

MAINE STATE LEGISLATURE

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Reportable Infectious Diseases in Maine



2008 Summary



*Maine Center for Disease
Control and Prevention*

*An Office of the
Department of Health and Human Services*

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This is the fifteenth consecutive annual report on infectious diseases in Maine published by the Division of Infectious Disease. It is intended to provide an overview of communicable diseases of public health importance in Maine.

This report would not be possible without the continued support of our healthcare and public health partners throughout the state. They have expended considerable time handling infectious diseases 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 our efforts 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 will be 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.



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INTRODUCTION

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 2008, a total of 64 infectious diseases were nationally reportable; 71 were reportable in Maine. The list of reportable infectious diseases changes periodically. 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 health 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.

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).

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.

2008 Infectious Disease Surveillance Highlights

- Chlamydia remained the most commonly reported infectious disease in the state with 2,594 cases. Seventy-two percent of reported infections were in persons 15-24 years of age.
- The number of cases of hepatitis A increased due to an outbreak involving 13 persons in an extended family and an elementary school. The source of infection was thought to be an adopted infant from overseas.
- Lyme disease numbers continued to increase with 908 cases reported. Part of the increase was attributed to a new case definition for the disease.
- Animal rabies was reported in 64 animals in 4 species of wildlife (32 raccoons, 21 skunks, 8 bats, and 3 foxes). No domestic animals tested positive.
- The number of cases of tuberculosis fell to only 9 cases, all but one of whom were foreign-borne.

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. Tables in the introduction include all 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 - 2008

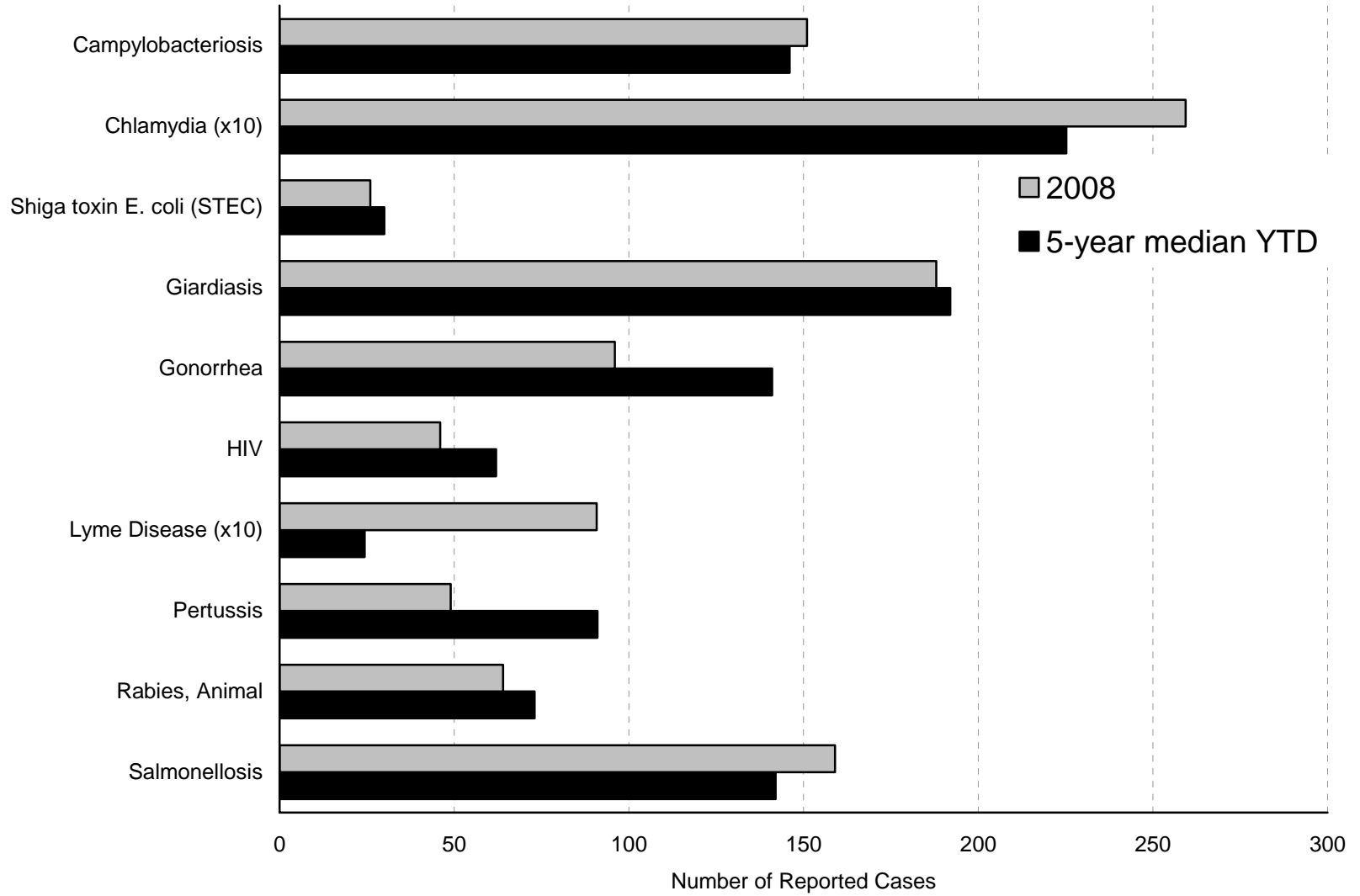
Disease	2000	2001	2002	2003	2004	2005	2006	2007	2008
Anaplasmosis (HGE)	1	1	1	1	1	4	10	9	17
Babesiosis	0	1	2	3	5	11	9	11	11
Botulism, foodborne	0	0	2	0	1	0	0	0	0
Campylobacteriosis	149	124	139	146	141	159	137	149	151
Chlamydia	1474	1346	1801	2040	2120	2253	2304	2543	2594
Cryptosporidiosis	20	20	12	20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

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

Reportable Diseases with Historically Small Numbers of Cases, Maine, 1999 - 2008

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	10 year total
Anthrax	0	0	0	0	0	0	0	0	0	0	0
Botulism	0	1	0	2	0	1	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	NR	0	0	0	0	0	0	0
Cyclosporiasis	0	0	0	0	0	1	0	0	0	0	1
Dengue Fever	0	0	0	0	0	0	1	4	1	2	8
Diphtheria	0	0	0	0	0	0	0	0	0	0	0
Encephalitis, Arboviral	0	1	2	0	0	1	0	0	0	0	4
Hantavirus Pulmonary Syndrome	0	0	0	0	0	0	0	0	0	0	0
Hepatitis C, acute	0	2	1	0	2	0	0	2	1	3	11
Malaria	3	7	5	6	5	6	5	4	8	1	50
Measles	0	0	0	0	0	0	0	0	0	0	0
Mumps	0	0	0	0	0	0	2	0	24	5	31
Plague	0	0	0	0	0	0	0	0	0	0	0
Q fever	0	0	0	0	2	0	2	4	7	0	15
Psittacosis	0	0	0	0	0	1	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
Severe Acute Respiratory Syndrome (SARS)	NR	NR	NR	NR	0	0	0	0	0	0	0
Smallpox	0	0	0	0	0	0	0	0	0	0	0
Streptococcal, Group B, invasive, infant	0	2	1	5	2	1	3	1	1	6	22
Tetanus	0	0	0	1	0	0	0	0	0	0	1
Toxic Shock Syndrome	2	2	0	1	1	1	0	0	1	0	8
Toxoplasmosis	NR	NR	1	0	0	1	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	0	1	0	0	0	0	0	1	0	0	2
Venezuelan Equine Encephalitis	NR	NR	NR	NR	0	0	0	0	0	0	0
West Nile Virus	NR	NR	NR	NR	0	0	0	0	0	0	0
Yellow Fever	NR	NR	NR	NR	NR	0	0	0	0	0	0
NR=Not reportable											

Selected Reportable Diseases in Maine, 2008



Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2008

County	Anaplasmosis		Babesiosis		Campylobacteriosis		Cryptosporidiosis		<i>Ehrlichia chaffeensis</i>		Giardiasis	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Androscoggin	0	0.0	0	0.0	6	5.6	0	0.0	0	0.0	18	16.8
Aroostook	0	0.0	0	0.0	4	5.6	5	7.0	0	0.0	14	19.5
Cumberland	3	1.1	1	0.4	47	17.0	1	0.4	0	0.0	58	21.0
Franklin	0	0.0	0	0.0	5	16.7	1	3.3	0	0.0	3	10.0
Hancock	1	1.9	1	1.9	7	13.2	6	11.3	0	0.0	6	11.3
Kennebec	0	0.0	0	0.0	17	14.1	10	8.3	0	0.0	14	11.6
Knox	1	2.5	0	0.0	2	4.9	2	4.9	1	2.5	3	7.4
Lincoln	0	0.0	1	2.9	6	17.3	1	2.9	0	0.0	9	26.0
Oxford	0	0.0	0	0.0	3	5.3	0	0.0	0	0.0	7	12.3
Penobscot	0	0.0	0	0.0	18	12.1	5	3.4	0	0.0	15	10.1
Piscataquis	0	0.0	0	0.0	3	17.7	0	0.0	0	0.0	3	17.7
Sagadahoc	0	0.0	0	0.0	7	19.3	1	2.8	0	0.0	8	22.0
Somerset	0	0.0	0	0.0	3	5.8	7	13.6	0	0.0	6	11.7
Waldo	1	2.6	1	2.6	5	13.0	5	13.0	0	0.0	5	13.0
Washington	0	0.0	0	0.0	1	3.1	0	0.0	0	0.0	1	3.1
York	11	5.5	7	3.5	17	8.4	2	1.0	0	0.0	18	8.9
Maine Total	17	1.3	11	0.8	151	11.5	46	3.5	1	0.1	188	14.3

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2008

County	<i>Haemophilus influenzae</i> , invasive		Hemolytic uremic syndrome		Hepatitis A		Hepatitis B, acute		Legionellosis		Listeriosis	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Androscoggin	3	2.8	0	0.0	0	0.0	3	2.8	1	0.9	0	0.0
Aroostook	1	1.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cumberland	4	1.4	1	0.4	1	0.4	2	0.7	5	1.8	1	0.4
Franklin	1	3.3	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	2	3.8	0	0.0	0	0.0
Kennebec	2	1.7	0	0.0	1	0.8	3	2.5	1	0.8	0	0.0
Knox	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lincoln	1	2.9	0	0.0	0	0.0	1	2.9	1	2.9	0	0.0
Oxford	2	3.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Penobscot	2	1.3	0	0.0	1	0.7	2	1.3	1	0.7	0	0.0
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	2	5.5	1	2.8
Somerset	0	0.0	0	0.0	0	0.0	1	1.9	0	0.0	2	3.9
Waldo	1	2.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Washington	1	3.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
York	3	1.5	0	0.0	15	7.4	1	0.5	0	0.0	1	0.5
Maine Total	21	1.6	1	0.1	18	1.4	15	1.1	11	0.8	5	0.4

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2008

County	Lyme Disease		Malaria		Meningococcal invasive disease		MRSA, invasive		Mumps		Pertussis	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Androscoggin	36	33.7	1	0.9	2	1.9	3	2.8	1	0.9	3	2.8
Aroostook	4	5.6	0	0.0	0	0.0	11	15.3	0	0.0	2	2.8
Cumberland	228	82.6	0	0.0	0	0.0	14	5.1	0	0.0	5	1.8
Franklin	4	13.4	0	0.0	0	0.0	2	6.7	1	3.3	1	3.3
Hancock	13	24.5	0	0.0	0	0.0	0	0.0	0	0.0	3	5.6
Kennebec	114	94.2	0	0.0	0	0.0	1	0.8	0	0.0	0	0.0
Knox	72	177.0	0	0.0	1	2.5	2	4.9	0	0.0	0	0.0
Lincoln	40	115.5	0	0.0	1	2.9	0	0.0	0	0.0	4	11.6
Oxford	21	37.0	0	0.0	0	0.0	2	3.5	0	0.0	3	5.3
Penobscot	13	8.7	0	0.0	1	0.7	2	1.3	1	0.7	5	3.4
Piscataquis	1	5.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sagadahoc	40	110.1	0	0.0	0	0.0	0	0.0	0	0.0	2	5.5
Somerset	9	17.5	0	0.0	0	0.0	1	1.9	0	0.0	0	0.0
Waldo	19	49.6	0	0.0	1	2.6	0	0.0	2	5.2	1	2.6
Washington	3	9.2	0	0.0	0	0.0	1	3.1	0	0.0	4	12.3
York	291	144.3	0	0.0	0	0.0	8	4.0	0	0.0	16	7.9
Maine Total	908	69.0	1	0.1	6	0.5	47	3.6	5	0.4	49	3.7

