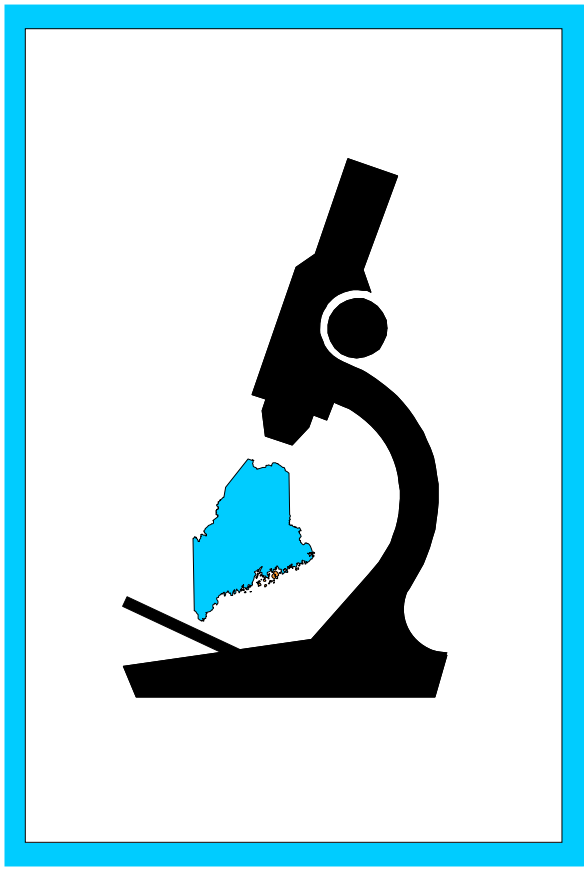
Reportable Infectious Diseases in Maine



2009 Summary

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

John E. Baldacci, Governor
Brenda M. Harvey, Commissioner

Reportable Infectious Diseases in Maine

2009 Summary

Editor:

Amy Robbins, MPH

Contributors:

Mary Kate Appicelli, MPH
Jennah Godo, MS
James Markiewicz
Vicki Rea, RN, MPH, CIC
Sara Robinson, MPH
Stephen Sears, MD, MPH
Peter Smith, PhD
Anne Redmond Sites, MPH

We have been producing an annual report on infectious diseases in Maine for the last 16 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.

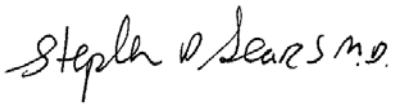
We could not produce this report without the continued support of our healthcare and public health partners throughout the state. We greatly appreciate all of the laboratories, health care providers, day care centers, school nurses and others who provide disease surveillance information. They have expended 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 D (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
Maine Center for Disease Control and Prevention

Table of Contents

2009 Infectious Disease Surveillance Highlights

- 2009 – The year of pandemic influenza A H1N1. Pandemic influenza came to Maine in April and by June made its way into our summer camps (over 40 camps reported influenza like illness). The school based vaccination program coupled with anti-viral use helped Maine achieve some of the highest influenza vaccine coverage rates in the nation and also some of the lowest morbidity and mortality.
- Lyme disease cases have increased every year. In 2009, 970 cases were reported and the northern migration of the deer tick (*Ixodes scapularis*) continues. We expect to see not only more Lyme but also cases of anaplasmosis and babesiosis in Mainers. The legislature in 2010 declared the month of May Lyme disease Awareness Month. We will continue to monitor all tick transmitted illnesses in the state.
- Chlamydia remained the most commonly reported infectious disease in the state with 2,443 cases. Seventy-two percent of reported infections were in persons 15-24 years of age. In addition at the end of 2009 the cases of gonorrhea started to rise. During the 2010 legislative session EPT (expedited partner therapy) was passed for all STDs and will be in effect July 2010. We will monitor closely the rates of these two sexually transmitted infections and hopefully see a decline.
- Foodborne illness outbreaks continue to affect Maine residents and increasingly are multistate and multinational. In 2009 there were outbreaks of shiga toxin producing Eschericia coli (STEC) outbreak associated with ground beef (in the fall) and with ready to use cookie dough (in the spring). In late 2009-early 2010 there was an outbreak of salmonella associated with salami and pepper seasoning. Peanut butter was implicated in a salmonella outbreak from late 2008-early 2009.
- Eastern Equine Encephalitis (EEE) spread into central Maine and was found in 15 horses, 1 llama, 3 flocks of pheasants and 2 mosquito pools. No human cases were identified.
- Tuberculosis remains at record low levels (9 cases) but strains found in 2009 were genotype matches of strains found in an outbreak in 2003. This suggests a focal outbreak is still present within the homeless population.
- Animal rabies was reported in 56 animals in 4 species of wildlife (28 raccoons, 14 skunks, 6 bats, and 7 foxes) and one domestic cat. New guidelines for post exposure prophylaxis (PEP) were released in 2009. Fortunately no human cases have been reported in Maine since 1937.
- Diseases associated with international travel increased in Maine with reported 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.
- Around the country outbreaks of salmonella associated with turtles, frogs, and lizards, shows us how vigilant we need to be with the importation of exotic pets.
- 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.
- Hospital acquired infections, especially Staphylococcus bacteria resistant to methicillin (MRSA) have became an increasing focus of public health. An outbreak of community acquired MRSA on one of the islands, as well as continued hospital cases, will be monitored closely in the next year.

Overview of Public Health Surveillance

The responsibility of governments 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 6 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 2009, a total of 64 infectious diseases were nationally reportable; 71 were reportable in Maine. The list of reportable infectious diseases 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 deleted 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 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 heath care 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 health care providers is critical to assure accurate, representative and timely information for all.

Disease Reporting in Maine

Health care providers, medical laboratories, health care facilities, administrators, health officers and veterinarians 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 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, 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/disease_reporting.htm).

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 annual report of infectious diseases fulfills multiple functions. First, it allows public health officials to quantify the magnitude of certain problems. For example, surveillance data indicate 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 health care practice. For example, is hepatitis B vaccine and immune globulin 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 year to year. The current case definitions are available at http://www.cdc.gov/epo/dphsi/casedef/case_definitions.htm. Cases meeting the confirmed or probable case definitions are presented in the annual report. Surveillance case definitions may differ from clinical diagnosis.

Tables in the introduction section include all confirmed and probable cases used by the federal CDC for their weekly and annual reports. 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, 2000 - 2009

Disease	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Anaplasmosis (HGE)	1	1	1	1	1	4	10	9	17	15
Babesiosis	0	1	2	3	5	11	9	11	11	3
Campylobacteriosis	149	124	139	146	141	159	137	149	151	171
Chlamydia	1474	1346	1801	2040	2120	2253	2304	2543	2594	2443
Cryptosporidiosis	20	20	12	20	22	30	52	56	46	67
Ehrlichia chaffeensis (HME)^	0	0	0	0	0	1	4	3	1	1
Giardiasis	238	197	212	184	155	202	192	197	188	223
Gonorrhea	90	141	142	231	214	142	137	118	96	143
Group A Streptococcal Disease (invasive)	12	12	20	28	16	14	19	28	28	21
H. Influenzae (invasive)	2	2	2	6	15	12	21	13	21	21
Hemolytic uremic syndrome	0	1	3	0	2	0	6	1	1	2
Hepatitis A, acute	23	11	9	16	16	9	8	5	18	1
Hepatitis B, acute	5	7	14	7	11	14	26	19	15	15
HIV Infection	51	40	39	65	46	59	62	64	46	56
Legionellosis	2	8	6	2	1	7	11	9	11	10
Listeriosis	2	2	5	6	8	3	6	5	5	4
Lyme disease	71	108	217	175	224	245	338	528	908	970
Malaria	7	5	6	5	6	5	4	8	1	2
Meningococcal disease	10	10	9	10	12	2	9	8	6	4
Pertussis	51	22	21	91	195	55	174	83	49	80
Rabies, animal	139	85	67	82	69	61	127	86	64	56
Salmonellosis	127	166	147	141	108	163	161	138	159	121
Shiga toxin producing *E. coli**	32	31	49	15	18	29	49	41	26	19
Shigellosis	11	6	10	7	13	15	10	14	20	5
Streptococcus pneumoniae (drug resistant invasive)	NR	NR	NR	0	4	8	12	13	18	23
Syphilis (early)	1	4	3	15	2	3	16	14	20	14
Tuberculosis	24	20	23	24	20	17	16	19	9	9
Varicella (Chickenpox)	1271	146	792	1012	363	318	238	366	269	235
Vibriosis	0	1	4	3	4	2	5	0	3	4

*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.

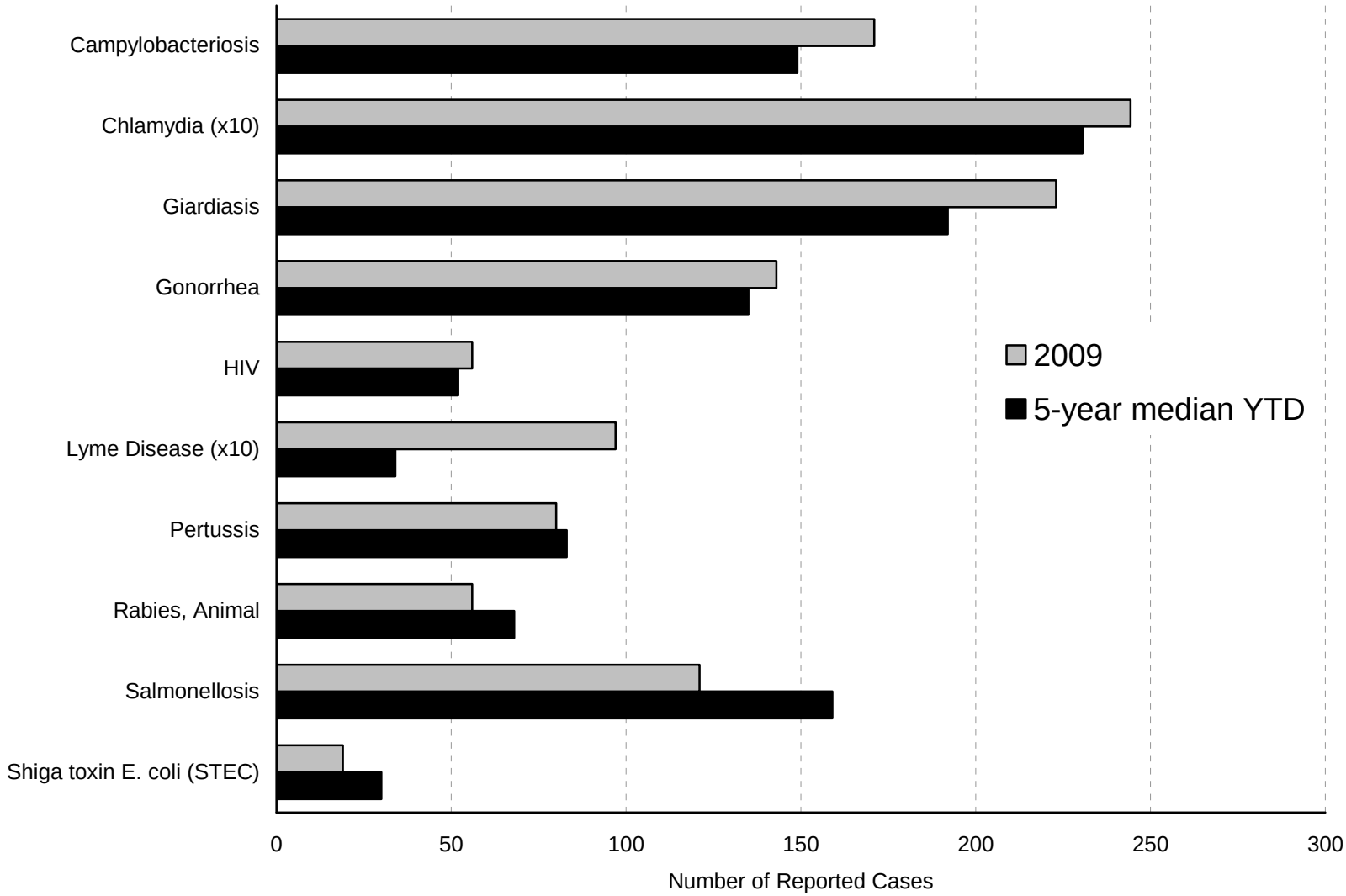
NR = not reportable

Reportable Diseases with Historically Small Numbers of Cases, Maine, 2000 - 2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	**10 year total**
Anthrax	0	0	0	0	0	0	0	0	0	0	**0**
Botulism	1	0	2	0	1	0	0	0	0	0	**4**
Brucellosis	0	0	0	0	0	0	0	0	0	0	**0**
Creutzfeld-Jacob disease (<55 yo)	NR	NR	NR	0	0	0	0	0	0	1	**1**
Cyclosporiasis	0	0	0	0	1	0	0	0	0	0	**1**
Dengue Fever^	0	0	0	0	0	1	4	1	2	3	**11**
Diphtheria	0	0	0	0	0	0	0	0	0	0	**0**
Encephalitis, Arboviral	1	2	0	0	1	0	0	0	0	0	**4**
Hantavirus Pulmonary Syndrome	0	0	0	0	0	0	0	0	0	0	**0**
Hepatitis C, acute	2	1	0	2	0	0	2	1	3	2	**13**
Measles	0	0	0	0	0	0	0	0	0	0	**0**
Mumps	0	0	0	0	0	2	0	24	5	6	**37**
Plague	0	0	0	0	0	0	0	0	0	0	**0**
Q fever	0	0	0	2	0	2	4	7	0	0	**15**
Psittacosis	0	0	0	0	1	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	NR	1	5	**6**
Severe Acute Respiratory Syndrome (SARS)	NR	NR	NR	0	0	0	0	0	0	0	**0**
Smallpox	0	0	0	0	0	0	0	0	0	0	**0**
Streptococcal, Group B, invasive, infant	2	1	5	2	1	3	1	1	6	2	**24**
Tetanus	0	0	1	0	0	0	0	0	0	0	**1**
Toxic Shock Syndrome	2	0	1	1	1	0	0	1	0	0	**5**
Toxoplasmosis	NR	1	0	0	1	0	0	0	0	0	**2**
Trichinosis	0	0	0	0	0	0	0	0	0	0	**0**
Tularemia	0	0	0	0	0	0	0	0	0	0	**0**
Typhoid Fever	1	0	0	0	0	0	1	0	0	0	**2**
Venezuelan Equine Encephalitis	NR	NR	NR	0	0	0	0	0	0	0	**0**
West Nile Virus	NR	NR	NR	0	0	0	0	0	0	0	**0**
Yellow Fever	NR	NR	NR	NR	0	0	0	0	0	0	**0**

NR=Not reportable, ^Reported cases were probable only

Selected Reportable Diseases in Maine, 2009



Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2009

	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	12	11.3	2	1.9	0	0.0	27	25.3
Aroostook	0	0.0	0	0.0	5	7.0	8	11.2	0	0.0	8	11.2
Cumberland	3	1.1	1	0.4	38	13.6	2	0.7	1	0.4	85	30.5
Franklin	0	0.0	0	0.0	3	10.1	0	0.0	0	0.0	4	13.5
Hancock	1	1.9	0	0.0	4	7.5	1	1.9	0	0.0	8	15.0
Kennebec	0	0.0	0	0.0	15	12.4	9	7.4	0	0.0	21	17.3
Knox	4	9.8	0	0.0	7	17.2	0	0.0	0	0.0	2	4.9
Lincoln	2	5.8	0	0.0	6	17.4	8	23.1	0	0.0	9	26.0
Oxford	0	0.0	0	0.0	11	19.6	0	0.0	0	0.0	6	10.7
Penobscot	2	1.3	0	0.0	22	14.7	12	8.0	0	0.0	9	6.0
Piscataquis	0	0.0	0	0.0	3	17.9	3	17.9	0	0.0	2	11.9
Sagadahoc	0	0.0	0	0.0	12	33.0	3	8.2	0	0.0	5	13.7
Somerset	0	0.0	0	0.0	11	21.6	7	13.7	0	0.0	10	19.6
Waldo	0	0.0	0	0.0	2	5.2	5	13.1	0	0.0	3	7.8
Washington	0	0.0	0	0.0	2	6.2	0	0.0	0	0.0	3	9.3
York	3	1.5	2	1.0	18	8.9	7	3.5	0	0.0	21	10.4
Maine Total	15	1.1	3	0.2	171	13.0	67	5.1	1	0.1	223	16.9

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2009

	***Haemophilus influenzae*, invasive**		**Hemolytic uremic syndrome**		**Hepatitis A**		**Hepatitis B, acute**		**Legionellosis**		**Listeriosis**	
County	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Androscoggin	1	0.9	1	0.9	0	0.0	0	0.0	2	1.9	0	0.0
Aroostook	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	1.4
Cumberland	10	3.6	1	0.4	0	0.0	4	1.4	4	1.4	0	0.0
Franklin	1	3.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Hancock	0	0.0	0	0.0	0	0.0	0	0.0	1	1.9	0	0.0
Kennebec	4	3.3	0	0.0	0	0.0	1	0.8	3	2.5	0	0.0
Knox	1	2.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lincoln	0	0.0	0	0.0	0	0.0	1	2.9	0	0.0	0	0.0
Oxford	0	0.0	0	0.0	1	1.8	1	1.8	0	0.0	1	1.8
Penobscot	1	0.7	0	0.0	0	0.0	2	1.3	0	0.0	2	1.3
Piscataquis	0	0.0	0	0.0	0	0.0	0	0.0	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	2	3.9	0	0.0	0	0.0	3	5.9	0	0.0	0	0.0
Waldo	1	2.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Washington	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
York	0	0.0	0	0.0	0	0.0	3	1.5	0	0.0	0	0.0
Maine Total	21	1.6	2	0.2	1	0.1	15	1.1	10	0.8	4	0.3

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2009

	Lyme Disease		Malaria		Meningococcal invasive disease		MRSA, invasive		Mumps		Pertussis	
County	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Androscoggin	56	52.6	0	0.0	2	1.9	5	4.7	2	1.9	1	0.9
Aroostook	7	9.8	0	0.0	1	1.4	10	14.0	1	1.4	4	5.6
Cumberland	276	99.1	0	0.0	1	0.4	44	15.8	2	0.7	2	0.7
Franklin	15	50.4	0	0.0	0	0.0	2	6.7	0	0.0	0	0.0
Hancock	34	63.6	0	0.0	0	0.0	1	1.9	0	0.0	12	22.5
Kennebec	99	81.8	0	0.0	0	0.0	16	13.2	0	0.0	0	0.0
Knox	69	169.1	0	0.0	0	0.0	5	12.3	0	0.0	0	0.0
Lincoln	45	130.1	0	0.0	0	0.0	4	11.6	0	0.0	5	14.5
Oxford	15	26.7	0	0.0	0	0.0	7	12.4	0	0.0	4	7.1
Penobscot	8	5.4	0	0.0	0	0.0	1	0.7	0	0.0	30	20.1
Piscataquis	2	11.9	0	0.0	0	0.0	2	11.9	0	0.0	0	0.0
Sagadahoc	51	140.1	0	0.0	0	0.0	0	0.0	0	0.0	1	2.7
Somerset	6	11.8	0	0.0	0	0.0	6	11.8	0	0.0	0	0.0
Waldo	19	49.6	1	2.6	0	0.0	4	10.4	0	0.0	7	18.3
Washington	4	12.5	0	0.0	0	0.0	1	3.1	0	0.0	1	3.1
York	264	130.8	1	0.5	0	0.0	12	5.9	1	0.5	13	6.4
Maine Total	970	73.6	2	0.2	4	0.3	120	6.1	6	0.5	80	6.1

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2009

	Rabies, animal		Salmonellosis		Shiga toxin producing *E. coli*		Shigellosis		Streptococcus, invasive Group A	
County	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	No.
Androscoggin	14		12	11.3	2	1.9	1	0.9	1	0.9
Aroostook	1		2	2.8	0	0.0	0	0.0	2	2.8
Cumberland	14		32	11.5	10	3.6	0	0.0	8	2.9
Franklin	0		6	20.2	0	0.0	0	0.0	0	0.0
Hancock	2		7	13.1	1	1.9	0	0.0	0	0.0
Kennebec	14		5	4.1	2	1.7	1	0.8	2	1.7
Knox	1		3	7.4	0	0.0	0	0.0	0	0.0
Lincoln	1		3	8.7	0	0.0	0	0.0	0	0.0
Oxford	2		6	10.7	1	1.8	0	0.0	2	3.6
Penobscot	3		11	7.4	2	1.3	0	0.0	1	0.7
Piscataquis	0		0	0.0	0	0.0	0	0.0	1	6.0
Sagadahoc	0		1	2.7	0	0.0	3	8.2	0	0.0
Somerset	1		3	5.9	0	0.0	0	0.0	2	3.9
Waldo	0		1	2.6	0	0.0	0	0.0	0	0.0
Washington	0		0	0.0	0	0.0	0	0.0	0	0.0
York	3		29	14.4	1	0.5	0	0.0	2	1.0
Maine Total	56		121	9.2	19	1.4	5	0.4	21	1.6

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2009

	***Streptococcus pneumonia*, drug resistant**		**Tuberculosis**		**Varicella (Chickenpox)**		**Vibriosis**	
County	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Androscoggin	2	1.9	2	1.9	11	10.3	0	0.0
Aroostook	4	5.6	1	1.4	6	8.4	0	0.0
Cumberland	3	1.1	4	1.4	54	19.4	2	0.7
Franklin	3	10.1	0	0.0	7	23.5	0	0.0
Hancock	0	0.0	1	1.9	30	56.1	0	0.0
Kennebec	4	3.3	0	0.0	7	5.8	0	0.0
Knox	0	0.0	0	0.0	0	0.0	0	0.0
Lincoln	0	0.0	0	0.0	2	5.8	0	0.0
Oxford	3	5.3	0	0.0	18	32.0	0	0.0
Penobscot	0	0.0	1	0.7	55	36.8	0	0.0
Piscataquis	0	0.0	0	0.0	7	41.7	1	0.6
Sagadahoc	0	0.0	0	0.0	2	5.5	0	0.
Somerset	1	2.0	0	0.0	9	17.7	0	0.0
Waldo	1	2.6	0	0.0	3	7.8	0	0.0
Washington	0	0.0	0	0.0	4	12.5	0	0.0
York	2	1.0	0	0.0	20	9.9	1	0.5
Maine Total	23	1.7	9	0.7	235	17.8	4	0.3

