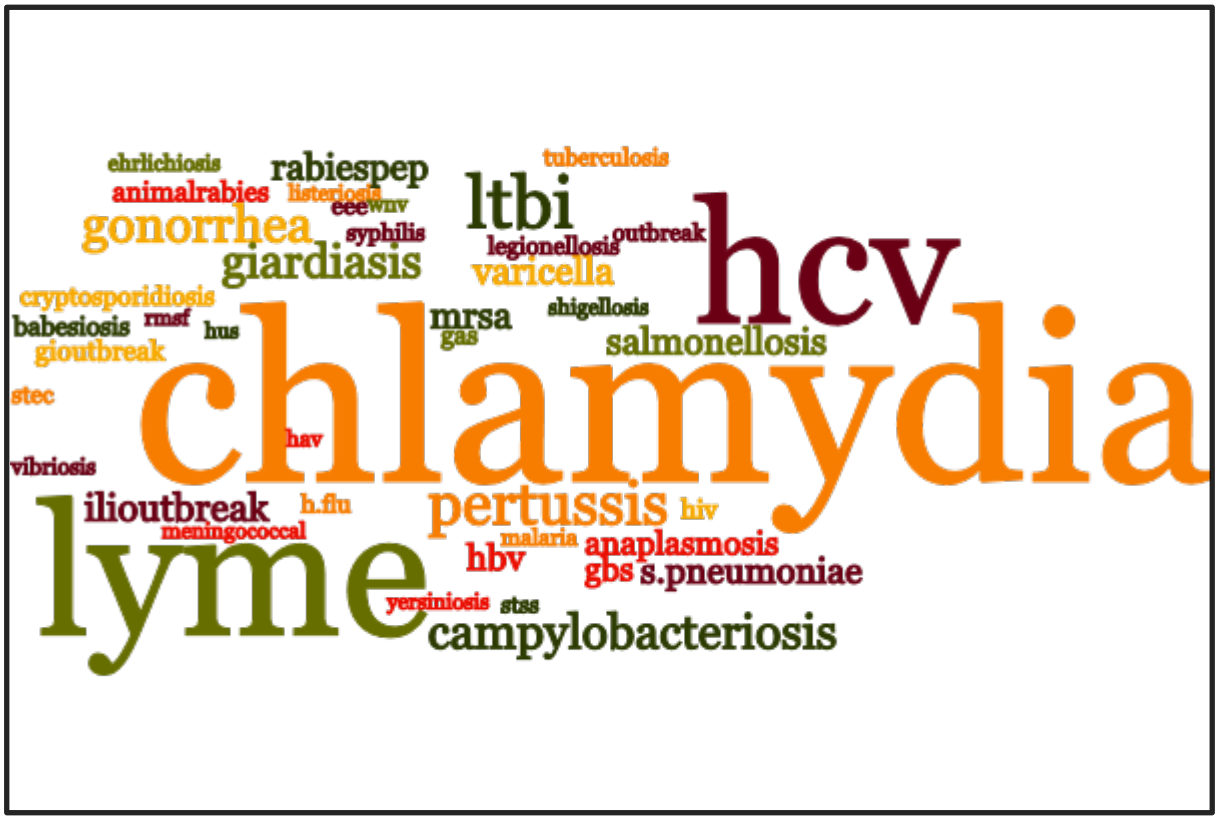
2013

Reportable Infectious Diseases in Maine Summary 2013

Maine Center for Disease Control and Prevention

Maine Department of Health and Human Services

Reportable Infectious Diseases in Maine



2013 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

2013 Summary

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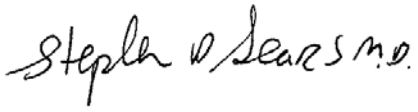
Maine Center for Disease Control and Prevention (Maine CDC) has published an annual report on infectious diseases in Maine for the last 20 years. This report is prepared by the Division of Infectious Disease and is intended to provide an overview of notifiable infectious diseases of public health importance 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, and 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 H (Notifiable Conditions List)* of this report, visit our website at www.mainepublichealth.gov, or call 1-800-821-5821.



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2013 Infectious Disease Surveillance Highlights

- Tickborne diseases continued to increase in 2013, with 1,376 cases of Lyme disease reported. This highlights the importance of awareness and prevention efforts regarding tickborne diseases in Maine.
    - Both babesiosis and anaplasmosis increased in 2013. Babesiosis cases tripled and anaplasmosis cases almost doubled. The largest increases were seen in the Southern and Midcoast areas of the state.
    - In 2013, the first case of Powassan since 2004 was reported in a female in the Midcoast district.
- Reports of giardiasis increased in 2013. The rate of giardiasis in Maine (16.4 per 100,000 persons) is now three times the national rate (4.8 per 100,000 persons).
- Active tuberculosis cases in Maine residents continued to be reported at higher numbers than previous years. In 2013, an outbreak of active tuberculosis was investigated in a long term care facility in Aroostook county.
- Vibriosis cases were reported at higher numbers than in the past. As in 2012, the majority of cases had exposures to Maine seafood; however no outbreaks were discovered.
- Campylobacteriosis cases continued to increase with no known reason for the increase.
- Pertussis continued to be reported in higher than expected numbers compared to five years ago; though fewer cases were reported in 2013 than in 2012.
- The first case of Chikungunya virus, transmitted by mosquitoes, was reported in a Maine resident who traveled to the Philippines.
- Sexually transmitted diseases continued to disproportionately affect young people with 41% of gonorrhea and 68% of chlamydia cases reported in the 15-24 year age group. State sponsored testing programs targeted testing for females in this age group.
- Fewer animals tested positive for rabies in 2013; only 50 animals were positive compared to 91 in 2012. Maine has not had a human case of rabies since 1937.
- The numbers of newly reported cases of chronic hepatitis C infections increased from 1,214 in 2012 to 1,265 in 2013.
- Maine CDC investigated multiple outbreaks of *Clostridium difficile* in long term care facilities.
- Diseases associated with international travel (such as malaria and shigellosis) occurred in Maine residents in 2013. Reports of malaria doubled in 2013 compared to 2012. 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 reportable. 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 disease 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, veterinarians and others are required to report notifiable diseases to the Maine CDC (Appendix H). 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 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).

The Maine 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 2013 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 the Maine CDC. Case definitions may change from year to year. The case definitions used to classify 2013 data are available at http://www.cdc.gov/osels/ph_surveillance/nndss/PHS/infdis2011.htm. 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, 2004 – 2013*

Disease	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Anaplasmosis	1	5	10	9	17	15	17	26	52	94
Babesiosis	5	11	9	11	11	3	5	9	10	36
Campylobacteriosis	141	159	137	149	151	171	148	195	189	228
Chlamydia	2120	2253	2304	2543	2594	2443	2586	3094	3413	3439
Cryptosporidiosis	22	30	52	56	46	67	93	51	58	35
Dengue Fever	NR	NR	NR	NR	NR	3	6	0	0	1
Ehrlichia chaffeensis	0	1	4	3	1	1	4	1	3	3
Giardiasis	155	202	192	197	188	223	223	171	169	218
Gonorrhea	214	142	137	118	96	143	162	272	456	246
Group A Streptococcal Disease (invasive)	16	14	19	28	28	21	47	43	37	37
Group B Streptococcal Disease, Infant (invasive)	1	3	1	1	6	2	8	2	5	2
H. Influenzae (invasive)	15	12	21	13	21	21	13	26	23	25
Hemolytic uremic syndrome	2	0	6	1	1	2	1	2	2	2
Hepatitis A, acute	16	9	8	5	18	1	7	6	9	10
Hepatitis B, acute	11	14	26	19	15	15	13	8	9	11
Hepatitis B, chronic	NA	NA	NA	139	142	125	101	105	105	107
Hepatitis C, acute	0	0	2	1	3	2	2	12	8	8
Hepatitis C, chronic	NA	NA	NA	NA	NA	NA	1142	1184	1214	1265
HIV Infection	46	59	62	64	46	56	59	54	48	39
Legionellosis	1	7	11	9	11	10	12	18	18	23
Listeriosis	8	3	6	5	5	4	1	4	5	4
Lyme disease	224	245	338	530	909	976	752	1012	1113	1376
Malaria	6	5	4	8	1	2	6	6	5	10
Meningococcal disease	12	2	9	8	6	4	5	5	3	4
MRSA, invasive	NR	NR	NR	NR	47	122	90	121	116	130
Mumps	0	2	0	24	5	6	2	2	0	1
Pertussis	195	55	174	83	49	80	53	205	737	332
Rabies, animal	69	61	127	86	70	63	67	66	91	50
Salmonellosis	108	163	161	138	159	121	133	134	161	131
Shiga toxin producing *E. coli*	18	29	49	41	26	19	21	28	20	27
Shigellosis	13	15	10	14	20	5	8	32	7	5
Streptococcus pneumoniae, invasive	NA	NA	NA	NA	NA	NA	151	136	102	121
Streptococcus pneumoniae (drug resistant invasive)	4	8	12	13	18	23	30	32	20	31
Streptococcal Toxic Shock Syndrome	1	0	0	1	0	0	21	12	10	16
Syphilis (early)	2	3	16	14	20	14	39	20	19	16
Tuberculosis	20	17	16	19	9	9	8	9	17	15
Varicella (Chickenpox)	363	318	238	366	269	235	247	226	258	140
Vibriosis	4	2	5	0	3	4	5	4	10	9

*Counts may change from year to year.

NR = not reportable; NA = not available

Rates of Selected Reportable Disease by Year, Maine, 2004 – 2013*

Disease	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Anaplasmosis	0.1	0.4	0.8	0.7	1.3	1.1	1.3	2.0	3.9	7.1
Babesiosis	0.4	0.8	0.7	0.8	0.8	0.2	0.4	0.7	0.8	2.7
Campylobacteriosis	10.7	12.1	10.4	11.3	11.5	13.0	11.3	14.7	14.2	17.2
Chlamydia	161.4	170.9	174.3	192.9	197.0	185.3	197.0	233.0	256.8	258.9
Cryptosporidiosis	1.7	2.3	3.9	4.3	3.5	5.1	7.1	3.8	4.4	2.6
Dengue Fever	NR	NR	NR	NR	NR	0.2	0.5	0.0	0.0	0.1
Ehrlichia chaffeensis	0.0	0.0	0.3	0.2	0.1	0.1	0.3	0.1	0.2	0.2
Giardiasis	11.8	15.3	14.5	15.0	14.3	16.9	17.0	12.9	12.7	16.4
Gonorrhea	16.3	10.8	10.4	9.0	7.3	10.9	12.3	20.5	34.3	18.5
Group A Streptococcal Disease (invasive)	1.2	1.1	1.4	2.1	2.1	1.6	3.6	3.2	2.8	2.8
H. Influenzae (invasive)	1.1	0.9	1.6	1.0	1.6	1.6	1.0	2.0	1.7	1.9
Hemolytic uremic syndrome	0.2	0.0	0.5	0.1	0.1	0.2	0.1	0.2	0.2	0.2
Hepatitis A, acute	1.2	0.7	0.6	0.4	1.4	0.1	0.5	0.5	0.7	0.8
Hepatitis B, acute	0.8	1.1	2.0	1.4	1.1	1.1	1.0	0.6	0.7	0.8
Hepatitis B, chronic	NA	NA	NA	10.6	10.8	9.5	7.7	7.9	7.9	8.1
Hepatitis C, acute	0.0	0.0	0.2	0.1	0.2	0.2	0.2	0.9	0.6	0.6
Hepatitis C, chronic	NA	NA	NA	NA	NA	NA	87.0	89.1	91.3	95.2
HIV Infection	3.5	4.4	4.3	3.9	3.5	4.3	4.3	4.1	3.6	2.9
Legionellosis	0.1	0.5	0.8	0.7	0.8	0.8	0.9	1.4	1.4	1.7
Listeriosis	0.6	0.2	0.5	0.4	0.4	0.3	0.1	0.3	0.4	0.3
Lyme disease	17.1	18.6	25.6	40.2	69.1	74.0	57.3	76.2	83.7	103.6
Malaria	0.5	0.4	0.3	0.6	0.1	0.2	0.5	0.5	0.4	0.8
Meningococcal disease	0.9	0.2	0.7	0.6	0.5	0.3	0.4	0.4	0.2	0.3
MRSA, invasive	NR	NR	NR	NR	3.6	9.3	6.9	9.1	8.7	9.8
Mumps	0.0	0.2	0.0	1.8	0.4	0.5	0.2	0.2	0.0	0.1
Pertussis	14.8	4.2	13.2	6.3	3.7	6.1	4.0	15.4	55.5	25.0
Rabies, animal	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Salmonellosis	8.2	12.4	12.2	10.5	12.1	9.2	10.1	10.1	12.1	9.9
Shiga toxin producing *E. coli*	1.4	2.2	3.7	3.1	2.0	1.4	1.6	2.1	1.5	2.0
Shigellosis	1.0	1.1	0.8	1.1	1.5	0.4	0.6	2.4	0.5	0.4
Streptococcus pneumoniae, invasive	NA	NA	NA	NA	NA	NA	9.9	10.2	7.7	9.1
Streptococcus pneumoniae (drug resistant invasive)	0.3	0.6	0.9	1.0	1.4	1.7	2.3	2.4	1.5	2.3
Syphilis (early)	0.2	0.2	1.2	0.7	1.5	1.1	2.9	1.5	1.4	1.2
Tuberculosis	1.5	1.3	1.2	1.4	0.7	0.7	0.6	0.7	1.3	1.1
Varicella (Chickenpox)	27.6	24.1	18.0	27.8	20.4	17.8	18.8	17.0	19.4	10.5
Vibriosis	0.3	0.2	0.4	0.0	0.2	0.3	0.4	0.3	0.8	0.7

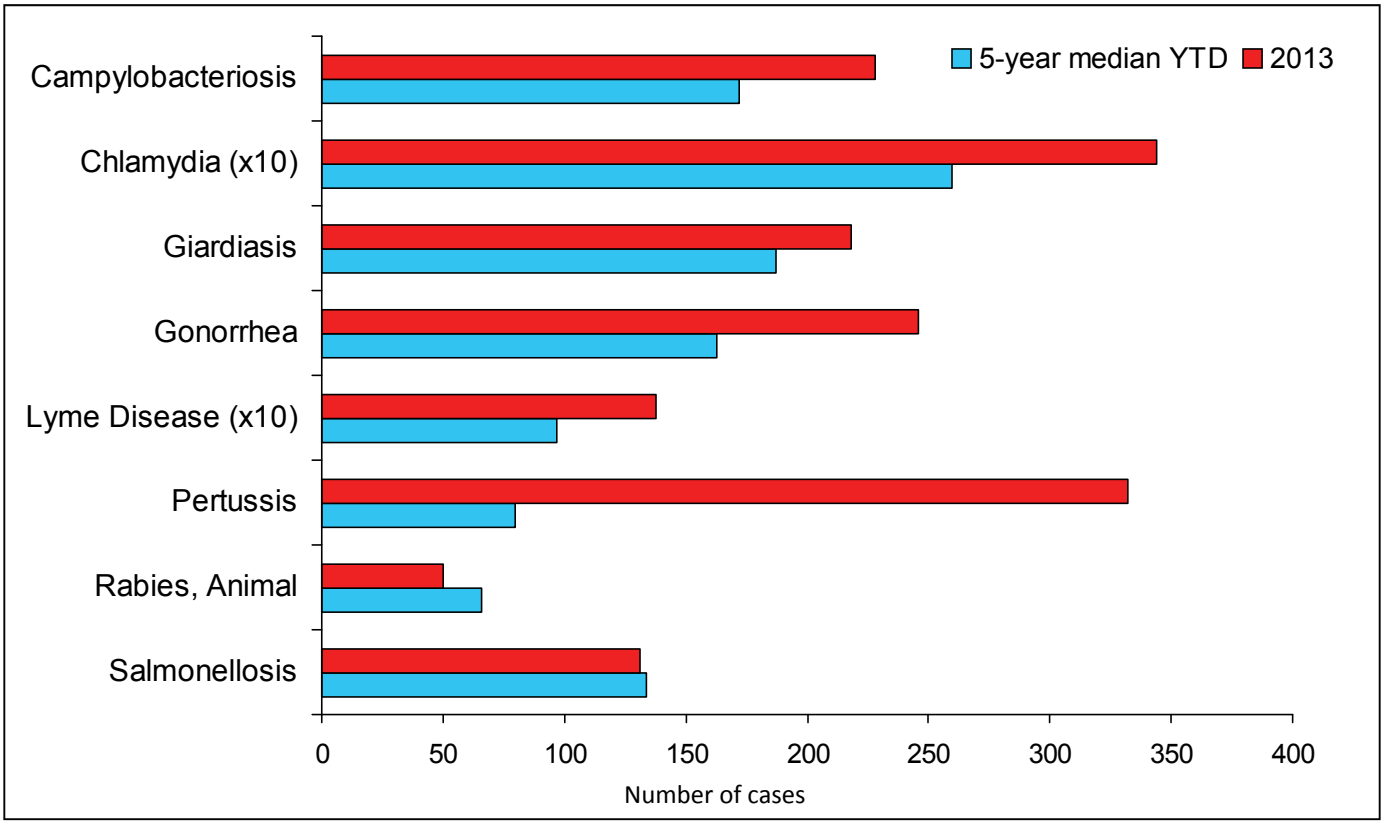
*Rates may change from year to year.
NR = not reportable
NA = not available

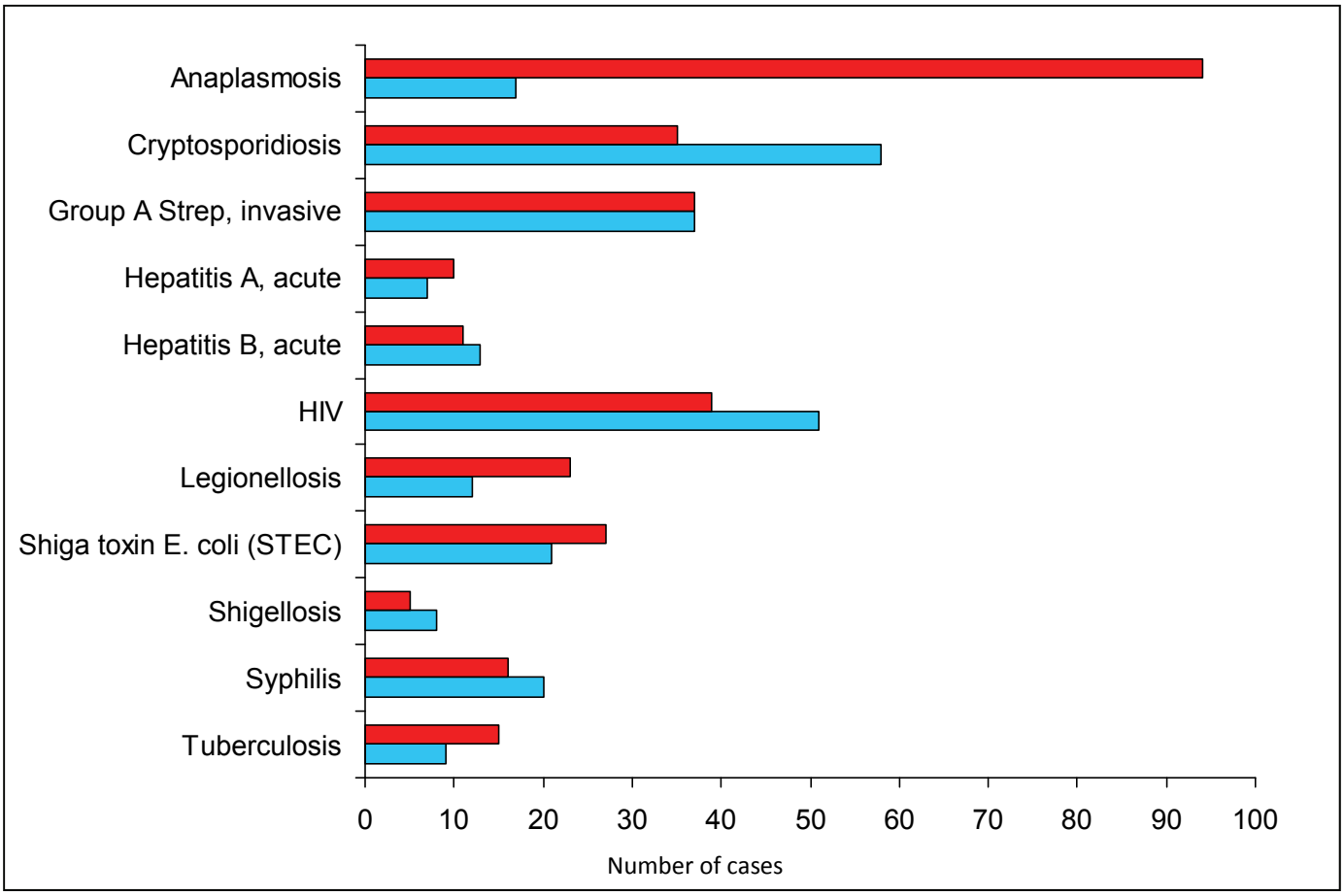
Reportable Diseases with Historically Small Numbers of Cases, Maine, 2004 - 2013

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	**10 year total**
Anthrax	0	0	0	0	0	0	0	0	0	0	**0**
Botulism, foodborne	1	0	0	0	0	0	0	0	0	0	**1**
Brucellosis	0	0	0	0	0	0	2	0	0	0	**2**
Creutzfeld-Jacob disease (<55 yo)	0	0	0	0	0	1	0	0	0	0	**1**
Cyclosporiasis	1	0	0	0	0	0	1	0	0	0	**2**
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	0	**0**
Ehrlichiosis, ewingii	0	0	0	0	0	0	0	0	0	1	**1**
Hantavirus Pulmonary Syndrome	0	0	0	0	0	0	0	1	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	1	0	0	0	0	0	0	0	0	0	**1**
Poliomyelitis	0	0	0	0	0	0	0	0	0	0	**0**
Powassan Virus	1	0	0	0	0	0	0	0	0	1	**2**
Q Fever	0	2	4	7	0	0	0	2	0	0	**15**
Rubella	0	0	0	0	0	0	0	0	0	0	**0**
Rocky Mountain Spotted Fever^	NR	NR	NR	NR	1	5	2	1	3	2	**14**
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	0	1	**1**
Toxoplasmosis	1	0	0	0	0	0	0	0	0	0	**1**
Trichinosis	0	0	0	0	0	0	1	1	0	0	**2**
Tularemia	0	0	0	0	0	0	0	0	0	0	**0**
Typhoid Fever	0	0	1	0	0	0	2	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	0	1	0	**1**
Yellow Fever	0	0	0	0	0	0	0	0	0	0	**0**

NR=Not reportable, ^Reported cases were probable only in 2013,

Selected Reportable Diseases in Maine, Year-to-Date (YTD) and Five Year Median, 2013





Note: Data are final as of 5/18/14

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2013

	Anaplasmosis		Babesiosis		Campylobacteriosis		Cryptosporidiosis		*Ehrlichia chaffeensis*		Giardiasis	
County	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Androscoggin	2	1.9	0	0.0	9	8.4	0	0.0	0	0.0	19	17.7
Aroostook	1	1.4	0	0.0	16	22.8	0	0.0	0	0.0	8	11.4
Cumberland	19	6.7	9	3.2	55	19.3	6	2.1	1	0.4	69	24.2
Franklin	2	6.6	0	0.0	6	8.0	0	0.0	0	0.0	6	19.7
Hancock	0	0.0	0	0.0	10	18.2	1	1.8	0	0.0	11	20.1
Kennebec	7	5.8	1	0.8	25	20.6	7	5.8	0	0.0	15	12.4
Knox	27	68.3	7	17.7	4	10.1	0	0.0	1	2.5	1	2.5
Lincoln	10	29.3	1	2.9	8	23.5	0	0.0	0	0.0	10	29.3
Oxford	2	3.5	0	0.0	15	26.2	0	0.0	0	0.0	6	10.5
Penobscot	0	0.0	1	0.7	18	11.7	9	5.9	0	0.0	12	7.8
Piscataquis	0	0.0	0	0.0	1	5.8	1	5.8	0	0.0	3	17.5
Sagadahoc	3	8.6	0	0.0	3	8.6	0	0.0	0	0.0	6	17.1
Somerset	0	0.0	0	0.0	7	13.5	3	5.8	0	0.0	13	25.1
Waldo	3	7.7	0	0.0	5	12.8	1	2.6	0	0.0	18	46.2
Washington	0	0.0	0	0.0	4	12.4	0	0.0	0	0.0	4	12.4
York	18	9.0	17	8.5	42	21.1	7	3.5	1	0.5	17	8.5
Maine Total	94	7.1	36	2.7	228	17.2	35	2.6	3	0.2	218	16.4