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2008

County	Rabies, animal		Salmonellosis		Shiga toxin producing <i>E. coli</i>		Shigellosis		Streptococcus, invasive Group A	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	No.
Androscoggin	8		10	9.4	1	0.9	0	0.0	4	3.7
Aroostook	0		7	9.8	2	2.8	0	0.0	0	0.0
Cumberland	11		39	14.1	4	1.4	7	2.5	11	4.0
Franklin	4		1	3.3	0	0.0	1	3.3	0	0.0
Hancock	2		5	9.4	3	5.6	0	0.0	0	0.0
Kennebec	12		25	20.7	4	3.3	0	0.0	5	4.1
Knox	9		2	4.9	0	0.0	0	0.0	1	2.5
Lincoln	1		5	14.4	0	0.0	1	2.9	0	0.0
Oxford	2		4	7.0	3	5.3	0	0.0	1	1.8
Penobscot	7		9	6.1	5	3.4	0	0.0	0	0.0
Piscataquis	0		3	17.7	1	5.9	0	0.0	0	0.0
Sagadahoc	1		6	16.5	1	2.8	1	2.8	1	2.8
Somerset	0		3	5.8	0	0.0	0	0.0	0	0.0
Waldo	4		8	20.9	0	0.0	1	2.6	1	2.6
Washington	0		4	12.9	0	0.0	2	6.2	0	0.0
York	3		28	13.9	2	1.0	7	3.5	4	2.0
Maine Total	64		159	12.1	26	2.0	20	1.5	28	2.1

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by County, Maine, 2008

County	<i>Streptococcus pneumoniae</i> , drug resistant		Tuberculosis		Varicella (Chickenpox)		Vibriosis	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Androscoggin	2	1.9	2	1.9	24	22.5	0	0.0
Aroostook	1	1.4	0	0.0	11	15.3	0	0.0
Cumberland	7	2.5	3	1.1	54	19.6	1	0.4
Franklin	1	3.3	0	0.0	10	33.5	0	0.0
Hancock	0	0.0	0	0.0	20	37.6	0	0.0
Kennebec	0	0.0	0	0.0	13	10.7	0	0.0
Knox	0	0.0	0	0.0	4	9.8	0	0.0
Lincoln	2	5.8	0	0.0	9	26.0	0	0.0
Oxford	2	3.5	2	3.5	7	12.3	1	1.8
Penobscot	0	0.0	0	0.0	41	27.6	0	0.0
Piscataquis	0	0.0	0	0.0	2	11.8	0	0.0
Sagadahoc	1	2.8	0	0.0	9	24.8	0	0.0
Somerset	0	0.0	1	1.9	17	33.1	0	0.0
Waldo	0	0.0	0	0.0	9	23.5	0	0.0
Washington	0	0.0	0	0.0	5	15.4	0	0.0
York	2	1.0	1	0.5	30	14.9	1	0.5
Maine Total	18	1.4	9	0.7	265	20.1	3	0.2

Reportable HIV/STDs, Number of Cases and Rate per 100,000 Persons by County, Maine, 2008

County	Chlamydia		Gonorrhea		Syphilis, Primary and Secondary		HIV	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Androscoggin	327	306.0	10	9.4	1	0.9	7	6.5
Aroostook	64	89.3	6	8.4	0	0.0	0	0.0
Cumberland	646	234.0	40	14.5	9	3.3	16	5.4
Franklin	48	160.8	2	6.7	0	0.0	1	3.3
Hancock	90	169.4	5	9.4	1	1.9	0	0.0
Kennebec	309	255.5	5	4.1	4	3.3	4	2.5
Knox	79	194.2	0	0.0	0	0.0	0	0.0
Lincoln	36	104.0	0	0.0	0	0.0	1	2.9
Oxford	88	155.1	6	10.6	0	0.0	3	3.5
Penobscot	326	219.3	4	2.7	0	0.0	1	0.7
Piscataquis	17	100.2	0	0.0	0	0.0	0	0.0
Sagadahoc	79	217.4	3	8.3	1	2.8	0	0.0
Somerset	114	221.9	1	1.9	0	0.0	1	1.9
Waldo	58	151.3	0	0.0	2	5.2	0	0.0
Washington	36	110.8	2	6.2	0	0.0	1	3.1
York	277	137.3	12	5.9	2	1.0	11	4.5
Maine Total	2594	197.0	96	7.3	20	1.5	46	3.5

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by District, Maine, 2008

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	2	1.3
Babesiosis	0	0.0	0	0.0	1	0.1	1	1.2	2	1.3
Campylobacteriosis	4	5.6	20	11.6	47	17.0	8	9.3	20	13.3
Chlamydia	64	89.3	423	245.5	646	234.0	126	147.1	252	168.0
Cryptosporidiosis	5	7.0	17	9.9	1	0.4	6	7.0	9	6.0
<i>Ehrlichia chaffeensis</i>	0	0.0	0	0.0	0	0.0	0	0.0	1	0.7
Giardiasis	14	19.5	20	11.6	58	21.0	7	8.2	25	16.7
Gonorrhea	6	8.4	6	3.5	40	14.5	7	8.2	3	2.0
<i>Haemophilus influenzae</i> , invasive	1	1.4	2	1.2	4	1.4	1	1.2	2	1.3
Hemolytic uremic syndrome	0	0.0	0	0.0	1	0.4	0	0.0	0	0.0
HIV	0	0.0	4	2.3	15	5.4	1	1.2	1	0.7
Hepatitis A	0	0.0	1	0.6	1	0.4	0	0.0	0	0.0
Hepatitis B, acute	0	0.0	4	2.3	2	0.7	2	2.3	1	0.7
Legionellosis	0	0.0	1	0.6	5	1.8	0	0.0	3	2.0
Listeriosis	0	0.0	2	1.2	1	0.4	0	0.0	1	0.7

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by District, Maine, 2008

Condition	Penquis		Western		York		State	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Anaplasmosis	0	0.0	0	0.0	11	5.5	17	1.3
Babesiosis	0	0.0	0	0.0	7	3.5	11	0.8
Campylobacteriosis	21	12.7	14	7.2	17	8.4	151	11.5
Chlamydia	343	207.1	463	239.3	277	137.3	2594	197.0
Cryptosporidiosis	5	3.0	1	0.5	2	1.0	46	3.5
<i>Ehrlichia chaffeensis</i>	0	0.0	0	0.0	0	0.0	1	0.1
Giardiasis	18	10.9	28	14.5	18	8.9	188	14.3
Gonorrhea	4	2.4	18	9.3	12	5.9	96	7.3
<i>Haemophilus influenzae, invasive</i>	2	1.2	6	3.1	3	1.5	21	1.6
Hemolytic uremic syndrome	0	0.0	0	0.0	0	0.0	1	0.1
Hepatitis A	1	0.6	0	0.0	15	7.4	18	1.4
Hepatitis B, acute	2	1.2	3	1.6	1	0.5	15	1.1
HIV	1	0.6	10	5.2	9	4.5	46	3.5
Legionellosis	1	0.6	1	0.5	0	0.0	11	0.8
Listeriosis	0	0.0	0	0.0	1	0.5	5	0.4

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by District, Maine, 2008

Condition	Aroostook		Central		Cumberland		Downeast		Mid Coast	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Lyme Disease	4	5.6	123	71.4	228	82.6	16	18.7	171	114.0
Meningococcal invasive disease	0	0.0	0	0.0	0	0.0	0	0.0	3	2.0
MRSA, invasive	11	15.3	2	1.2	14	5.1	1	1.2	2	1.3
Mumps	0	0.0	0	0.0	0	0.0	0	0.0	2	1.3
Pertussis	2	2.8	0	0.0	5	1.8	7	8.2	7	4.7
Rabies, animal	0		12		11		2		15	
Salmonellosis	7	9.8	28	16.2	39	14.1	9	10.5	21	14.0
Shiga toxin producing E. coli	2	2.8	4	2.3	4	1.4	3	3.5	1	0.7
Shigellosis	0	0.0	0	0.0	7	2.5	2	2.3	3	2.0
Streptococcus, invasive Group A	0	0.0	5	2.9	11	4.0	0	0.0	3	2.0
Streptococcus pneumonia, invasive drug resistant	1	1.4	0	0.0	7	2.5	0	0.0	3	2.0
Syphilis	0	0.0	4	2.3	9	3.3	1	1.2	1	0.7
Tuberculosis	0	0.0	1	0.6	3	11.1	0	0.0	0	0.0
Varicella (chickenpox)	11	15.3	30	17.4	54	19.6	25	29.2	31	20.7
Vibriosis	0	0.0	0	0.0	1	0.4	0	0.0	0	0.0

Reportable Conditions, Number of Confirmed and Probable Cases and Rate per 100,000 Persons by District, Maine, 2008

Condition	Penquis		Western		York		State	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Lyme Disease	14	8.5	61	31.5	291	144.3	908	69.0
Meningococcal invasive disease	1	0.6	2	1.0	0	0.0	6	0.5
MRSA, invasive	2	1.2	7	3.6	8	4.0	47	3.6
Mumps	1	0.6	2	1.0	0	0.0	5	0.4
Pertussis	5	3.0	7	3.6	16	7.9	49	3.7
Rabies, animal	7		14		3		64	
Salmonellosis	12	7.2	15	7.8	28	13.9	159	12.1
Shiga toxin producing <i>E. coli</i>	6	3.6	4	2.1	2	1.0	26	2.0
Shigellosis	0	0.0	1	0.5	7	3.5	20	1.5
Streptococcus, invasive Group A	0	0.0	5	2.6	4	2.0	28	2.1
<i>Streptococcus pneumoniae</i> , invasive drug resistant	0	0.0	5	2.6	2	1.0	18	1.4
Syphilis	0	0.0	1	0.5	2	1.0	20	1.5
Tuberculosis	0	0.0	4	2.1	1	0.5	9	0.7
Varicella	43	26.0	41	21.2	30	14.9	265	20.1
Vibriosis	0	0.0	1	0.5	1	0.5	3	0.2

Anaplasmosis

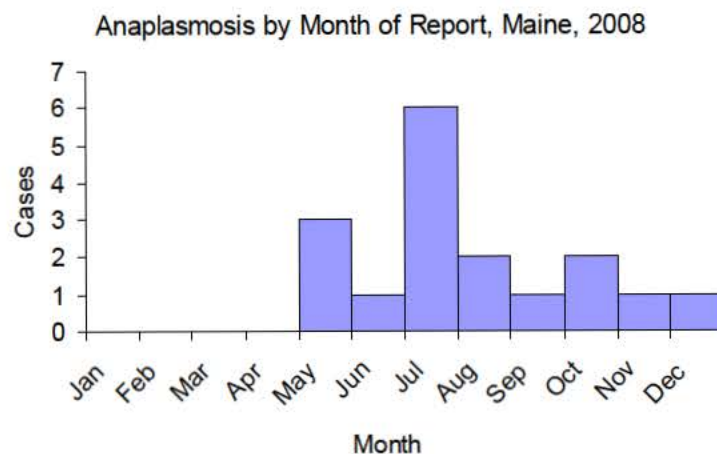
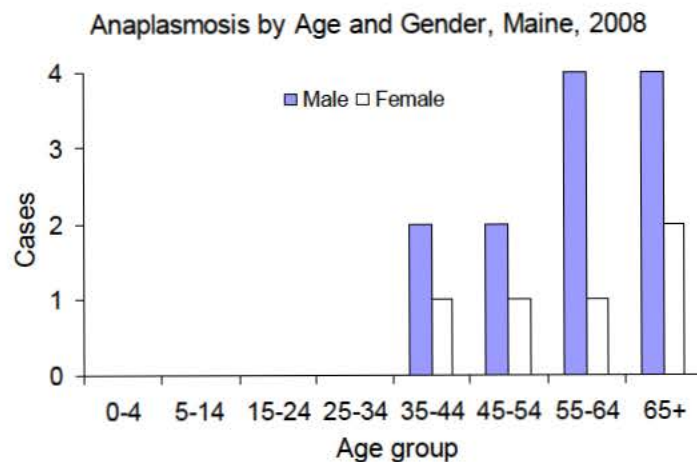
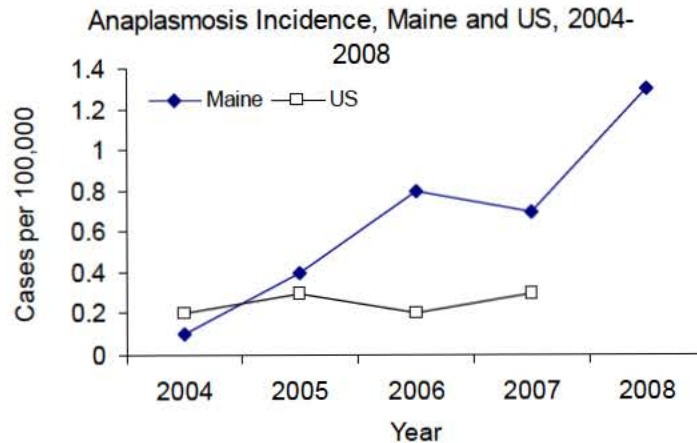
2008 Case Total 17
Maine Rate 1.3 per 100,000
U.S. rate (2007) 0.3 per 100,000