Reportable HIV/STDs, Number of Cases and Rate per 100,000 Persons by County, Maine, 2009

	Chlamydia		Gonorrhea		Syphilis, Primary and Secondary		HIV	
County	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Androscoggin	343	321.9	39	36.6	2	1.9	6	5.6
Aroostook	94	131.5	5	7.0	0	0.0	1	1.4
Cumberland	572	205.3	43	15.4	7	2.5	25	9.0
Franklin	63	211.9	2	6.7	0	0.0	0	0.0
Hancock	78	145.9	0	0.0	0	0.0	0	0.0
Kennebec	237	195.7	8	6.6	1	0.8	9	7.4
Knox	62	152.0	0	0.0	0	0.0	1	2.5
Lincoln	50	144.6	1	2.9	0	0.0	1	2.9
Oxford	65	115.6	3	5.3	0	0.0	0	0.0
Penobscot	314	210.1	5	3.3	0	0.0	1	0.7
Piscataquis	34	202.4	0	0.0	0	0.0	0	0.0
Sagadahoc	60	164.9	3	8.2	0	0.0	0	0.0
Somerset	92	180.6	5	9.8	3	5.9	1	2.0
Waldo	41	107.1	2	5.2	0	0.0	0	0.0
Washington	36	112.1	0	0.0	0	0.0	0	0.0
York	302	149.6	27	13.4	1	0.5	11	5.4
Maine Total	2443	185.3	143	10.8	14	1.1	56	4.2

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by District, Maine, 2009

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	1	1.2	6	4.0
Babesiosis	0	0.0	0	0.0	1	0.4	0	0.0	0	0.0
Campylobacteriosis	5	7.0	26	15.1	38	13.6	6	7.0	27	18.0
Chlamydia	94	131.5	329	191.2	572	205.3	114	133.2	213	141.9
Cryptosporidosis	8	11.2	16	9.3	2	0.7	1	1.2	16	10.7
Ehrlichia chaffeensis	0	0.0	0	0.0	1	0.4	0	0.0	0	0.0
Giardiasis	8	11.2	31	18.0	85	30.5	11	12.9	19	12.7
Gonorrhea	5	7.0	13	7.6	43	15.4	0	0.0	6	4.0
Haemophilus influenzae, invasive	0	0.0	6	3.5	10	3.6	0	0.0	2	1.3
Hemolytic uremic syndrome	0	0.0	0	0.0	1	0.4	0	0.0	0	0.0
HIV	1	1.4	10	5.8	25	9.0	0	0.0	2	1.3
Hepatitis A	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Hepatitis B, acute	0	0.0	4	2.3	4	1.4	0	0.0	1	0.7
Legionellosis	0	0.0	3	1.7	4	1.4	1	1.2	0	0.0
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, 2009

Condition	Penquis		Western		York		State	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Anaplasmosis	2	1.2	0	0.0	3	1.5	15	1.1
Babesiosis	0	0.0	0	0.0	2	1.0	3	0.2
Campylobacteriosis	25	15.0	26	13.5	18	8.9	171	13.0
Chlamydia	348	209.4	471	244.7	302	149.6	2443	185.3
Cryptosporidosis	15	9.0	2	1.0	7	3.5	67	5.1
Ehrlichia chaffeensis	0	0.0	0	0.0	0	0.0	1	0.1
Giardiasis	11	6.6	37	19.2	21	10.4	223	16.9
Gonorrhea	5	3.0	44	22.9	27	13.4	143	10.8
Haemophilus influenzae, invasvie	1	0.6	2	1.0	0	0.0	21	1.6
Hemolytic uremic syndrome	0	0.0	1	0.5	0	0.0	2	0.2
HIV	1	0.6	6	3.1	11	5.4	46	3.5
Hepatitis A	0	0.0	1	0.5	0	0.0	1	0.1
Hepatitis B, acute	2	1.2	1	0.5	3	1.5	15	1.1
Legionellosis	0	0.0	2	1.0	0	0.0	10	0.8
Listeriosis	2	1.2	1	0.5	0	0.0	4	0.3

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by District, Maine, 2009

Condition	Aroostook		Central		Cumberland		Downeast		Mid Coast	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Lyme Disease	7	9.8	105	61.0	276	99.1	38	44.4	184	122.6
Meningococcal invasive disease	1	1.4	0	0.0	1	0.4	0	0.0	0	0.0
MRSA, invasive	10	14.0	22	12.8	44	15.8	2	2.3	13	8.7
Mumps	1	1.4	0	0.0	2	0.7	0	0.0	0	0.0
Pertussis	4	5.6	0	0.0	2	0.7	13	15.2	13	8.7
Rabies, animal	1		15		14		2		2	
Salmonellosis	2	2.8	8	4.7	32	11.5	7	8.2	8	5.3
Shiga toxin producing E. coli	0	0.0	2	1.2	10	3.6	1	1.2	0	0.0
Shigellosis	0	0.0	1	0.6	0	0.0	0	0.0	3	2.0
Streptococcus, invasive Group A	2	2.8	4	2.3	8	2.9	0	0.0	0	0.0
Streptococcus pneumonia, invasive drug resistant	4	5.6	5	2.9	3	1.1	0	0.0	1	0.7
Syphilis	0	0.0	4	2.3	7	2.5	0	0.0	0	0.0
Tuberculosis	1	1.4	0	0.0	4	1.4	1	1.2	0	0.0
Varicella (chickenpox)	6	8.4	16	9.3	54	19.4	34	39.7	7	4.7
Vibriosis	0	0.0	0	0.0	2	0.7	0	0.0	0	0.0

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by District, Maine, 2009

Condition	Penquis		Western		York		State	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Lyme Disease	10	6.0	86	44.7	264	130.8	970	73.6
Meningococcal invasive disease	0	0.0	2	1.0	0	0.0	4	0.3
MRSA, invasive	3	1.8	14	7.3	12	5.9	120	9.1
Mumps	0	0.0	2	1.0	1	0.5	6	0.5
Pertussis	30	18.0	5	2.6	13	6.4	80	6.1
Rabies, animal	3		16		3		56	
Salmonellosis	11	6.6	24	12.5	29	14.4	121	9.2
Shiga toxin producing *E. coli*	2	1.2	3	1.6	1	0.5	19	1.4
Shigellosis	0	0.0	1	0.5	0	0.0	5	0.4
Streptococcus, invasive Group A	2	1.2	3	1.6	2	1.0	21	1.6
Streptococcus pneumonia, invasive drug resistant	0	0.0	8	4.2	2	1.0	23	1.7
Syphilis	0	0.0	2	1.0	1	0.5	14	1.1
Tuberculosis	1	0.6	2	1.0	0	0.0	9	0.7
Varicella	62	37.3	36	18.7	20	9.9	235	17.8
Vibriosis	1	0.6	0	0.0	1	0.5	4	0.3

Anaplasmosis

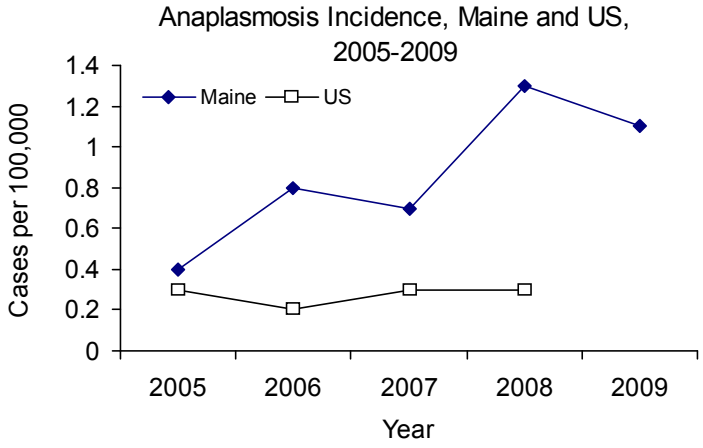
2009 Case Total	**15**
Maine Rate	**1.1 per 100,000**
U.S. rate (2008)	**0.3 per 100,000**

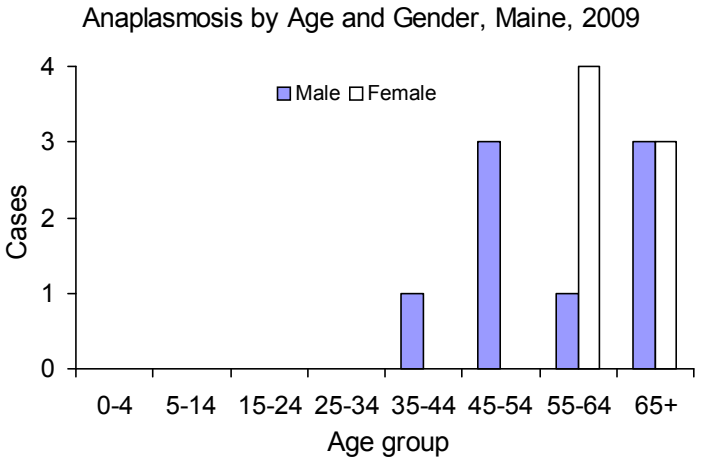
Anaplasmosis is a disease caused by the bacterium *Anaplasma phagocytophilium*. Anaplasmosis was previously known as human granulocytic ehrlichiosis (HGE) or human granulocytic anaplasmosis (HGA).

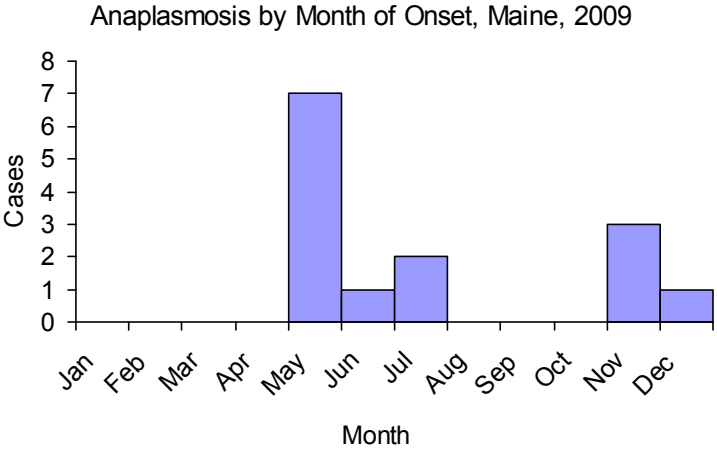
Signs and symptoms of anaplasmosis include: fever, headache, malaise, and body aches. Anaplasmosis is transmitted to a person by the bite of an infected deer tick (*Ixodes scapularis*), one of the most common ticks in Maine.

- Case total of 15 represents a decrease from 2008
- The 2004-2008 median number of cases per year was 9
- Median age was 62 years
- Age range was 40 to 75 years
- Cases were 47% female and 53% male
- Greatest number of cases occurred during the summer months

The best way to prevent infection is to take measures to protect against tick bites. Checking for ticks after visiting a tick infested area is an important way to reduce the risk of contracting anaplasmosis. Also, wearing repellents such as DEET or permethrin applied properly according to the directions, is a good way to protect oneself against ticks. If an engorged tick is found, it should be saved for identification.







Babesiosis

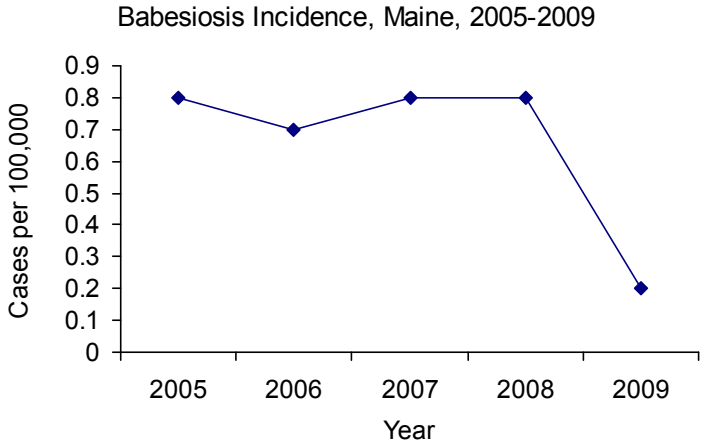
2009 Case Total **3**
Maine Rate **0.2 per 100,000**
U.S. rate (2008) **Not reportable**

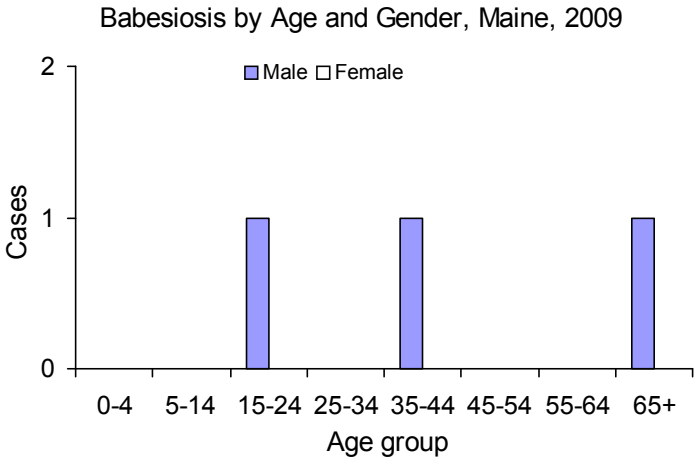
Babesiosis is caused by protozoa that are carried by ticks. Many individuals that get the disease do not have symptoms. Serious symptoms can occur, especially in immunosuppressed individuals, those without a spleen, or people who are co-infected with Lyme disease.

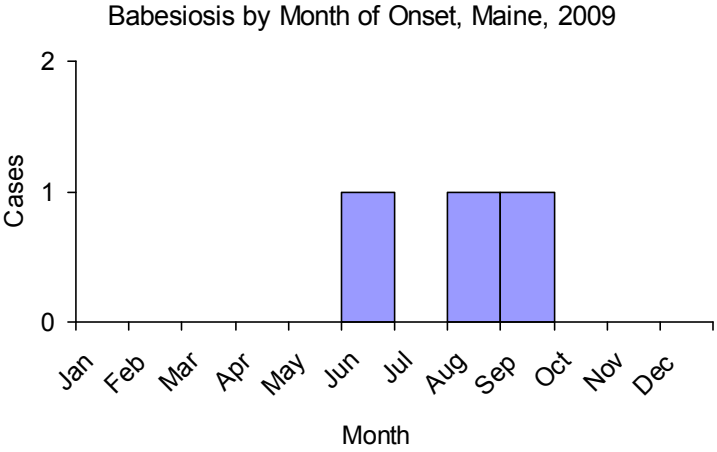
Common symptoms include extreme fatigue, aches, fever, chills, sweating, dark urine, and possibly anemia.

- Case total of 3 represents a 72% decrease from 2008
- The 2004-2008 median number of cases was 11
- Median age was 37 years
- Age range was 22 to 69 years
- Cases were all 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, wearing repellents such as DEET or permethrin applied properly according to the directions, is a good way to protect oneself against ticks. If an engorged tick is found, it should be saved for identification.







Campylobacteriosis

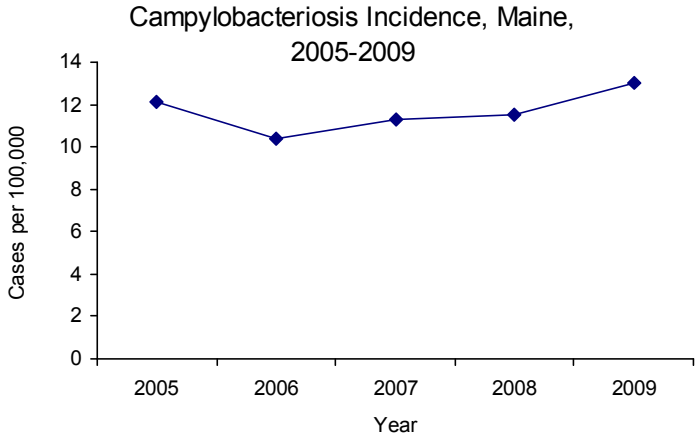
2009 Case Total **171**
Maine Rate **13.0 per 100,000**
U.S. rate (2008) **Not reportable**

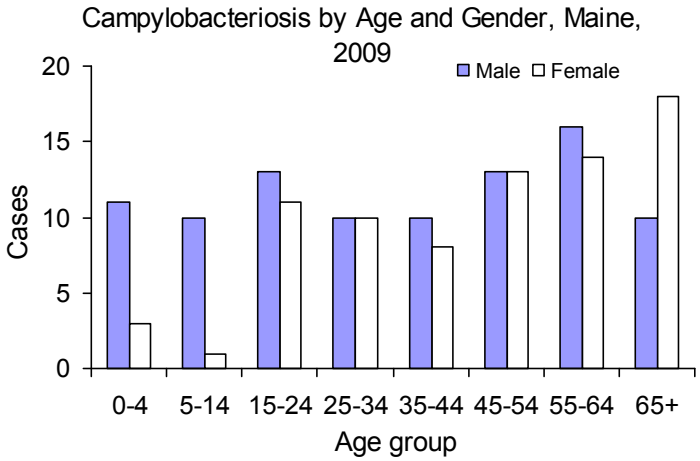
Campylobacteriosis is one of the most common infectious diseases causing diarrhea in the United States. Symptoms include diarrhea, cramping, abdominal pain and fever. Most people recover within 5 to 10 days. Very rarely some individuals develop a disease called Guillain-Barre syndrome which causes temporary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

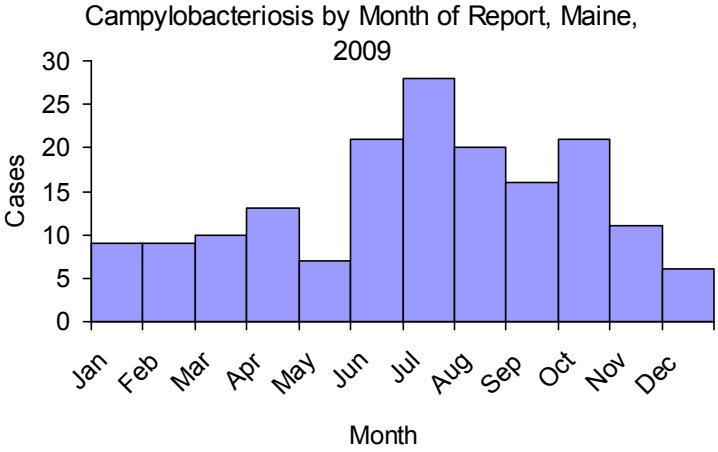
Many cases are associated with handling raw poultry or eating undercooked poultry meat. It is also possible for other raw foods, such as vegetables or salad, to be contaminated if the same cutting board is used for both food items and not cleaned between preparations.

- Case total of 171 represents an increase from 2008
- The 2004-2008 median number of cases was 149
- Median age was 44 years
- Age range was 2 months to 91 years
- Cases were 46% female and 54% male
- Highest rates in Sagadahoc, Somerset and Oxford counties
- Greatest number of cases occurred during the late summer months and early fall

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







Chlamydia

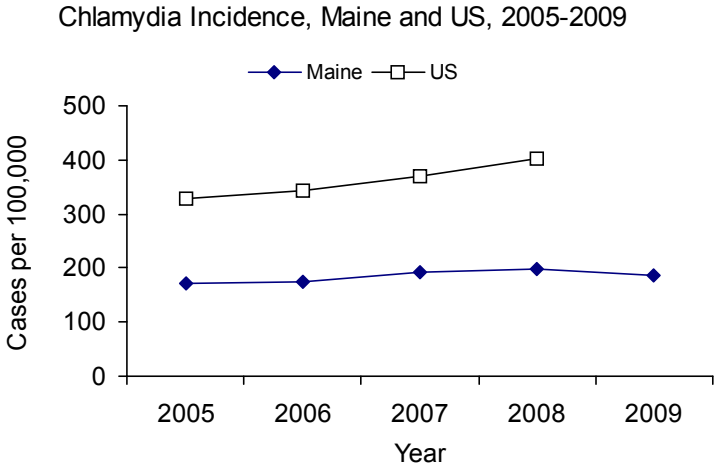
2009 Case Total	**2,443**
Maine Rate	**185.3 per 100,000**
U.S. rate (2008)	**401.3 per 100,000**

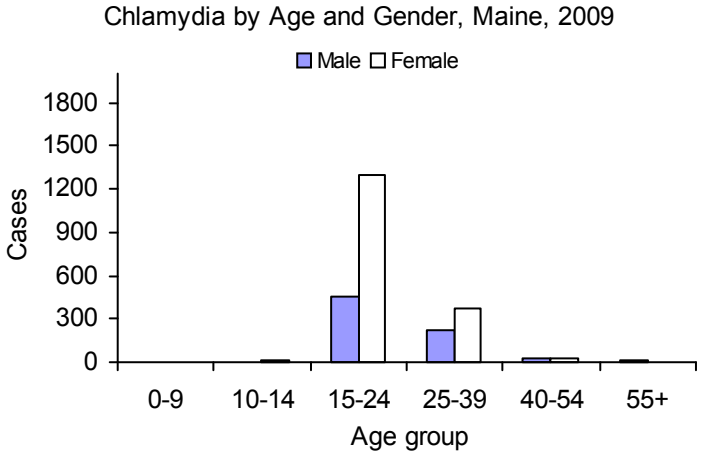
Chlamydia is a sexually transmitted disease (STD) caused by the bacterium *Chlamydia trachomatis.* Chlamydia is known as a "silent" disease, as three quarters (75%) of women and half (50%) of men will have no symptoms. Common symptoms for women may be vaginal discharge or a burning feeling with urination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

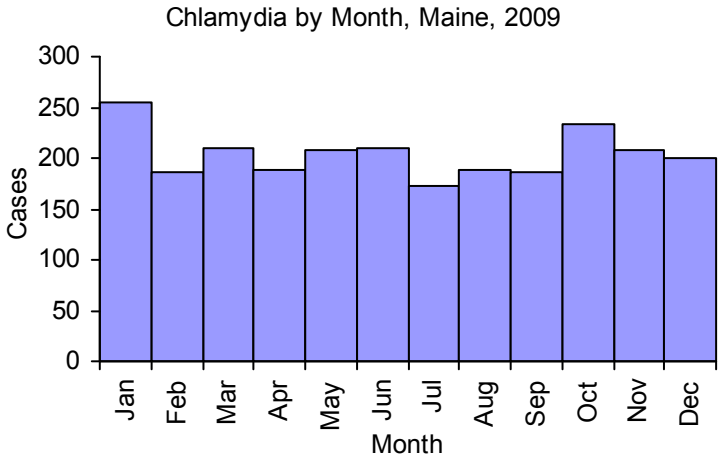
If chlamydia is not treated, the infection may cause serious damage to the reproductive system, including infertility. Chlaymdia can be passed to a child during birth. People with chlamydia can more easily contract HIV from someone else if they are infected or transmit HIV to others if they are infected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

- Chlamydia is the most frequently reported STD in Maine
- The 5 year trend shows that, three women have been diagnosed for every one man
- 72% of infections were in persons 15-24 years old

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, a homeless teen clinic, and at the three STD clinics (Bangor, Portland and Lewiston).







