2010

Reportable Infectious Diseases in Maine. 2010

Maine Center for Disease Control and Prevention

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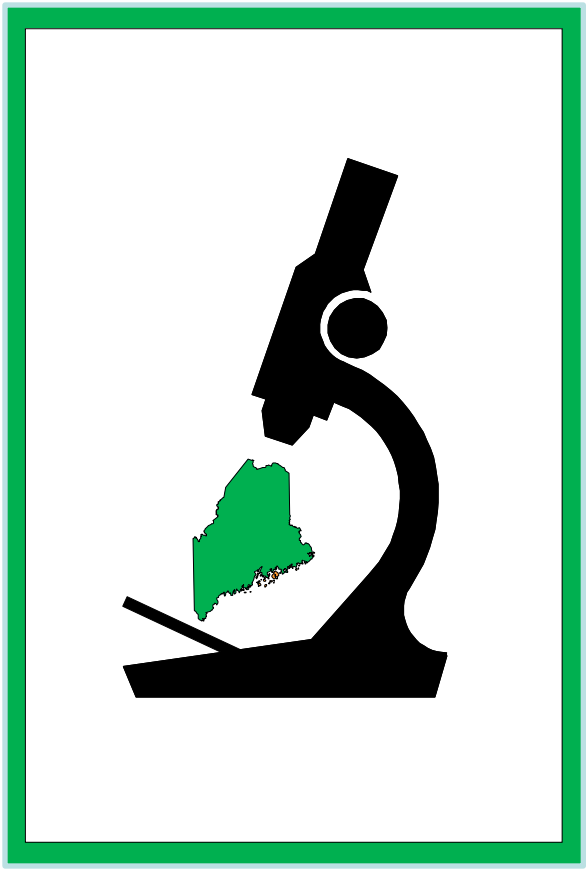

2010 Summary

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

2010 Summary

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We have been producing an annual report on infectious diseases in Maine for the last 17 years. This report is published by the Division of Infectious Disease and is intended to provide an overview of communicable diseases of public health importance in Maine.

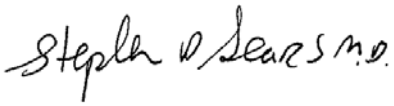
We could not produce this report without the continued support of our healthcare and public health partners throughout the state. We greatly appreciate all of the laboratories, healthcare providers, day care centers, school nurses and others who provide disease surveillance information. They have expended considerable time investigating infectious diseases with Maine CDC that impact Maine residents. Their active and critical role in the infectious disease surveillance cycle translates into statewide policies and programs that protect our residents from infectious disease through health promotion, disease prevention, and early detection, containment, and treatment.

We encourage our partners' continued support and vigilance in the effort to protect the people of Maine through timely, complete, and accurate infectious disease reporting. The better we are able to prevent and control disease now, the better positioned we are to respond to emerging infectious disease threats in the future.

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

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

Peter Smith, Ph.D
Director, Division of Infectious Disease
Maine Center for Disease Control and Prevention



Stephen Sears, MD, MPH
State Epidemiologist
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2010 Infectious Disease Surveillance Highlights

- Lyme disease cases decreased in 2010, but overall five year trends showed an increase. Lyme disease is the most common vectorborne disease reported in Maine.
- Syphilis cases doubled in 2010. Half of the reported cases were co-infected with HIV. Targeted testing continues for high risk individuals.
- Chlamydia remained the most commonly reported infectious disease in the state with 2,586 cases. Seventy percent of reported infections were in persons 15-24 years of age.
- Foodborne illness outbreaks affected Maine residents and were multistate and multinational. Two cases of STEC O26 in Maine and one case in New York State led to the first recall of ground beef due to a non-O157 contaminant; ground beef is routinely tested for *E. coli* O157 only.
- Cryptosporidiosis cases increased each year for the previous few years. Starting in 2010 the State Health and Environmental Laboratory performed enhanced testing and collaborated with the federal CDC for species analysis. The goal for 2011 is to gather more information using a new questionnaire to look at possible exposures.
- Group A Streptococcus (GAS) infections increased in the winter of 2010, as did streptococcal toxic shock syndrome (STSS). The reasons for the increase are unclear. Federal CDC performed testing on a few cases and identified different strains of GAS circulating in the state.
- In 2010 the case definition for invasive *Streptococcus pneumoniae* changed to include all invasive cases. In previous years the focus was only on drug resistant organisms and children under the age of 5 years.
- Maine had the lowest rate of tuberculosis in the country at 3.7 per 100,000 persons.
- 62 wild animals tested positive for rabies (28 raccoons, 20 skunks, 5 bats, 7 foxes and 1 woodchuck and one feral cat). Maine has not had a human case since 1937.
- More norovirus outbreaks were reported in December of 2010 compared to previous years.
- Vaccine preventable diseases continue in Maine, especially pertussis and varicella, highlighting the need to promote childhood and adult vaccinations.
- Diseases associated with international travel increased in Maine with reported typhoid fever, dengue fever, malaria and various foodborne illnesses. As international travel becomes easier and residents visit areas with endemic infectious diseases, there is a need to emphasize preventive strategies among travelers.
- Hospital acquired infections, especially Staphylococcus bacteria resistant to methicillin (MRSA) are an increasing focus of public health.
- In Maine, the continued blooms of toxic algae (red tide) remind us that we live in a fragile environment effected by climate, rainfall, human use and animals.

Overview 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 were made 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 quarantineable diseases 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 State Board of Health. In 1917 the Board was replaced by the Department of Health.

In 2010, 71 infectious diseases were reportable in Maine and 64 are 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. Also, some diseases may be removed from the list as their incidence or importance declines. While modern advances in sanitation, personal hygiene and immunizations serve to 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.

The DHHS Maine 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 are useful for identifying situations that require immediate public health action, such as disease outbreaks; identifying emerging diseases, including 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 forming public policy, including the allocation of heathcare resources.

The public health "patient" is the community, and information about that community can be useful to the clinician providing care to the individual. Partnership between public health professionals and healthcare providers 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 Center for Disease Control and Prevention.

Diseases that are possible indicators of bioterrorism and other diseases requiring specific and prompt public health response are to be reported immediately. The remainder of notifiable conditions are to be reported within 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 Center for Disease Control and Prevention 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 public health 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 and notifiable conditions reportable in Maine are listed on the Maine Center for Disease Control and Prevention website, along with the Rules for the Control of Notifiable Conditions and current information regarding infectious disease incidence in Maine (available at http://www.maine.gov/dhhs/boh/ddc/epi/disease-reporting/index.shtml).

The Health and Environmental Testing Laboratory (HETL) tests for most reportable conditions, and certain organisms are required to be sent to HETL for confirmatory testing. More information on the testing performed at HETL is available at www.mainepublichealth.gov/lab.

Purpose of Report

The Reportable Infectious Diseases in Maine 2010 Summary fulfills multiple functions. First, it allows public health officials to quantify the magnitude of certain problems. For example, surveillance data demonstrates the spread of deer ticks and Lyme Disease within Maine. Second, the report allows us to evaluate the effectiveness of our prevention measures. For example, the incidence of vaccine-preventable diseases provides evidence about the effectiveness of the state's immunization program. Third, data in the report allow us to detect changes in healthcare practice, such as whether hepatitis B vaccine and immune globulin are being given at birth to children born to women who are chronic carriers. Fourth, the report helps us plan for future events. For example, data on HIV and AIDS help to establish the need for treatment resources, including antiviral medications for the indigent. Finally, the report serves as an historical document of public health surveillance data, providing information on the descriptive epidemiology of reportable infectious diseases in 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 the Maine Center for Disease Control and Prevention. Case definitions may change from year to year. The current case definitions 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 used by the federal CDC for their weekly and annual reports unless otherwise noted. Rates are calculated by dividing the number of cases by the appropriate population from the U.S. Census estimates for each particular year and multiplying by 100,000.

Charts and graphs may not total the same number as actual cases due to missing information, such as county of residence, symptom onset date, age and gender.

Selected Reportable Disease Counts by Year, Maine, 2001 - 2010

Disease	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Anaplasmosis (HGE)	1	1	1	1	4	10	9	17	15	17
Babesiosis	1	2	3	5	11	9	11	11	3	5
Campylobacteriosis	124	139	146	141	159	137	149	151	171	148
Chlamydia	1346	1801	2040	2120	2253	2304	2543	2594	2443	2586
Cryptosporidiosis	20	12	20	22	30	52	56	46	67	93
Dengue Fever^	0	0	0	0	1	4	1	2	3	6
Ehrlichia chaffeensis (HME)^	0	0	0	0	1	4	3	1	1	4
Giardiasis	197	212	184	155	202	192	197	188	223	223
Gonorrhea	141	142	231	214	142	137	118	96	143	162
Group A Streptococcal Disease (invasive)	12	20	28	16	14	19	28	28	21	47
Group B Streptococcal Disease, Infant (invasive)	1	5	2	1	3	1	1	6	2	8
H. Influenzae (invasive)	2	2	6	15	12	21	13	21	21	13
Hemolytic uremic syndrome	1	3	0	2	0	6	1	1	2	1
Hepatitis A, acute	11	9	16	16	9	8	5	18	1	7
Hepatitis B, acute	7	14	7	11	14	26	19	15	15	13
Hepatitis B, chronic	NA	NA	NA	NA	NA	NA	140	143	126	101
Hepatitis C, acute	1	0	2	0	0	2	1	3	2	2
HIV Infection	40	39	65	46	59	62	64	46	56	59
Legionellosis	8	6	2	1	7	11	9	11	10	12
Listeriosis	2	5	6	8	3	6	5	5	4	1
Lyme disease	108	217	175	224	245	338	528	908	970	751
Malaria	5	6	5	6	5	4	8	1	2	6
Meningococcal disease	10	9	10	12	2	9	8	6	4	5
MRSA, invasive	NR	NR	NR	NR	NR	NR	NR	47	120	90
Mumps	0	0	0	0	2	0	24	5	6	2
Pertussis	22	21	91	195	55	174	83	49	80	53
Rabies, animal	85	67	82	69	61	127	86	64	56	62
Salmonellosis	166	147	141	108	163	161	138	159	121	133
Shiga toxin producing *E. coli**	31	49	15	18	29	49	41	26	19	21
Shigellosis	6	10	7	13	15	10	14	20	5	8
Streptococcus pneumoniae, invasive	NA	NA	NA	NA	NA	NA	NA	NA	NA	130
Streptococcus pneumoniae (drug resistant invasive)	NR	NR	0	4	8	12	13	18	23	30
Syphilis (early)	4	3	15	2	3	16	14	20	14	39
Tuberculosis	20	23	24	20	17	16	19	9	9	8
Varicella (Chickenpox)	146	792	1012	363	318	238	366	269	235	247
Vibriosis	1	4	3	4	2	5	0	3	4	5

*Shiga toxin producing *E. coli* (STEC) was a new condition in 2006 that includes all previously reported enterohemorrhagic *E. coli* cases.

^Reported cases were probable only.

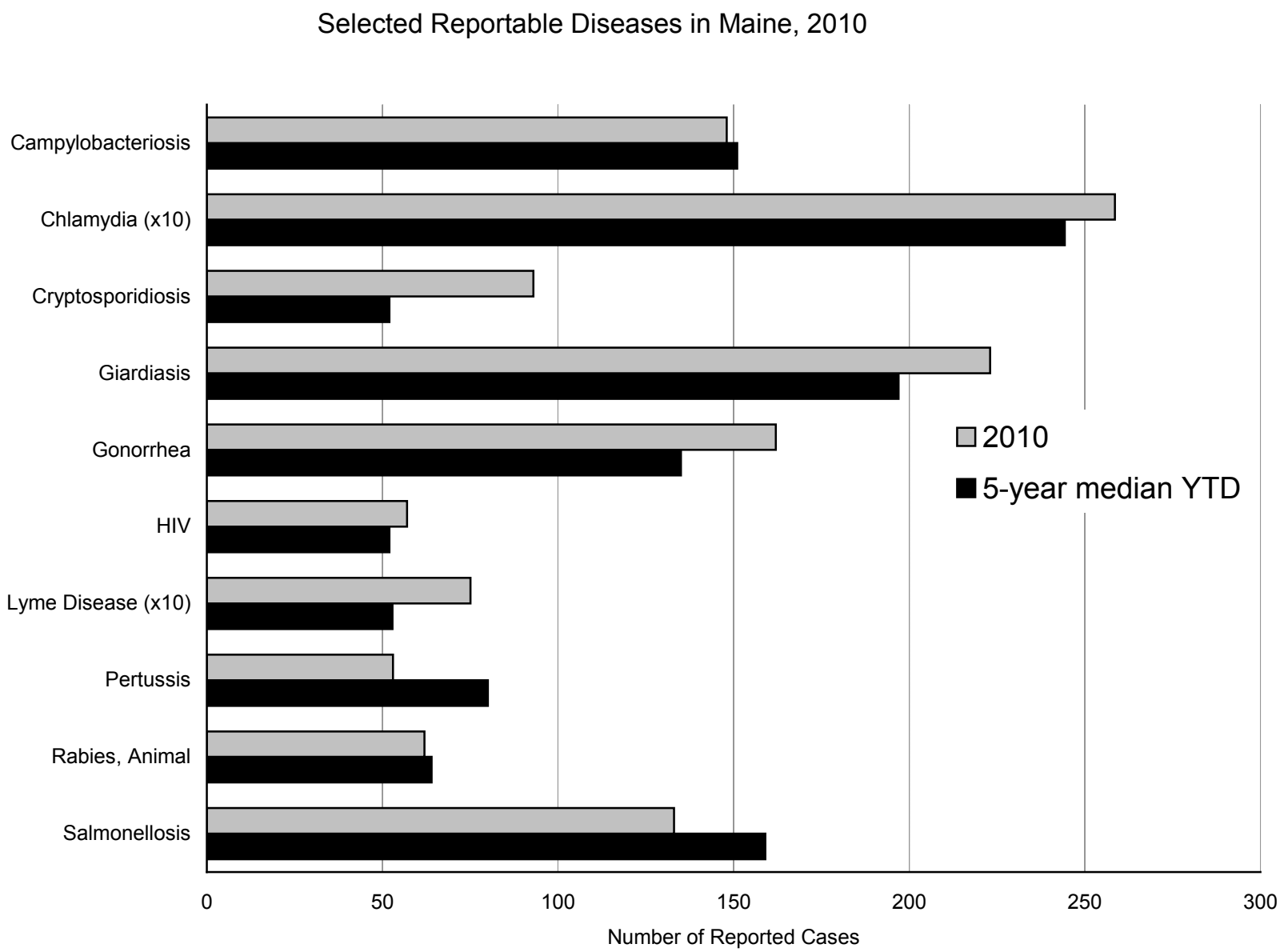
NR = not reportable

NA = not available

Reportable Diseases with Historically Small Numbers of Cases, Maine, 2001 - 2010

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	**10 year total**
Anthrax	0	0	0	0	0	0	0	0	0	0	**0**
Botulism, foodborne	0	2	0	1	0	0	0	0	0	0	**3**
Brucellosis	0	0	0	0	0	0	0	0	0	2	**2**
Creutzfeld-Jacob disease (<55 yo)	NR	NR	0	0	0	0	0	0	1	0	**1**
Cyclosporiasis	0	0	0	1	0	0	0	0	0	1	**2**
Diphtheria	0	0	0	0	0	0	0	0	0	0	**0**
Encephalitis, Arboviral	2	0	0	1	0	0	0	0	0	0	**3**
Hantavirus Pulmonary Syndrome	0	0	0	0	0	0	0	0	0	0	**0**
Measles	0	0	0	0	0	0	0	0	0	0	**0**
Plague	0	0	0	0	0	0	0	0	0	0	**0**
Q fever	0	0	2	0	2	4	7	0	0	0	**15**
Psittacosis	0	0	0	1	0	0	0	0	0	0	**1**
Poliomyelitis	0	0	0	0	0	0	0	0	0	0	**0**
Rubella	0	0	0	0	0	0	0	0	0	0	**0**
Rocky Mountain Spotted Fever^	NR	NR	NR	NR	NR	NR	NR	1	5	2	**8**
Severe Acute Respiratory Syndrome (SARS)	NR	NR	0	0	0	0	0	0	0	0	**0**
Smallpox	0	0	0	0	0	0	0	0	0	0	**0**
Tetanus	0	1	0	0	0	0	0	0	0	0	**1**
Streptococcal Toxic Shock Syndrome	0	1	1	1	0	0	1	0	0	21	**25**
Toxoplasmosis	1	0	0	1	0	0	0	0	0	0	**2**
Trichinosis	0	0	0	0	0	0	0	0	0	1	**1**
Tularemia	0	0	0	0	0	0	0	0	0	0	**0**
Typhoid Fever	0	0	0	0	0	1	0	0	0	2	**3**
Venezuelan Equine Encephalitis	NR	NR	0	0	0	0	0	0	0	0	**0**
West Nile Virus	NR	NR	0	0	0	0	0	0	0	0	**0**
Yellow Fever	NR	NR	NR	0	0	0	0	0	0	0	**0**

NR=Not reportable, ^Reported cases were probable only


Selected Reportable Diseases in Maine, 2010
Campylobacteriosis
Chlamydia (x10)
Cryptosporidiosis
Giardiasis
Gonorrhea
HIV
Lyme Disease (x10)
Pertussis
Rabies, Animal
Salmonellosis
2010
5-year median YTD
0
50
100
150
200
250
300
Number of Reported Cases

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2010

	Anaplasmosis		Babesiosis		Campylobacteriosis		Cryptosporidiosis		*Ehrlichia chaffeensis*		Giardiasis	
County	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Androscoggin	0	0.0	0	0.0	10	9.4	3	2.8	0	0.0	18	16.9
Aroostook	0	0.0	0	0.0	9	12.7	7	9.9	0	0.0	2	2.8
Cumberland	3	1.1	0	0.0	34	12.3	5	1.8	0	0.0	82	29.7
Franklin	0	0.0	0	0.0	4	8.0	1	3.4	0	0.0	4	13.5
Hancock	0	0.0	0	0.0	8	15.0	6	11.3	0	0.0	16	30.0
Kennebec	0	0.0	0	0.0	15	12.4	13	10.7	0	0.0	15	12.4
Knox	1	2.5	1	2.5	1	2.5	1	2.5	0	0.0	5	12.3
Lincoln	5	14.5	1	2.9	6	17.5	6	17.5	1	2.9	1	2.9
Oxford	1	1.8	0	0.0	6	10.7	0	0.0	1	1.8	13	23.3
Penobscot	1	0.7	0	0.0	20	13.4	19	12.8	0	0.0	14	9.4
Piscataquis	0	0.0	0	0.0	2	11.9	6	35.6	0	0.0	1	5.9
Sagadahoc	1	2.8	1	2.8	8	22.2	5	13.9	0	0.0	12	33.3
Somerset	0	0.0	0	0.0	7	13.8	8	15.7	1	2.0	13	25.5
Waldo	0	0.0	0	0.0	0	0.0	6	15.6	0	0.0	7	18.2
Washington	0	0.0	0	0.0	1	3.1	0	0.0	0	0.0	5	15.7
York	5	2.5	2	1.0	17	8.4	7	3.5	1	0.5	15	7.4
Maine Total	17	1.3	5	0.4	148	11.3	93	7.1	4	0.3	223	17.0

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2010

	***Haemophilus influenzae*, invasive**		**Hemolytic uremic syndrome**		**Hepatitis A**		**Hepatitis B, acute**		**Hepatitis B, chronic**		**Legionellosis**	
County	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Androscoggin	2	1.9	1	0.9	0	0.0	0	0.0	20	18.8	3	2.8
Aroostook	2	2.8	0	0.0	0	0.0	1	1.4	4	5.6	0	0.0
Cumberland	0	0.0	0	0.0	0	0.0	2	0.7	43	15.5	1	0.4
Franklin	1	3.4	0	0.0	0	0.0	0	0.0	1	3.4	1	3.4
Hancock	1	1.9	0	0.0	1	1.9	1	1.9	0	0.0	1	1.9
Kennebec	1	0.8	0	0.0	0	0.0	2	1.7	3	2.5	1	0.8
Knox	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	2.5
Lincoln	1	2.9	0	0.0	0	0.0	0	0.0	2	5.8	1	2.9
Oxford	1	1.8	0	0.0	0	0.0	1	1.8	2	3.6	0	0.0
Penobscot	1	0.7	0	0.0	1	0.7	3	2.0	3	2.0	1	0.7
Piscataquis	1	5.9	0	0.0	0	0.0	1	5.9	0	0.0	0	0.0
Sagadahoc	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Somerset	1	2.0	0	0.0	0	0.0	0	0.0	5	9.8	0	0.0
Waldo	0	0.0	0	0.0	4	10.4	0	0.0	0	0.0	1	2.6
Washington	0	0.0	0	0.0	1	3.1	1	3.1	1	3.1	0	0.0
York	1	0.5	0	0.0	0	0.0	1	0.5	17	8.4	1	0.5
Maine Total	13	1.0	1	0.1	7	0.5	13	1.0	101	7.7	12	0.9

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2010

	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	38	35.7	1	0.9	0	0.0	2	1.9	1	0.9
Aroostook	1	1.4	4	5.6	0	0.0	0	0.0	5	7.0	0	0.0
Cumberland	0	0.0	180	65.1	3	1.1	1	0.4	25	9.0	0	0.0
Franklin	0	0.0	19	64.1	0	0.0	0	0.0	3	10.1	0	0.0
Hancock	0	0.0	28	52.6	1	1.9	1	1.9	0	0.0	0	0.0
Kennebec	0	0.0	89	73.6	0	0.0	1	0.8	16	13.2	0	0.0
Knox	0	0.0	65	160.3	1	2.5	0	0.0	3	7.4	1	2.5
Lincoln	0	0.0	38	110.5	0	0.0	0	0.0	7	20.4	0	0.0
Oxford	0	0.0	15	26.8	0	0.0	1	1.8	6	10.7	0	0.0
Penobscot	0	0.0	11	7.4	0	0.0	0	0.0	0	0.0	0	0.0
Piscataquis	0	0.0	1	5.9	0	0.0	0	0.0	0	0.0	0	0.0
Sagadahoc	0	0.0	45	124.9	0	0.0	0	0.0	5	13.9	0	0.0
Somerset	0	0.0	7	13.8	0	0.0	0	0.0	6	11.8	0	0.0
Waldo	0	0.0	26	67.8	0	0.0	1	2.6	2	5.2	0	0.0
Washington	0	0.0	8	25.1	0	0.0	0	0.0	1	3.1	0	0.0
York	0	0.0	177	87.8	0	0.0	0	0.0	9	4.5	0	0.0
Maine Total	1	0.1	751	57.2	6	0.5	5	0.4	90	6.9	2	0.2

