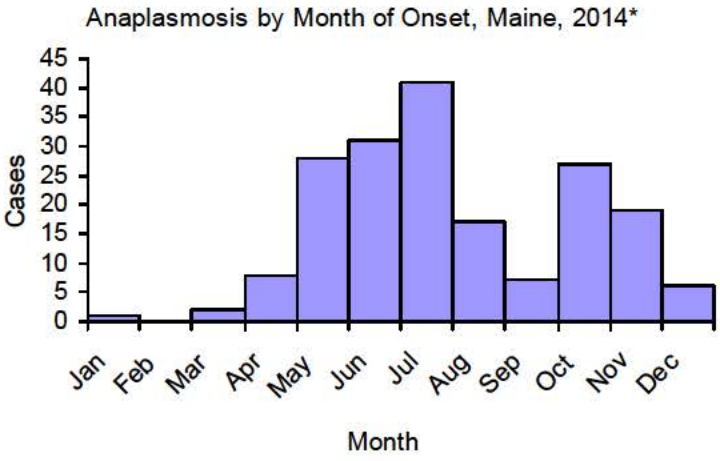
- 191 cases represent an increase from 94 cases in 2013
- The 2009-2013 median number of cases per year was 26
- Median age was 60 years
- Age range was 5 to 96 years
- Cases were 38% female and 62% male
- Greatest number of cases occurred during the summer and fall months

The best way to prevent infection is to take measures to protect against tick bites. Checking for ticks after visiting a tick infested area is an important way to reduce the risk of contracting anaplasmosis. Using EPA approved repellents such as DEET on skin or permethrin on clothing is a good way to protect against tick bites. Always follow the instructions on the label when applying repellent products. If an engorged tick is found, it should be safely removed and saved for identification. Monitor for signs and symptoms for 30 days after the tick bite.

For more information about submitting a tick for identification only (not testing) visit http://extension.umaine.edu/ipm/tickid/







*onset date missing for four cases

Babesiosis

2014 Case Total	**42**
Maine Rate	**3.2 per 100,000**
U.S. rate (2013)	**0.6 per 100,000**

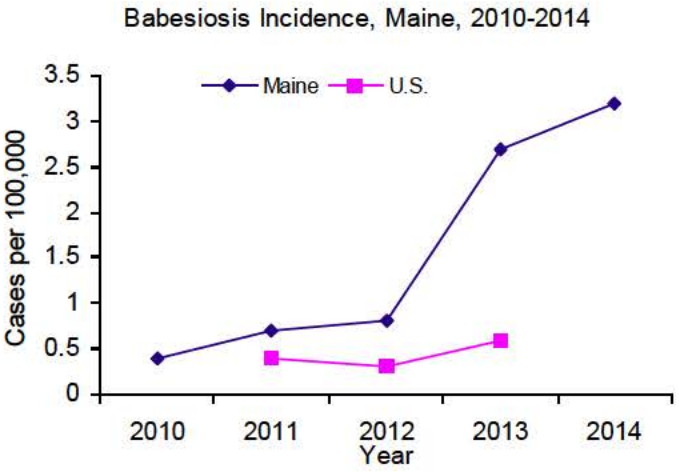
Babesiosis is caused by a parasite that may be carried by ticks. Many individuals that get the disease do not have symptoms. Serious symptoms can occur, especially in persons who are immunosuppressed, those without a spleen, or people who are co-infected with Lyme disease. Babesiosis may also occur after a blood transfusion from an infected donor.

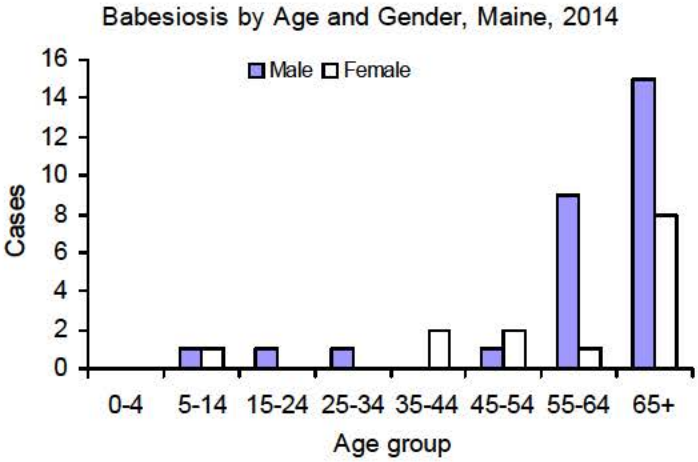
Common symptoms include: extreme fatigue, aches, fever, chills, sweating, dark urine, and possibly anemia.

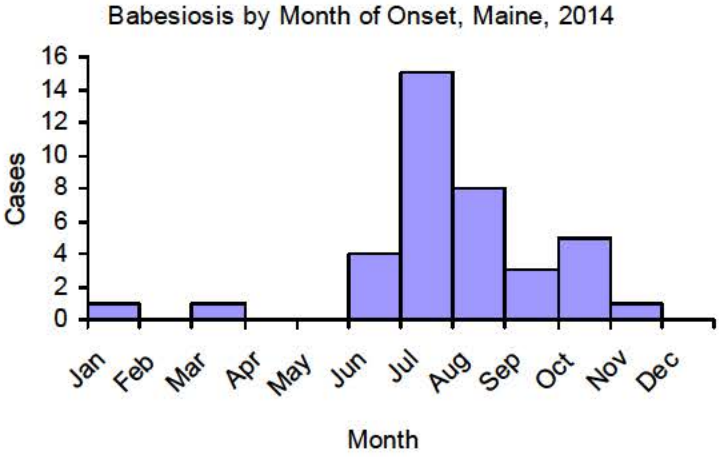
- 42 cases represent an increase from 36 cases in 2013
- The 2009-2013 median number of cases was 9
- Median age was 67 years
- Age range was 8 to 92 years
- Cases were 33% female and 67% male
- Greatest number of cases occurred during the summer months

The best way to prevent infection is to take measures to protect against tick bites. Checking for ticks after visiting a tick infested area is an important way to reduce the risk of contracting babesiosis. Using EPA approved repellents such as DEET on skin or permethrin on clothing is a good way to protect against tick bites. Always follow the instructions on the label when applying repellent products. If an engorged tick is found, it should be safely removed and saved for identification. Monitor for signs and symptoms for 30 days after the tick bite.

For more information about submitting a tick for identification only (not testing) visit http://extension.umaine.edu/ipm/tickid/







*onset date missing for four cases

Campylobacteriosis

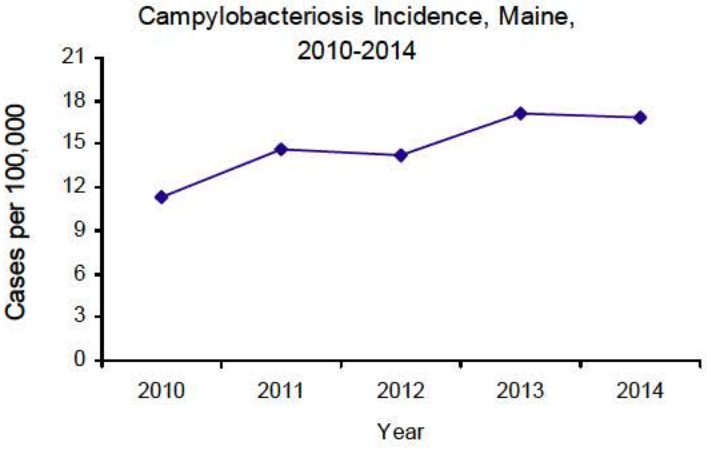
2014 Case Total	**224**
Maine Rate	**16.8 per 100,000**
U.S. rate (2013)	**Not reportable**

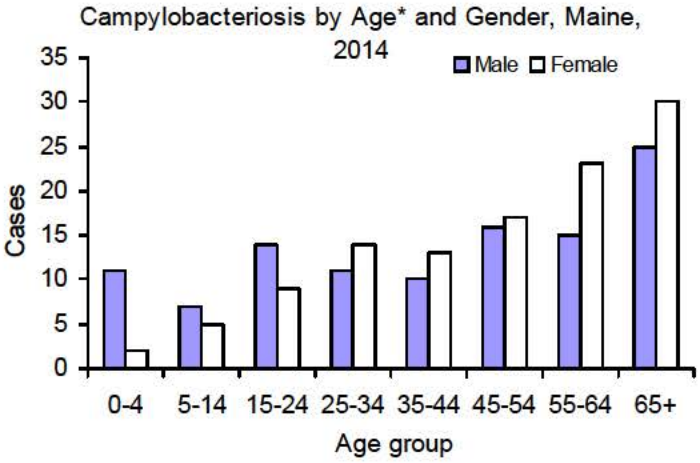
Campylobacteriosis is one of the most common infectious diseases causing diarrhea in the United States. Symptoms include: diarrhea, cramping, abdominal pain and fever. Most people recover within 5 to 10 days.

Campylobacteriosis is associated with handling raw poultry or eating undercooked poultry meat, consuming unpasteurized milk and other dairy products and from exposure to contaminated foods. Raw foods, such as vegetables or salad, can be contaminated if the same cutting board or utensils are used for both raw foods and raw poultry items and not cleaned between preparations.

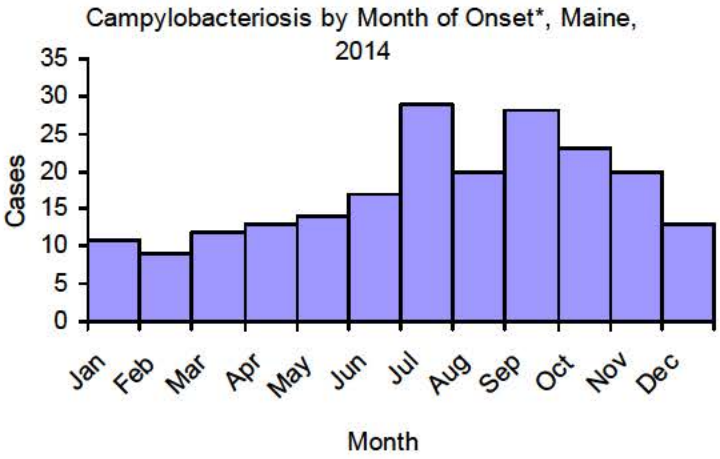
- 224 cases represent a decrease from 228 cases in 2013
- The 2009-2013 median number of cases was 189
- Median age was 49 years
- Age range was 7 months to 94 years
- Cases were 51% female and 49% male
- Highest incidence in Lincoln, Oxford, Kennebec, and Somerset counties
- Greatest number of cases occurred during the summer months

To prevent illness, individuals should cook poultry and other meats properly, avoid consuming untreated water, raw milk and milk products, and unpasteurized juice. Wash hands well with soap and water after contact with baby poultry, pets and other animals.





*age missing for two cases



*onset date missing for 15 cases

Chlamydia

2014 Case Total	**3,531**
Maine Rate	**265.5 per 100,000**
U.S. rate (2013)	**446.6 per 100,000**

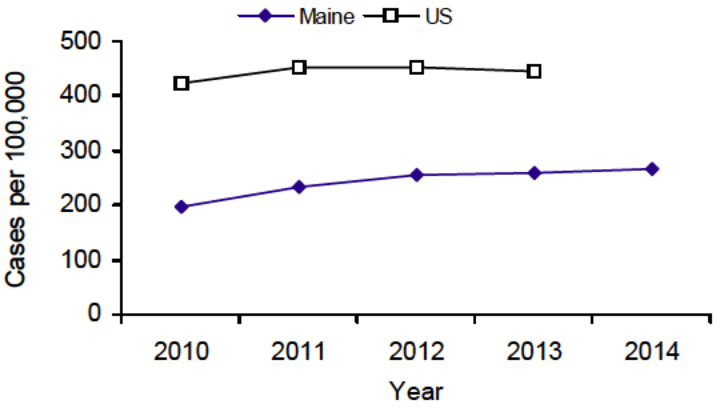
Chlamydia is a sexually transmitted disease (STD) caused by the bacterium *Chlamydia trachomatis*. Chlamydia is known as a "silent" disease, as three quarters (75%) of women and half (50%) of men infected with chlamydia will have no symptoms. Common symptoms for women include vaginal discharge or a burning sensation with urination and for men include penile discharge and burning on urination.

If chlamydia is not treated, the infection may cause serious damage to the reproductive system, including infertility. Chlamydia can be passed to a child during birth. People with chlamydia can more easily contract HIV from someone else or transmit HIV to others if they are infected with both.

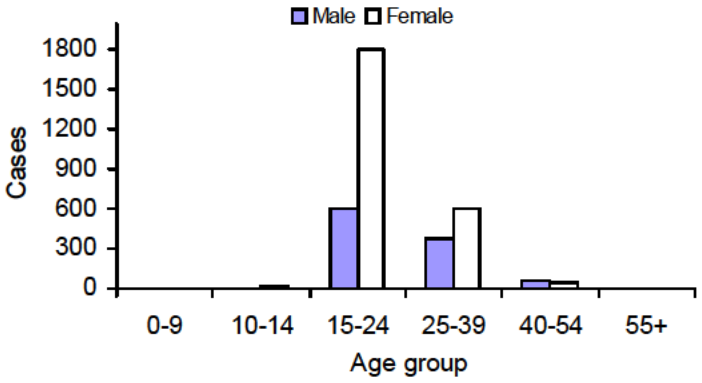
- 3,531 cases represents an increase from 3,439 cases in 2013
- Chlamydia is the most frequently reported STD in Maine
- Median age was 22 years
- Age range was 13 to 79 years
- 68% of infections were in persons 15-24 years old
- Cases were 70% female and 30% male

Chlamydia can be prevented by the use of latex or polyurethane condoms and dental dams during anal, vaginal, and oral sex. Efforts to prevent the spread of chlamydia include prioritized follow up activities for new diagnoses and state supported testing offered throughout the state. Currently state supported testing is available for un/under-insured men and women at risk for chlamydia at Maine Family Planning offices and at the STD clinic in Portland.

Chlamydia Incidence, Maine and US, 2010-2014

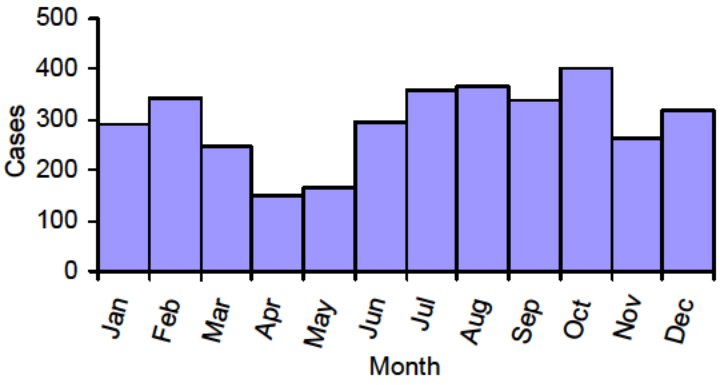


Chlamydia by Age* and Sex, Maine, 2014



*age missing for eight cases

Chlamydia by Month, Maine, 2014



Cryptosporidiosis

2014 Case Total	**51**
Maine Rate	**3.8 per 100,000**
U.S. rate (2013)	**2.9 per 100,000**

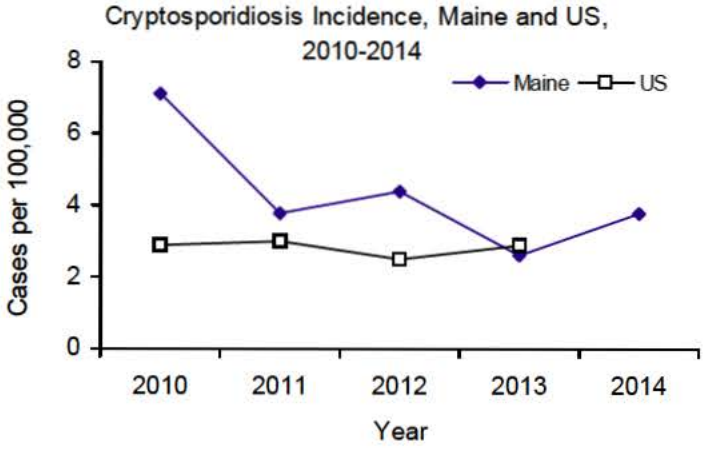
Cryptosporidiosis is an infection most frequently associated with contaminated water or contact with infected animals. The disease is caused by a parasite that lives in the intestines of animals and infected humans. Feces containing the parasite may contaminate the ground or water sources. The parasite may live for long periods of time in the environment due to a protective outer covering. It is resistant to many chlorine-based disinfectants, increasing the risk of transmission in swimming pools and waterparks.

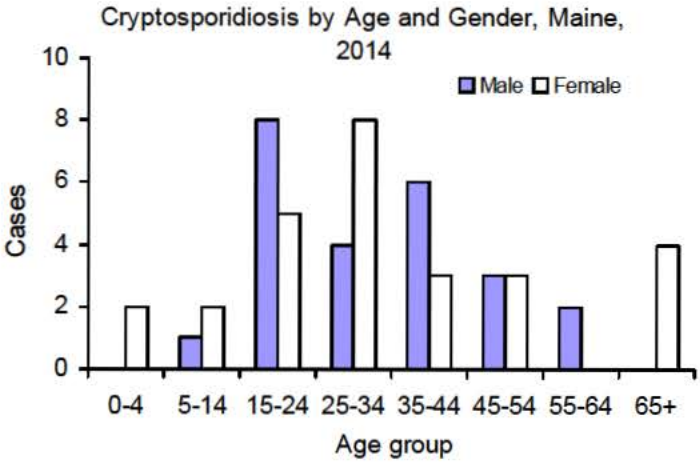
Symptoms include: diarrhea, abdominal cramping, malaise and vomiting.

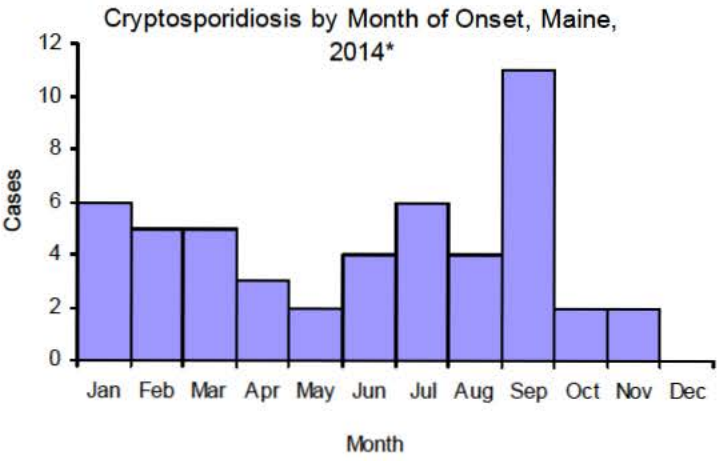
- 51 cases represent an increase from 35 cases in 2013
- The 2009-2013 median number of cases per year was 58
- Median age was 30 years
- Age range was 1 year to 72 years
- Cases were 53% female and 47% male
- Highest incidence was in Penobscot, Hancock, Piscataquis, Waldo and Washington counties

In 2014, a cluster of four cases was epidemiologically linked to a dairy selling unpasteurized milk.

Preventive measures include consuming pasteurized milk and dairy products, practicing good hand hygiene around farm animals and discouraging persons of all ages from swimming when they have diarrheal illness.







*onset date missing for one case

Giardiasis

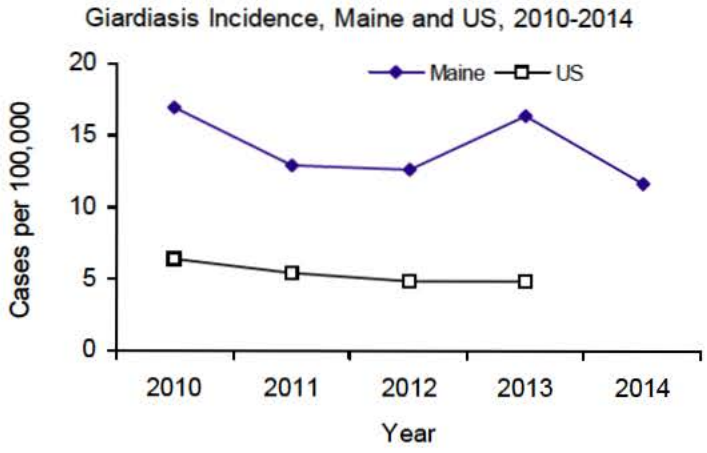
2014 Case Total	**154**
Maine Rate	**11.6 per 100,000**
U.S. rate (2013)	**4.8 per 100,000**

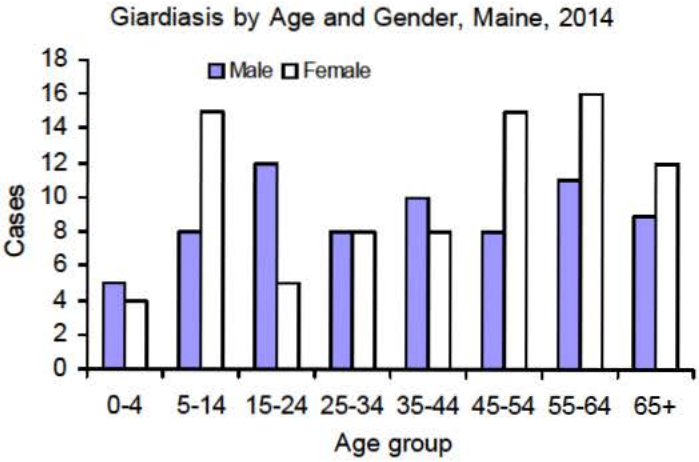
Giardiasis is sometimes known as "beaver fever" because beavers (as well as dogs, cats, horses and cows) are major reservoirs for the parasite (*Giardia lamblia*) that causes the infection. The parasite lives in the intestines of infected humans and animals and when expelled through the feces can contaminate water and surfaces. If hikers or others drink water without proper treatment they may become infected. Young children in child care or pool settings who are prone to sucking on toys or swallowing water are also at higher risk.