Cryptosporidiosis

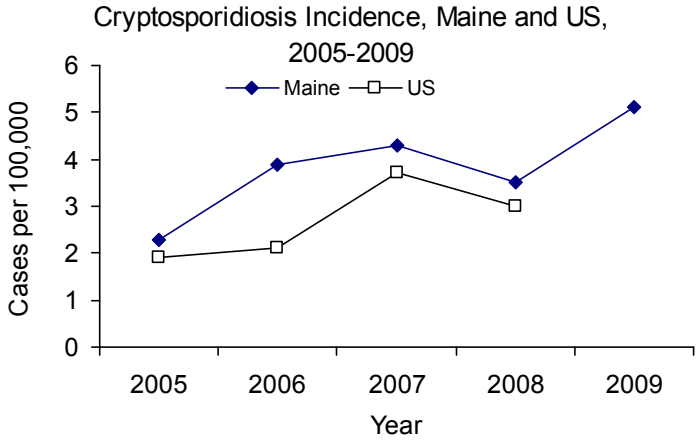
2009 Case Total	**67**
Maine Rate	**5.1 per 100,000**
U.S. rate (2008)	**3.0 per 100,000**

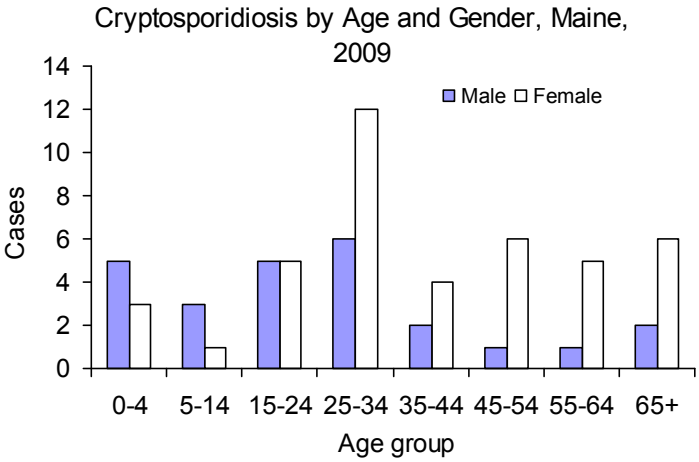
Cryptosporidiosis is an infection most frequently associated with contaminated water. The disease is caused by a parasite which lives in the intestines of animals and infected humans. Feces containing the parasite may contaminate the ground or water sources. The parasite may live for long periods of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

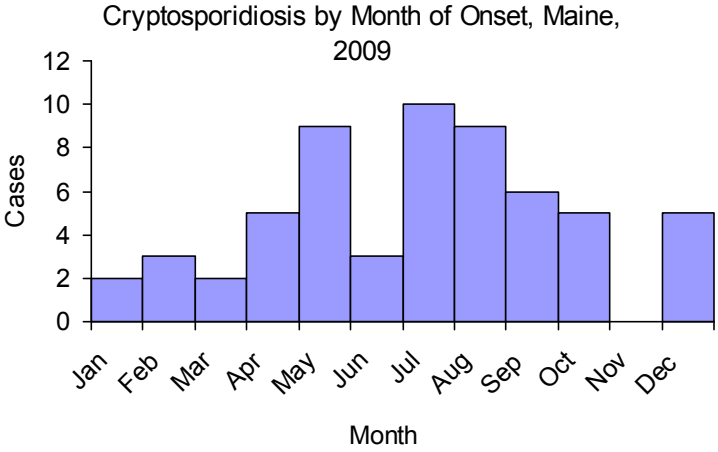
Symptoms include diarrhea, abdominal cramping, malaise and vomiting.

- Case total of 67 represents an increase from 2008
- The 2004-2008 median number of cases per year was 46
- Median age was 30 years
- Age range was 8 months to 90 years
- Cases were 63% female and 37% male
- Highest incidence was in Lincoln, Piscataquis, Somerset and Waldo counties
- Greatest number of cases occurred during the late summer months

Protective measures include the practice of good hand hygiene around farm animals and discouraging any persons from swimming when they have diarrheal illnesses.







Ehrlichiosis

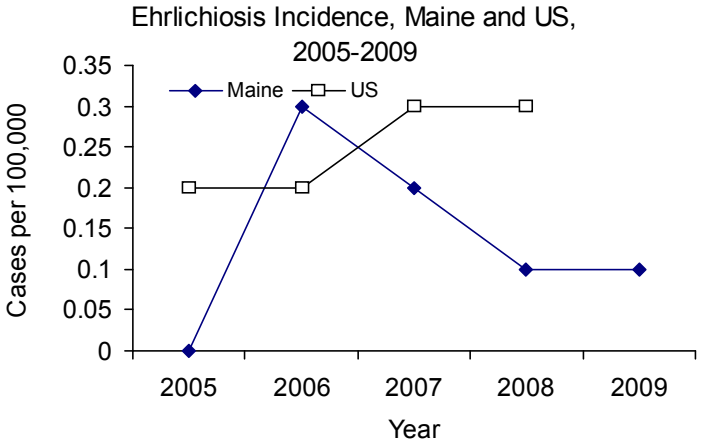
2009 Case Total	**1**
Maine Rate	**0.1 per 100,000**
U.S. rate (2008)	**0.3 per 100,000**

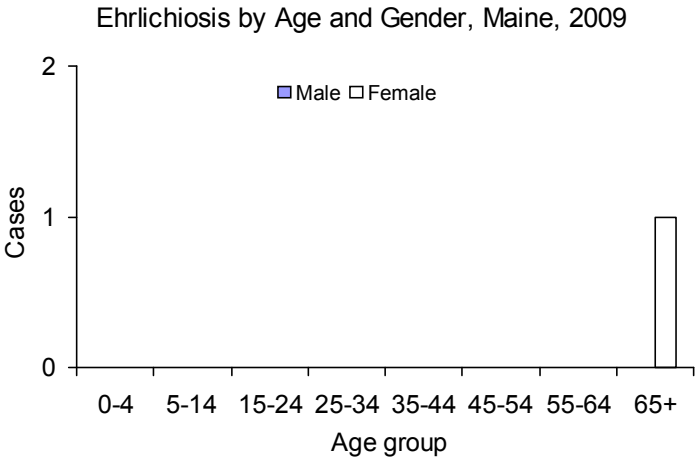
Ehrlichiosis is a disease caused by the bacteria *Ehrlichia chaffeensis* which infects white blood cells (monocytes). *Ehrlichia chaffeensis* was previously known as human monocytic ehrlichiosis (HME).

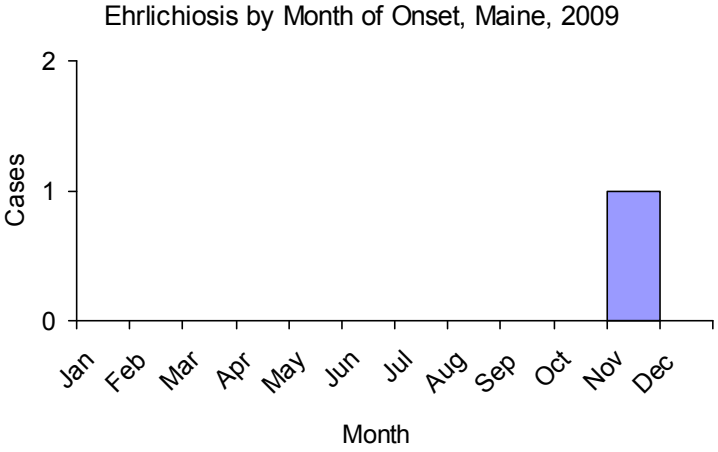
Signs and symptoms of ehrlichiosis include: fever, headache, nausea, and body aches. Ehrlichiosis is transmitted to a person through the bite of an infected lone star tick (*Amblyomma americanum*), an uncommon tick in Maine.

- Case total of 1 probable case represents no change from 2008
- The 2004-2008 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, wearing repellents such as DEET or permethrin applied properly according to the directions, is a good way to protect oneself against ticks. If an engorged tick is found, it should be saved for identification.







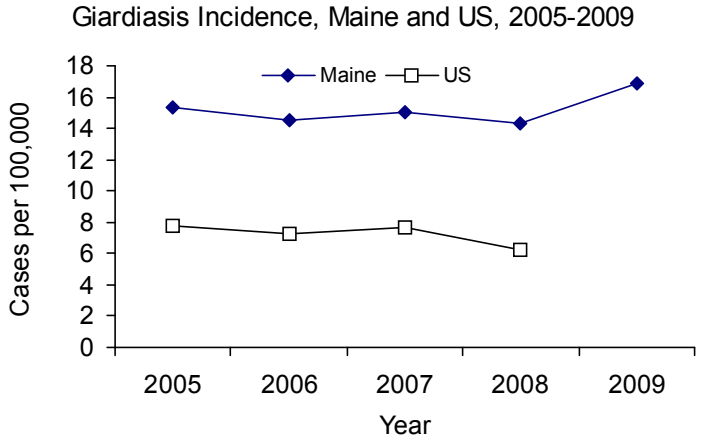
Giardiasis

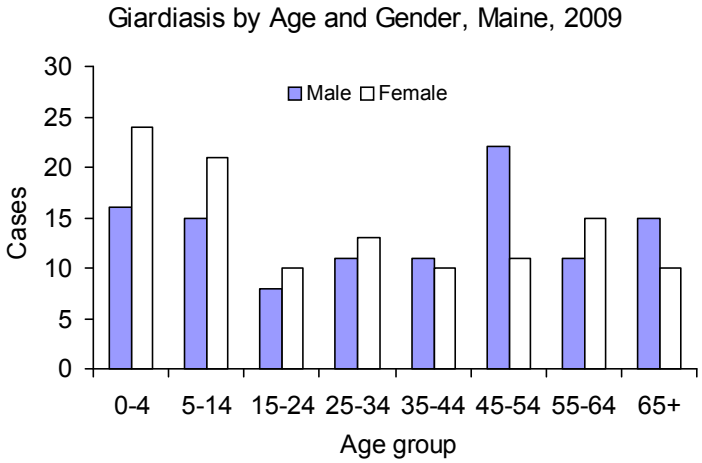
2009 Case Total	**223**
Maine Rate	**16.9 per 100,000**
U.S. rate (2008)	**6.2 per 100,000**

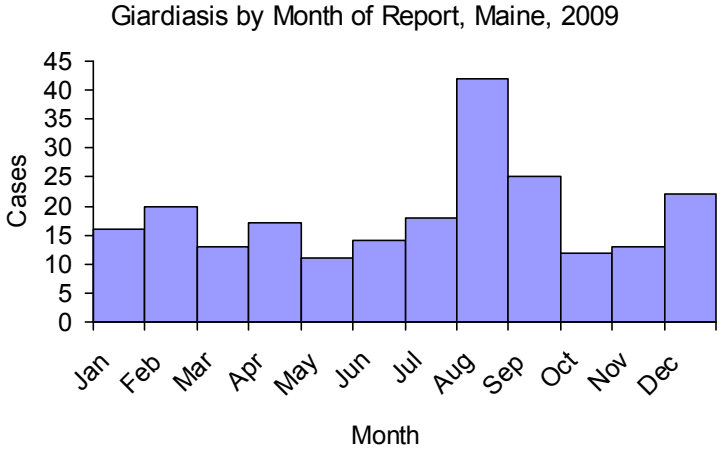
Giardiasis is sometimes known as "beaver fever" because beavers (as well as dogs, cats, horses and cows) are major reservoirs for the parasite (*Giardia lamblia*) that causes the infection. The parasite lives in the intestines of infected humans and animals and when expelled through the feces can contaminate water and ground surfaces. The beaver 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 an increase from 2008
- The 2004-2008 median number of cases per year was 192
- Median age was 33 years
- Age range was 1 year to 93 years
- Cases were 51% female and 49% male
- Highest incidence was in Cumberland, Lincoln 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 this infection.







Gonorrhea

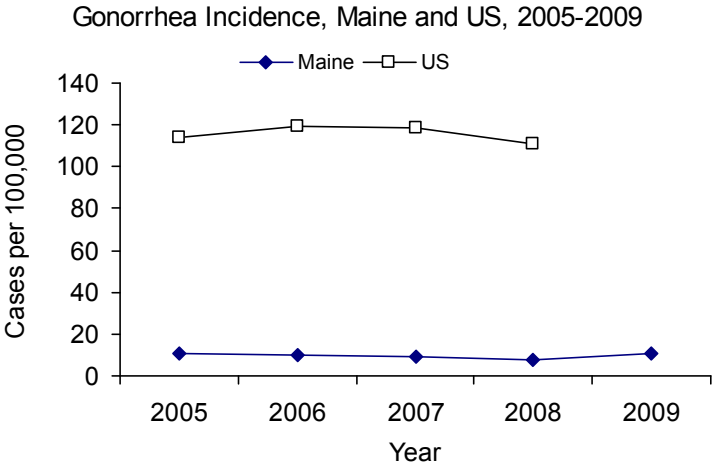
2009 Case Total	**143**
Maine Rate	**10.8 per 100,000**
U.S. rate (2008)	**110.6 per 100,000**

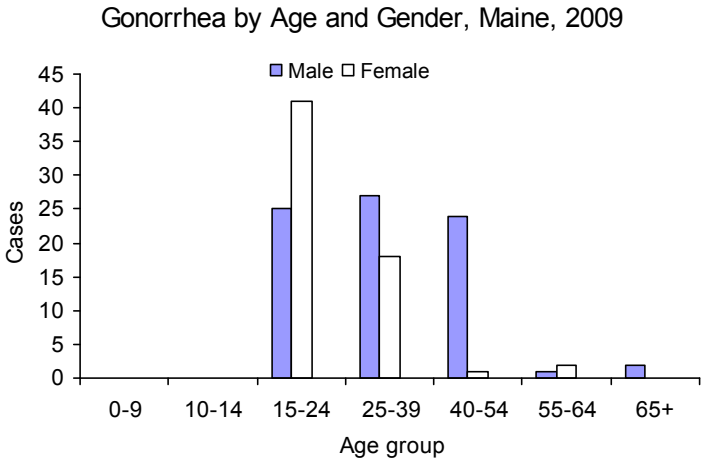
Gonorrhea is a sexually transmitted disease (STD) caused by the bacterium *Neisseria gonorrhoeae* that grows and multiplies in warm, moist areas. Gonorrhea can be spread through contact with the vagina, penis, mouth or anus. Gonorrhea can also spread from a mother to her baby during childbirth. Gonorrhea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

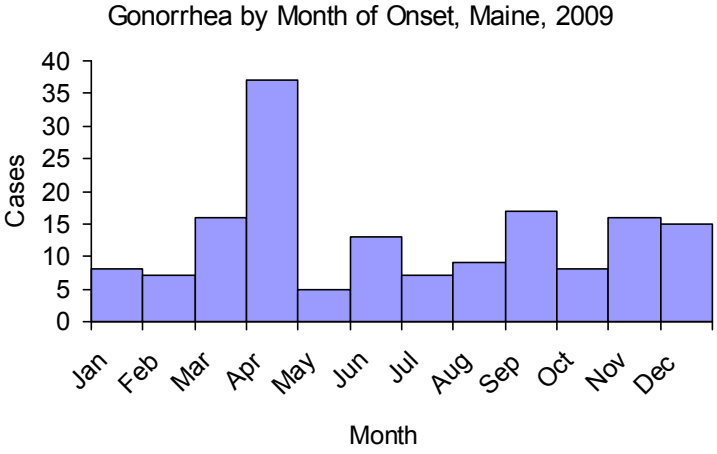
Gonorrhea is dangerous if untreated. In women, gonorrhea is a common cause of pelvic inflammatory disease, which can lead to chronic pain and infertility. In men, gonorrhea can cause epididymitis, causing painful testicles and infertility. People infected with HIV are more likely to transmit HIV if they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

- Case total of 143 represents a 49% increase from 2008 counts
- Highest incidence among females were those 15-19 years old (35%) and males were 20-24 years old (23%)
- Cases were 43% female and 57% male

Prevention efforts for gonorrhea have primarily focused on treatment verification and case investigation activities that include partner follow-up for all new gonorrhea 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

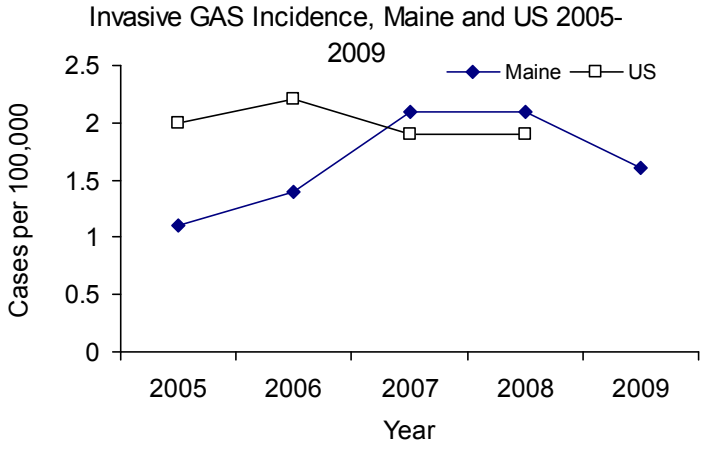
2009 Case Total	**21**
Maine Rate	**1.6 per 100,000**
U.S. rate (2008)	**1.9 per 100,000**

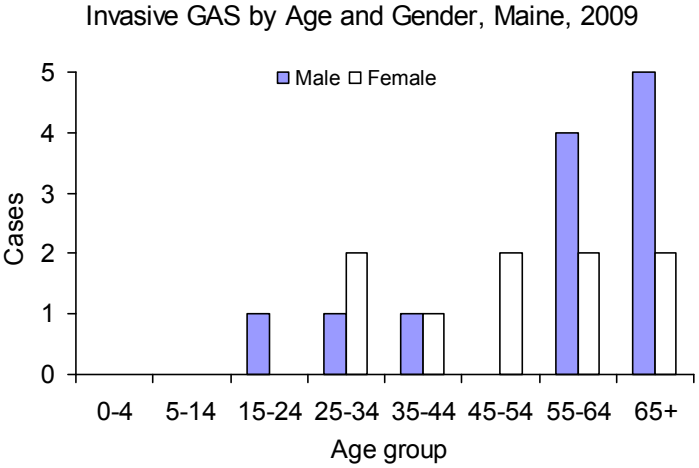
Group A Streptococcus (GAS) is a bacterium often found in the throat and on the skin that can cause either no symptoms or mild symptoms such as pharyngitis (strep throat), cellulitis (soft tissue infection) or impetigo (skin dermatitis). Occasionally GAS can cause severe or even life-threatening conditions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

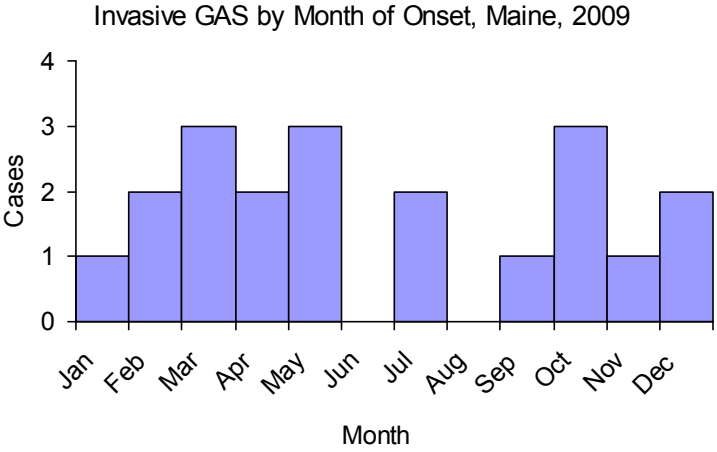
Necrotizing fasciitis, a condition that progressively destroys skin, fat and muscles, can be caused by GAS. Another example of an invasive GAS disease is Streptococcal Toxic Shock Syndrome, a rapid drop of blood pressure that causes organ failure.

- Case total of 21 represents a decrease from 2008
- The 2004-2008 median number of cases per year was 19
- Median age was 57 years
- Age range was 21 years to 95 years
- Cases were 43% female and 57% male

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, cardiac diseases).