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

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

- Case total of 17 represents a 89% increase from 2007
- The 2003-2007 median number of cases per year was 4
- Median age was 58 years
- Age range was 37 to 89 years
- Cases were 29% female and 71% male
- Greatest number of cases occurred during the summer and early fall months

The best way to prevent infection is to take measures to protect against tick bites. Checking for ticks after visiting a tick infested area is an important way to reduce the risk of contracting anaplasmosis. 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

2008 Case Total **11**
Maine Rate **0.8 per 100,000**
U.S. rate (2007) **Not reportable**

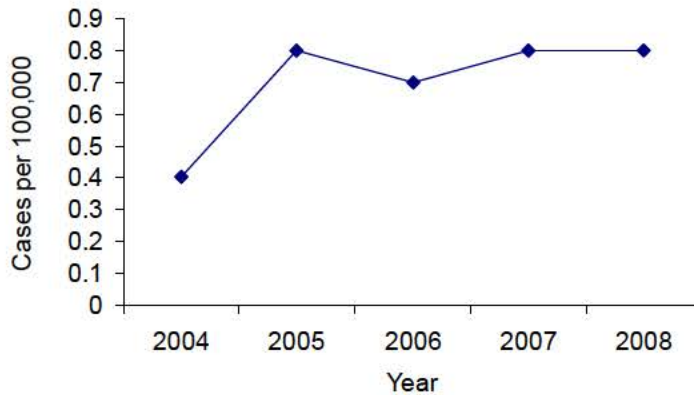
Babesiosis is caused by protozoa that are carried by ticks. Many individuals that get the disease do not have symptoms. Serious symptoms can occur, especially in immunosuppressed individuals, those without a spleen, or people who are co-infected with Lyme disease.

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

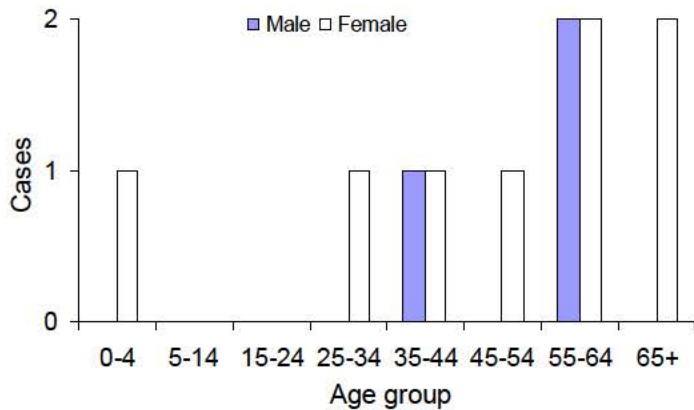
- Case total of 11 represents no change from 2007
- The 2003-2007 median number of cases was 9
- Median age was 57 years
- Age range was 4 to 82 years
- Cases were 72% female and 28% male
- Greatest number of cases occurred during the summer months

The best way to prevent infection is to take measures to protect against tick bites. Checking for ticks after visiting a tick infested area is an important way to reduce the risk of contracting babesiosis. 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.

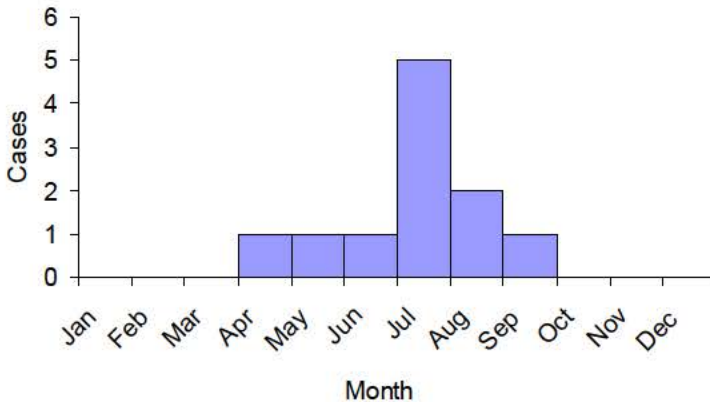
Babesiosis Incidence, Maine, 2004-2008



Babesiosis by Age and Gender, Maine, 2008



Babesiosis by Month of Onset, Maine, 2008



Campylobacteriosis

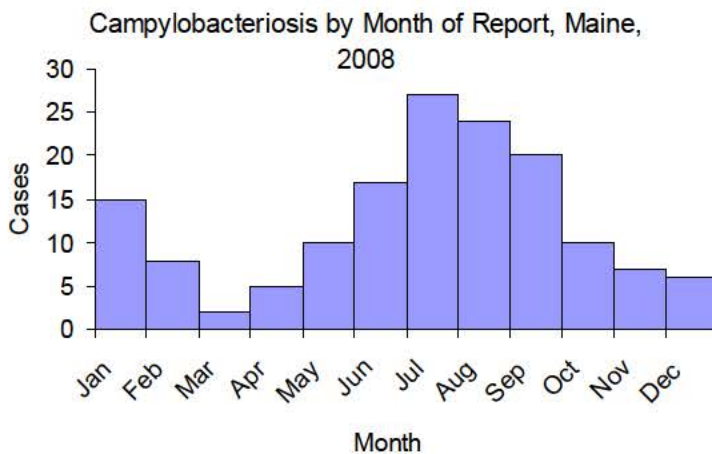
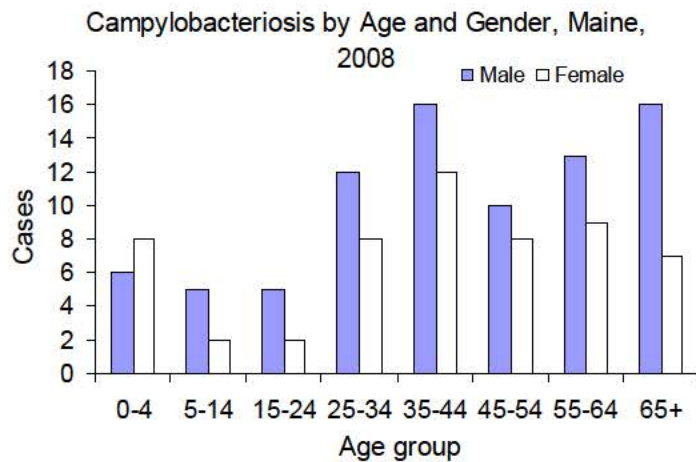
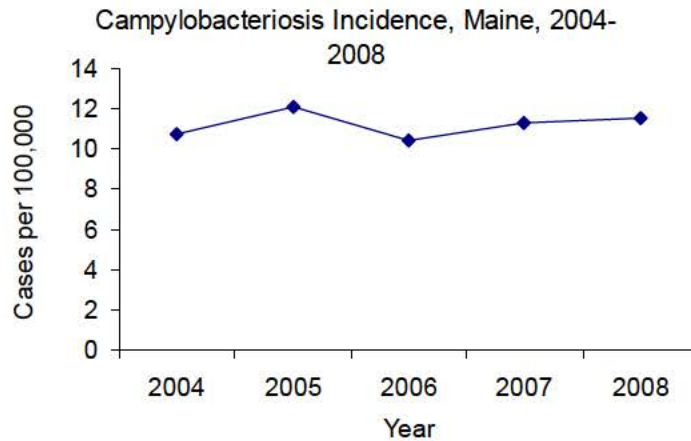
2008 Case Total **151**
Maine Rate **11.5 per 100,000**
U.S. rate (2007) **Not reportable**

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 151 represents a 1% increase from 2007
- The 2003-2007 median number of cases was 146
- Median age was 40 years
- Age range was 7 months to 87 years
- Cases were 42% female and 58% male
- Highest rates in Sagadahoc, Piscataquis and Lincoln 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

2008 Case Total 2,594
Maine Rate 197 per 100,000
U.S. rate (2007) 370.2 per 100,000

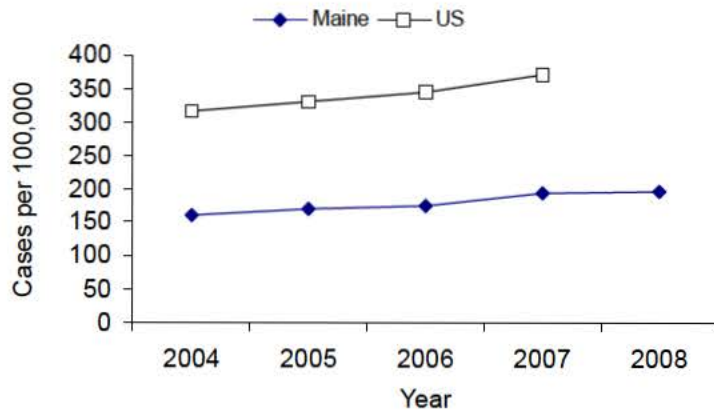
Chlamydia is a sexually transmitted disease (STD) caused by the bacterium *Chlamydia trachomatis*. Chlamydia is known as a “silent” disease, as three quarters (75%) of women and half (50%) of men will have no symptoms. Common symptoms for women may be vaginal discharge or a burning feeling with urination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

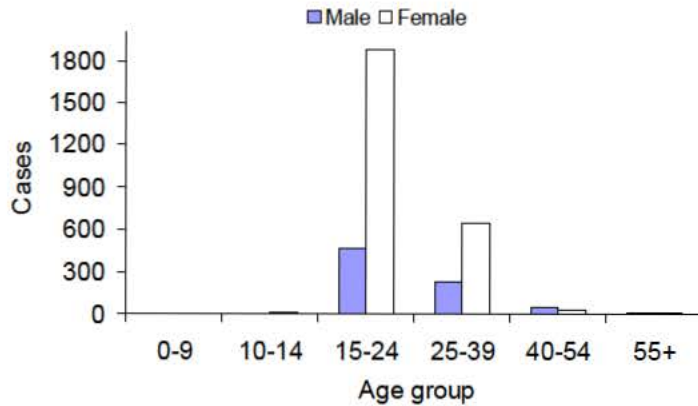
- Chlamydia is the most frequently reported STD in Maine
- In the 5 years since 2003, three women have been diagnosed for every one man
- 72% of infections were in persons 15-24 years old
- Diagnosis increased among whites (+8.3%) and blacks (+20%)

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, several school based health centers, a homeless teen clinic, and at the three STD clinics (Bangor, Portland and Lewiston).