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2010

	Pertussis		Rabies, animal		Salmonellosis		Shiga toxin producing *E. coli*		Shigellosis	
County	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	No.
Androscoggin	1	0.9	10		4	3.8	3	2.8	0	0.0
Aroostook	1	1.4	0		11	15.5	2	2.8	1	1.4
Cumberland	14	5.1	15		34	12.3	1	0.4	3	1.1
Franklin	2	6.7	0		1	3.4	1	3.4	0	0.0
Hancock	5	9.4	1		7	13.1	1	1.9	0	0.0
Kennebec	1	0.8	12		7	5.8	0	0.0	1	0.8
Knox	4	9.9	2		3	7.4	0	0.0	0	0.0
Lincoln	2	5.8	3		4	11.6	0	0.0	1	2.9
Oxford	1	1.8	5		5	8.9	2	3.6	0	0.0
Penobscot	18	12.1	3		18	12.1	5	3.4	0	0.0
Piscataquis	0	0.0	0		2	11.9	0	0.0	0	0.0
Sagadahoc	1	2.8	1		5	13.9	3	8.3	0	0.0
Somerset	0	0.0	4		7	13.8	0	0.0	0	0.0
Waldo	1	2.6	0		3	7.8	0	0.0	0	0.0
Washington	1	3.1	0		1	3.1	0	0.0	0	0.0
York	1	0.5	6		21	10.4	3	1.5	2	1.0
Maine Total	53	4.0	62		133	10.1	21	1.6	8	0.6

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2010

	Streptococcus, invasive Group A		*Streptococcus pneumoniae*, invasive		Tuberculosis		Varicella (Chickenpox)		Vibriosis	
County	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Androscoggin	4	3.8	18	16.9	2	1.9	13	12.2	0	0.0
Aroostook	0	0.0	5	7.0	0	0.0	17	24.0	0	0.0
Cumberland	10	3.6	38	13.7	6	2.2	61	22.1	1	0.4
Franklin	3	10.1	3	10.1	0	0.0	6	20.2	1	3.4
Hancock	1	1.9	1	1.9	0	0.0	25	46.9	0	0.0
Kennebec	7	5.8	21	17.4	0	0.0	5	4.1	1	0.8
Knox	0	0.0	0	0.0	0	0.0	7	17.3	0	0.0
Lincoln	2	5.8	10	29.1	0	0.0	4	11.6	0	0.0
Oxford	6	10.7	3	5.4	0	0.0	11	19.7	0	0.0
Penobscot	4	2.7	1	0.7	0	0.0	25	16.8	0	0.0
Piscataquis	0	0.0	2	11.9	0	0.0	3	17.8	0	0.0
Sagadahoc	0	0.0	1	2.8	0	0.0	18	50.0	0	0.0
Somerset	4	7.9	6	11.8	0	0.0	11	21.6	0	0.0
Waldo	2	5.2	2	5.2	0	0.0	11	28.7	0	0.0
Washington	0	0.0	0	0.0	0	0.0	3	9.4	0	0.0
York	4	2.0	19	9.4	0	0.0	27	13.4	2	1.0
Maine Total	47	3.6	130	9.9	8	0.6	247	18.8	5	0.4

Reportable HIV/STDs, Number of Cases and Rate per 100,000 Persons by County, Maine, 2010

	Chlamydia		Gonorrhea		Syphilis, Primary and Secondary*		HIV	
County	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Androscoggin	289	271.8	51	48.0	0	0.0	7	6.6
Aroostook	128	180.3	6	8.5	2	2.8	0	0.0
Cumberland	629	227.5	55	19.9	22	8.0	23	8.3
Franklin	42	141.7	1	3.4	0	0.0	0	0.0
Hancock	84	157.7	5	9.4	0	0.0	0	0.0
Kennebec	295	243.9	9	7.4	2	1.7	4	3.3
Knox	73	180.0	1	2.5	0	0.0	6	14.8
Lincoln	47	136.7	2	5.8	0	0.0	1	2.9
Oxford	74	132.4	1	1.8	0	0.0	3	5.4
Penobscot	302	203.0	17	11.4	1	0.7	1	0.7
Piscataquis	18	106.7	0	0.0	0	0.0	0	0.0
Sagadahoc	66	183.2	6	16.7	0	0.0	1	2.8
Somerset	101	198.4	0	0.0	0	0.0	1	2.0
Waldo	58	151.2	1	2.6	2	5.2	2	5.2
Washington	48	150.3	2	6.3	0	0.0	0	0.0
York	332	164.7	5	2.5	9	4.5	10	5.0
Maine Total	2586	197.0	162	12.3	39	3.0	59	4.5

*County unknown for one case

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by District, Maine, 2010

Condition	Aroostook		Central		Cumberland		Downeast		Mid Coast	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Anaplasmosis	0	0.0	0	0.0	3	1.1	0	0.0	7	4.7
Babesiosis	0	0.0	0	0.0	0	0.0	0	0.0	3	2.0
Campylobacteriosis	9	12.7	22	12.8	34	12.3	9	10.6	15	10.0
Chlamydia	128	180.3	396	230.4	629	227.5	132	154.9	244	163.4
Cryptosporidosis	7	9.9	21	12.2	5	1.8	6	7.0	18	12.1
Ehrlichia chaffeensis	0	0.0	1	0.6	0	0.0	0	0.0	1	0.7
Giardiasis	2	2.8	28	16.3	82	29.7	21	24.6	25	16.7
Gonorrhea	6	8.5	9	5.2	55	19.9	7	8.2	10	6.7
Haemophilus influenzae, invasive	2	2.8	2	1.2	0	0.0	1	1.2	1	0.7
Hemolytic uremic syndrome	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
HIV	0	0.0	5	2.9	23	8.3	0	0.0	10	6.7
Hepatitis A	0	0.0	0	0.0	0	0.0	2	2.3	4	2.7
Hepatitis B, acute	1	1.4	2	1.2	2	0.7	2	2.3	0	0.0
Hepatitis B, chronic	4	5.6	8	4.7	43	15.5	1	1.2	2	1.3
Legionellosis	0	0.0	1	0.6	1	0.4	1	1.2	3	2.0
Listeriosis	1	1.4	0	0.0	0	0.0	0	0.0	0	0.0

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by District, Maine, 2010

Condition	Penquis		Western		York		State	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Anaplasmosis	1	0.6	1	0.5	5	2.5	17	1.3
Babesiosis	0	0.0	0	0.0	2	1.0	5	0.4
Campylobacteriosis	22	13.3	20	10.4	17	8.4	148	11.3
Chlamydia	320	193.2	405	211.1	332	164.7	2586	197.0
Cryptosporidosis	25	15.1	4	2.1	7	3.5	93	7.1
Ehrlichia chaffeensis	0	0.0	1	0.5	1	0.5	4	0.3
Giardiasis	15	9.1	35	18.2	15	7.4	223	17.0
Gonorrhea	17	10.3	53	27.6	5	2.5	162	12.3
Haemophilus influenzae, invasvie	2	1.2	4	2.1	1	0.5	13	1.0
Hemolytic uremic syndrome	0	0.0	1	0.5	0	0.0	1	0.1
HIV	1	0.6	10	5.2	10	5.0	59	4.5
Hepatitis A	1	0.6	0	0.0	0	0.0	7	0.5
Hepatitis B, acute	4	2.4	1	0.5	1	0.5	13	1.0
Hepatitis B, chronic	3	1.8	23	12.0	17	8.4	101	7.7
Legionellosis	1	0.6	4	2.1	1	0.5	12	0.9
Listeriosis	0	0.0	0	0.0	0	0.0	1	0.1

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by District, Maine, 2010

Condition	Aroostook		Central		Cumberland		Downeast		Mid Coast	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Lyme Disease	4	5.6	96	55.9	180	65.1	36	42.3	174	116.5
Meningococcal invasive disease	0	0.0	1	0.6	1	0.4	1	1.2	1	0.7
MRSA, invasive	5	7.0	22	12.8	25	9.0	1	1.2	17	11.4
Mumps	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pertussis	1	1.4	1	0.6	14	5.1	6	7.0	8	5.4
Rabies, animal	0		16		15		1		6	
Salmonellosis	11	15.5	14	8.1	34	12.3	8	9.4	15	10.0
Shiga toxin producing E. coli	2	2.8	0	0.0	1	0.4	1	1.2	3	2.0
Shigellosis	1	1.4	1	0.6	3	1.1	0	0.0	1	0.7
Streptococcus, invasive Group A	0	0.0	11	6.4	10	3.6	1	1.2	4	2.7
Streptococcus pneumoniae, invasive	5	7.0	27	15.7	38	13.7	1	1.2	13	8.7
Syphilis *county missing for one	2	2.8	2	1.2	22	8.0	0	0.0	2	1.3
Tuberculosis	0	0.0	0	0.0	6	2.2	0	0.0	0	0.0
Varicella (chickenpox)	17	24.0	16	9.3	61	22.1	28	32.9	40	26.8
Vibriosis	0	0.0	1	0.6	1	0.4	0	0.0	0	0.0

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by District, Maine, 2010

Condition	Penquis		Western		York		State	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Lyme Disease	12	7.2	72	37.5	177	87.8	751	57.2
Meningococcal invasive disease	0	0.0	1	0.5	0	0.0	5	0.4
MRSA, invasive	0	0.0	11	5.7	9	4.5	90	6.9
Mumps	0	0.0	1	0.5	0	0.0	2	0.2
Pertussis	18	10.9	4	2.1	1	0.5	53	4.0
Rabies, animal	3		15		6		62	
Salmonellosis	20	12.1	10	5.2	21	10.4	133	10.1
Shiga toxin producing *E. coli*	5	3.0	6	3.1	3	1.5	21	1.6
Shigellosis	0	0.0	0	0.0	2	1.0	8	0.6
Streptococcus, invasive Group A	4	2.4	13	6.8	4	2.0	47	3.6
Streptococcus pneumoniae, invasive	3	1.8	24	12.5	19	9.4	130	9.9
Syphilis *county missing for one	1	0.6	0	0.0	9	4.5	39	3.0
Tuberculosis	0	0.0	2	1.0	0	0.0	8	0.6
Varicella	28	16.9	30	15.6	27	13.4	247	18.8
Vibriosis	0	0.0	1	0.5	2	1.0	5	0.4

Anaplasmosis

2010 Case Total	**17**
Maine Rate	**1.3 per 100,000**
U.S. rate (2009)	**0.4 per 100,000**

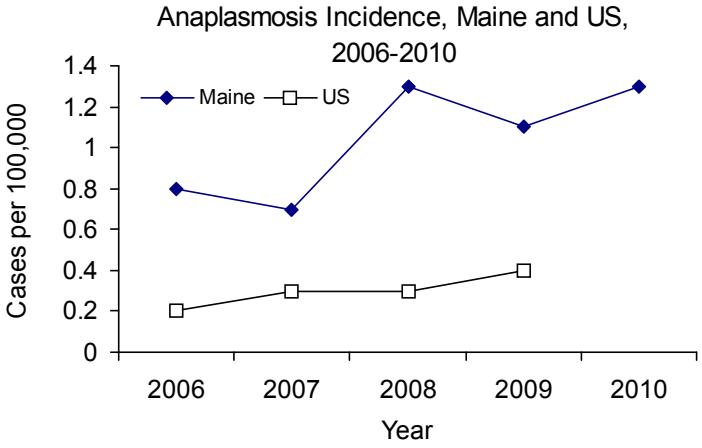
Anaplasmosis is a disease caused by the bacterium, *Anaplasma phagocytophilium*. Anaplasmosis was previously known as human granulocytic ehrlichiosis (HGE) or human granulocytic anaplasmosis (HGA).

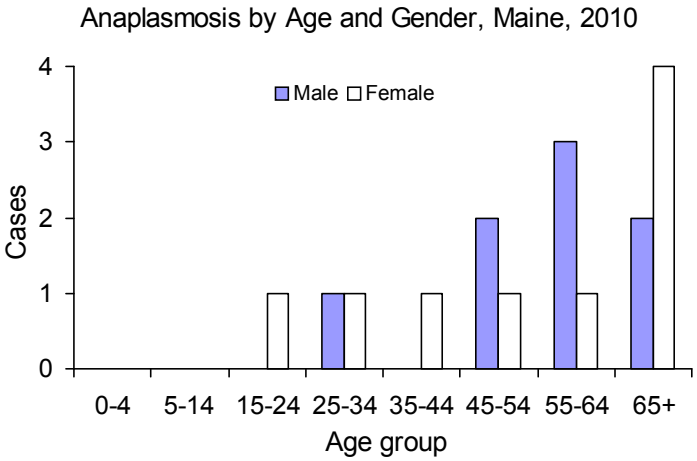
Signs and symptoms of anaplasmosis include: fever, headache, malaise, and body aches. Anaplasmosis is transmitted to a person by the bite of an infected deer tick (*Ixodes scapularis*), one of the most common ticks in Maine.

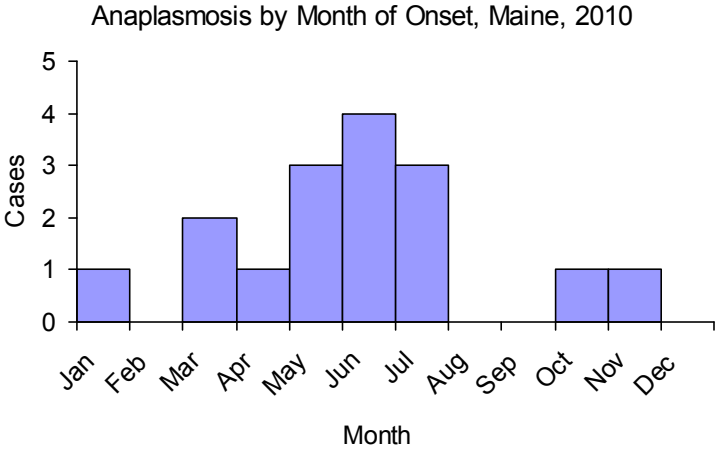
- Case total of 17 represents a increase from 15 cases in 2009
- The 2005-2009 median number of cases per year was 10
- Median age was 60 years
- Age range was 17 to 90 years
- Cases were 53% female and 47% male
- Greatest number of cases occurred during the spring and early summer months

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 anaplasmosis. Also, using EPA approved repellents such as DEET or permethrin applied properly according to the directions, is a good way to protect against ticks. If an engorged tick is found, it should be safely removed and saved for identification.

For more information about submitting a tick for identification visit www.mmcri.org/lyme.







Babesiosis

2010 Case Total	**5**
Maine Rate	**0.4 per 100,000**
U.S. rate (2009)	**Not reportable**

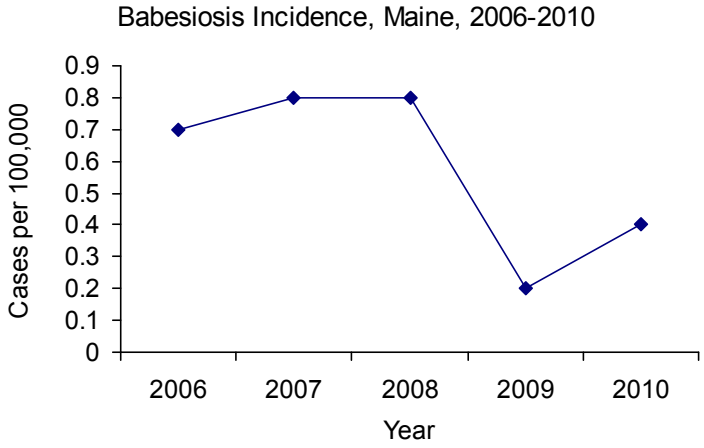
Babesiosis is caused by a parasite that may be carried by ticks. Many individuals that get the disease do not have symptoms. Serious symptoms can occur, especially in persons who are immunosuppressed, those without a spleen, or people who are co-infected with Lyme disease. Babesia may also occur after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

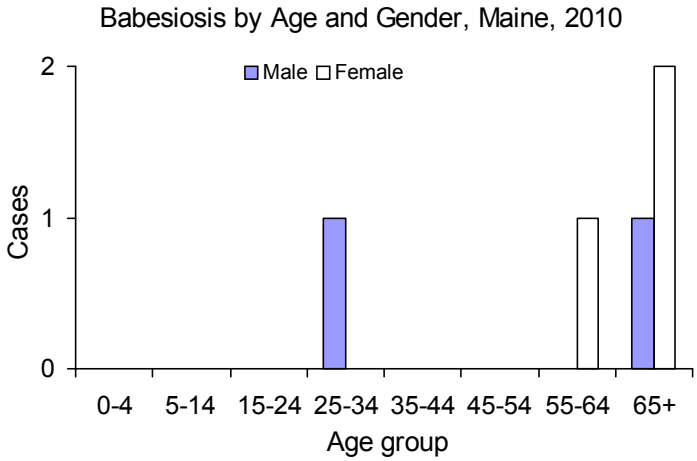
Common symptoms include extreme fatigue, aches, fever, chills, sweating, dark urine, and possibly anemia.

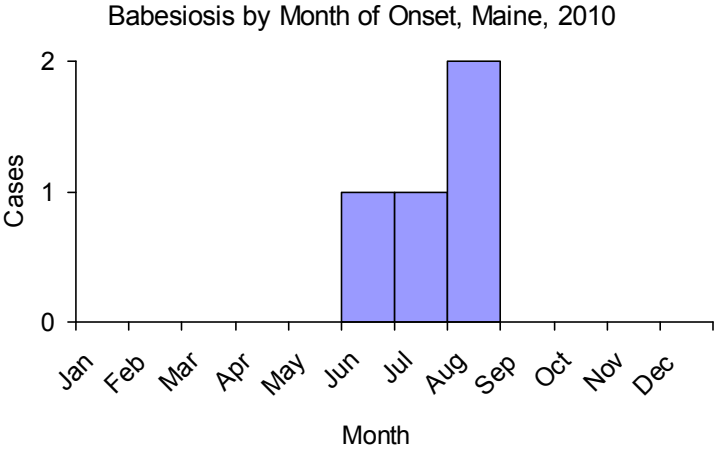
- Case total of 5 represents an increase from 3 cases in 2009
- The 2005-2009 median number of cases was 11
- Median age was 65 years
- Age range was 31 to 74 years
- Cases were 60% female and 40% male
- All cases occurred during the summer months

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. Also, using EPA approved repellents such as DEET or permethrin applied properly according to the directions, is a good way to protect against ticks. If an engorged tick is found, it should be safely removed and saved for identification.

For more information about submitting a tick for identification visit www.mmcri.org/lyme.







Campylobacteriosis

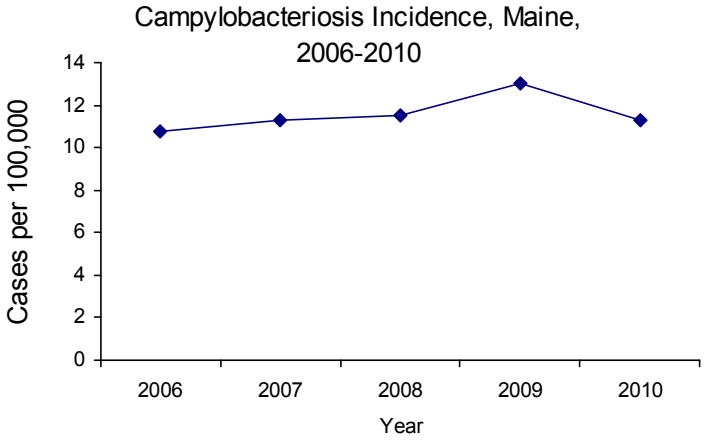
2010 Case Total	**148**
Maine Rate	**11.3 per 100,000**
U.S. rate (2009)	**Not reportable**

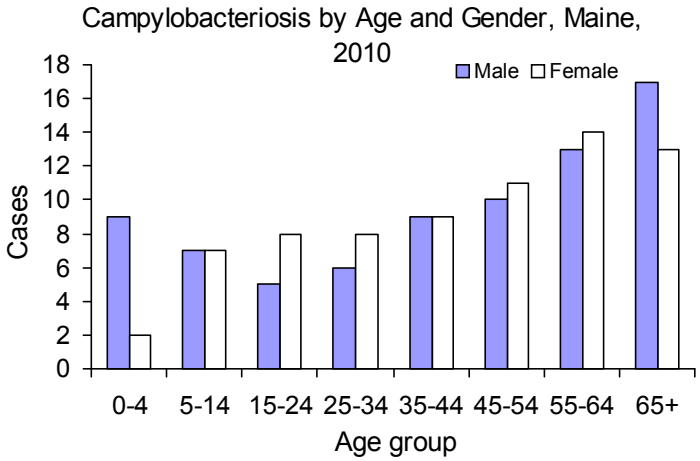
Campylobacteriosis is one of the most common infectious diseases causing diarrhea in the United States. Symptoms include diarrhea, cramping, abdominal pain and fever. Most people recover within 5 to 10 days. Very rarely some individuals develop a disease called Guillain-Barre syndrome which causes temporary paralysis and requires intensive care hospitalization.

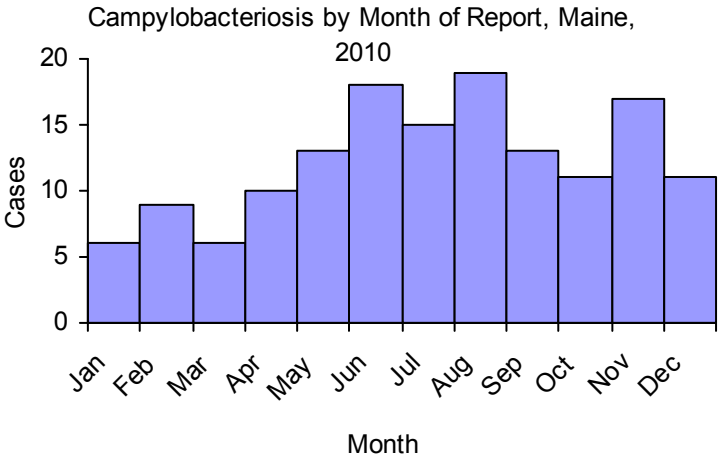
Many cases are associated with handling raw poultry or eating undercooked poultry meat. It is also possible for other raw foods, such as vegetables or salad, to be contaminated if the same cutting board or utensil is used for both food items and not cleaned between preparations.