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2013

	***Haemophilus influenzae*, invasive**		**Hemolytic uremic syndrome**		**Hepatitis A, acute**		**Hepatitis B, acute**		**Hepatitis B, chronic**		**Legionellosis**	
County	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Androscoggin	1	0.9	0	0.0	0	0.0	0	0.0	5	4.6	0	0.0
Aroostook	2	2.9	0	0.0	0	0.0	0	0.0	1	1.4	1	1.4
Cumberland	10	3.5	0	0.0	5	1.8	6	2.1	58	20.3	5	1.8
Franklin	0	0.0	0	0.0	0	0.0	0	0.0	1	3.3	1	3.3
Hancock	0	0.0	0	0.0	0	0.0	0	0.0	2	3.6	3	5.5
Kennebec	7	5.8	0	0.0	0	0.0	0	0.0	3	2.5	1	0.8
Knox	0	0.0	0	0.0	0	0.0	0	0.0	3	7.6	1	2.5
Lincoln	0	0.0	0	0.0	0	0.0	0	0.0	3	8.8	0	0.0
Oxford	0	0.0	0	0.0	1	1.7	0	0.0	3	5.2	1	1.7
Penobscot	3	2.0	2	1.3	2	1.3	0	0.0	6	3.9	2	1.3
Piscataquis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	5.8
Sagadahoc	0	0.0	0	0.0	1	2.9	1	2.9	1	2.9	1	2.9
Somerset	0	0.0	0	0.0	1	1.9	2	3.9	1	1.9	0	0.0
Waldo	0	0.0	0	0.0	0	0.0	2	5.1	4	10.3	3	7.7
Washington	0	0.0	0	0.0	0	0.0	0	0.0	2	6.2	0	0.0
York	2	1.0	0	0.0	0	0.0	0	0.0	14	7.0	3	1.5
Maine Total	25	1.9	2	0.2	10	0.8	11	0.8	107	8.1	23	1.7

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2013

	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	69	64.1	2	1.9	0	0.0	7	6.5	0	0.0
Aroostook	0	0.0	3	4.3	0	0	0	0.0	8	11.4	0	0.0
Cumberland	2	0.7	351	123.0	6	2.1	3	1.1	27	9.5	0	0.0
Franklin	0	0.0	10	32.8	0	0.0	0	0.0	2	6.6	0	0.0
Hancock	0	0.0	100	182.3	0	0.0	0	0.0	7	12.8	0	0.0
Kennebec	1	0.8	183	151.0	0	0.0	0	0.0	12	9.9	0	0.0
Knox	0	0.0	95	240.2	0	0.0	0	0.0	1	2.5	0	0.0
Lincoln	0	0.0	70	205.4	0	0.0	0	0.0	4	11.7	0	0.0
Oxford	0	0.0	50	87.3	0	0.0	0	0.0	3	5.2	0	0.0
Penobscot	0	0.0	39	25.4	0	0.0	1	0.7	20	13.0	1	0.7
Piscataquis	0	0.0	0	0.0	0	0.0	0	0.0	2	11.7	0	0.0
Sagadahoc	1	2.9	53	151.4	0	0.0	0	0.0	6	17.1	0	0.0
Somerset	0	0.0	32	61.9	0	0.0	0	0.0	4	7.7	0	0.0
Waldo	0	0.0	88	226.0	0	0.0	0	0.0	3	7.7	0	0.0
Washington	0	0.0	13	40.4	0	0.0	0	0.0	6	18.6	0	0.0
York	0	0.0	220	110.3	1	0.5	0	0.0	18	9.0	0	0.0
Maine Total	4	0.3	1376	103.6	10	0.8	4	0.3	130	9.8	1	0.1

*One unknown county

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2013

	Pertussis		Rabies, animal		Salmonellosis		Shiga toxin producing *E. coli*		Shigellosis	
County	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	No.
Androscoggin	35	32.5	1		11	10.2	1	0.9	0	0.0
Aroostook	6	8.6	0		7	10.0	0	0.0	0	0.0
Cumberland	42	14.7	8		27	9.5	6	2.1	1	0.4
Franklin	0	0.0	1		8	26.2	1	3.3	0	0.0
Hancock	10	18.2	3		3	5.5	1	1.8	0	0.0
Kennebec	55	45.4	10		16	13.2	4	3.3	1	0.8
Knox	18	45.5	0		4	10.1	0	0.0	0	0.0
Lincoln	2	5.9	1		4	11.7	0	0.0	0	0.0
Oxford	58	101.3	3		3	5.2	1	1.7	0	0.0
Penobscot	23	15.0	6		11	7.2	6	3.9	0	0.0
Piscataquis	10	58.4	1		0	0.0	0	0.0	0	0.0
Sagadahoc	5	14.3	1		2	5.7	1	2.9	0	0.0
Somerset	10	19.3	5		7	13.5	0	0.0	0	0.0
Waldo	20	51.4	3		4	10.3	0	0.0	0	0.0
Washington	0	0.0	1		1	3.1	1	3.1	0	0.0
York	38	19.1	6		23	11.5	5	2.5	3	1.5
Maine Total	332	25.0	50		131	9.9	27	2.0	5	0.4

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2013

	Streptococcus, invasive Group A		***Streptococcus pneumoniae*, invasive**		**Tuberculosis**		**Varicella (Chickenpox)**		**Vibriosis**	
County	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	No.
Androscoggin	3	2.8	16	14.9	2	1.9	5	4.6	0	0.0
Aroostook	2	2.9	7	10.0	3	4.3	5	7.1	0	0.0
Cumberland	5	1.8	17	6.0	3	1.1	45	15.8	2	0.7
Franklin	0	0.0	1	3.3	1	3.3	2	6.6	0	0.0
Hancock	0	0.0	6	10.9	0	0.0	10	18.2	1	1.8
Kennebec	3	2.5	18	14.9	0	0.0	16	13.2	0	0.0
Knox	1	2.5	3	7.6	1	2.5	1	2.5	0	0.0
Lincoln	0	0.0	2	5.9	0	0.0	4	11.7	1	2.9
Oxford	1	1.7	8	14.0	0	0.0	6	10.5	0	0.0
Penobscot	9	5.9	13	8.5	2	1.3	5	3.3	0	0.0
Piscataquis	1	5.8	3	17.5	0	0.0	0	0.0	0	0.0
Sagadahoc	0	0.0	4	11.4	1	2.9	0	0.0	0	0.0
Somerset	3	5.8	3	5.8	0	0.0	9	17.4	1	1.9
Waldo	2	5.1	1	2.6	0	0.0	5	12.8	0	0.0
Washington	1	3.1	5	15.5	0	0.0	5	15.5	1	3.1
York	6	3.0	14	7.0	2	1.0	22	11.0	3	1.5
Maine Total	37	2.8	121	9.1	15	1.1	140	10.5	9	0.7

Reportable HIV/STDs, Number of Cases and Rate per 100,000 Persons by County, Maine, 2013

	Chlamydia		Gonorrhea		Syphilis, Primary and Secondary		HIV	
County	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Androscoggin	504	468.4	91	84.6	2	1.9	8	7.4
Aroostook	114	162.7	4	5.7	0	0.0	1	1.4
Cumberland	793	277.8	65	22.8	7	2.5	18	6.3
Franklin	83	272.2	1	3.3	0	0.0	1	3.3
Hancock	94	171.4	4	7.3	2	3.6	1	1.8
Kennebec	297	245.1	10	8.3	2	1.7	3	2.5
Knox	67	169.4	7	17.7	0	0.0	0	0.0
Lincoln	55	161.3	4	11.7	0	0.0	0	0.0
Oxford	127	221.7	5	8.7	0	0.0	0	0.0
Penobscot	450	293.4	17	11.1	1	0.7	0	0.0
Piscataquis	26	151.8	0	0.0	0	0.0	0	0.0
Sagadahoc	78	222.8	2	5.7	0	0.0	0	0.0
Somerset	129	249.5	5	9.7	0	0.0	1	1.9
Waldo	77	197.7	4	10.3	0	0.0	0	0.0
Washington	74	229.9	4	12.4	0	0.0	0	0.0
York	471	236.2	23	11.5	2	1.0	6	3.0
Maine Total	3439	258.9	246	18.5	16	1.2	39	2.9

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by District*, Maine, 2013

Condition	Aroostook		Central		Cumberland		Downeast		Mid Coast	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Anaplasmosis	1	1.4	7	4.0	19	6.7	0	0.0	43	29.1
Babesiosis	0	0.0	1	0.6	9	3.2	0	0.0	8	5.4
Campylobacteriosis	16	22.8	32	18.5	55	19.3	14	16.1	20	13.6
Chlamydia	114	162.7	426	246.4	793	277.8	168	193.0	277	187.7
Cryptosporidiosis	0	0.0	10	5.8	6	2.1	1	1.1	1	0.7
Ehrlichia chaffeensis	0	0.0	0	0.0	1	0.4	0	0.0	1	0.7
Giardiasis	8	11.4	28	16.2	69	24.2	15	17.2	35	23.7
Gonorrhea	4	5.7	15	8.7	65	22.8	8	9.2	17	11.5
Haemophilus influenzae, invasive	2	2.9	7	4.0	10	3.5	0	0.0	0	0.0
Hemolytic uremic syndrome	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
HIV	1	1.4	4	2.3	18	6.3	1	1.1	0	0.0
Hepatitis A	0	0.0	1	0.6	5	1.8	0	0.0	1	0.7
Hepatitis B, acute	0	0.0	2	1.2	6	2.1	0	0.0	3	2.0
Hepatitis B, chronic	1	1.4	4	2.3	58	20.3	4	4.6	11	7.5
Legionellosis	1	1.4	1	0.6	5	1.8	3	3.4	5	3.4
Listeriosis	0	0.0	1	0.6	2	0.7	0	0.0	1	0.7

*See map in Appendix I for location of districts

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by District*, Maine, 2013

Condition	Penquis		Western		York		State	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Anaplasmosis	0	0.0	6	3.1	18	9.0	94	7.1
Babesiosis	1	0.6	0	0.0	17	8.5	36	2.7
Campylobacteriosis	19	11.1	30	15.4	42	21.1	228	17.2
Chlamydia	476	279.2	714	365.4	471	236.2	3439	258.9
Cryptosporidosis	10	5.9	0	0.0	7	3.5	35	2.6
Ehrlichia chaffeensis	0	0.0	0	0.0	1	0.5	3	0.2
Giardiasis	15	8.8	31	15.9	17	8.5	218	16.4
Gonorrhea	17	10.0	97	49.6	23	11.5	246	18.5
Haemophilus influenzae, invasvie	3	1.8	1	0.5	2	1.0	25	1.9
Hemolytic uremic syndrome	2	1.2	0	0.0	0	0.0	2	0.2
HIV	0	0.0	9	4.6	6	3.0	39	2.9
Hepatitis A	2	1.2	1	0.5	0	0.0	10	0.8
Hepatitis B, acute	0	0.0	0	0.0	0	0.0	11	0.8
Hepatitis B, chronic	6	3.5	9	4.6	14	7.0	107	8.1
Legionellosis	3	1.8	2	1.0	3	1.5	23	1.7
Listeriosis	0	0.0	0	0.0	0	0.0	4	0.3

*See map in Appendix I for location of districts

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by District*, Maine, 2013

Condition	Aroostook		Central		Cumberland		Downeast		Mid Coast	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Lyme Disease	3	4.3	215	124.4	351	123.0	113	129.8	306	207.3
Meningococcal invasive disease	0	0.0	0	0.0	3	1.1	0	0.0	0	0.0
MRSA, invasive	8	11.4	16	9.3	27	9.5	13	14.9	14	9.5
Mumps	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pertussis	6	8.6	65	37.6	42	14.7	10	11.5	45	30.5
Rabies, animal	0		16		8		4		5	
Salmonellosis	7	10.0	23	13.3	27	9.5	4	4.6	14	9.5
Shiga toxin producing E. coli	0	0.0	4	2.3	6	2.1	2	2.3	1	0.7
Shigellosis	0	0.0	1	0.6	1	0.4	0	0.0	0	0.0
Streptococcus, invasive Group A	2	2.9	6	3.5	5	1.8	1	1.1	3	2.0
Streptococcus pneumoniae, invasive	7	10.0	21	12.1	17	6.0	11	12.6	10	6.8
Syphilis	0	0.0	2	1.2	7	2.5	2	2.3	0	0.0
Tuberculosis	3	4.3	0	0.0	3	1.1	0	0.0	2	1.4
Varicella (chickenpox)	5	7.1	25	14.5	45	15.8	15	17.2	10	6.8
Vibriosis	0	0.0	1	0.6	2	0.7	2	2.3	1	0.7

*See map in Appendix I for location of districts

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by District*, Maine, 2013

Condition	Penquis		Western		York		State	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Lyme Disease	39	22.9	129	66.0	220	110.3	1376	103.6
Meningococcal invasive disease	1	0.6	0	0.0	0	0.0	4	0.3
MRSA, invasive	22	12.9	12	6.1	18	9.0	130	9.8
Mumps	1	0.6	0	0.0	0	0.0	1	0.1
Pertussis	33	19.4	93	47.6	38	19.1	332	25.0
Rabies, animal	6		5		6		50	
Salmonellosis	11	6.5	22	11.3	23	11.5	131	9.9
Shiga toxin producing *E. coli*	6	3.5	3	1.5	5	2.5	27	2.0
Shigellosis	0	0.0	0	0.0	3	1.5	5	0.4
Streptococcus, invasive Group A	10	5.9	4	2.0	6	3.0	37	2.8
Streptococcus pneumoniae, invasive	16	9.4	25	12.8	14	7.0	121	9.1
Syphilis	1	0.6	2	1.0	2	1.0	16	1.2
Tuberculosis	2	1.2	3	1.5	2	1.0	15	1.1
Varicella	5	2.9	13	6.7	22	11.0	140	10.5
Vibriosis	0	0.0	0	0.0	3	1.5	9	0.7

*See map in Appendix I for location of districts

Anaplasmosis

2013 Case Total	**94**
Maine Rate	**7.1 per 100,000**
U.S. rate (2012)	**0.8 per 100,000**

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

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.

- 94 cases represent an increase from 52 cases in 2012
- The 2008-2012 median number of cases per year was 17
- Median age was 60 years
- Age range was 20 to 91 years
- Cases were 37% female and 63% 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/

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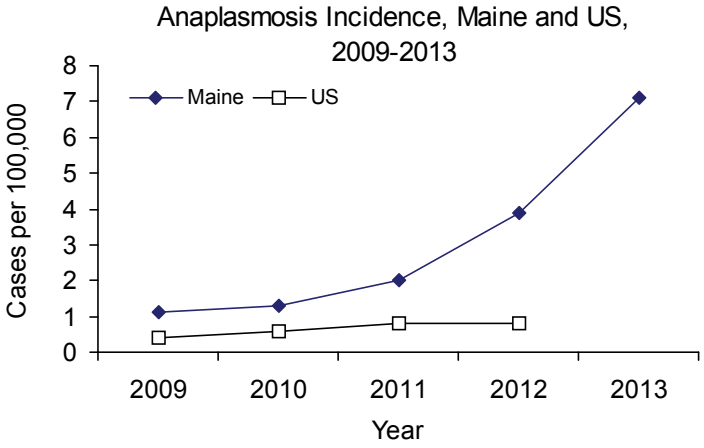
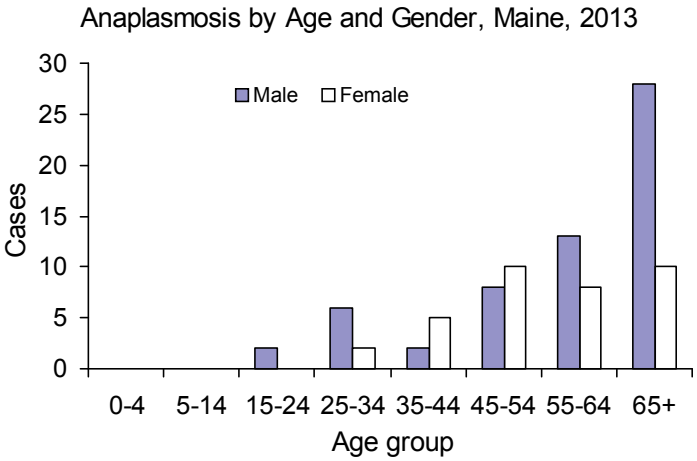
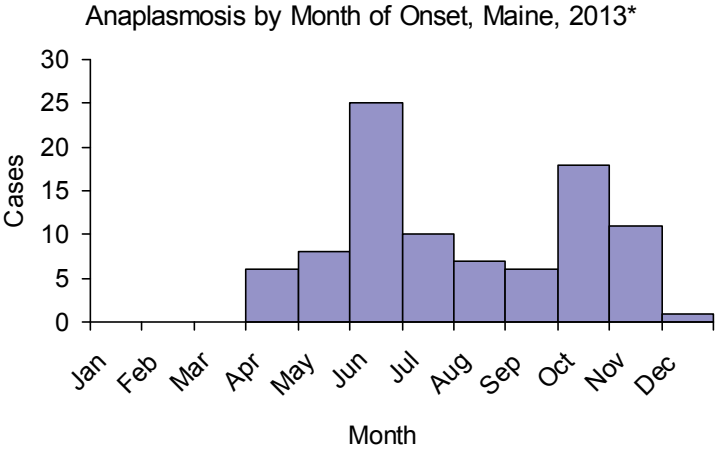






*onset date missing for two cases

Babesiosis

2013 Case Total	**36**
Maine Rate	**2.7 per 100,000**
U.S. rate (2012)	**0.3 per 100,000**

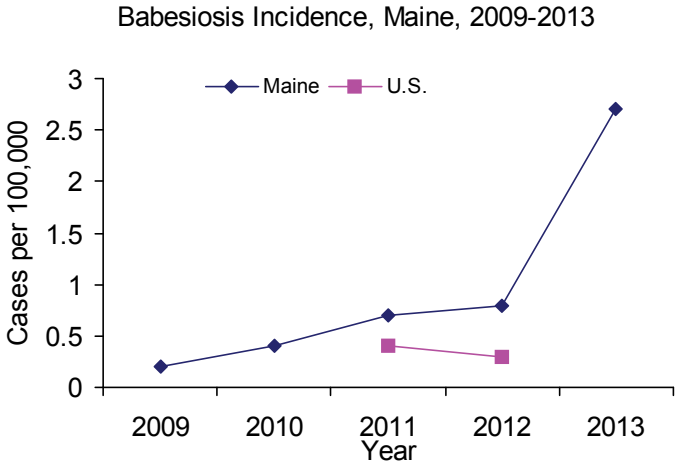
Babesiosis is caused by a parasite that may be carried by ticks. Many individuals that get the disease do not have symptoms. Serious symptoms can occur, especially in persons who are immunosuppressed, those without a spleen, or people who are co-infected with Lyme disease. Babesiosis may also occur after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

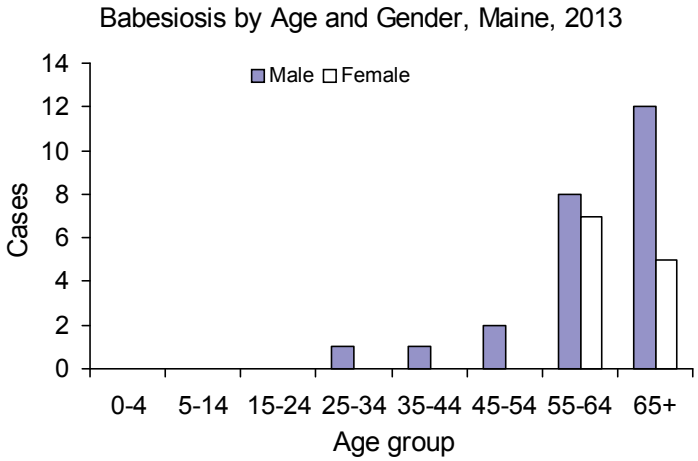
Common symptoms include: extreme fatigue, aches, fever, chills, sweating, dark urine, and possibly anemia.

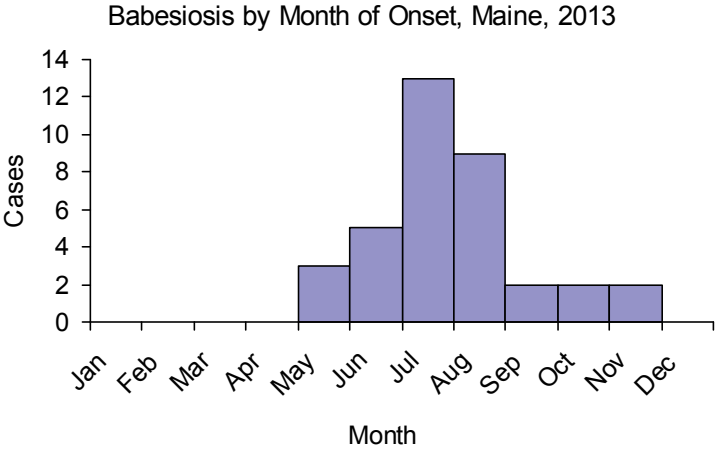
- 36 cases represent an increase from 10 cases in 2012
- The 2008-2012 median number of cases was 9
- Median age was 63 years
- Age range was 34 to 86 years
- Cases were 33% female and 67% male
- Greatest number of cases occurred during the summer months

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/







Campylobacteriosis

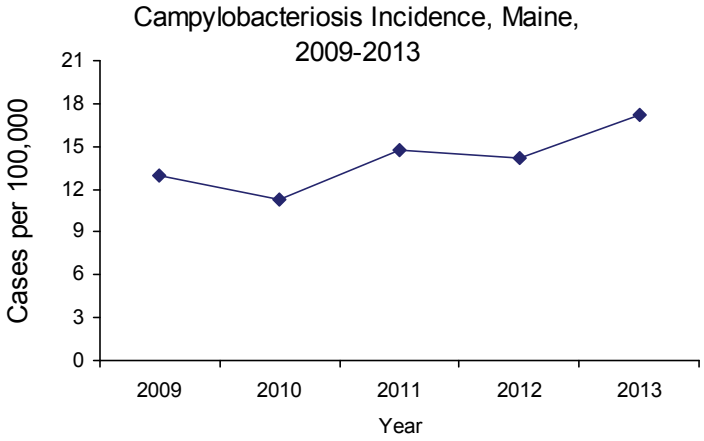
2013 Case Total	**228**
Maine Rate	**17.2 per 100,000**
U.S. rate (2012)	**Not reportable**

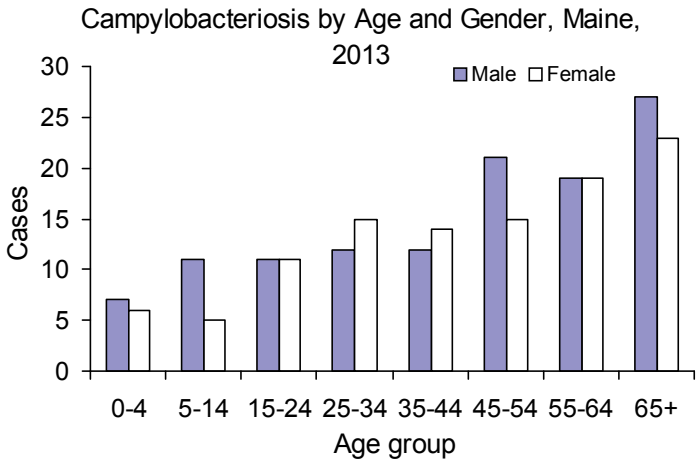
Campylobacteriosis is one of the most common infectious diseases causing diarrhea in the United States. Symptoms include: diarrhea, cramping, abdominal pain and fever. Most people recover within 5 to 10 days.