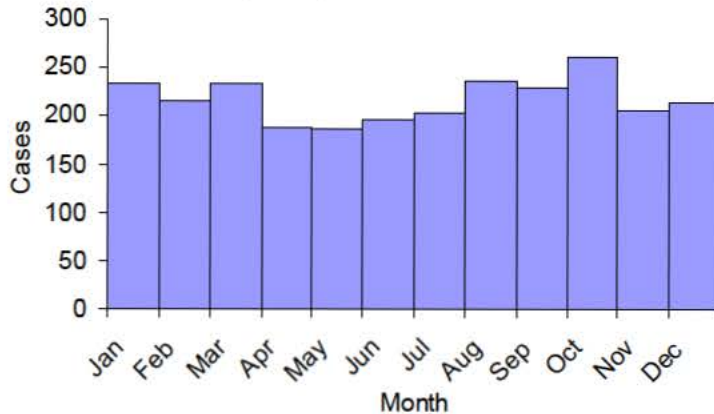
Chlamydia Incidence, Maine and US, 2004-2008



Chlamydia by Age and Gender, Maine, 2008



Chlamydia by Month, Maine, 2008



Cryptosporidiosis

2008 Case Total 46
Maine Rate 3.5 per 100,000
U.S. rate (2007) 3.7 per 100,000

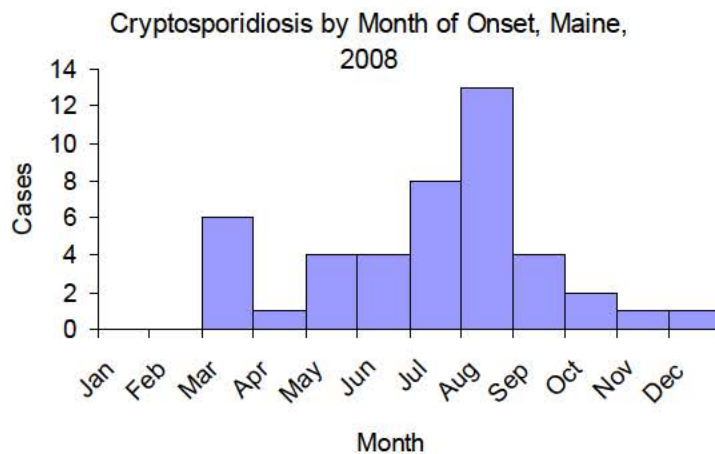
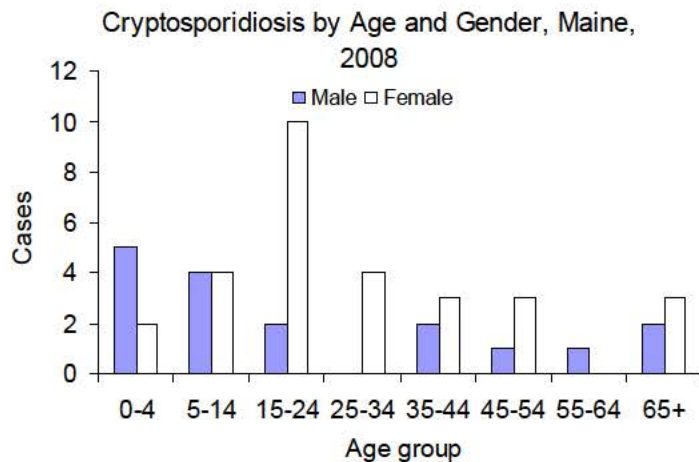
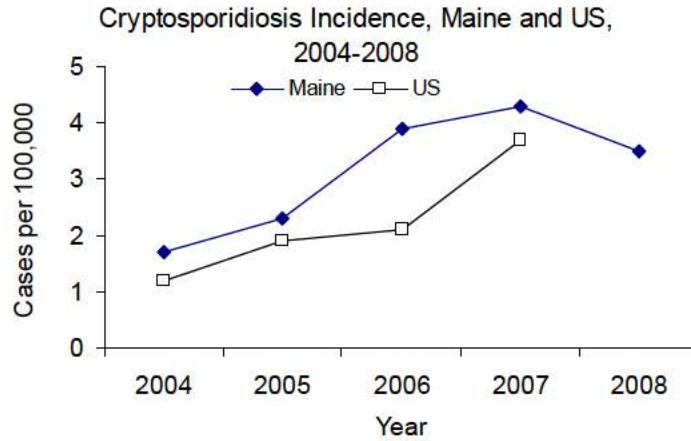
Cryptosporidiosis is an infection most frequently associated with contaminated water. The disease is caused by a parasite which lives in the intestines of animals and infected humans. Feces containing the parasite may contaminate the ground or water sources. The parasite may live for long periods of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

Symptoms include diarrhea, abdominal cramping, malaise and vomiting.

- Case total of 46 represents a 18% decrease from 2007
- The 2003-2007 median number of cases per year was 30
- Median age was 19.5 years
- Age range was 1 to 91 years
- Cases were 63% female and 37% male
- Highest incidence was in Somerset, Waldo and Hancock counties
- Greatest number of cases occurred during the late summer months

A cluster of cryptosporidiosis cases occurred at a farm camp during the summer. Four confirmed and 23 probable cases were identified.

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



Ehrlichia chaffeensis

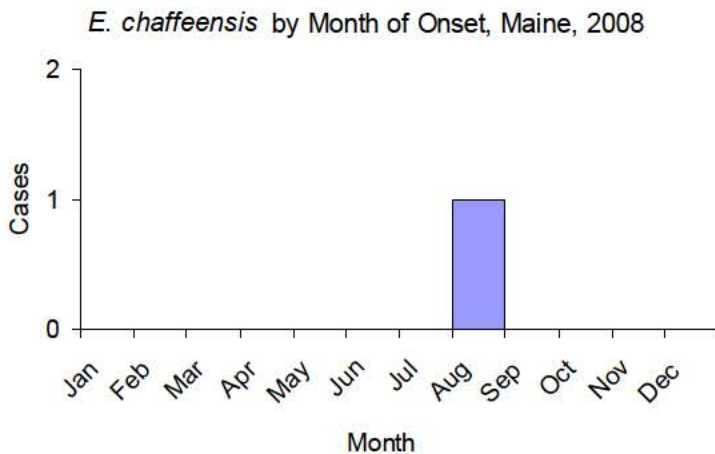
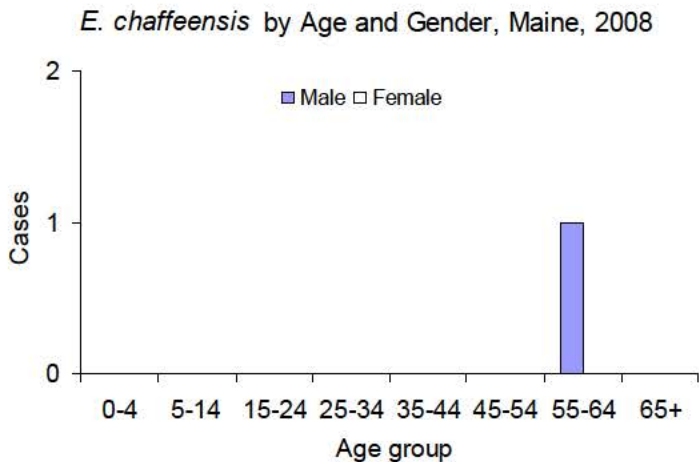
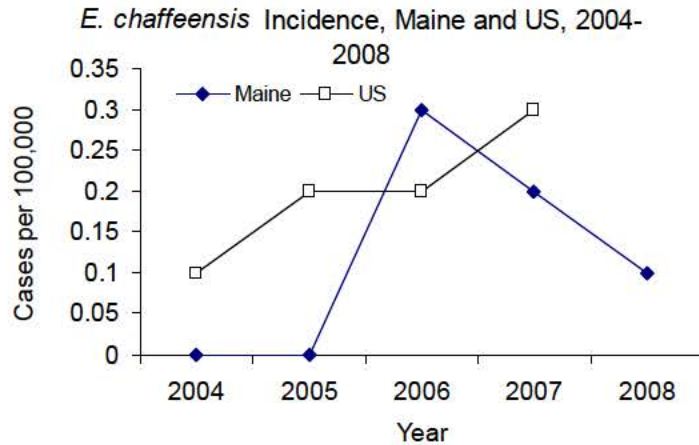
2008 Case Total 1
Maine Rate 0.1 per 100,000
U.S. rate (2007) 0.3 per 100,000

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 represents a decrease from 2007
- The 2003-2007 median number of cases per year was 0

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

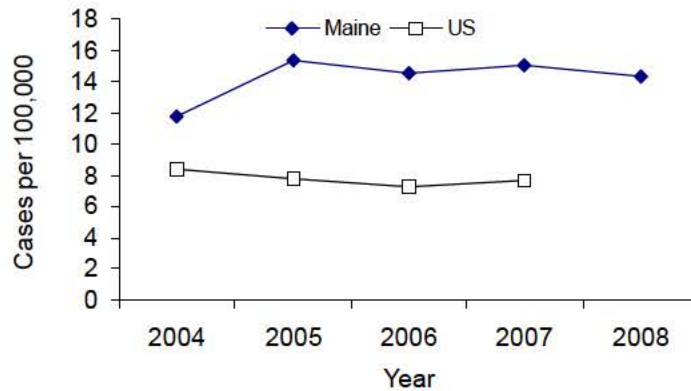
2008 Case Total	188
Maine Rate	14.3 per 100,000
U.S. rate (2007)	7.7 per 100,000

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.

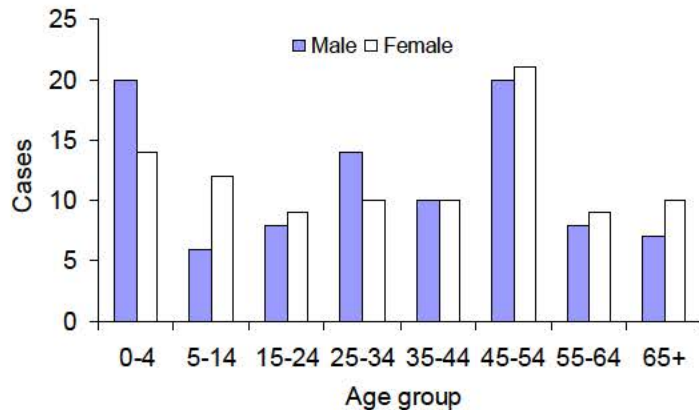
- Case total of 188 represents a 5% decrease from 2007
- The 2003-2007 median number of cases per year was 192
- Median age was 35 years
- Age range was 10 months to 78 years
- Cases were 50% female and 50% male
- Highest incidence was in Lincoln, Sagadahoc and Cumberland counties
- Greatest number of 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.

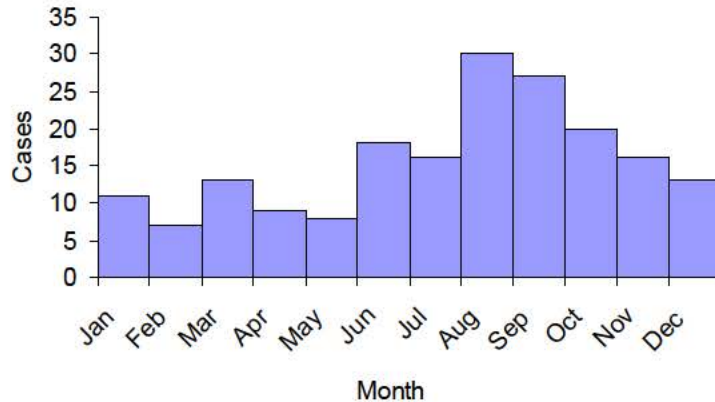
Giardiasis Incidence, Maine and US, 2004-2008



Giardiasis by Age and Gender, Maine, 2008



Giardiasis by Month of Report, Maine, 2008



Gonorrhea

2008 Case Total	96
Maine Rate	7.4 per 100,000
U.S. rate (2007)	118.9 per 100,000

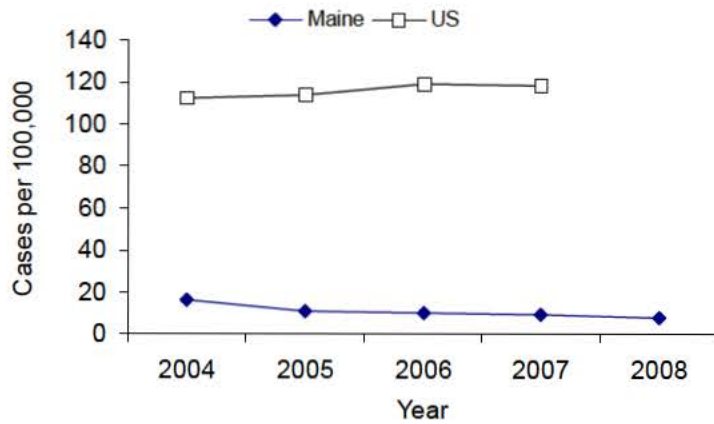
Gonorrhea is a sexually transmitted disease (STD) caused by the bacterium *Neisseria gonorrhoeae* that grows and multiplies in warm, moist areas. Gonorrhea can be spread through contact with the vagina, penis, mouth or anus. Gonorrhea can also spread from a mother to her baby during childbirth. Gonorrhea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

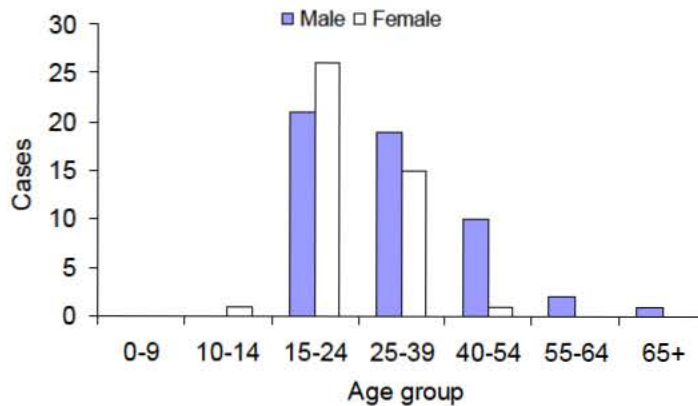
- Case total of 96 represents a 19% decrease since 2007
- The 2003-2007 median number of cases per year was 142
- Highest incidence were among 15-24 years old (49%) and 25-39 years old (35%)
- Cases were 45% female and 55% male

Prevention efforts for gonorrhea have primarily focused on treatment verification and case investigation activities that include partner follow-up for all new infections. All state sponsored testing through the Infertility Prevention Project uses a combination gonorrhea and chlamydia test targeting females 15-24 years old and their partners.