- Case total of 148 represents a decrease from 171 cases in 2009
- The 2005-2009 median number of cases was 151
- Median age was 45 years
- Age range was 18 days to 86 years
- Cases were 49% female and 51% male
- Highest rates in Cumberland, Penobscot and York counties
- Greatest number of cases occurred during the summer months and early fall

To prevent illness, individuals should cook poultry and other meats properly, avoid consuming untreated water, raw milk and milk products, and unpasteurized juice.







Chlamydia

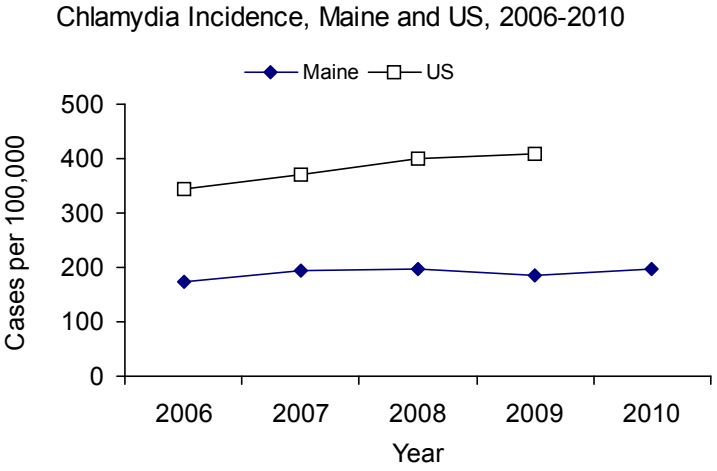
2010 Case Total **2,586**
Maine Rate **197 per 100,000**
U.S. rate (2009) **409.2 per 100,000**

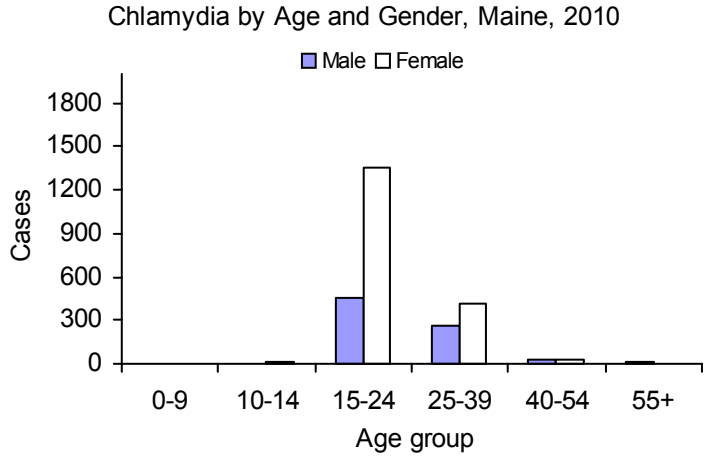
Chlamydia is a sexually transmitted disease (STD) caused by the bacterium *Chlamydia trachomatis.* Chlamydia is known as a "silent" disease, as three quarters (75%) of women and half (50%) of men will have no symptoms. Common symptoms for women include vaginal discharge or a burning feeling with urination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

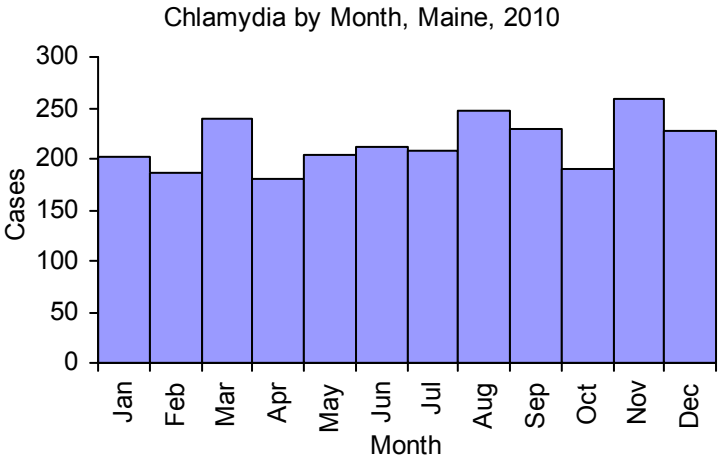
If chlamydia is not treated, the infection may cause serious damage to the reproductive system, including infertility. Chlamydia can be passed to a child during birth. People with chlamydia can more easily contract HIV from someone else or transmit HIV to others if they are infected with both.

- Chlamydia is the most frequently reported STD in Maine
- The 5 year trend shows that three women were diagnosed for every one man
- 70% of infections were in persons 15-24 years old

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 are primarily through prioritized follow up activities for new diagnosis, 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 the three STD clinics (Bangor, Portland and Lewiston).







Cryptosporidiosis

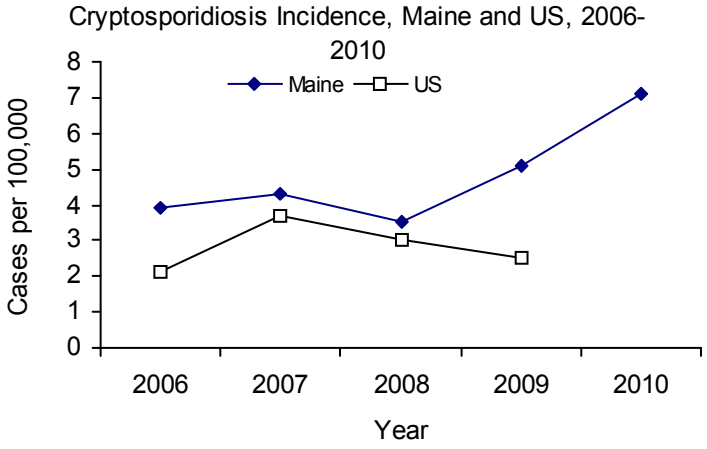
2010 Case Total **93**
Maine Rate **7.1 per 100,000**
U.S. rate (2009) **2.5 per 100,000**

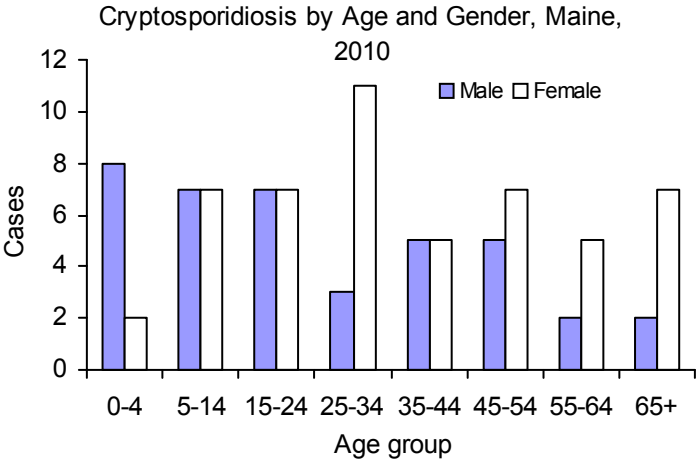
Cryptosporidiosis is an infection most frequently associated with contaminated water. The disease is caused by a parasite that lives in the intestines of animals and infected humans. Feces containing the parasite may contaminate the ground or water sources. The parasite may live for long periods of time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

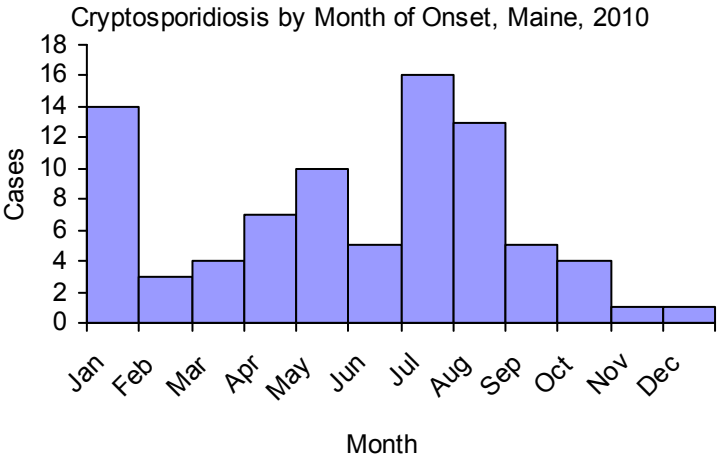
Symptoms include diarrhea, abdominal cramping, malaise and vomiting.

- Case total of 93 represents an increase from 67 cases in 2009
- The 2005-2009 median number of cases per year was 52
- Median age was 30 years
- Age range was 7 months to 93 years
- Cases were 57% female and 43% male
- Highest incidence was in Penobscot, Kennebec, and Somerset counties
- Greatest number of cases occurred during the summer months

Preventive measures include practicing good hand hygiene around farm animals and discouraging any persons from swimming when they have diarrheal illness.







Ehrlichiosis

2010 Case Total **4**
Maine Rate **0.3 per 100,000**
U.S. rate (2009) **0.3 per 100,000**

Ehrlichiosis is a disease caused by the bacterium *Ehrlichia chaffeensis* which infects white blood cells (monocytes). *Ehrlichia chaffeensis* was previously known as human monocytic ehrlichiosis (HME).

Signs and symptoms of ehrlichiosis include: fever, headache, nausea, and body aches. Ehrlichiosis is transmitted to a person through the bite of an infected lone star tick (*Amblyomma americanum*), an uncommon tick in Maine.

- Case total of 4 probable cases represents an increase from 1 probable case in 2009
- The 2005-2009 median number of cases per year was 1

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 ehrlichiosis. Also, using EPA approved repellents such as DEET or permethrin applied properly according to the directions, is a good way to protect against ticks. If an engorged tick is found, it should be safely removed and saved for identification.

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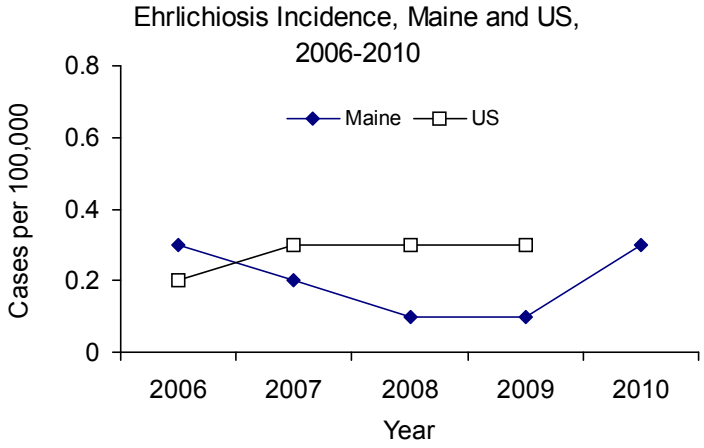
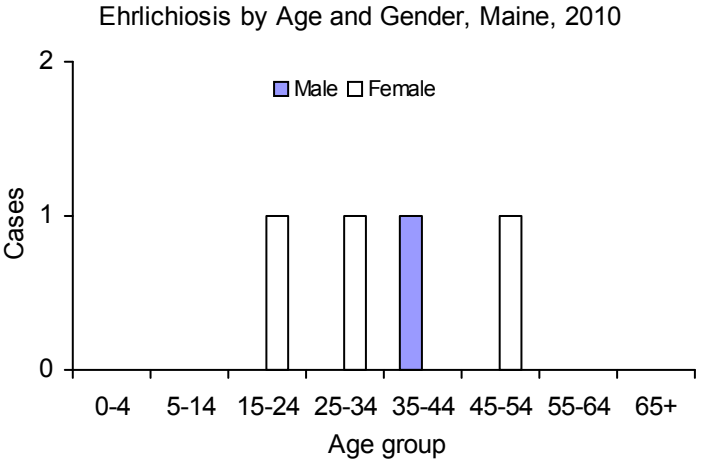
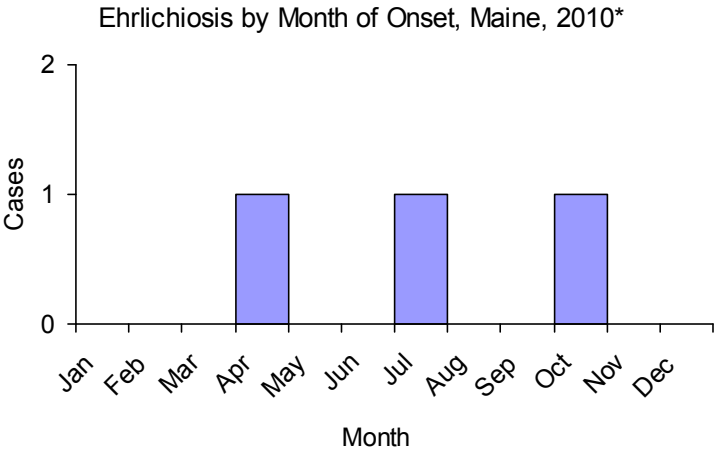






*onset date missing for one case

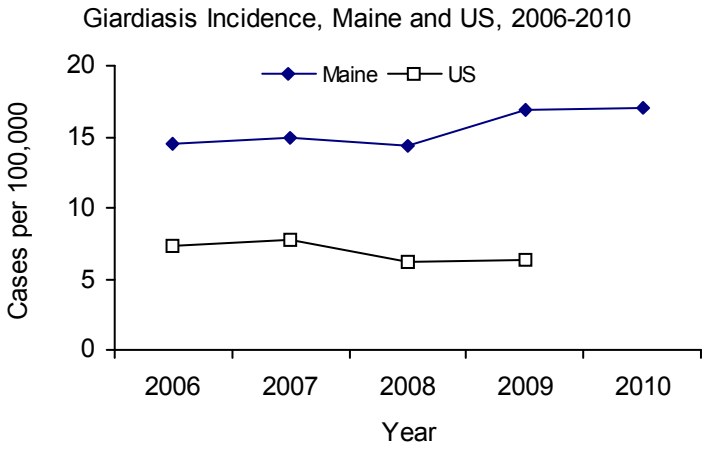
Giardiasis

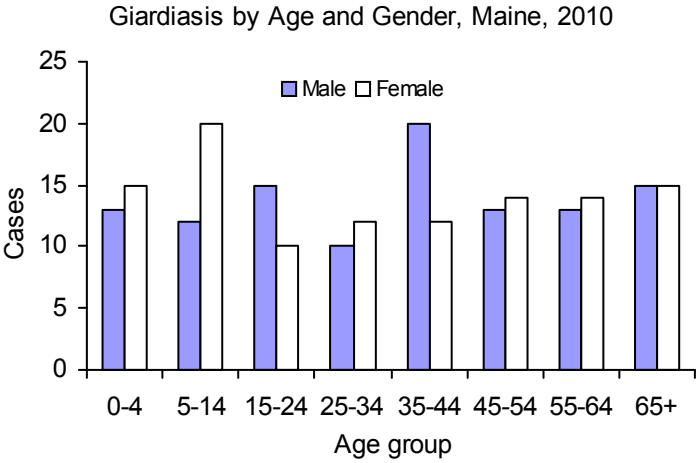
2010 Case Total **223**
Maine Rate **17 per 100,000**
U.S. rate (2009) **6.3 per 100,000**

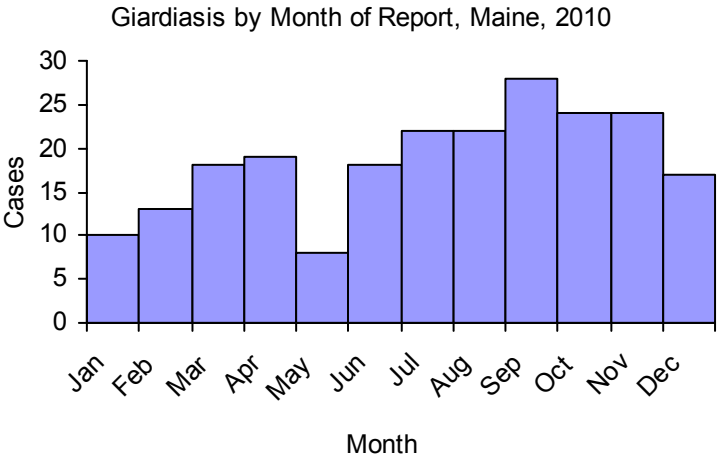
Giardiasis is sometimes known as "beaver fever" because beavers (as well as dogs, cats, horses and cows) are major reservoirs for the parasite (*Giardia lamblia*) that causes the infection. The parasite lives in the intestines of infected humans and animals and when expelled through the feces can contaminate water and ground surfaces. The animal feces can infect ponds and streams and if hikers or others drink water in the wild 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.

- Case total of 223 represents the same number of cases as 2009
- The 2005-2009 median number of cases per year was 197
- Median age was 35 years
- Age range was 9 months to 90 years
- Cases were 50% female and 50% male
- Highest incidence was in Cumberland and Androscoggin 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

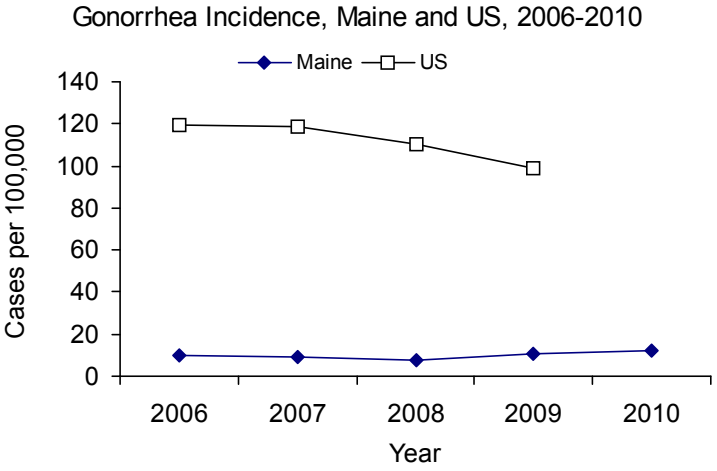
2010 Case Total **162**
Maine Rate **12.3 per 100,000**
U.S. rate (2009) **99.1 per 100,000**

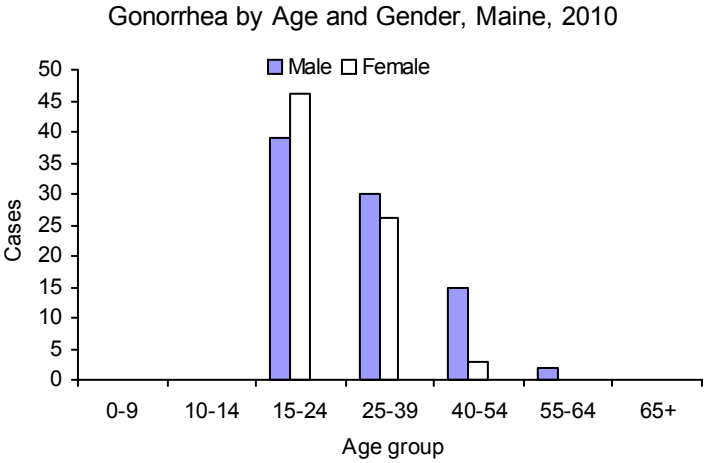
Gonorrhea is a sexually transmitted disease (STD) caused by the bacterium *Neisseria gonorrhoeae* that grows and multiplies in warm, moist areas. Gonorrhea can be spread through contact with the vagina, penis, mouth or anus. Gonorrhea can also spread from a mother to her baby during childbirth. Gonorrhea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

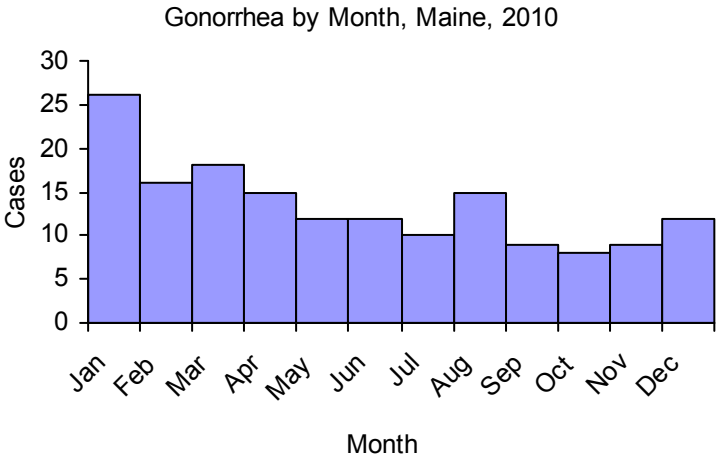
Gonorrhea is dangerous if untreated. In women, gonorrhea is a common cause of pelvic inflammatory disease, which can lead to chronic pain and infertility. In men, gonorrhea can cause epididymitis, causing painful testicles and infertility. People infected with HIV are more likely to contract gonorrhea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

- Case total of 162 represents an increase from 143 cases in 2009
- Highest incidence was in the 20-24 year age group (36% of female cases and 38% of male cases)
- Cases were 47% female and 53% male

Gonnorhea 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 and their partners.