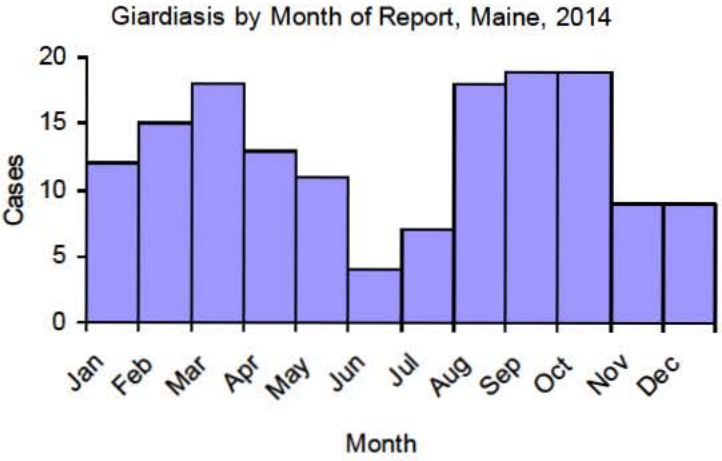
In 2013, an evaluation of giardiasis surveillance revealed the need to collect symptom information to correctly count cases. Starting in June of 2014 only symptomatic cases were counted. Case counts decreased as asymptomatic cases were not counted.

- 154 cases represents an decrease from 218 cases in 2013
- The 2009-2013 median number of cases per year was 218
- Median age was 42 years
- Age range was 9 months to 93 years
- Cases were 54% female and 46% male
- Highest incidence was in Somerset, Lincoln, Franklin, and Sagadahoc counties
- Greatest number of cases occurred during the late summer and fall months

Individuals can prevent this illness by not drinking from untreated water sources, such as streams and lakes. Increased attention to proper sanitation and hygiene in public water recreational facilities can help to reduce the transmission of *Giardia*.







Gonorrhea

2014 Case Total	**237**
Maine Rate	**17.8 per 100,000**
U.S. rate (2013)	**106.1 per 100,000**

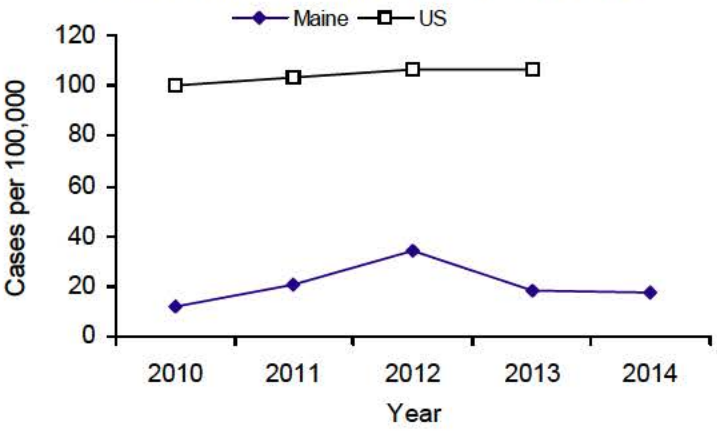
Gonorrhea is a sexually transmitted disease (STD) caused by the bacterium *Neisseria gonorrhoeae* that grows and multiplies in warm, moist areas (mucous membranes). Gonorrhea can be spread through contact with the vagina, penis, mouth or anus. Gonorrhea can also spread from a mother to her baby during childbirth. Gonorrhea does not always cause symptoms. Men may feel a burning sensation while urinating, or have discharge from their penis. Women might feel pain with urination, or notice discharge from their vagina.

Gonorrhea is dangerous if untreated. In women, gonorrhea is a common cause of pelvic inflammatory disease, which can lead to chronic pain and infertility. In men, gonorrhea can cause epididymitis, which causes painful testicles and infertility. People infected with HIV are more likely to contract gonorrhea and to transmit HIV if they are also infected with gonorrhea.

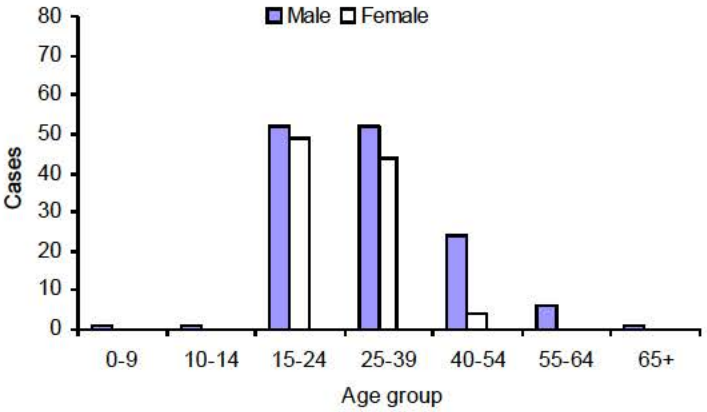
- 237 cases represents a decrease from 246 cases in 2013
- Median age was 26 years
- Age range was 9 to 69 years
- Cases were 41% female and 58% male (2 cases had unknown sex)

Gonorrhea can be prevented by using latex or polyurethane condoms and dental dams during anal, vaginal, and oral sex. Prevention efforts include treatment verification and case investigation activities, such as partner follow-up for all new infections. State supported testing for un/under insured men and women at risk is also available at Maine Family Planning offices throughout the state and at the Portland STD Clinic.

Gonorrhea Incidence, Maine and US, 2010-2014

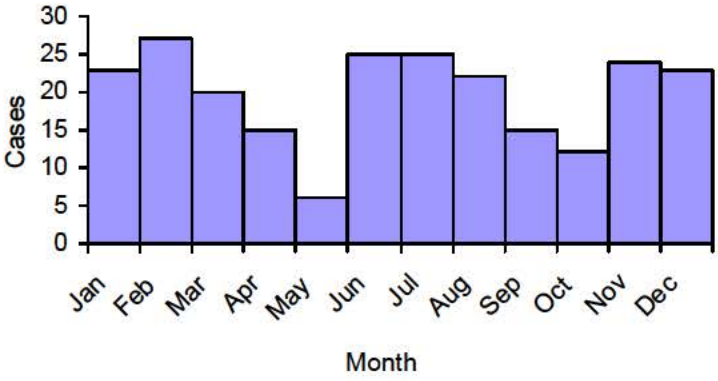


Gonorrhea by Age and Sex, Maine, 2014*



* sex missing for two cases

Gonorrhea by Month, Maine, 2014



Group A Streptococcal Disease, invasive

2014 Case Total	**52**
Maine Rate	**3.9 per 100,000**
U.S. rate (2013)	**Not reportable**

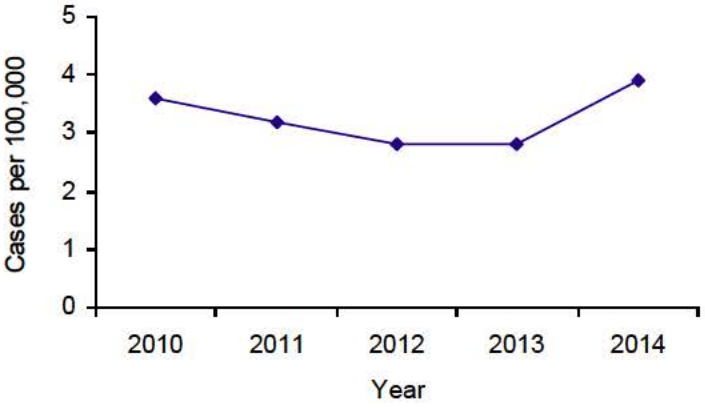
Group A *Streptococcus* (GAS) is a bacterium (*Streptococcus pyogenes*) often found in the throat and on the skin that can cause either no symptoms (colonization) or mild symptoms such as pharyngitis (strep throat), cellulitis (soft tissue infection) or impetigo (skin dermatitis). When the bacteria enters deeper tissues and the blood stream, GAS can cause severe or life-threatening conditions.

GAS may lead to Streptococcal Toxic Shock Syndrome (STSS), a rapid drop in blood pressure that causes organ failure. Necrotizing fasciitis, a condition that progressively destroys skin, fat, and muscles can be caused by GAS.

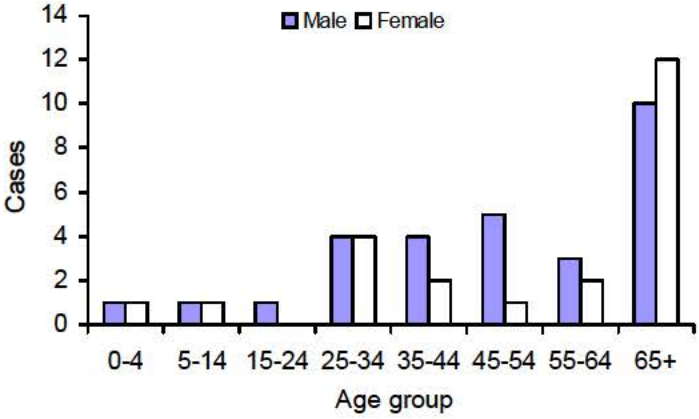
- 52 cases represents an increase from 37 cases in 2013
- The 2009-2013 median number of cases per year was 37
- Median age was 58 years
- Age range was 1 year to 89 years
- Cases were 44% female and 56% male
- 18 (35%) cases were also diagnosed with STSS
- 6 GAS cases also diagnosed with STSS died

Control and prevention strategies may include targeted chemoprophylaxis for high risk household contacts of confirmed cases, such as those who are 65 and older or those who have other specified risk factors (HIV infection, diabetes, malignancy, injecting drug use, or cardiac diseases).

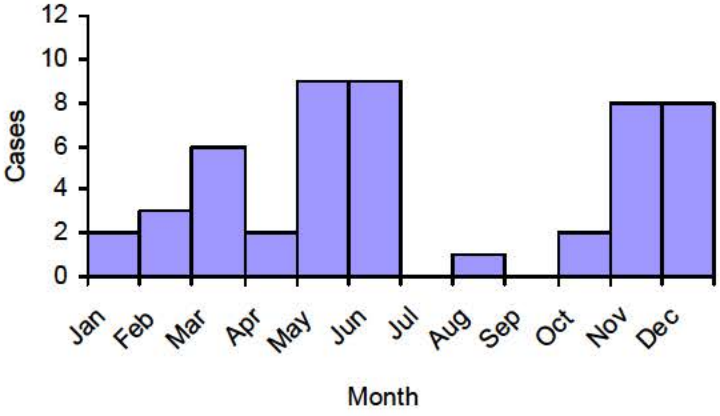
Invasive GAS Incidence, Maine, 2010-2014



Invasive GAS by Age and Gender, Maine, 2014



Invasive GAS by Month of Onset*, Maine, 2014



*onset date missing for two cases

Haemophilus influenza, invasive

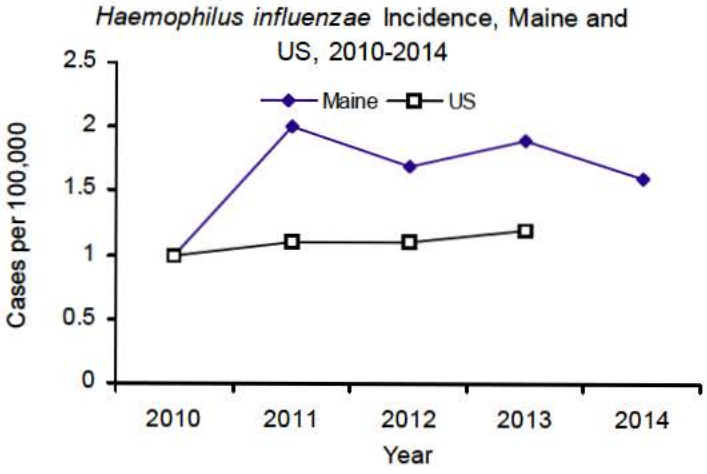
2014 Case Total	**21**
Maine Rate	**1.6 per 100,000**
U.S. rate (2013)	**1.2 per 100,000**

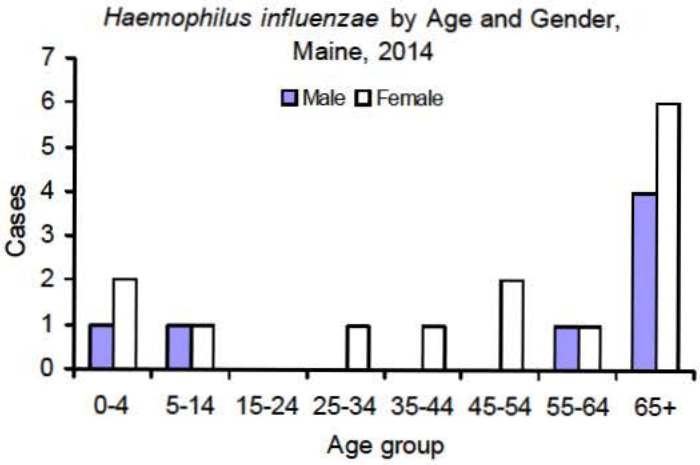
Haemophilus influenzae disease is caused by the *Haemophilus influenzae* bacterium. A specific type called *H. influenzae* serotype b (Hib) was once the most common cause of bacterial meningitis in children. Due to widespread use of Hib vaccine, few cases are reported in children less than 5 years old each year.

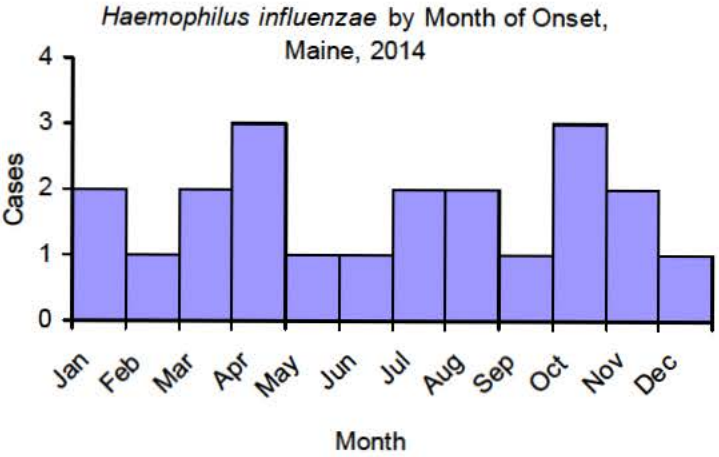
The bacteria are spread from person to person, through airborne droplets when an infected person coughs or sneezes. *H. influenzae* can cause severe illnesses such as meningitis, bacteremia, pneumonia, and septic arthritis.

- 21 cases represent a decrease from 25 cases in 2013
- The 2009-2013 median number of cases per year was 23
- Median age was 63 years
- Age range was 6 months to 93 years
- Cases were 67% female and 33% male
- 1 case of Hib was reported in a child <5 years of age

Haemophilus influenzae serotype b (Hib) may be prevented in children through vaccination. Vaccine is recommended for all children younger than 5 years of age and is usually given to infants starting at 2 months of age. For vaccine schedules please see: http://www.cdc.gov/vaccines/schedules/index.html.







Hepatitis A

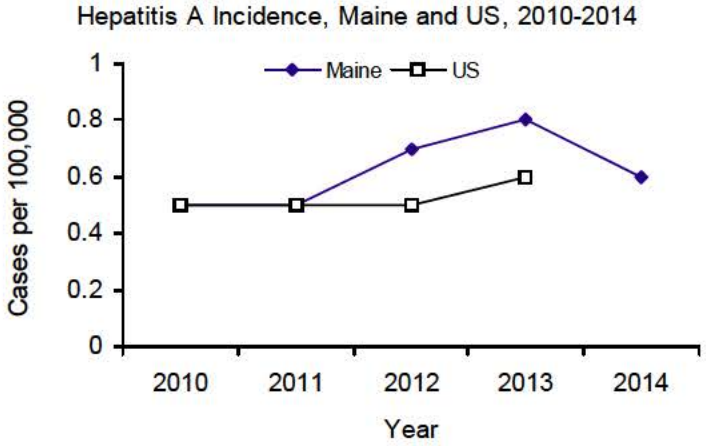
2014 Case Total	**8**
Maine Rate	**0.6 per 100,000**
U.S. rate (2013)	**0.6 per 100,000**

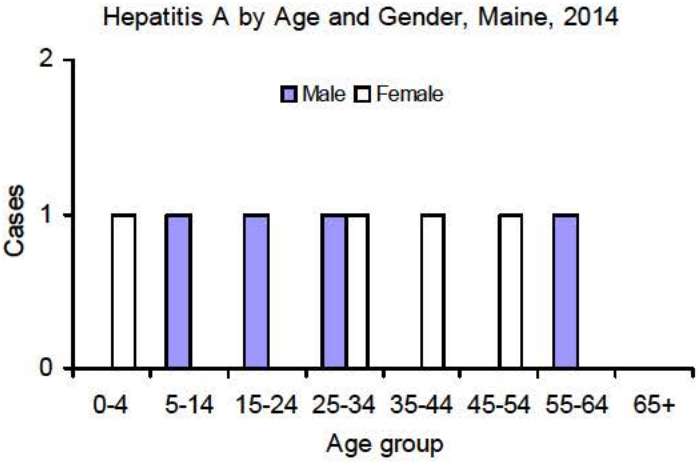
Hepatitis A is a liver disease caused by the hepatitis A virus. The virus is spread from person to person by fecal-oral transmission that involves putting something in the mouth (such as food, hands, or water) that is contaminated with hepatitis A virus. Poor handwashing by persons with hepatitis A increases the risk of transmission. The virus spreads more easily in areas where sanitary conditions and personal hygiene practices are poor. Most infections result from exposure during international travel, or contact with a household member or a sexual partner who has hepatitis A.

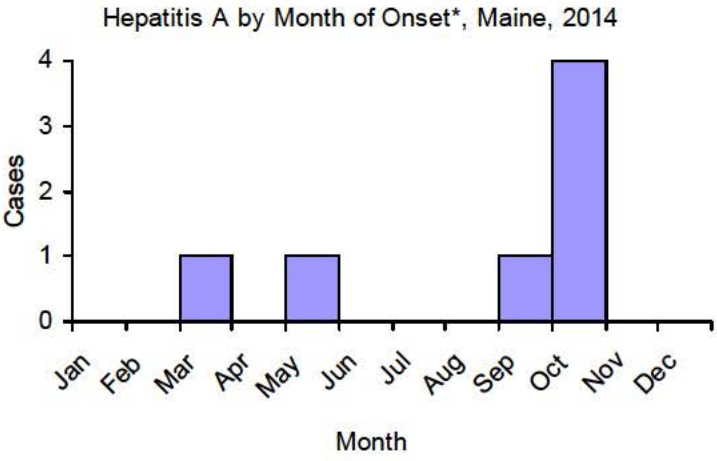
Onset of symptoms is usually abrupt with fever, malaise, anorexia, nausea and abdominal discomfort followed by jaundice a few days later. Children are often asymptomatic. Infection is self-limiting. Upon recovery a person is immune to hepatitis A.

- 8 cases represent a decrease from 10 cases in 2013
- The 2009-2013 median number of cases per year was 7
- Median age was 26 years
- Age range was 9 months to 59 years
- Cases were 50% female and 50% male

Washing hands after using the bathroom, changing a diaper, or before preparing or eating food can help prevent infection. Hepatitis A can also be prevented through vaccination. The two dose vaccine series is recommended for all children at 12 months of age and for persons who are more likely to be exposed to hepatitis A or become seriously ill if they get hepatitis A. The vaccine is also recommended for some travelers and for close contacts of newly arriving international adoptees.