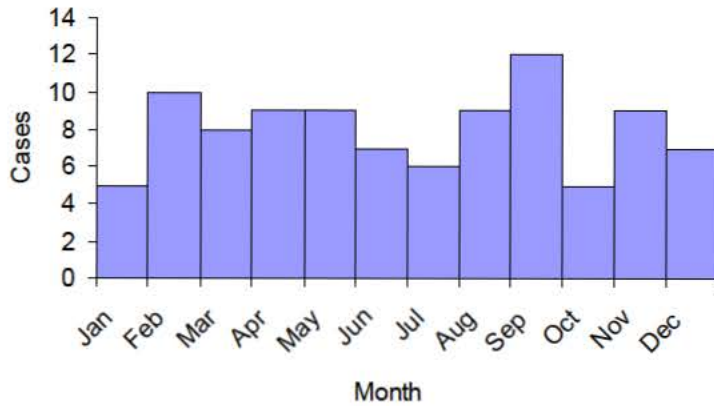
Gonorrhea Incidence, Maine and US, 2004-2008



Gonorrhea by Age and Gender, Maine, 2008



Gonorrhea by Month of Onset, Maine, 2008



Group A Streptococcal Disease

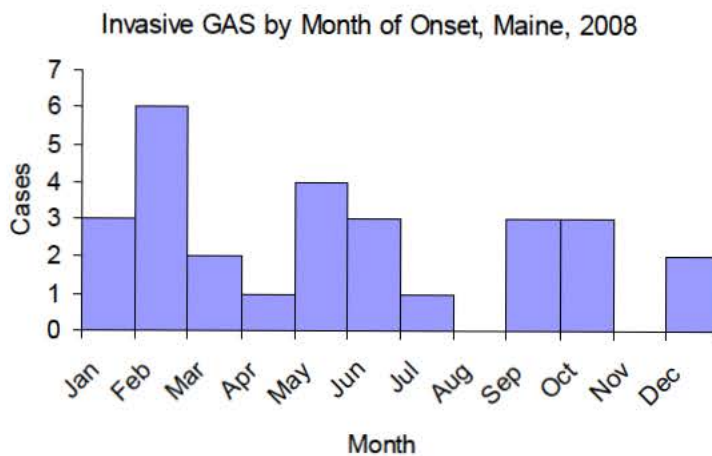
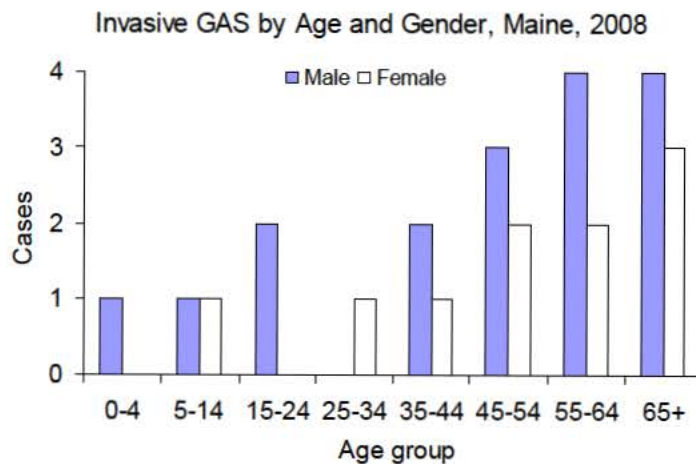
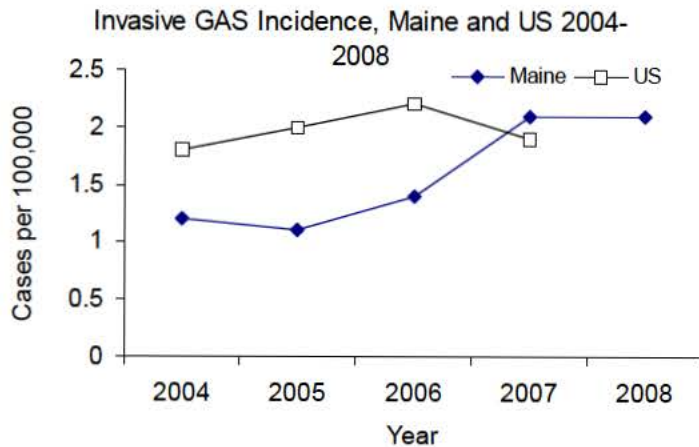
2008 Case Total	28
Maine Rate	2.1 per 100,000
U.S. rate (2007)	1.9 per 100,000

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 28 represents no change from 2007
- The 2003-2007 median number of cases per year was 19
- Median age was 52 years
- Age range was 5 months to 82 years
- Cases were 36% female and 64% 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

2008 Case Total	21
Maine Rate	1.6 per 100,000
U.S. rate (2007)	0.8 per 100,000

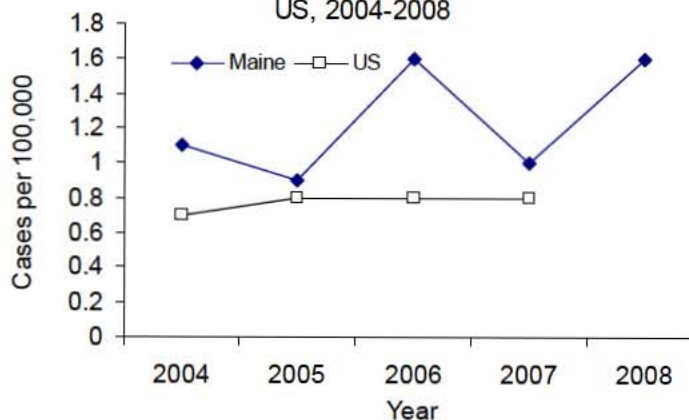
Haemophilus influenzae disease (sometimes called H. flu) is caused by the *Haemophilus influenzae* bacterium. A specific type called serotype B (Hib), was once the most common cause of bacterial meningitis in children. Due to widespread use of Hib vaccine in children, few cases in children less than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

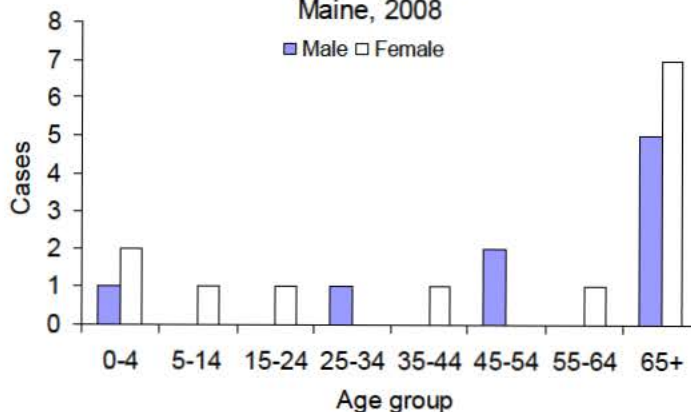
- Case total of 21 represents a 62% increase from 2007
- The 2003-2007 median number of cases per year was 13
- Median age was 71 years
- Age range was 2 days old to 88 years
- Cases were 57% female and 43% male
- No cases of Hib in children less than 5 years old were reported

Haemophilus influenzae serotype b (Hib) can 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.

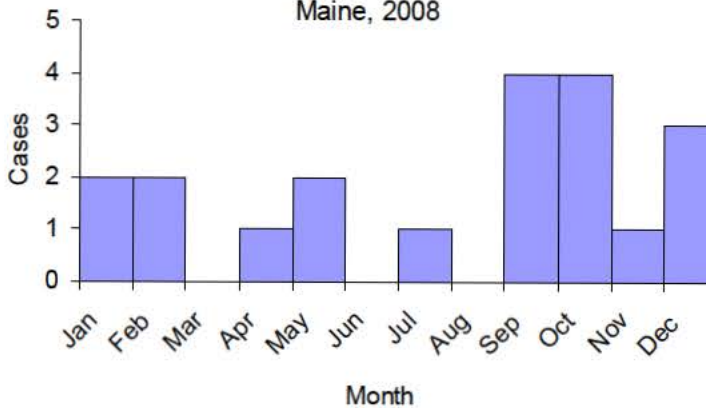
Haemophilus influenzae Incidence, Maine and US, 2004-2008



Haemophilus influenzae by Age and Gender, Maine, 2008



Haemophilus influenzae by Month of Onset, Maine, 2008



Hepatitis A

2008 Case Total **18**
Maine Rate **1.4 per 100,000**
U.S. rate (2007) **1.0 per 100,000**

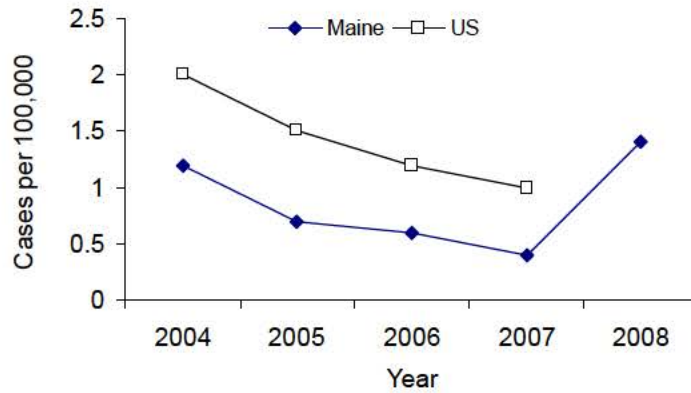
Hepatitis A is a liver disease caused by hepatitis A virus. The virus is spread from person to person by putting something in the mouth that has been contaminated with the stool of a person with hepatitis A. Poor handwashing by infected persons increases the risk of transmission. The virus spreads more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

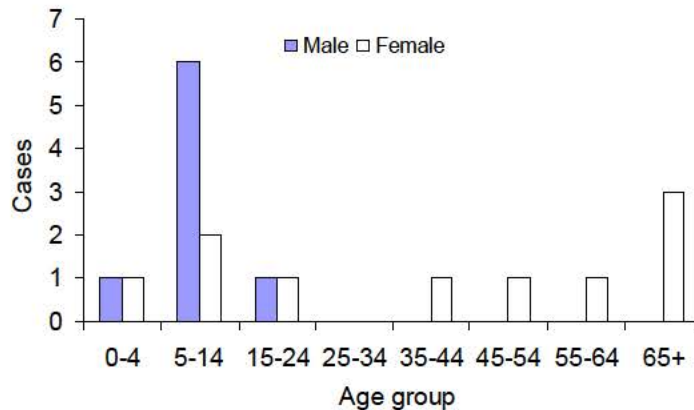
- Case total of 18 represents a 260% increase from 2007
- The 2003-2007 median number of cases per year was 9
- Median age was 12 years
- Age range was 2 to 82 years
- The increase in 2008 was related to an outbreak of 13 cases involving an asymptomatic foreign born child, multiple family members and 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.