Group A Streptococcal Disease

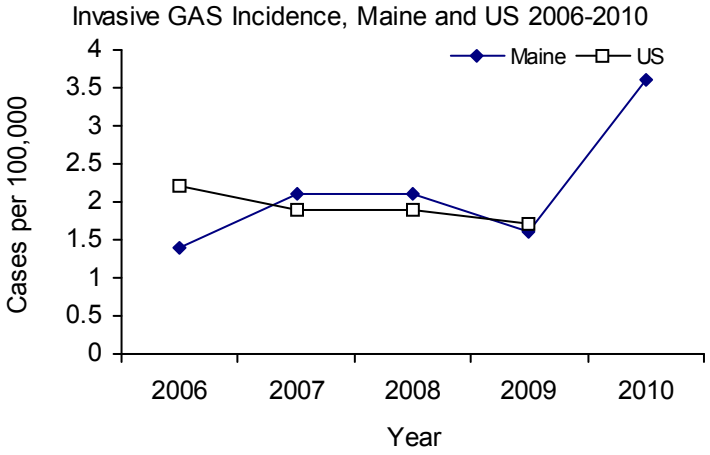
2010 Case Total **47**
Maine Rate **3.6 per 100,000**
U.S. rate (2009) **1.7 per 100,000**

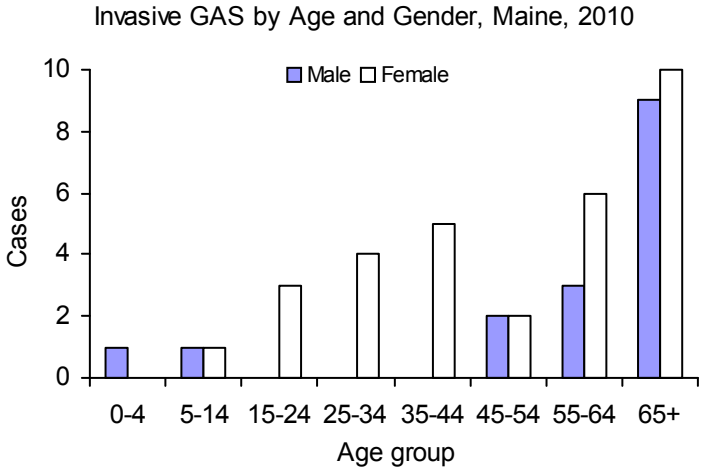
Group A Streptococcus (GAS) is a bacterium often found in the throat and on the skin that can cause either no symptoms or mild symptoms such as pharyngitis (strep throat), cellulitis (soft tissue infection) or impetigo (skin dermatitis). When the bacteria enter deeper tissues and the blood stream, GAS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

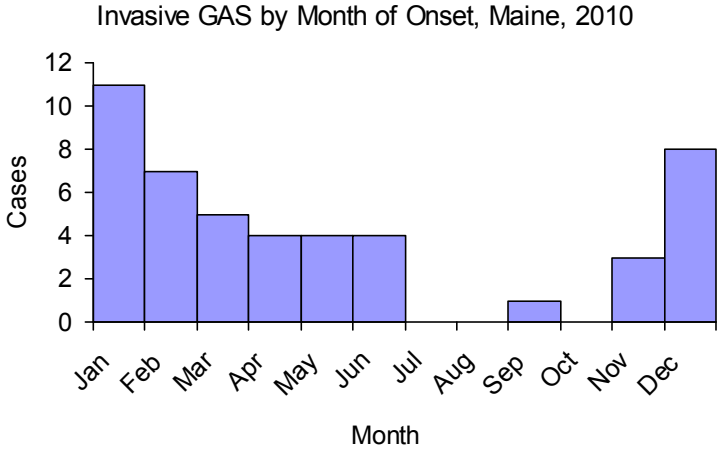
Necrotizing fasciitis, a condition that progressively destroys skin, fat and muscles, can be caused by GAS. Another example of an invasive GAS disease is Streptococcal Toxic Shock Syndrome (STSS), a rapid drop of blood pressure that causes organ failure.

- Case total of 47 represents an increase from 21 cases in 2009
- The 2005-2009 median number of cases per year was 21
- Median age was 62 years
- Age range was 9 months to 95 years
- Cases were 66% female and 34% male
- 21 (45%) of 47 cases were also diagnosed with STSS

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).







Haemophilus influenzae

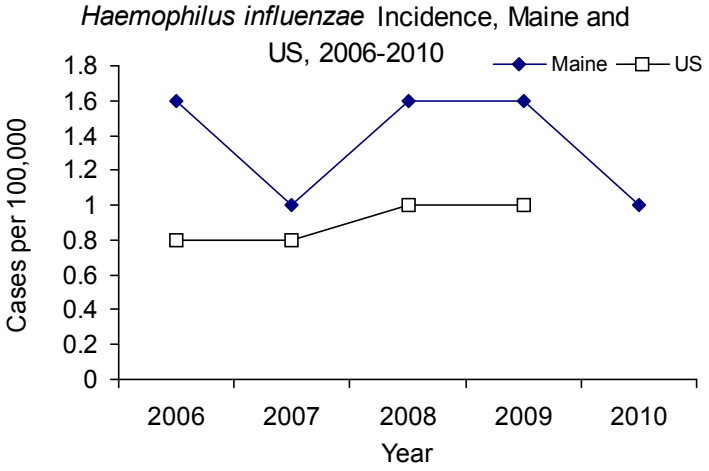
2010 Case Total	**13**
Maine Rate	**1.0 per 100,000**
U.S. rate (2009)	**1.0 per 100,000**

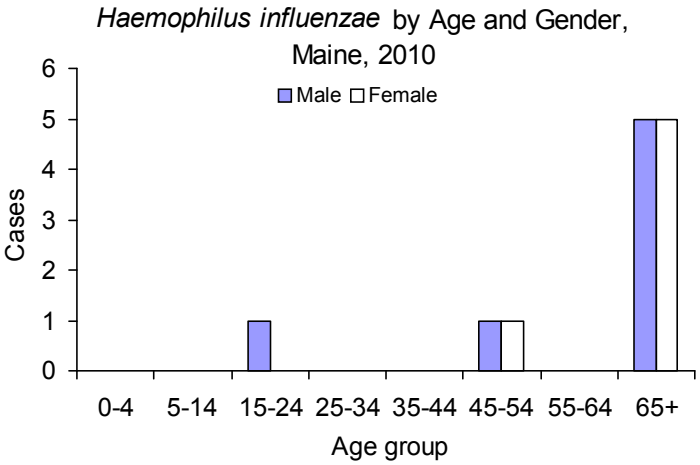
Haemophilus influenzae disease is caused by the *Haemophilus influenzae* bacterium. A specific type called *H. influenzae* serotype B (Hib), was once the most common cause of bacterial meningitis in children. Due to widespread use of Hib vaccine, few cases in children less than 5 years old are reported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

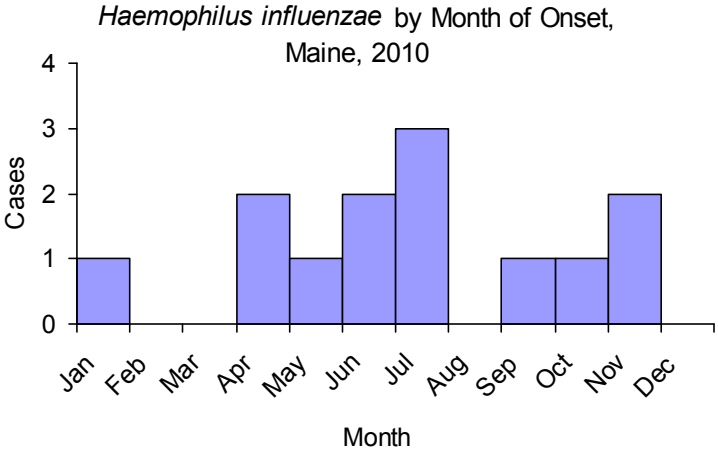
The bacteria are spread from person to person, through airborne droplets, when an infected person coughs or sneezes. *H. influenzae* can cause severe illnesses such as meningitis, bacteremia, pneumonia and septic arthritis.

- Case total of 13 represents a decrease from 21 cases in 2009
- The 2005-2009 median number of cases per year was 21
- Median age was 73 years
- Age range was 22 years to 90 years
- Cases were 46% female and 54% male
- No cases of Hib in children aged < 15 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

2010 Case Total **7**
Maine Rate **0.5 per 100,000**
U.S. rate (2009) **0.7 per 100,000**

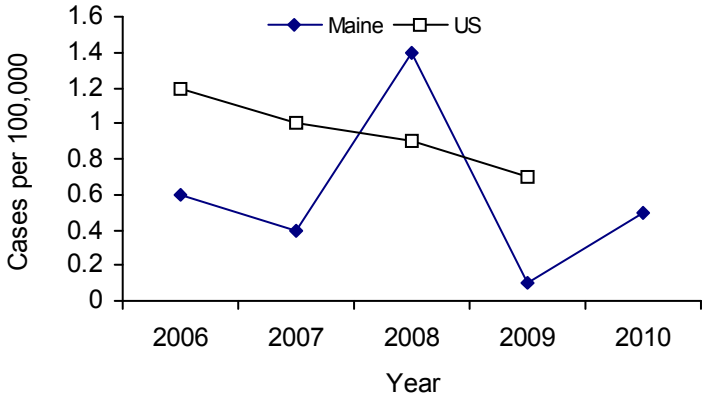
Hepatitis A is a liver disease caused by hepatitis A virus. The virus is spread from person to person by putting something in the mouth that has been contaminated with the stool of a person with hepatitis A. Poor handwashing by persons with infection increases the risk of transmission. The virus spreads 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.

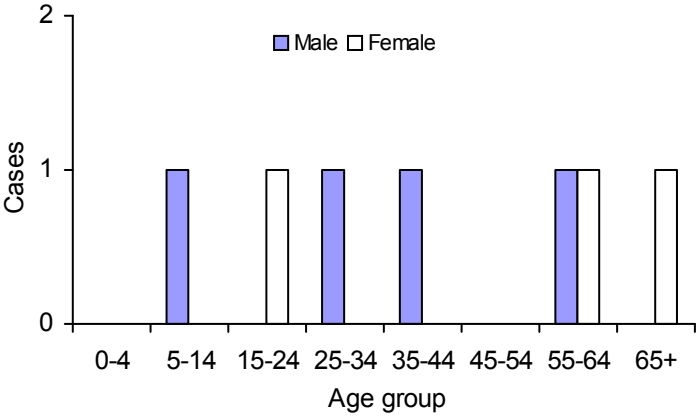
- Case total of 7 represents an increase from 1 case in 2009
- The 2005-2009 median number of cases per year was 8

Washing hands after using the bathroom, changing a diaper, or before preparing or eating food can help prevent infection. Hepatitis A can be prevented through vaccination and use of immune globulin. The vaccine is recommended for all children at 12 months of age and for persons who are more likely to get hepatitis A or become seriously ill if they get hepatitis A.

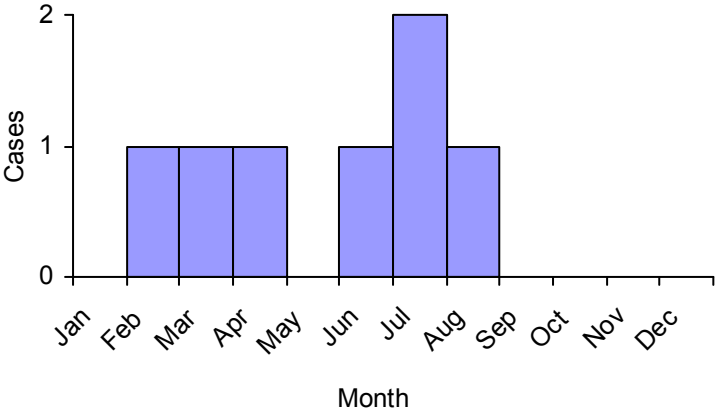
Hepatitis A Incidence, Maine and US, 2006-2010



Hepatitis A by Age and Gender, Maine, 2010



Hepatitis A by Month of Onset, Maine, 2010



Hepatitis B, acute

2010 Case Total **13**
Maine Rate **1.0 per 100,000**
U.S. rate (2009) **1.1 per 100,000**

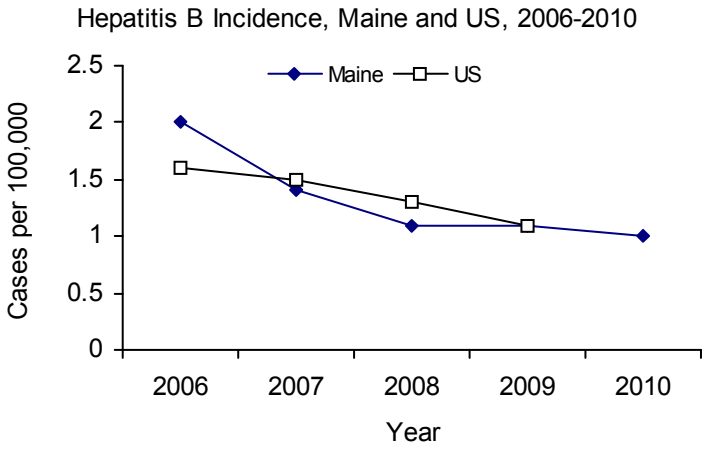
Hepatitis B is a liver disease caused by the hepatitis B virus. Acute Hepatitis B infection is a short-term illness that occurs within the first six months after someone is exposed to the virus. In some cases, acute infection can lead to chronic infection.

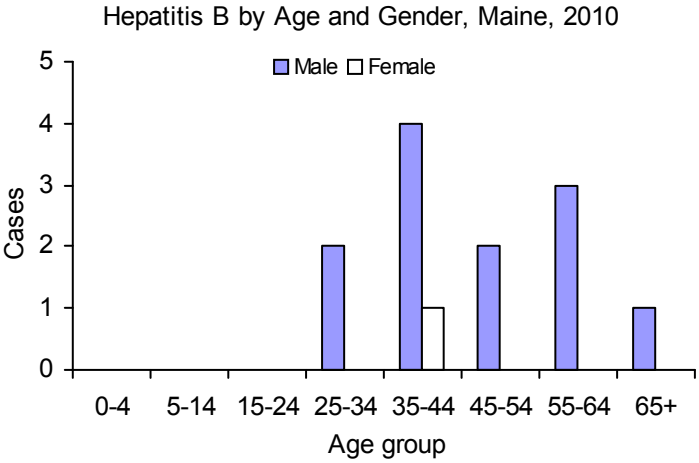
Hepatitis B can be transmitted through exposure to blood from an infected person (needle sticks and other sharps exposures, sharing hypodermic syringes for drug injection), through sexual contact with an infected person, and from an infected mother to her child during childbirth. Sexual transmission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

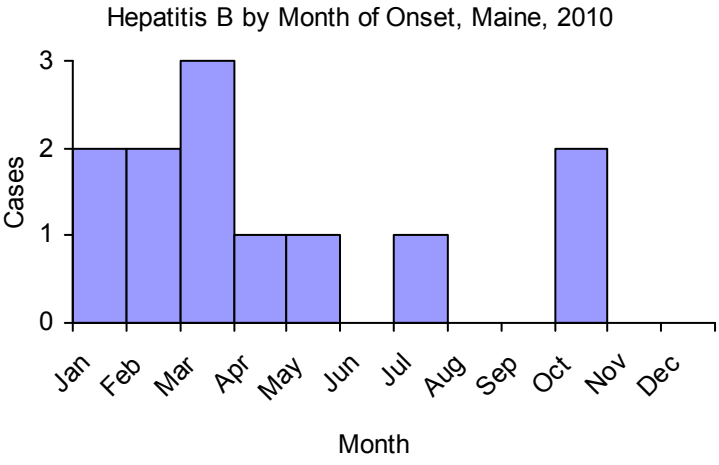
Symptoms include anorexia, abdominal discomfort, nausea and vomiting followed by jaundice. Many young children do not develop symptoms.

- Case total of 13 represents a decrease from 15 cases in 2009
- The 2005-2009 median number of cases per year was 15
- Median age was 44 years
- Age range was 27 to 72 years
- Cases were 8% female and 92% male

A vaccine is available to prevent HBV and Maine CDC's goal is to provide universal childhood immunization by vaccinating all newborn infants prior to hospital discharge and completing the hepatitis B series by the time the child reaches 18 months of age. Hepatitis B can also be prevented by not sharing needles and other drug injecting equipment, using sterile needles and syringes, and using condoms.







Hepatitis B, chronic

2010 Case Total	**101**
Maine Rate	**7.7 per 100,000**
U.S. rate (2009)	**Not available**

Chronic hepatitis B virus infection is a long-term illness that occurs when the hepatitis B virus remains in a person's body.

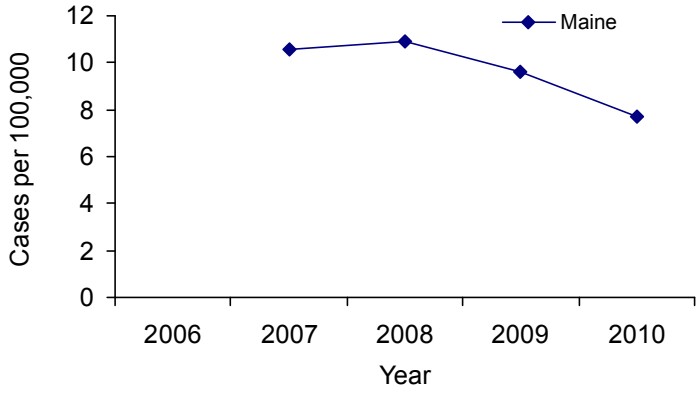
Chronic hepatitis B is a serious disease that can result in long-term health problems, such as cirrhosis (scarring) of the liver, liver cancer, liver failure, and even death. Many people do not have symptoms and may not know they are infected, but can still spread the disease to others.

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

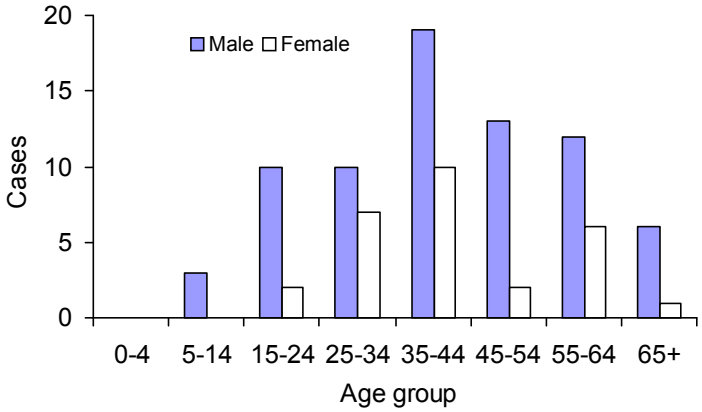
- Case total of 101 represents a decrease from 126 cases in 2009
- Median age was 41 years
- Age range was 9 to 79 years
- Cases were 28% female and 72% male

Prevention, education, evaluation and surveillance continue to be the focus for Maine CDC. Maine CDC's goal is to provide universal childhood immunization by vaccinating all newborn infants prior to hospital discharge and completing the hepatitis B series by the time the child reaches 18 months of age. Hepatitis B can also be prevented by not sharing needles and other drug injecting equipment, using sterile needles and syringes, and using condoms.

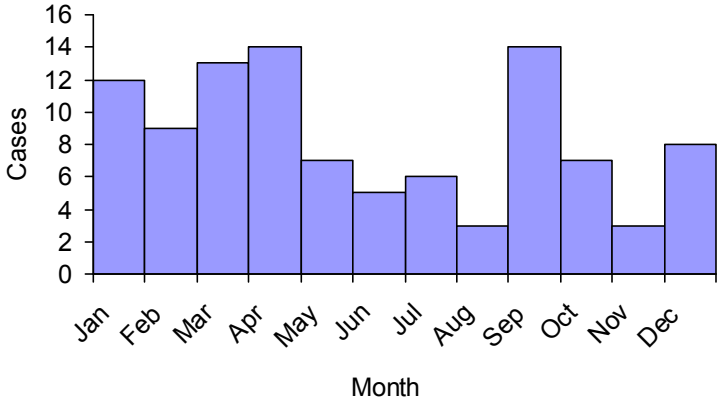
Hepatitis B Incidence, Maine and US, 2006-2010



Hepatitis B by Age and Gender, Maine, 2010



Hepatitis B by Month of Report, Maine, 2010



Hepatitis C

2010 Case Total **1142**
Maine Rate **87.0 per 100,000**
U.S. rate (2009) **N/A**

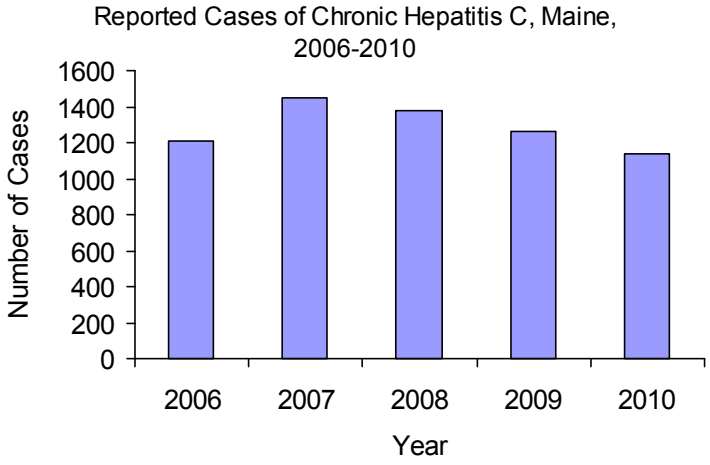
Hepatitis C is a liver disease caused by hepatitis C virus. It can range in severity from a mild illness lasting a few weeks to a serious, lifelong illness or even death. Hepatitis C virus (HCV) is spread when blood from a person infected with the HCV enters the body of someone who is not infected. Many people become infected with the HCV virus by sharing needles or other injection drug equipment.

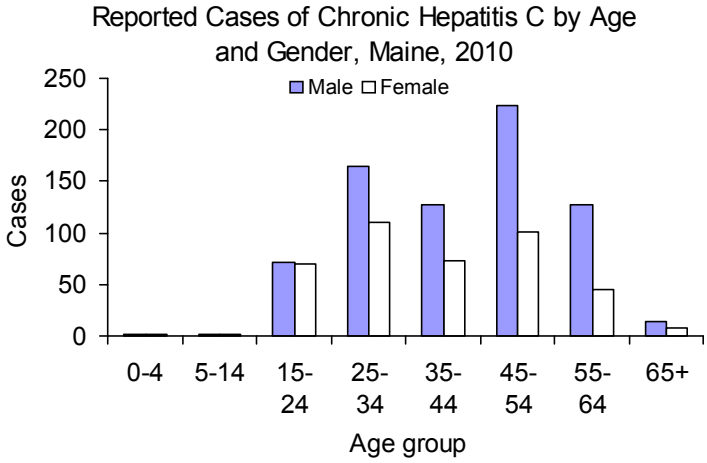
Most people with chronic HCV do not have any symptoms. In many cases, symptoms only appear when liver problems develop. In persons without symptoms, HCV is often detected during routine blood tests to measure liver function and liver enzyme level.

A hepatitis C positive report is defined as the presence of any positive serologic marker for hepatitis C infection.

- Case total of 1142 represents a decrease from 2009
- Age range was 2 to 83 years
- Highest number of cases reported among people 45-54 years old
- Cases were 64% male and 36% female, with one person unidentified
- Two cases of acute hepatitis C infection were reported

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





HIV*

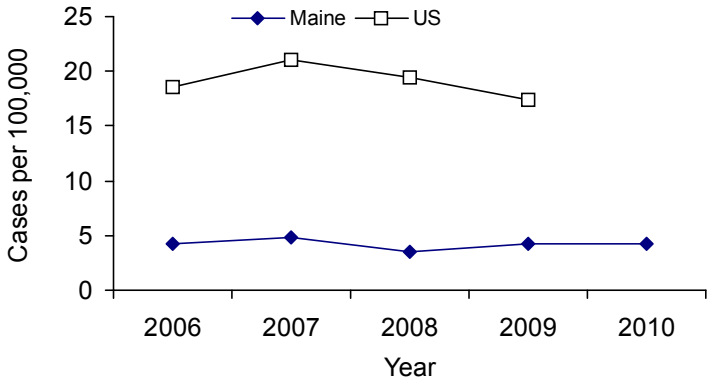
2010 Case Total **59**
Maine Rate **4.3 per 100,000**
U.S. rate (2009) **17.4 per 100,000**

Human immunodeficiency virus (HIV) is a virus that is responsible for HIV disease and acquired immuno-deficiency 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 breast-feeding; 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. Other common transmission modes in Maine include non-prescription injection drug use and heterosexual partner at high risk for HIV infection.