*one case was asymptomatic

Hepatitis B, acute

2014 Case Total	**12**
Maine Rate	**0.9 per 100,000**
U.S. rate (2013)	**1.0 per 100,000**

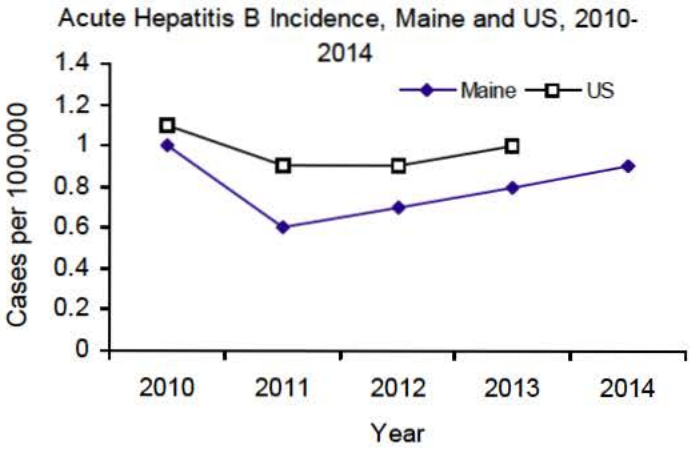
Hepatitis B is a liver disease caused by the hepatitis B virus. Acute hepatitis B infection occurs within the first six months after someone is exposed to the virus. In some cases, acute infection can lead to chronic infection. The younger the age at time of infection, the greater the likelihood of progressing to chronic hepatitis B infection.

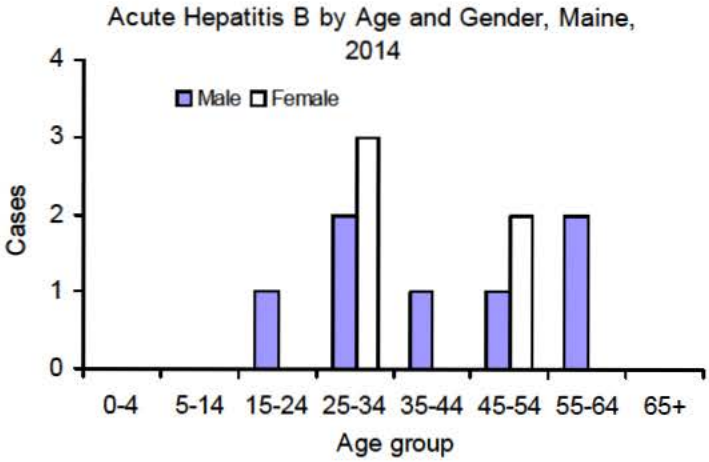
Hepatitis B virus can be transmitted through exposure to blood or body fluids from an infected person (needle sticks and other sharps exposures, sharing hypodermic syringes for drug injection), through sexual contact with an infected person, or from an infected mother to her child during childbirth. Sexual transmission is common among men who have sex with men.

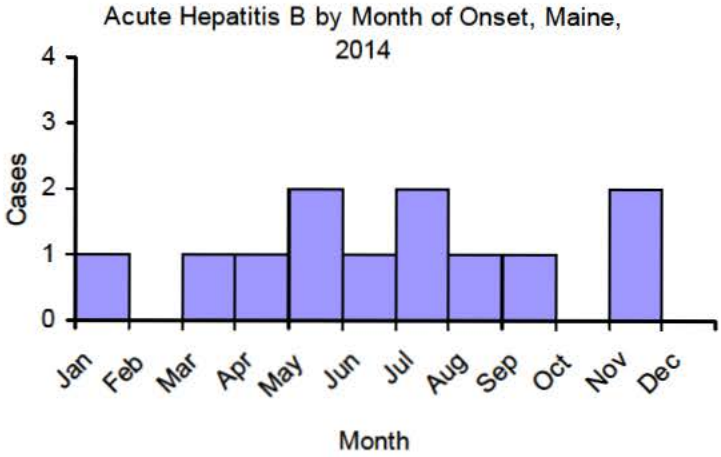
Symptoms include anorexia, abdominal discomfort, nausea and vomiting followed by jaundice. Many young children and immunosuppressed adults do not develop symptoms.

- 12 cases represent an increase from 11 cases in 2013
- The 2009-2013 median number of cases per year was 11
- Median age was 39 years
- Age range was 23 to 60 years
- Cases were 42% female and 58% male

Hepatitis B can be prevented by vaccination, not sharing needles and other drug injecting equipment, using sterile needles and syringes, and using condoms. Hepatitis B can also be prevented by not sharing equipment designated for individual use for blood glucose monitoring and insulin administration.







Hepatitis B, chronic

2014 Case Total	**108**
Maine Rate	**8.1 per 100,000**
U.S. rate (2013)	**Not available**

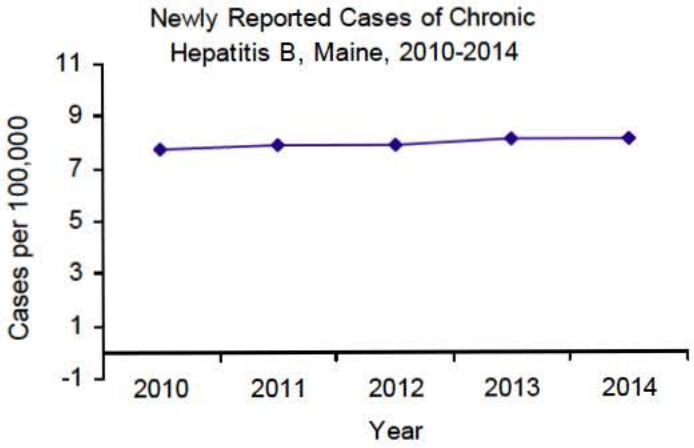
Hepatitis B is a liver disease caused by the hepatitis B virus. Chronic hepatitis B virus infection occurs when a person infected with acute hepatitis B does not clear the virus within the first 6 months of infection.

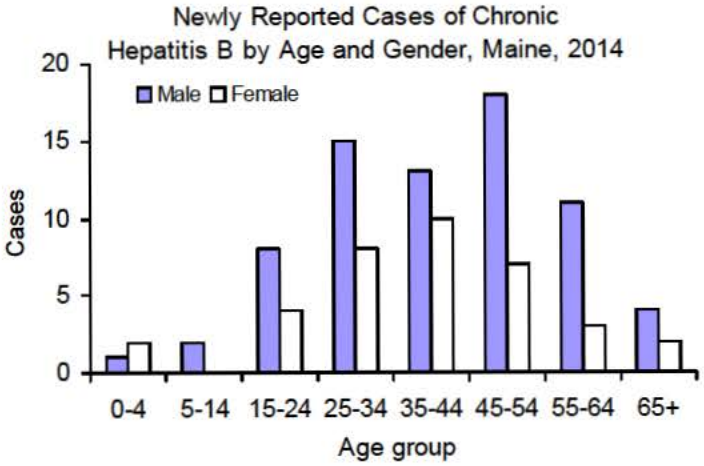
Chronic hepatitis B is a serious disease that can result in long-term health problems, such as cirrhosis (scarring) of the liver, liver cancer, liver failure, and even death. Many people do not have symptoms and may not know they are infected, but they can still spread the disease to others.

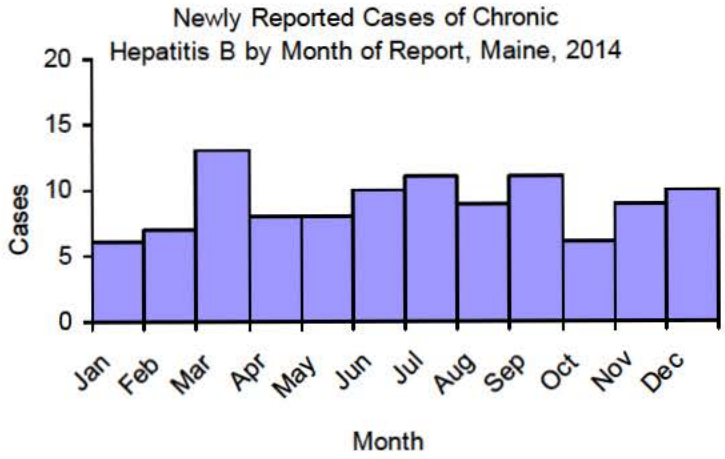
Hepatitis B virus can be transmitted through exposure to blood and or body fluids from an infected person (needle sticks and other sharps exposures, sharing drug injection equipment), through sexual contact with an infected person, or from an infected mother to her child during childbirth. Sexual transmission also occurs among men who have sex with men.

- 108 cases represent an increase from 107 cases in 2013
- Median age was 41 years
- Age range was 2 to 80 years
- Cases were 33% female and 67% male

Hepatitis B can be prevented through vaccination of susceptible household and sexual contacts of identified cases. Transmission can be prevented by not sharing needles or other drug injecting equipment, using sterile needles and syringes, and using condoms. Hepatitis B can also be prevented by not sharing equipment designated for individual use for blood glucose monitoring and insulin administration.







Hepatitis C, acute

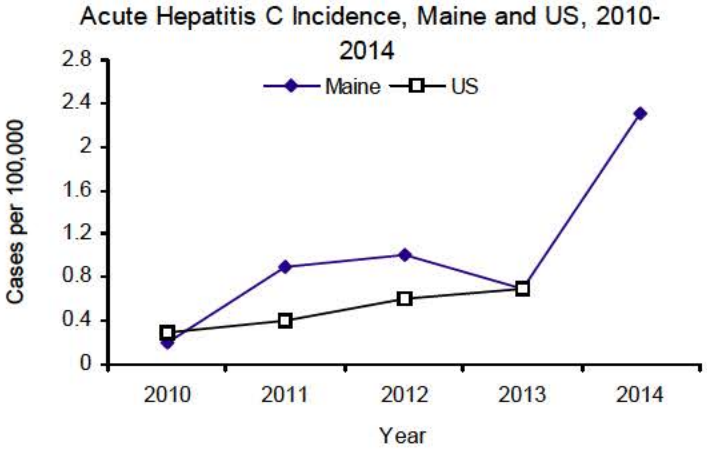
2014 Case Total	**31**
Maine Rate	**2.3 per 100,000**
U.S. rate (2013)	**0.7 per 100,000**

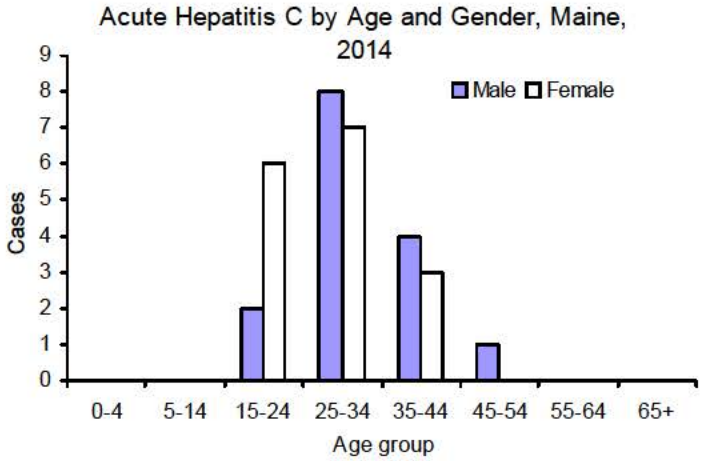
Hepatitis C is a liver disease caused by the hepatitis C virus. Acute hepatitis C infection occurs within the first six months after someone is exposed to the virus. Hepatitis C virus can be transmitted through exposure to blood from an infected person, such as by sharing needles or other injection drug equipment.

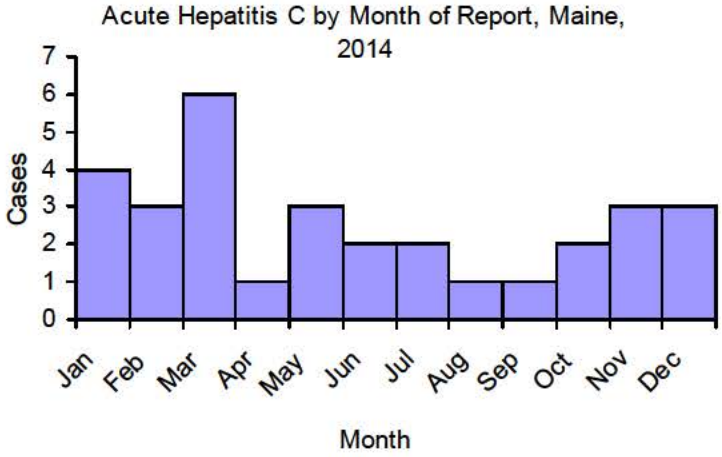
Persons with acute or newly acquired hepatitis C infection are usually asymptomatic or have mild symptoms. Approximately 20–30% of persons with acute infection experience fatigue, abdominal pain, poor appetite, and/or jaundice. The average time from exposure to symptom onset is 4–12 weeks (range: 2–24 weeks). Other symptoms of acute infection include: fever, dark urine, clay-colored stool, nausea, vomiting, and joint pain.

- 31 cases represents an increase from 9 cases in 2013
- The 2009-2013 median number of cases per year was 9
- Median age was 29 years
- Age range was 19 to 53 years
- Cases were 52% female and 48% male.

Hepatitis C can be prevented by not sharing needles or equipment used to inject drugs or personal hygiene items or sharps, including equipment designated for individual use for blood glucose monitoring and insulin administration. Hepatitis C can also be prevented by using licensed tattooists and body piercers and condoms to reduce the already low risk of sexual transmission.







Hepatitis C, past or present infection

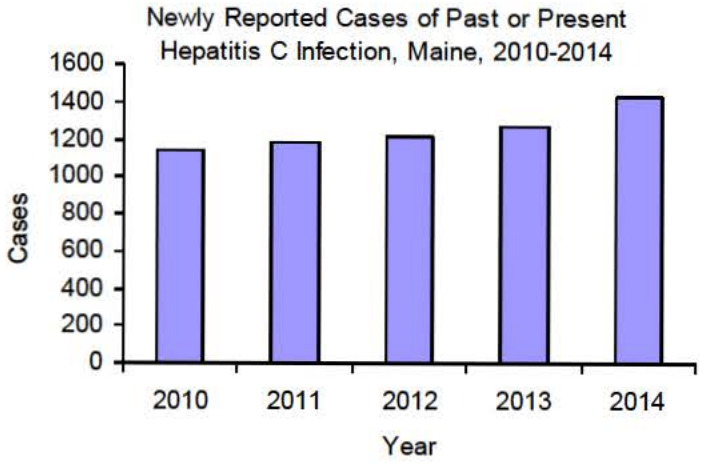
2014 Case Total	**1425**
Maine Rate	**107.1 per 100,000**
U.S. rate (2013)	**Not available**

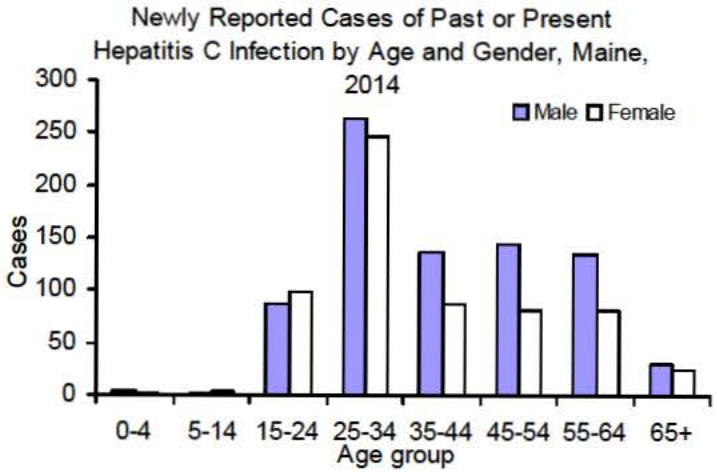
Hepatitis C is a liver disease caused by the hepatitis C virus. Past or present hepatitis C infection is a long-term illness that occurs when hepatitis C virus remains in a person's body for more than 6 months. Over time it can lead to serious liver disease. Hepatitis C is spread when blood from a person infected with hepatitis C enters the body of someone who is not infected. Many people become infected by sharing needles or other injection drug equipment.

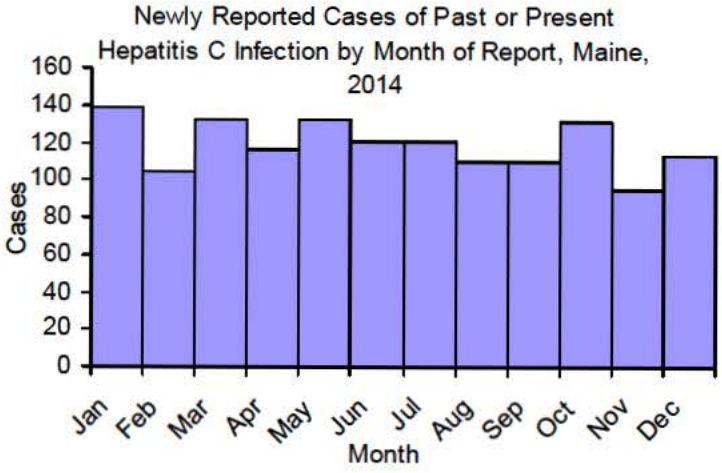
Most people with hepatitis C infection do not have any symptoms. In many cases, symptoms only appear when liver problems develop. Hepatitis C is often detected during routine blood tests to measure liver function and liver enzyme levels.

- 1,425 cases represents an increase from 1,266 cases in 2013
- Median age was 35 years
- Age range was 1 to 86 years
- Cases were 44% female and 56% male

People with past or present hepatitis C infection should be monitored regularly by an experienced healthcare provider. They should avoid alcohol and check with a health professional before taking any prescription pills, supplements, or over-the-counter medications, as these can potentially damage the liver. Vaccination against hepatitis A and hepatitis B is also recommended.







HIV*

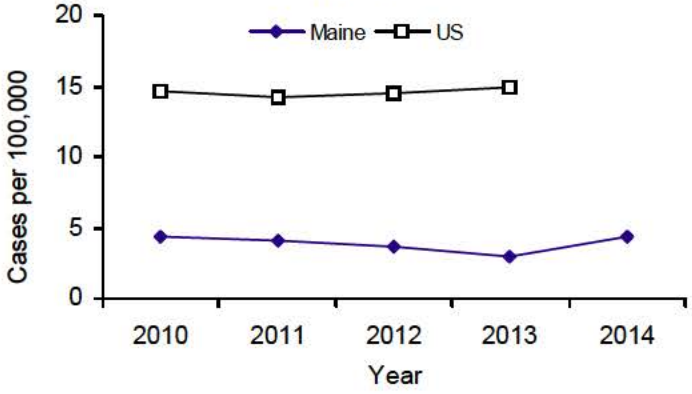
2014 Case Total	**58**
Maine Rate	**4.4 per 100,000**
U.S. rate (2013)	**15.0 per 100,000**

Human immunodeficiency virus (HIV) is a virus that is responsible for HIV disease and acquired immunodeficiency syndrome (AIDS). AIDS typically presents as the late clinical stage of HIV infection. HIV is transmitted from person to person through unprotected penile-vaginal or penile–anal intercourse with an infected person; the use of HIV contaminated needles and syringes; from infected mother to infant during pregnancy, delivery, or breastfeeding; and transfusion of infected blood or its components.

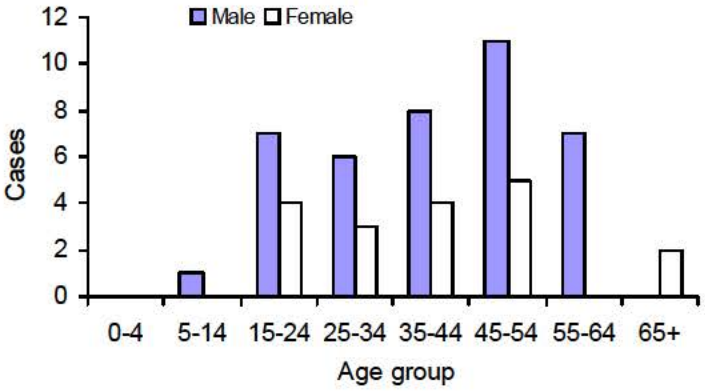
- 58 cases represents an increase from 54 cases in 2013
- The 2010-2014 median number of cases per year was 54
- Age range was 12 to 60 years
- Majority of cases were male (69%)
- 36% of cases reported a risk factor of males who have sex with other males

HIV transmission can be prevented by the use of latex or polyurethane condoms during anal and vaginal sex. It is equally important to always use clean needles and injection equipment when injecting any substance. HIV testing, counseling, and referral services are offered by various agencies and programs dedicated to HIV prevention and treatment in Maine.