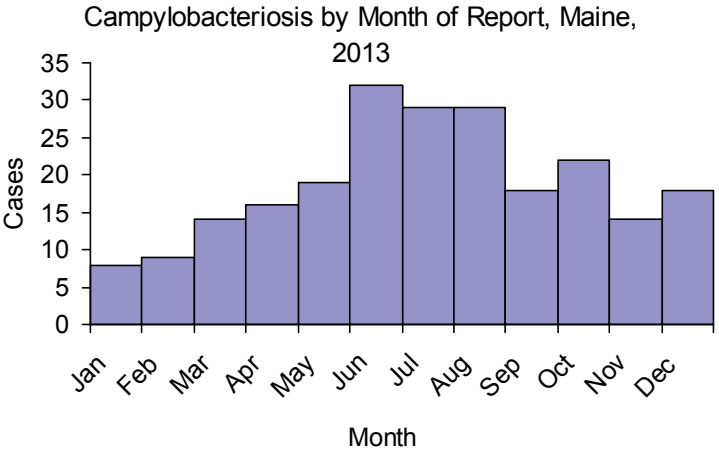
Campylobacteriosis is associated with handling raw poultry or eating undercooked poultry meat, consuming unpasteurized milk and other dairy products and from exposure to contaminated foods. Raw foods, such as vegetables or salad, can be contaminated if the same cutting board or utensils are used for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

- 228 cases represent an increase from 189 cases in 2012
- The 2008-2012 median number of cases was 172
- Median age was 47 years
- Age range was 16 days to 94 years
- Cases were 47% female and 53% male
- Highest rates in Oxford, Lincoln and Aroostook 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.







Chlamydia

2013 Case Total	**3,439**
Maine Rate	**258.9 per 100,000**
U.S. rate (2012)	**456.7 per 100,000**

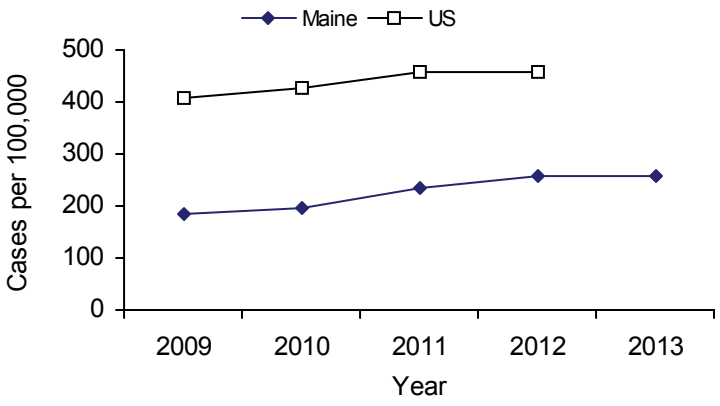
Chlamydia is a sexually transmitted disease (STD) caused by the bacterium *Chlamydia trachomatis.* Chlamydia is known as a "silent" disease, as three quarters (75%) of women and half (50%) of men infected with chlamydia will have no symptoms. Common symptoms for women include vaginal discharge or a burning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

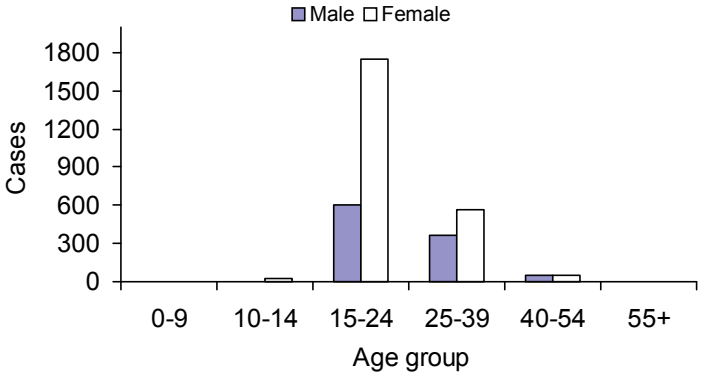
- Chlamydia is the most frequently reported STD in Maine
- Median age was 22 years
- Age range was 12 to 66 years
- 68% of infections were in persons 15-24 years old
- Cases were 70% female and 30% male

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 the Infertility Prevention Project, a federal CDC sponsored initiative, that targets testing and treatment for females 15-24 years old and their partners. Currently free testing for females 15-24 is available at Family Planning and Planned Parenthood sites, and at one STD clinic in Portland.

Chlamydia Incidence, Maine and US, 2009-2013

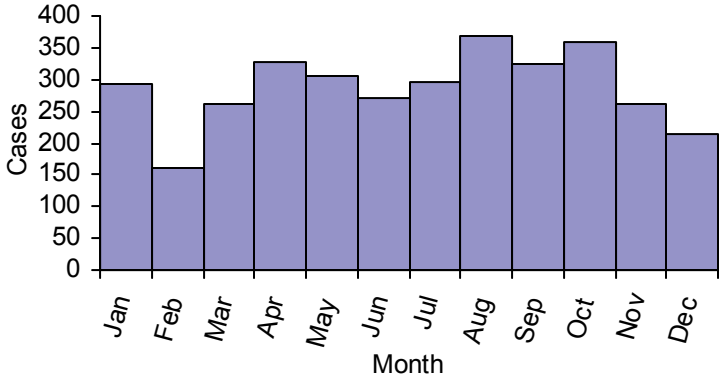


Chlamydia by Age* and Gender, Maine, 2013



*unknown age for 8 cases.

Chlamydia by Month, Maine, 2013



Cryptosporidiosis

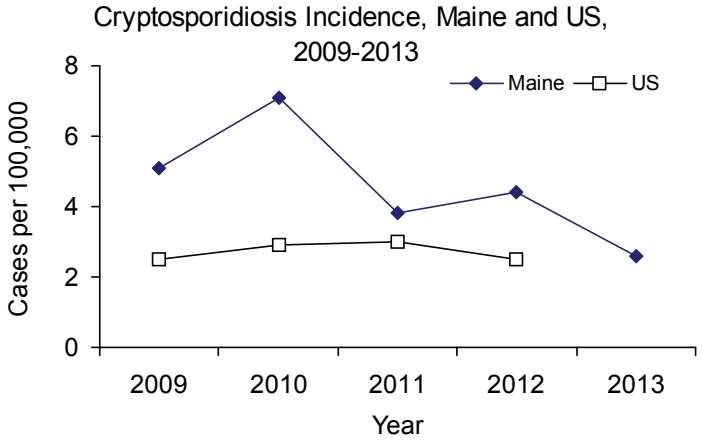
2013 Case Total	**35**
Maine Rate	**2.6 per 100,000**
U.S. rate (2012)	**2.5 per 100,000**

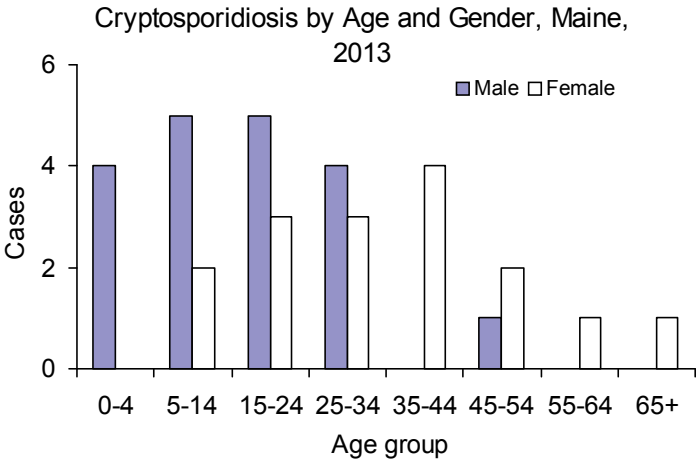
Cryptosporidiosis is an infection most frequently associated with contaminated water or contact with infected animals. The disease is caused by a parasite that lives in the intestines of animals and infected humans. Feces containing the parasite may contaminate the ground or water sources. The parasite 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.

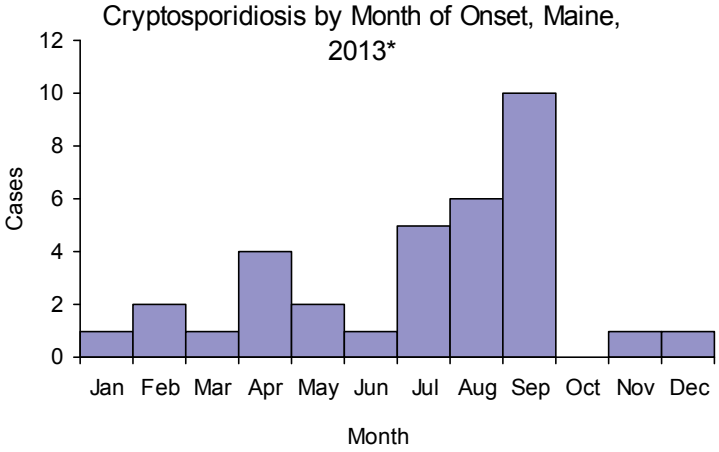
Symptoms include: diarrhea, abdominal cramping, malaise and vomiting.

- 35 cases represent a decrease from 58 cases in 2012
- The 2008-2012 median number of cases per year was 58
- Median age was 24 years
- Age range was 1 year to 80 years
- Cases were 46% female and 54% male
- Highest incidence was in Penobscot, Kennebec, Piscataquis and Somerset counties

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

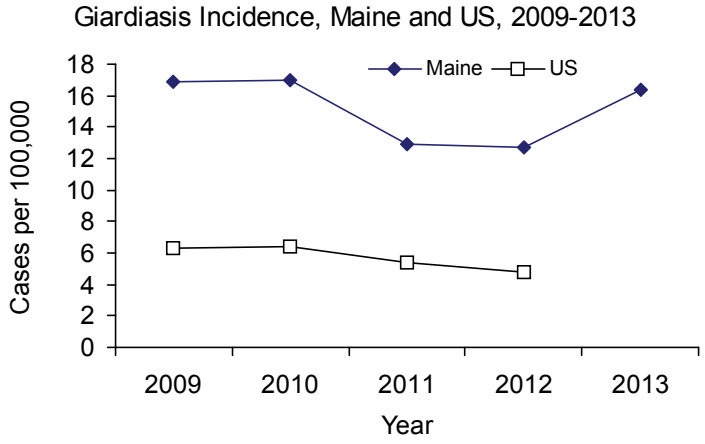
Giardiasis

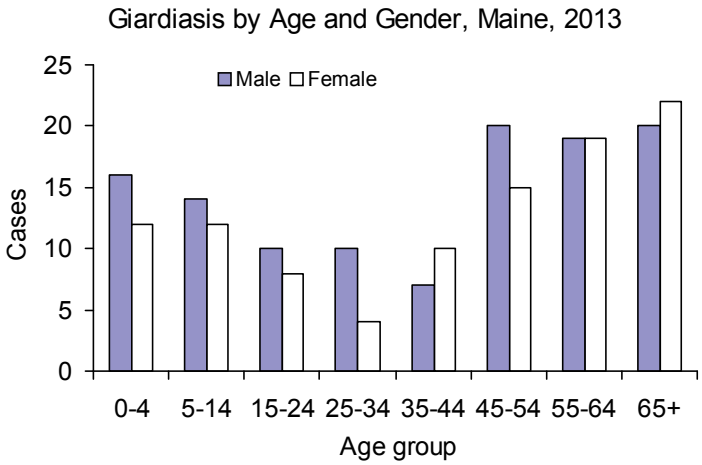
2013 Case Total	**218**
Maine Rate	**16.4 per 100,000**
U.S. rate (2012)	**4.8 per 100,000**

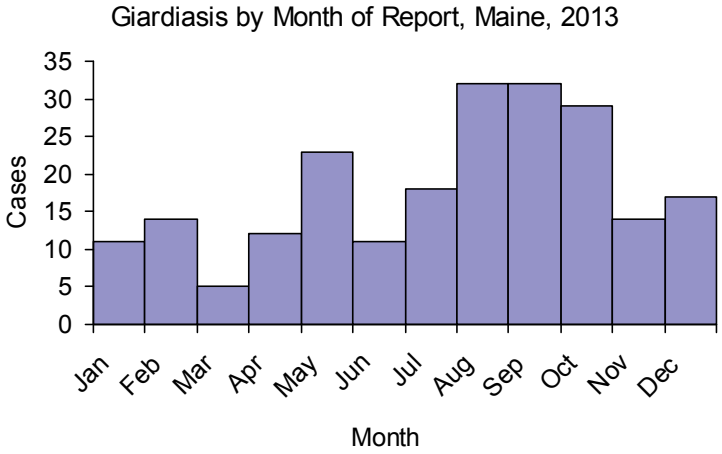
Giardiasis is sometimes known as "beaver fever" because beavers (as well as dogs, cats, horses and cows) are major reservoirs for the parasite (*Giardia lamblia*) that causes the infection. The parasite lives in the intestines of infected humans and animals and when expelled through the feces can contaminate 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.

- 218 cases represent an increase from 169 cases in 2012
- The 2008-2012 median number of cases per year was 187
- Median age was 47 years
- Age range was 9 days to 89 years
- Cases were 47% female and 53% male
- Highest incidence was in Waldo, Lincoln and Somerset 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

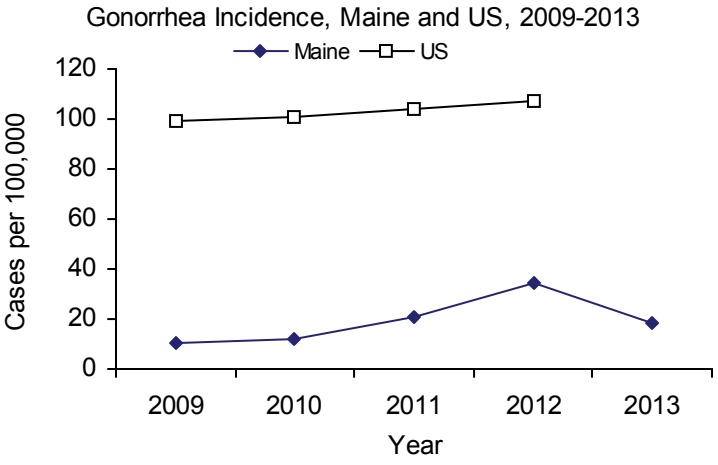
2013 Case Total	**246**
Maine Rate	**18.5 per 100,000**
U.S. rate (2012)	**107.5 per 100,000**

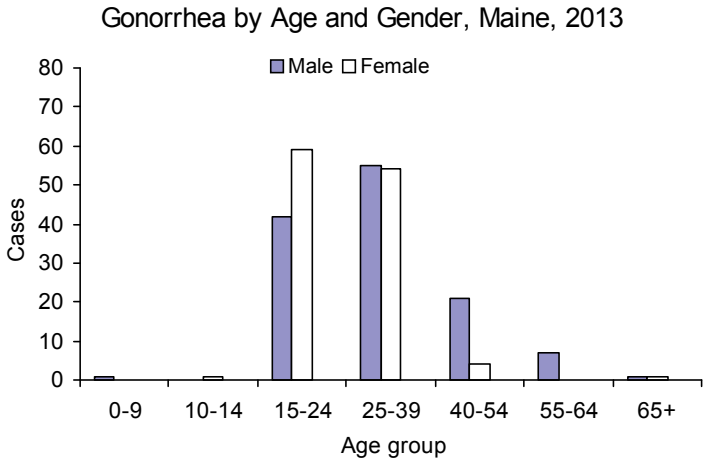
Gonorrhea is a sexually transmitted disease (STD) caused by the bacterium *Neisseria gonorrhoeae* that grows and multiplies in warm, moist areas (mucous membranes). Gonorrhea can be spread through contact with the vagina, penis, mouth or anus. Gonorrhea can also spread from a mother to her baby during 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.

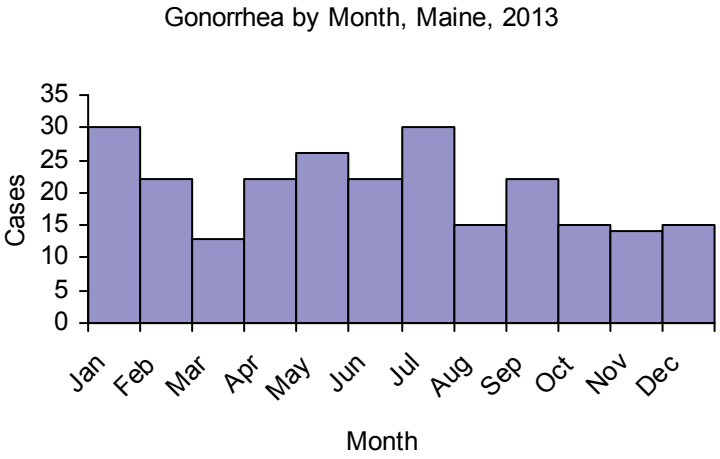
Gonorrhea is dangerous if untreated. In women, gonorrhea is a common cause of pelvic inflammatory disease, which can lead to chronic pain and infertility. In men, gonorrhea can cause epididymitis, causing painful testicles and infertility. People infected with HIV are more likely to contract gonorrhea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

- Case total of 246 represents a decrease from 456 cases in 2012
- Median age was 26 years
- Age range was 14 to 69 years
- Highest incidence was among persons 20-29 years, with a total of 53% of cases, followed by persons 30-39 years with 23% of cases
- Cases were 52% female and 48% male

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 sponsored testing through the Infertility Prevention Project uses a combination gonorrhea and chlamydia test targeting females 15-24 years old.







Group A Streptococcal Disease

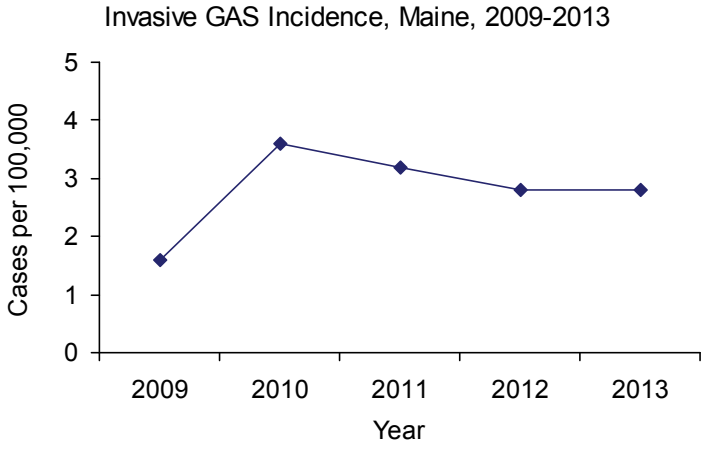
2013 Case Total **37**
Maine Rate **2.8 per 100,000**
U.S. rate (2012) **Not reportable**

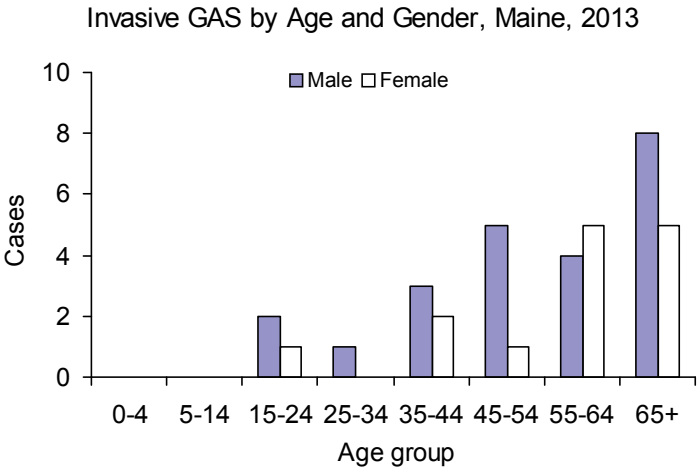
Group A *Streptococcus* (GAS) is a bacterium often found in the throat and on the skin that can cause either no symptoms (colonization) or mild symptoms such as pharyngitis (strep throat), cellulitis (soft tissue infection) or impetigo (skin dermatitis). When the bacteria enters deeper tissues and the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

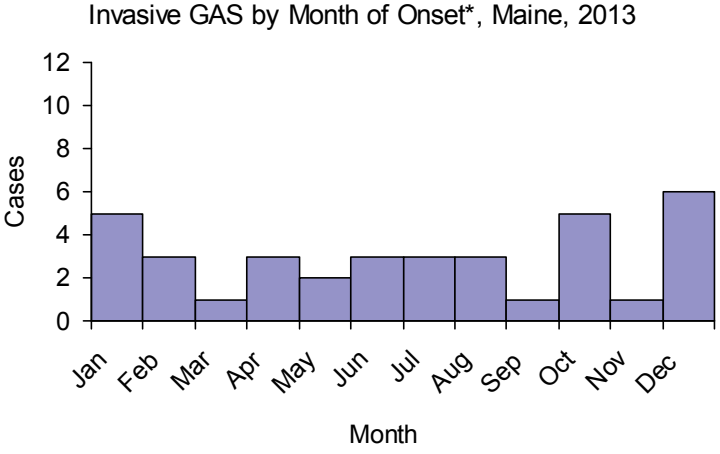
GAS may lead to Streptococcal Toxic Shock Syndrome (STSS), a rapid drop in blood pressure that causes organ failure. Necrotizing fasciitis, a condition that progressively destroys skin, fat and muscles, can be caused by GAS.

- 37 cases represents the same number of cases as 2012
- The 2008-2012 median number of cases per year was 37
- Median age was 60 years
- Age range was 22 years to 89 years
- Cases were 38% female and 62% male
- 16 (43%) cases were also diagnosed with STSS
- 3 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).