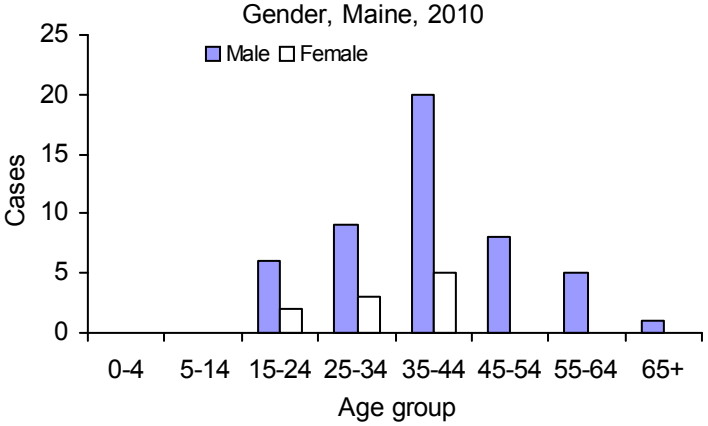
- Case total of 59 represents an increase from 57 cases in 2009
- The 2005-2009 median number of cases per year was 52
- Age range was 18-69 years
- Majority of cases were male (83%)
- 59% of cases reported risk factor of males who have sex with other males
- Highest incidence was in people 40-49 years old (36%)

HIV transmission can be prevented by the use of latex or polyurethane condoms and dental dams during anal, vaginal, and oral 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**, 2006-2010



Newly Identified HIV Diagnoses by Age and Gender, Maine, 2010



Reported Transmission Risk Factors Among Persons Diagnosed with HIV, 2010

Mode of Transmission	New Diagnoses
Men who have sex with men (MSM)	35
Injection drug users (IDU)	3
MSM/IDU	3
Heterosexual contact with at-risk partners	3
Heterosexual, no at-risk partners disclosed	13
Undetermined	2
Received contaminated blood products	0
Child born to mother with HIV	0

*Includes all newly identified HIV infections, including those simultaneously diagnosed as new AIDS cases.
**Based on reports from 40 reporting states.

Legionellosis

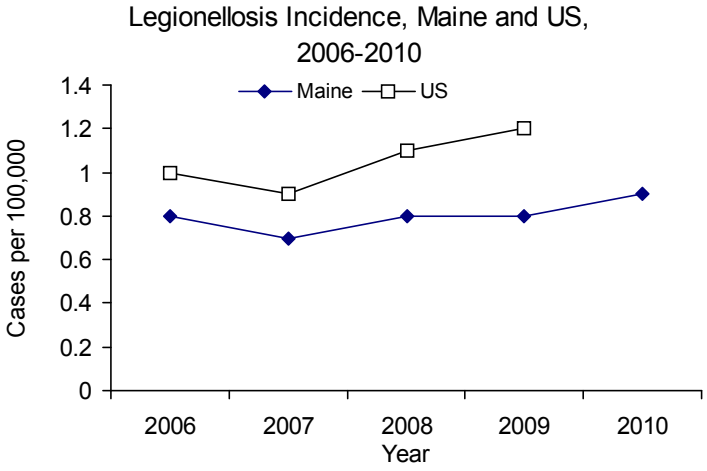
2010 Case Total **12**
Maine Rate **0.9 per 100,000**
U.S. rate (2009) **1.2 per 100,000**

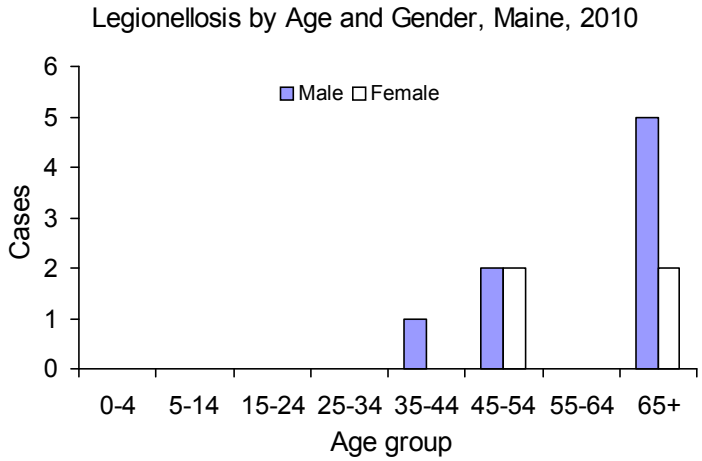
Legionellosis (or Legionnaire's disease) is a serious and sometimes fatal form of pneumonia. *Legionella* bacteria are widespread in natural, industrial and recreational water sources. The bacteria grow best in warm, stagnant water. They can be found in creeks and ponds, hot and cold water taps, hot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

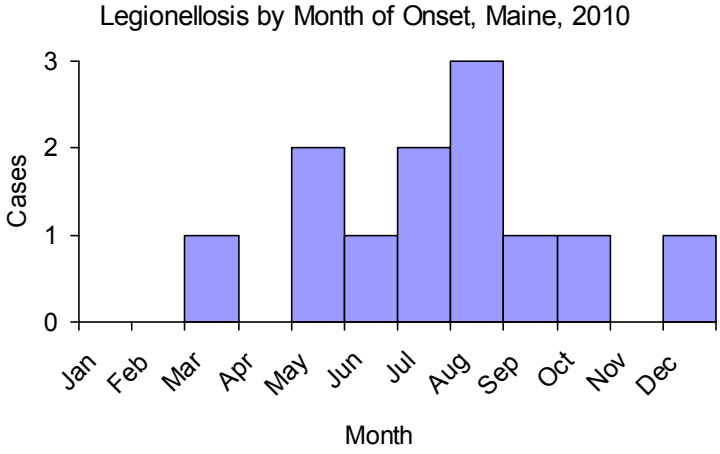
Symptoms include high fever, chills, muscle aches, headaches, cough and pneumonia. Legionellosis is treatable with antibiotics.

- Case total of 12 represents a increase from 10 cases in 2009
- The 2005-2009 median number of cases per year was 10
- Median age was 67 years
- Age range was 42 to 81 years
- Cases were 33% female and 67% 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

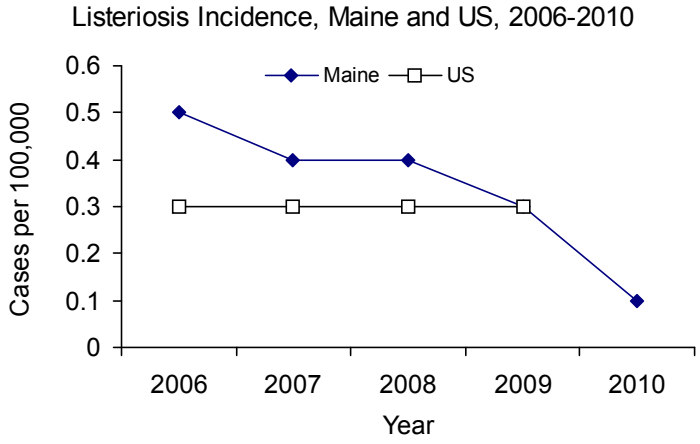
2010 Case Total **1**
Maine Rate **0.1 per 100,000**
U.S. rate (2009) **0.3 per 100,000**

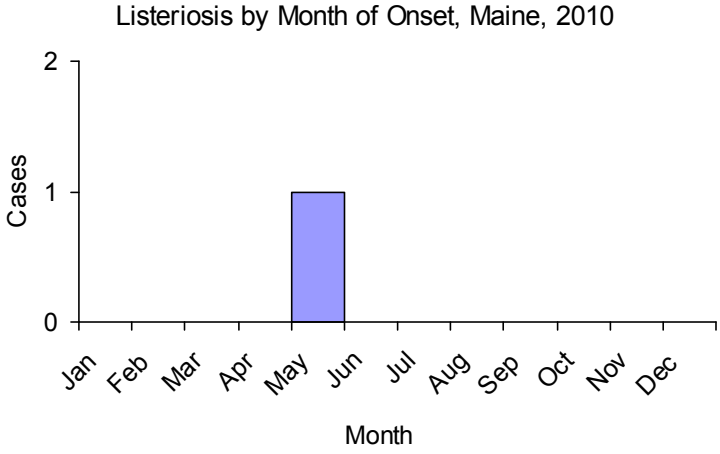
Listeriosis is a bacterial illness, caused by *Listeria monocytogenes*. Infection may cause sepsis and meningitis. Listeriosis is frequently linked to ready-to-eat meats (such as pate and refrigerated smoked seafood), deli meats, soft cheeses and raw milk. Pregnant women are at highest risk as the infection can be acquired during pregnancy and 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.

- Case total of 1 represents a decrease from 4 cases in 2009
- The 2005-2009 median number of cases per year was 5 cases
- The one case was 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

2010 Case Total	**751**
Maine Rate	**57.2 per 100,000**
U.S. Rate (2009)	**12.5 per 100,000**

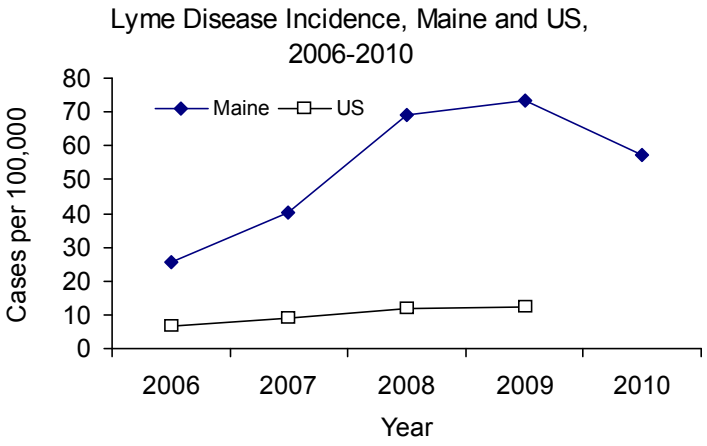
Lyme disease, Maine's most common vectorborne disease in humans, is caused by the bacterium *Borrelia burgdorferi*. The disease is transmitted via the bite of an infected deer tick (*Ixodes scapularis)* and symptoms are generally visible around 3 days after the initial bite. The typical "bulls-eye" rash can be followed by fever, headache, joint and muscle pain, fatigue, and later, arthritis, Bell's palsy and other cranial nerve palsies, meningitis, and carditis.

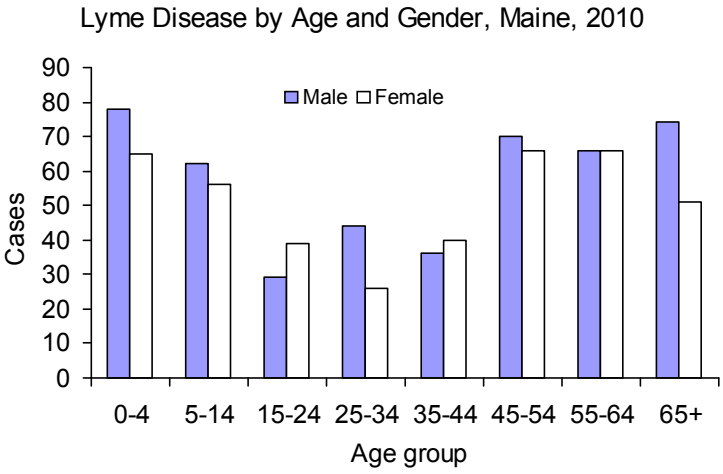
The case definition for classifying cases changed effective January 1, 2008, and included a probable case definition which led to a higher case count than previous years.

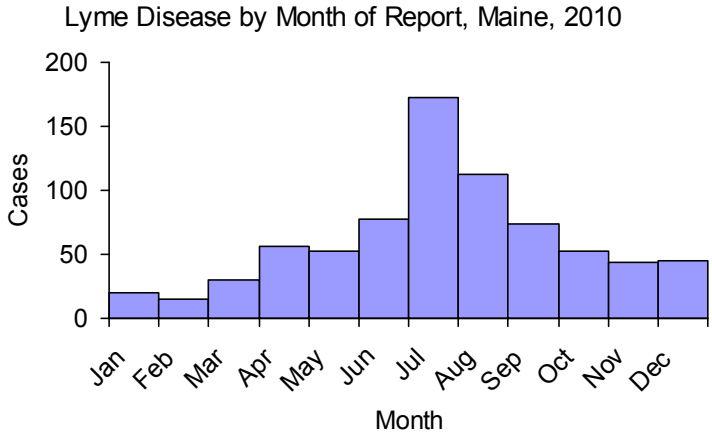
- Case total of 751 represents an decrease from 970 cases in 2009
- The 2005-2009 median number of cases per year was 528
- Median age was 46 years
- Age range was 1 to 91 years
- Cases were 47% female and 53% male
- Most cases occurred during summer months (48% in June-August)
- Cases were greatest in York (24%) and Cumberland (24%) counties

Although there is no vaccine for Lyme disease, risk can be greatly reduced by avoiding tick habitats, using EPA approved insect 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 visit www.mmcri.org/lyme.







Meningococcal Disease

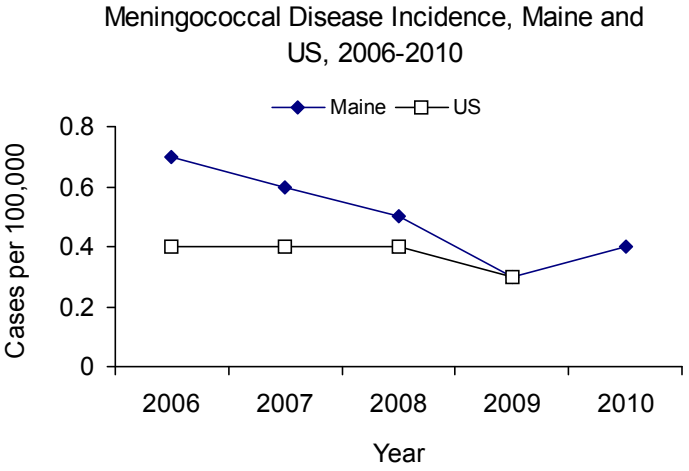
2010 Case Total **5**
Maine Rate **0.4 per 100,000**
U.S. rate (2009) **0.3 per 100,000**

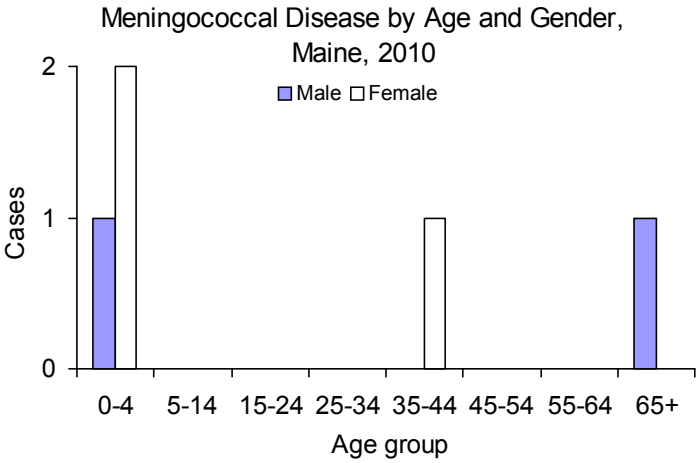
Meningococcal disease is an infection caused by *Neisseria meningitidis,* a gram-negative diplococcus bacterium. Meningococcal disease presents most commonly as meningitis and/or meningococcemia that may progress rapidly to purpura fulminans, shock and death. Transmission of meningococcal disease most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

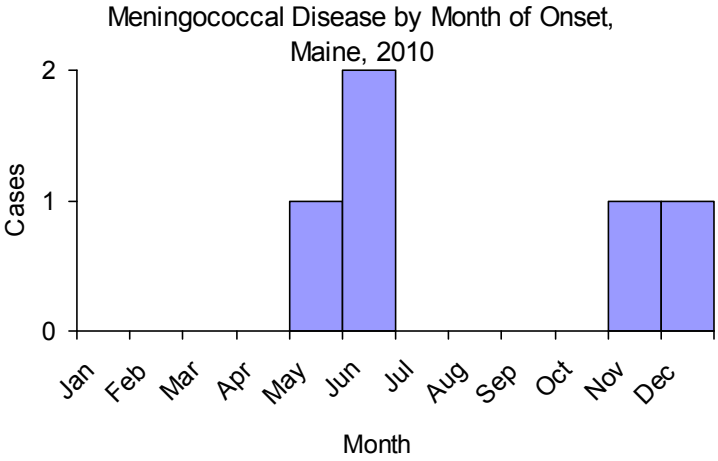
Symptoms include fever, headache, and stiff neck for meningitis and rash and sepsis for meningococcemia. The symptoms are indistinguishable from other pathogens causing meningitis.

- Case total of 5 represents an increase from 4 cases in 2009
- The 2005-2009 median number of cases per year was 6
- Median age was 2 years
- Age range was 1 to 94 years
- Cases were 60% female and 40% male
- Serogroups identified include: B(3), Y(1), and unknown(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 with a person with the infection.







MRSA, invasive

2010 Case Total **90**
Maine Rate **6.9 per 100,000**
U.S. rate (2009) **Not reportable**

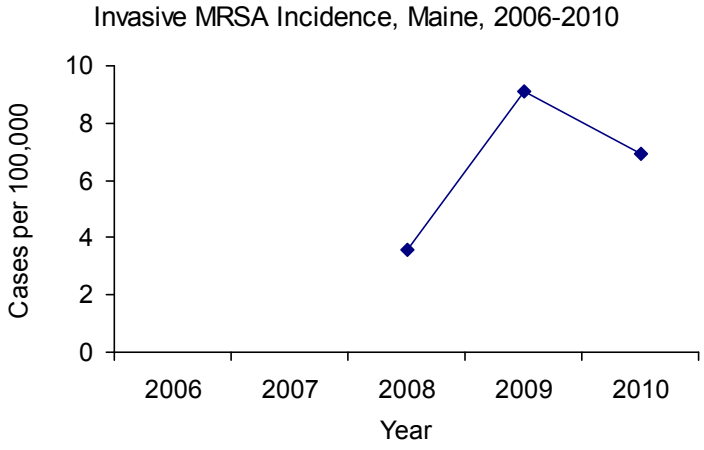
Since 2008, all cases of invasive Methicillin-Resistant *Staphylococcus aureus* (MRSA) are reportable, regardless of community or hospital acquired status.

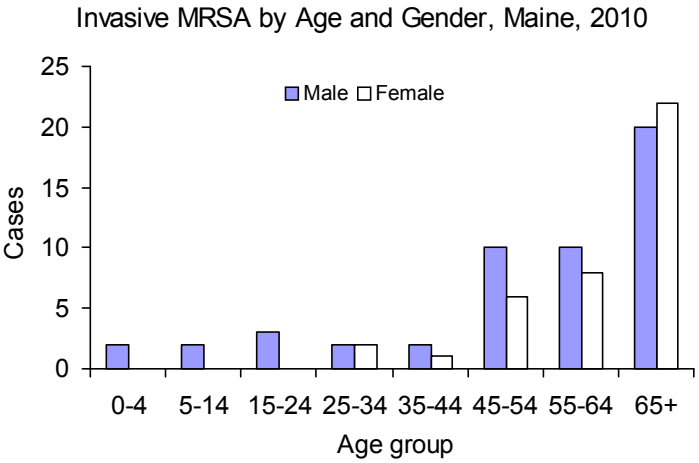
MRSA is caused by a strain of bacteria which is resistant to the antibiotic methicillin and many of the antibiotics commonly used to treat staphylococcal infections. MRSA is becoming more common in the community, usually presenting as a skin or soft tissue infection, considered a non-invasive infection. Non-invasive MRSA infections are frequently transmitted to household members and close contacts by exposure to drainage or infectious secretions. Invasive MRSA is when the bacteria infects internal systems and is isolated from a normally sterile site (such as blood or CSF)

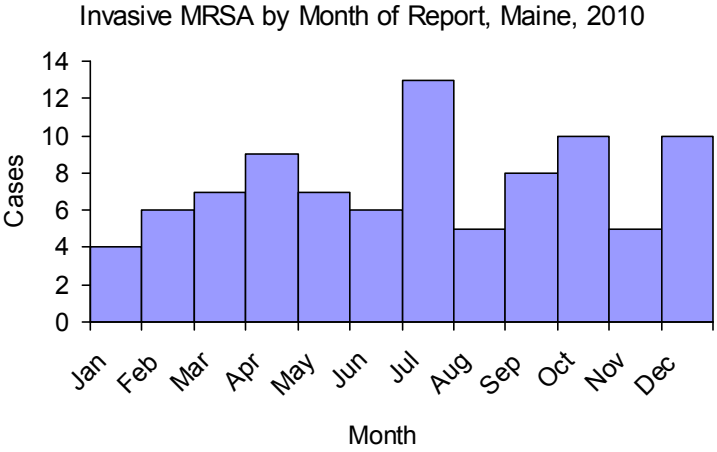
Persons with weakened immune systems, the elderly, and those with invasive medical devices are at increased risk of invasive MRSA infections.

- Case total of 90 represents a decrease from 120 cases in 2009
- Median age was 63 years
- Age range was 2 to 97 years
- Cases were 43% female and 57% 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







Mosquito Borne Infections

Mosquitoes are found around the world. Female mosquitoes suck blood, making them an important disease vector. There are 45 species of mosquitoes in Maine, some of which are capable of carrying 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. Many 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 regarded as one of the most serious mosquito-borne diseases in the United States because of its high mortality rate.

In 2010, one turkey tested positive for EEE in Maine. 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 2010, one mosquito pool tested positive for WNV in Maine.

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.

In 2010, there were six cases of malaria reported in individuals who had a history of travel outside the US (Haiti, Honduras, Uganda, Cameroon, Ghana, Togo, Benin).

Dengue Fever
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.