Haemophilus influenzae

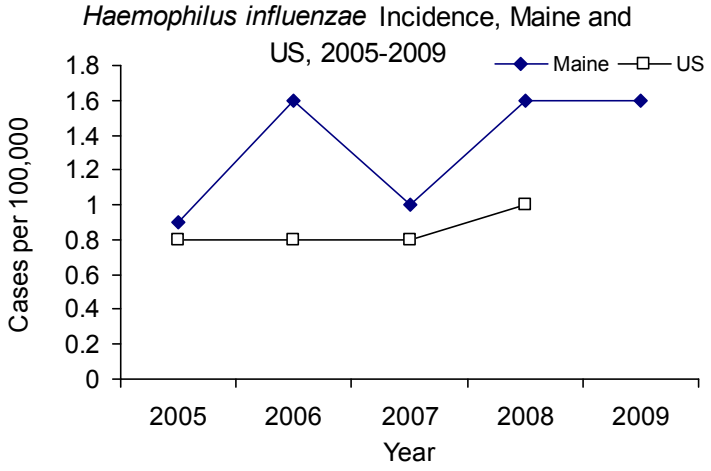
2009 Case Total **21**
Maine Rate **1.6 per 100,000**
U.S. rate (2008) **1.0 per 100,000**

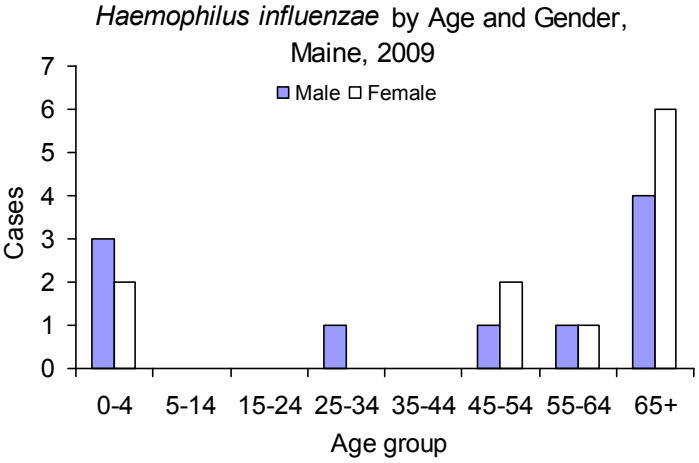
Haemophilus influenzae disease (sometimes called H. flu) is caused by the *Haemophilus influenzae* bacterium. A specific type called serotype B (Hib), was once the most common cause of bacterial meningitis in children. Due to widespread use of Hib vaccine in children, few cases in children less than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

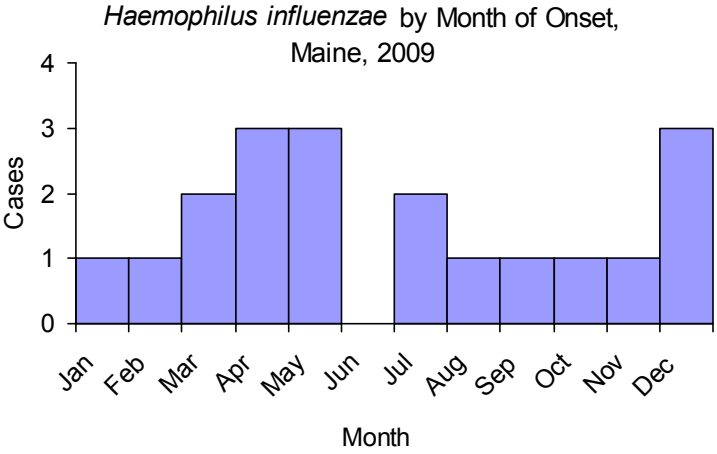
The bacteria is spread from person to person, through airborne droplets, when an infected person coughs or sneezes. H. flu can cause severe illnesses such as meningitis, bacteremia, pneumonia and septic arthritis.

- Case total of 21 represents no change from 2008
- The 2004-2008 median number of cases per year was 15
- Median age was 62 years
- Age range was 1 month to 95 years
- Cases were 52% female and 48% male
- 2 cases of Hib in children less than 5 years old were reported, one child was fully vaccinated

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

2009 Case Total	**1**
Maine Rate	**0.1 per 100,000**
U.S. rate (2008)	**0.9 per 100,000**

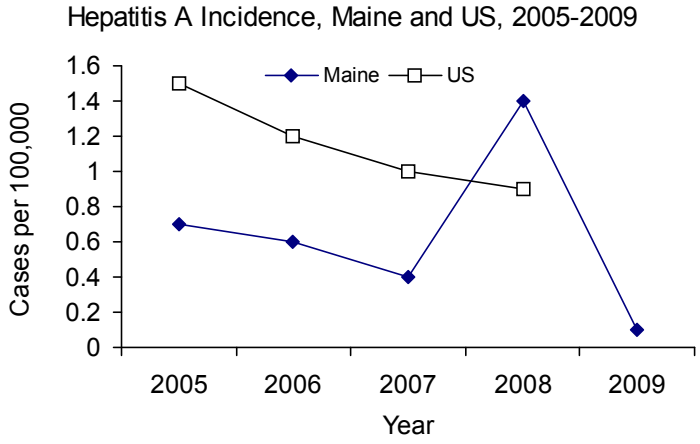
Hepatitis A is a liver disease caused by hepatitis A virus. The virus is spread from person to person by putting something in the mouth that has been contaminated with the stool of a person with hepatitis A. Poor handwashing by infected persons increases the risk of transmission. The virus spreads more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

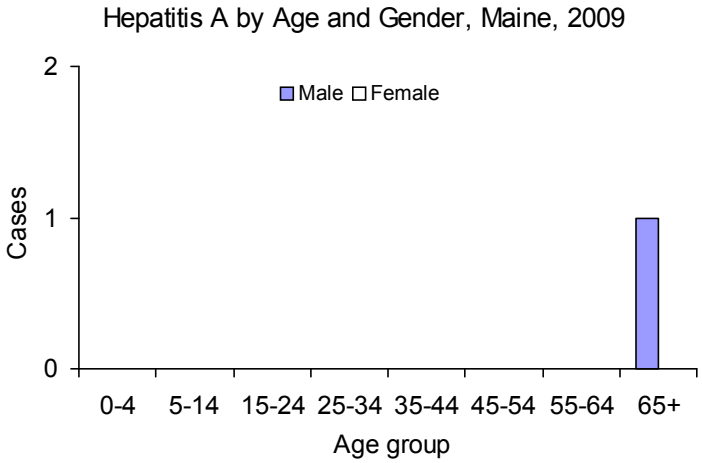
Onset of symptoms is usually abrupt with fever, malaise, anorexia, nausea and abdominal discomfort followed a few days later by jaundice. Upon recovery, a person is immune to hepatitis A.

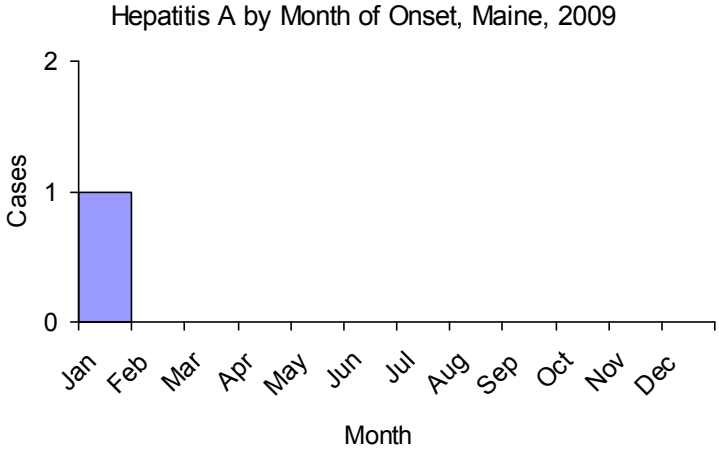
- Case total of 1 represents a decrease from 2008
- The 2004-2008 median number of cases per year was 9

The increase shown on the incidence graphs in 2008 is due to an outbreak of 13 cases involving an asymptomatic foreign born child, multiple family members and social contacts.

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 get seriously ill if they get hepatitis A. Immune globulin must be given within 2 weeks after exposure to the virus for maximum protection.







Hepatitis B, acute

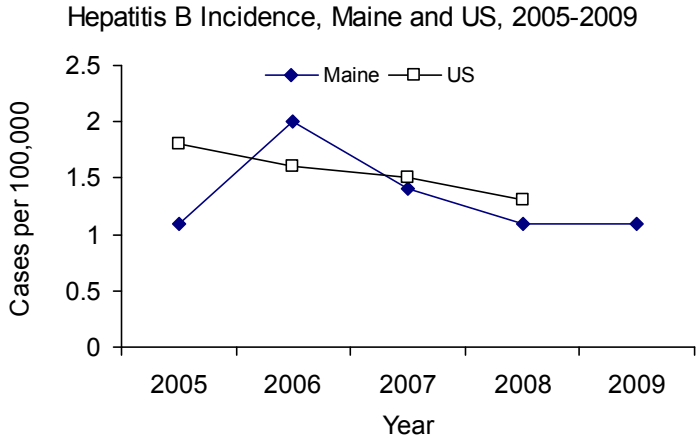
2009 Case Total **15**
Maine Rate **1.1 per 100,000**
U.S. rate (2008) **1.3 per 100,000**

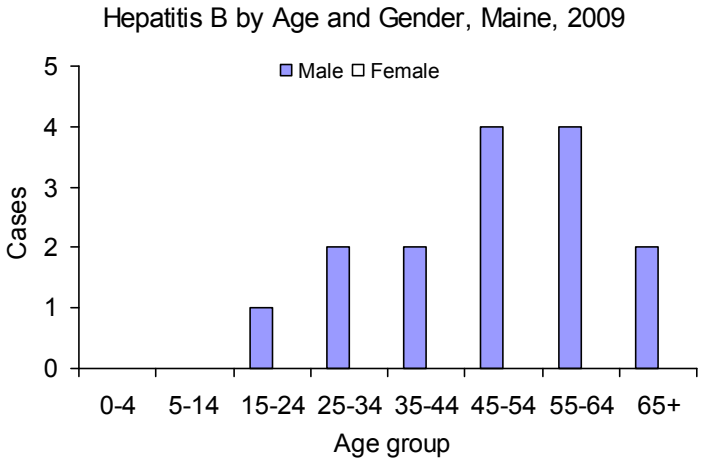
Hepatitis B is liver disease caused by hepatitis B virus. The virus can cause lifelong infection, cirrhosis (scarring) of the liver, liver cancer, liver failure, and death. Hepatitis B can be transmitted through exposure to blood from an infected person (needle sticks and other sharps exposures, sharing 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.

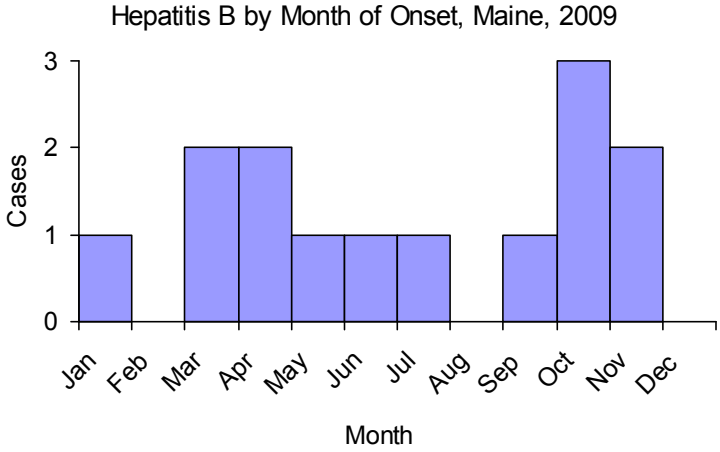
Symptoms do not occur in all patients with hepatitis B infection. Symptoms include anorexia, abdominal discomfort, nausea and vomiting followed by jaundice.

- Case total of 15 represents no change from 2008
- The 2004-2008 median number of cases per year was 15
- Median age was 51 years
- Age range was 22 to 71 years
- All cases were male

Prevention, education, evaluation and surveillance continue to be the focus for Maine CDC. Vaccine is available 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 and using sterile needles and syringes.







Hepatitis C

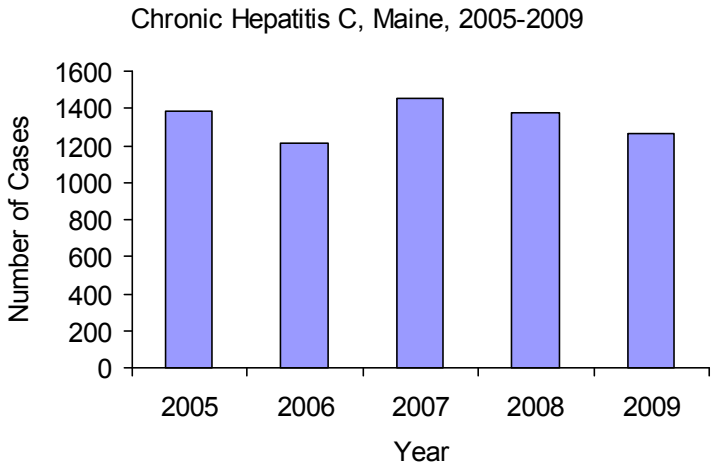
2009 Case Total **1263**
Maine Rate **N/A**
U.S. rate (2007) **N/A**

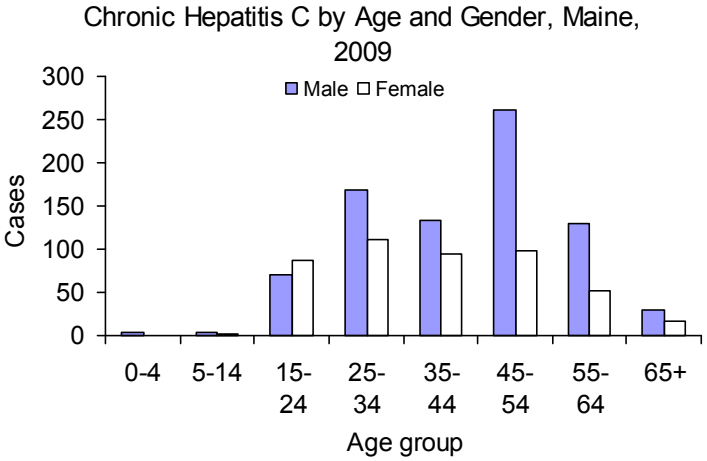
Hepatitis C is a contagious liver disease caused by hepatitis C virus. It can range in severity from a mild illness lasting a few weeks to a serious, lifelong illness or even death. Hepatitis C virus (HCV) is spread when blood from a person infected with the hepatitis C virus enters the body of someone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

A hepatitis C positive report is defined as the presence of any positive serologic marker for hepatitis C infection. Markers include anti-HCV (EIA), anti-HCV (RIBA), hepatitis C antigen (RT-PCR), or reports of hepatitis C genotype. It should be noted that not all anti-HCV (EIA) reports are verified by supplemental assay. Also, neither EIA nor RIBA tests alone can distinguish between past and current infection.

- Case total of 1263 represents a decrease from 2008
- Age range was 1 to 85 years
- Highest number of cases reported among people 45-54 years old
- Cases were 64% male and 36% female, with one person unidentified

People with chronic HCV should be monitored regularly by an experienced health care provider. They should avoid alcohol because it can cause additional liver damage. They also should 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*

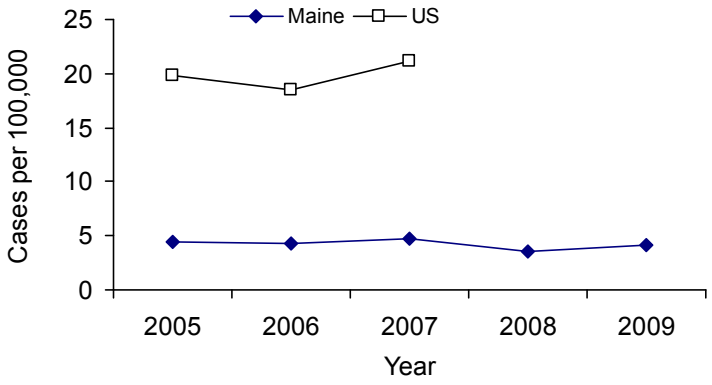
2009 Case Total **56**
Maine Rate **4.2 per 100,000**
U.S. rate (2007) **22.8 per 100,000**

Human Immunodeficiency Virus (HIV) is virus that is responsible for HIV disease and Acquired Immunodeficiency Syndrome (AIDS). AIDS typically presents as the late clinical stage of HIV infection. HIV is transmitted from person to person through unprotected penile-vaginal or penile–anal intercourse with an infected person; the use of HIV contaminated needles and syringes; from infected mother to infant during pregnancy, delivery, or breastfeeding; and transfusion of infected blood or its components. In Maine, the most common mode of HIV transmission is through unprotected penile-anal intercourse among men. Other common transmission modes in Maine include non-prescription injection drug use and heterosexual partner at high risk for HIV infection.

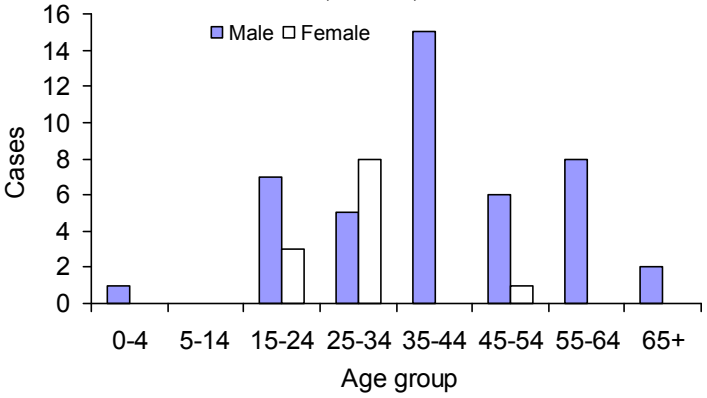
- Case total of 56 represents an increase from 2008
- The 2004-2008 median number of cases per year was 52
- Age range was 0-77 years
- Majority of cases were male (85%)
- 50% of cases reported risk factor of males who have sex with other males
- Highest incidence was in people 20-29 years old (50%)
- Perinatal transmission case was from a mother who initially screened negative during pregnancy and was known to have high risk behaviors

Efforts to prevent the spread of HIV in Maine target those at risk of infection and Mainers infected with . HIV testing, counseling and referral services are offered by various agencies and programs dedicated to HIV prevention and treatment in Maine.

Newly Identified HIV Incidence, Maine and US**, 2005-2009



Newly Identified HIV Diagnoses by Age and Gender, Maine, 2009



Identified Mode of Transmission Among HIV Cases, Maine, 2009

Mode of Transmission	New Diagnoses
Men who have sex with men (MSM)	28
Injection drug users (IDU)	5
MSM/IDU	3
Heterosexual contact with at-risk partners	7
Heterosexual, no at-risk partners disclosed	12
Undetermined	0
Received contaminated blood products	0
Child born to mother with HIV	1

*Includes all newly identified HIV infections, including those simultaneously diagnosed as new AIDS cases.
**Based on reports from 33 or 34 reporting states.

Legionellosis

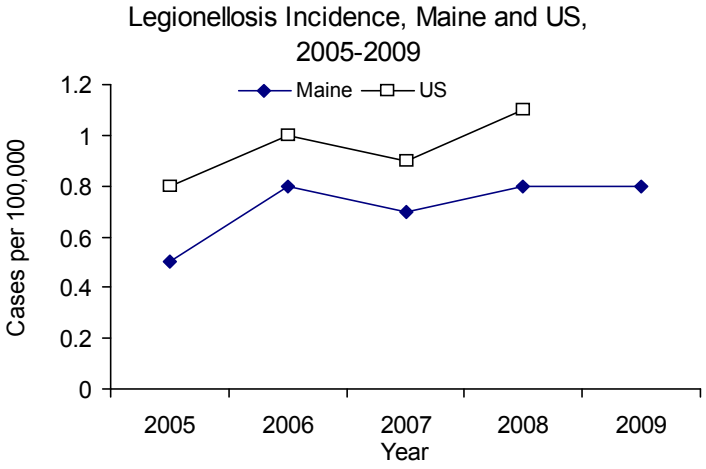
2009 Case Total **10**
Maine Rate **0.8 per 100,000**
U.S. rate (2008) **1.1 per 100,000**

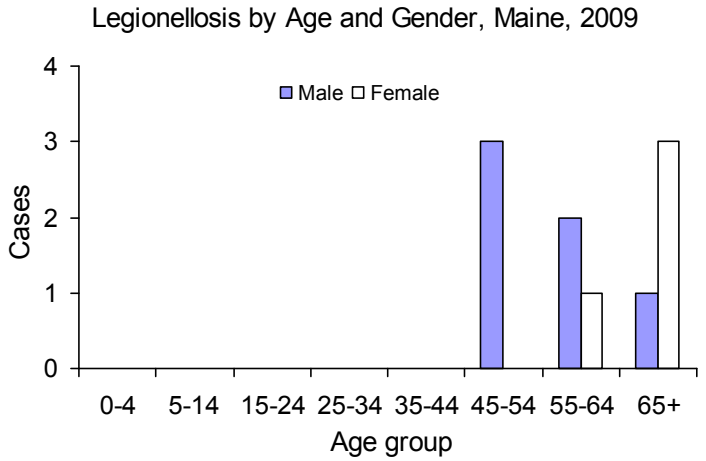
Legionellosis (or Legionnaire's disease) is a serious and sometimes fatal form of pneumonia. *Legionella* bacteria are widespread in natural, industrial and recreational water sources. The bacteria grow best in warm, stagnant water. They have been found in creeks and ponds, hot and cold water taps, hot water tanks and water cooling towers, and condensers of large air-conditioning systems. People get legionellosis when they breathe in a mist or vapor that has been 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.

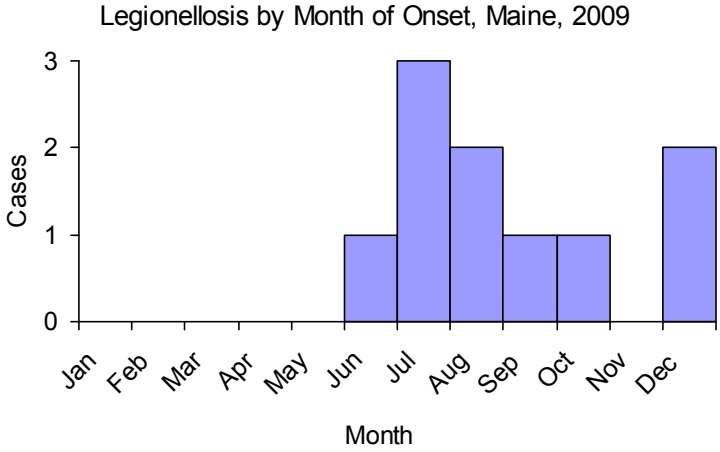
Symptoms include high fever, chills, muscle aches, headaches, cough and pneumonia. Legionellosis is treatable with antibiotics.