Newly Identified HIV Diagnoses, Maine and US, 2010-2014



Newly Identified HIV Diagnoses by Age and Sex, Maine, 2014



Reported Transmission Risk Factors Among Persons Diagnosed with HIV, 2014

Mode of Transmission	New Diagnoses	% of Cases
Men who have sex with men (MSM)	21	36%
Injection drug users (IDU)	1	2%
MSM and IDU	1	2%
Heterosexual contact with at-risk partners	4	7%
Heterosexual, no at-risk partners disclosed	24	41%
Undetermined	5	9%
Received contaminated blood products	0	0%
Child born to mother with HIV	2	3%

*Includes all newly identified HIV infections, including those simultaneously diagnosed as new AIDS cases.

Legionellosis

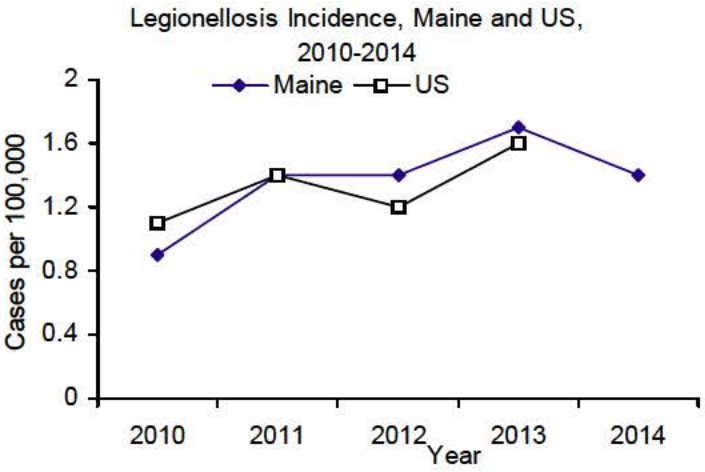
2014 Case Total	**19**
Maine Rate	**1.4 per 100,000**
U.S. rate (2013)	**1.6 per 100,000**

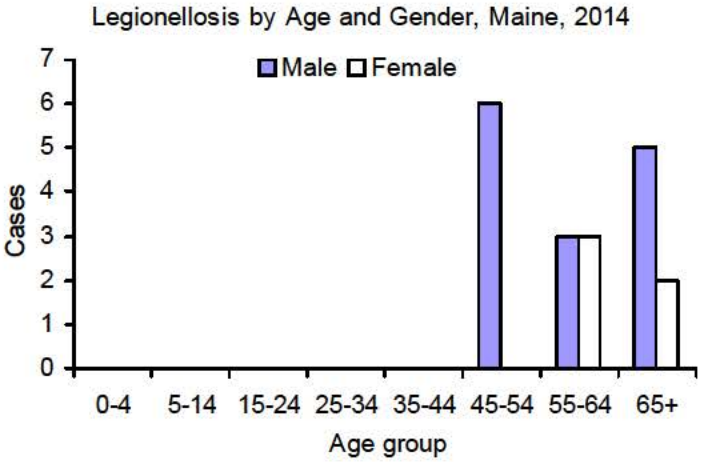
Legionellosis (or Legionnaire's disease) is a serious and sometimes fatal form of pneumonia. *Legionella* bacteria are widespread in natural, industrial and recreational water sources. The bacteria grow best in warm, stagnant water. They can be found in creeks and ponds, hot and cold water taps, hot water tanks, water cooling towers, and condensers of large air-conditioning systems. People get legionellosis when they breathe in a mist or vapor that is contaminated with the bacteria. Persons at high risk of getting legionellosis include those who are middle aged or older, smoke, have chronic lung disease, or weakened immune systems due to cancer, kidney failure, diabetes, or HIV infection.

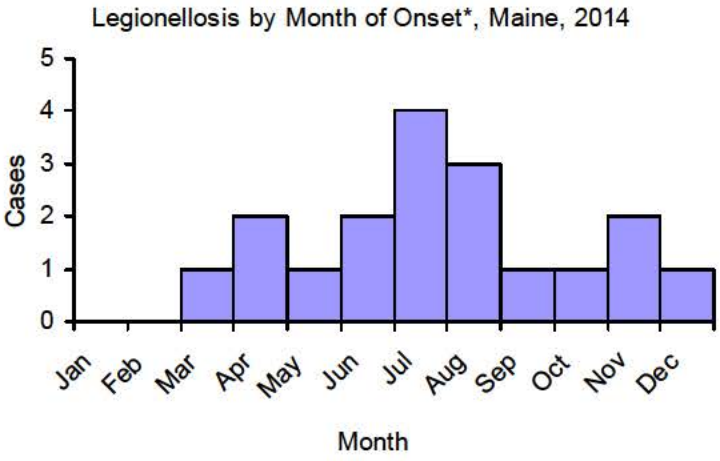
Symptoms include: high fever, chills, muscle aches, headaches, cough, and pneumonia. Legionellosis is treatable with antibiotics.

- 19 cases represent a decrease from 23 cases in 2013
- The 2009-2013 median number of cases per year was 18
- Median age was 60 years
- Age range was 45 to 80 years
- Cases were 26% female and 74% male

Prevention depends on good maintenance of possible water sources of infection (water tanks, water systems, fountains, etc.). This includes regular cleaning, disinfecting, and applying other physical (temperature) or chemical measures to minimize growth. Applying such controls at hospitals, industrial sites, hotels, and recreation centers will reduce the risk of water contamination.







*onset date missing for one case

Listeriosis

2014 Case Total	**8**
Maine Rate	**0.6 per 100,000**
U.S. rate (2013)	**0.2 per 100,000**

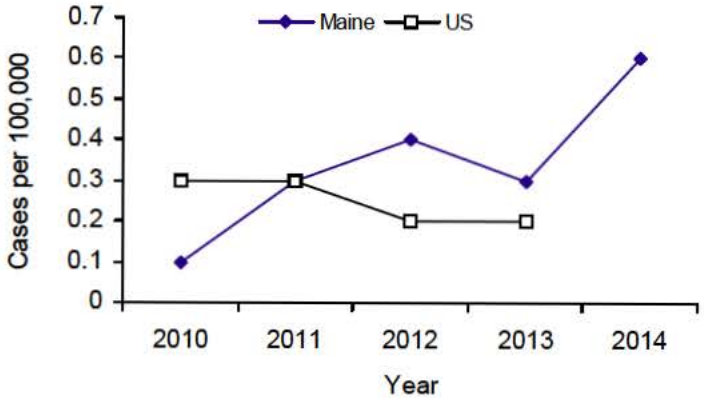
Listeriosis is a bacterial illness, caused by *Listeria monocytogenes*. Infection may cause sepsis and meningitis. Listeriosis is frequently linked to ready-to-eat meats (such as paté and refrigerated smoked seafood), deli meats, soft cheeses and raw milk. Pregnant women are at highest risk for severe outcomes as an infection acquired during pregnancy can be transmitted to the fetus. Also at risk are the elderly and individuals with significant health conditions like cancer, diabetes, liver disease, immune system problems, or multiple medical conditions.

Symptoms include: fever, headache, nausea, fatigue and disorientation. Listeriosis may cause spontaneous abortion.

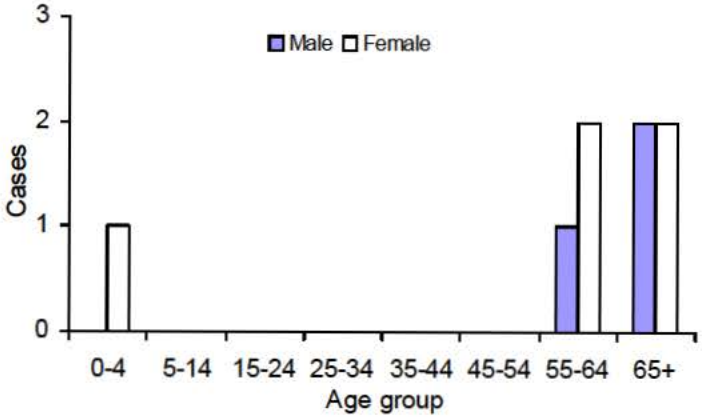
- 8 cases represent an increase from 4 cases in 2013
- The 2009-2013 median number of cases per year was 4
- Median age was 63 years
- Age range was 2 days to 93 years
- All cases were hospitalized

Listeria bacteria are able to multiply in contaminated foods even during refrigeration. Poultry or meat (including hot dogs) should not be consumed without following proper cooking instructions. Raw milk or foods made from raw milk should be avoided. Pregnant women and people with weakened immune systems should avoid eating such foods as ready-to-eat meats, hot dogs, soft cheeses, and refrigerated smoked seafood.

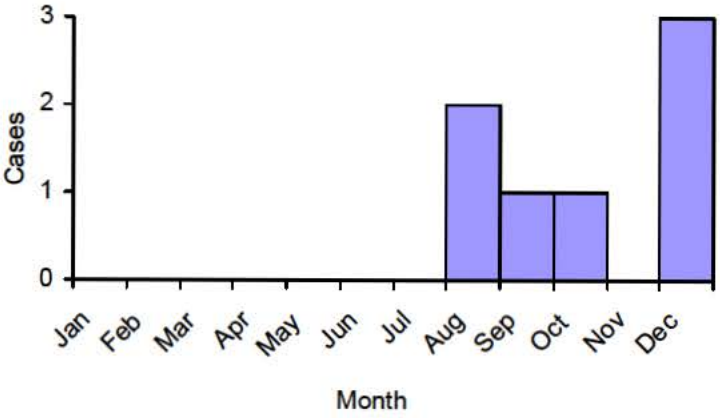
Listeriosis Incidence, Maine and US, 2010-2014



Listeriosis by Age and Gender, Maine, 2014



Listeriosis by Month of Onset*, Maine, 2014



*onset date missing for one case

Lyme disease

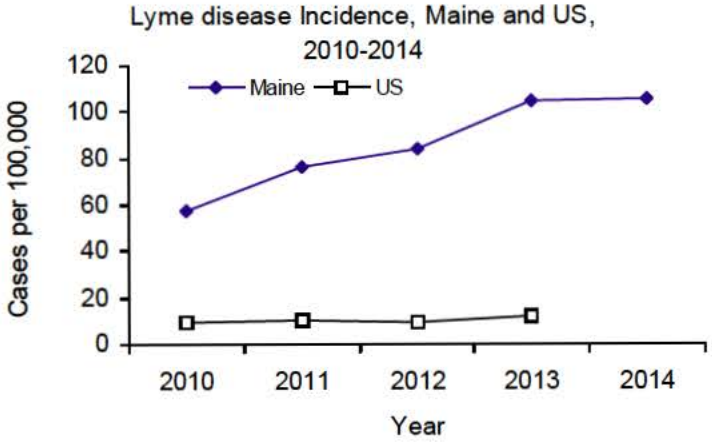
2014 Case Total	**1,400**
Maine Rate	**105.3 per 100,000**
U.S. Rate (2013)	**11.6 per 100,000**

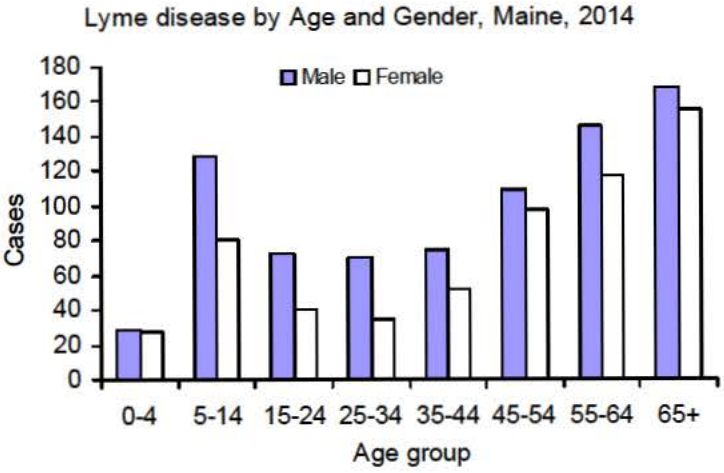
Lyme disease, Maine's most common vectorborne disease in humans, is caused by the bacterium *Borrelia burgdorferi*. The disease is transmitted via the bite of an infected deer tick (*Ixodes scapularis)* and symptoms generally appear between 3 and 30 days after the initial bite. Early symptoms include: a characteristic "bulls eye" rash, fever, headache, joint and muscle pain, and fatigue. Disseminated symptoms include: arthritis, Bell's palsy and other cranial nerve palsies, meningitis, and carditis.

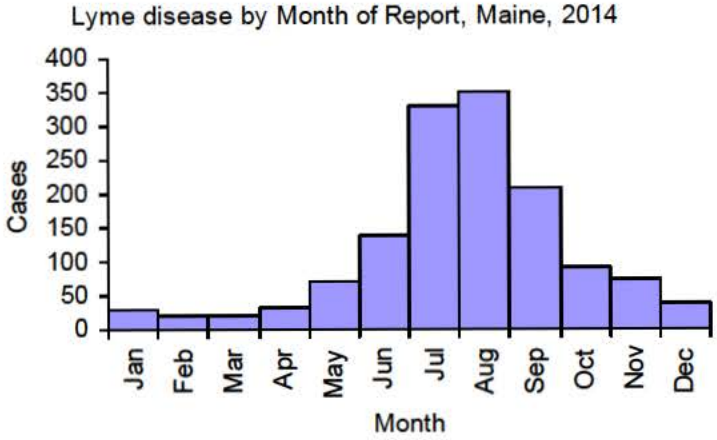
- 1,400 cases represent an increase from 1,384 cases in 2013
- The 2009-2013 median number of cases per year was 1,012
- Median age was 49 years
- Age range was 1 month to 95 years
- Cases were 43% female and 57% male
- Highest incidence was in Hancock, Knox and Lincoln counties

Although there is no vaccine for Lyme disease, risk can be greatly reduced by avoiding tick habitats, using EPA approved repellents (such as DEET), wearing long sleeves and pants, and checking for ticks after spending time in tick habitat. Landscape management and control of deer herds can also allow communities to better protect residents from Lyme disease.

For more information about submitting a tick for identification (not testing for Lyme disease) visit http://extension.umaine.edu/ipm/tickid/.







Meningococcal Disease

2014 Case Total	**2**
Maine Rate	**0.2 per 100,000**
U.S. rate (2013)	**0.2 per 100,000**

Meningococcal disease is an infection caused by *Neisseria meningitidis,* a gram-negative diplococcus bacterium. Meningococcal disease presents most commonly as meningitis and/or meningococcemia that may progress rapidly to purpura fulminans, shock, and death. Transmission of meningococcal disease occurs through direct contact with respiratory secretions from the nose or throat of a person with the infection.

Symptoms include fever, headache, stiff neck for meningitis and rash and sepsis for meningococcemia. The symptoms are indistinguishable from other pathogens causing meningitis.

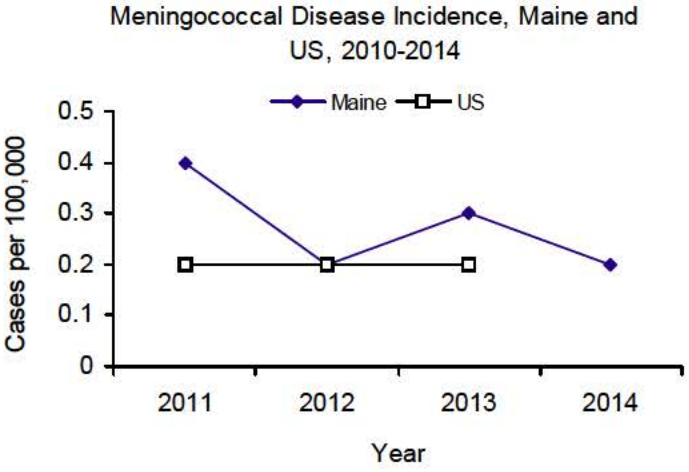
- 2 cases represent a decrease from 4 cases in 2013
- The 2009-2013 median number of cases per year was 4
- Median age was 11 years
- Age range was 4 months to 23 years
- Cases were all female
- Serogroups identified include: Y (1), and not groupable (1)

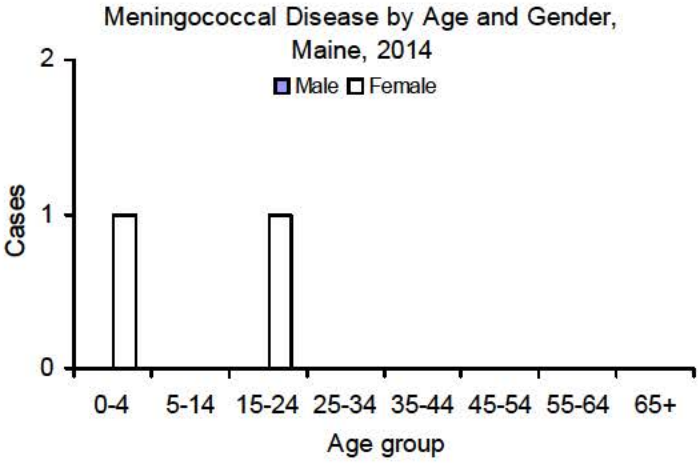
Vaccines are available to prevent infection with the most common serogroups. In general, vaccination with the quadrivalent conjugate vaccine is recommended for:

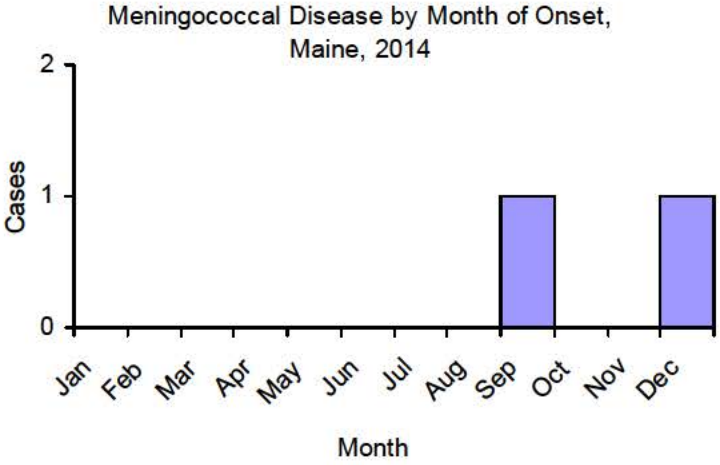
- All 11-12 year olds, with a booster at age 16
- Children aged 2 months—10 years at increased risk for infection
- Adults at increased risk for infection

See CDC guidance for detailed information: http://www.cdc.gov/vaccines/vpd-vac/mening/default.htm

To prevent the spread of disease, chemoprophylaxis is available for persons who have close and direct contact with a person with the infection.







MRSA, invasive

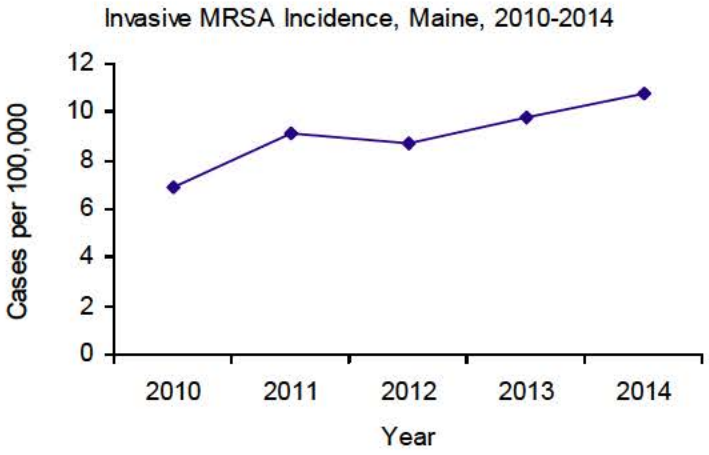
2014 Case Total	**143**
Maine Rate	**10.8 per 100,000**
U.S. rate (2013)	**Not reportable**

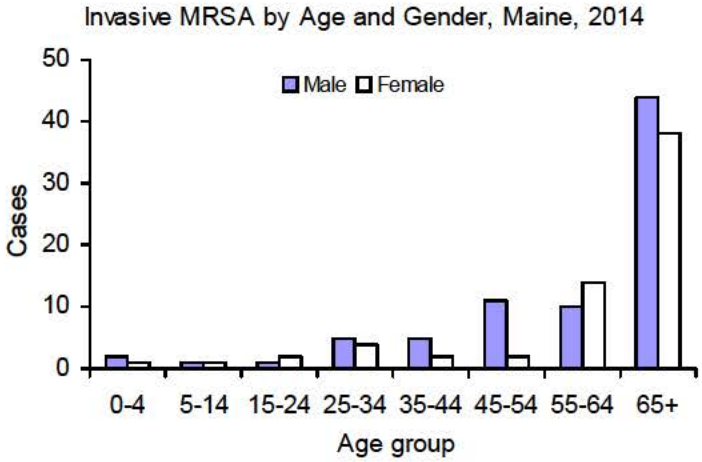
Methicillin-resistant *Staphylococcus aureus* (MRSA) is caused by a strain of bacteria which is resistant to the antibiotic methicillin and many of the antibiotics commonly used to treat staphylococcal infections. MRSA usually presents as a skin or soft tissue infection, considered a non-invasive infection. Invasive MRSA occurs when the bacteria infect internal systems and are isolated from a normally sterile site (such as blood, CSF, pleural fluid or joint fluid)

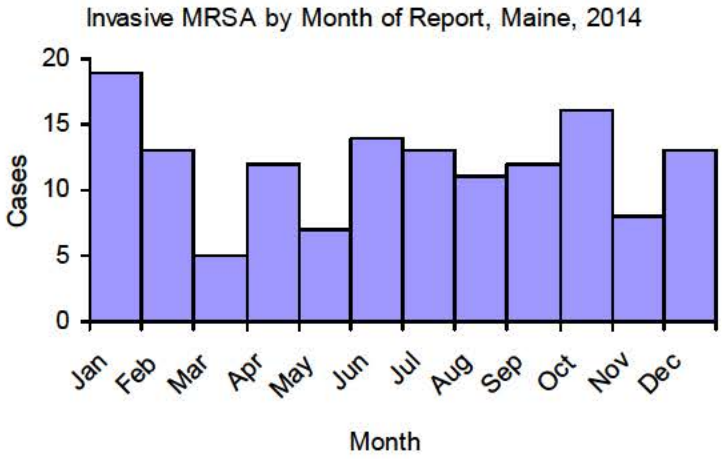
Persons with weakened immune systems, the elderly, and those with invasive medical devices are at increased risk of invasive MRSA infections.