In 2010, there were six probable cases of Dengue fever reported to the state. Dengue virus is not common in the United States, but has been locally acquired in Florida and Hawaii. All cases in 2010 had travelled internationally (Haiti, US Virgin Islands, India, Indonesia) during their exposure period.

Prevention
To lower the chances of contracting a mosquito-borne disease, measures should be taken to prevent mosquito bites:

- Use an EPA approved insect 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 directions 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 especially abundant, stay indoors
- Mosquito proof your house by fixing or installing window screens or screen doors
- Control mosquito populations around your home by cleaning gutters, removing or emptying objects that contain still water such as old tires, old cans, and plastic tarps
- Empty water from flower pots, pet dishes, birdbaths, rain barrels, and buckets at least once a week

Pertussis

2010 Case Total	**53**
Maine Rate	**4.0 per 100,000**
U.S. rate (2009)	**5.5 per 100,000**

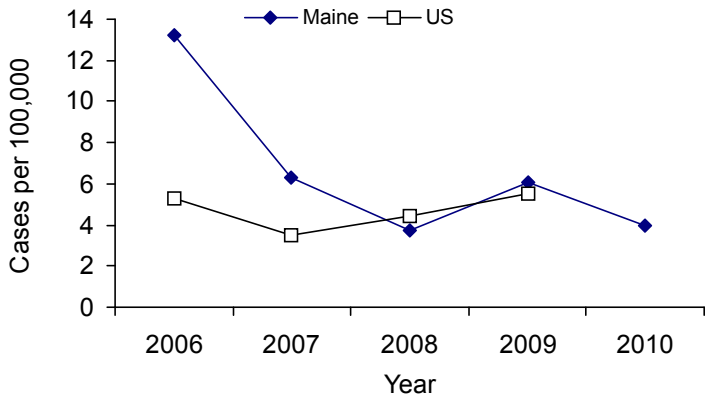
Pertussis (whooping cough) is a bacterial infection of the respiratory tract caused by *Bordetella pertussis*. Prior to vaccine licensure pertussis was a common childhood disease associated with a high mortality rate. High pertussis vaccination rates are associated with lower numbers of pertussis cases.

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

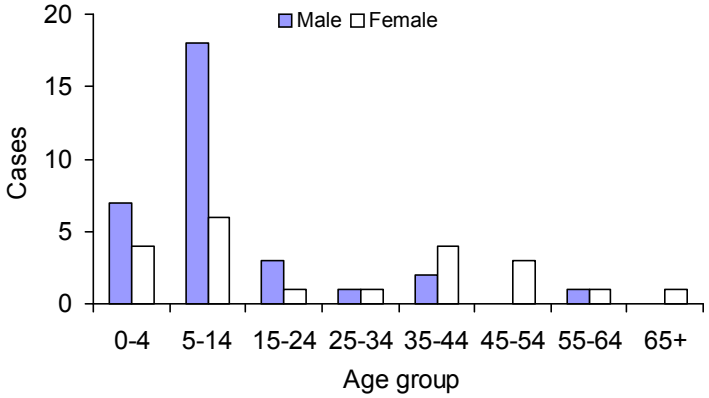
- Case total of 53 represents a decrease from 80 cases in 2009
- The 2005-2009 median number of cases per year was 80
- Median age was 11 years
- Age range was 6 months to 71 years
- Cases were 40% female and 60% male
- Penobscot, Knox, Hancock and Cumberland counties had the highest incidence

Vaccination is available and part of routine childhood immunizations. There are two pertussis vaccines (DTaP and Tdap). Full immunization is 5 DTaP shots by the age of 7. The Advisory Committee on Immunization Practices (ACIP) recommends that persons aged 10-64 years receive Tdap in place one tetanus booster, especially if there is close contact with infants.

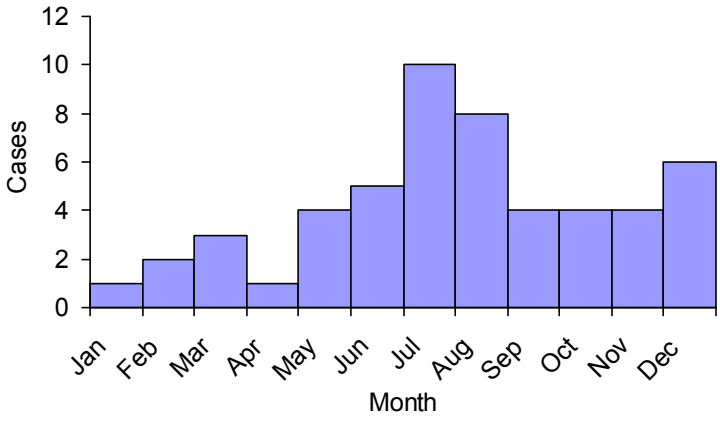
Pertussis Incidence, Maine and US, 2006-2010



Pertussis by Age and Gender, Maine, 2010



Pertussis by Month of Onset, Maine, 2010



Rabies, Animal

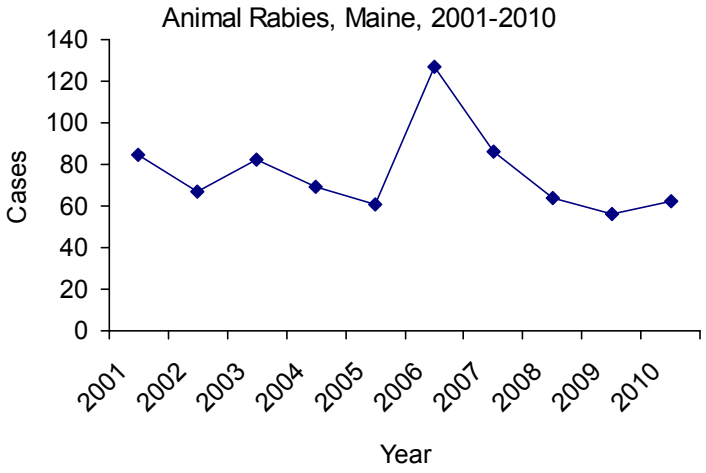
2010 Case Total **62**
Maine Rate **N/A**
U.S. Count (2009) **6,694**

Rabies is a viral disease that affects the nervous system (brain and spinal cord) of humans. Rabies in humans is rare in the United States. The vast majority of rabies infections are found in wild animals, including raccoons, skunks, bats, and foxes. Humans usually get rabies from the bite of a rabid animal. It is also possible, but quite rare, for people to get rabies if infectious material from a rabid animal, such as saliva, gets directly into their eyes, nose, mouth or a wound. Because rabies has also occurred in people who have very close contact with bats without an apparent bite, this type of contact is also considered a risk and should be evaluated by a healthcare provider.

The virus infects the central nervous system. The earliest symptoms include fever and general discomfort. As the disease progresses symptoms may include difficulty sleeping, anxiety, confusion, hallucinations, excessive drooling, difficulty swallowing, and fear of water. Death generally follows a few days after the onset of symptoms.

- Case total of 62 represents an increase from 56 cases in 2009
- The 2005-2009 median number of cases per year was 64 cases
- The last reported case of human rabies in Maine was in 1937

Since rabies infects the central nervous system and is not found in the blood of infected animals, testing for rabies requires central nervous system or brain tissue, which must be obtained from the animal after it is deceased. Using direct fluorescent antibody testing, the state's public health laboratory can determine whether or not wild or domestic animals that exposed a human or other domestic animal have been infected with the virus.



Positive Rabies Results by Species, Maine, 2010

Animal	Number Positive
Raccoon	28
Skunk	20
Fox	7
Bat	5
Woodchuck	1
Cat (feral)	1

If it is determined that a human has been exposed to an infected animal, a course of post-exposure prophylaxis (PEP) is recommended. PEP consists of a course of immune globulin and vaccine over a 14 day period. In 2009, guidelines were revised to reduce PEP to a four dose course over 14 days.

Human deaths due to rabies in the United States are rare. The use of rabies PEP and increased public awareness of rabies may reduce the number of exposures. Though rabies is generally found in wild animals, it is important to keep domestic animals up to date on rabies vaccination.

Salmonellosis

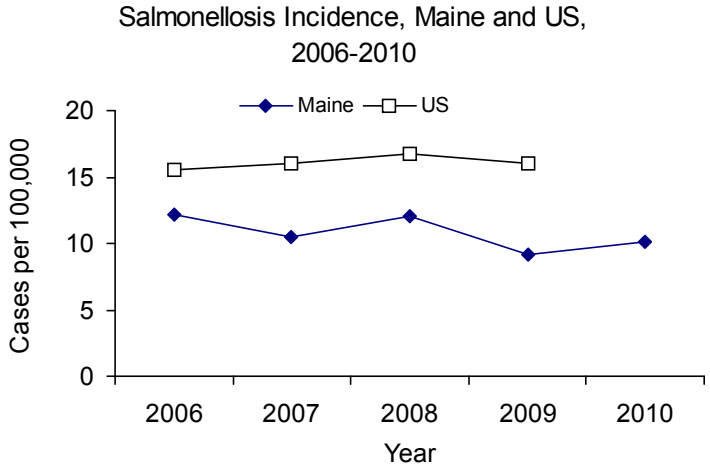
2010 Case Total	**133**
Maine Rate	**10.1 per 100,000**
U.S. rate (2009)	**16.0 per 100,000**

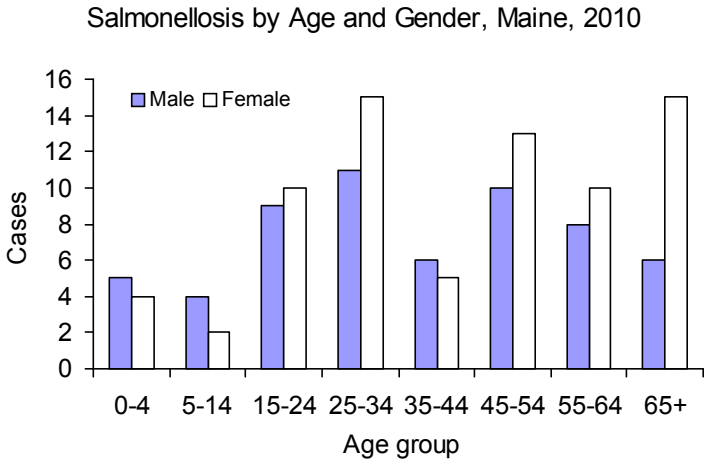
Salmonellosis is a gastrointestinal illness of varying severity caused by *Salmonella* bacteria. Severity of symptoms depends on the age and overall health of the person infected, serotype of salmonella and the site of infection. Salmonella is transmitted through the ingestion of contaminated meat, poultry,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

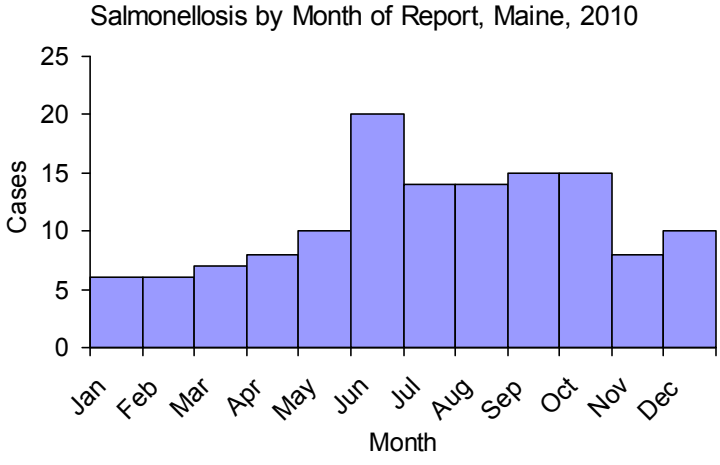
The symptoms can include fever, cramping, diarrhea, nausea, and vomiting.

- Case total of 133 represents an increase from 121 cases in 2009
- The 2005-2009 median number of cases per year was 159 cases
- Median age was 41 years
- Age range was 3 months to 89 years
- Cases were 56% female and 44% male
- 120 of 133 (90%) cases were laboratory confirmed; 13 cases were epidemiologically linked to confirmed case
- 2 cases of typhoid fever were diagnosed in individuals who traveled to endemic countries
- The most commonly seen types of salmonella were enteritidis, Newport, typhimurium, and I 4,[5],12:i:-.

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







Shiga toxin *E. coli (STEC)*

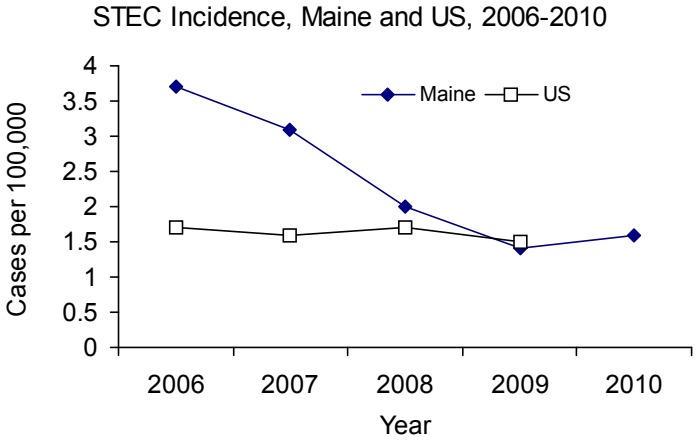
2010 Case Total	**21**
Maine Rate	**1.6 per 100,000**
U.S. rate (2009)	**1.5 per 100,000**

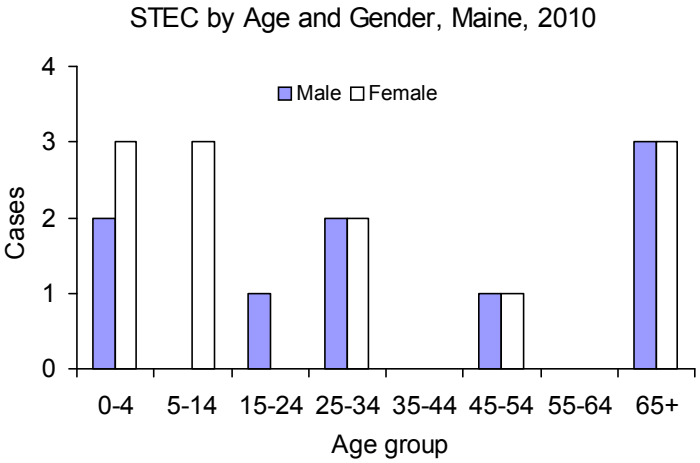
Escherichia coli are common bacteria that live in the digestive tract, some cause serious infection and some do not. Shiga toxin producing *E. coli* (STEC) cause illness, sometimes severe. Transmission of STEC is through consumption of food or water contaminated with fecal matter or through contact with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

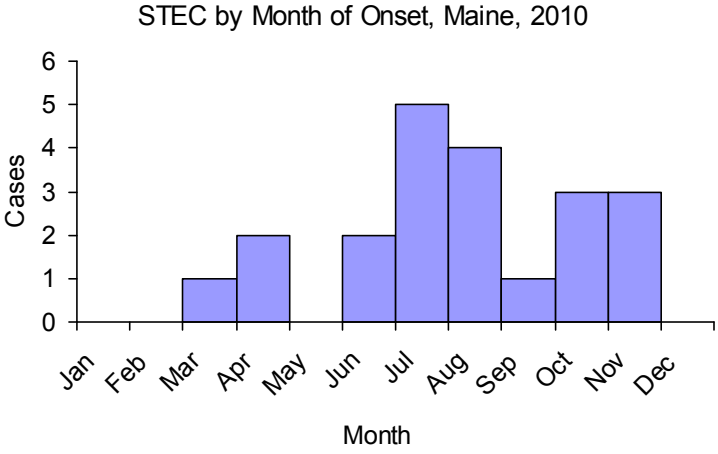
Symptoms include abdominal cramping, bloody diarrhea and a rare complication, hemolytic uremic syndrome (HUS) which can damage red blood cells and the kidneys.

- Case total of 21 represents an increase from 19 cases in 2009
- The 2005-2009 median number of cases per year was 30
- Median age was 31 years
- Age range was 1 to 80 years
- Cases were 57% female and 43% male
- 20 of 21 (95%) cases were laboratory confirmed
- 47% of laboratory confirmed cases were O157:H7
- One hemolytic uremic syndrome (HUS) case was reported
- Cluster of two O26 cases led to ground beef recall

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

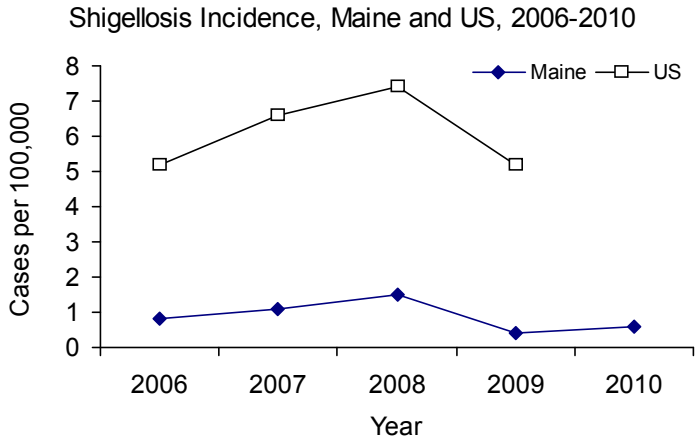
2010 Case Total **8**
Maine Rate **0.6 per 100,000**
U.S. rate (2009) **5.2 per 100,000**

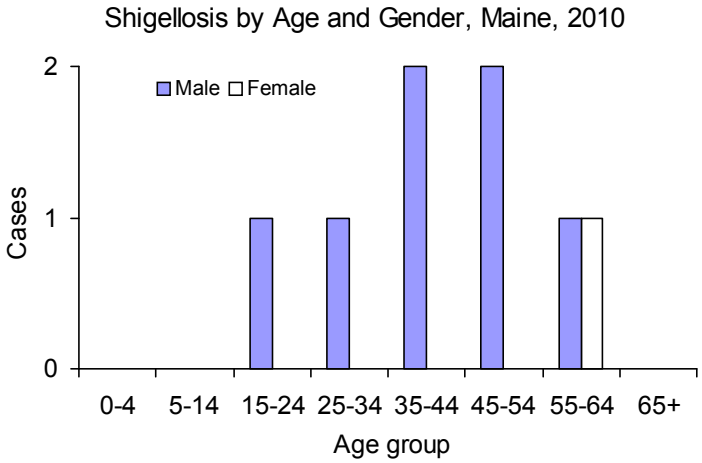
Shigellosis is a gastrointestinal illness caused by *Shigella* bacteria. *Shigella* is highly infectious and can easily be passed from one person to another through the fecal-oral route. Shigellosis can be transmitted by eating contaminated food, and drinking, swimming in or playing with contaminated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

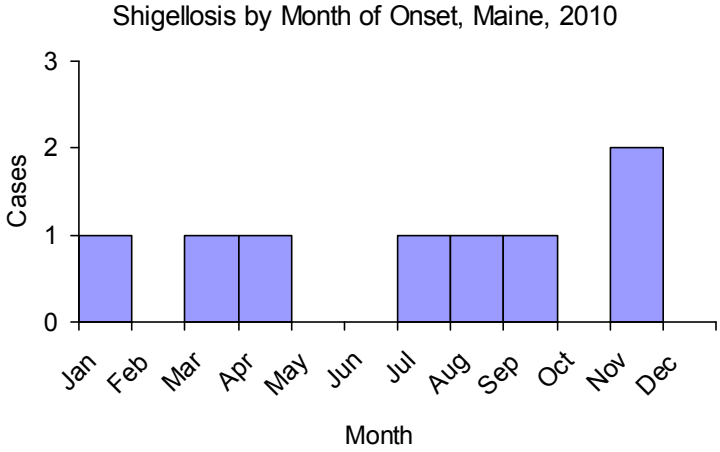
Symptoms include cramping, fever and severe diarrhea which may be bloody. Children, especially toddlers aged 2 to 4 years are most likely to get shigellosis.

- Case total of 8 represents an increase from 5 cases in 2009
- The 2005-2009 median number of cases per year was 14
- Median age was 42 years
- Age range was 22 to 62 years
- Cases were 38% female and 62% male
- All 8 cases were laboratory confirmed
- *Shigella sonnei* and *flexneri* were isolated from samples
- 50% of cases had travel to a foreign country

To prevent shigellosis, practice good hand hygiene, use pasteurized milk products, use filtered, clean water, and store foods properly. Infected persons who are 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

2010 Case Total	**130**
Maine Rate	**9.9 per 100,000**
U.S. rate (2009)	**Not available**

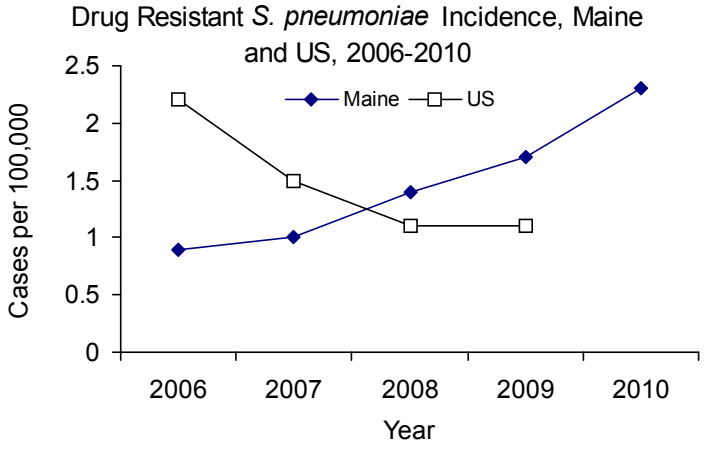
Starting in 2010, all cases of invasive disease were investigated.