- Case total of 10 represents a decrease from 2008
- The 2004-2008 median number of cases per year was 9
- Median age was 58 years
- Age range was 53 to 85 years
- Cases were 40% female and 60% male

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







Listeriosis

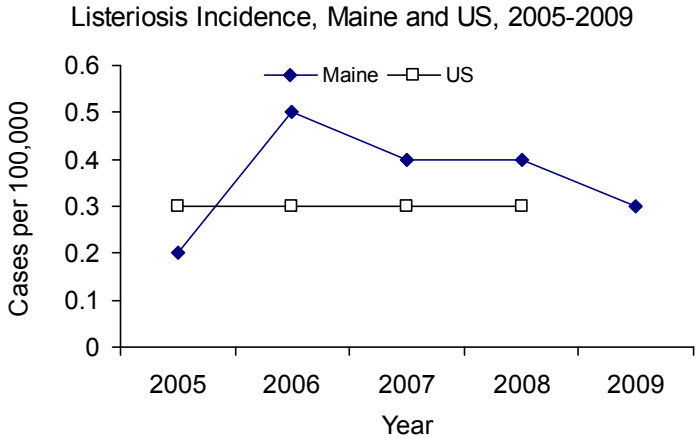
2009 Case Total	**4**
Maine Rate	**0.3 per 100,000**
U.S. rate (2008)	**0.3 per 100,000**

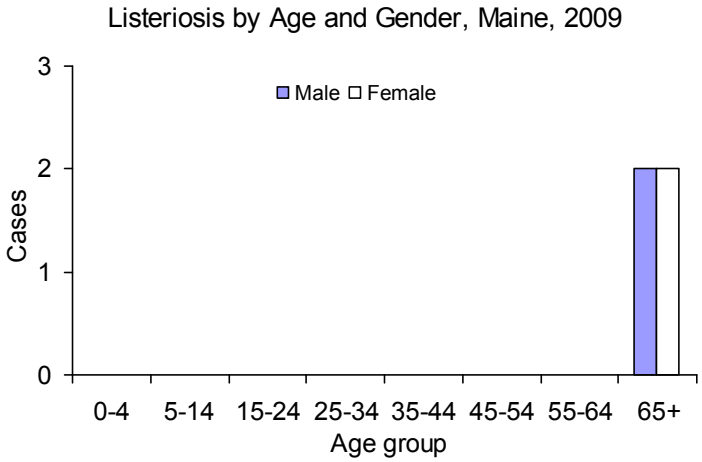
Listeriosis is a bacterial illness, caused by *Listeria monocytogenes*. Infection may cause sepsis and meningitis. Listeriosis is frequently linked to ready-to-eat meats (pate, refrigerated smoked seafood), deli meats, soft cheeses and raw milk. Pregnant women and neonates are at highest risk as the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

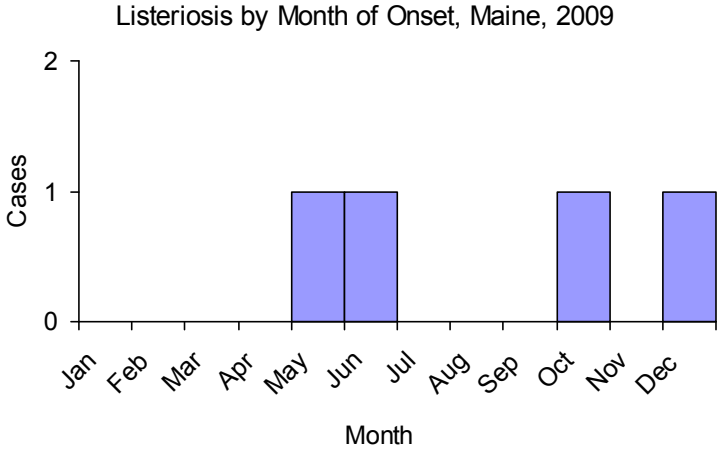
Symptoms include fever, headache, nausea, fatigue and disorientation. Listeriosis may cause spontaneous abortion.

- Case total of 4 represents a decrease from 2008
- The 2004-2008 median number of cases per year was 5 cases
- Median age was 72 years
- Age range was 68 to 89 years
- Cases were 50% female and 50% male
- All cases were hospitalized and one case died

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

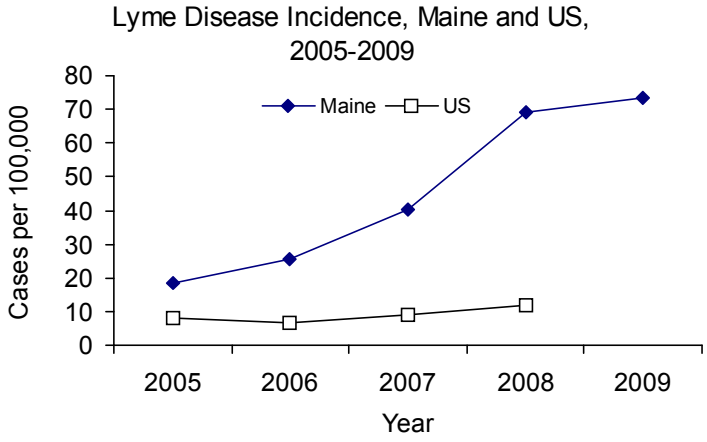
2009 Case Total	**970**
Maine Rate	**74.6 per 100,000**
U.S. Rate (2008)	**11.6 per 100,000**

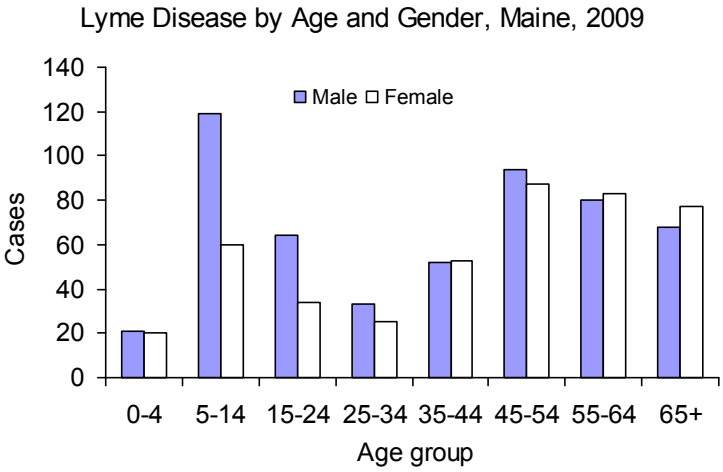
Lyme disease, Maine's most common vectorborne disease in humans, is caused by the bacterium *Borrelia burgdorferi*. The disease is transmitted via the bite of an infected deer tick (*Ixodes scapularis)* and symptoms are generally visible around 3 days after the initial bite. The typical rash can be followed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

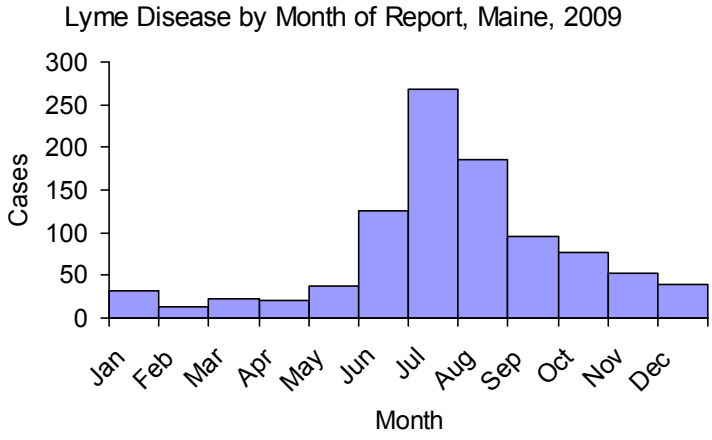
The case definition for classifying cases changed starting January 1, 2008 that included a probable case definition which led to a higher case count than previous years.

- Case total of 970 represents an increase over 2008
- The 2004-2008 median number of cases per year was 340
- Median age was 45 years
- Age range was 1 to 94 years
- Cases were 45% female and 55% male
- Most cases occurred during summer months (50% in June-August)
- Cases were greatest in York (27%) and Cumberland (29%) counties

Though there is no vaccine for lyme disease, risk can be greatly reduced by avoiding tick habitat, using DEET based insect repellents, 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 ensure their residents' protection from lyme disease.







Meningococcal Disease

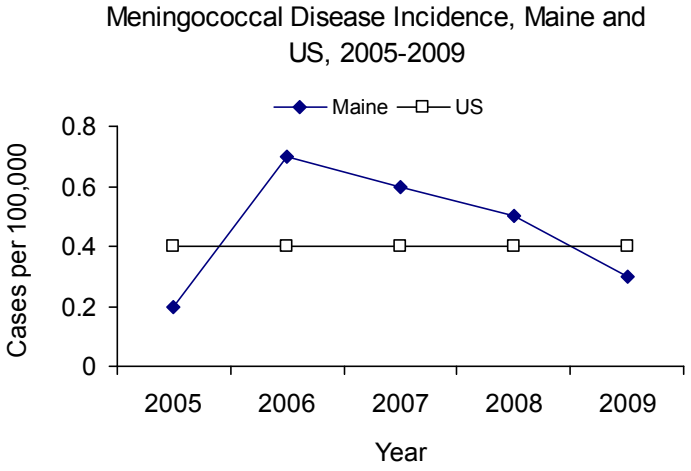
2009 Case Total **4**
Maine Rate **0.3 per 100,000**
U.S. rate (2008) **0.4 per 100,000**

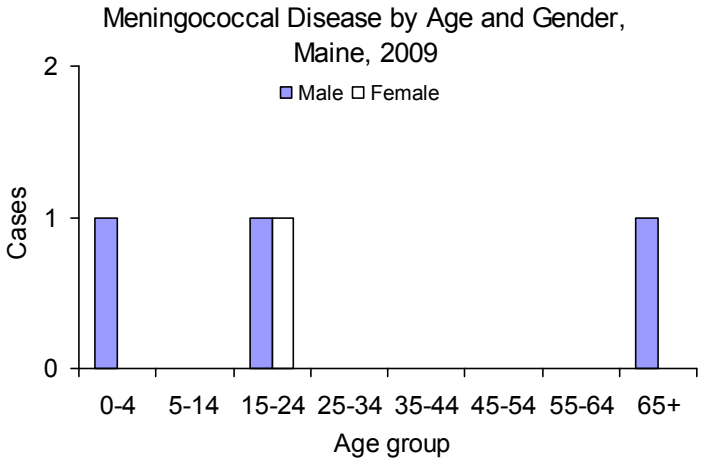
Neisseria meningitides is a gram-negative diplococcal bacterium that causes meningitis and meningococcemia. *N. meningitides* infection usually begins when the bacteria, that can be present in the throat but not cause illness, penetrates the nasopharyngeal surface and enters the blood stream. Transmission of meningococcal disease most often occurs through direct contact with respiratory secretions from the nose or throat of an infected person.

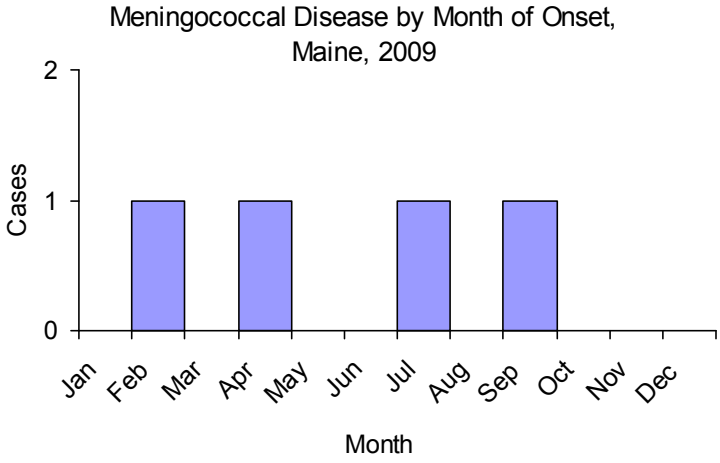
Symptoms include fever, headache, stiff neck for meningitis and rash and sepsis for meningococcemia. The symptoms are indistinguishable from other pathogens causing meningitis.

- Case total of 4 represents a decrease from 2008
- The 2004-2008 median number of cases per year was 8
- Median age was 17.5 years
- Age range was 1 to 68 years
- Cases were 25% female and 75% male
- Serogroups identified include: Y(1), W(1), and untypeable(2)

There are at least thirteen *Neisseria meningitidis* serogroups, and there is currently a vaccine available for the four serotypes that cause the majority of infections in young adults (serotypes 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 the disease chemoprophylaxis is available for persons who have been exposed to an infected individual's oral secretions.







MRSA, invasive

2009 Case Total **120**
Maine Rate **9.1 per 100,000**
U.S. rate (2008) **Not reportable**

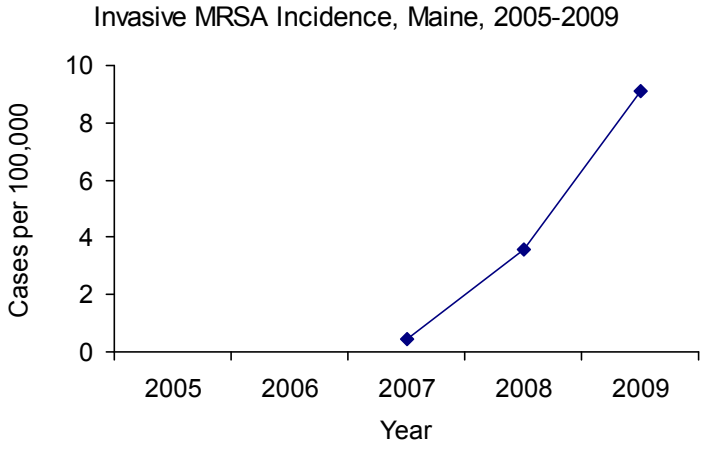
In April 2008, new rules for reporting conditions to the Maine CDC were implemented. All cases of invasive Methicillin-Resistant *Staphylococcus aureus* (MRSA) are reportable, regardless of community or hospital acquired status.

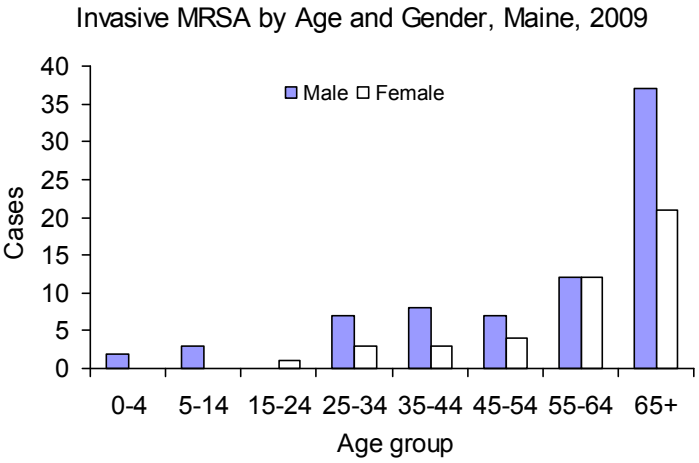
Invasive MRSA is caused by a strain of bacteria which is resistant to the antibiotic methicillin and many of the antibiotics commonly used to treat staphylococcal infections. MRSA is becoming more common in the community, usually presenting as a skin or soft tissue infection, considered a non-invasive infection. Non-invasive MRSA infections are frequently transmitted to household members and close contacts by exposure to drainage or infectious secretions.

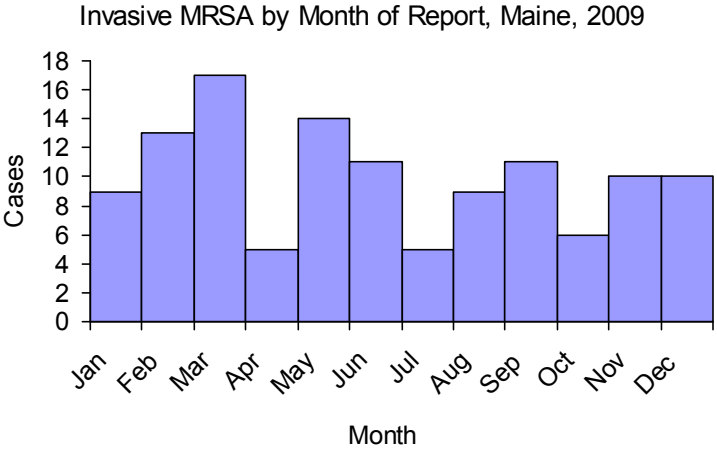
Persons with weakened immune systems, the elderly, and those with invasive medical devices are at increased risk of invasive MRSA infections.

- Case reporting initiated in the summer of 2008
- Increase seen on the incidence graph most likely due to reporting changes
- Median age was 63.5 years
- Age range was 2 to 98 years
- Cases were 37% female and 63% 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 has healed.







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 2009, two mosquito pools, fifteen horses, one llama and three pheasant flocks 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/encephalitis and can be fatal.

In 2009, 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 2009, there were two cases of malaria reported in individuals who had a history of travel outside the US (Brazil and the Philippines). Although the range of infection for malaria appears to be expanding, there has only been one recorded case of locally acquired malaria in Maine in over 50 years.

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

In 2009, there were three probable cases of Dengue fever reported to the state. Dengue virus is not common in the United State and all cases had travelled internationally (Mexico, El Salvador, multiple regions of world) during their exposure period.

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

- Wear insect repellent. Products containing DEET, 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 bad
- Protect babies with mosquito netting
- When mosquitoes are especially bad, 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, plastic tarps and similar things.
- Empty water from flower pots, pet dishes, birdbaths, rain barrels, and buckets at least once a week

Pertussis

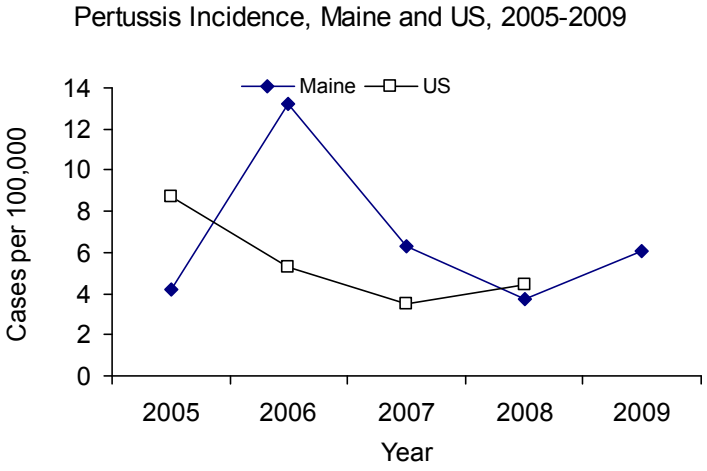
2009 Case Total	**80**
Maine Rate	**6.1 per 100,000**
U.S. rate (2008)	**4.4 per 100,000**

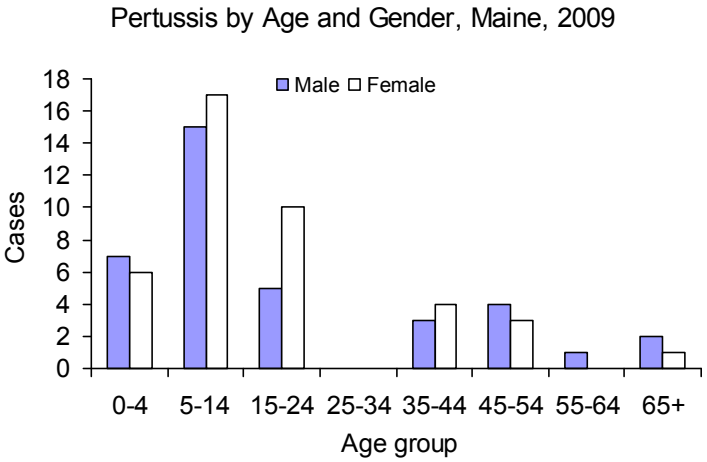
Pertussis (whooping cough) is a bacterial infection of the respiratory tract caused by *Bordetella pertussis*. The disease was one of the most common diseases among children, associated with a high mortality rate prior to vaccine licensure. Disease incidence has declined in the US since the vaccine became widely available in the 1940's.

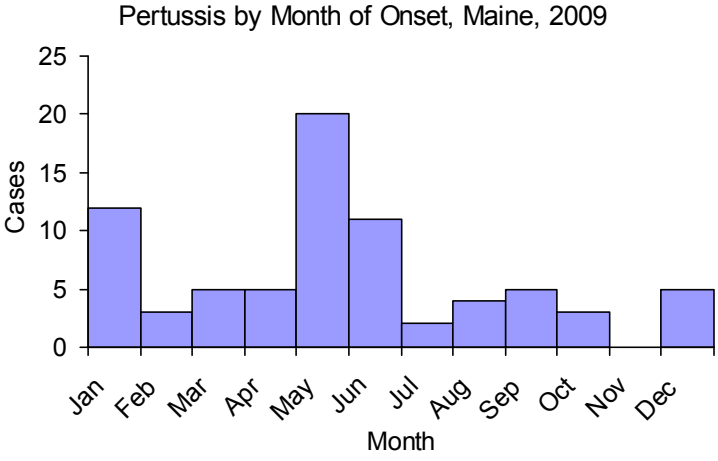
Symptoms include an irritating 2 week-cough with paroxysm, whoop, and vomiting.

- Case total of 80 represents a 63% decrease over 2008
- The 2004-2008 median number of cases per year was 83
- Median age was 13 years
- Age range was 1 month to 83 years
- Cases were 53% female and 47% male
- Hancock, Penobscot and Waldo counties had the highest incidence

Vaccination is available and part of routine childhood immunizations. Adolescents and adults are recommended to receive a one-time booster dose of Tdap. Two vaccines released in 2005 are available for adolescents and adults (Boostrix® 10-64 years of age and Adacel® 11-64 years of age). Use of these vaccines should result in a reduction of adolescent cases, as immunity from childhood vaccines wanes in the adolescent years.







Rabies, Animal

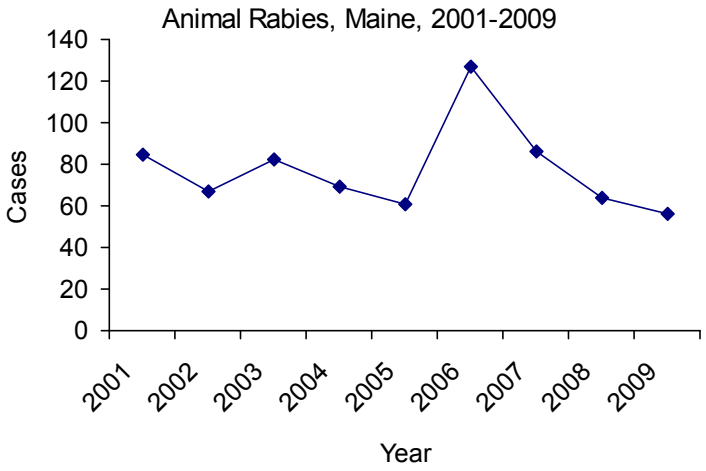
2009 Case Total **56**
Maine Rate **N/A**
U.S. Count (2009) **6,690**

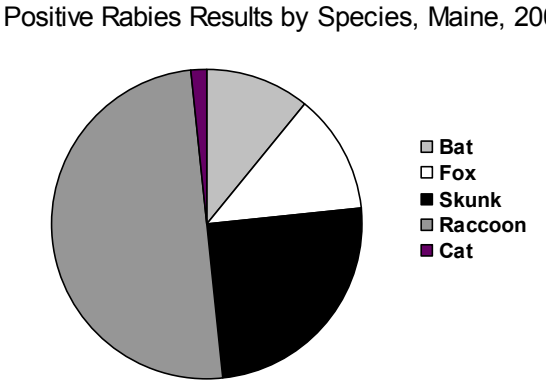
Rabies is a viral disease that affects the nervous system (brain and spinal cord) of humans. Rabies in humans is rare in the United States. The vast majority of rabies infections are found in wild animals, including raccoons, skunks, bats, and foxes. Humans usually get rabies from the bite of a rabid 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 followed up by a health care 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 56 represents a decrease from 2008
- The 2004-2008 median number of cases per year was 68 cases
- The last reported case of human rabies 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 have been infected with the virus.