*onset missing for one case

Haemophilus influenzae

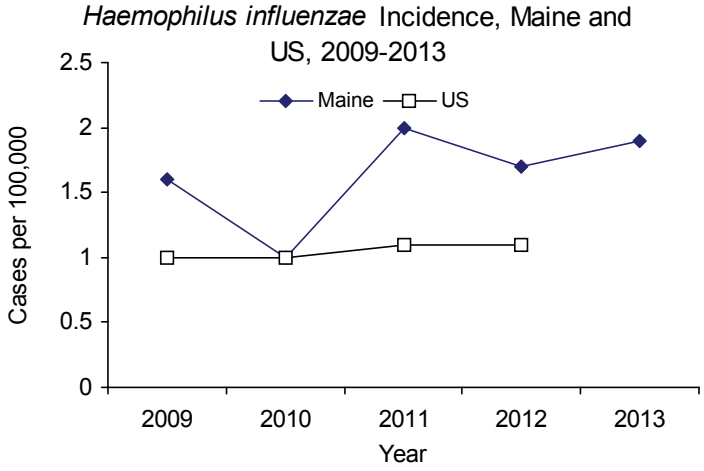
2013 Case Total **25**
Maine Rate **1.9 per 100,000**
U.S. rate (2012) **1.1 per 100,000**

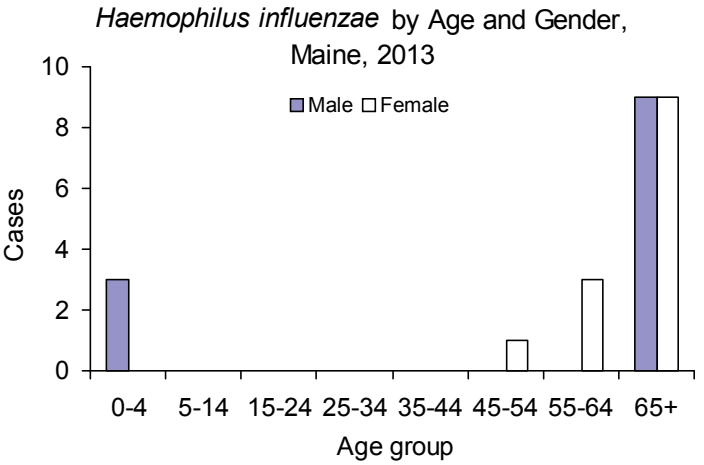
Haemophilus influenzae disease is caused by the *Haemophilus influenzae* bacterium. A specific type called *H. influenzae* serotype B (Hib) was once the most common cause of bacterial meningitis in children. Due to widespread use of Hib vaccine, few cases are reported in children less than 5 years old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

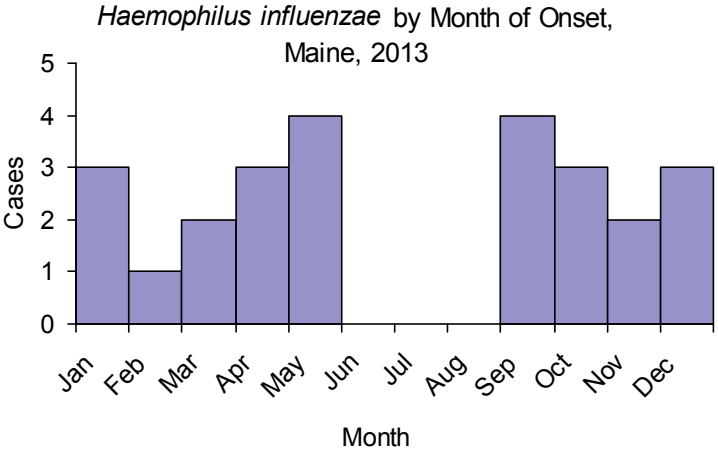
The bacteria are spread from person to person, through airborne droplets when an infected person coughs or sneezes. *H. influenzae* can cause severe illnesses such as meningitis, bacteremia, pneumonia and septic arthritis.

- 25 cases represent an increase from 23 cases in 2012
- The 2008-2012 median number of cases per year was 21
- Median age was 71 years
- Age range was 5 months to 97 years
- Cases were 52% female and 48% male
- 2 cases of Hib (type b) in children aged < 5 years were reported

Haemophilus influenzae serotype b (Hib) may be prevented in children through vaccination. Vaccination is recommended for all children at ages 2, 4 and 6 months or at 2 and 4 months depending on the type of vaccine available. An additional booster dose is given at 12-15 months of age with either type of vaccine.







Hepatitis A

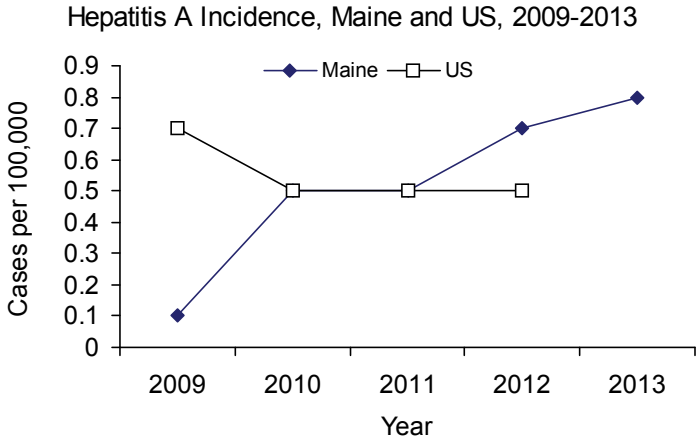
2013 Case Total	**10**
Maine Rate	**0.8 per 100,000**
U.S. rate (2012)	**0.5 per 100,000**

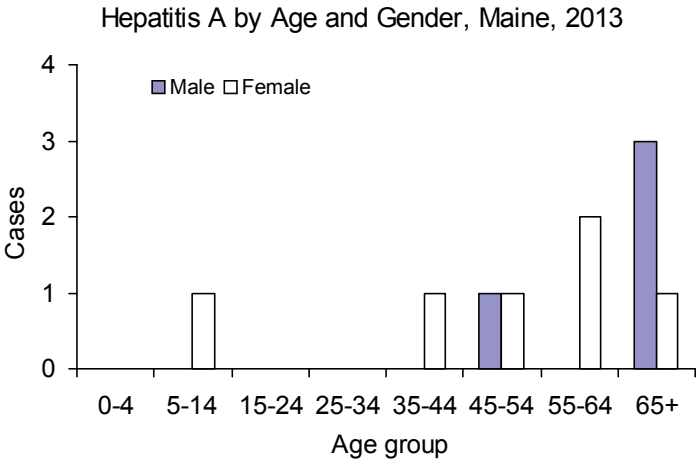
Hepatitis A is a liver disease caused by the hepatitis A virus. The virus is spread from person to person by fecal-oral transmission that involves putting something in the mouth (such as food, hands or water) that has been contaminated by a person infected with hepatitis A. Poor handwashing by persons 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.

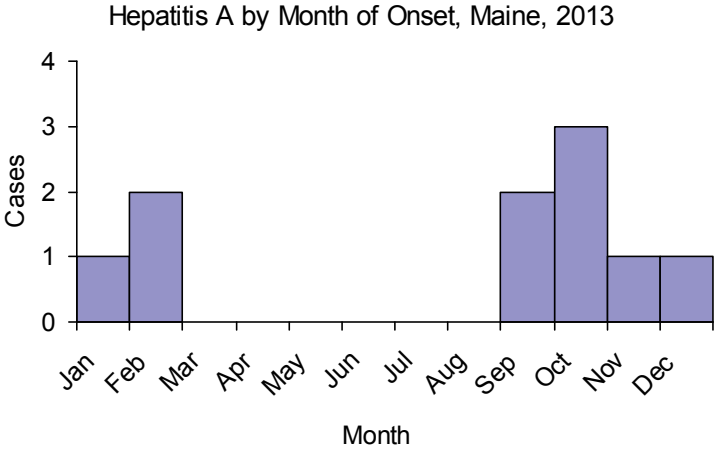
Onset of symptoms is usually abrupt with fever, malaise, anorexia, nausea and abdominal discomfort followed by jaundice a few days later. Children are often asymptomatic. Upon recovery, a person is immune to hepatitis A.

- 10 cases represent an increase from 9 cases in 2012
- The 2008-2012 median number of cases per year was 7
- Median age was 56 years
- Age range was 12 years to 78 years
- Cases were 60% female and 40% 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.







Hepatitis B, acute

2013 Case Total	**11**
Maine Rate	**0.8 per 100,000**
U.S. rate (2012)	**1.0 per 100,000**

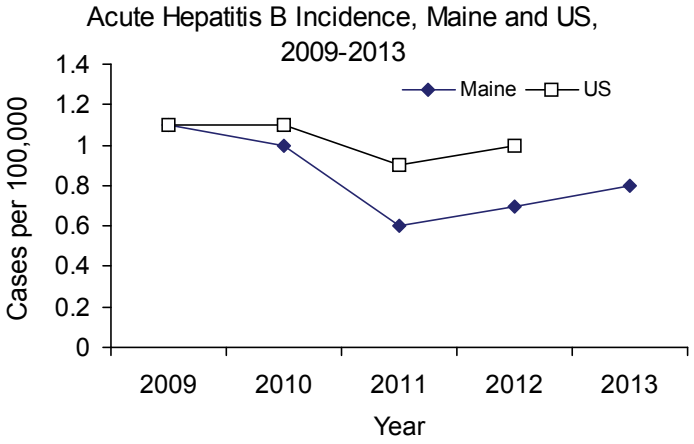
Hepatitis B is a liver disease caused by the hepatitis B virus. Acute hepatitis B infection occurs within the first six months after someone is exposed to the virus. In some cases, acute infection can lead to chronic infection. The younger the age at time of infection, the greater the likelihood of progressing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

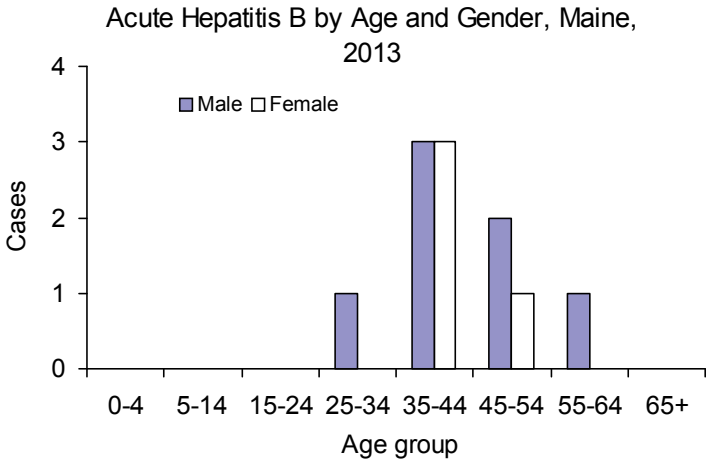
Hepatitis B virus can be transmitted through exposure to blood or body fluids from an infected person (needle sticks and other sharps exposures, sharing hypodermic syringes for drug injection), through sexual contact with an infected person, or from an infected mother to her child during childbirth.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

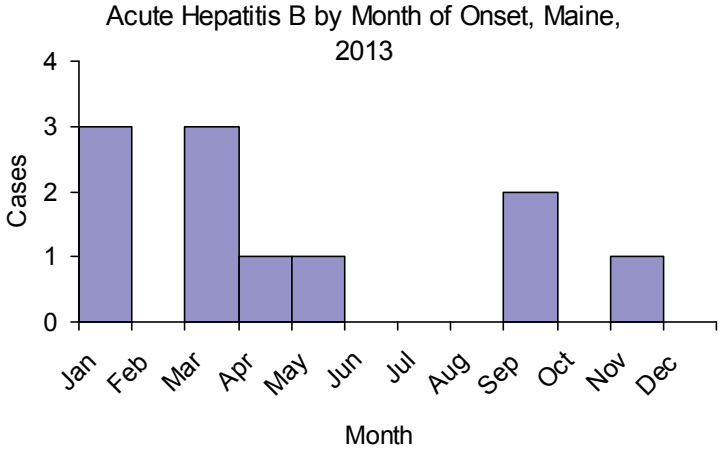
Symptoms include anorexia, abdominal discomfort, nausea and vomiting followed by jaundice. Many young children and immunosuppressed adults do not develop symptoms.

- 11 cases represent an increase from 9 cases in 2012
- The 2008-2012 median number of cases per year was 13
- Median age was 44 years
- Age range was 28 to 62 years
- Cases were 36% female and 64% male

Hepatitis B can be prevented by vaccination as well as by 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 for blood glucose monitoring and insulin administration.







Hepatitis B, chronic

2013 Case Total	**107**
Maine Rate	**8.1 per 100,000**
U.S. rate (2012)	**Not available**

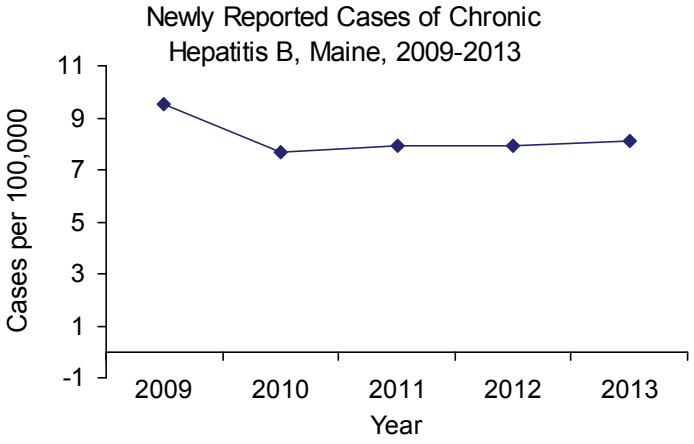
Hepatitis B is a liver disease caused by the hepatitis B virus. Chronic hepatitis B virus infection occurs when a person infected with acute hepatitis B does not clear the virus within the first 6 months of infection.

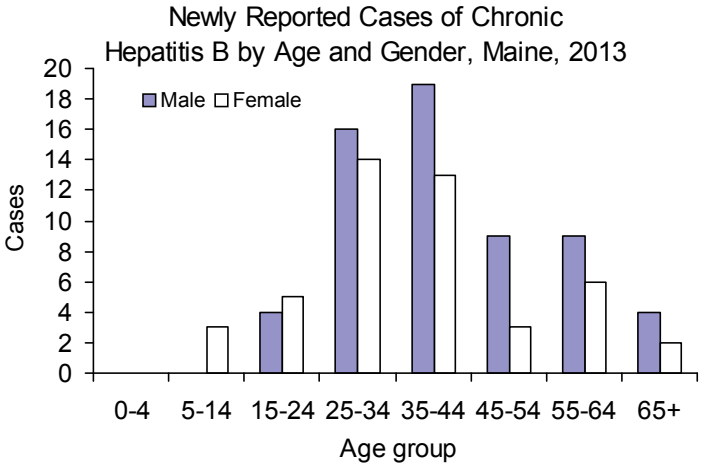
Chronic hepatitis B is a serious disease that can result in long-term health problems, such as cirrhosis (scarring) of the liver, liver cancer, liver failure, and even death. Many people do not have symptoms and may not know they are infected, but they can still spread the disease to others.

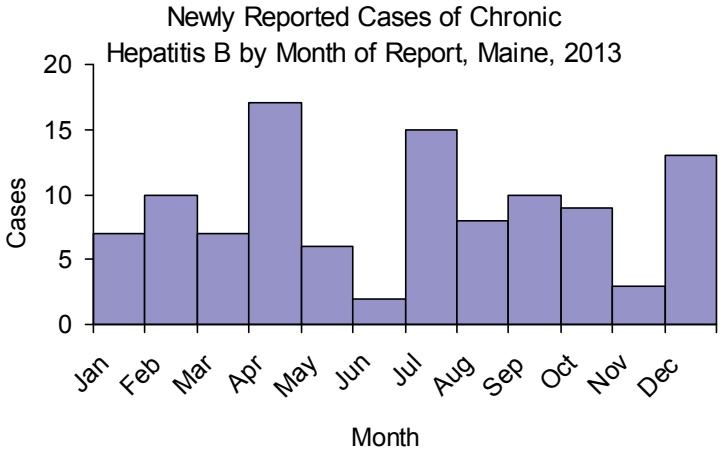
Hepatitis B virus can be transmitted through exposure to blood and or body fluids from an infected person (needle sticks and other sharps exposures, sharing hypodermic syringes for drug injection), through sexual contact with an infected person, or from an infected mother to her child during childbirth.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

- 107 cases represent an increase from 105 cases in 2012
- Median age was 38 years
- Age range was 10 to 76 years
- Cases were 43% female and 57% male

Hepatitis B can be prevented through testing and 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 for blood glucose monitoring and insulin administration.



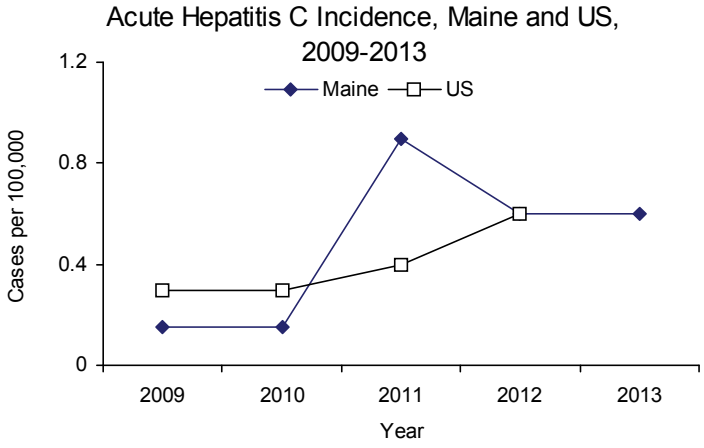




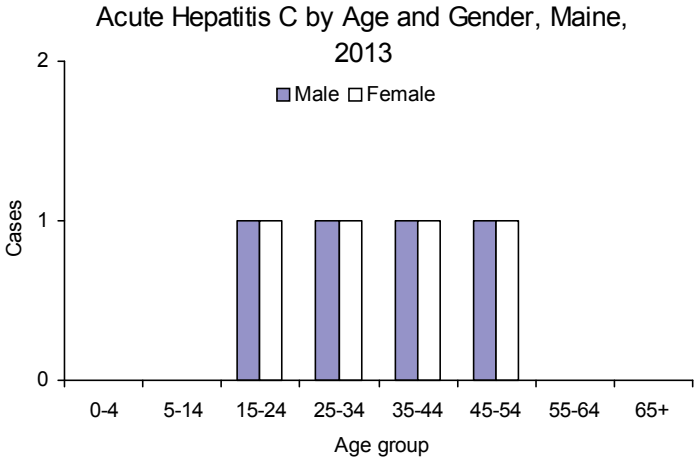
Hepatitis C, acute

2013 Case Total	**8**
Maine Rate	**0.6 per 100,000**
U.S. rate (2012)	**0.6 per 100,000**

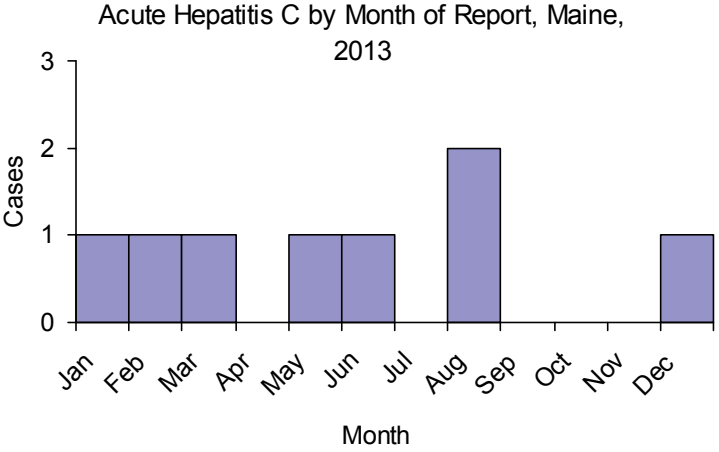
Hepatitis C is a liver disease caused by the hepatitis C virus. Acute hepatitis C infection occurs within the first six months after someone is exposed to the virus. Hepatitis C is spread when blood from a person infected with hepatitis C enters the body of someone who is not infected. Many people become infected by sharing needles or other injection drug equipment.



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 period 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.



- 8 cases represent no change from 2012
- The 2008-2012 median number of cases per year was 3
- Median age was 32 years
- Age range was 20 to 53 years
- Cases were 50% female and 50% male.



To prevent acute hepatitis C, do not share needles or equipment used to inject drugs. Do not share personal hygiene items or sharps, including equipment for blood glucose monitoring and insulin administration. Use licensed tattooists and body piercers. Use condoms to reduce the already low risk of sexual transmission.

Hepatitis C, past or present infection

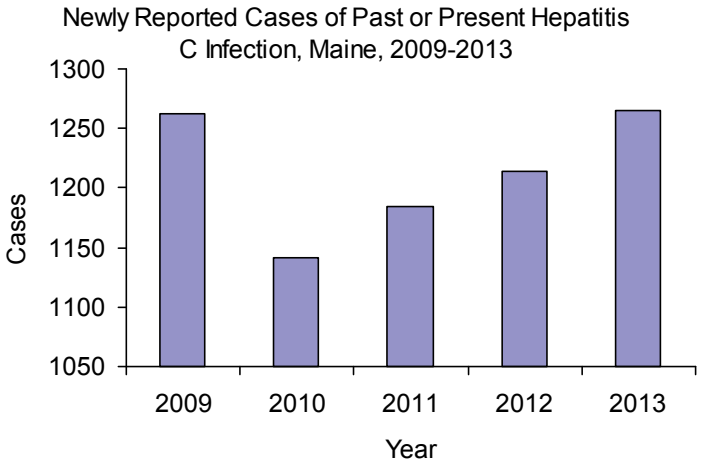
2013 Case Total **1265**
Maine Rate **95.2 per 100,000**
U.S. rate (2012) **N/A**

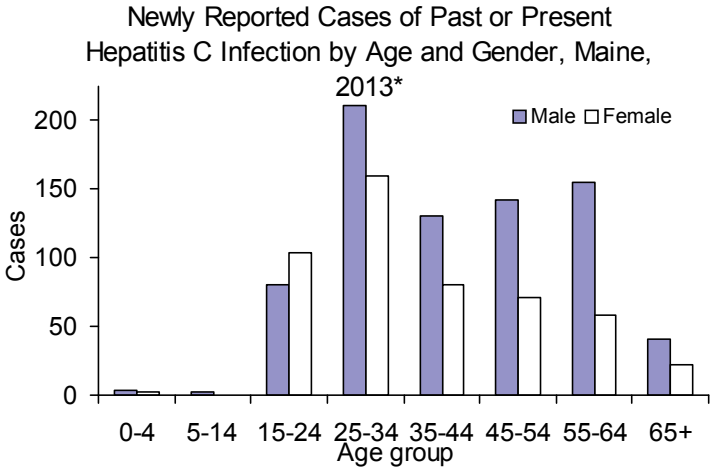
Hepatitis C is a liver disease caused by the hepatitis C virus. Past or present hepatitis C infection is a long-term illness that occurs when hepatitis C virus remains in a person's body for more than 6 months. Over time it can lead to serious liver disease. Hepatitis C is spread when blood from a person 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.

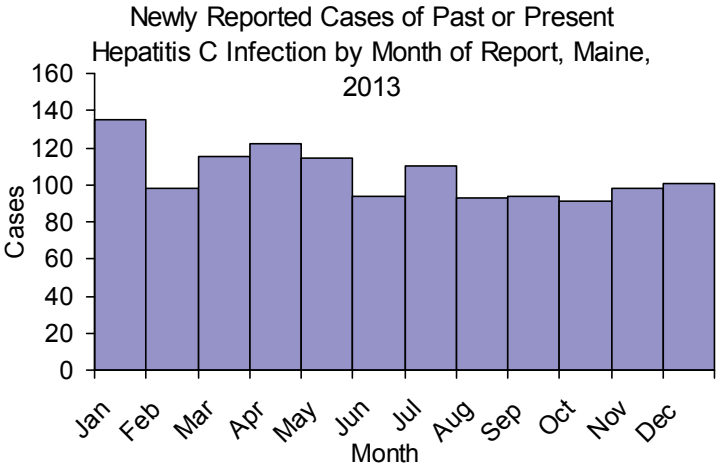
- 1265 cases represents an increase from 1,214 cases in 2012
- Median age was 37 years
- Age range was 1 to 93 years
- Cases were 39% female and 61% male

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.





*Gender unknown for one case.



HIV*

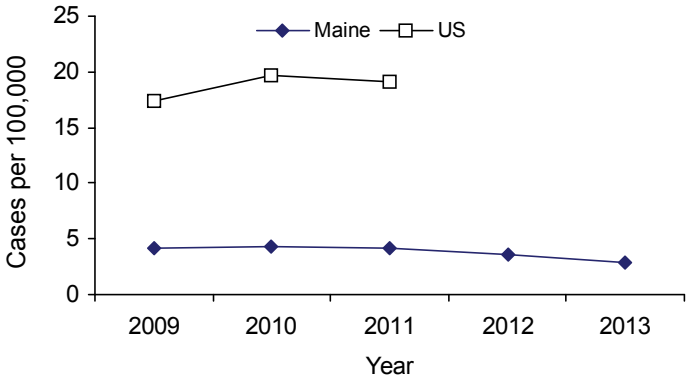
2013 Case Total **39**
Maine Rate **2.9 per 100,000**
U.S. rate (2011) **19.1 per 100,000**

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. In Maine, the most common mode of HIV transmission is through unprotected penile-anal intercourse among men.