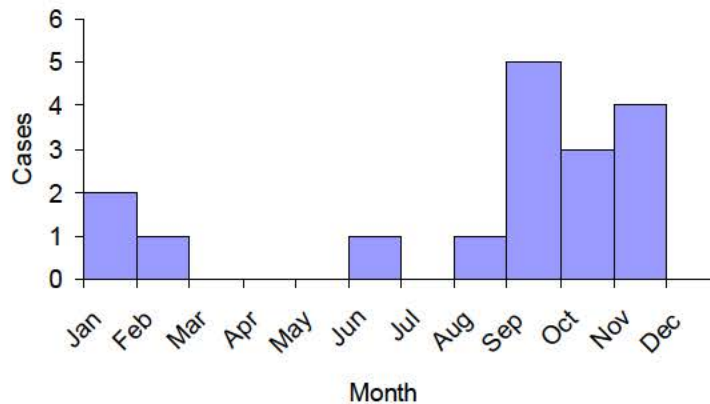
Hepatitis A Incidence, Maine and US, 2004-2008



Hepatitis A by Age and Gender, Maine, 2008



Hepatitis A by Month of Onset, Maine, 2008



Hepatitis B

2008 Case Total 15
Maine Rate 1.1 per 100,000
U.S. rate (2007) 1.5 per 100,000

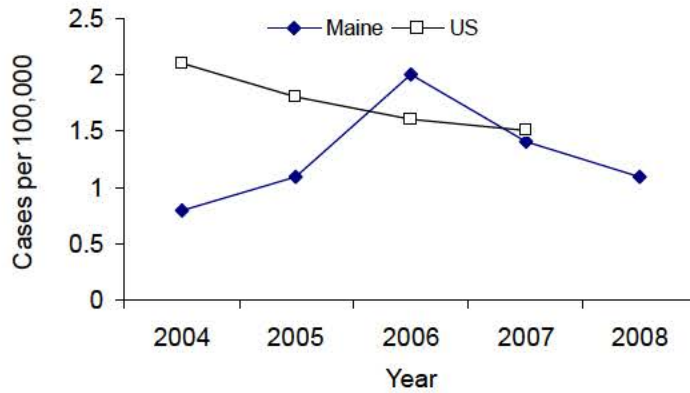
Hepatitis B is caused by a virus that attacks the liver. The virus can cause life-long infection, cirrhosis (scarring) of the liver, liver cancer, liver failure, and death. Hepatitis B can be transmitted through exposure to blood from an infected person (needle sticks and other sharps exposures, sharing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

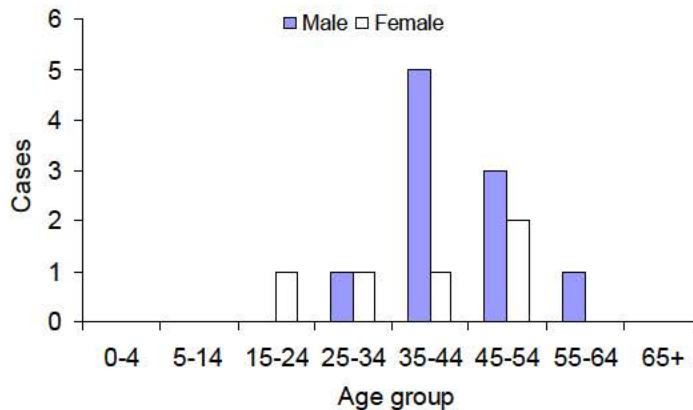
- Case total of 15 represents a 21% decrease from 2007
- The 2003-2007 median number of cases per year was 14
- Median age was 43 years
- Age range was 18 to 61 years
- Highest incidence occurred in Hancock, Lincoln and Androscoggin counties

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.

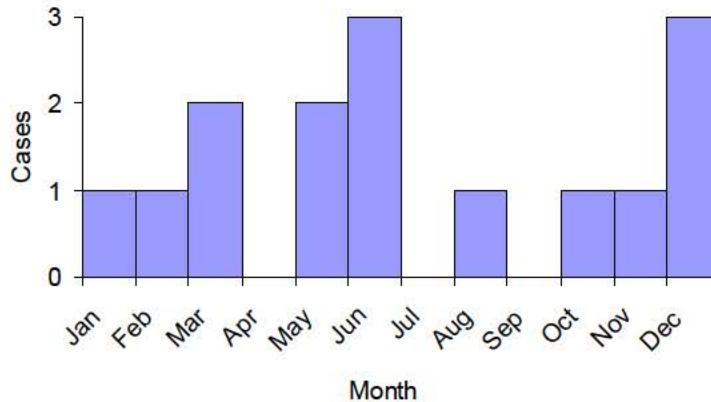
Hepatitis B Incidence, Maine and US, 2004-2008



Hepatitis B by Age and Gender, Maine, 2008



Hepatitis B by Month of Onset, Maine, 2008



Hepatitis C

2008 Case Total 1377
Maine Rate N/A
U.S. rate (2007) N/A

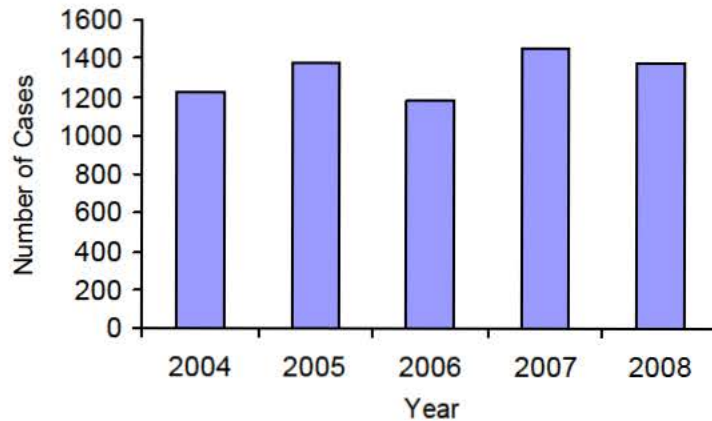
Hepatitis C is a contagious liver disease that results from infection with the hepatitis C virus. It can range in severity from a mild illness lasting a few weeks to a serious, lifelong illness. Hepatitis C virus (HCV) is usually spread when blood from a person infected with the hepatitis C virus enters the body of someone who is not infected. Most people become infected with the hepatitis C virus by sharing needles or other equipment to inject drugs.

- Case total of 1377 represents a 5.3% decrease over 2007
- Age range was 1 to 89 years
- Highest number of cases reported among people 45-54 years old.
- Cases were 63% male and 37% female, with one person unidentified.

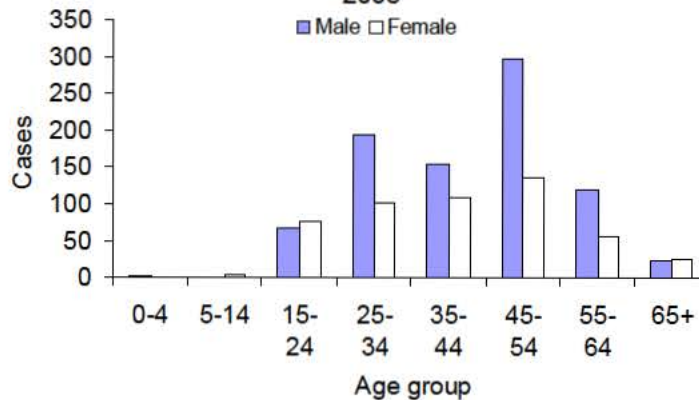
A hepatitis C positive report was defined as the presence of any positive serologic marker for hepatitis C infection. These markers include anti-HCV (EIA), anti-HCV (RIBA), hepatitis C antigen (RT-PCR), or reports of hepatitis C genotype. It should be noted that not all anti-HCV (EIA) reports were verified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

People with chronic hepatitis C should be monitored regularly by an experienced doctor. 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. People with HCV should also get vaccinated against hepatitis A and hepatitis B.

Chronic Hepatitis C, Maine, 2004-2008



Chronic Hepatitis C by Age and Gender, Maine, 2008



HIV*

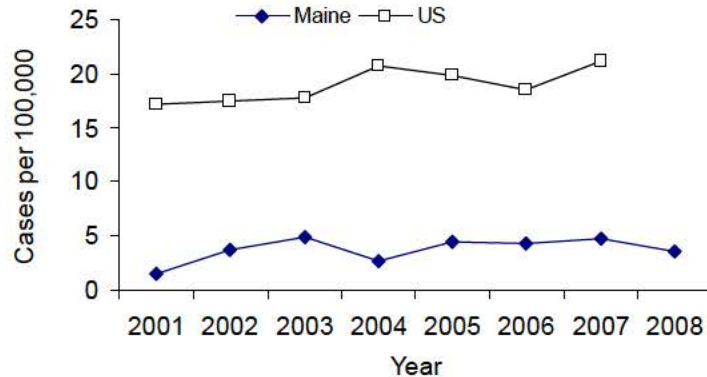
2008 Case Total	46
Maine Rate	3.5 per 100,000
U.S. rate (2007)	22.8 per 100,000

Human Immunodeficiency Virus (HIV) is an infectious agent of viral origins that is responsible for HIV disease and Acquired Immunodeficiency Syndrome (AIDS) in humans. 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 observed in Maine include non-prescription injection drug use and heterosexual partner at high risk for HIV infection.

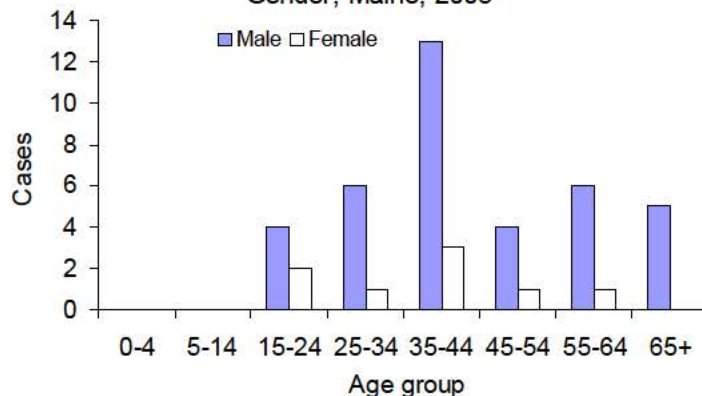
- Case total of 46 represents a 28% decrease over 2007
- The 2003-2007 median number of cases per year was 62
- Median age was 41.5 years
- Age range was 18-80 years
- Highest incidence was in people 35 to 44 years old
- Cases were 15% female and 85% male

In Maine, HIV/AIDS testing and education are the cornerstones of prevention services. Efforts to prevent the spread of HIV in Maine target those at risk of infection and Mainers infected with HIV as HIV can only be transmitted from infected individuals. 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**, 2001-2008



Newly Identified HIV Diagnoses by Age and Gender, Maine, 2008



Identified Mode of Transmission Among HIV Cases, Maine, 2008

Mode of Transmission	New Diagnoses
Men who have sex with men (MSM)	28
Injection drug users (IDU)	3
MSM/IDU	0
Heterosexual contact with at-risk partners	2
Heterosexual, no at-risk partners disclosed	13
Undetermined	0
Received contaminated blood products	0
Child born to mother with HIV	0

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

**Based on reports from 33 or 34 reporting states.

Legionellosis

2008 Case Total 11
Maine Rate 0.8 per 100,000
U.S. rate (2007) 0.9 per 100,000

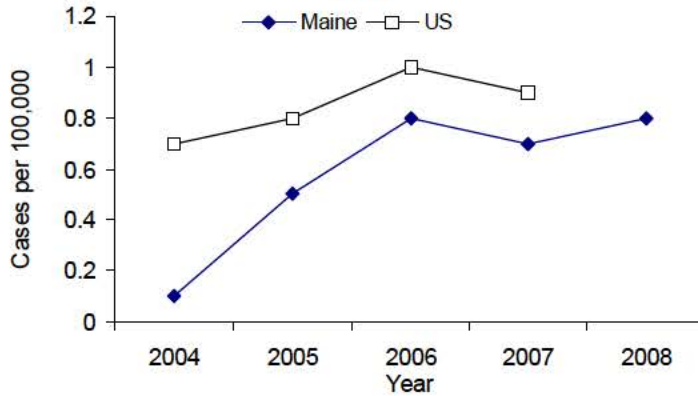
Legionellosis (or Legionnaire’s disease) is a serious and sometimes fatal form of pneumonia. *Legionella* bacteria are widespread in natural, industrial and recreational water sources. The bacteria grow best in warm, stagnant water. They have been found in creeks and ponds, hot and cold water taps, hot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

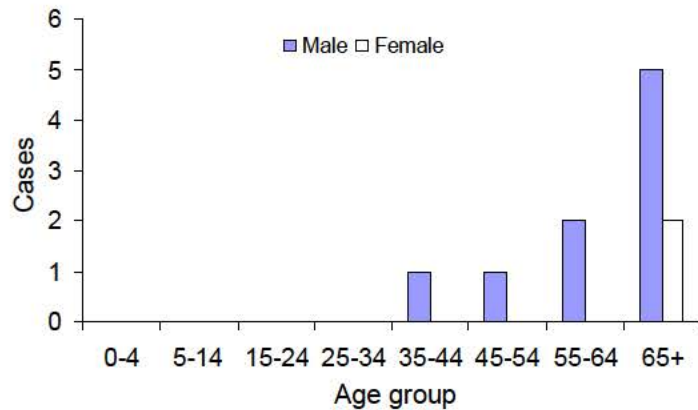
- Case total of 11 represents a 22% increase from 2007
- The 2003-2007 median number of cases per year was 7
- Median age was 67 years
- Age range was 38 to 83 years
- Cases were 18% female and 82% male

Prevention depends on good maintenance of possible sources of infection, including regular cleaning and disinfection and the application of other physical (temperature) or chemical measures to minimize growth.