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

Human deaths due to rabies in the United States have almost disappeared. This is a measure of the effectiveness of PEP and increased public awareness to 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 to minimize the risk of exposure to humans.

In 2009, 92% of rabies cases occurred in wildlife in the United States. This represents a 2.2% reduction in the total number of rabid animals from the previous year.

Salmonellosis

2009 Case Total	**121**
Maine Rate	**9.2 per 100,000**
U.S. rate (2008)	**16.8 per 100,000**

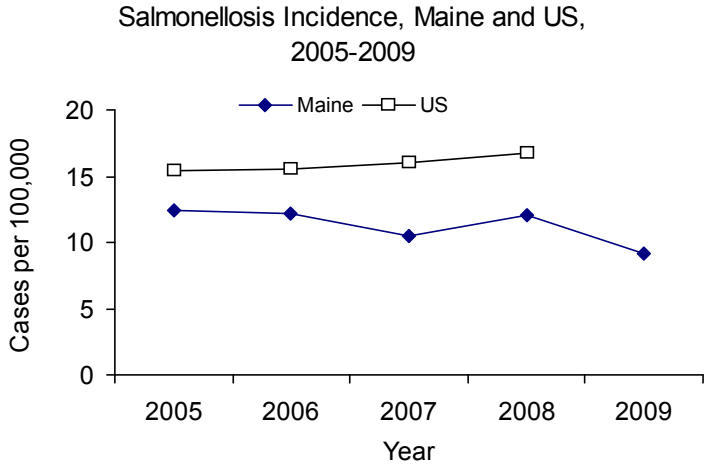
Salmonellosis is a gastrointestinal illness of varying severity caused by *Salmonella* bacterium. Severity of symptoms depends on the age and overall health of the person infected, serotype of salmonella and the site of infection. The infection is transmitted through the ingestion of contaminated meat,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

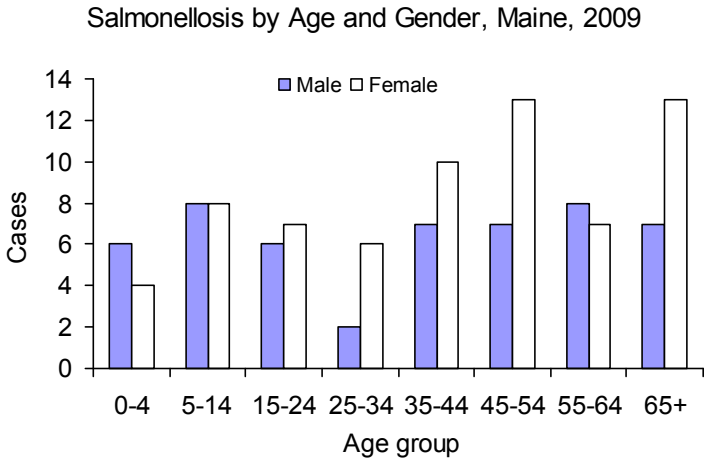
The symptoms can include fever, cramping, diarrhea, nausea, and vomiting.

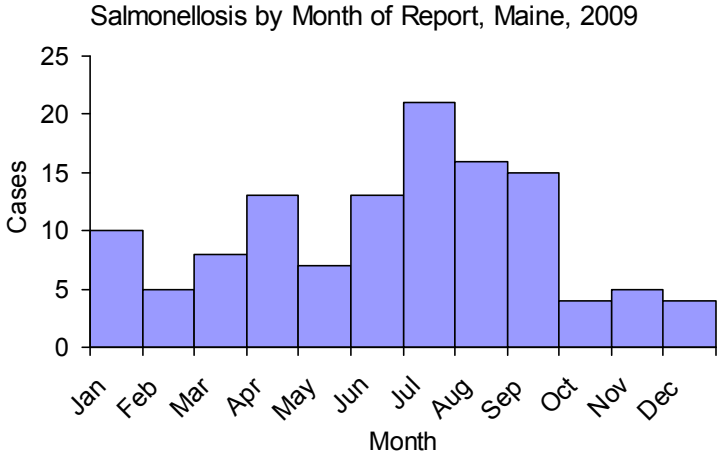
- Case total of 121 represents a decrease from 2008
- The 2004-2008 median number of cases per year was 159 cases
- Median age was 42 years
- Age range was 5 months to 95 years
- Cases were 57% female and 43% male
- 114 of 121 (94%) cases were laboratory confirmed
- 5 cases of *S. paratyphi* B (L)+ tartrate were part of an outbreak at an adult day center in Maine

The most commonly seen types of salmonella in 2009 were enteritidis, typhimurium, oraninenburg, newport and paratyphi B (L)+ tartrate.

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







Shiga toxin *E. coli (STEC)*

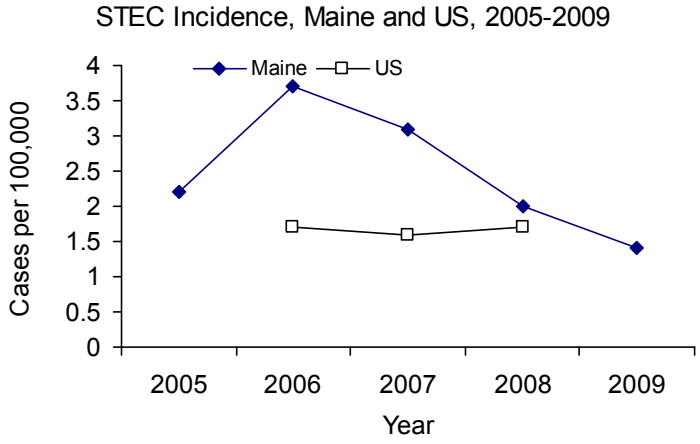
2009 Case Total	**19**
Maine Rate	**1.4 per 100,000**
U.S. rate (2008)	**1.7 per 100,000**

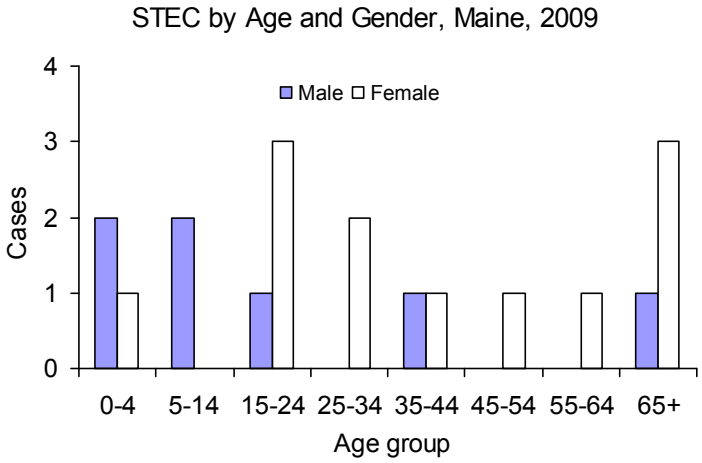
Escherichia coli are common bacteria that live in the digestive tract, some cause serious infection and some do not. Transmission of STEC is usually through consumption of food or water contaminated with fecal matter or through contact with farm animals. Commonly implicated food items include undercooked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

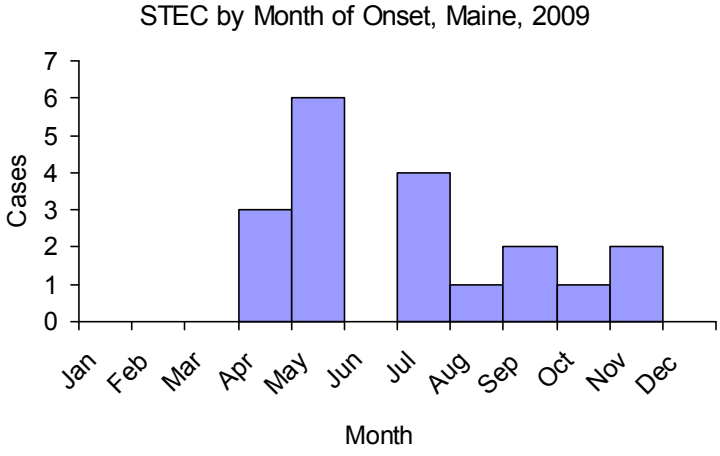
Symptoms include abdominal cramping, bloody diarrhea and a rare complication, hemolytic uremic syndrome (HUS) which can damage red blood cells and the kidneys.

- Case total of 19 represents a decrease from 2008
- The 2004-2008 median number of cases per year was 30
- Median age was 26 years
- Age range was 2 to 88 years
- Cases were 63% female and 37% male
- 17 of 19 (89%) cases were laboratory confirmed
- 82% of laboratory confirmed cases were O157:H7
- Two hemolytic uremic syndrome (HUS) case was reported, both part of the same national outbreak involving ground beef

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







Shigellosis

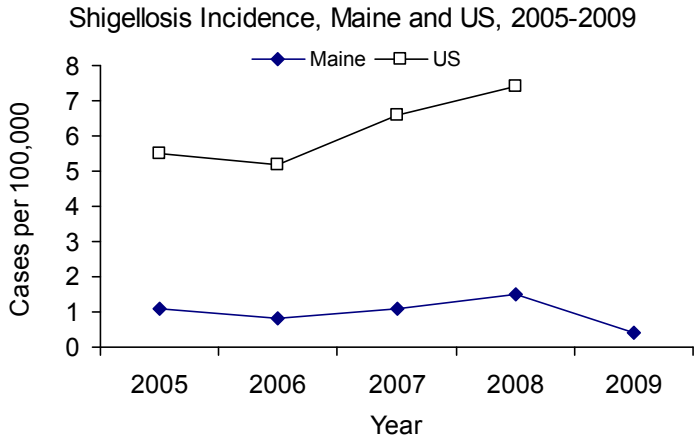
2009 Case Total	**5**
Maine Rate	**0.4 per 100,000**
U.S. rate (2008)	**7.4 per 100,000**

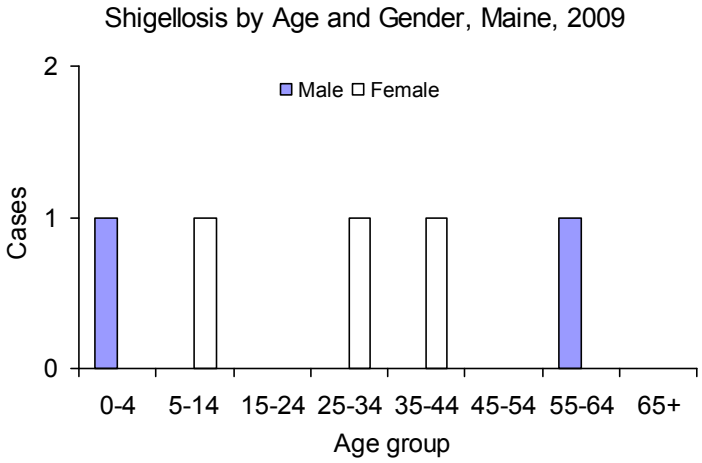
Shigellosis is a gastrointestinal illness caused by *Shigella* bacteria. *Shigella* is highly infectious and can easily be passed from one person to another through the fecal-oral route. Shigellosis can be transmitted by eating contaminated food, and drinking, swimming in or playing with contaminated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

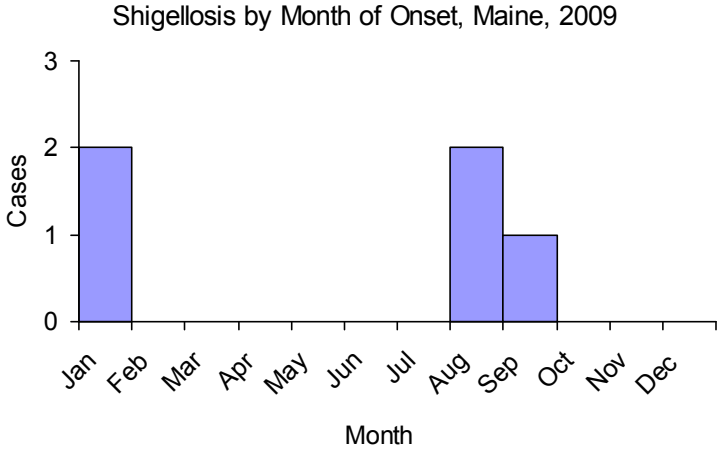
Symptoms include cramping, fever and severe diarrhea which may be bloody. Children, especially toddlers aged 2 to 4 are most likely to get shigellosis.

- Case total of 5 represents a 75% decrease from 2008
- The 2004-2008 median number of cases per year was 14
- Median age was 31 years
- Age range was 3 to 57 years
- Cases were 60% female and 40% male
- All 5 cases were laboratory confirmed
- Shigella *sonnei*, and *flexneri* were isolated from samples

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







Drug Resistant *S. pneumoniae*

2009 Case Total	**23**
Maine Rate	**1.7 per 100,000**
U.S. rate (2008)	**1.1 per 100,000**

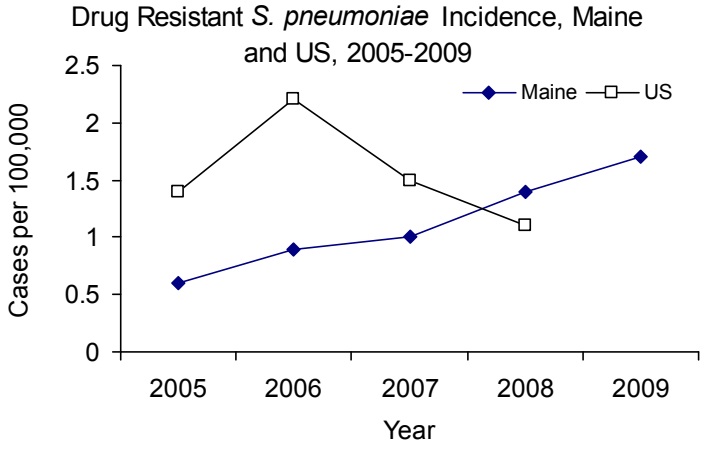
Invasive pneumococcal disease occurs when the *Streptococcus pneumoniae* bacterium infects the blood, lungs, or brain. Disease is transmitted from person to person through droplets when an infected person coughs or sneezes. Types of illness include bacteremia, meningitis, and pneumonia. There are over 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.

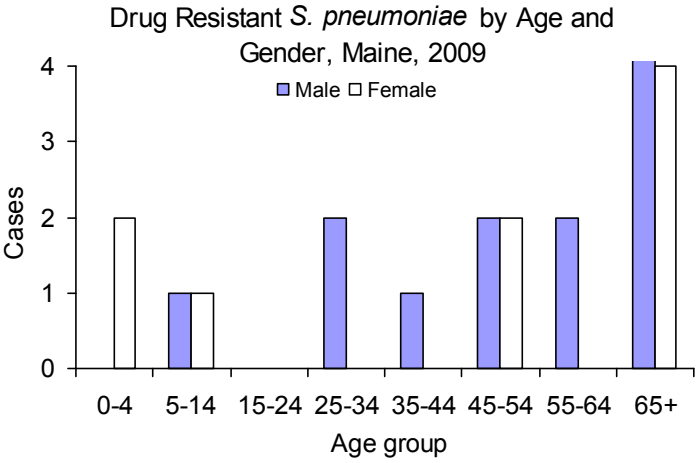
Pneumococcal disease caused by drug resistant *S. pneumoniae* (defined by resistance to one or more antibiotics) is typically characterized by one of seven serotypes (6A, 6B, 9V, 14, 19A, 19F and 23F).

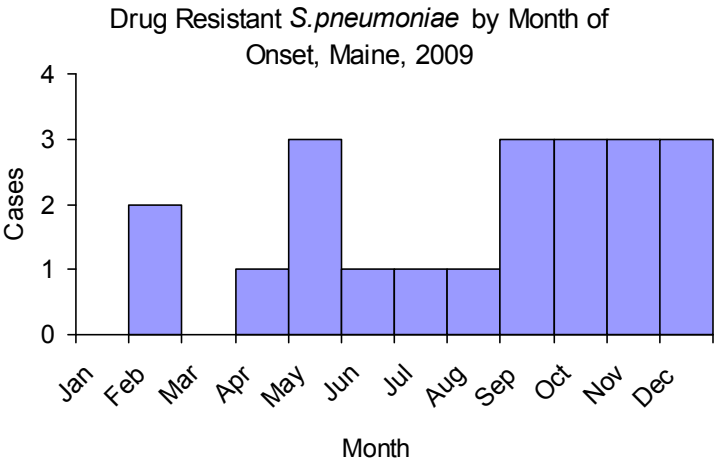
- Case total of 23 represents a 28% increase from 2008
- The 2004-2008 median number of cases per year was 12
- Median age was 55 years
- Age range was 2 to 92 years
- Cases were 39% female and 61% male

Pneumococcal disease can be prevented through routine vaccination of infants and children under five with the pneumococcal conjugate vaccine (PCV7) and vaccination of adults and children over the age of two who are at high risk of infection with the pneumococcal polysaccharide vaccine (PPV23).

All cases of IPD will be investigated starting in 2010.







Early Syphilis

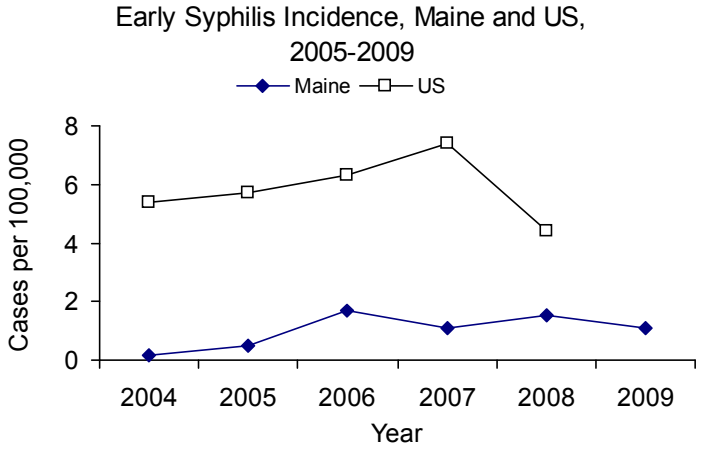
2009 Case Total **14**
Maine Rate **1.1 per 100,000**
U.S. rate (2008) **4.4 per 100,000**

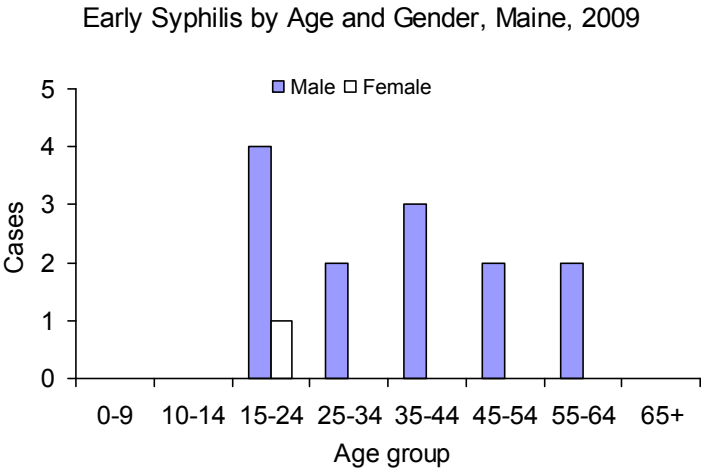
Syphilis is a sexually transmitted disease (STD) caused by the bacterium *Treponema pallidum*. It has often been called "the great imitator" because so many of the signs and symptoms of syphilis are like those of other diseases.

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 symptoms of the secondary stage, 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 14 represents a decrease from 2008
- The 2004-2008 median number of cases per year was 14
- Cases were 93% males and the remaining a female
- All males reported having sex with other men





Many individuals infected with syphilis reach a latent stage having 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.

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 our funded outreach educators can target in their work.

Tuberculosis

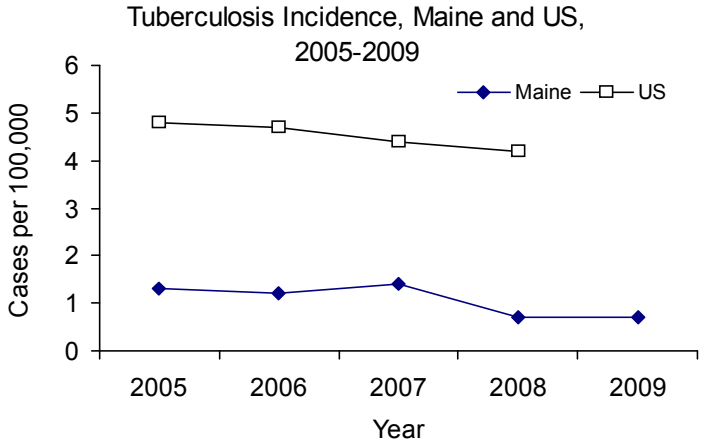
2009 Case Total	**9**
Maine Rate	**0.7 per 100,000**
U.S. rate (2008)	**4.2 per 100,000**

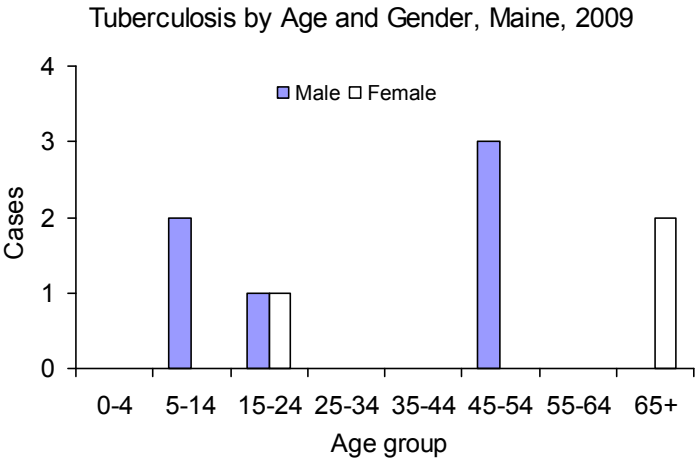
Tuberculosis (TB) is a communicable disease caused by the bacterium, *Mycobacterium tuberculosis*. It is spread through the air by airborne particles called droplet nuclei that are expelled from the lungs when a person who has infectious TB coughs, sings or sneezes. TB infection begins when the mycobacterium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

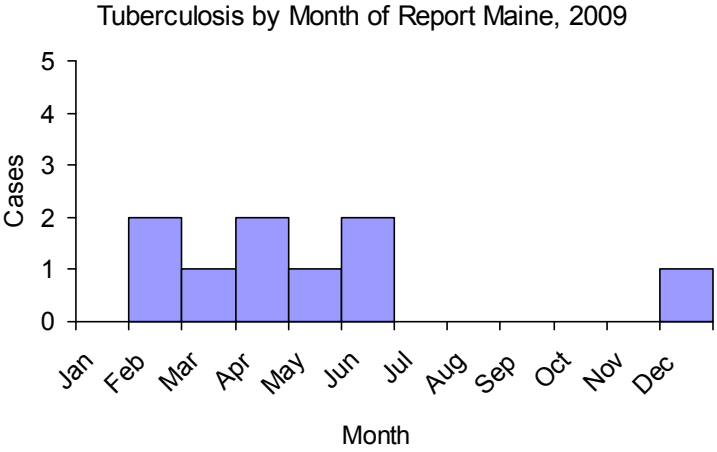
TB can occur in the lung (pulmonary) and is infectious or outside of the lung (extrapulmonary), which is not infectious.