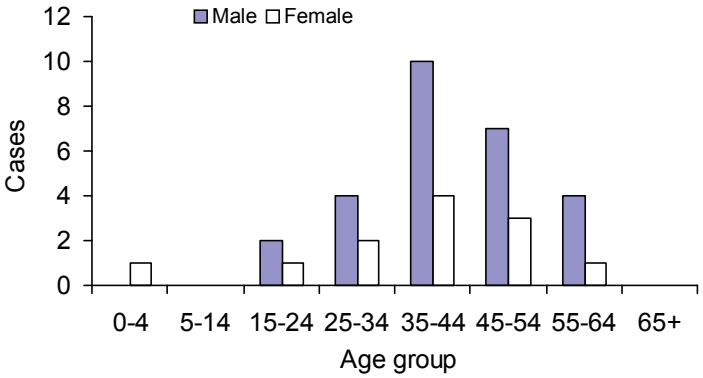
- Case total of 39 represents a decrease from 48 cases in 2012
- The 2009-2013 median number of cases per year was 54
- Age range was 9 months to 60 years
- Majority of cases were male (69%)
- 46% of cases reported risk factor of males who have sex with other males

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, 2009-2013



Newly Identified HIV Diagnoses by Age and Gender, Maine, 2013



Reported Transmission Risk Factors Among Persons Diagnosed with HIV, 2013

Mode of Transmission	New Diagnoses	% of Cases
Men who have sex with men (MSM)	18	46%
Injection drug users (IDU)	2	5%
MSM and IDU	0	0%
Heterosexual contact with at-risk partners	3	8%
Heterosexual, no at-risk partners disclosed	12	31%
Undetermined	3	8%
Received contaminated blood products	0	0%
Child born to mother with HIV	1	3%

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

Legionellosis

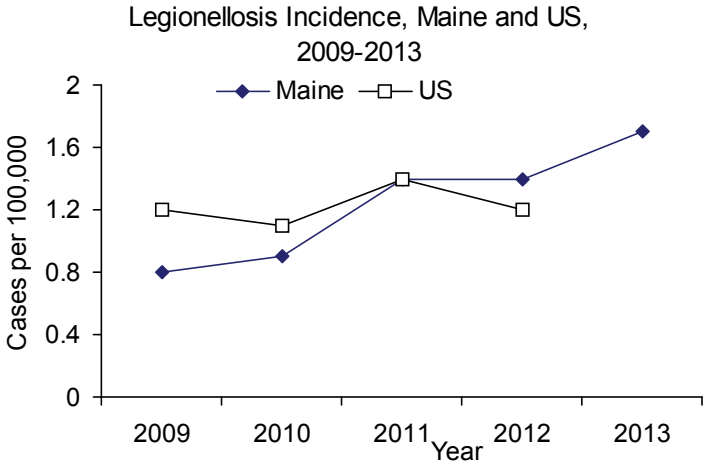
2013 Case Total **23**
Maine Rate **1.7 per 100,000**
U.S. rate (2012) **1.2 per 100,000**

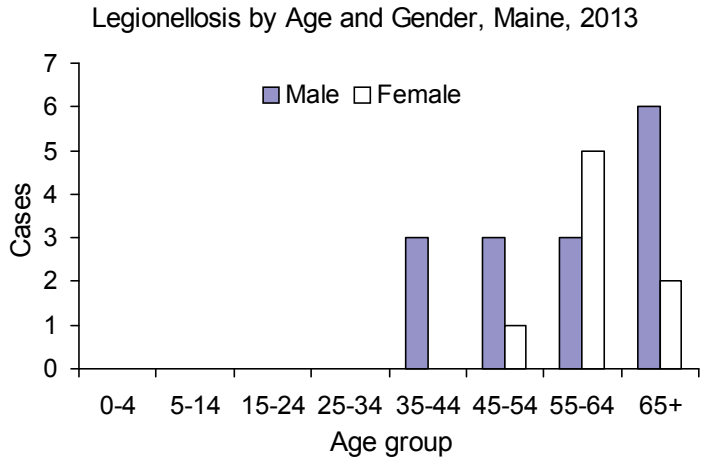
Legionellosis (or Legionnaire's disease) is a serious and sometimes fatal form of pneumonia. *Legionella* bacteria are widespread in natural, industrial and recreational water sources. The bacteria grow best in warm, stagnant water. They can be found in creeks and ponds, hot and cold water taps, hot 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.

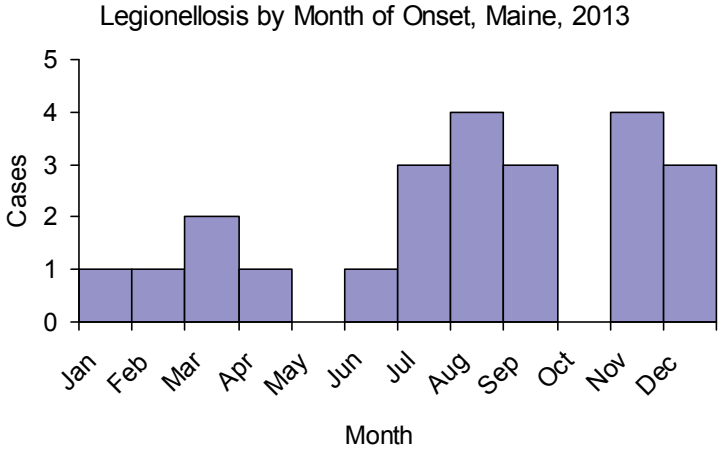
Symptoms include: high fever, chills, muscle aches, headaches, cough, and pneumonia. Legionellosis is treatable with antibiotics.

- 23 cases represent an increase from 18 cases in 2012
- The 2008-2012 median number of cases per year was 12
- Median age was 56 years
- Age range was 42 to 82 years
- Cases were 35% female and 65% 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.







Listeriosis

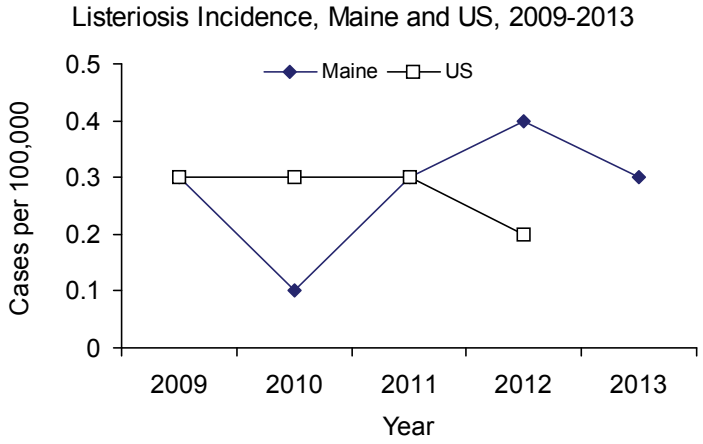
2013 Case Total **4**
Maine Rate **0.3 per 100,000**
U.S. rate (2012) **0.2 per 100,000**

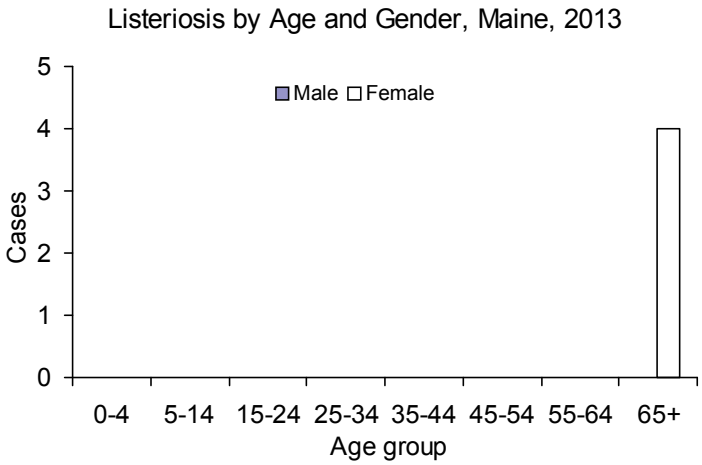
Listeriosis is a bacterial illness, caused by *Listeria monocytogenes*. Infection may cause sepsis and meningitis. Listeriosis is frequently linked to ready-to-eat meats (such as paté and refrigerated smoked seafood), deli meats, soft cheeses and raw milk. Pregnant women are at highest risk for severe 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.

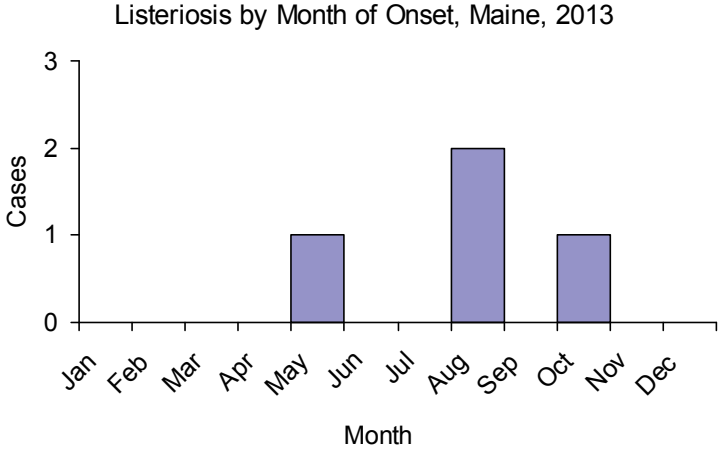
Symptoms include: fever, headache, nausea, fatigue and disorientation. Listeriosis may cause spontaneous abortion.

- 4 cases represent a decrease from 5 cases in 2012
- The 2008-2012 median number of cases per year was 4
- Median age was 73 years
- Age range was 65 to 78 years
- All 4 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.







Lyme Disease

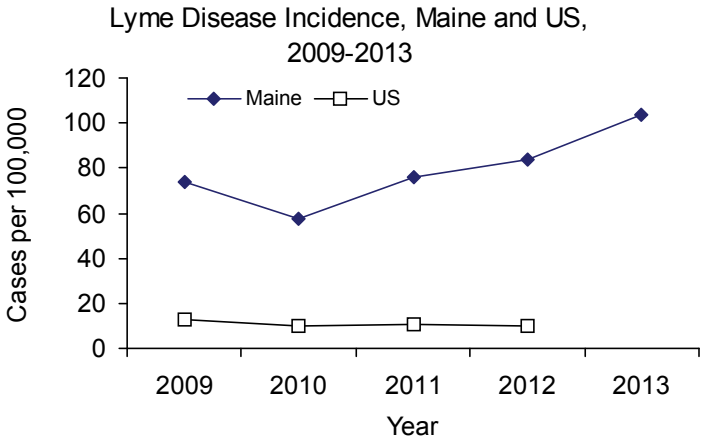
2013 Case Total	**1,376**
Maine Rate	**103.6 per 100,000**
U.S. Rate (2012)	**9.8 per 100,000**

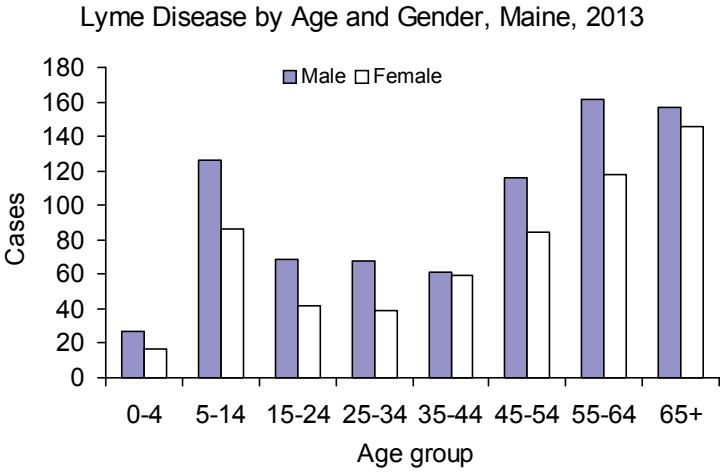
Lyme disease, Maine's most common vectorborne disease in humans, is caused by the bacterium *Borrelia burgdorferi*. The disease is transmitted via the bite of an infected deer tick (*Ixodes scapularis)* and symptoms generally appear between 3 and 30 days after the initial bite. Early symptoms include: 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.

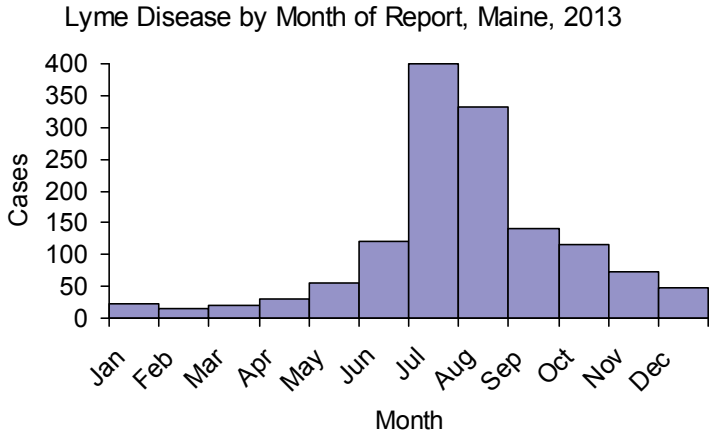
- 1,376 cases represent an increase from 1,113 cases in 2012
- The 2008-2012 median number of cases per year was 976
- Median age was 50 years
- Age range was 25 days to 89 years
- Cases were 43% female and 57% male
- Cases were highest in Cumberland (26%), York (16%), and Kennebec (13%) counties

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

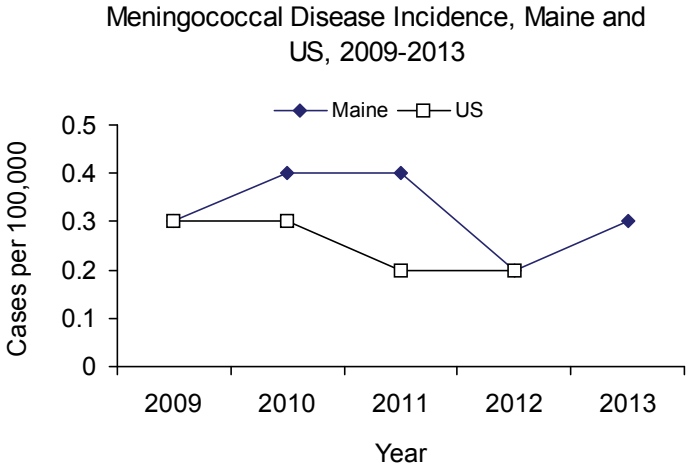
2013 Case Total	**4**
Maine Rate	**0.3 per 100,000**
U.S. rate (2012)	**0.2 per 100,000**

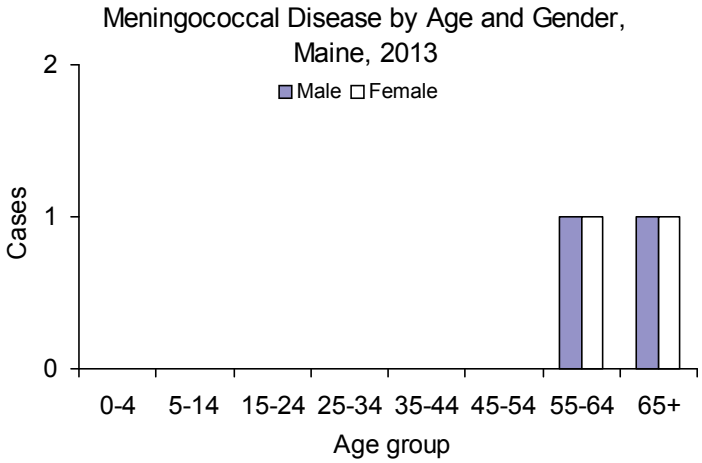
Meningococcal disease is an infection caused by *Neisseria meningitidis,* a gram-negative diplococcus bacterium. Meningococcal disease presents most commonly as meningitis and/or meningococcemia that may progress rapidly to purpura fulminans, shock and death. Transmission of meningococcal disease most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

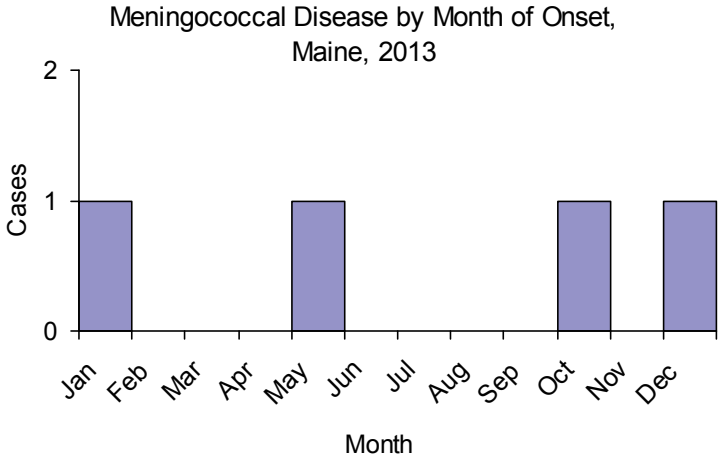
Symptoms include fever, headache, and stiff neck for meningitis and rash and sepsis for meningococcemia. The symptoms are indistinguishable from other pathogens causing meningitis.

- 4 cases represent an increase from 3 cases in 2012
- The 2008-2012 median number of cases per year was 5
- Median age was 65 years
- Age range was 55 to 79 years
- Cases were 50% female and 50% male
- Serogroups identified include: B (1), Y (2), and not groupable (1)

There are at least thirteen known *Neisseria meningitidis* serogroups, and there is currently a vaccine available for the four serogroups that cause the majority of infections (serogroups A, C, Y, and W-135). The vaccine is recommended for all adolescents, college students, military recruits, overseas travelers, and any other persons at increased risk of infection. 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

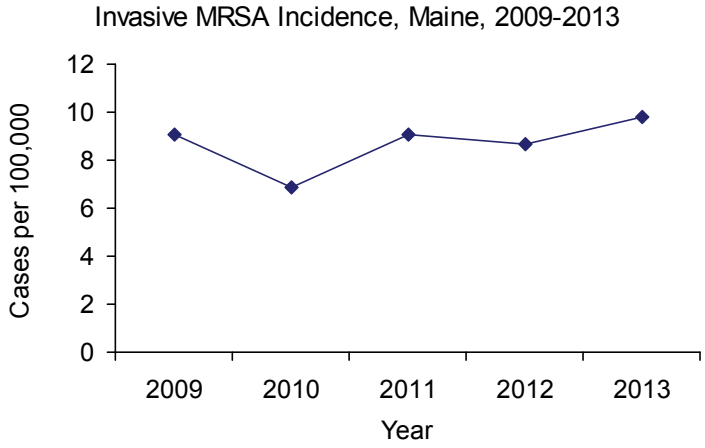
2013 Case Total **130**
Maine Rate **9.8 per 100,000**
U.S. rate (2012) **Not reportable**

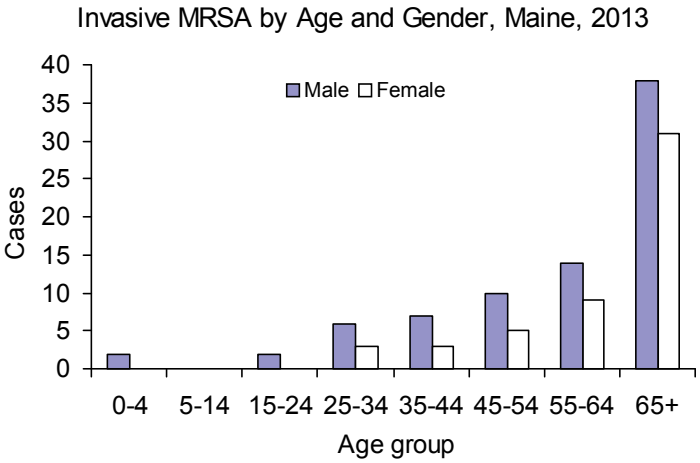
Methicillin-resistant *Staphylococcus aureus* (MRSA) is caused by a strain of bacteria which is resistant to the antibiotic methicillin and many of the antibiotics commonly used to treat staphylococcal infections. MRSA usually presents as a skin or soft tissue infection, considered a non-invasive infection. 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)

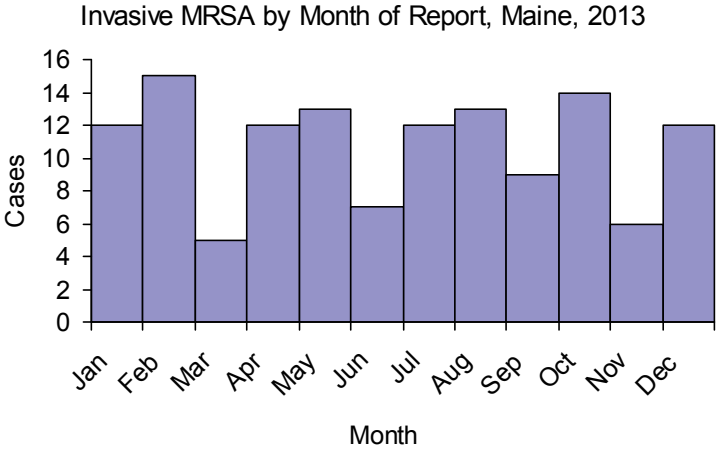
Persons with weakened immune systems, the elderly, and those with invasive medical devices are at increased risk of invasive MRSA infections.

- 130 cases represent an increase from 116 cases in 2012
- Median age was 66 years
- Age range was 6 days to 96 years
- Cases were 39% female and 61% 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; however 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 2013, 26 mosquito pools tested positive for EEE from York county. Other animals with positive EEE include three horses (York, Oxford and Somerset counties), one emu (Cumberland county), and one pheasant (York county). There were no human cases of EEE.

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 2013, three mosquito pools from York County tested positive for WNV in Maine.

Chikungunya
In 2013, one case of Chikungunya with travel to the Philippines was reported to the state. 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.

Dengue Fever
In 2013, one case of Dengue fever with travel to the Philippines was reported to the state. Dengue is a disease caused by a virus transmitted by the bite of an infected mosquito. Symptoms of dengue fever include high fever, severe headache, backache, joint pain, nausea and vomiting, eye pain and rash.

Malaria
Malaria is a serious and sometime fatal 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 2012, there were 10 cases of malaria reported in Maine individuals who had a history of travel outside the US (Angola, Chad, India, Nigeria, Sudan, Zambia, Zimbabwe).

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

2013 Case Total	**332**
Maine Rate	**25.0 per 100,000**
U.S. rate (2012)	**15.4 per 100,000**

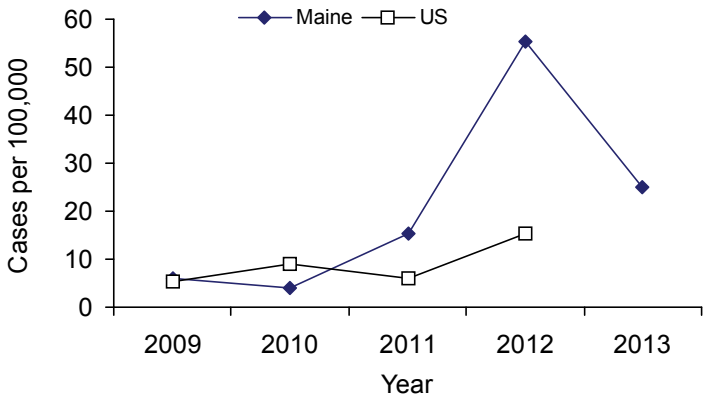
Pertussis (whooping cough) is a bacterial infection of the respiratory tract caused by *Bordetella pertussis*. Prior to vaccine licensure pertussis was a common childhood disease associated with a high mortality rate. High pertussis vaccination rates are associated with lower numbers of pertussis cases.