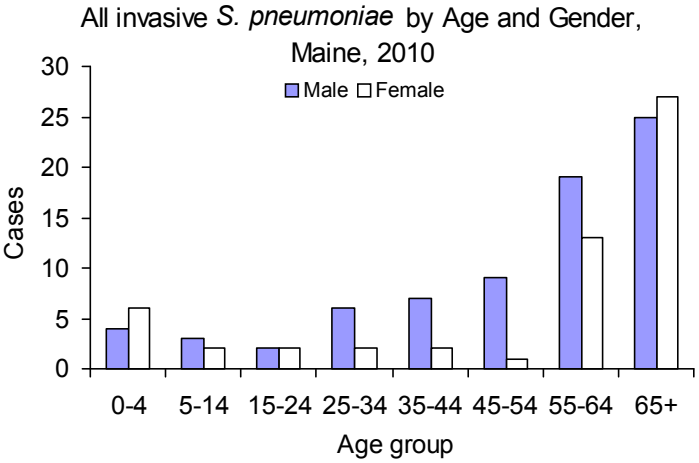
Invasive pneumococcal disease occurs when the *Streptococcus pneumoniae* bacterium infects the blood, lungs, or brain. Disease is transmitted from person to person through droplets when an infected person coughs or sneezes. Types of illness include bacteremia, meningitis, and pneumonia. There are over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

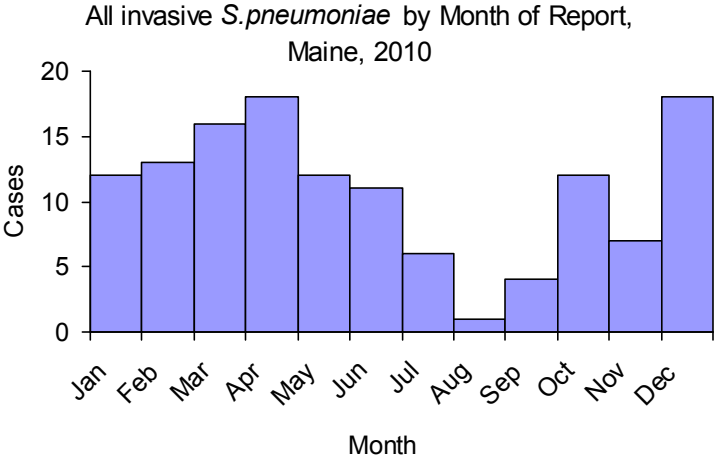
Persons at risk of pneumococcal disease include young children, adults 65 years of age or older, persons with certain underlying medical conditions, persons with weakened immune systems, and those in congregate settings such as daycare and long-term care facilities.

- 130 invasive *S. pneumoniae* cases reported, of which 30 were drug resistant
- Median age for invasive cases was 61 years
- Age range for invasive cases was 1 to 99 years
- Cases were 42% female and 58% male
- 10 cases were in children under the age of five, of which 3 were drug resistant

Pneumococcal disease can be prevented through routine vaccination of infants and children under five 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 (PPV23).







Early Syphilis

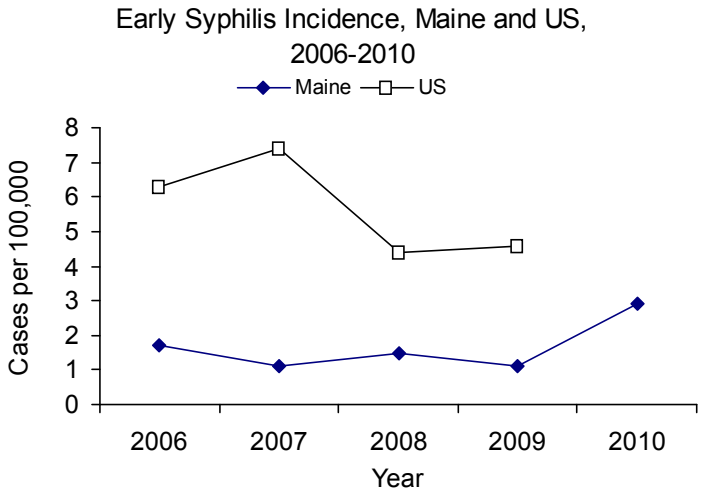
2010 Case Total	**39**
Maine Rate	**2.9 per 100,000**
U.S. rate (2009)	**4.6 per 100,000**

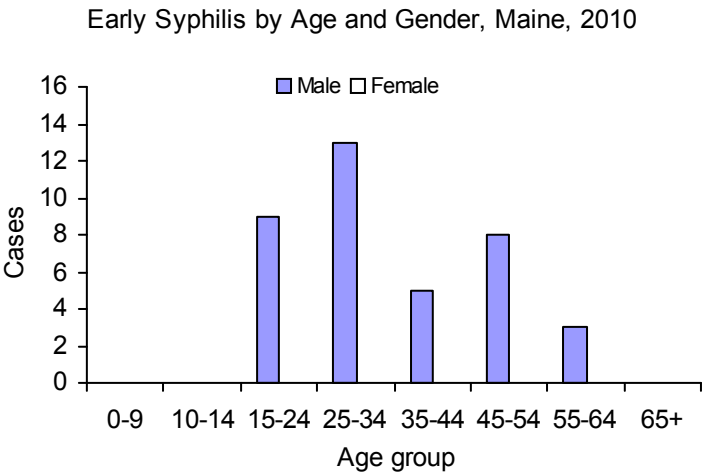
Syphilis is a sexually transmitted disease (STD) caused by the bacterium *Treponema pallidum*. It has often been called "the great imitator" because so many of the signs and symptoms of syphilis are like those of other diseases.

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 sore. Sores 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 when contact is made with a primary sore. 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 sores caused by syphilis make it easier to transmit and acquire HIV infection.

- Case total of 39 represents a 179% increase from 2009
- The 2005-2009 median number of cases per year was 14
- Cases were 100% male, no female cases were reported





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, including ensuring adequate treatment, partner notification, and efforts to identify public sex environments that outreach educators can target in their work.

Tuberculosis

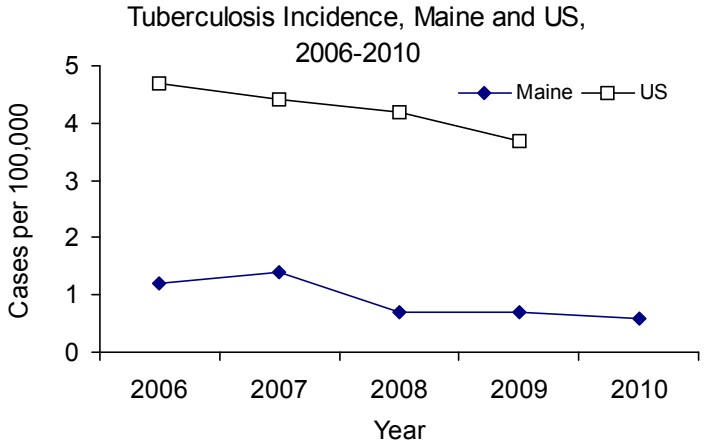
2010 Case Total	**8**
Maine Rate	**0.6 per 100,000**
U.S. rate (2009)	**3.7 per 100,000**

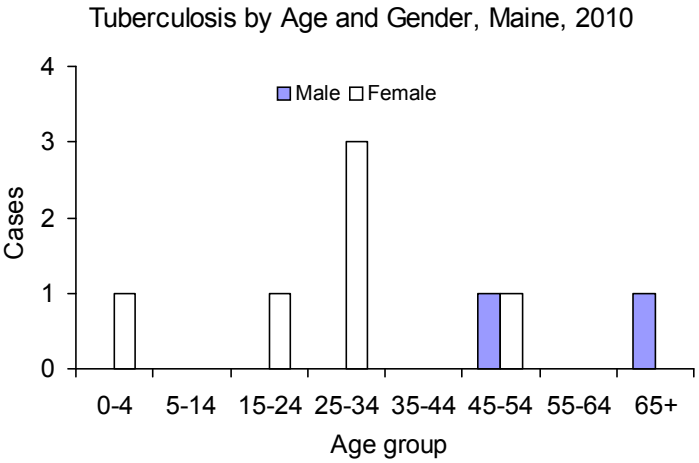
Tuberculosis (TB) is a communicable disease caused by the bacterium, *Mycobacterium tuberculosis*. It is spread through the air by airborne particles called droplet nuclei that are expelled from the lungs when a person who has infectious TB coughs, sings or sneezes. TB infection begins when the mycobacterium is inhaled into the lung and begins to multiply. Usually, the body is able to contain the infection so that disease does not develop. This is known as latent TB infection (LTBI) and is not infectious to others.

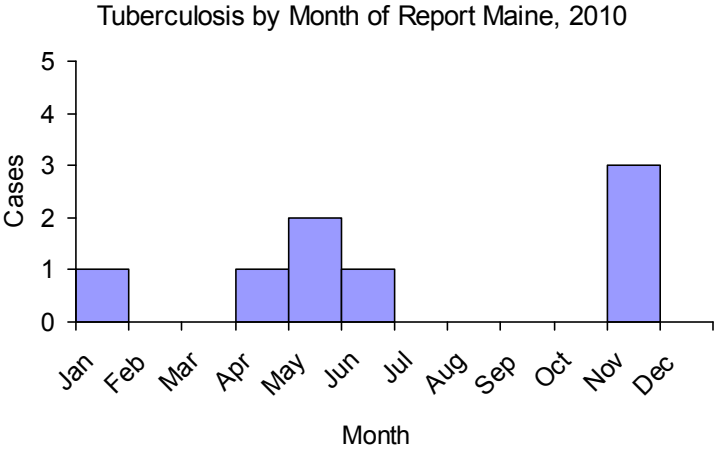
TB can cause infection in the lung (pulmonary), which is considered infectious to others. TB also causes infection outside of the lung (extrapulmonary), which is not infectious.

- Case total of 8 represents a decrease from 9 cases in 2009
- Lowest case rate in the country in 2010
- The 2005-2009 median number of cases per year was 16
- Median age was 30 years
- Age range was 2 to 80 years
- Cases were 75% female and 25% male
- 7 of 8 cases (88%) were foreign born
- In 2 contact investigations, 96% of identified contacts were evaluated
- Of 420 LTBI reports, 80% were foreign born

All cases are evaluated by a TB consultant physician and are placed on directly observed therapy (DOT) administered by Public Health Nurses.







Varicella

2010 Case Total **247**
Maine Rate **18.8 per 100,000**
U.S. rate (2009) **6.7 per 100,000**

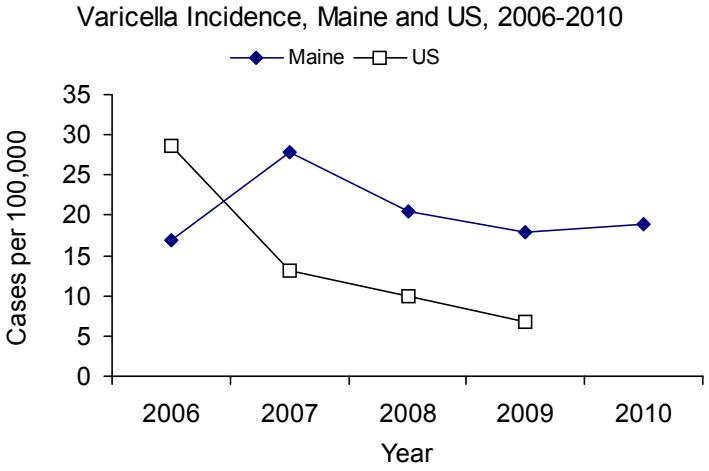
Varicella (chickenpox) is a highly contagious viral disease of which humans are the only source of infection. In most cases the primary symptom is an itchy skin rash that looks like blisters, covering the body but more evident on the face, scalp, and abdomen. The majority of infected individuals develop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

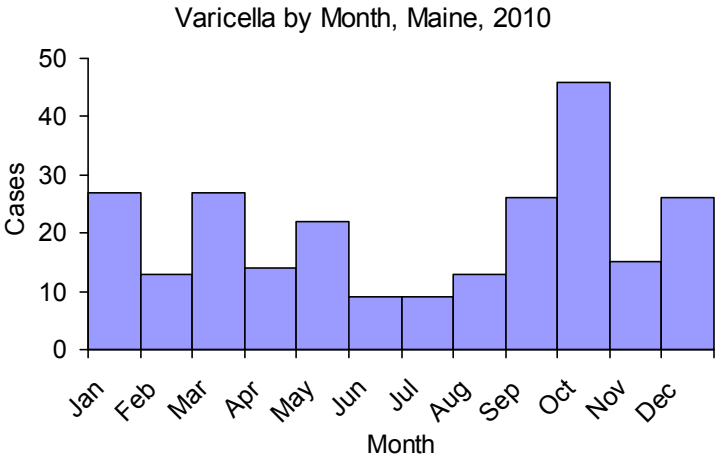
Person-to-person transmission occurs primarily through direct contact with respiratory tract secretions of infected individuals and is transmitted occasionally via the airborne route. Adolescents and adults are more at risk for severe disease which could include pneumonia, bacterial infection of the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

- Case total of 247 represents an increase from 235 cases in 2009
- Overall the greatest incidence was during the fall and spring months while school was 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 all children receive 2 doses of vaccine. Breakthrough infection has been reported in vaccinated individuals.

Mandatory vaccination for varicella (one dose) was phased in as of 2003 and is now a requirement for school admission.





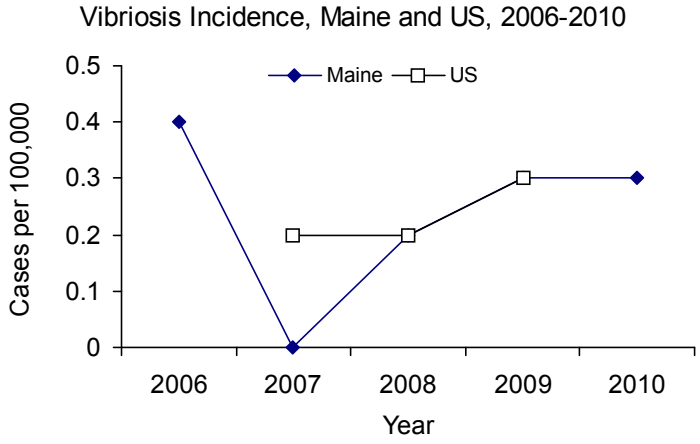
Vibriosis

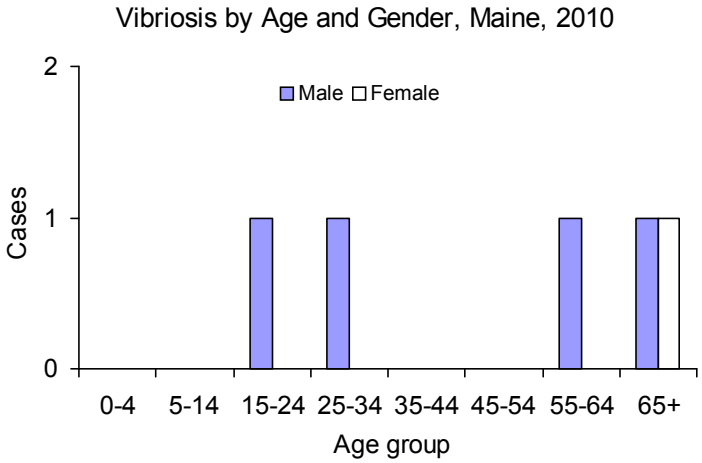
2010 Case Total **5**
Maine Rate **0.4 per 100,000**
U.S. rate (2009) **0.3 per 100,000**

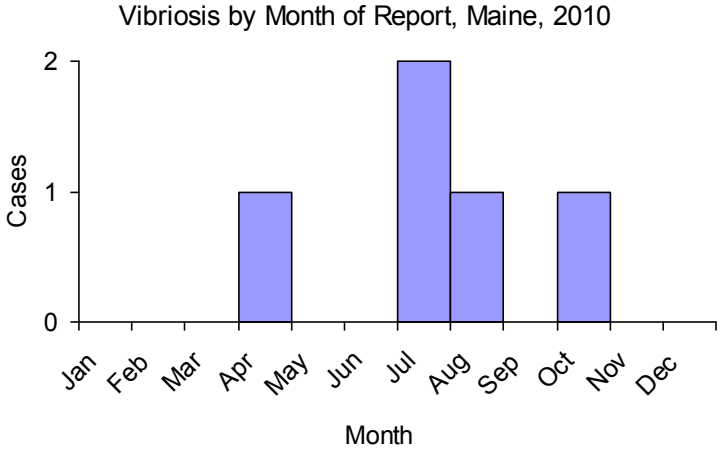
Vibriosis is an infection of variable severity characterized by diarrhea and vomiting, primary septicemia, or wound infections. *Vibrio parahaemolyticus*, associated with ingestion of raw or undercooked seafood, and *Vibrio alginolyticus,* associated with wounds and water contact, are the primary causes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

- Case total of 5 represents an increase from 4 cases in 2009
- The 2005-2009 median number of cases was 3
- Median age was 58 years
- Age range was 18 to 80 years
- Cases were 20% female and 80% male
- *Vibrio alginolyticus, parahaemolyticus*, and *vulnificus* 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 cases of vibriosis report exposures to shellfish or other marine sources of illness.







Influenza Season 2010—2011

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, one city vital records office, and twenty four hospital emergency departments during the reporting period from October 3, 2010 to May 21, 2011. This report summarizes 2010-11 influenza surveillance by key indicators.

Influenza Surveillance in Maine

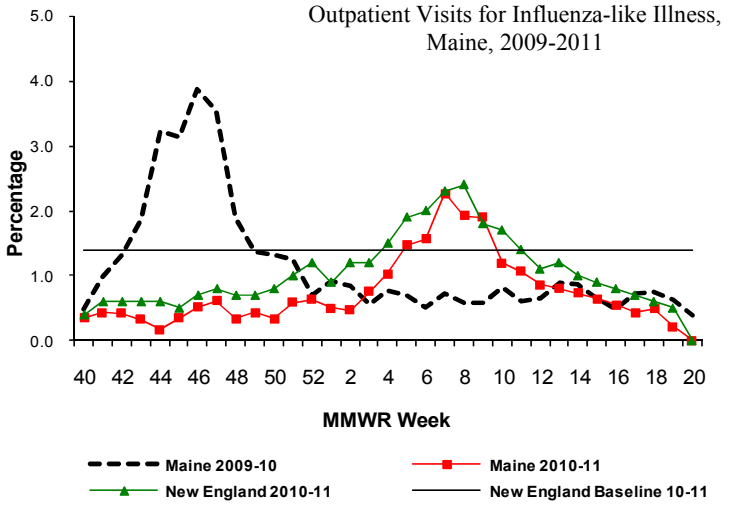
Outbreaks
Outbreaks of influenza or influenza-like illness are reportable by law in Maine. The definition used to recognize outbreaks of influenza-like illness varies by setting. During the 2010-11 season, a total of 61 outbreaks of influenza were reported in Maine. This is a decrease from the 2009-10 season when 204 outbreaks were reported, mostly due to pandemic H1N1. Of the 61 outbreaks, 44 were in long-term care facilities, 1 was in an acute care facility, 12 in K-12 schools, 1 in a university settings, and 3 in other institutions. Outbreaks occurred in all of the eight districts in the state.

Death Certificates
The vital records office of Bangor reported the number of death certificates in which pneumonia and/or influenza were mentioned as the primary or secondary cause of death. Data reported represent deaths that occurred in the reporting area, not the residence of the deceased. During the 2010-11 season, a total of 737 deaths were reported by this vital records office. Of these 88 (11.9%) were attributed to pneumonia or influenza.

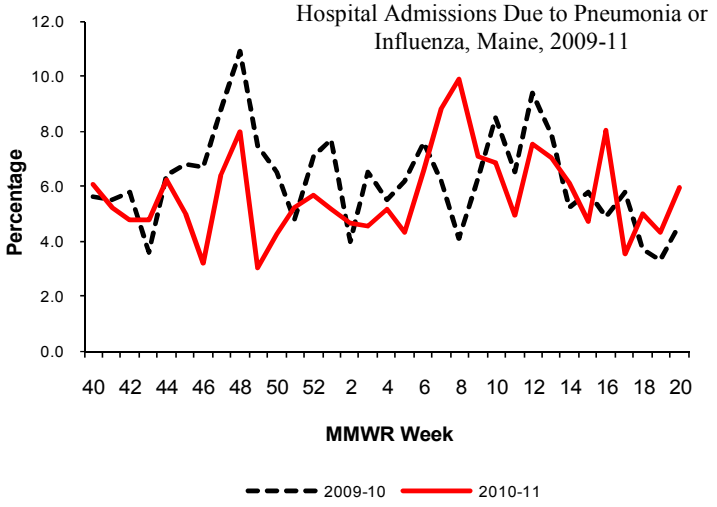
Pediatric Fatalities
Health care providers and the Office of the Medical Examiner report deaths in persons aged 18 years or younger associated with laboratory-confirmed influenza to Maine CDC. One influenza-associated pediatric death was reported in a vaccinated child from York county during the 2010-11 influenza season.

Influenza Season 2010—2011

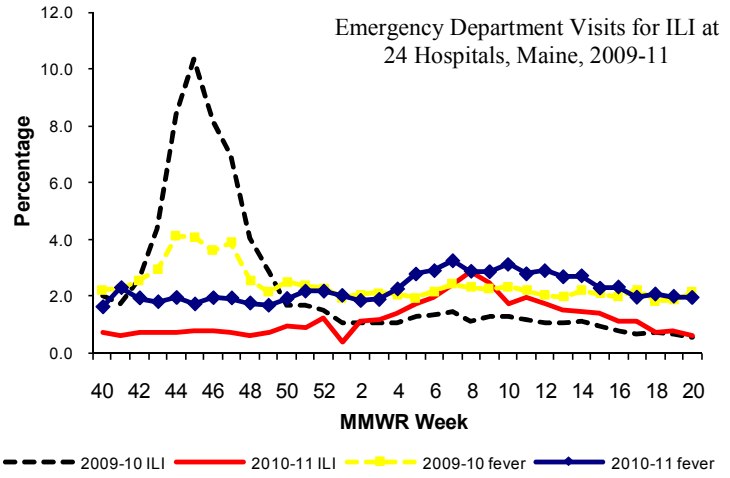
Outpatient influenza-like illness (ILI)
Data on outpatient visits for ILI was collected through the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), a collaborative effort between federal CDC, Maine CDC, and local health care providers. During the 2010-11 season, 33 health care providers 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 during the middle of February (MMWR week 7). The New England region peaked a week later than the Maine region.



Hospital Inpatients
Inpatient surveillance for respiratory illness admissions in Maine was conducted in collaboration with four hospitals. During the 2010-11 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 March (MMWR week 9).



Emergency Room Visits
Syndromic surveillance was conducted in the Emergency Departments of 24 hospitals and 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 8)



Influenza Season 2010—2011

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(H1), A(H3), A(pH1N1), A (unable to subtype), and influenza B by specimen collection date. During the 2010-11 season, 959 respiratory specimens were tested by HETL for influenza. Of those 411 (42.9%) were positive for influenza (1 for influenza A/H1, 114 for influenza A/H3, 166 for influenza A/pH1N1, 4 for influenza A unable to subtype, and 126 for influenza B).