- 143 cases represent an increase from 130 cases in 2013
- Median age was 67 years
- Age range was 2 years to 95 years
- Cases were 45% female and 55% male

To reduce MRSA transmission cover wounds with clean dry bandages; wash hands frequently with soap and warm water; use disinfectants effective against *S. aureus;* avoid sharing personal items such as towels, washcloths, razors, and clothing; tell your healthcare provider if you had contact with someone with MRSA; and avoid contact sports and other skin-to-skin contact until your infection heals. Seek medical care immediately to identify infection early and receive treatment for invasive MRSA infection.







Mosquito-borne Infections

Mosquitoes are blood-feeding insects found around the world. Female mosquitoes need a blood meal to reproduce, making them an important disease vector. There are 45 species of mosquitoes in Maine, less than half are capable of spreading diseases including EEE and WNV.

Eastern Equine Encephalitis (EEE)
EEE is a mosquito-borne viral disease that occurs in the eastern half of the United States where it can cause disease in humans, horses, and some birds. Most persons infected with EEE will have no obvious symptoms. In those persons who do develop illness, symptoms of EEE range from mild-flu like illness to inflammation of the brain, coma, and death. EEE is one of the most serious mosquito-borne diseases in the United States because of its high mortality rate.

In 2014, 22 mosquito pools tested positive for EEE from York county. One emu in Cumberland county tested positive. One human case of EEE was diagnosed in a York county resident who was symptomatic in August 2014.

West Nile Virus (WNV)
WNV occurs throughout the United States and can cause disease in humans, birds, and other mammals. Many persons infected with WNV will have no obvious symptoms. In those persons who do develop illness, symptoms of WNV include: headache, high fever, altered mental state, tremors, convulsions, and rarely paralysis. WNV can also cause meningitis and/or encephalitis and can be fatal.

In 2014, there were no positive mosquitoes, animals or human illness.

Chikungunya
Chikungunya is a disease caused by a virus transmitted by the bite of an infected mosquito. Symptoms include fever, joint pain, headache, muscle pain, joint swelling and rash.

In 2014, six cases of Chikungunya with travel outside the US (Dominica, Dominican Republic, Guyana, Haiti, Jamaica) were reported.

Dengue Fever
Dengue is a disease caused by a virus transmitted by the bite of an infected mosquito. Symptoms include high fever, severe headache, backache, joint pain, nausea and vomiting, eye pain, and rash.

In 2014, one case of Dengue fever with travel to Costa Rica was reported.

Malaria
Malaria is a serious disease caused by a parasite that commonly infects a certain type of mosquito. Symptoms may include high fevers, shaking chills, flu-like illness, headache, muscle aches, tiredness, nausea, vomiting, and diarrhea. Malaria is uncommon in the United States, but very common in developing countries.

In 2014, seven cases of malaria with travel outside the US (Bali, Burundi, Congo, Democratic Republic of Congo, Ivory Coast, Morocco, Mozambique, Nigeria, South Sudan, Sumbawa) were reported.

Prevention
To decrease risk of contracting a mosquito-borne disease, measures should be taken to prevent mosquito bites:

- Use an EPA approved repellent. Products containing DEET, IR3535, picaridin or oil of lemon eucalyptus can be applied to exposed skin, and permethrin containing products can be applied to clothing. Make sure to follow the instructions on the product's label when using repellents or other pesticides
- Wear long sleeve shirts and long pants when possible or when mosquitoes are abundant
- Protect babies with mosquito netting
- When mosquitoes are abundant, stay indoors
- Mosquito proof your house by fixing or installing window screens and screen doors
- Control mosquito populations around your home by cleaning gutters and removing or emptying objects that contain still water where mosquitoes can lay eggs such as old tires, old cans, and plastic tarps
- Empty water from flower pots, pet dishes, birdbaths, rain barrels, and buckets at least weekly
- Prior to international travel, consult a travel clinic to determine if malaria prophylaxis is recommended for the country of visitation

Pertussis

2014 Case Total	**557**
Maine Rate	**41.9 per 100,000**
U.S. rate (2013)	**9.1 per 100,000**

Pertussis (whooping cough) is a bacterial infection of the respiratory tract caused by *Bordetella pertussis*. Prior to vaccine licensure pertussis was a common childhood disease associated with a high mortality rate.

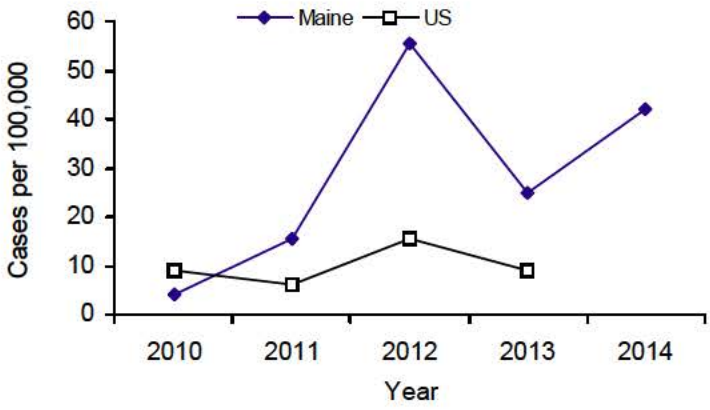
Symptoms include an irritating cough lasting at least 2 weeks with paroxysms, whoop, and post-tussive vomiting.

- 557 cases represent an increase from 332 cases in 2013
- The 2009-2013 median number of cases per year was 205
- Median age was 11 years
- Age range was 27 days to 80 years
- Cases were 52% female and 48% male
- Highest incidence was in Franklin, Piscataquis, Waldo and Washington counties
- 380 (68%) cases were in school aged children (5-18 years)

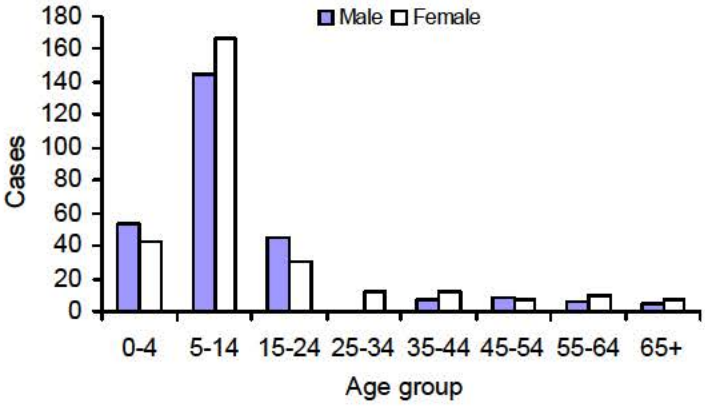
Vaccination is available and part of routine childhood immunizations. There are two pertussis vaccines (DTaP and Tdap). The ACIP recommends all persons 11 years and older receive Tdap in place of one tetanus booster.

Federal CDC recommends that pregnant women receive the Tdap vaccine during the third trimester of each pregnancy.

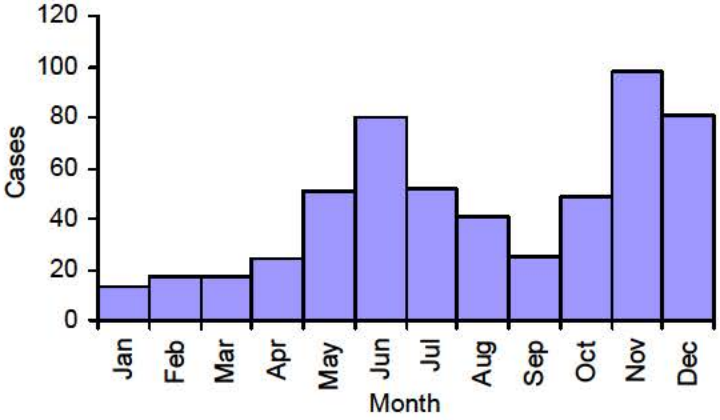
Pertussis Incidence, Maine and US, 2010-2014



Pertussis by Age and Gender, Maine, 2014



Pertussis by Month of Onset*, Maine, 2014



*onset date missing for nine cases

Rabies, Animal

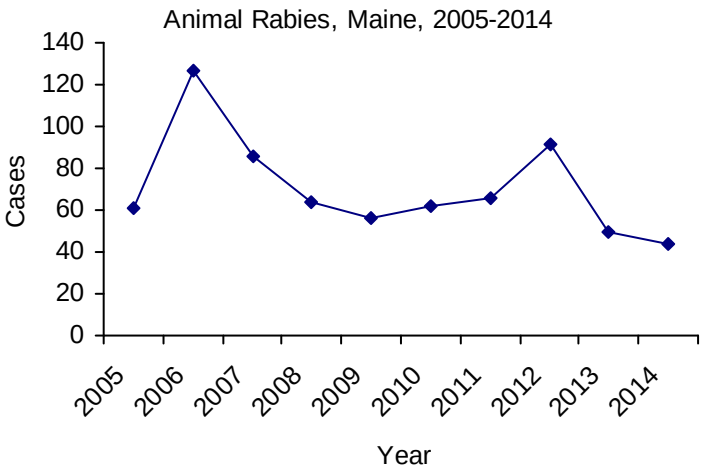
2014 Case Total **44**
Maine Rate **N/A**
U.S. Count (2013) **5,865**

Rabies is a zoonotic viral disease that affects the central nervous system. All mammals are susceptible to rabies. Rabies in humans is rare in the United States. The majority of rabies infections occur in wild animals, including raccoons, skunks, foxes, and bats. Unvaccinated domestic animals are also at risk for getting and spreading rabies.

The rabies virus is found in the saliva and neural tissue of infected animals. Rabies is transmitted from the bite of a rabid animal. Rabies can also be spread if infectious material from a rabid animal gets into an open wound or mucous membrane (eyes, nose, or mouth) of a susceptible person or animal. Bat bites can be difficult to detect. Since bats are implicated in most human rabies cases, whether or not a bite was reported, any contact with a bat should be evaluated by a healthcare provider.

Rabies infection causes acute progressive encephalopathy. Early symptoms include fever and general discomfort. As the disease progresses, symptoms may include difficulty sleeping, anxiety, confusion, hallucinations, excessive drooling, difficulty swallowing, and hydrophobia. Rabies is almost always fatal after symptoms appear.

- 44 animal rabies cases represent a decrease from 50 cases in 2013
- The 2009-2013 median number of cases per year was 66
- The last reported case of human rabies in Maine was in 1937
- 73 persons were recommended to receive post exposure prophylaxis (PEP); 20 were exposed to a laboratory-confirmed rabid animal



Positive Rabies Results by Species, Maine, 2014

Animal	Number Positive	Animal	Number Positive
Raccoon	14	Cat	2
Skunk	14	Cow	1
Fox	8	Woodchuck	1
Bat	4		

Rabies testing requires central nervous system or brain tissue, obtained postmortem. The state public health laboratory uses direct fluorescent antibody testing to determine if wild or domestic animals that expose people or domestic animals are rabid.

Maine CDC works with Animal Control Officers, Game Wardens, veterinarians, and healthcare providers to recommend control measures for people and domestic animals after an exposure. Persons who are exposed to a laboratory-confirmed rabid animal should receive rabies post-exposure prophylaxis (PEP), which is a combination of rabies vaccine and immune globulin. Rabies PEP is very effective in preventing disease after an exposure.

Increased public awareness about rabies may reduce the number of exposures. Prevention measures include keeping pets up-to-date on rabies vaccine and avoiding wildlife.

Salmonellosis

2014 Case Total	**127**
Maine Rate	**9.5 per 100,000**
U.S. rate (2013)	**16.1 per 100,000**

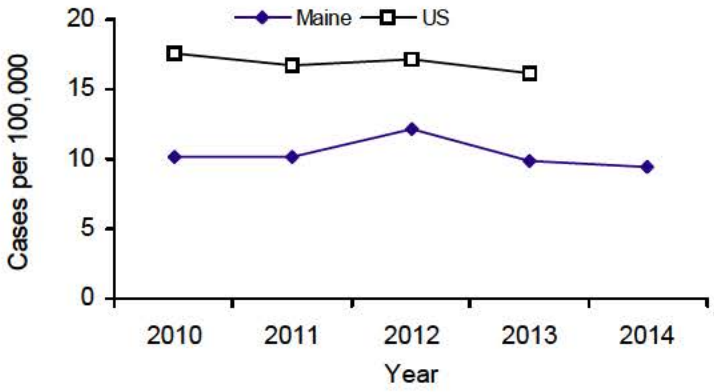
Salmonellosis is a gastrointestinal illness of varying severity caused by *Salmonella* bacteria. Severity of symptoms depends on the age and overall health of the person infected, serotype of *Salmonella* and the site of infection. *Salmonella* is transmitted through the ingestion of contaminated meat, poultry, eggs, unpasteurized dairy, and fresh produce. Handling of reptiles, chicks, domestic birds, and pets can also lead to transmission.

The symptoms can include: fever, cramping, diarrhea, nausea, and vomiting.

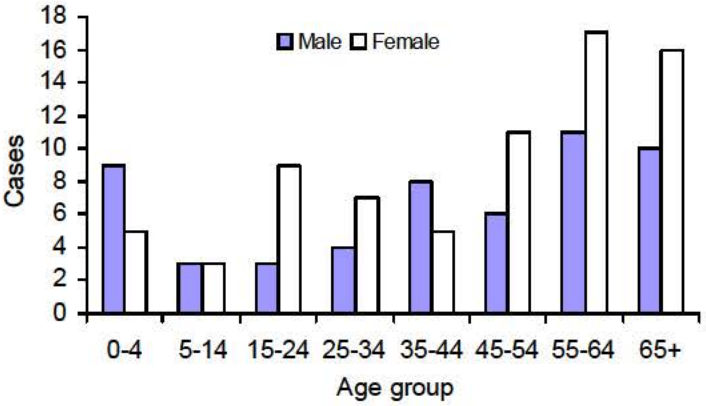
- 127 cases represent a decrease from 131 cases in 2013
- The 2009-2013 median number of cases per year was 133
- Median age was 51 years
- Age range was 3 months to 97 years
- Cases were 57% female and 43% male
- 121 of 127 (95%) cases were laboratory confirmed
- The most common serotypes of *Salmonella* were Enteritidis, Typhimurium, and Newport

The best way to reduce the risk of salmonellosis is to wash produce, avoid consuming unpasteurized dairy products, and follow proper cooking instructions. Individuals having contact with reptiles (such as snakes, lizards, turtles, frogs, iguanas, etc.), birds, poultry and farm animals should wash their hands immediately after handling these animals.

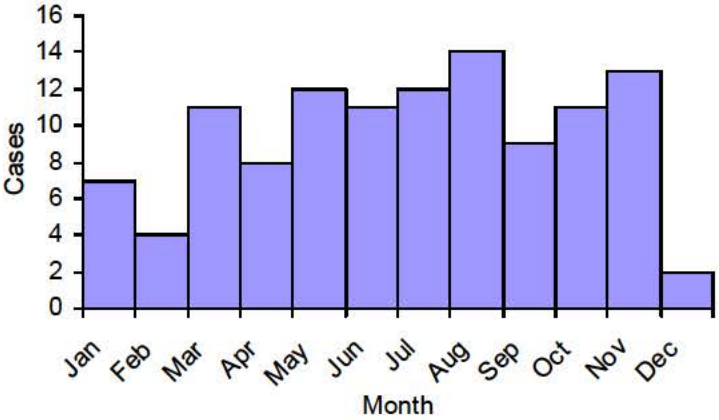
Salmonellosis Incidence, Maine and US, 2010-2014



Salmonellosis by Age and Gender, Maine, 2014



Salmonellosis by Month of Onset*, Maine, 2014



*onset date missing for 13 cases.

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

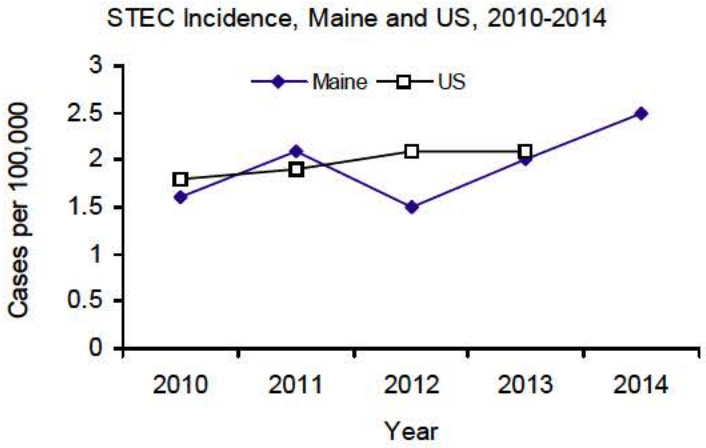
2014 Case Total	**33**
Maine Rate	**2.5 per 100,000**
U.S. rate (2013)	**2.1 per 100,000**

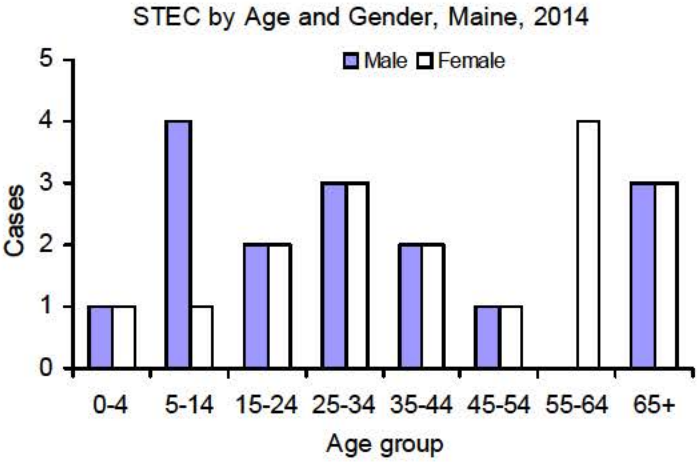
Escherichia coli (E. coli) are common bacteria that live in the digestive tract, some cause serious infection (by producing shiga toxins) and some do not. Transmission of shiga toxin-producing *E. coli* (STEC) is through consumption of food or water contaminated with fecal matter or through contact with farm animals. Commonly implicated food items include undercooked meats, raw vegetables, and unpasteurized products.

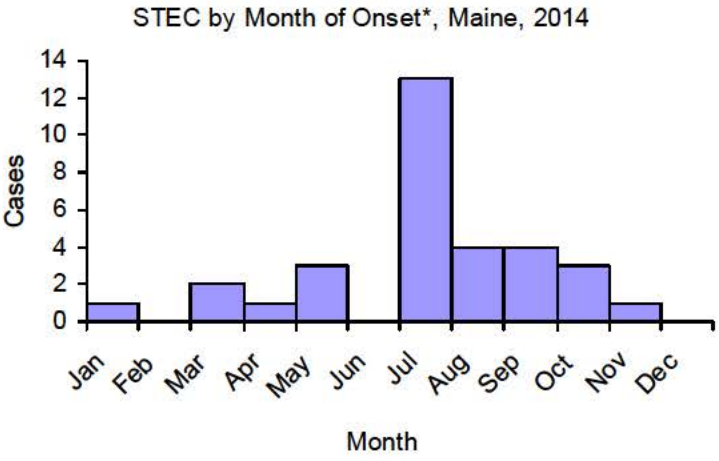
STEC may cause severe illness. Symptoms include: abdominal cramping, bloody diarrhea and a rare complication, hemolytic uremic syndrome (HUS), which can damage red blood cells and the kidneys.