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

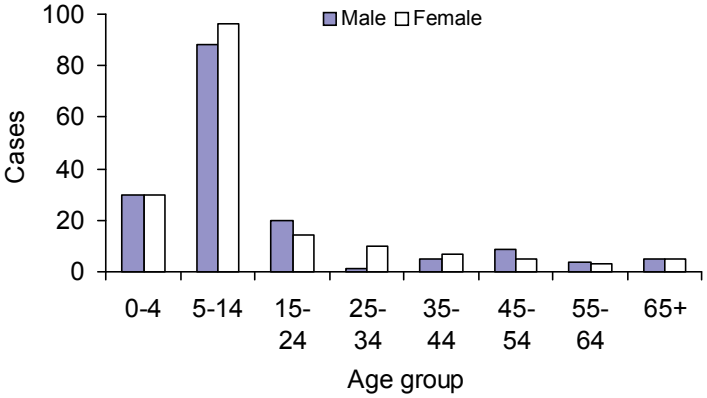
- 332 cases represent a decrease from 737 cases in 2012
- The 2008-2012 median number of cases per year was 80
- Median age was 10 years
- Age range was 24 days to 79 years
- Cases were 51% female and 49% male
- Oxford, Piscataquis and Waldo counties had the highest incidence
- 166 (50%) cases are in children who attend school

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.

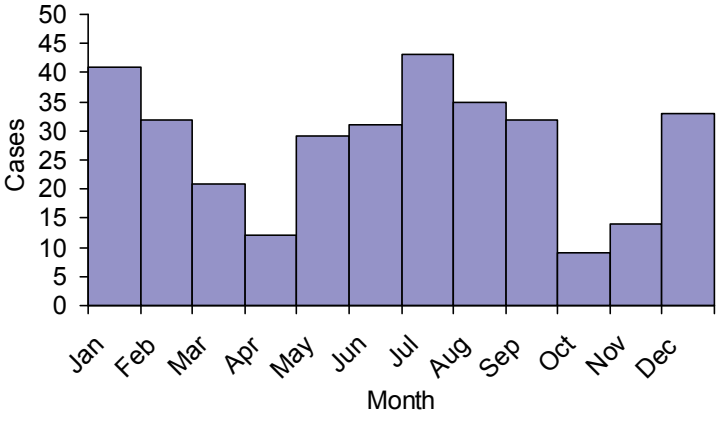
Pertussis Incidence, Maine and US, 2009-2013



Pertussis by Age and Gender, Maine, 2013



Pertussis by Month of Onset, Maine, 2013



Rabies, Animal

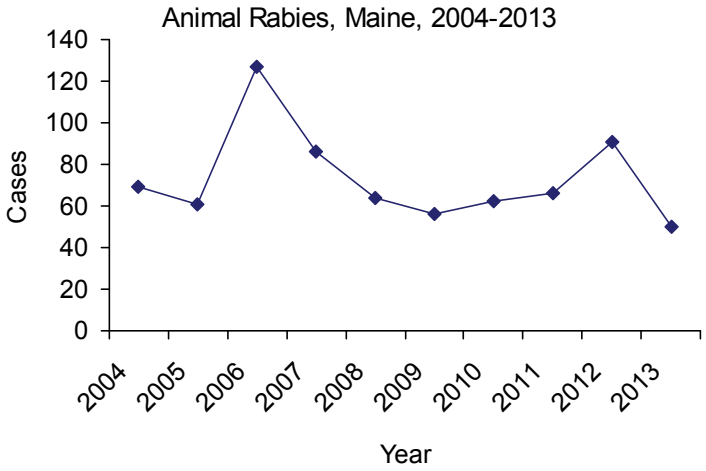
2013 Case Total **50**
Maine Rate **N/A**
U.S. Count (2012) **6,163**

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.

- 50 animal rabies cases represent a decrease from 91 cases in 2012
- The 2008-2012 median number of cases per year was 66
- The last reported case of human rabies in Maine was in 1937
- 81 persons were recommended to receive PEP; 12 were exposed to a laboratory-confirmed rabid animal



Positive Rabies Results by Species, Maine, 2013

Animal	Number Positive
Raccoon	20
Skunk	19
Fox	4
Bat	7

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

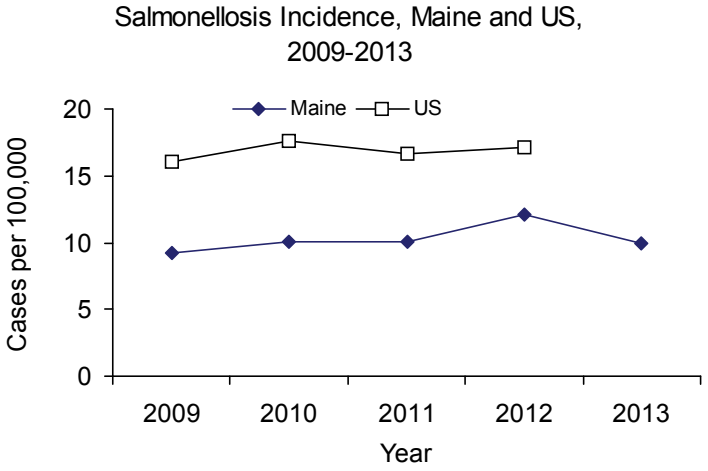
2013 Case Total	**131**
Maine Rate	**9.9 per 100,000**
U.S. rate (2012)	**17.1 per 100,000**

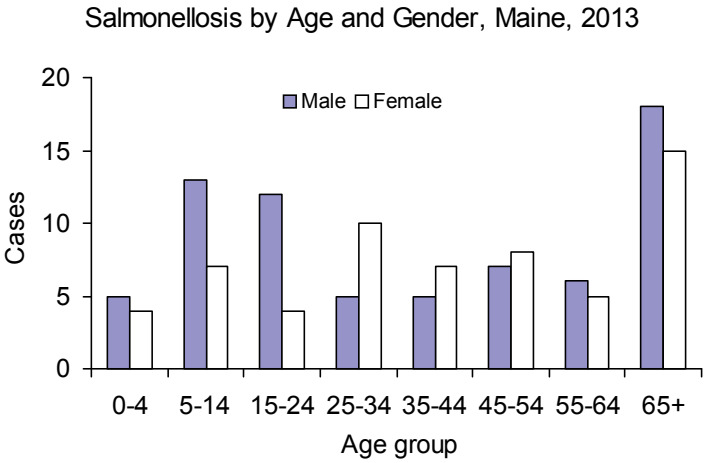
Salmonellosis is a gastrointestinal illness of varying severity caused by *Salmonella* bacteria. Severity of symptoms depends on the age and overall health of the person infected, serotype of *Salmonella* and the site of infection. *Salmonella* is transmitted through the ingestion of contaminated meat,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

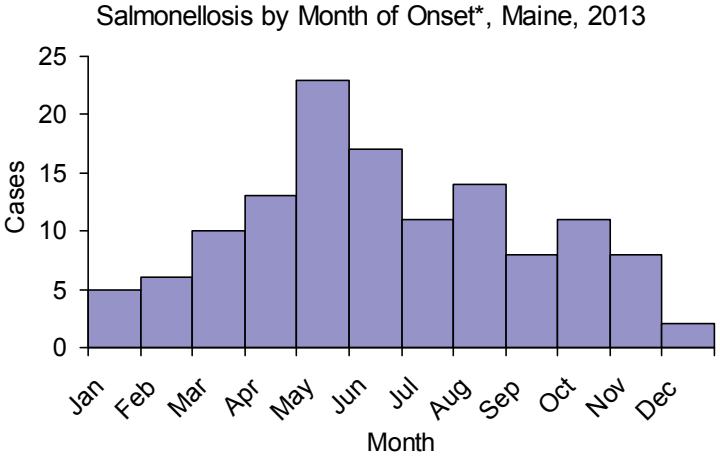
The symptoms can include: fever, cramping, diarrhea, nausea, and vomiting.

- 131 cases represent a decrease from 161 cases in 2012
- The 2008-2012 median number of cases per year was 134
- Median age was 40 years
- Age range was 2 months to 92 years
- Cases were 46% female and 54% male
- 123 of 131 (94%) cases were laboratory confirmed
- The most commonly seen types of *Salmonella* were Enteritidis, Newport and Typhimurium

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.







*Date of onset missing for 3 cases.

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

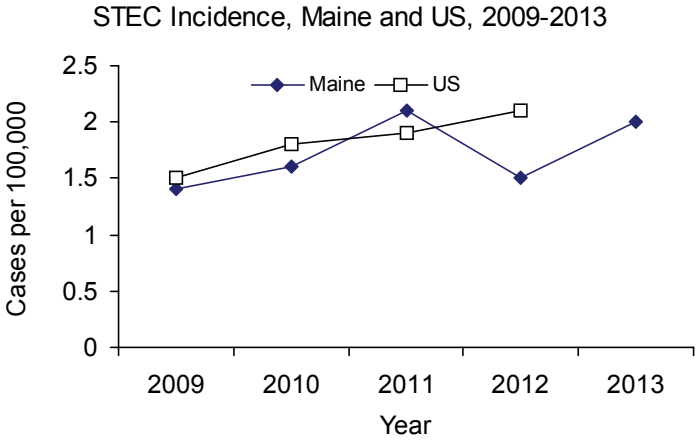
2013 Case Total	**27**
Maine Rate	**2.0 per 100,000**
U.S. rate (2012)	**2.1 per 100,000**

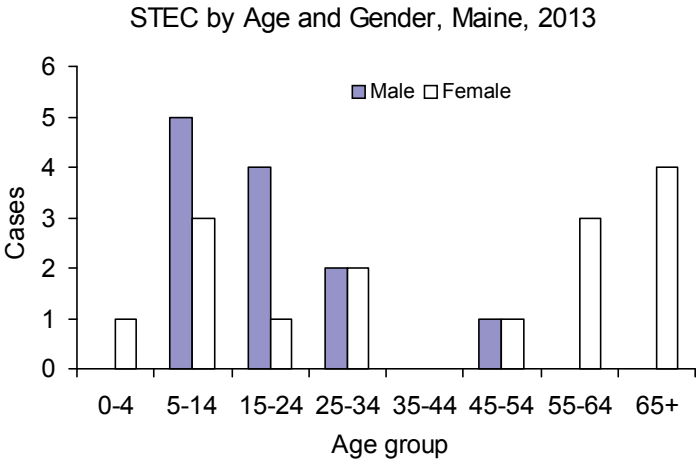
Escherichia coli (E. coli) are common bacteria that live in the digestive tract, some cause serious infection and some do not. Transmission of shiga toxin-producing *E. coli* (STEC) is through consumption of food or water contaminated with fecal matter or through contact with farm animals. Commonly implicated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

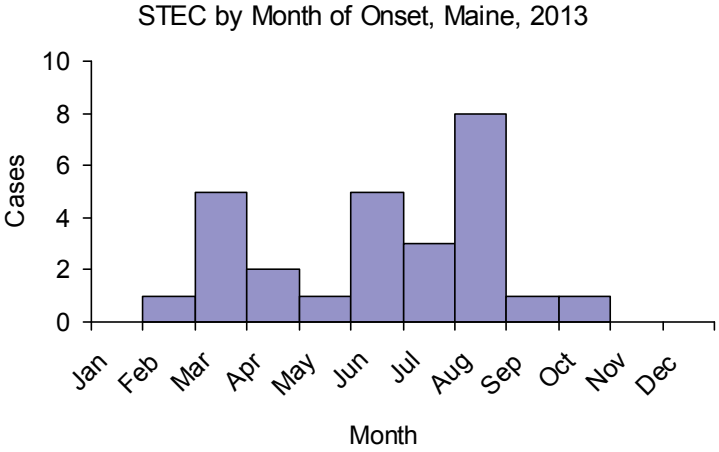
STEC may cause severe illness. Symptoms include: abdominal cramping, bloody diarrhea and a rare complication, hemolytic uremic syndrome (HUS), which can damage red blood cells and the kidneys.

- 27 cases represent an increase from 20 cases in 2012
- The 2008-2012 median number of cases per year was 21
- Median age was 20 years
- Age range was 1 year to 82 years
- Cases were 56% female and 44% male
- 23 of 27 (85%) cases were laboratory confirmed
- 43% of laboratory confirmed cases were O157:H7
- 2 cases of hemolytic uremic syndrome (HUS) with symptoms of diarrhea were reported, one confirmed with O121

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







Shigellosis

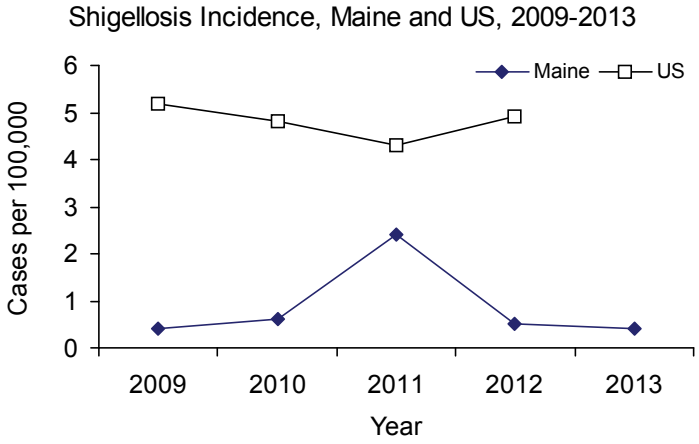
2013 Case Total **5**
Maine Rate **0.4 per 100,000**
U.S. rate (2012) **4.9 per 100,000**

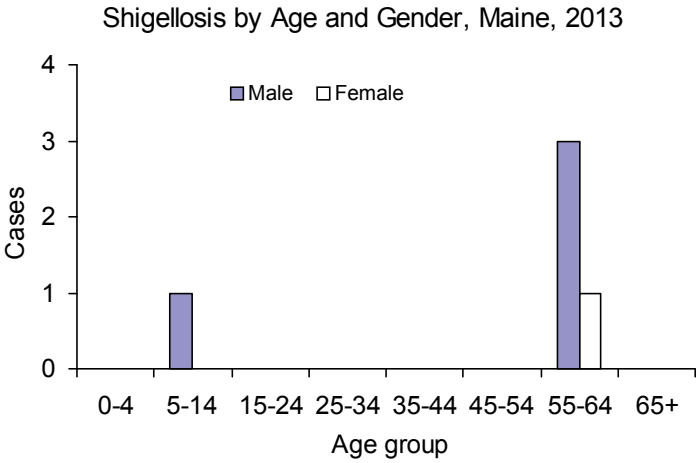
Shigellosis is a gastrointestinal illness caused by *Shigella* bacteria. *Shigella* is highly infectious and can easily be passed from one person to another through the fecal-oral route. Shigellosis can be transmitted by eating contaminated food, and drinking, swimming in or playing with contaminated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

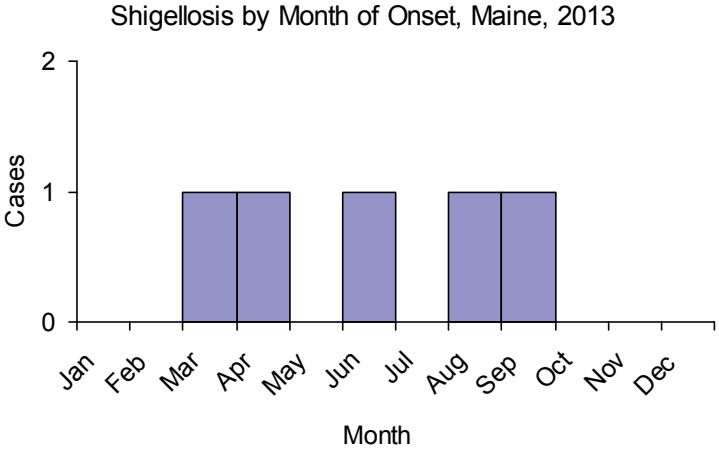
Symptoms include: fever, stomach cramping and severe diarrhea which may be bloody. Shigellosis is easily spread among household members.

- 5 cases represent a decrease from 7 cases in 2012
- The 2008-2012 median number of cases per year was 8
- Median age was 55 years
- Age range was 11 to 64 years
- Cases were 20% female and 80% male
- All cases were laboratory confirmed
- *Shigella flexneri* and *sonnei* were identified
- 3/5 (60%) cases had travel to a foreign country during exposure period

To prevent shigellosis, practice good hand hygiene, avoid consuming unpasteurized milk products, use filtered, clean water, and store foods properly. 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.







Streptococcus pneumoniae, invasive

2013 Case Total	**121**
Maine Rate	**9.1 per 100,000**
U.S. rate (2012)	**5.0 per 100,000**

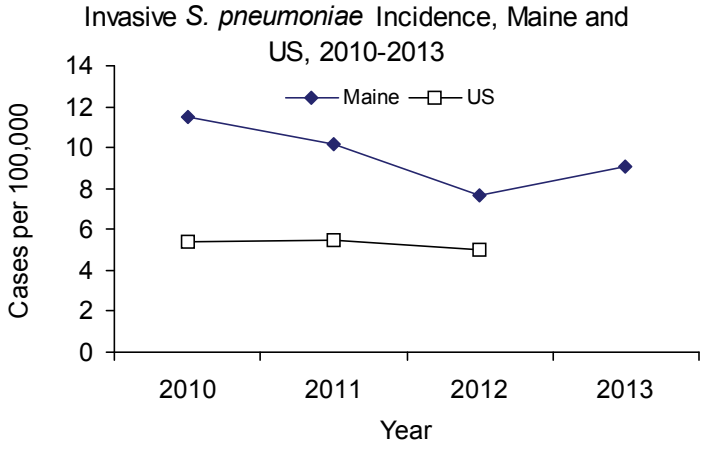
Starting in 2010, all cases of invasive disease were investigated and reported. Prior to 2010 only drug resistant cases and illness in children under 5 years were reported to federal CDC.

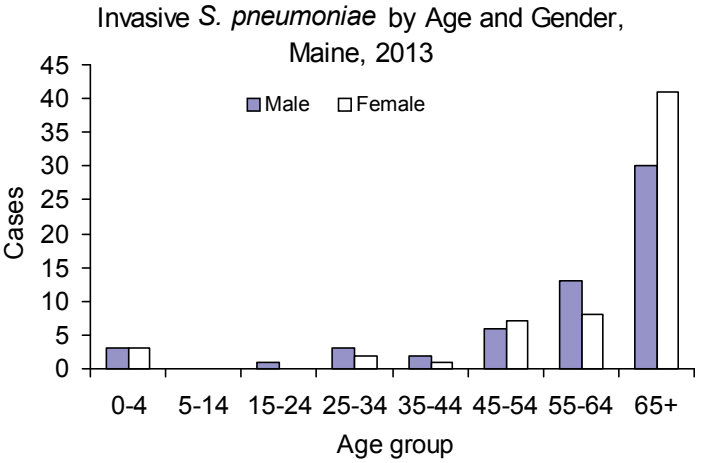
Invasive pneumococcal disease occurs when the *Streptococcus pneumoniae* bacterium infects the blood, lungs, or brain. Disease is transmitted from person to person through droplets when an infected person coughs or sneezes. Types of illness include bacteremia, meningitis, and pneumonia. There are over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

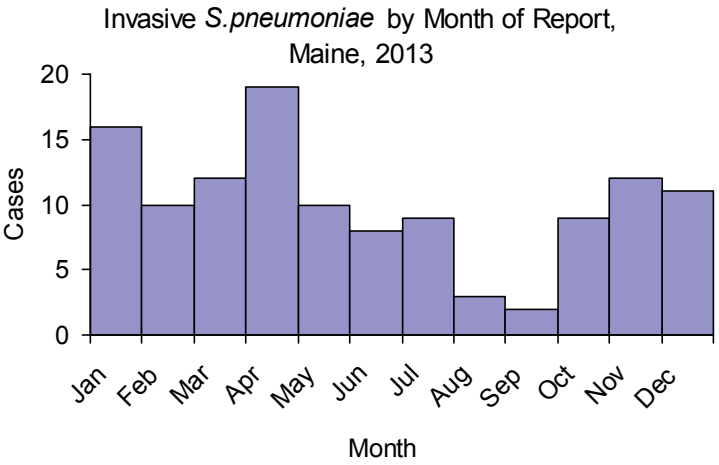
Persons at risk of pneumococcal disease include young children, adults 65 years of age or older, persons with certain underlying medical conditions, persons with weakened immune systems, and those in congregate settings such as daycare and long-term care facilities.

- 121 cases represent an increase from 102 cases in 2012
- Median age was 68 years
- Age range was 8 months to 101 years
- Cases were 52% female and 48% male
- 31 (26%) cases were drug resistant
- 6 cases were in children under the age of five (2 cases were drug resistant)

Pneumococcal disease can be prevented through routine vaccination of infants and children under five years with the pneumococcal conjugate vaccine (PCV13) and vaccination of adults and children over the age of two who are at high risk of infection with the pneumococcal polysaccharide vaccine (PPSV23).







Early Syphilis

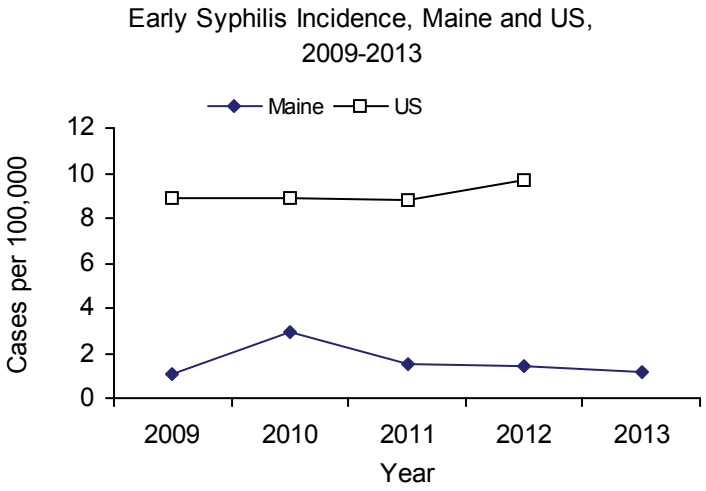
2013 Case Total **16**
Maine Rate **1.2 per 100,000**
U.S. rate (2012) **9.7 per 100,000**

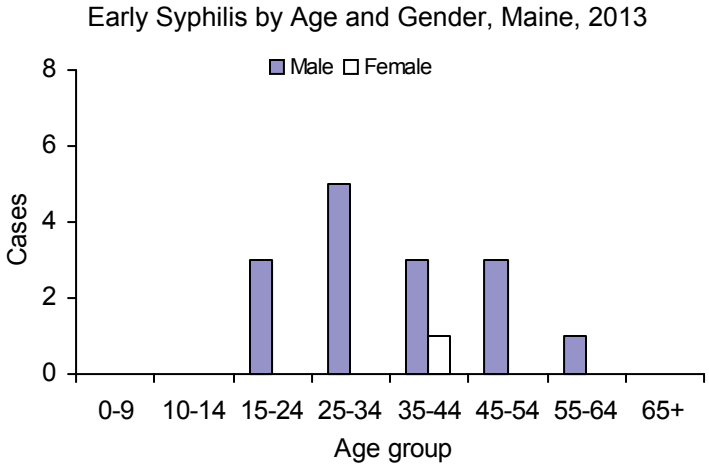
Syphilis is a sexually transmitted disease (STD) caused by the bacterium *Treponema pallidum*. It has often been called "the great imitator" because so many of the signs and symptoms of syphilis are like those of other diseases.

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.

- 16 cases represents a decrease from 19 cases in 2012
- The 2009-2013 median number of cases per year was 19
- Median age was 34 years
- Age range was 22 to 55 years
- 15 (94%) of the cases were male, with only one female case (6%) reported
- 11 (69%) of 16 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 ensuring adequate treatment and notifying partners of potential exposure.