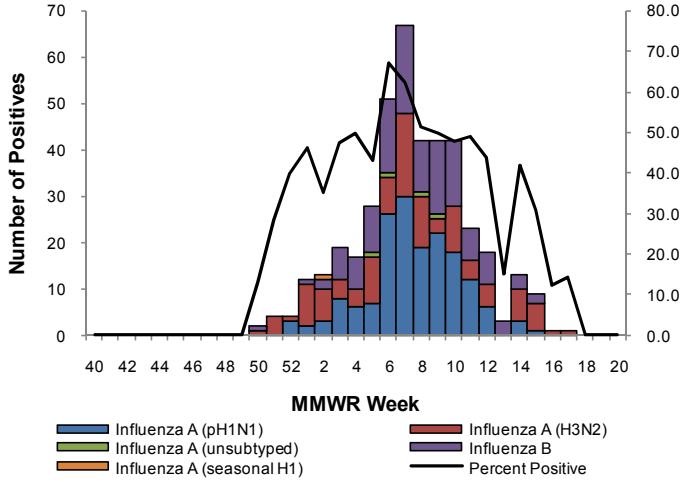
Reference Labs

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 2010-11 season, 602 specimens were positive for influenza (94 for influenza A/H3, 107 for influenza A/pH1N1, 237 for influenza A without subtype, and 164 for influenza B).

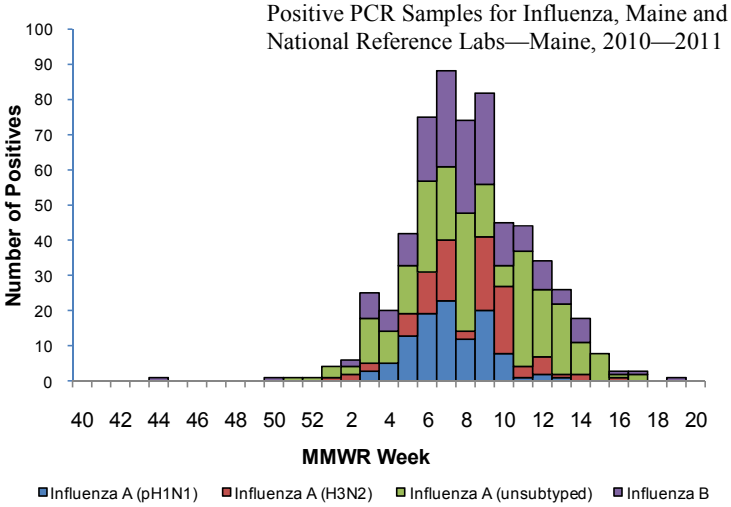
Rapid testing

Many hospitals, labs, and physician offices voluntarily report positive rapid antigen tests to the state. During the 2010-11 season 280 positive tests were reported, 219 for influenza A, 54 for influenza B, and 7 for influenza, unsubtyped.

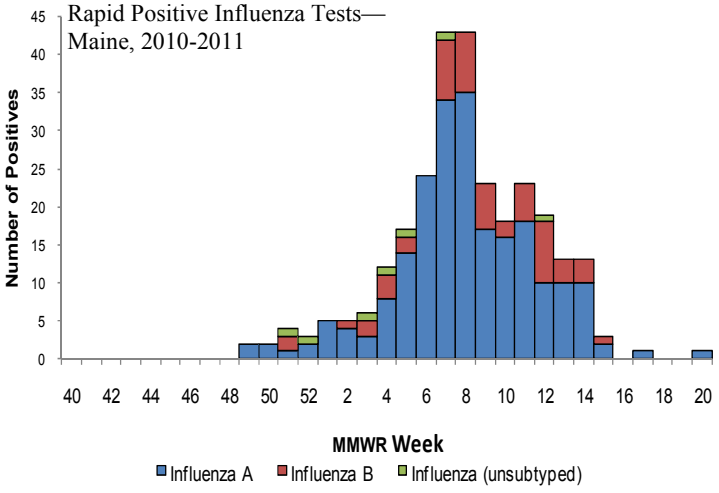
Positive PCR Samples for Influenza, HETL—Maine, 2010-2011



Positive PCR Samples for Influenza, Maine and National Reference Labs—Maine, 2010—2011



Rapid Positive Influenza Tests—Maine, 2010-2011



Brucellosis Case Series—Maine, 2010

Brucellosis is a bacterial disease that can affect many species of animals, including cattle, buffalo, bison, pigs, sheep, goats, elk, dogs and horses. Four species of *brucella* may infect humans including: *B. abortus* (from cattle, bison), *B. suis* (from swine, cattle, bison), *B. melitensis* (from goats) and rarely, *B. canis* (from dogs). Brucellosis is also known as Undulant Fever, Malta Fever, and Mediterranean Fever.

Brucellosis is spread to humans by direct contact with living or dead infected animals' secretions, tissues, blood, urine, vaginal discharges, aborted fetuses, and especially, placentas. Animals become infected through ingestion of contaminated discharges, food or water. Humans become infected by direct contact with infected materials; with mucosal surfaces or non-intact skin; ingestion of raw milk and dairy products; and inhalation of contaminated aerosols, especially in the laboratory setting. There is no evidence of person-to-person transmission. Symptoms include fever, sweats, fatigue, malaise, anorexia and arthralgia. Symptoms occur 2-10 weeks after exposure.

In 2010, two unrelated human cases of brucellosis were reported to Maine CDC. Both cases presented with mild illness and significant food and travel history. Prior to these two cases, the last known case in Maine occurred in 2003. An average of 150 cases are reported in the United States each year.

> **Case 1.** A 54 year old female reported fever, headache, chills, fatigue, muscle aches, and night sweats after recent international travel. The case reported consumption of goat meat and raw camel's milk. Blood cultures were drawn when the patient was evaluated. A suspect *Brucella* specimen was forwarded to the Health and Environmental Testing Laboratory (HETL) for confirmation. *B. melitensis* was identified as the causative agent.
>
> **Case 2.** A 66 year old male presented to his primary care provider with an acute onset of fever, chills, and arthralgia. The case reported a recent history of wild boar hunting and was injured while field dressing the swine. While symptomatic, the case had invasive surgical procedures. A blood specimen was sent to HETL for confirmatory testing when *Brucella* was suspected. *B. suis* was identified as the causative agent.

Brucellosis is a rare condition in Maine. These cases highlight the importance of eliciting travel and exposure history that may inform differential diagnosis. Both cases were initially reported through laboratory surveillance. Initial laboratory testing lead to suspicion of *Brucella*, which subsequently triggered notification to HETL as indicated through the laboratory response network.

Healthcare workers can be exposed to *Brucella* during aerosol-generating procedures or handling laboratory cultures without biosafety level-3 precautions. A number of health care workers were exposed to *Brucella* during the care and diagnosis of these patients and were recommended to receive prophylactic treatment and post exposure testing. None of the persons exposed developed brucellosis.

Pertussis Outbreak Associated with a Daycare—Maine, 2010

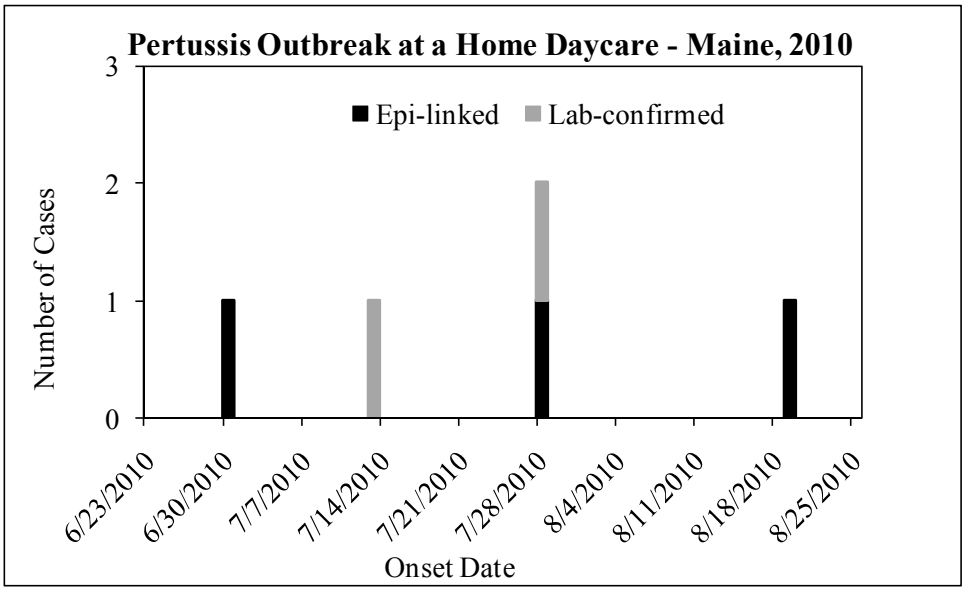
Background: Pertussis (whooping cough) is an acute respiratory disease caused by the *Bordetella pertussis* bacterium. Transmission from person to person occurs via inhalation of droplets produced from coughing and sneezing. The time between exposure to symptoms can be up to 21 days (usually 7-10 days). Early symptoms (catarrhal stage) include mild cough, sneezing, runny nose, and low-grade fever. Symptoms then progress (paroxysmal stage) to paroxysmal cough, post-tussive vomiting, and apnea. Young children and infants often in-draw air after a coughing spell, making a sound referred to as a "whoop." Symptoms can last for several weeks to several months (convalescent stage). Without treatment, a person with pertussis is contagious for 21 days.

Methods: In August 2010, Maine CDC received a report of a laboratory confirmed case of pertussis in a child who attended a home daycare. A case investigation was conducted by Maine CDC to identify exposed persons, search for additional cases, and implement control measures to prevent further transmission in a highly susceptible population. An interview with the daycare owner revealed that several other children in the daycare were symptomatic and that several children did not have a history of immunization with a pertussis vaccine. An outbreak investigation yielded the following findings.

Results: A total of 14 children were enrolled in the daycare, 4 (29%) of which were confirmed cases of pertussis with onset dates ranging from 6/30/10 – 7/28/10; two of these cases were laboratory confirmed. A fifth case was confirmed in a school-aged sibling of a daycare attendee. The median age of cases was 4 years (range 3-9); 60% of cases were male. The mean incubation period was 16 days (range 13-22). Three cases had never received a dose of pertussis vaccine and one had only received two doses of vaccine. No hospitalizations or deaths were associated with the outbreak

Control measures included the following:

- Testing was recommended for all symptomatic children in the daycare and any symptomatic contacts
- 35 case contacts were recommended to receive antibiotic prophylaxis
- An informational letter was distributed to parents with recommendations
- Symptomatic persons were excluded from work/school/social activity for the first 5 days of treatment



Healthcare Associated Infections

Healthcare Associated Infections (HAIs) are among the top ten causes of death in the U.S. It is estimated that 1.7 million HAIs occur per year in U.S., and results in 99,000 deaths, at a cost of $33 billion. Because HAIs have a significant impact on health and heathcare costs, there is a growing focus on the need to monitor and prevent HAIs. In 2009, the Maine CDC received federal funds to develop an HAI prevention program. The Maine CDC works closely with an advisory group which has representatives from all Maine hospitals. Additionally, Maine CDC coordinates with other state and federal agencies, healthcare providers, and professional groups to prevent HAIs. The focus of the program is for hospitals to report HAIs using uniform nationally recognized definitions which the program will validate. In particular, the focus is to reduce:

1. Central Line Associated Bloodstream Infections
2. Methicillin Resistant *Staphylococcus aureus* (MRSA) infections
3. Surgical Site Infections.

Accomplishments to date:

- Creation of a new infrastructure within Maine CDC for the HAI program.
- HAI program is working closely with the Maine Health Data Organization and the Maine Quality Forum to streamline HAI reporting by hospitals.
- The HAI program has provided data management support and epidemiology training for Infection Preventionists. Maine CDC supported a statewide training on developing an antibiotic surveillance program attended by physicians and pharmacists.
- Maine CDC has provided training on hospital outbreak investigations, and improved healthcare facility outbreak reporting to Maine CDC.
- Maine CDC has created an HAI website for the general public.
- Increased state lab capacity to identify organisms likely to cause HAI outbreaks.

HAI program future projects include:

- Enhance data surveillance for MRSA-HAI, *Clostridium difficile*-HAI, carbapenem resistant gram negative rods, and central line infections.
- Validate reported HAI data.
- Continue to supply assistance for outbreaks occurring in hospitals and Long Term Care Facilities.
- Prove additional training on infection prevention to Long Term Care Facilities.
- Increase surveillance in dialysis units.

FAQ: Has Maine reduced HAIs?
Yes. Through the efforts of multiple state agencies and professional organizations, Maine has reduced central line associated bloodstream infections by over 50%, from 2008 to 2010. Through an active surveillance study, hospitals have been able to identify carriers of MRSA, and protect other patients from becoming infected. Now that hospitals are reporting standardized data on National Healthcare Safety Network (NHSN) about HAI-MRSA, Maine CDC will be able to analyze reductions in MRSA-HAIs over time.

2010 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 operates 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 are submitted with information on where the tick(s) may have been acquired. Ticks are not tested for the presence of Lyme bacteria and MMCRI only accepts 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).

Tick Identification by County, Maine, 2010

County	*Ixodes scapularis* **(Deer Tick)**	*Dermacentor variabilis* **(American Dog Tick)**	*Ixodes cookei* **(Woodchuck Tick)**	Other ticks
Androscoggin	36	5	0	0
Aroostook	4	0	0	1
Cumberland	188	45	1	2
Franklin	11	7	0	0
Hancock	162	15	4	0
Kennebec	94	16	0	0
Knox	59	20	1	1
Lincoln	23	6	0	0
Oxford	22	18	1	0
Penobscot	142	11	3	0
Piscataquis	20	7	3	4
Sagadahoc	47	5	0	0
Somerset	26	18	1	0
Waldo	71	4	3	2
Washington	33	4	0	1
York	71	15	1	0
Unspecified	22	3	0	1
Totals	1,031	199	18	12

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.

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

Ticks should be sealed in a small, crushproof vial of 70% alcohol. The vial should be padded with absorbent paper towel and sealed in a plastic bag, and mailed along with a completed submission form to:

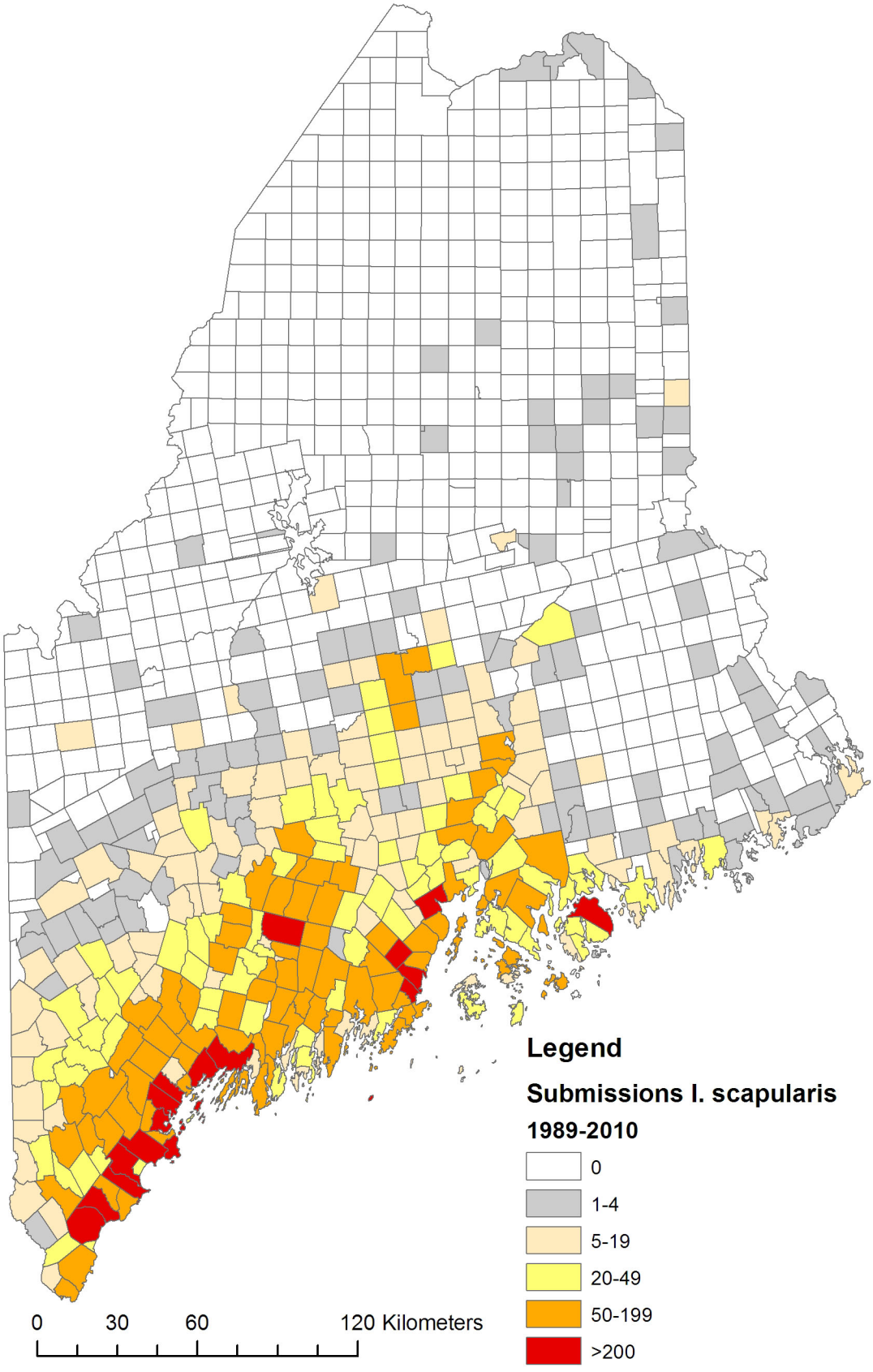
Vector-borne Disease Laboratory
Maine Medical Center Research Institute
75 John Roberts Rd., Suite 9B
South Portland, ME 04106

Print out the submission form from http://www.mmcri.org/lyme/lymeform.html, complete it, and mail it in with the specimen. A report of the tick's identification will be sent to the submitter as soon as possible, usually within five days. A map may also be sent to assist in the identification of the site where tick exposure occurred. The public may address questions to the laboratory's email address: ticklab@mmc.org.

Map Caption

A map summarizing the number of *Ixodes scapularis* (deer tick) submitted per Minor Civil Division, 1989 through 2010.

Maine Medical Center Research Institute
Vector-borne Disease Laboratory
Deer Tick Submsissions 1989-2010



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

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

NOTIFIABLE CONDITIONS LIST

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

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

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

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

When to report:

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

What to report:

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

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

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

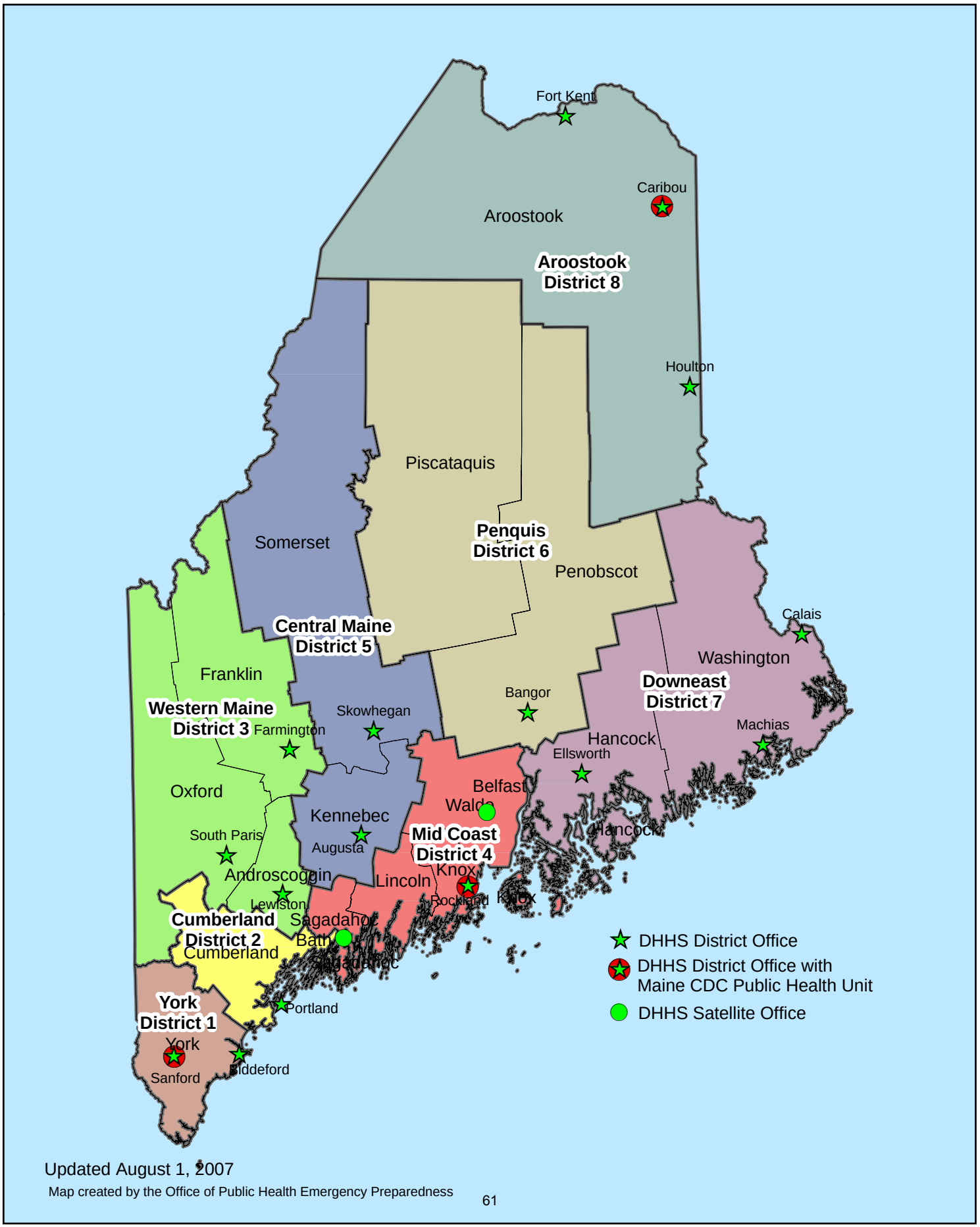
Disease Reporting
24 Hours A Day
7 Days A Week

Telephone
1-800-821-5821

Fax
1-800-293-7534

April 4, 2008

Maine DHHS Districts and DHHS Office Locations



Updated August 1, 2007

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

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

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