- 33 cases represent an increase from 27 cases in 2013
- The 2009-2013 median number of cases per year was 21
- Median age was 31 years
- Age range was 3 years to 85 years
- Cases were 52% female and 48% male
- 31 of 33 (94%) cases were laboratory confirmed
- 45% of laboratory confirmed cases were O157:H7
- 1 case of HUS with symptoms of diarrhea was reported, with no E. coli organism identified

STEC prevention measures include: handwashing, particularly before and after cooking and after contact with animals; thoroughly cooking meats; washing fresh fruits and vegetables; avoiding unpasteurized dairy products and juices; avoiding consumption of untreated water; and avoiding cross-contamination of food items.







*onset date missing for one case

Shigellosis

2014 Case Total	**29**
Maine Rate	**2.2 per 100,000**
U.S. rate (2013)	**4.1 per 100,000**

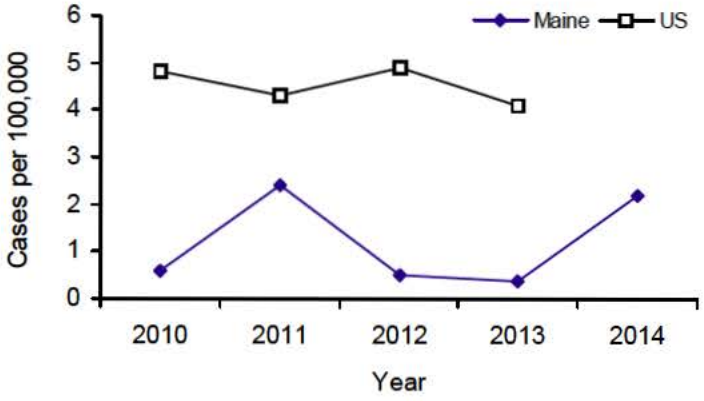
Shigellosis is a gastrointestinal illness caused by *Shigella* bacteria. *Shigella* is highly infectious and can easily be passed from one person to another through the fecal-oral route. Shigellosis can be transmitted by eating contaminated food, and drinking, swimming in or playing with contaminated water. Outbreaks of *Shigella* have also occurred among men who have sex with men.

Symptoms include: fever, stomach cramping and severe diarrhea which may be bloody. Shigellosis is easily spread among household members.

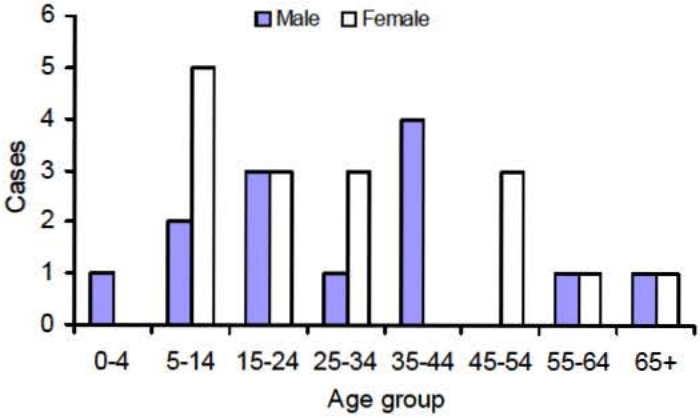
- 29 cases represent an increase from 5 cases in 2013
- The 2009-2013 median number of cases per year was 7
- Median age was 27 years
- Age range was 4 to 79 years
- Cases were 55% female and 45% male
- 24 (83%) of 29 cases were laboratory confirmed
- *Shigella flexneri, sonnei*, and *boydii* were identified
- 8 (28%) cases had travel to a foreign country during exposure period
- 11 (38%) cases were epi-linked to the same school in Androscoggin county

To prevent shigellosis practice good hand hygiene. Infected persons who are employed in childcare, healthcare, or food handling are restricted from work until infection clears and there is no evidence of *Shigella* in stool specimens. Shigellosis is more common in the developing world and travelers should take extra precautions.

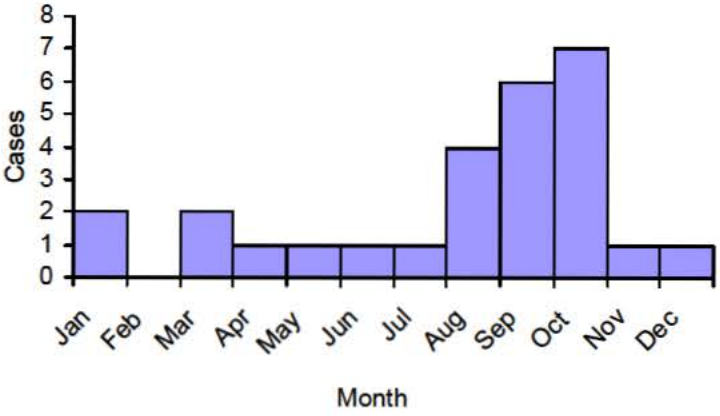
Shigellosis Incidence, Maine and US, 2010-2014



Shigellosis by Age and Gender, Maine, 2014



Shigellosis by Month of Onset*, Maine, 2014



*onset date missing for two cases

Streptococcus pneumoniae, invasive

2014 Case Total	**137**
Maine Rate	**10.3 per 100,000**
U.S. rate (2013)	**5.5 per 100,000**

Invasive pneumococcal disease occurs when *Streptococcus pneumoniae* bacterium infects the blood, lungs, or brain. Disease is transmitted from person to person through droplets when an infected person coughs or sneezes. Types of illness include bacteremia, meningitis, and pneumonia. There are over 90 different serotypes of *S. pneumoniae*, but the majority of pneumococcal disease is caused by a few common serotypes.

Persons at risk of pneumococcal disease include young children, adults 65 years of age or older, persons with certain underlying medical conditions, persons with weakened immune systems, and those in congregate settings such as daycare and long-term care facilities.

- 137 cases represent an increase from 121 cases in 2013
- Median age was 65 years
- Age range was 5 months to 101 years
- Cases were 49% female and 51% male
- 24 (18%) cases were drug resistant
- 6 cases were in children under the age of five (1 case was drug resistant)

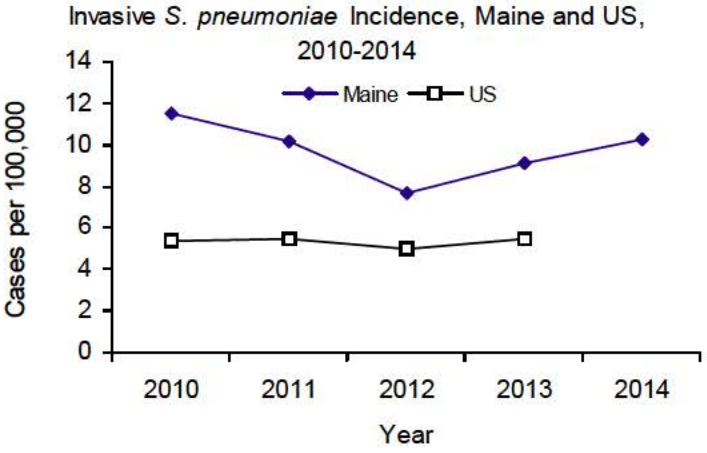
Pneumococcal disease can be prevented through routine vaccination using two different vaccines: pneumococcal conjugate (PCV13) and pneumococcal polysaccharide (PPSV23).

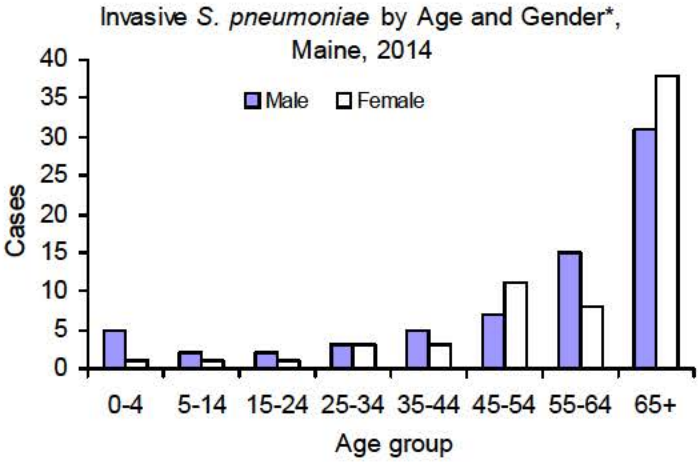
PCV13 is recommended for:

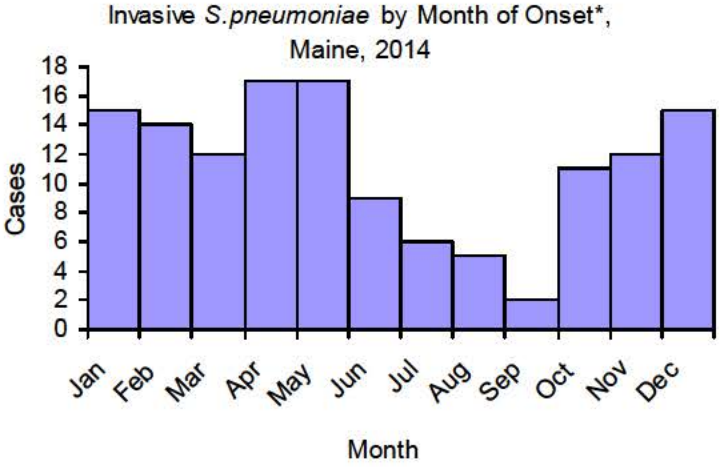
- All children younger than 5 years
- All adults 65 years or older
- All persons 6 years or older with risk factors

PPSV23 is recommended for:

- All adults 65 years or older
- Persons 2 through 64 years old who are at high risk of infection







*onset date missing for two cases

Early Syphilis

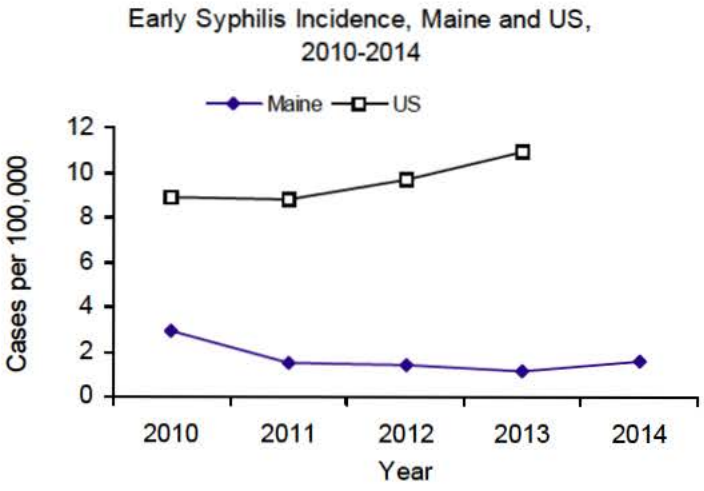
2014 Case Total	**21**
Maine Rate	**1.6 per 100,000**
U.S. rate (2013)	**10.9 per 100,000**

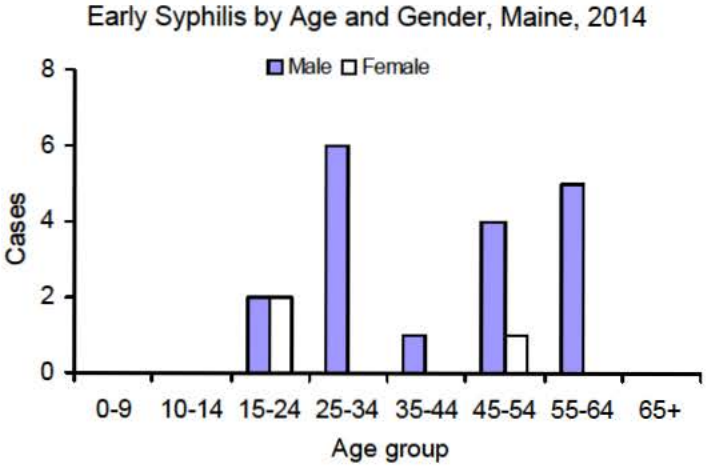
Syphilis is a sexually transmitted disease (STD) caused by the bacterium *Treponema pallidum*. It has often been called "the great imitator" because so many of the signs and symptoms of syphilis are like those of other diseases.

Early syphilis is defined as disease that occurs within the first year of infection. This is inclusive of the primary, secondary, and early latent stages of the disease.

Syphilis is primarily spread through direct contact with a primary syphilis lesion. Lesions typically occur on the external genitals, vagina, and around the anus, but are also seen on the lips and in the mouth. Transmission primarily occurs during vaginal, anal, or oral sex. Disease transmission can also occur during the infectious period of the secondary stage, via the condylomata lata (raised moist papules) on the genital area or mucous patches in the mouth. Pregnant women with syphilis can pass it to their baby. Genital lesions caused by syphilis make it easier to transmit and acquire HIV infection.

- 21 cases represents an increase from 16 cases in 2013
- The 2009-2013 median number of cases per year was 19
- Median age was 41 years
- Age range was 18 to 63 years
- 18 (86%) of the cases were male, with only three female cases (14%) reported
- 15 (83%) of the 18 male cases were self-identified men who have sex with men





Many individuals infected with syphilis reach a latent stage and have no symptoms for years, but they are still at risk for later complications (damage to internal organs, nerve damage, blindness and dementia) and death if not treated.

Syphilis transmission can be prevented by the use of latex or polyurethane condoms and dental dams during anal, vaginal, and oral sex. Prevention and control efforts include targeted awareness messaging (including the internet) and disease intervention activities for all early syphilis cases. Disease intervention activities include working with health care providers to ensure adequate treatment and notifying partners of potential exposure.

Tuberculosis

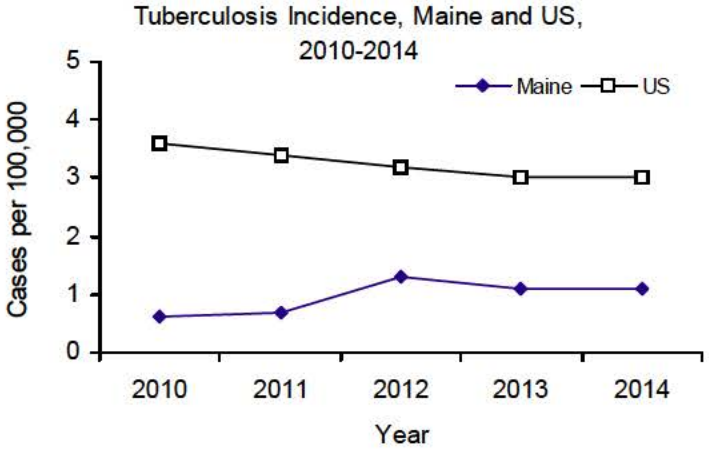
2014 Case Total	**14**
Maine Rate	**1.1 per 100,000**
U.S. rate (2014)	**3.0 per 100,000**

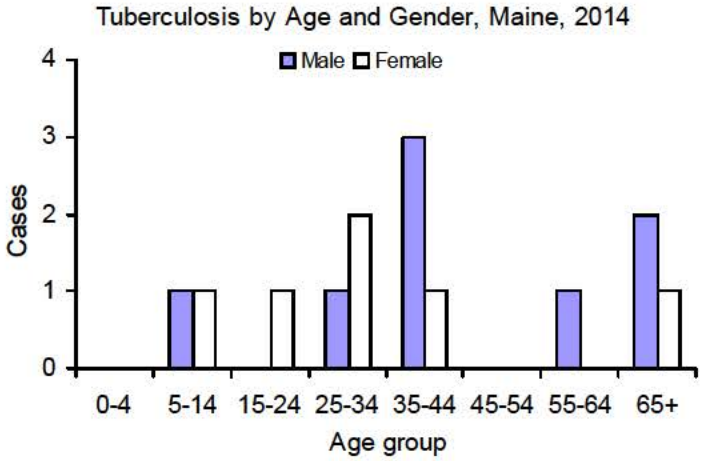
Tuberculosis (TB) is a communicable disease caused by the bacterium *Mycobacterium tuberculosis*. It is spread through the air by airborne particles that are expelled from the lungs when a person who has infectious TB coughs, sings, or sneezes. TB occurs when the mycobacterium is inhaled into the lungs and begins to multiply. Not everyone infected with TB bacteria becomes sick. As a result, two TB-related conditions exist: latent TB infection (LTBI) and active TB disease.

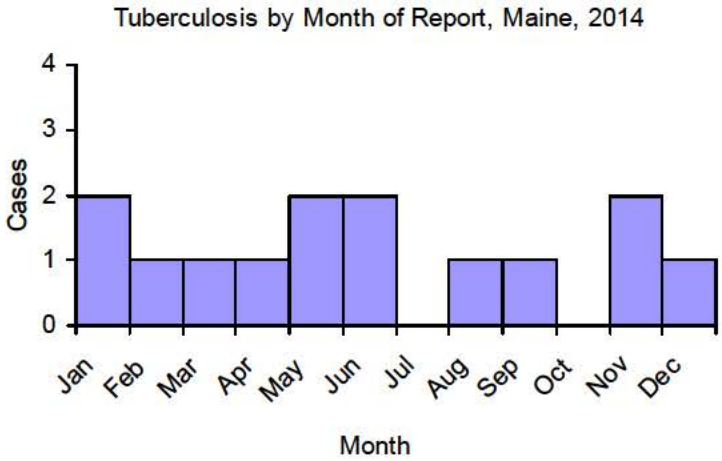
TB disease can cause infection in the lung (pulmonary) which is considered infectious to others. TB disease can also occur outside of the lung (extrapulmonary) which is not infectious.

- 14 cases represent a decrease from 15 cases in 2013
- The 2009-2013 median number of cases per year was 9
- Median age was 38 years
- Age range was 6 to 79 years
- Cases were 43% female and 57% male
- 13 (93%) were foreign born
- In 8 contact investigations, 71% of identified contacts were evaluated; 23 were diagnosed with LTBI and 74% started treatment
- Of 555 LTBI reports, 88% were foreign born

All active TB cases are evaluated by a healthcare provider in consultation with a TB consultant physician; and are monitored by the state TB Control Program and Public Health Nurses.







Varicella

2014 Case Total	**207**
Maine Rate	**15.6 per 100,000**
U.S. rate (2013)	**3.6 per 100,000**

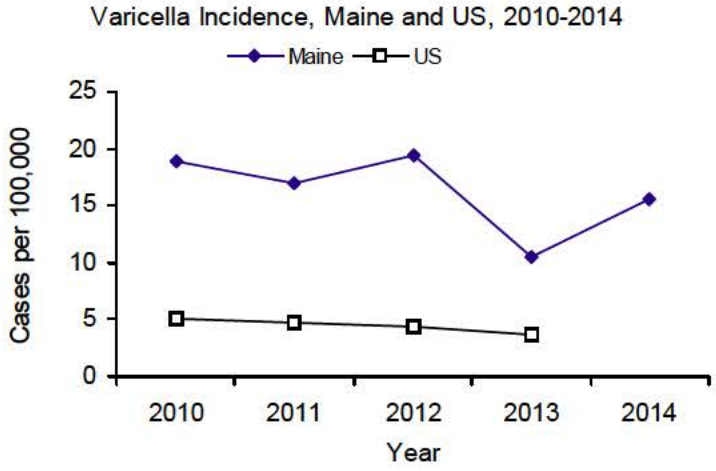
Varicella (chickenpox) is a highly contagious viral disease of which humans are the only source of infection. Most illness includes an itchy skin rash that looks like blisters, covering the body but more evident on the face, scalp, and abdomen. The majority of infected individuals develop a fever just before or when the rash appears.

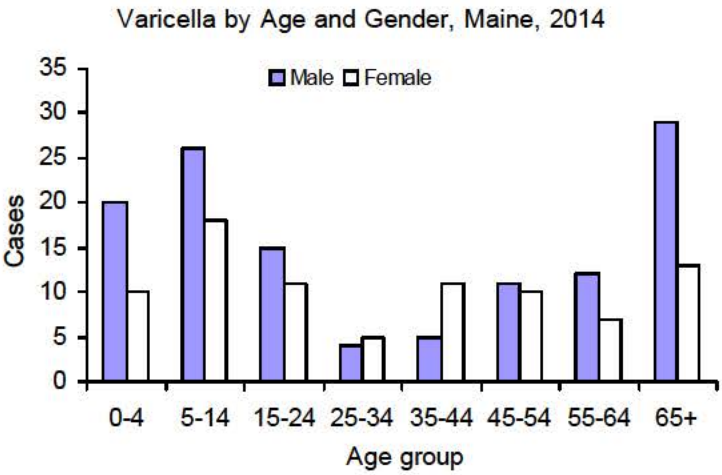
Person-to-person transmission occurs primarily through direct contact with respiratory tract secretions of infected individuals. Adolescents and adults are at higher risk for severe disease which could include pneumonia, bacterial infection of the skin and swelling of the brain.