Tuberculosis

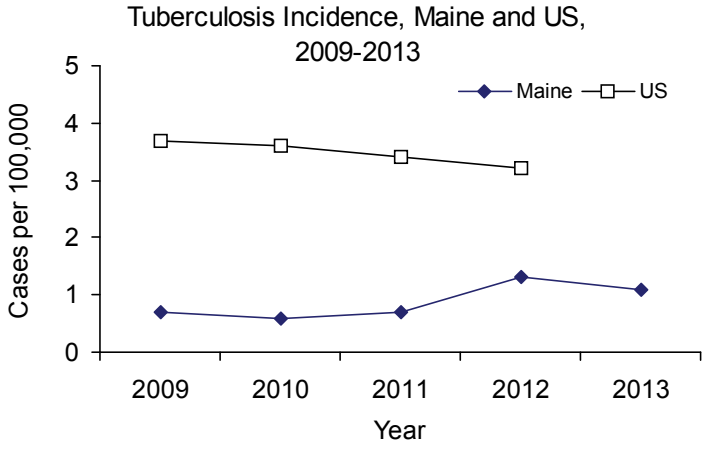
2013 Case Total	**15**
Maine Rate	**1.1 per 100,000**
U.S. rate (2012)	**3.2 per 100,000**

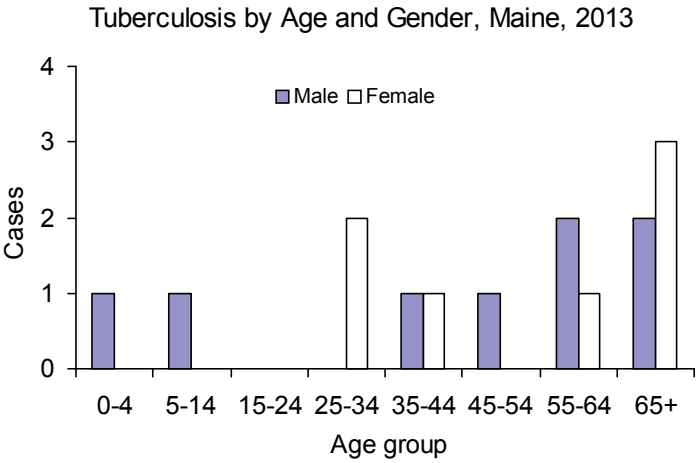
Tuberculosis (TB) is a communicable disease caused by the bacterium, *Mycobacterium tuberculosis*. It is spread through the air by airborne particles called droplet nuclei that are expelled from the lungs when a person who has infectious TB coughs, sings or sneezes. TB occurs when the mycobacterium is inhaled into the lung 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.

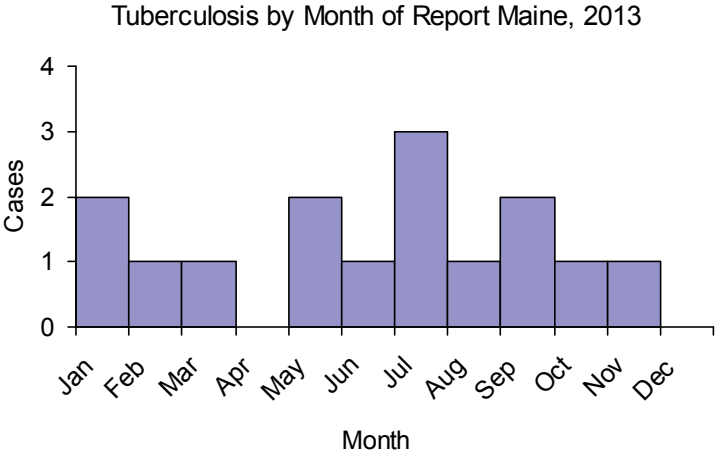
TB disease can cause infection in the lung (pulmonary), which is considered infectious to others. TB disease can also occur outside of the lung (extrapulmonary), which is not infectious.

- 15 cases represent a decrease from 17 cases in 2012
- The 2008-2012 median number of cases per year was 9
- Median age was 55 years
- Age range was 1 to 89 years
- Cases were 47% female and 53% male
- 7 (47%) were foreign born
- In 7 contact investigations, 96% of identified contacts were evaluated
- Of 433 LTBI reports, 82% 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

2013 Case Total **140**
Maine Rate **10.5 per 100,000**
U.S. rate (2012) **4.3 per 100,000**

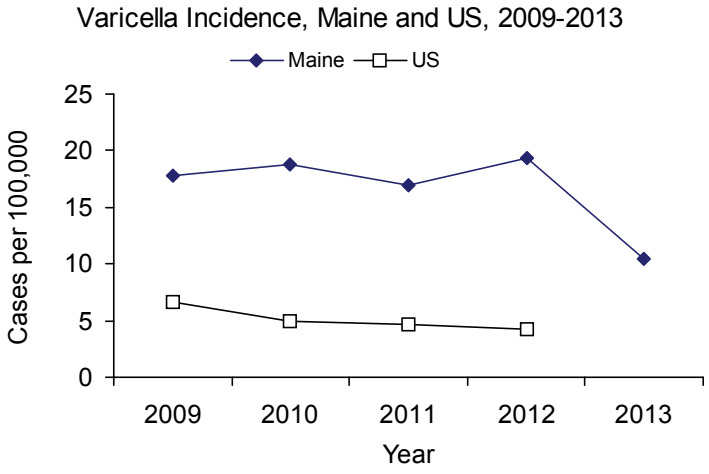
Varicella (chickenpox) is a highly contagious viral disease of which humans are the only source of infection. Most illness includes an itchy skin rash that looks like blisters, covering the body but more evident on the face, scalp, and abdomen. The majority of infected individuals develop a fever just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

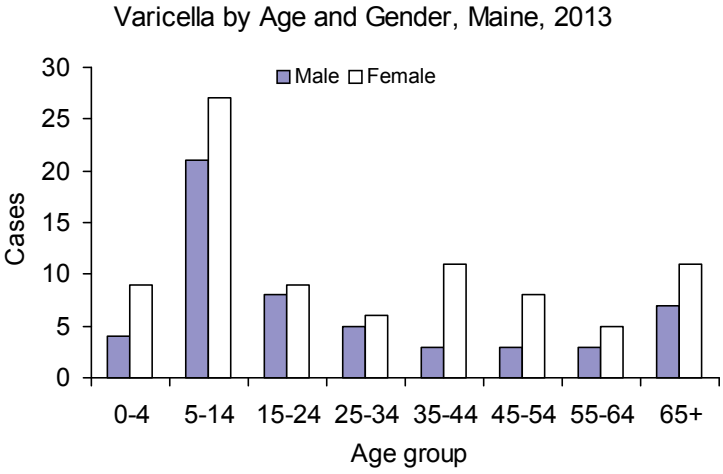
Person-to-person transmission occurs primarily through direct contact with respiratory tract secretions of infected individuals. Adolescents and adults are at higher risk for severe disease which could include pneumonia, bacterial infection of the skin and swelling of the brain.

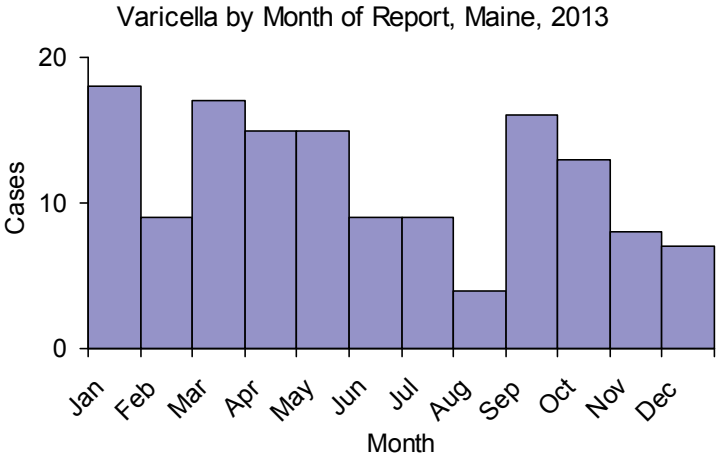
- 140 cases represent a decrease from 258 cases in 2012
- Overall the greatest incidence was during the fall and spring months while schools are in session
- Nationally varicella incidence is reported to be an underestimate of true incidence

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 school admission.







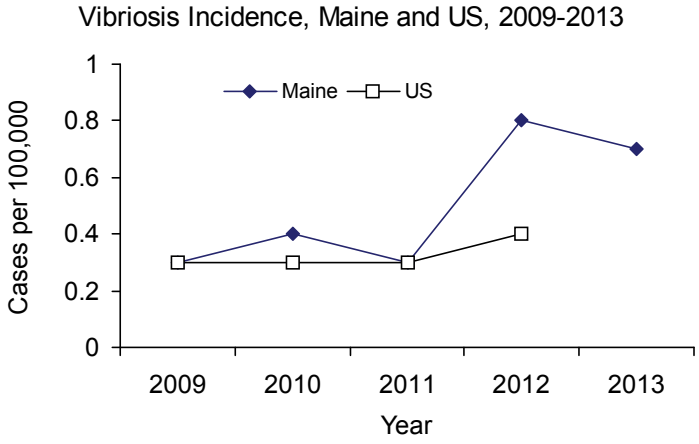
Vibriosis

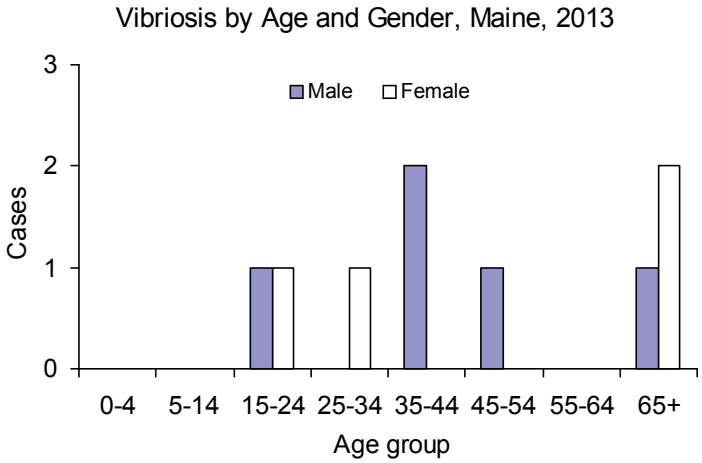
2013 Case Total	**9**
Maine Rate	**0.7 per 100,000**
U.S. rate (2012)	**0.4 per 100,000**

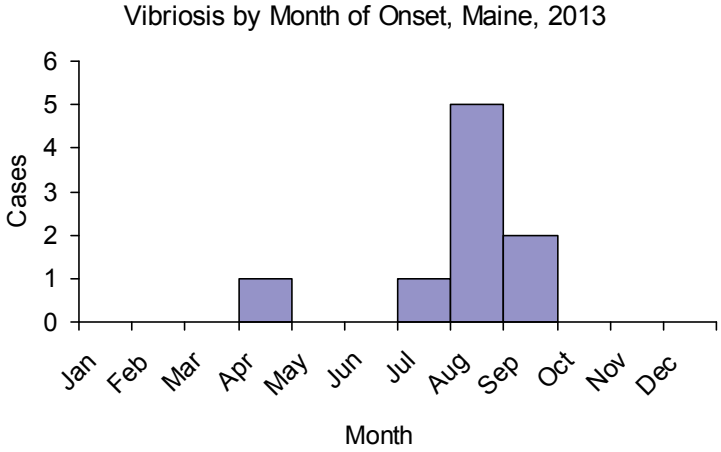
Vibriosis is an infection of variable severity characterized by diarrhea and vomiting, primary septicemia, or wound infections. *Vibrio parahaemolyticus*, associated with ingestion of raw or undercooked seafood, and *Vibrio alginolyticus,* associated with wounds and water contact, are the primary causes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

- 9 cases represent a decrease from 10 cases in 2012
- The 2008-2012 median number of cases was 4
- Median age was 38 years
- Age range was 17 to 80 years
- Cases were 44% female and 56% male
- *Vibrio parahaemolyticus*, *alginolyticus,* and *Grimontia hollisae* were isolated.

Vibrio infections caused by *V. parahaemolyticus* 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.







Influenza Season 2013—2014

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 three health care providers, four hospitals, three laboratories, Maine's Electronic Death Registry System (EDRS), twenty five hospital emergency departments, and Maine Emergency Medical Services (EMS) during the reporting period from September 29, 2013 to May 17, 2014. This report summarizes 2013-14 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 2013-14 season, a total of 45 outbreaks of influenza were reported in Maine. This is a decrease from the 2012 -13 season when 167 outbreaks were reported. Of the 45 outbreaks, 32 were in long term care facilities, 4 in acute care facilities, 4 in K-12 schools, and 2 in institutions. The number of outbreaks peaked in January (MMWR week 5) and outbreaks occurred in 13 counties (all but Franklin, Knox, and York).

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 2013 -14 season, a total of 8,294 death certificates were filed. Of these 560 (6.8%) were attributed to pneumonia or influenza.

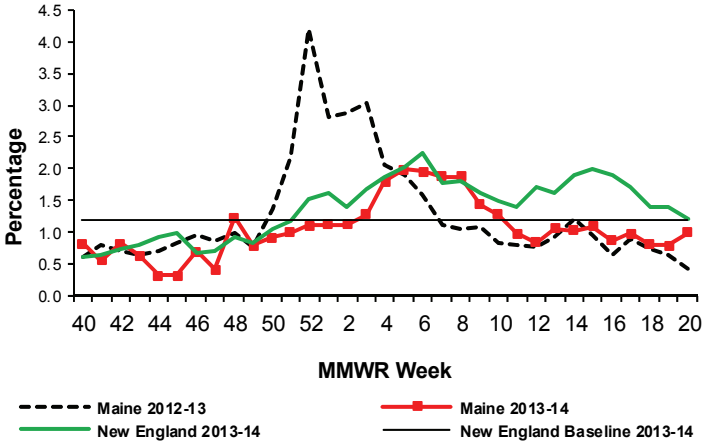
Pediatric Fatalities

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. One influenza-associated pediatric death was reported during the 2013-14 influenza season. A child from western Maine died with confirmed influenza A/H1N1.

Influenza Season 2013-2014: Inpatient and Outpatient Surveillance

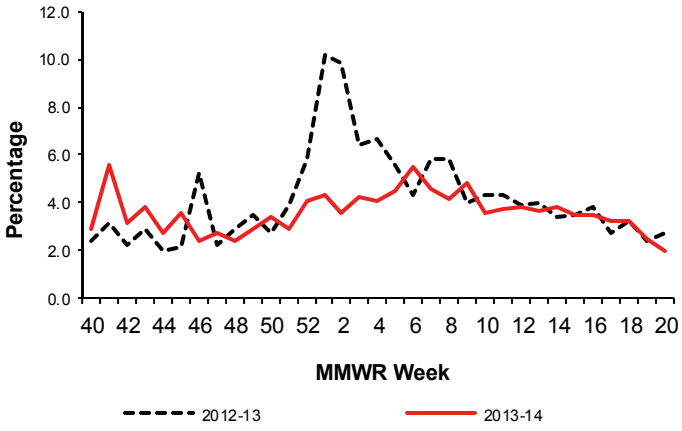
Outpatient influenza-like illness (ILI)
Data on outpatient visits for ILI was collected through the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), a collaborative effort between federal CDC, Maine CDC, and local health care providers. During the 2013-14 season, 33 health care providers 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 5) The New England region peaked in January, with a second peak in April.

Outpatient Visits for Influenza-like Illness, Maine, 2012-14



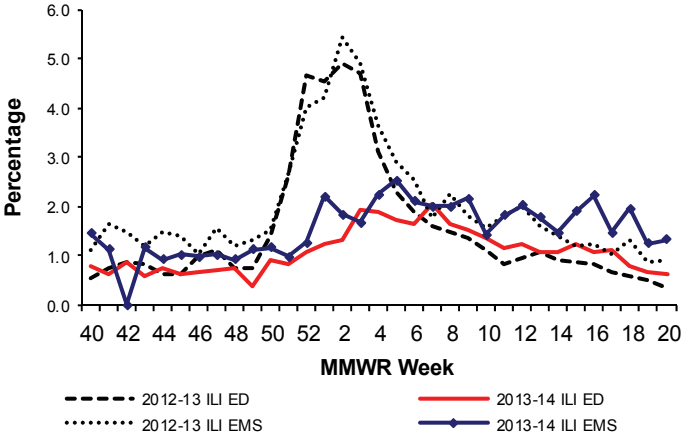
Hospital Inpatients
Inpatient surveillance for respiratory illness admissions in Maine was conducted in collaboration with four hospitals. During the 2013-14 season, four hospitals reported the number of patients admitted to the hospital and the number of those patients admitted for influenza or pneumonia using admitting diagnoses. Hospital admissions for influenza, pneumonia, or respiratory illness were highest in the first week of February (MMWR week 6).

Hospital Admissions Due to Pneumonia or Influenza, Maine, 2012-14



Emergency Room Visits
Syndromic surveillance was conducted in the Emergency Departments (ED) of 25 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 February (MMWR week 7). The percentage of EMS runs that had a chief complaint consistent with ILI peaked in late January (MMWR week 5)

Syndromic Surveillance data for ILI, Maine, 2012-14



Influenza Season 2013—2014: 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 2013-14 season, 1,082 respiratory specimens were tested by HETL for influenza. Of those 378 (34.9%) were positive for influenza (303 for influenza A/pH1N1, 14 for influenza A/H3, 1 for influenza A unable to subtype, and 60 for influenza B).

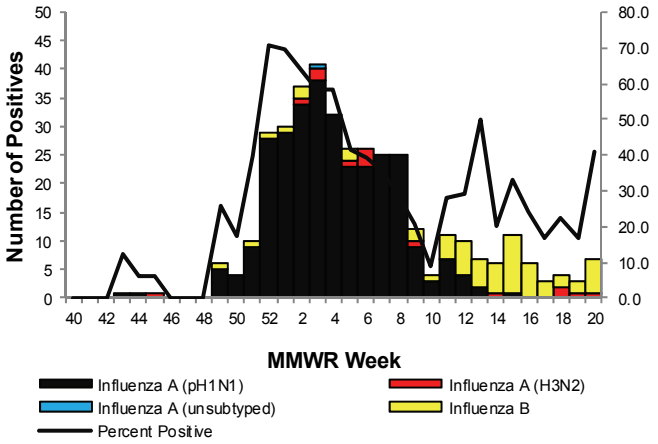
Reference Labs

Two Maine reference laboratories, and many national reference laboratories submitted reports of laboratory-confirmed influenza by culture or reverse-transcriptase polymerase chain reaction (RT-PCR). During the 2013-14 season, 958 specimens were positive for influenza (220 for influenza A/pH1N1, 12 for influenza A/H3, 548 for influenza A without subtype, and 178 for influenza B).

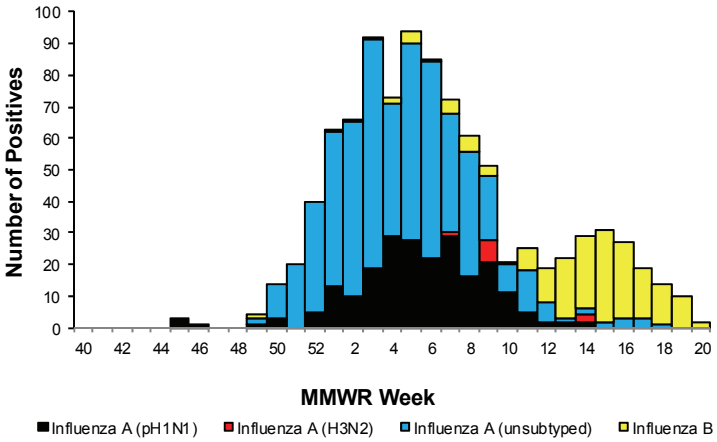
Rapid testing

Many hospitals, labs, and physician offices voluntarily report positive rapid antigen tests to the state. During the 2013-14 season 756 positive tests were reported, 606 for influenza A, 130 for influenza B, and 20 for influenza, unsubtyped.

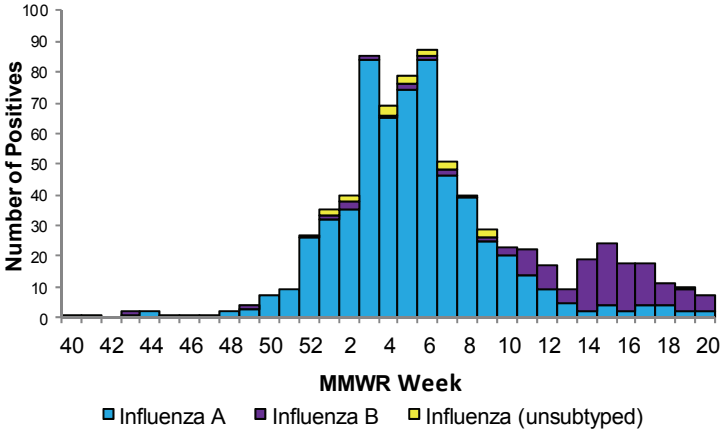
Positive PCR Samples for Influenza, HETL—Maine, 2013-14



Positive PCR Samples for Influenza, Maine and National Reference Labs Maine, 2013-14



Rapid Positive Influenza Tests—Maine, 2013-14



Latent Tuberculosis Infection – Maine, 2013: Countries and Languages

Tuberculosis (TB) is caused by the bacteria *Mycobacterium tuberculosis*. Latent tuberculosis infection (LTBI) occurs when *M. tuberculosis* is present in the body without signs and symptoms, or evidence of TB disease.

While active TB is monitored through mandatory reporting, LTBI is not a notifiable condition in Maine. The Maine CDC TB Control Program encourages providers to refer all LTBI cases so treatment can be covered and high risk individuals can receive Public Health Nursing services.

A total of 433 cases of LTBI were reported in 2013, compared to 398 cases in 2012. Results from Table 1 and 2 indicate Maine's TB Program serves a significantly more diverse population of individuals with LTBI than makes up the general population of Maine; 15 different languages and 48 countries are represented. Since incomplete treatment for LTBI is a risk-factor for progression to active disease, this type of insight will allow a more culturally and linguistically informed public health response to TB prevention from educational materials to patient services.

Table 1. Provider reported languages – Maine, 2013‡

Language	#	%	Language	#	%	Language	#	%
Acholi	1	0.2	French	109	24.2	Portuguese	13	2.9
Arabic	48	10.7	Kinyarwanda	7	1.6	Somali	58	12.9
Burmese	1	0.2	Kirundi	8	1.8	Spanish	8	1.8
Cambodian	1	0.2	Korean	1	0.2	Swahili	1	0.2
English	190	42.2	Lingala	2	0.4	Tigrinya	2	0.4

‡ Languages not mutually exclusive

Table 2. Provider reported country of birth – Maine, 2013*

Country	#	%	Country	#	%	Country	#	%
Afghanistan	1	0.2	Ethiopia	4	0.9	Romania	1	0.2
Albania	1	0.2	Ghana	2	0.5	Rwanda	38	8.8
Angola	41	9.5	Haiti	5	1.2	Saint Kitts and Nevis	1	0.2
Benin	1	0.2	Iraq	41	9.5	Saint Lucia	1	0.2
Burundi	43	10.0	Jamaica	6	1.4	Saudi Arabia	1	0.2
Cambodia	2	0.5	Jordan	1	0.2	Senegal	1	0.2
Cameroon	2	0.5	Kenya	4	0.9	Solomon Islands	2	0.5
Canada	3	0.7	Korea, DPRK	1	0.2	Somalia	53	12.3
China	1	0.2	Kuwait	3	0.7	South Africa	1	0.2
Colombia	1	0.2	Maldives	1	0.2	Sudan	4	0.9
Congo	51	11.8	Mexico	2	0.5	Turkey	2	0.5
Dem Rep of Congo	1	0.2	Myanmar	1	0.2	Uganda	3	0.7
Djibouti	6	1.4	Nepal	1	0.2	Tanzania	1	0.2
Dominican Republic	3	0.7	Netherlands	1	0.2	United States	78	18.1
El Salvador	1	0.2	Philippines	8	1.9	Uzbekistan	1	0.2
Eritrea	2	0.5	Puerto Rico	1	0.2	Yemen	1	0.2

**Unknown country of birth for 2 cases*

Tuberculosis Cluster in Aroostook County

In July 2013, a female resident (Patient X) residing in an Aroostook County long-term care facility developed active tuberculosis (TB). Patient X had visits to multiple healthcare facilities during her infectious period as well as close contact with peers, friends and family members in the community. In response to the active case, Maine CDC's TB Control Program staff made a 3-day site visit to affected facilities to provide education on TB and latent TB infection (LTBI), discuss a response plan and identify steps required for a contact investigation.