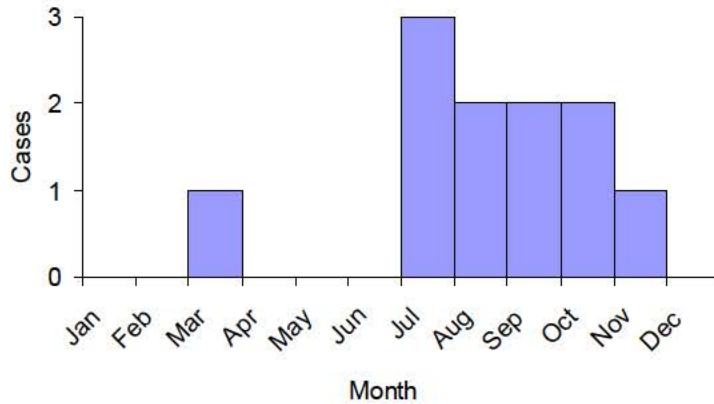
Legionellosis Incidence, Maine and US, 2004-2008



Legionellosis by Age and Gender, Maine, 2008



Legionellosis by Month of Onset, Maine, 2008



Listeriosis

2008 Case Total 5
Maine Rate 0.4 per 100,000
U.S. rate (2007) 0.3 per 100,000

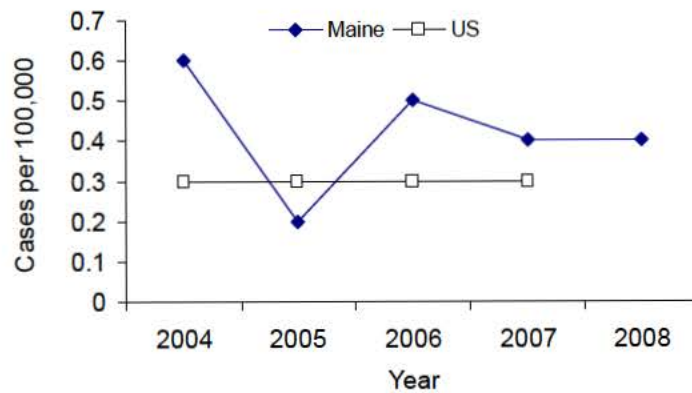
Listeriosis is a bacterial illness, caused by *Listeria monocytogenes*. Infection may cause sepsis and meningitis. Listeriosis is frequently linked to ready-to-eat meats (pate), deli meats, soft cheeses and raw milk. Pregnant women and neonates are at highest risk as the infection can be acquired during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

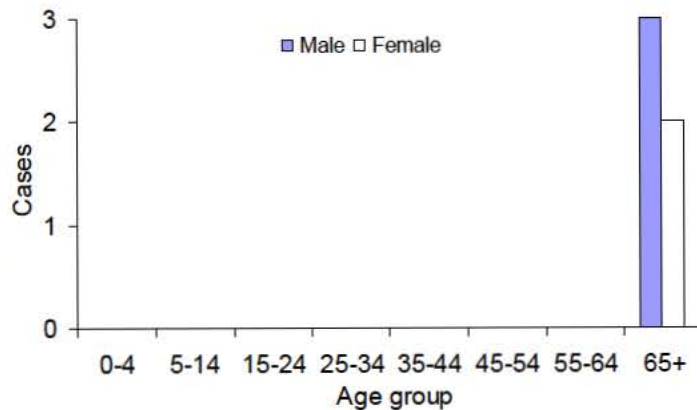
- Case total of 5 represents no change from 2007
- The 2003-2007 median number of cases per year was 7 cases
- Median age was 86 years
- Age range was 72 to 89 years
- Cases were 40% female and 60% male
- 4 of 5 (80%) cases were hospitalized

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

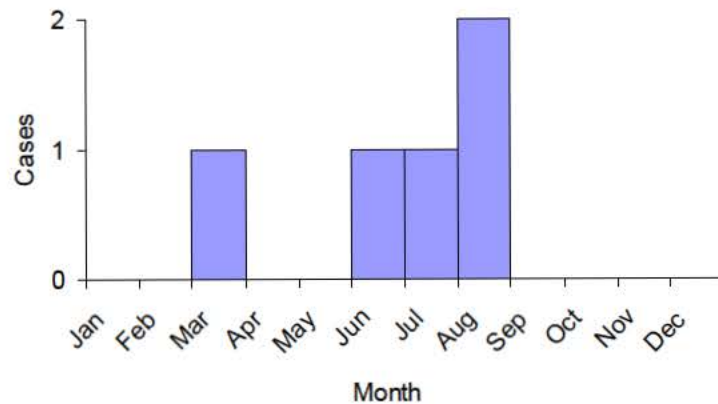
Listeriosis Incidence, Maine and US, 2004-2008



Listeriosis by Age and Gender, Maine, 2008



Listeriosis by Month of Onset, Maine, 2008



Lyme Disease

2008 Case Total	908
Maine Rate	69.0 per 100,000
U.S. Rate (2007)	9.2 per 100,000

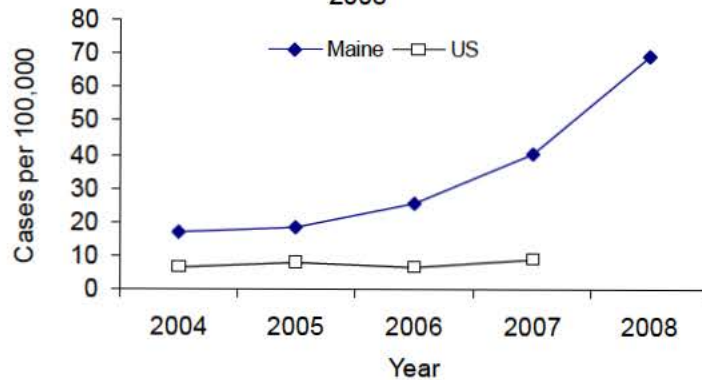
Lyme disease, Maine's most common vectorborne disease of humans, is caused by the bacterium *Borrelia burgdorferi*. The disease is transmitted via the bite of an infected deer tick (*Ixodes scapularis*) and symptoms are generally visible around 3 days after the initial bite. The typical rash can be followed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

- Case total of 908 represents a 72% increase over 2007
- The 2003-2007 median number of cases per year was 245
- Median age was 45 years
- Age range was 1 to 92 years
- Cases were 46% female and 54% male
- Most cases occurred during summer months (67% in June-August)
- Cases were greatest in York (32%) and Cumberland (25%) counties

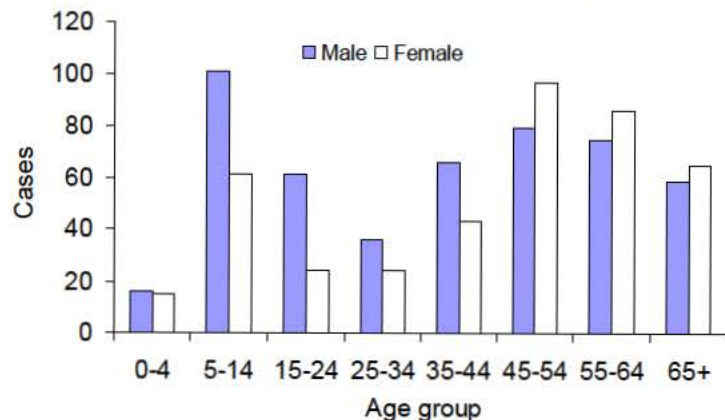
The case definition for classifying cases changed starting January 1, 2008 that included a probable case definition which led to a higher case count than previous years.

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.

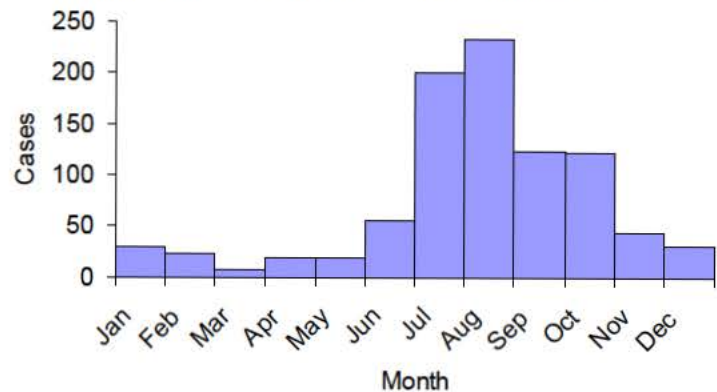
Lyme Disease Incidence, Maine and US, 2004-2008



Lyme Disease by Age and Gender, Maine, 2008



Lyme Disease by Month of Report, Maine, 2008



Meningococcal Disease

2008 Case Total	6
Maine Rate	0.5 per 100,000
U.S. rate (2007)	0.4 per 100,000

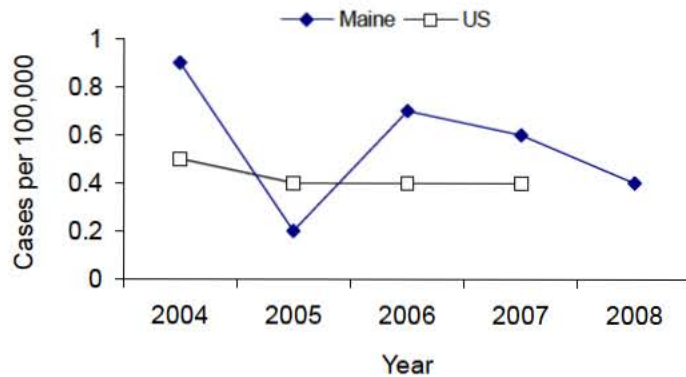
Neisseria meningitidis is a gram-negative diplococcal bacterium that causes meningitis and meningococemia. *N. meningitidis* infection usually begins when the bacteria, that can be present in the throat but not cause illness, penetrates the nasopharyngeal surface and enters the blood stream. Transmission 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 meningococemia. The symptoms are indistinguishable from other pathogens causing meningitis.

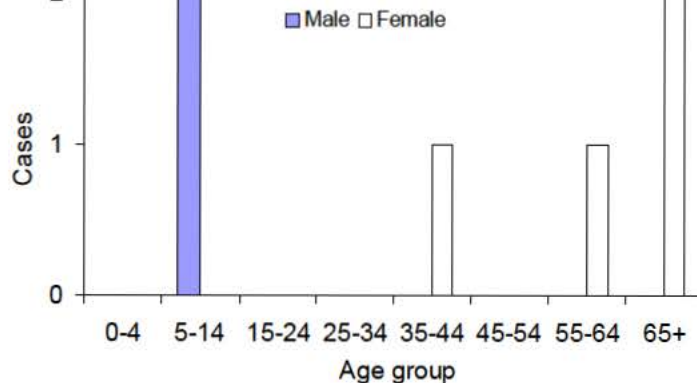
- Case total of 6 represents a 25% decrease from 2007
- The 2003-2007 median number of cases per year was 9
- Median age was 48.5 years
- Age range was 9 to 83 years
- Cases were 67% female and 33% male
- 3 group B, 2 group C and 1 group Y

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 W135). 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.