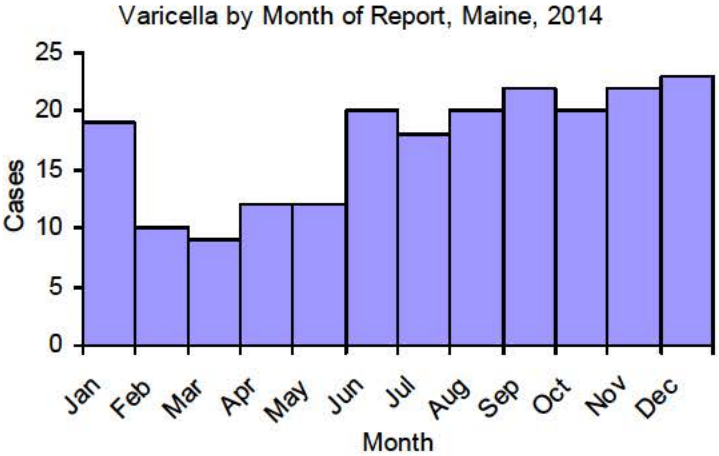
- 207 cases represent an increase from 140 cases in 2013
- Nationally, varicella incidence is reported to be an underestimate of true incidence

Varicella vaccine is a live attenuated viral vaccine. A two-dose series is estimated to be more than 90% effective in preventing infection. Federal CDC and ACIP recommend that all children receive 2 doses of varicella vaccine. Breakthrough infection has been reported in vaccinated individuals.

Mandatory vaccination for varicella (one dose) began in 2003 and is a requirement for Maine school admission.







Vibriosis

2014 Case Total	**9**
Maine Rate	**0.7 per 100,000**
U.S. rate (2013)	**0.4 per 100,000**

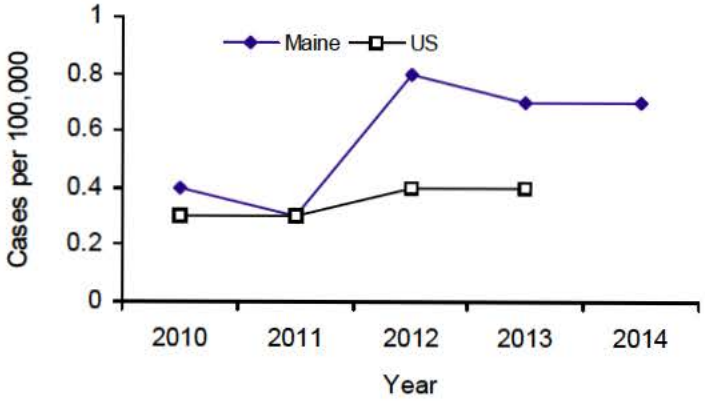
Vibriosis is an infection of variable severity characterized by diarrhea, vomiting, primary septicemia, or wound infections. *Vibrio parahaemolyticus*, associated with ingestion of raw or undercooked seafood, and *Vibrio alginolyticus,* associated with wounds and water contact, are the primary causes of vibriosis in Maine.

- 9 cases represents no change from 2013
- The 2009-2013 median number of cases was 5
- Median age was 61 years
- Age range was 7 to 84 years
- Cases were 22% female and 78% male
- *Vibrio parahaemolyticus*, *fluvialis alginolyticus, harveji,* and *Grimontia hollisae* were isolated

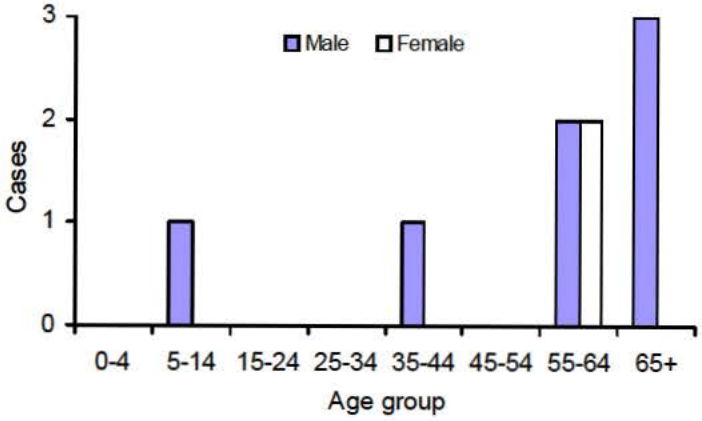
One case reported travel to Bermuda, this case had the only isolate of *V. harveji.*

Vibrio infections can be prevented by thoroughly cooking seafood, especially oysters. Wound infections can be prevented by avoiding exposure of open wounds to seawater. Maine CDC works closely with the Maine Department of Marine Resources when persons with vibriosis report having exposures to shellfish or other marine sources of illness.

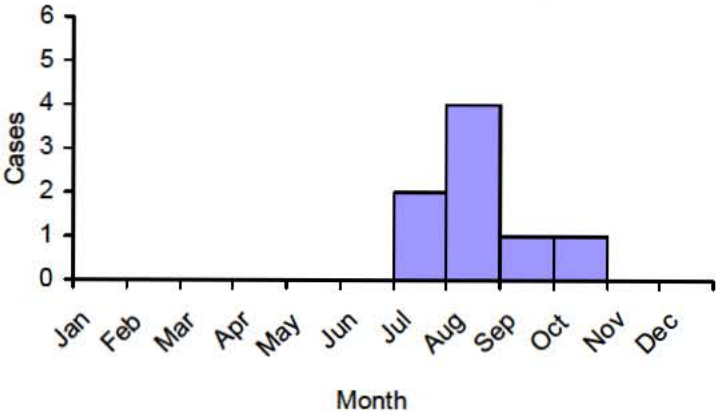
Vibriosis Incidence, Maine and US, 2010-2014



Vibriosis by Age and Gender, Maine, 2014



Vibriosis by Month of Onset*, Maine, 2014



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Influenza Season 2014—2015

Influenza

Influenza is a viral illness that typically occurs during the winter months. It is characterized by the abrupt onset of constitutional and respiratory signs and symptoms such as fever, headache, non-productive cough, sore throat, and runny nose. Influenza is spread from person to person primarily through coughing and sneezing of infected persons. Influenza can be diagnosed through laboratory testing. Influenza-like illness (ILI) is defined as fever greater than or equal to 100°F (37.8°C) AND cough and/or sore throat in the absence of a known cause.

The purpose of influenza surveillance is to inform influenza prevention and control policy. Maine CDC conducted influenza surveillance in collaboration with thirty-one health care providers, four hospitals, three laboratories, Maine's Electronic Death Registry System (EDRS), twenty eight hospital emergency departments, and Maine Emergency Medical Services (EMS) during the reporting period from September 28, 2014 to May 16, 2015. This report summarizes 2014-15 influenza surveillance by key indicators.

Influenza Surveillance in Maine

Outbreaks

Outbreaks of influenza or influenza-like illness are reportable by law in Maine. The definition used to recognize outbreaks of influenza-like illness varies by setting. For example, a single lab confirmed case (by any testing method) is an outbreak in long term care facilities. During the 2014-15 season, a total of 213 outbreaks of influenza were reported in Maine. This is an increase from the 2013 -14 season when 45 outbreaks were reported. Of the 213 outbreaks, 181 were in long term care facilities, 10 in acute care facilities, 17 in K-12 schools, 1 in health care workers, and 4 in institutions. The number of outbreaks peaked in January (MMWR week 3) and outbreaks occurred in all 16 counties.

Death Certificates

Maine's EDRS was used to determine the number of death certificates in which pneumonia and/or influenza were mentioned as a cause of death. Data represents deaths statewide. During the 2014 -15 season, a total of 9,300 death certificates were filed. Of these 822 (8.8%) were attributed to pneumonia or influenza with 20 (0.2%) with influenza specifically listed.

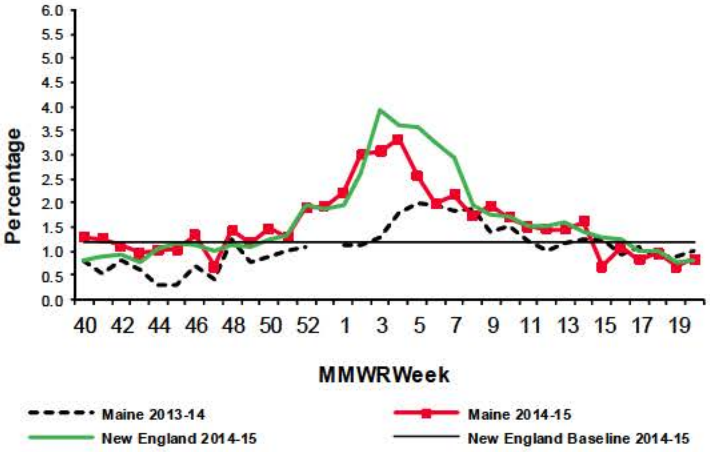
Pediatric Fatalities

Health care providers and the Office of the Medical Examiner report deaths in persons aged 18 years or younger associated with laboratory-confirmed influenza to Maine CDC. No pediatric deaths were reported during the 2014-15 influenza season.

Influenza Season 2014-2015: Inpatient and Outpatient Surveillance

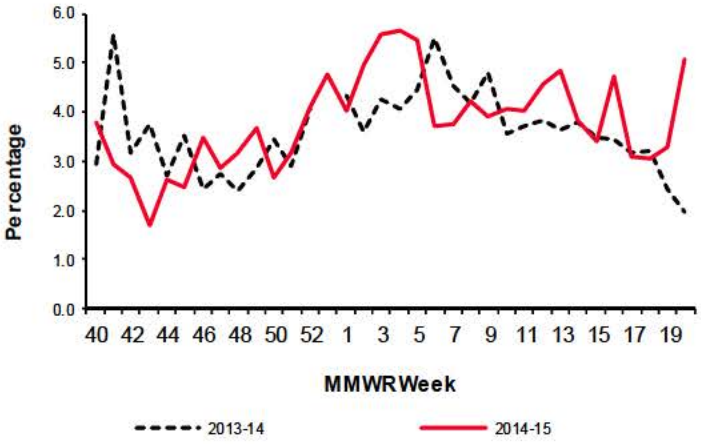
Outpatient influenza-like illness (ILI)
Data on outpatient visits for ILI was collected through the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), a collaborative effort between federal CDC, Maine CDC, and local health care providers. During the 2014-15 season, 31 health care providers reported the total number of patients seen in their practices and the number of those patients seen for ILI by age group on a weekly basis. Outpatient ILI visits in Maine peaked in January (MMWR week 4) The New England region peaked in January as well.

Outpatient Visits for Influenza-like Illness, Maine, 2013-15



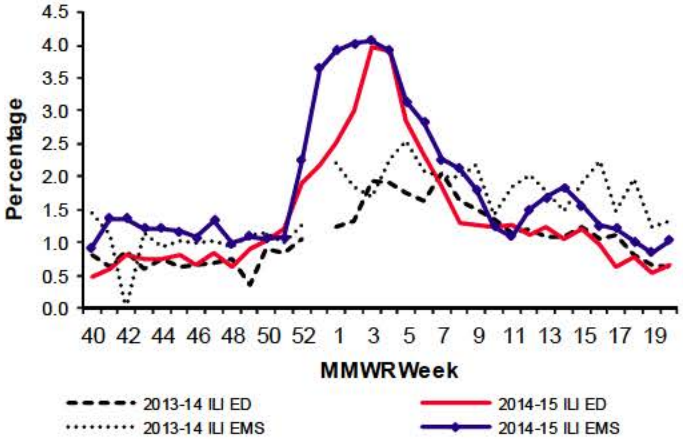
Hospital Inpatients
Inpatient surveillance for respiratory illness admissions in Maine was conducted in collaboration with four hospitals. During the 2014-15 season, four hospitals reported the number of patients admitted to the hospital and the number of those patients admitted for influenza or pneumonia using admitting diagnoses. Hospital admissions for influenza, pneumonia, or respiratory illness were highest in the first week of February (MMWR week 5).

Hospital Admissions Due to Pneumonia or Influenza, Maine, 2013-15



Emergency Room Visits
Syndromic surveillance was conducted in the Emergency Departments (ED) of 28 hospitals, and on all Maine Emergency Medical Response runs. The data was analyzed using the Early Aberration Reporting System (EARS). These visits are grouped by chief complaint. The percentage of ED visits that had a chief complaint consistent with ILI peaked in January (MMWR week 3). The percentage of EMS runs that had a chief complaint consistent with ILI peaked in January (MMWR week 4). EMS data was not available for the full season.

Syndromic Surveillance data for ILI, Maine, 2013-15



Influenza Season 2014—2015: Laboratory Surveillance

HETL

Maine CDC's Health and Environmental Testing Laboratory (HETL) worked collaboratively with hospitals and private laboratories to collect specimens for respiratory virus testing and influenza positive isolate subtyping. HETL reported the number of specimens received for respiratory virus testing and the number positive for influenza A (pH1N1), A (H3), A (unable to subtype), and influenza B by specimen collection date. During the 2014-15 season, 1,428 respiratory specimens were tested by HETL for influenza. Of those 694 (48.6%) were positive for influenza (617 for influenza A/H3, 4 for influenza A unable to subtype, and 73 for influenza B).

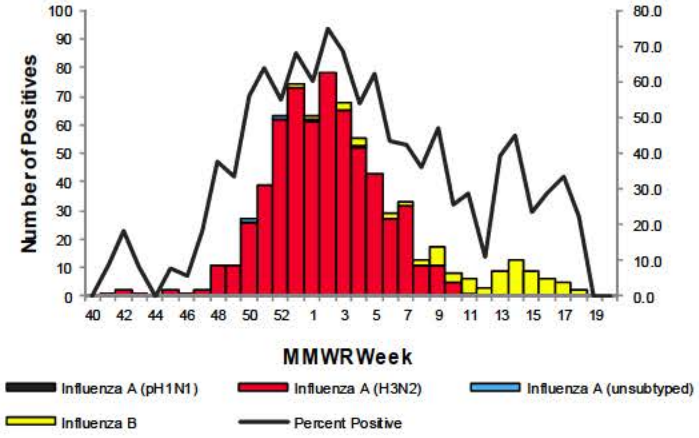
Reference Labs

Two Maine reference laboratories submitted reports of laboratory-confirmed influenza by culture or reverse-transcriptase polymerase chain reaction (RT-PCR). During the 2014-15 season, these laboratories tested 7,000 respiratory samples, 1,456 (20.8%) specimens were positive for influenza (2 for influenza A/pH1N1, 595 for influenza A/H3, 722 for influenza A without subtype, and 137 for influenza B).

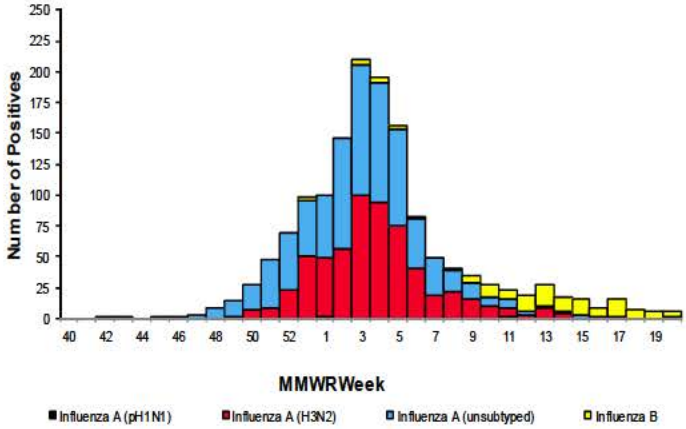
Rapid testing

Many hospitals, labs, and physician offices voluntarily report positive rapid antigen tests to the state. During the 2014-15 season 2,108 positive tests were reported, 1,861 for influenza A, 132 for influenza B, and 115 for influenza, unsubtyped.

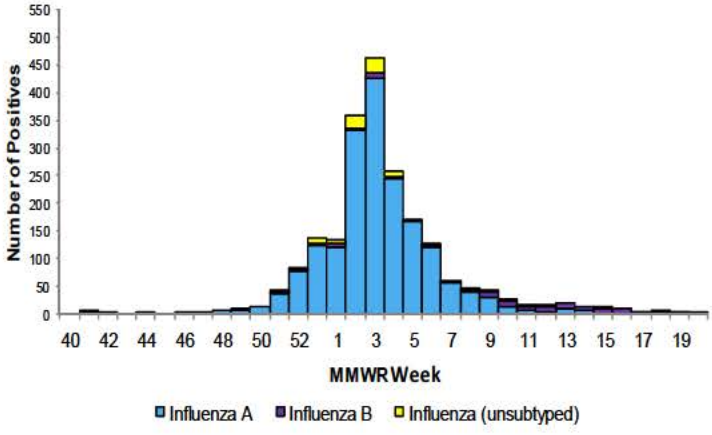
Positive PCR Samples for Influenza, HETL—Maine, 2014-15



Positive PCR Samples for Influenza, Maine Reference Labs, 2014-15

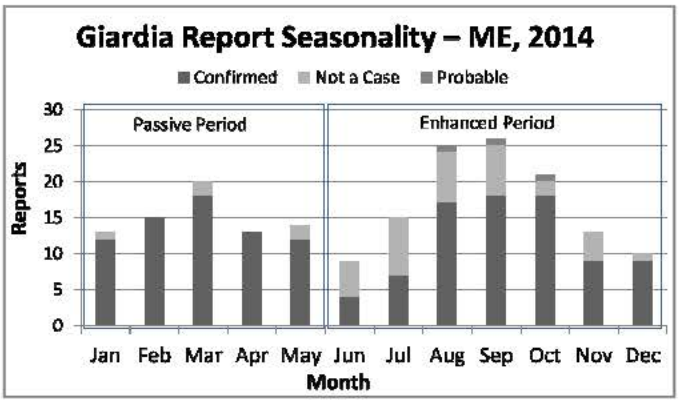


Rapid Positive Influenza Tests—Maine, 2014-15

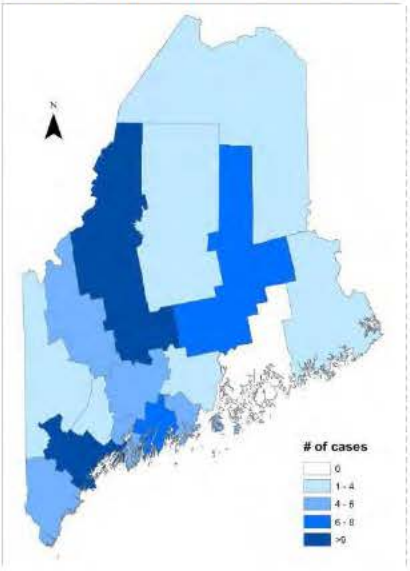


Giardia Enhanced Surveillance – Maine, June - November 2014

Giardiasis is a diarrheal illness caused by the parasite *Giardia intestinalis*. Maine recognized the significance of this condition after a recent surveillance system evaluation found the state had over three times the national rate of cases in 2013 (16.4 vs. 4.8 per 100,000). At the time, Maine did not routinely investigate giardiasis and therefore could not characterize state-specific risk factors. As a result, reports were confirmed using only the lab test results without symptom confirmation as required by the national case definition. This project was developed to determine Maine exposures and determine whether routine investigation was feasible for the program.



Giardia Cases by County – ME, Jun- Nov 2014



During enhanced surveillance, a confirmed case required a positive lab result plus clinically compatible symptoms. Symptomatic cases and asymptomatic carriers were differentiated through follow-up with reporting health providers. Patient interviews to discern exposure risks were then conducted.

Maine received 109 reports of giardiasis during the project period from June 1, 2014 to November 30, 2014. Of these reports, 67% (n=73) were confirmed symptomatic cases; 30% (n=33) were asymptomatic carriers who did not meet the case definition; 3% (n=3) were probable epi-linked cases identified by symptomatic interviewees.

Extrapolating the ~ 30% 'not a case' designations to 2013 cases, the Maine rate would fall to 11.7 per 100,000; this is still much higher than the 2013 US rate. No outbreaks were identified during the enhanced surveillance period and the various exposure risks characterized were unremarkable. Moving forward, Maine will proceed with healthcare provider follow-ups to align with the national case definition, but without patient interviews in consideration of available program resources.

Water and Outdoor Exposures for Giardia Enhance Surveillance (n=73)					
Drinking Water	Count (%)	**Recreational Water**	Count (%)	**Outdoor Exposure**	Count (%)
Private well	29 (40)	Swimming pool (public or private)	13 (18)	Hiking	23 (32)
- Well tested?	13/29 (45)	Natural water (e.g. lakes, streams)	32 (44)	Camping	16 (22)
Public water	28 (38)	Water park or splash park	2 (3)	Fishing	6 (8)
Other (untreated spring)	4 (6)	Hot tub/spa or Jacuzzi	5 (7)	Hunting	3 (4)
Other (bottled)	1 (1)			Gardening/ composting	19 (26)

A Cluster of Cryptosporidiosis Cases Associated with the Consumption of Unpasteurized Milk - Maine, 2014

In January 2014, four cases of cryptosporidiosis were reported to the Maine CDC. The cases resided in two adjacent counties and four unrelated households. The only common exposure between the four individuals was consumption of unpasteurized milk from Farm A.