A contact investigation is when people who had contact with an infected person, like Patient X, get screened to find out if they have LTBI or active TB disease. This is important because with no treatment, 5 – 10% of LTBI infected persons will develop TB disease at some point in their lives. Determining who has LTBI and providing treatment for those individuals reduces their chance of active TB infection. Persons with LTBI do not spread TB to other people.

Maine CDC's TB Control Program coordinated a contact investigation involving staff from three medical centers, one out-patient clinic, one long-term care facility and Public Health Nursing to assess and test individuals exposed to Patient X. Table 1 shows the facilities and number of contacts who were screened, initiated therapy, are currently on therapy, or completed treatment.

During the contact investigation, two additional cases of active TB infection were identified. Both patients initiated treatment and one died shortly after of a non-TB related illness. Not all individuals identified with LTBI initiated or completed therapy. In some cases, patients did not start treatment per their providers' recommendation, were lost to follow up, or were non-compliant with treatment. Some patients are still undergoing treatment.

This cluster demonstrates the value of conducting contact investigations and identifying individuals at risk for developing LTBI and active TB disease, the need for medical staff to use proper precautions in caring for patients with respiratory illness, and the need for treatment adherence.

Table 1: Contact Investigation For Patient X by Facility and Number of Contacts Screened Who Initiated or Have Ongoing or Completed Treatment, Aroostook County, 2013.

Facility	# Contacts	# Screened (TST)	# Positive	# Initiated Treatment	# Ongoing Treatment	# Completed Treatment*
Medical Center A	36	36	1	1	0	1
Out-patient clinic	7	7	0	0	0	0
Public Health Nursing	104	104	11	5	2	2
Medical Center B	21	21	0	0	0	0
Medical Center C	117	117	4	4	1	1
LTC Facility	250	236	18	11	3	1
Total	535	521	34	21	6	5

Raccoons, Skunks, Foxes, and Bats – Oh My!

Though the occasional woodchuck, bobcat, or domestic cat test positive for rabies, all the rabid animals in 2012 were raccoons, skunks, foxes, and bats. These four species remain the primary infected species in Maine. Epidemiologists respond to calls about suspect rabid animals with potential exposure to a human or domestic animal. Following investigation, epidemiologists make recommendations based on national guidance for testing or confinement and observation of attacking wild and domestic animals, respectively. They also recommend control measures for exposed persons and domestic animals to prevent the spread of rabies. The following are highlights from two selected animal rabies investigations in 2013.

The tenacious fox

In July, a rabid fox bit five victims in a densely-populated region in Cumberland County before being captured. Victims included:

- 44 year old male, Maine resident: Was bitten by the fox while sitting in his truck in a parking lot. He attempted to run over the fox, but it escaped.
- 51 year old male, Florida resident: Was out for a morning jog when the fox approached him and knocked him to the ground. It continued to scratch him as he lay on the ground, and then escaped.
- 21 year old female and 23 year old male, Ohio residents: Were camping when the fox gave them a wakeup call. It bit the male in the face and bit the female on the leg and ankle before escaping.
- 37 year old male, Maine resident: Was entering his office building when the fox chased him and scratched his legs. The fox entered the office building and was trapped in the vestibule.

Animal Control and Law Enforcement dispatched the fox and submitted it to the Health and Environmental Testing Laboratory (HETL), where it tested positive for rabies. Epidemiologists determined exposures and recommended post-exposure prophylaxis (PEP) for all exposed persons. The investigation required collaboration with law enforcement and interstate notifications to Ohio and Florida health departments about their residents' exposure. The story was covered by two local TV stations, local radio stations, and print media. Maine CDC collaborated with local media to promote the disease reporting line for notification if persons were concerned about exposure.

Bat in the schoolyard

In November, a bat from Penobscot County tested positive for rabies at HETL. According to the submission form, it had bitten a 17 year old high school student. The bat was found in an elementary school playground that is next door to a high school. Aspects of the investigation included contacting:

- Both schools to inform them of the situation and, because of unknown potential exposures, recommend a letter to parents
- The exposed student's parents to recommend rabies PEP
- The hospital emergency department to verify that rabies vaccine and immune globulin were available

The student and friends were walking through the elementary schoolyard in the afternoon and saw a group of children looking at a bat. While attempting to get the bat away from the children, the student was bitten on the finger. The bat was safely collected and transported to HETL by a Game Warden. A memo was sent to the Superintendent for distribution to schools, and information was provided to local hospitals should other potentially-exposed students come forward.

Salmonella Typhimurium Associated with a Maine College Microbiology Laboratory

Salmonellosis is a bacterial gastrointestinal infection that can cause fever, abdominal pain, diarrhea, and vomiting. An estimated 1.2 million cases of salmonellosis occur annually in the U.S. with 23,000 hospitalizations and 450 deaths. *Salmonella* is transmitted through contaminated food or water, or contact with infected persons or animals. During 2010-2011, a national outbreak of *Salmonella* Typhimurium associated with exposure to specimens used in clinical and teaching laboratories sickened 109 people in 38 states (http://www.cdc.gov/salmonella/typhimurium-laboratory/011712/index.html).

In May, 2013 two cases of *Salmonella* Typhimurium from Cumberland County with common exposure to a Maine college were reported to Maine CDC. A Maine CDC investigation determined that the cases were associated with the same microbiology class and laboratory. The class used *Salmonella* Typhimurium in an assignment, designed for students to culture and identify "mystery bacteria." Isolates from the case specimens and the *Salmonella* Typhimurium culture from the college laboratory were tested at the Maine Health and Environmental Testing Laboratory (HETL) and were indistinguishable by pulsed-field gel electrophoresis (PFGE) to each other and to the 2010-2011 national outbreak.

A total of 106 students in 8 laboratory sections were enrolled in the college microbiology courses that utilized the *Salmonella* culture in two laboratories. Several other courses were held in the laboratories where the *Salmonella* culture was stored. Interviews with college laboratory staff, a site visit by Maine CDC epidemiologists and HETL staff, and an e-mail survey on laboratory practices distributed to microbiology students (Table 1) identified several areas of potential contamination: equipment in disrepair, inconsistent use of personal protective equipment, break-downs in hand hygiene, inappropriate storage and handling of laboratory coats, challenges with cleaning/disinfecting surfaces, and use of personal items (pens/pencils, notebooks, phones) not dedicated to the laboratory. Maine CDC communicated findings from the survey and recommendations to the University to prevent future illness. A letter with additional recommendations was sent to all colleges and Universities with microbiology classes alerting them to the risks of using *Salmonella* in entry-level microbiology courses.

Table 1. Selected responses to the survey on laboratory practices.

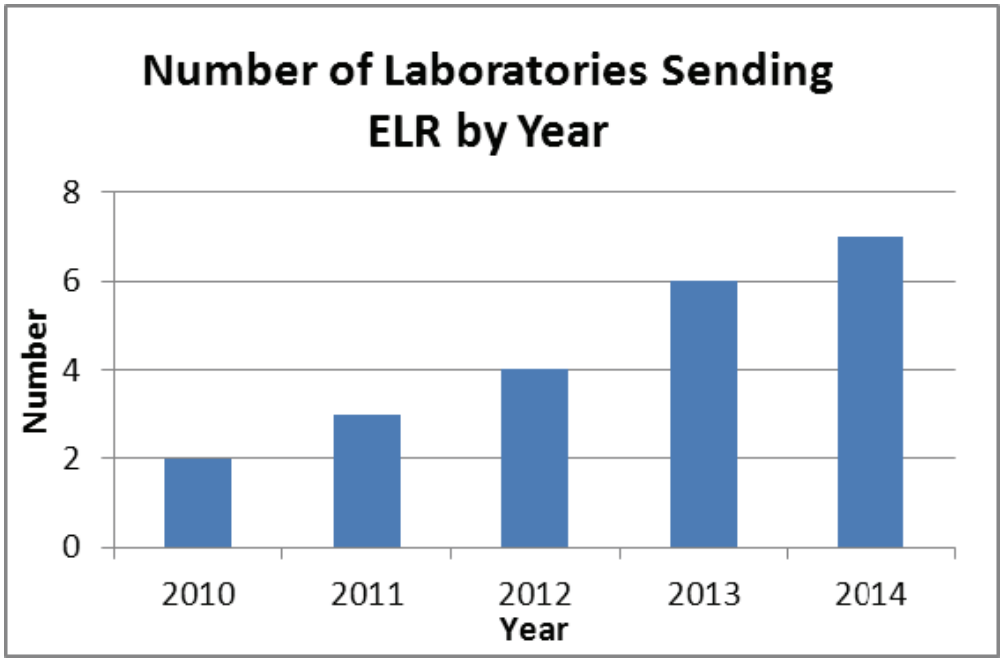
Laboratory Practice	Percent
Received education/orientation	100%
Use gloves when working with bacteria	26.7%
Always wash hands after removing gloves	71.4%
Always wear a laboratory coat in the laboratory	73.3%
Store laboratory coats in cubby or hook in laboratory	30.8%
Take laboratory coats home	46.2%
Wash laboratory coat at home	46.2%
Use the same pen/pencil in, and outside of, laboratory	80.0%
Use cell phone at the laboratory bench	26.7%
Store backpacks, books, other materials at laboratory bench	21.4%

Electronic Laboratory Reporting to Maine CDC

Historically, test results for notifiable conditions in the State of Maine have been transmitted to the Maine Center for Disease Control and Prevention (Maine CDC) by hospitals and reference laboratories through paper-based methods such as fax and mail or via telephone. Maine CDC uses the federal CDC-developed National Electronic Disease Surveillance System (NEDSS) based system (NBS) for disease surveillance, which is designed to receive electronic laboratory reports (ELR). Maine CDC utilizes the infrastructure of HealthInfoNet, the State of Maine's health information exchange (HIE), to facilitate and standardize electronic messaging from Maine-based hospitals and reference laboratories. This work is accomplished through collaboration between epidemiologists, Department of Health and Human Services Office of Information Technology (DHHS OIT), HealthInfoNet, hospital lab technicians and hospital IT services or vendors.

The benefits of connecting to hospitals to receive ELR are improved timeliness, reduced manual data entry errors, and more complete reporting. ELR has been promoted as a public health priority for the past several years and its inclusion as a meaningful use objective for public health serves as a catalyst to accelerate its adoption. As part of the meaningful use initiative, ELRs will be standardized based on national guidelines.

HealthInfoNet is collaborating with hospitals (one currently sending data) and the two regional reference laboratories in the state to send ELR. Maine CDC receives ELRs directly from four national reference laboratories. Additional hospital and national laboratories are testing messages and will soon be sending ELR.



Appendix G

2013 Tick Data Collected by the Maine Medical Center Research Institute Vector-Borne Disease Laboratory

The Maine Medical Center Research Institute (MMCRI) Vector-Borne Disease Laboratory operated a free tick identification service as 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) may have been acquired. Ticks were not tested for the presence of Lyme bacteria and MMCRI only accepted ticks from the state of Maine.

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 or not a particular area is already widely known to have a deer tick presence).

Number of Ticks Identified by County and Type, Maine, 2013

County	*Ixodes scapularis* **(Deer tick)**	*Dermacentor variabilis* **(American dog tick)**	*Ixodes cookei* **(Woodchuck tick)**	*A. americanum* **(Lonestar tick)**
Androscoggin	15	1	0	0
Aroostook	4	0	0	0
Cumberland	81	35	1	1
Franklin	11	5	1	0
Hancock	126	9	5	0
Kennebec	30	8	0	0
Knox	18	5	0	0
Lincoln	8	2	0	0
Oxford	5	5	0	0
Penobscot	54	6	4	0
Piscataquis	9	0	2	0
Sagadahoc	9	0	0	0
Somerset	12	7	2	0
Waldo	41	3	1	0
Washington	4	0	0	0
York	43	11	0	0
Unspecified	27	2	0	0
Totals	497	99	16	1

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 and Babesiosis
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?
Please note the change in laboratories for 2014 submissions.

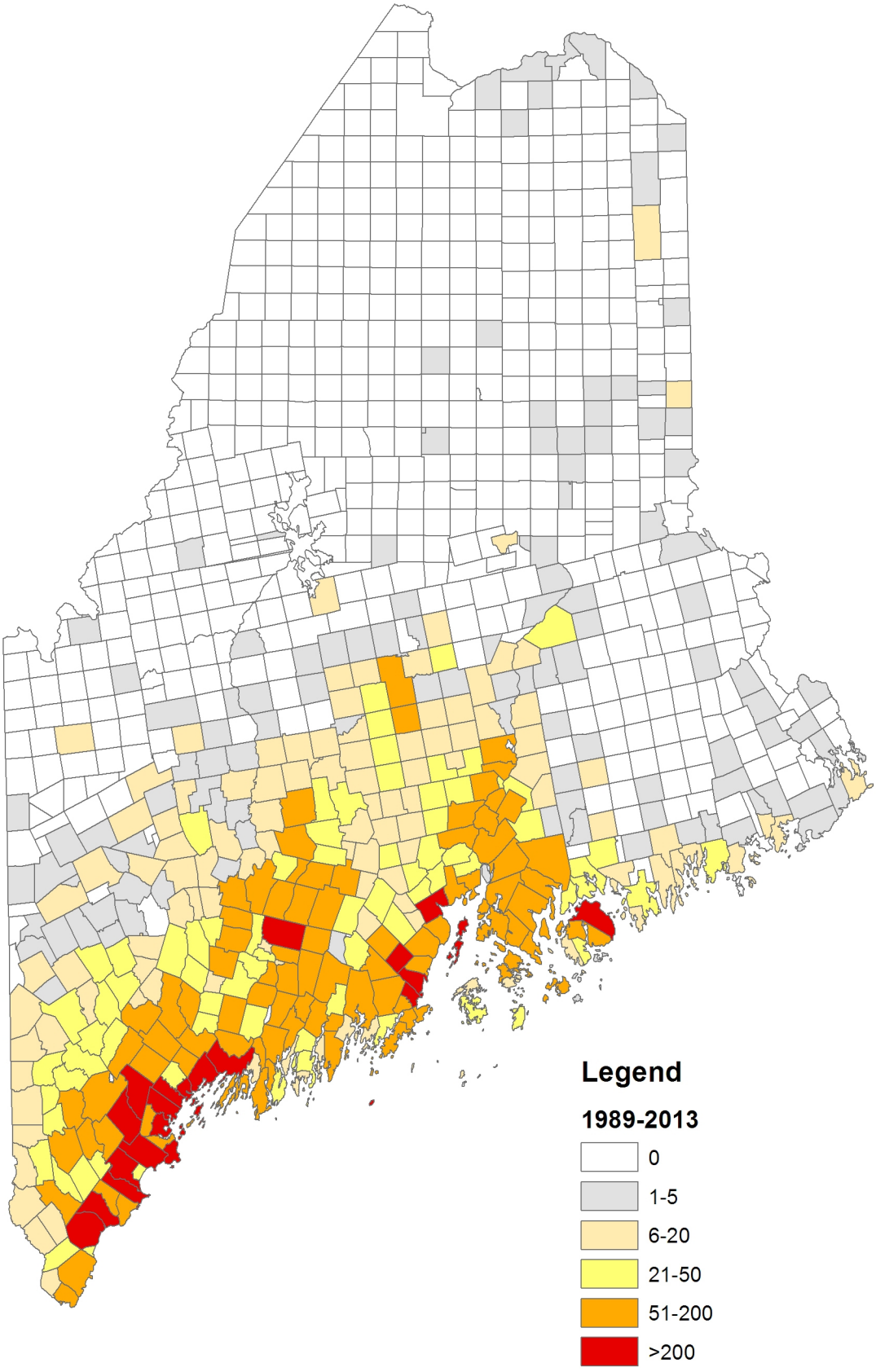
Tick identification is now being performed at the University of Maine Cooperative Extension Tick ID Lab and costs $10 per tick. Instructions for submitting a tick are available at: http://extension.umaine.edu/ipm/tickid/submit/.

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 and a check or money order for $10/per tick 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.

Submissions of *Ixodes scapularis* to MMCRI, 1989-2013



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)	Malaria	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:
Anthrax	**Measles**	
Arboviral Infection	Meningitis (bacterial)	
Babesiosis	**Meningococcal Invasive Disease**	
Botulism	**Mumps**	
Brucellosis	Paralytic Shellfish Poisoning	
Campylobacteriosis	**Pertussis**	
Carbon Monoxide Poisoning, including	**Plague**	
- Clinical signs, symptoms or known exposure consistent with diagnosis of carbon monoxide poisoning and/or: a carboxyhemoglobin (COHb) level ≥5%	**Poliomyelitis**	
	Psittacosis	
	Q Fever	
Chancroid	**Rabies (human and animal)**	
Chlamydia	Rabies Post-Exposure Prophylaxis	
Chickenpox (Varicella)	**Ricin Poisoning**	
Creutzfeldt-Jakob disease, <55 years of age	Rocky Mountain Spotted Fever	
Cryptosporidiosis	**Rubella (including congenital)**	
Dengue	Salmonellosis	
Diphtheria	**Severe Acute Respiratory Syndrome (SARS)**	
E. coli, Shiga toxin-producing (STEC) disease including E. coli: 0157:H7	Shigellosis	
Ehrlichiosis	**Smallpox**	
Giardiasis	Staphylococcus aureus, Methicillin-Resistant (MRSA) invasive,	
Gonorrhea	**Staphylococcus aureus with resistance (VRSA) or intermediate resistance (VISA) to Vancomycin isolated from any site**	
Haemophilus influenzae disease, invasive, include all serotypes	**Staphylococcal enterotoxin B**	
Hantavirus, pulmonary syndrome	Streptococcal invasive disease, Group A	
Hemolytic-uremic syndrome (post-diarrheal)	Streptococcal invasive disease, Group B	
Hepatitis A, B, C, D, E (acute)	Streptococcus pneumoniae, invasive disease	
Hepatitis B (chronic, and/or perinatal)	Syphilis	
Hepatitis C (chronic)	**Tetanus**	
Hepatitis, acute (etiologic tests pending or etiology unknown)	Toxoplasmosis	
	Trichinosis	
Human Immunodeficiency Virus (HIV), including:	**Tuberculosis (active and presumptive cases)**	
- Confirmed, positive antibody tests	**Tularemia**	
- Viral load tests, all results	**Unusual or increased case incidence, critical illness, unexplained death(s) of any suspect infectious disease**	
- CD4 lymphocyte counts, all results		
Influenza-associated pediatric death	Vibrio species, including Cholera	
Influenza-like illness outbreaks	**Viral Hemorrhagic Fever**	
Influenza A, Novel	**Venezuelan equine encephalitis**	
Legionellosis	Yellow Fever	
Leptospirosis	Yersiniosis	
Listeriosis		
Lyme Disease		

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

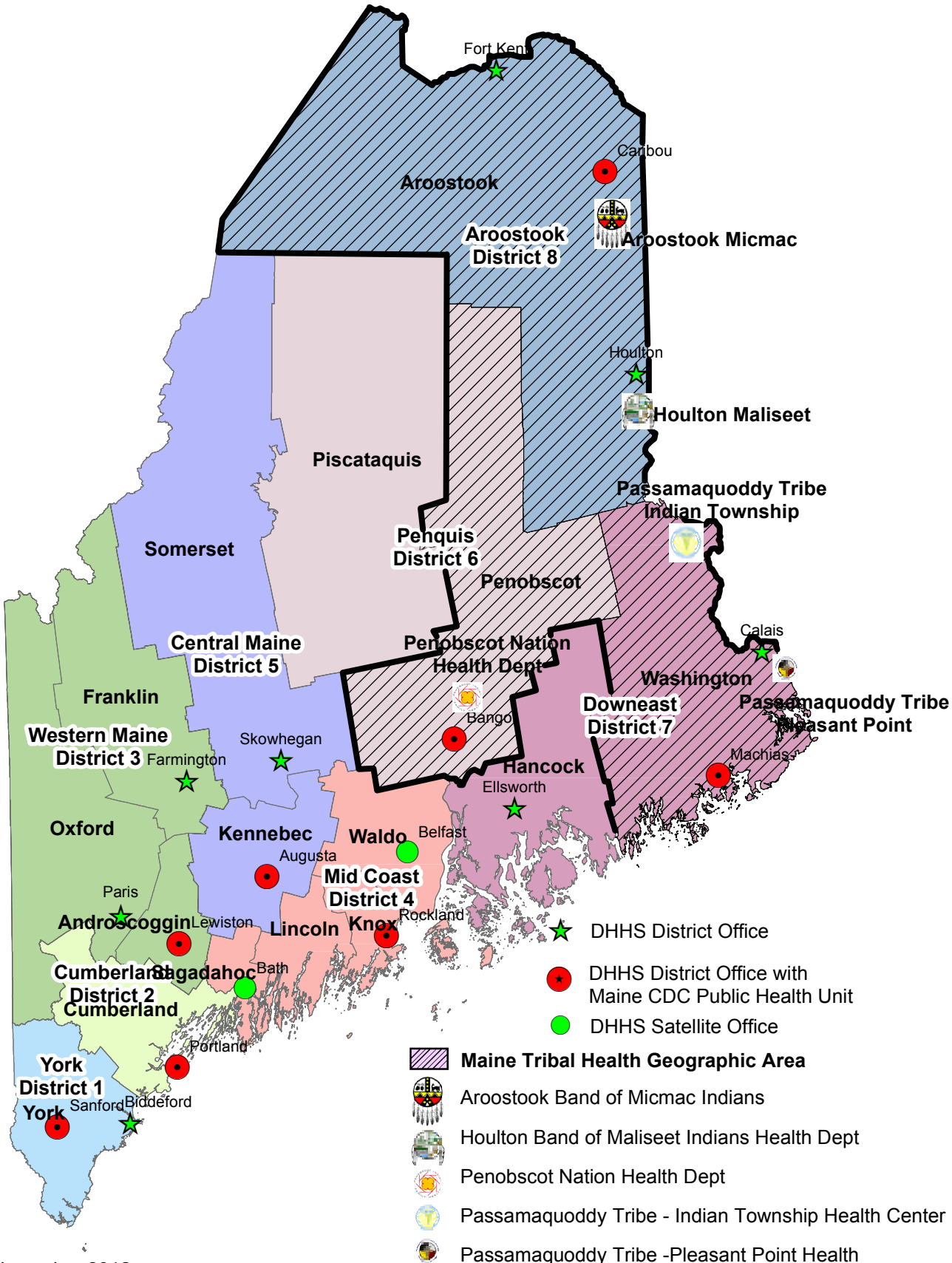
Complete Rules for the Control of Notifiable Conditions at:
http://www.maine.gov/dhhs/boh/ddc/epi/disease-reporting/index.shtml

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

Department of Health and Human Services
Maine Center for Disease Control and Prevention
State House Station #11
Augusta, ME 04333-0011

Paul R. LePage
Governor

Mary Mayhew
Commissioner

Dr. Sheila Pinette, DO
Director, Maine Center for Disease Control and Prevention

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