- Case total of 9 represents no change from 2008
- The 2004-2008 median number of cases per year was 17
- Median age was 48 years
- Age range was 5 to 86 years
- Cases were 33% female and 67% male
- 4 of 9 cases (44%) were foreign born
- In 8 contact investigations, 52% identified contacts were evaluated; one investigation is ongoing as of May 2010
- Of 401 LTBI reports, 78% 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

2009 Case Total	**235**
Maine Rate	**17.8 per 100,000**
U.S. rate (2008)	**10.0 per 100,000**

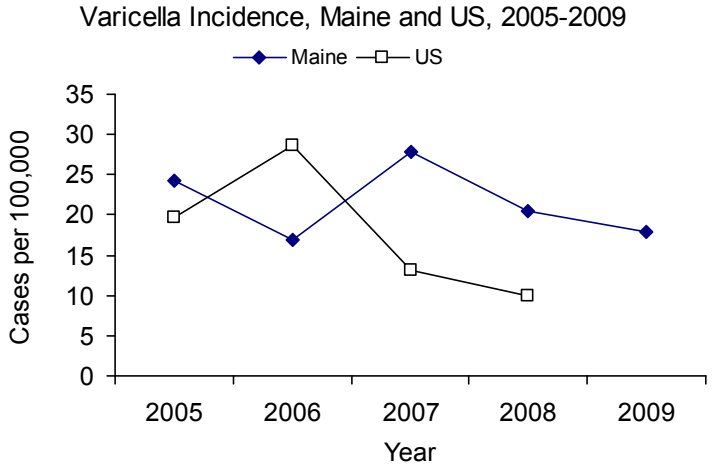
Varicella (chickenpox) is a highly contagious viral disease of which humans are the only source of infection. In most cases the major symptom is an itchy skin rash that looks like blisters, covering the body but more evident on the face, scalp, and abdomen. The majority of infected individuals develop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

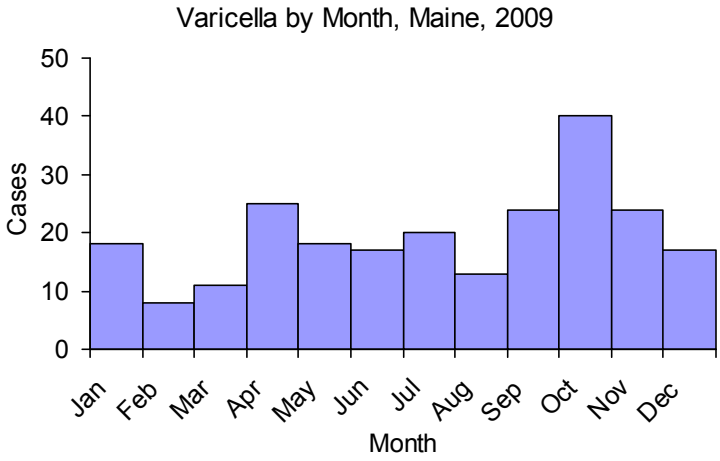
Person-to-person transmission occurs primarily through direct contact with respiratory tract secretions of infected individuals and is transmitted occasionally via the airborne route. Adolescents and adults are more at risk for severe disease which could include pneumonia, bacterial infection of the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

- Case total of 235 represents a decrease from 2008
- Overall the greatest incidence was during the fall and spring months while school was in session

Varicella vaccine is a live attenuated viral vaccine. Studies place the effectiveness of one dose of the varicella vaccine above 70%. 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.





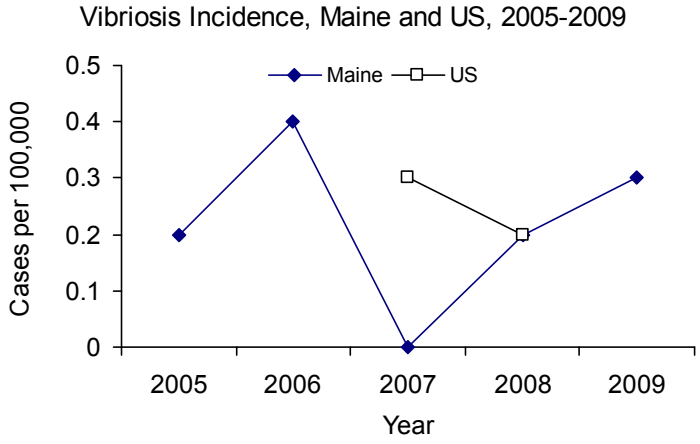
Vibriosis

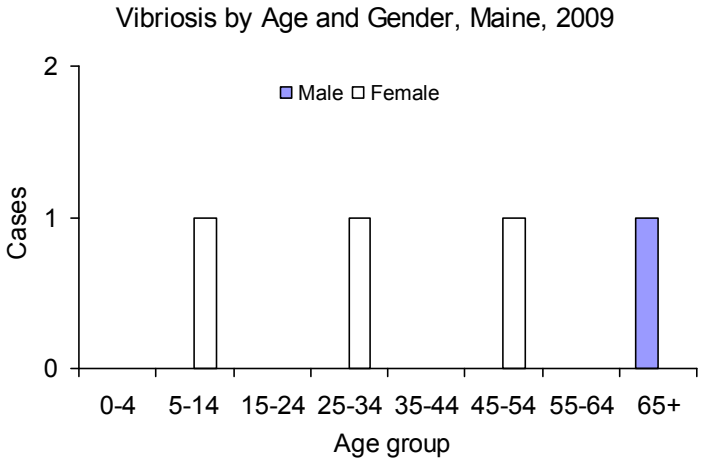
2009 Case Total **4**
Maine Rate **0.3 per 100,000**
U.S. rate (2008) **0.2 per 100,000**

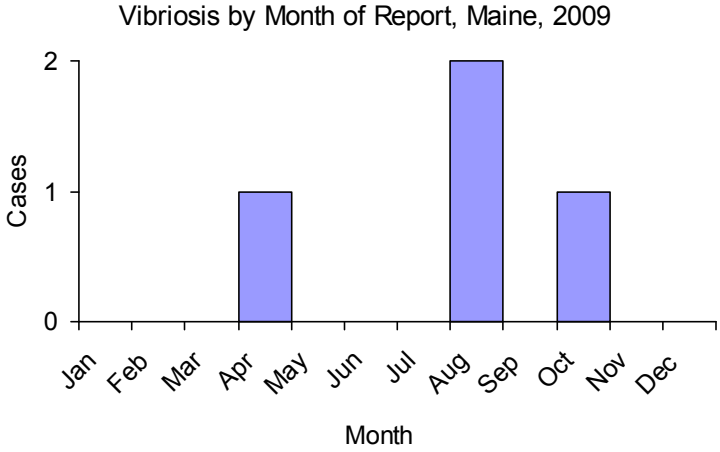
Vibriosis is an infection of variable severity characterized by diarrhea and vomiting, primary septicemia, or wound infections. *Vibrio parahaemolyticus*, associated with ingestion of raw or undercooked seafood, and *Vibrio alginolyticus,* associated with wounds and water contact, are the primary causes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

- Case total of 4 represents an increase from 2008
- The 2004-2008 median number of cases was 3
- Median age was 39 years
- Age range was 7 to 78 years
- Cases were 75% female and 25% male
- *Vibrio alginolyticus, parahaemolyticus, vulnificus* and *fluvialis* 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 Department of Marine Resources on each confirmed case of vibriosis to determine if the source or infection may be associated with a commercial seafood establishment.







Influenza Season 2009—2010

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. During the 2009-10 influenza season, the Maine CDC conducted influenza surveillance in collaboration with seventeen health care providers, four hospitals, three laboratories, three city vital records offices, and sixteen hospital emergency departments during the reporting period from October 4, 2009 to May 22, 2010. This report summarizes 2009-10 influenza surveillance by key indicators.

Novel 2009 H1N1 Influenza Virus
During 2009 season, a novel strain of influenza emerged. This strain first appeared in the United States in mid April, and has since been found all over the world. Novel H1N1 was declared a pandemic in June 2009, and surveillance has continued worldwide. More information about the novel 2009 H1N1 influenza pandemic in Maine can be found as a separate report.

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 2009-10 season, a total of 204 outbreaks of influenza were reported in Maine, an increase from the 2008-09 season when 33 outbreaks were reported. Most of these outbreaks were related to the pandemic strain of H1N1. Of these outbreaks, 10 were in long-term care facilities, 5 were in acute care facilities, 177 in K-12 schools, 6 in university settings, and 6 in other institutions. Outbreaks occurred in all of the eight districts within the state.

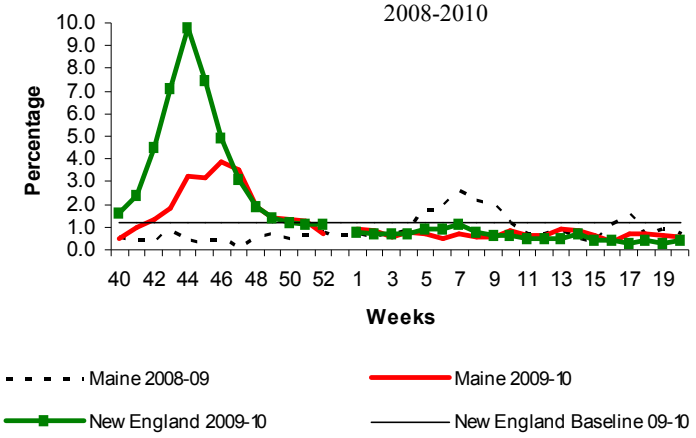
Death Certificates
The vital records offices of three Maine cities, Portland, Lewiston, and Bangor, reported the number of death certificates in which pneumonia and/or influenza were mentioned as the primary or secondary cause of death. Data reported represent deaths that occurred in the reporting area, not the residence of the deceased. During the 2009-10 season, a total of 1,970 deaths were reported by the vital records offices. Of these 193 (9.8%) were attributed to pneumonia or influenza.

Pediatric Fatalities
Health care providers and the Office of the Medical Examiner report deaths in persons aged 18 years or younger associated with laboratory-confirmed influenza to Maine CDC. No influenza-associated pediatric deaths were reported in Maine during the 2009-10 season.

Influenza Season 2009—2010

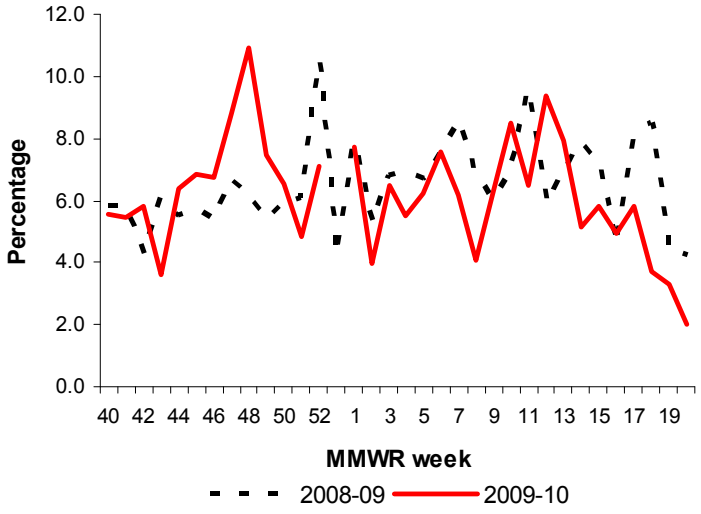
Outpatient influenza-like illness (ILI)
Outpatient ILI data were collected through the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), a collaborative effort between the federal CDC, Maine CDC, and local health care providers. During the 2009-10 season, 17 health care providers 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 November (week 46). The New England region peaked about two weeks earlier than the Maine region.

Outpatient Visits for Influenza-like Illness, Maine, 2008-2010



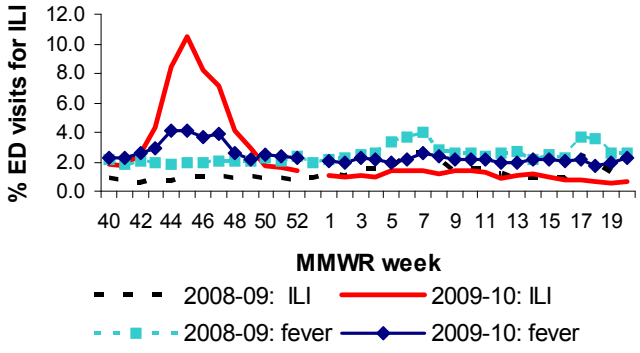
Hospital Inpatients
Inpatient surveillance for respiratory illness admissions in Maine was conducted in collaboration with four hospitals. During the 2009-10 season, four hospitals reported the number of patients admitted to the hospital and the number of those patients admitted for influenza or pneumonia using admitting diagnoses. Hospital admissions for influenza, pneumonia, or respiratory illness were highest in December (week 48), and then again in March (week 12).

Hospital Admissions Due to Pneumonia or Influenza, Maine, 2008-10



Emergency Room Visits
Syndromic surveillance was conducted in the Emergency Departments of 16 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 October (weeks 46-47).

Emergency Department Visits for ILI at Sixteen Hospitals, Maine, 2008-10



Influenza Season 2009—2010

HETL

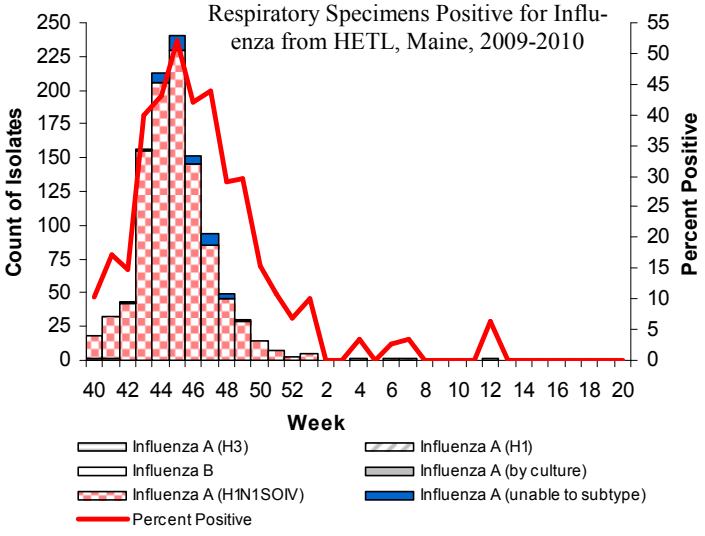
Maine CDC's Health and Environmental Testing Laboratory (HETL) worked collaboratively with hospitals and private laboratories to collect specimens for respiratory virus testing and influenza positive isolate subtyping. HETL reported the number of specimens received for respiratory virus testing and the number positive for influenza A (H1), A (H3), A(H1N1 SOIV), A (unable to subtype), A (by culture) and influenza B by specimen collection date. During the 2009-10 season, 3,438 respiratory specimens were tested by HETL for influenza. Of those 1,060 (30.8%) were positive for influenza (0 for influenza A/H1, 1 for influenza A/H3, 0 for influenza A by culture, 1019 for influenza A/H1N1 SOIV, 38 for influenza A unable to subtype, and 2 for influenza B).

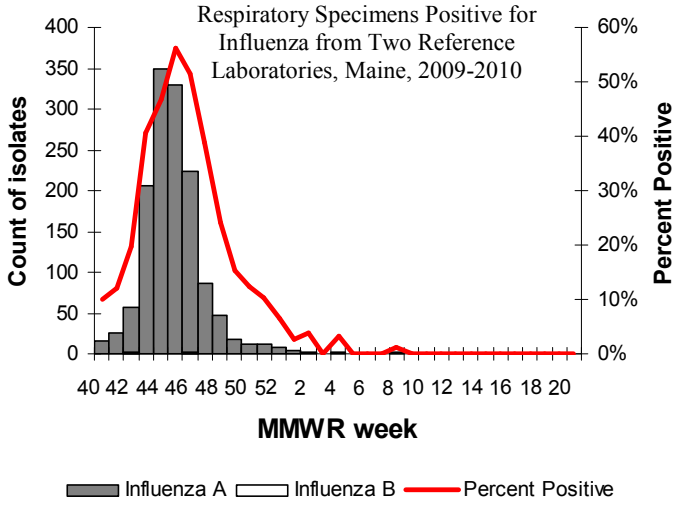
Reference Labs

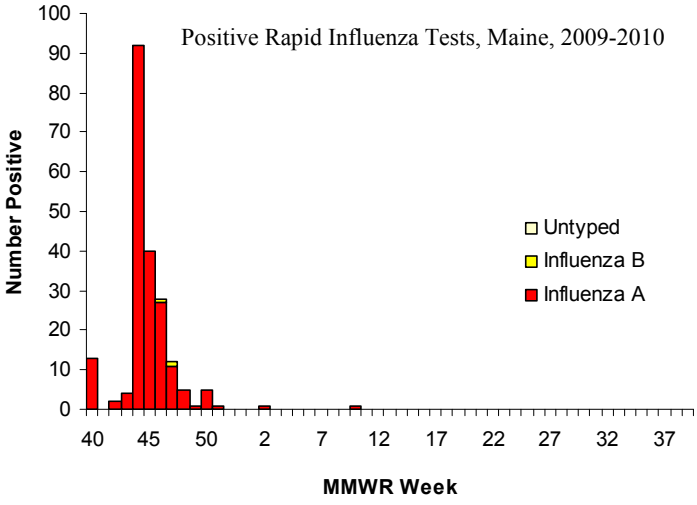
Two reference laboratories submitted weekly reports of laboratory-confirmed influenza by culture or reverse-transcriptase polymerase chain reaction (RT-PCR) and number of specimens negative by final test result date. During the 2009-10 season, a total of 4,899 respiratory specimens were submitted for viral testing to these laboratories. Of these, 1,400 (28.6%) specimens were positive for influenza (1,397 for influenza A and 3 for influenza B).

Rapid testing

Many hospitals, labs, and physician offices voluntarily report positive rapid antigen tests to the state. During the 2009-10 season 205 positive tests were reported, 203 for influenza A, and 2 for influenza B. Maine CDC requested rapid tests results not be sent during the pandemic period, so these numbers are smaller than past years.







Pandemic influenza H1N1 2009

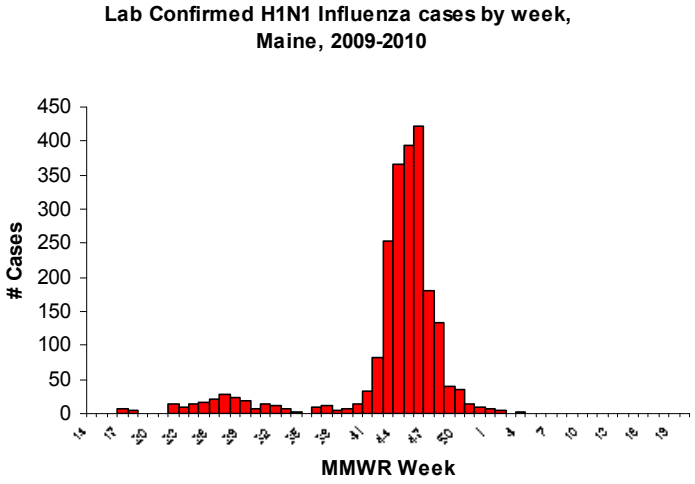
The 2009 H1N1 influenza virus (formally referred to as "swine flu") was first detected in the United States in April 2009. Maine detected its first confirmed case on April 27, 2009. This strain is considered "novel" because this particular combination had not previously been seen in humans. Novel influenza is nationally notifiable, so Maine and the rest of the country enhanced our surveillance and started case investigations. Initially in Maine all cases of confirmed and probable H1N1 were investigated. After August 1, 2009 only cases of high risk disease were investigated. This included all hospitalized cases, cases in pregnant women, all cases that resulted in death, and outbreaks. From April 27, 2009 to May 22, 2010, Maine Health and Environmental Testing Laboratory tested 8,054 samples for influenza. In this same time period there were 238 outbreaks of Influenza Like Illness, the majority of which were caused by H1N1. As of May 22, 2010, Maine had 2,235 confirmed and probable cases of H1N1 with 232 cases being hospitalized, and 21 deaths. Characteristics of cases are shown below:

Characteristics of Lab Confirmed H1N1 Influenza Cases, Maine Residents, 2009-10

Age		At Risk		Hospital Care		Deaths
Age Group	#	HCW	Pregnant	Hospitalized	ICU	#
<5	246	0	0	29	5	0
5 to 18	1012	1	0	29	7	0
19 to 24	225	11	8	15	2	1
25 to 49	482	37	23	62	17	3
50 to 64	208	15	0	65	25	7
≥65	62	0	0	32	10	10
Total	**2235**	**64**	**31**	**232**	**66**	**21**

Lab Confirmed H1N1 Influenza Cases by County, Maine Residents, 2009-10

County	Maine Residents	Hospital-ized
Androscoggin	223	30
Aroostook	64	8
Cumberland	640	37
Franklin	28	8
Hancock	50	8
Kennebec	158	18
Knox	43	6
Lincoln	103	1
Oxford	69	8
Penobscot	294	47
Piscataquis	21	8
Sagadahoc	43	0
Somerset	47	6
Waldo	44	2
Washington	63	9
York	345	36
Total	**2235**	**232**



EEE Outbreak in Non-Humans

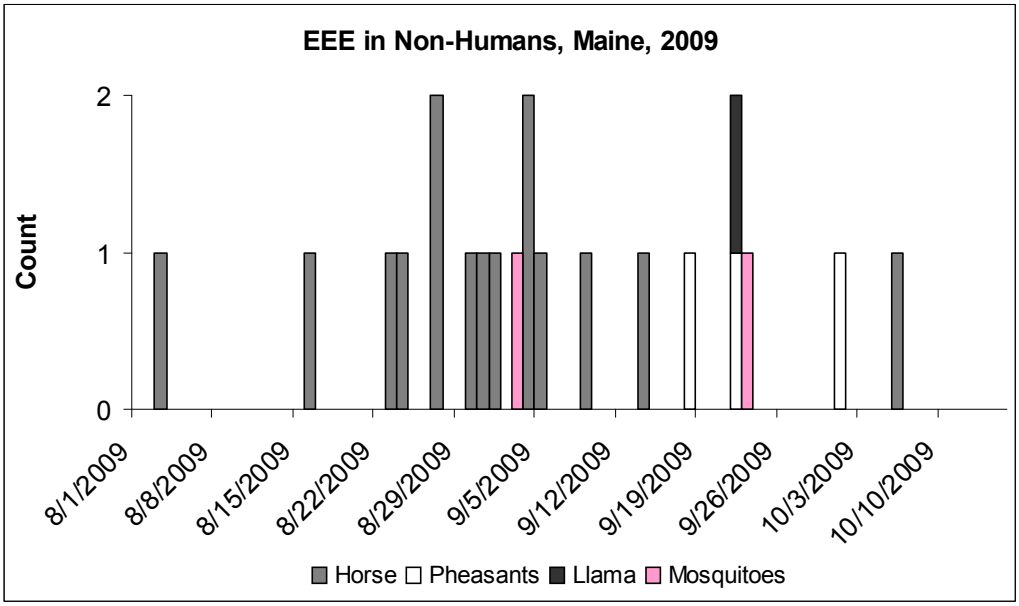
Eastern Equine Encephalitis (EEE) is a mosquito-borne viral disease. EEE virus occurs in the eastern half of the United States where it causes disease in humans, horses, and some bird species. Historically in Maine, EEE has been found in mosquitoes and a few scattered horses in York County. In 2009, cases of EEE were detected in multiple animal types in counties where this disease had never before been seen.