Cryptosporidiosis is a diarrheal illness caused by the parasite *Cryptosporidium*. In Maine infection is most commonly associated with animal contact or exposure to contaminated natural recreational water sources such as streams, lakes, and ponds. There are few outbreaks reported in the United States associated with unpasteurized milk products. The infection usually occurs in late summer to early fall months.

An outbreak team of infectious disease epidemiologists, Maine's Health and Environmental Laboratory (HETL), and staff from the Department of Agriculture, Conservation and Forestry (DACF) investigated this cluster to determine the potential contamination of the distributed milk and to prevent further illness. An inspection of Farm A occurred including the collection of environmental and milk samples. These in addition to the human specimens were forwarded to HETL for polymerase chain reaction (PCR) testing and speciation. The farm site visit identified a number of practice gaps including: calves being brought into the milk parlor for warmth on a cold night, a failed water test, and footwear not hosed off well between travel from milk room to milk parlor.

Three of the four cases were female. The median age was 42 years with a range of 27-69 years old. None of the individuals were hospitalized but one case occurred during a late term pregnancy. All individuals recovered without complications. The human specimens matched the environmental samples from the milk parlor and two fecal swabs from calves. These samples were positive for *C. parvum* IIaA15G2R1. The strain identified is a common strain of *Cryptosporidium* associated with dairy cows and calves.

In conclusion, this investigation emphasizes the increased risk of illness when consuming unpasteurized milk products. Guidance for unpasteurized milk dealers was created based on this investigation to assist in limiting the potential possibility of infection related to unpasteurized milk consumption. It is available at http://extension.umaine.edu/publications/1030e/

Ebola Monitoring of Travelers from West Africa - Maine, 2014

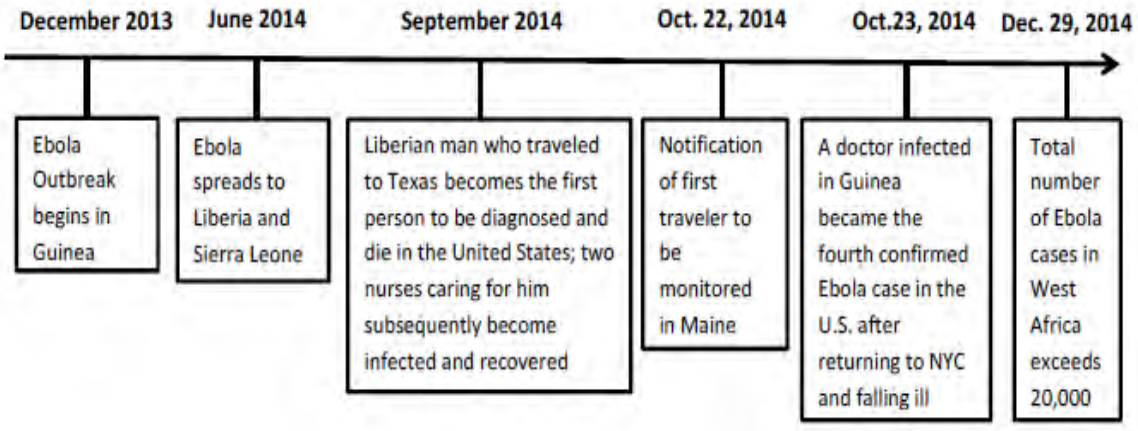
The current multi-country Ebola outbreak is the largest in history. In response to the outbreak and the first cases in the United States, federal CDC issued guidelines for screening all travelers from West Africa at five U.S. airports (New York City-John F. Kennedy, Washington-Dulles, Newark, Atlanta, and Chicago-O'Hare). All flights originating out of Sierra Leone, Liberia, and Guinea were subsequently routed to only those five designated airports in the U.S.

On October 22, federal CDC recommended all states should initiate 21-day monitoring for all individuals with recent travel to Sierra Leone, Guinea, or Liberia, based on the traveler's risk categorization (high-risk, some risk, low (but not zero) risk, and no identifiable risk). More information can be found at http://www.cdc.gov/vhf/ebola/exposure/monitoring-and-movement-of-persons-with-exposure.html. Maine CDC developed both an Ebola case investigation protocol (in the event of a case/traveler becoming symptomatic) and a monitoring standard operating procedure, based on federal CDC guidance, for conducting active or direct active monitoring of travelers who had been to Sierra Leone, Liberia, or Guinea in the past 21 days.

Maine received the first notification of a traveler from an Ebola affected country on October 22, 2014. From October until December 31, 2014:

- Maine CDC received notifications for seven travelers
    - Five travelers returned to Maine with potential exposure in a West African country
        - Four were low-risk requiring active monitoring
        - One was some risk requiring direct active monitoring
    - Two travelers came to Maine briefly during their 21-day monitoring periods; home jurisdictions continued monitoring in conjunction with Maine CDC
- Four travelers returned from Liberia, three returned from Sierra Leone
- No travelers developed Ebola and all successfully completed their 21-day monitoring

Figure A. Timeline of key events in West Africa and the United States



Progress towards Electronic Laboratory Reporting, Maine - 2014

The Informatics Team in the Infectious Disease Epidemiology program successfully implemented electronic laboratory reporting (ELR) from six Maine hospital laboratories in 2014. ELR has proven to be more timely and complete than traditional paper reporting. Moving to a completely electronic reporting system reduces the amount of work of faxing, data entry, and filing hard copies. Once a lab starts reporting electronically, the reports must be fully validated before making the decision to rely solely on ELR. Some notifiable conditions must still be reported immediately by telephone, like meningococcal meningitis.

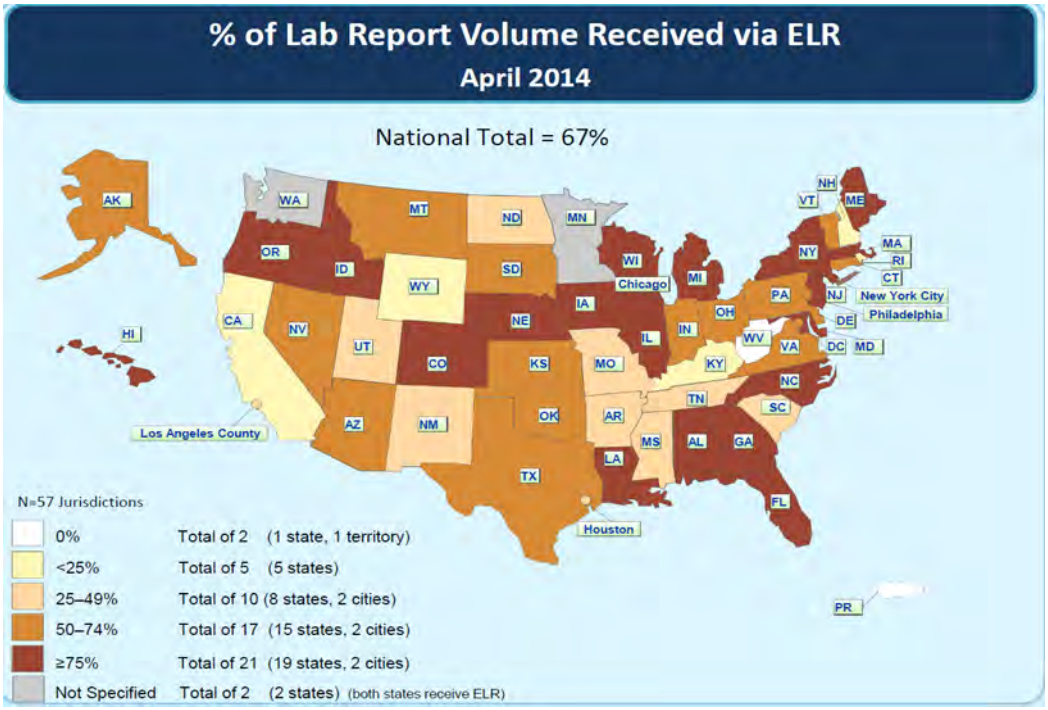
The team conducted production validation of the ELR from six hospitals and one Maine-based commercial laboratory. This process took 14 weeks to 6 months (dependent on volume of reporting) and involved comparing the hard copy reports to the ones received electronically. The next steps for the laboratories are to go "paper off".

The validation process proved that ELR is more complete and timely:

- Maine-based commercial laboratory: 23% more data than the paper equivalent; arrived 15 hours earlier
- Hospital A: 19% more data than paper equivalent; arrived over 12 hours earlier
- Hospital B: 23% more data than the paper equivalent

With reports arriving earlier, Maine CDC epidemiologists are able to investigate disease reports sooner and make the appropriate recommendations for disease interventions to prevent additional illness. More complete reports save epidemiologists' time and allows them to reach the provider and patients faster.

On the national level, Maine is one of 21 jurisdictions currently receiving >75% of lab results electronically, greater than the national average of 67%. In Maine, approximately 80% of lab reporting is via ELR, vastly improving surveillance for our jurisdiction.



2014 Tick Data Collected by the University of Maine at Orono Cooperative Extension Tick ID Laboratory

In 2014, tick identification services were offered at the University of Maine at Orono Cooperative Extension Tick ID Laboratory. This service is part of a program to establish the distribution of deer ticks (*Ixodes scapularis*) in the state. Ticks found on people and pets were submitted with information on where the tick(s) were acquired. Ticks were not tested for the presence of Lyme bacteria. Though there was a fee in 2014, this service is free in 2015.

It is important to note that this passive sampling could be influenced by a variety of extraneous factors (e.g. proximity to the laboratory, level of citizen concern about Lyme disease in an area, or whether a particular area is already widely known to have a deer tick presence).

Number of Ticks Identified by County and Type, Maine, 2014

County	*Ixodes scapularis* **(Deer tick)**	*Dermacentor variabilis* **(American dog tick)**	*Ixodes cookei* **(Woodchuck tick)**	*A. americanum* **(Lonestar tick)**
Androscoggin	3	1	0	0
Aroostook	1	0	1	0
Cumberland	22	5	0	0
Franklin	5	1	2	0
Hancock	18	0	0	0
Kennebec	6	0	0	0
Knox	2	2	0	0
Lincoln	6	3	0	0
Oxford	2	0	0	0
Penobscot	42	6	0	0
Piscataquis	1	1	0	0
Sagadahoc	4	1	0	0
Somerset	5	3	0	0
Waldo	6	4	0	0
Washington	0	0	0	0
York	15	2	0	0
Unspecified	0	0	0	0
Totals	138	29	3	0

Why is it important to submit ticks for identification?

It is important for a physician (or a pet's veterinarian) to know what species of tick was involved in a bite. It is also important for surveillance purposes to know the type of tick and where ticks are found.

What diseases are carried by which ticks?

Ixodes scapularis (Deer tick) – Lyme disease, Anaplasmosis, Babesiosis, and Deer Tick Fever
Dermacentor variabilis (American dog tick) – Rocky Mountain Spotted Fever
Ixodes cookei (Woodchuck tick) - Powassan

Amblyoma americanum (Lonestar tick) - Ehrlichiosis

How are ticks removed?
Remove ticks by grasping them with fine tweezers as near to the skin as possible and pull up gently but firmly. A tick spoon is also effective. The barbed mouth parts may not let go easily. It may take several minutes or more. Do not handle ticks with bare hands.

How are ticks submitted?
Tick identification is performed at the University of Maine Cooperative Extension Tick ID Lab and is free. Instructions for submitting a tick are available at: http://extension.umaine.edu/ipm/tickid/submit/.

Place ticks in a small leak-proof container (no glass) with just enough rubbing alcohol to cover the specimen. Wrap the container in a paper towel and place inside a zipper-locking plastic bag. Include a submission form or use the online tick submission form. Mail ticks to:

UMaine Extension Tick ID Lab
491 College Avenue
Orono ME 04473-1295

Ticks can also be dropped off at the office from 8:00 am – 4:30 pm Monday – Friday.

Maine Center for Disease Control and Prevention
An Office of the Department of Health and Human Services

Paul R. LePage, Governor — Mary C. Mayhew, Commissioner

NOTIFIABLE CONDITIONS LIST

Maine Department of Health and Human Services
Center for Disease Control and Prevention

Conditions in **BOLD** must be reported *immediately* All others must be reported in 48 hours

Reportable Disease or Condition		Laboratory Specimen Submission
Acquired Immunodeficiency Syndrome (AIDS) **Anthrax** Arboviral Infection Babesiosis **Botulism** **Brucellosis** Campylobacteriosis Carbon Monoxide Poisoning, including - Clinical signs, symptoms or known exposure consistent with diagnosis of carbon monoxide poisoning and/or: a carboxyhemoglobin (COHb) level ≥5% Chancroid Chlamydia Chickenpox (Varicella) Creutzfeldt-Jakob disease, <55 years of age Cryptosporidiosis Dengue **Diphtheria** E. coli, Shiga toxin-producing (STEC) disease including E. coli: 0157:H7 Ehrlichiosis Giardiasis Gonorrhea Haemophilus influenzae disease, invasive, include all serotypes Hantavirus, pulmonary syndrome Hemolytic-uremic syndrome (post-diarrheal) **Hepatitis A, B, C, D, E (acute)** Hepatitis B (chronic, and/or perinatal) Hepatitis C (chronic) **Hepatitis, acute (etiologic tests pending or etiology unknown)** Human Immunodeficiency Virus (HIV), including: - Confirmed, positive ant body tests - Viral load tests, all results - CD4 lymphocyte counts, all results Influenza-associated pediatric death Influenza-like illness outbreaks **Influenza A, Novel** Legionellosis Leptospirosis Listeriosis Lyme Disease	Malaria **Measles** Meningitis (bacterial) **Meningococcal Invasive Disease** **Mumps** Paralytic Shellfish Poisoning **Pertussis** **Plague** **Poliomyelitis** Psittacosis **Q Fever** **Rabies (human and animal)** Rabies Post-Exposure Prophylaxis **Ricin Poisoning** Rocky Mountain Spotted Fever **Rubella (including congenital)** Salmonellosis **Severe Acute Respiratory Syndrome (SARS)** Shigellosis **Smallpox** Staphylococcus aureus, Methicillin-Resistant (MRSA) invasive, **Staphylococcus aureus with resistance (VRSA) or intermediate resistance (VISA) to Vancomycin isolated from any site** **Staphylococcal enterotoxin B** Streptococcal invasive disease, Group A Streptococcal invasive disease, Group B Streptococcus pneumoniae, invasive disease Syphilis **Tetanus** Toxoplasmosis Trichinosis **Tuberculosis (active and presumptive cases)** **Tularemia** **Unusual or increased case incidence, critical illness, unexplained death(s) of any suspect infectious disease** Vibrio species, including Cholera **Viral Hemorrhagic Fever** **Venezuelan equine encephalitis** Yellow Fever Yersiniosis	Directors of laboratories are to submit cultures or clinical specimens for the following to the *Maine Health and Environmental Testing Laboratory* for confirmation, typing and/or antibiotic sensitivity: Acid-Fast Bacillus ***Bacillus anthracis*** ***Bordetella pertussis*** ***Brucella* species** ***Clostridium tetani*** ***Clostridium botulinum*** ***Corynebacterium diphtheriae*** ***Coxiella burnetii*** *Escherichia coli, Shiga toxin-producing* *Haemophilus influenzae* *Human Immunodeficiency* Virus ***Influenza* virus, Novel** *Listeria monocytogenes* ***Mumps* virus** ***Mycobacterium tuberculosis*** ***Neisseria meningitidis*** ***Rabies* virus** **Ricin Poisoning** ***Rubella* virus** ***Rubeola* virus** *Salmonella* species ***SARS Coronavirus*** *Shigella* species *Toxoplasma gondii* ***Variola* virus** *Vibrio* species ***Yersinia pestis***

Who must report: Health Care Providers, Medical Laboratories, Health Care Facilities, Administrators, Health Officers, Veterinarians

When to report:

- Conditions in **BOLD** are reportable immediately by telephone on recognition or strong suspicion of disease
- All others are reportable by telephone, fax, or mail within 48 hours of recognition or strong suspicion of disease

What to report:

Disease reports must include as much of the following as is known:

- Disease or condition diagnosed or suspected
- Patient's name, date of birth, address, phone number, occupation and race
- Diagnostic laboratory findings and dates of test relevant to the notifiable condition
- Health care provider name, address and phone number
- Name and phone number of person making the report

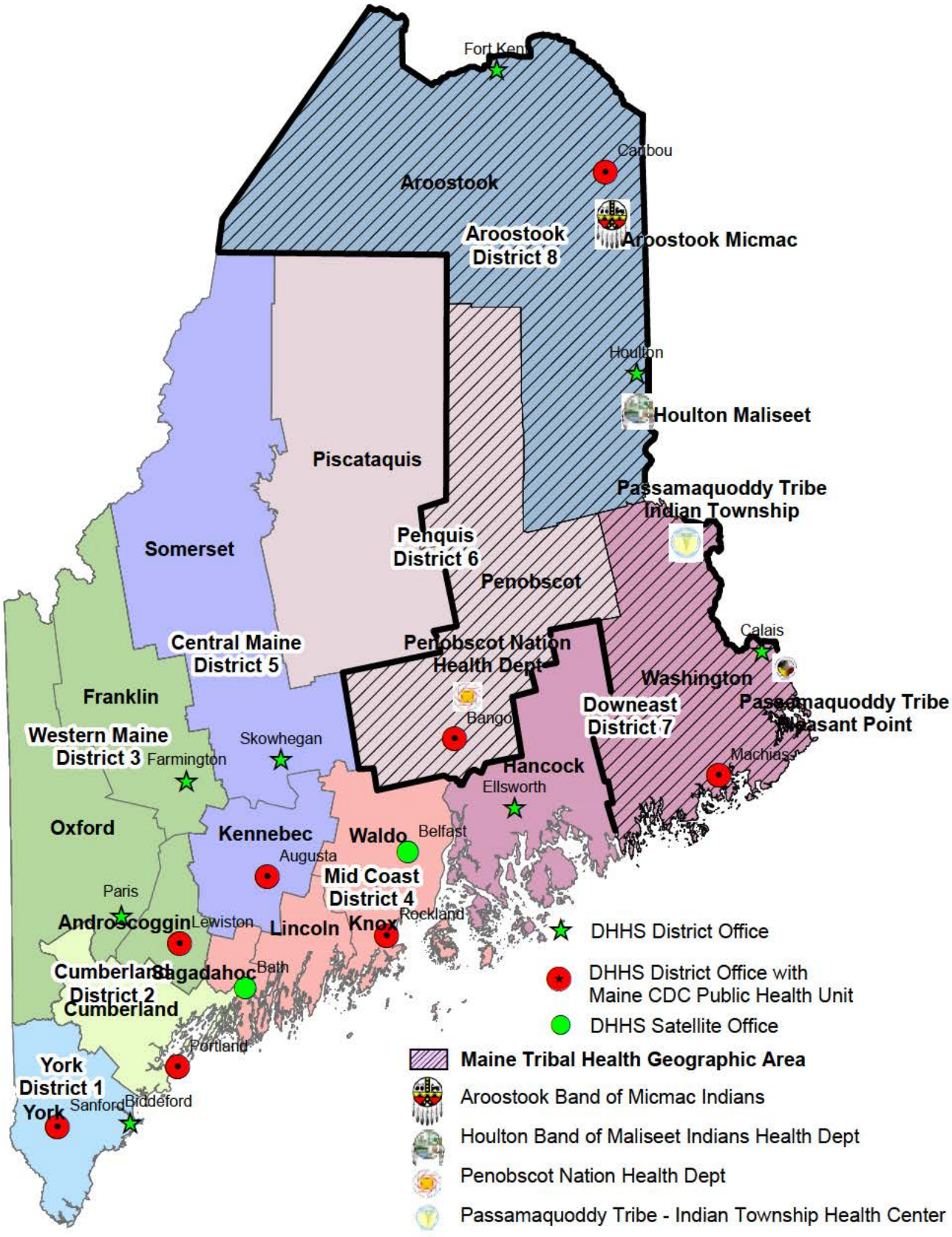
Complete Rules for the Control of Notifiable Conditions at:
http://www.maine.gov/dhhs/boh/ddc/epi/disease-reporting/index.shtml

Disease Reporting
24 Hours A Day
7 Days A Week

Telephone
1-800-821-5821

Fax
1-800-293-7534

Maine Department of Health & Human Services District Offices and Maine Tribal Health Geographic Area



Updated November 2012

Map created by the Office of Public Health Emergency Preparedness

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