The first diagnosed case of EEE in 2009 was reported on August 4 when a horse from Waldo County tested positive. Over the next two months additional non-human samples tested positive. The total number of non-human positives in 2009 was:

EEE in Non-Humans by County, Maine, 2009

	Horses	Llamas	Pheasants	Mosquitoes
Cumberland	1	0	0	0
Kennebec	1	0	0	0
Penobscot	3	0	0	0
Waldo	8	0	0	0
York	2	1	3	2
Total	15	1	3	2

EEE is a mosquito-borne illness so recommendations are focused around reducing contact with mosquitoes. A EEE vaccine is available for horses and vaccination is recommended annually. Human recommendations include using personal insect repellent, and avoiding the outdoors during dusk and dawn (the time of mosquitoes highest activity). Maine CDC provides education to the general population about the risk of EEE, and providers about the signs and symptoms of EEE.



Hepatitis A Virus Outbreak

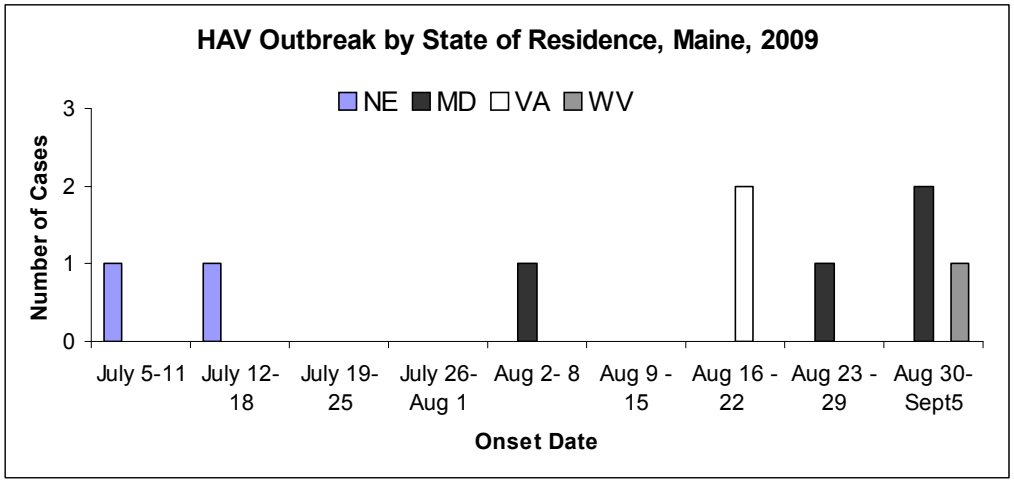
Hepatitis A virus (HAV) is transmitted from person to person by the fecal oral route. Infection may result from exposure to contaminated water, food prepared by an infected food handler or sexual contact with an infected individual. The time between exposure and symptoms may be 15 – 50 days with an average of 30 days.

In August, 2009 the Maine CDC was contacted by an out of state resident reporting that 7 individuals visiting Swans Island (Hancock County) had contracted acute hepatitis A virus (HAV). The outbreak investigation was conducted by staff from four state programs including Infectious Disease Epidemiology, Environmental Health, Department of Marine Resources and the Health and Environmental Testing Laboratory. At the conclusion of the outbreak nine individuals from 4 states, Nebraska (NE), Maryland (MD), West Virginia (WV) and Virginia (VA) were confirmed to have acute HAV.

The investigation revealed that two index cases traveled to Maine in early July 2009 as private house guests and became symptomatic within one week of their stay. They were diagnosed with HAV on their return home. During July and August seven other individuals stayed, visited or were close contacts of those associated with the private home. Extensive environmental testing isolated the hepatitis virus in the breached septic system of the home and in the indoor drinking water originating from a drilled well. Because later cases had no initial direct contact with the index case it is believed that the well was contaminated by a break in the older septic pipes which leached virus through the thin surface of soil into the subsurface rock. No other individuals on Swans Island contracted the illness. Case finding involved the health alert system to area health providers, national alert system that communicates with all state health departments and local press coverage.

Control measures included the following:

- Prophylaxis by immune globulin and vaccine was offered to close contacts
- Compliance with environmental codes for septic system and well was re-enforced with the owner
- Letters were sent to participants of a potluck where potential transmission was suspected
- Two public meetings were held on Swans Island to provide education about HAV and septic and well testing and maintenance
- Instructions were provided to neighbors for environmental monitoring of septic and well water systems
- The beach in front of the house was closed for shellfish harvesting until full compliance with the septic codes was achieved



Norovirus Outbreak

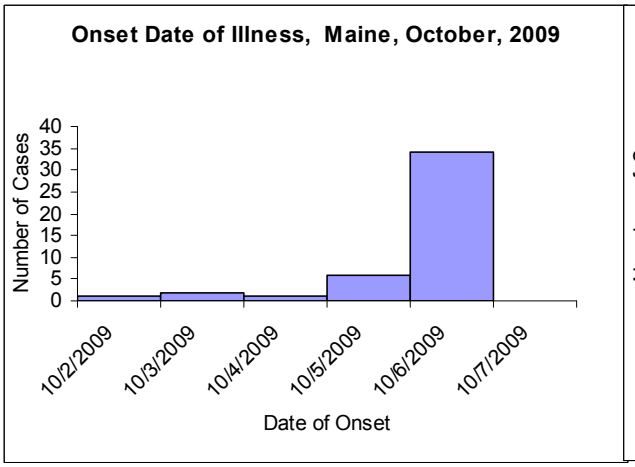
Norovirus is the most common cause of foodborne illness. The primary symptoms are acute onset of vomiting and diarrhea. The usual time between exposure and symptoms is 24 to 48 hours. Norovirus is very contagious and may be spread the following ways:

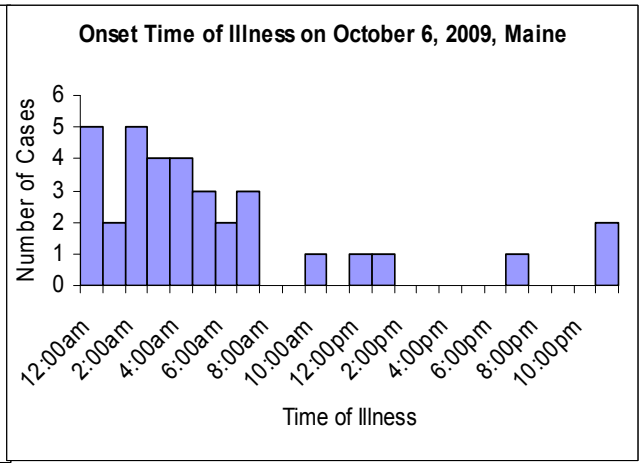
- Eating food or drinking liquids that are contaminated with norovirus;
- Touching surfaces or objects contaminated with norovirus, and then placing hands in mouth;
- Direct contact with another person who has symptoms (for example, caring for someone with illness, or sharing foods or eating utensils with someone who is ill).

A wedding ceremony and buffet occurred in the state on Sunday October 4, 2009. It started at 3pm with an event in one room and a buffet in an adjacent room following a receiving line. On Tuesday morning, October 6, 2009, the Maine CDC received a report from one of the guests that 20 individuals that had attended the event were ill with vomiting and diarrhea. An investigation was initiated by the Infectious Disease Epidemiology Program, Health Inspections Program and the Health and Environmental Testing Laboratory. The epidemiological investigation findings included:

- 98 guests attended event
- 63 (64%) individuals were interviewed
- 44 (70%) of those interviewed reported illness
- 2 individuals were confirmed to be infected with Norovirus genogroup I
- Average time from event to onset of illness was 36 hours
- 3 individuals visited the local hospital emergency department, but were not hospitalized
- 2 foods were statistically associated with illness with low relative risk
- 4 guests were symptomatic before the event
- Inspection of the facility food preparation area revealed 4 critical violations

The conclusion of the investigation was that widespread norovirus contamination occurred at a wedding event on October 4, 2009. Norovirus was most likely transmitted through contaminated food or fluid, contaminated environmental surfaces or through person to person fecal-oral contact. The Maine CDC was unable to identify the exact vehicle of transmission at this event.





2009 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 tick identification service. Specimens found on people and pets in Maine are submitted from the public, with information on where the tick(s) may have been acquired.

Tick Submissions by County, 2009

County	*Ixodes scapularis* **(Deer Tick)**	*Dermacentor variabilis* **(American Dog Tick)**	*Ixodes cookei* **(Woodchuck Tick)**	Other ticks
Androscoggin	62	4	0	0
Aroostook	3	0	0	0
Cumberland	193	34	2	2
Franklin	12	9	3	1
Hancock	106	4	2	0
Kennebec	80	7	0	5
Knox	39	5	0	1
Lincoln	15	5	0	1
Oxford	24	1	1	1
Penobscot	68	3	7	0
Piscataquis	14	4	2	0
Sagadahoc	29	4	0	0
Somerset	29	7	2	1
Waldo	42	1	0	0
Washington	27	1	0	2
York	85	15	1	9
Unspecified	38	7	2	6
Totals	866	111	22	29

Note: 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).

As part of a program to establish the distribution of the deer tick, *Ixodes scapularis (dammini)*, the vector for the Lyme disease bacteria and other pathogens, the MMCRI Vector-borne Disease Laboratory offers free identification of ticks. Ticks will not be tested to see if they contain the bacteria causing Lyme disease because the clinical value of this information is uncertain. A notification of the tick identification is sent to the submitter as soon as possible. The MMCRI regrets that staff limitations do not allow them to identify ticks submitted from outside the State of Maine. Check the MMCRI website (http://www.mmcri.org/lyme/meticks.html) for a description of ticks. Do not submit any ticks that may be a dog tick (*Dermacentor variabilis*). These ticks are present in overwhelming numbers, particularly in early summer, and are not effective vectors of the Lyme disease bacteria.

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 location of exposure to the tick.

How are ticks submitted?
Remove ticks by grasping them with fine tweezers as near to the skin as possible and pull 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:

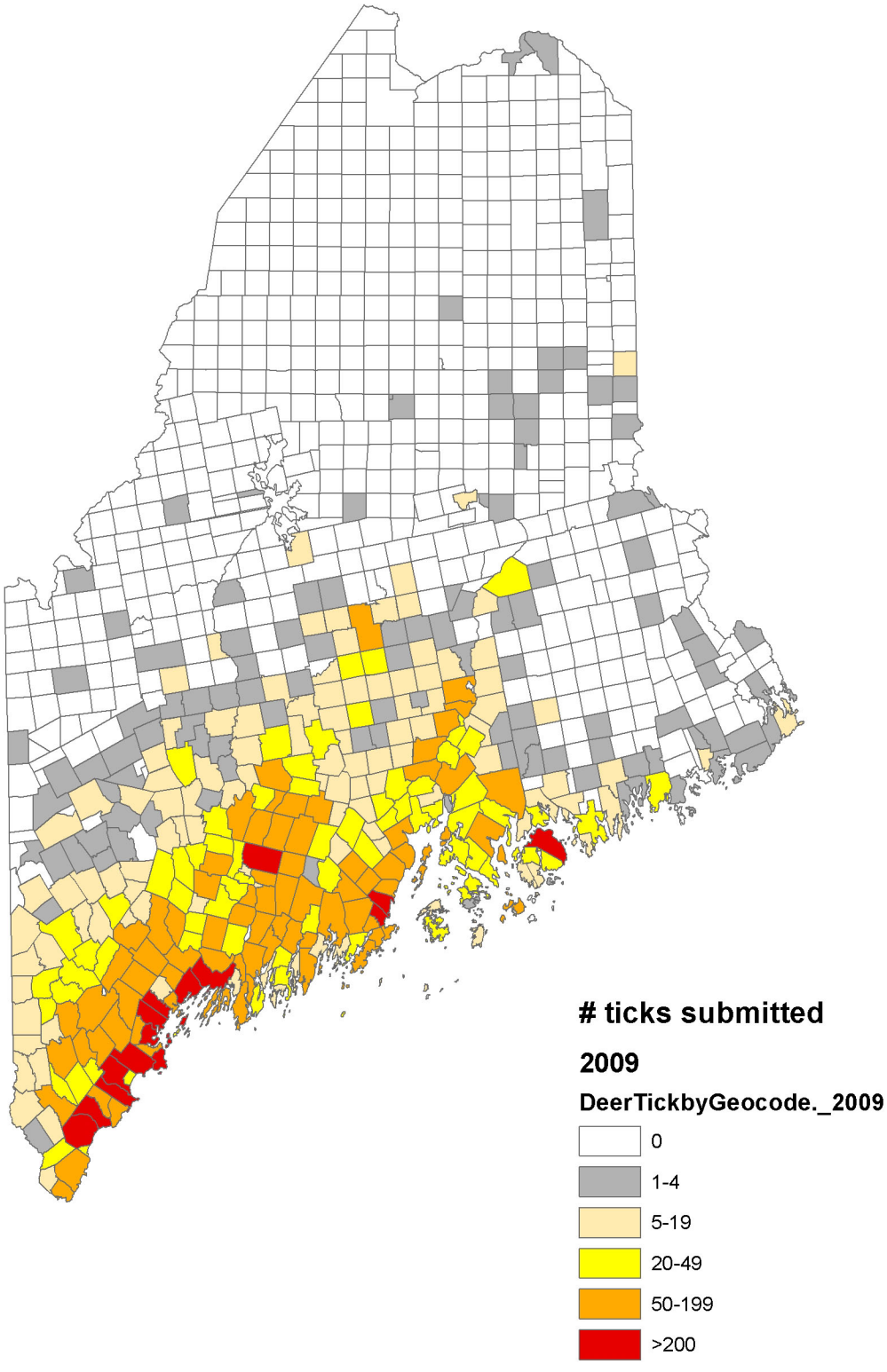
Vector-borne Disease Laboratory
Maine Medical Center Research Institute
75 John Roberts Rd., Suite 9B
South Portland, ME 04106

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 2009.

Maine Medical Center Research Institute
Vector-borne Disease Laboratory
Deer Tick Submissions 1989 - 2009



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

John E. Baldacci, Governor Brenda M. Harvey, Commissioner

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

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

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

Acid-Fast Bacillus
Bacillus anthracis
Bordetella pertussis
***Brucella* species**
Clostridium tetani
Clostridium botulinum
Corynebacterium diphtheriae
Coxiella burnetii
Escherichia coli, Shiga toxin-producing
Haemophilus influenzae
Human Immunodeficiency Virus
***Influenza* virus, Novel**
Listeria monocytogenes
***Mumps* virus**
Mycobacterium tuberculosis
Neisseria meningitidis
***Rabies* virus**
Ricin Poisoning
***Rubella* virus**
***Rubeola* virus**
Salmonella species
SARS Coronavirus
Shigella species
Toxoplasma gondii
***Variola* virus**
Vibrio species
Yersinia pestis

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

When to report:

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

What to report:

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

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

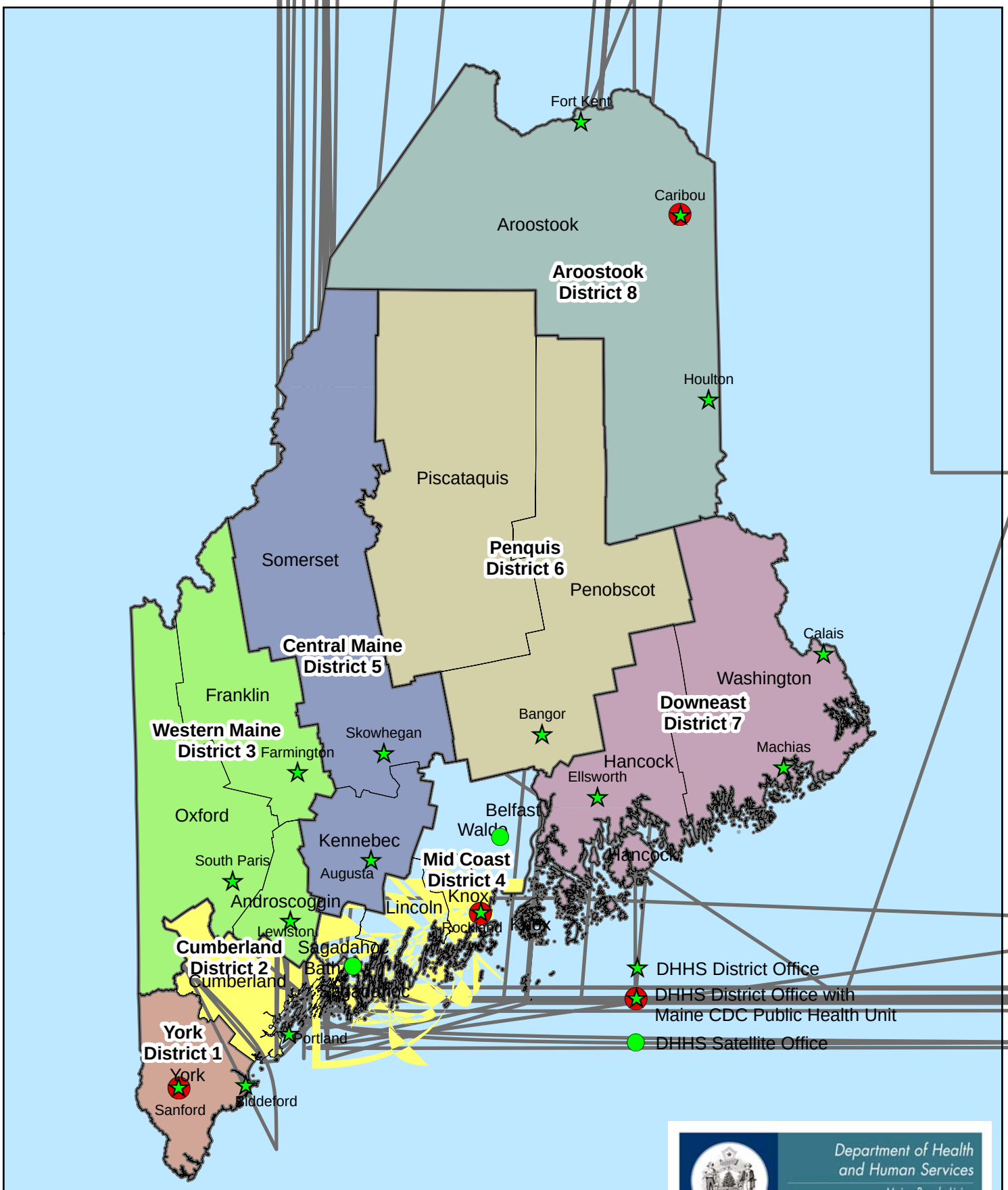
Complete Rules for the Control of Notifiable Conditions at:
http://www.maine.gov/dhhs/boh/ddc/disease_reporting.htm

Disease Reporting
24 Hours A Day
7 Days A Week

Telephone
1-800-821-5821

Fax
1-800-293-7534

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 People Living Safe, Healthy and Productive Lives
John E. Baldacci, Governor
Brenda M. Harvey, Commissioner

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

John Elias Baldacci
Governor

Brenda Harvey
Commissioner

Dora Anne Mills, MD, MPH
Director, Maine Center for Disease Control and Prevention

The Department of Health and Human Services (DHHS) does not discriminate on the basis of disability, race, color, creed, gender, age, sexual orientation, or national origin, in admission to, access to or operation of its programs, services, activities, or its hiring or employment practices. This notice is provided as required by Title II of the Americans with Disabilities Act of 1990 and in accordance with the Civil Rights Acts of 1964 as amended. Section 504 of the Rehabilitation Act of 1973 as amended, the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972 and the Maine Human Rights Act. Questions, concerns, complaints, or requests for additional information regarding civil rights may be forwarded to the DHHS' ADA Compliance/EEO Coordinator, State House Station #11, Augusta, Maine 04333, 207-287-4289 (V) or 207-287-3488 (V), TTY: 800-606-0215. Individuals who need auxiliary aids for effective communication in programs and services of DHHS are invited to make their needs and preferences known to the ADA Compliance/EEO Coordinator. This notice is available in alternate formats, upon request.

Caring..Responsive..Well-Managed..We are DHHS