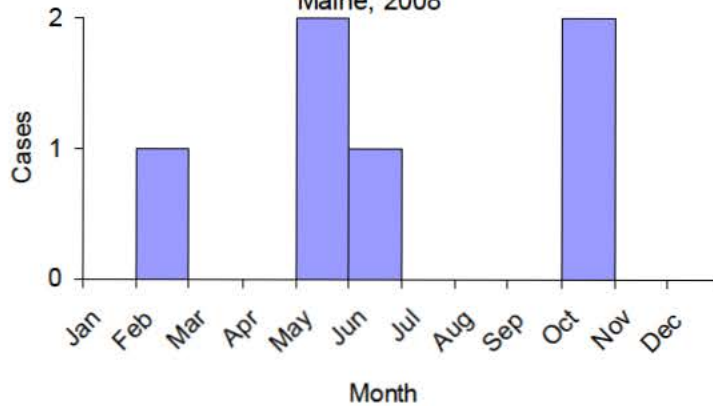
Meningococcal Disease Incidence, Maine and US, 2004-2008



Meningococcal Disease by Age and Gender, Maine, 2008



Meningococcal Disease by Month of Onset, Maine, 2008



MRSA, invasive

2008 Case Total	47
Maine Rate	3.6 per 100,000
U.S. rate (2007)	Not reportable

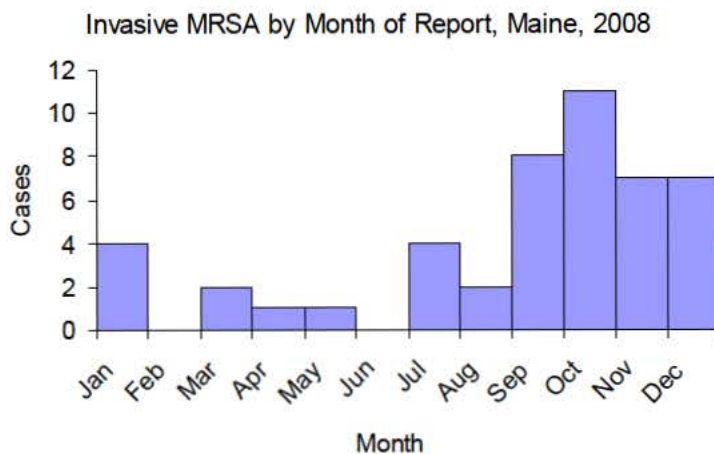
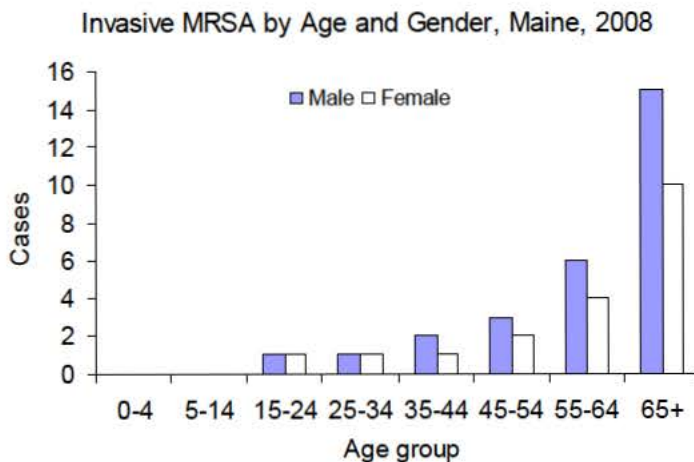
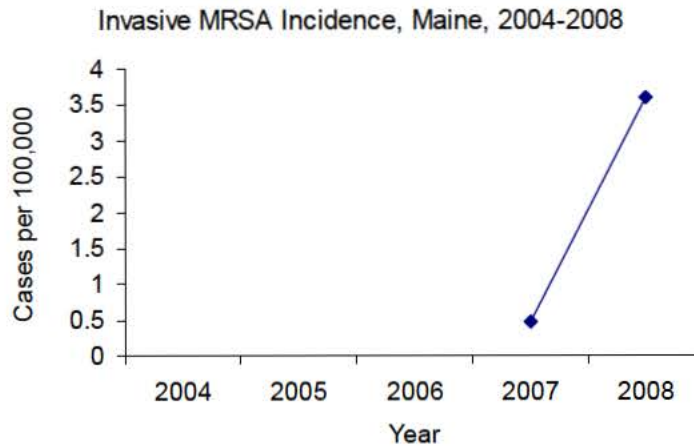
In April 2008, new rules for reporting conditions to the Maine CDC were implemented. Now, all cases of invasive Methicillin-Resistant *Staphylococcus aureus* (MRSA) are reportable, regardless of community or hospital acquired status.

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 total of 47 (6 cases reported in 2007)
- Case reporting initiated in the Summer of 2008
- Median age was 68 years
- Age range was 18 to 88 years
- Cases were 40% female and 60% 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 2008, one mosquito pool, and one horse tested positive for EEE in Maine. There were no human cases of EEE in state residents. However, there was a fatal case of EEE in a Massachusetts resident who spent the majority of his exposure period in Maine.

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.

There were no reported human, mosquito or bird cases of WNV in Maine during 2008.

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 2008, there was one case of malaria reported in an individual who had a history of travel to Kenya. 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 April of 2008, dengue became a reportable condition in the state of Maine. From April to December there were two probable cases of Dengue fever reported to the state. Dengue virus is not common in the United State and both cases had travelled overseas 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, bird-baths, rain barrels, and buckets at least once a week

Pertussis

2008 Case Total 49
Maine Rate 3.7 per 100,000
U.S. rate (2007) 3.5 per 100,000

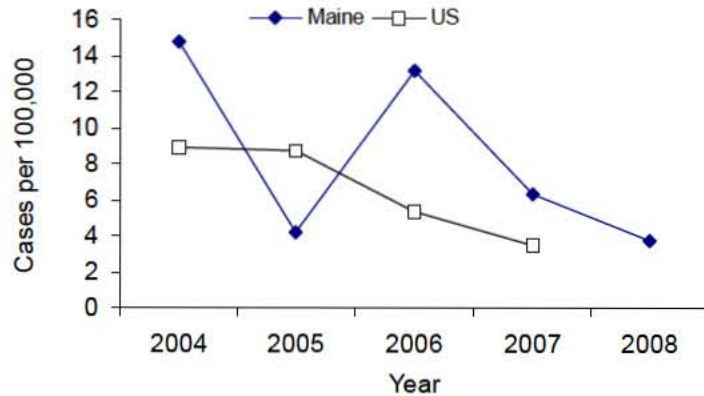
Pertussis (whooping cough) is a bacterial infection of the respiratory tract caused by *Bordetella pertussis*. The disease used to be one of the most common diseases among children and was associated with a high mortality rate prior to vaccine licensure. Disease incidence has declined in the US since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

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

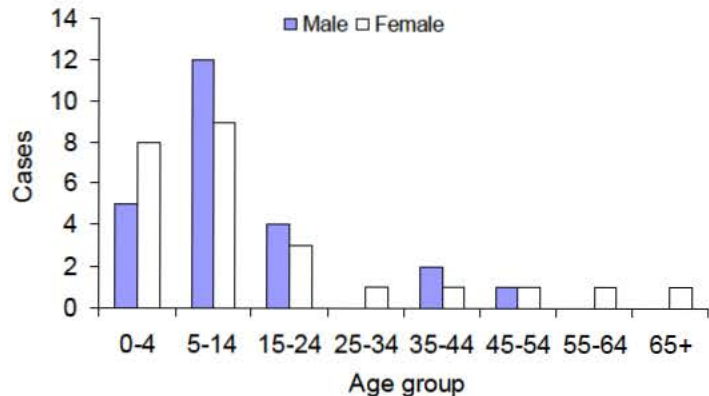
- Case total of 49 represents a 41% decrease over 2007
- The 2003-2007 median number of cases per year was 91
- Median age was 10 years
- Age range was 2 months to 67 years
- Cases were 51% female and 49% male
- Washington, Lincoln and York counties had the highest incidence

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.

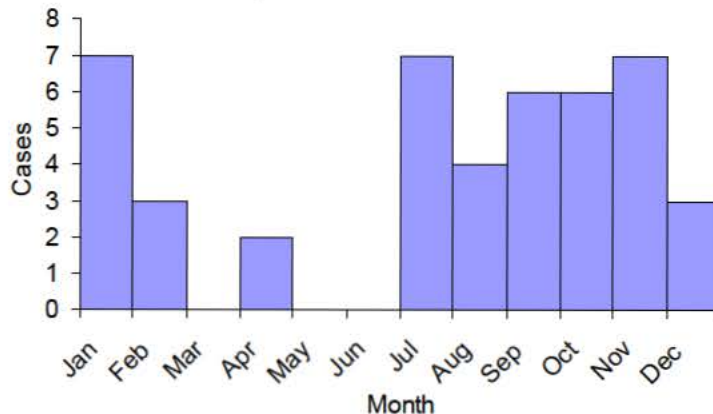
Pertussis Incidence, Maine and US, 2004-2008



Pertussis by Age and Gender, Maine, 2008



Pertussis by Month of Onset, Maine, 2008



Rabies, Animal

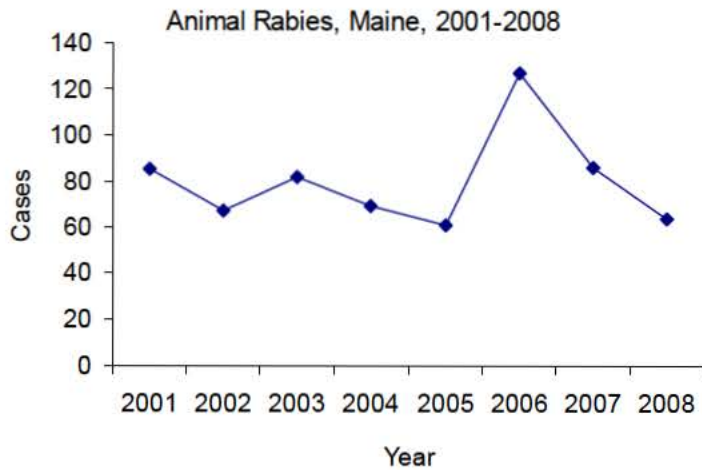
2008 Case Total	64
Maine Rate	N/A
U.S. Count (2007)	5,862

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. People 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 medical practitioner.

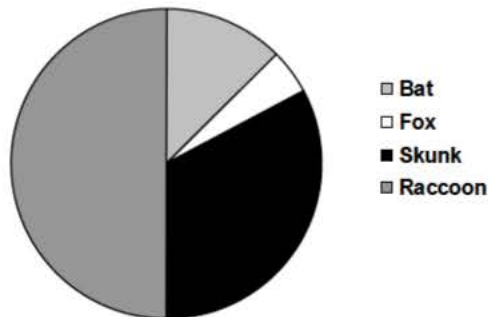
As it infects the central nervous system the rabies virus causes inflammation of the brain. The earliest symptoms include fever and general discomfort. As the disease progresses symptoms may include difficulty sleeping, anxiety, confusion, hallucinations, excessive drooling, difficulty swallowing, and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

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 then a course of post-exposure prophylaxis (PEP) is undertaken.



Positive Rabies Results by Species, Maine, 2008



Human deaths due to rabies in the United States have almost disappeared. This is a measure of the effectiveness of PEP, which consists of a course of immune globulin and vaccine over a 28-day period, and the power of increased public awareness helping to reduce the number of exposures. Though rabies is generally found in wild animals, it is important to remember to have domestic animals vaccinated and kept up to date so as to decrease as much as possible the risk of exposure to humans.

Salmonellosis

2008 Case Total	159
Maine Rate	12.1 per 100,000
U.S. rate (2007)	16.0 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.

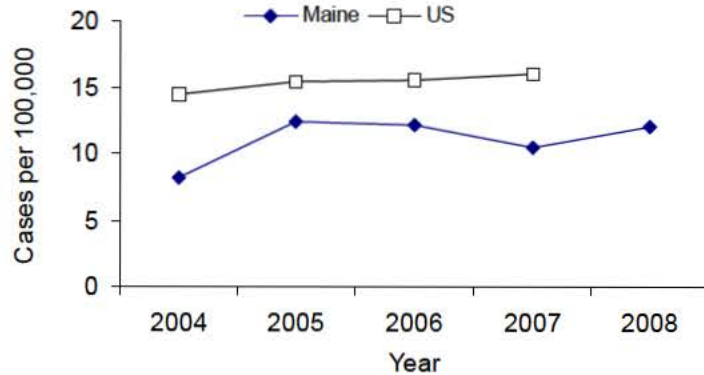
The symptoms can include fever, cramping, diarrhea, nausea, and vomiting.

- Case total of 159 represents a 15% increase over 2007
- The 2003-2007 median number of cases per year was 141 cases
- Median age was 41 years
- Age range was 1 month to 94 years
- Cases were 61% female and 39% male
- 148/159 (93%) cases were laboratory confirmed
- 4 cases of *S. agona* were part of a national outbreak associated with puffed wheat and rice cereal

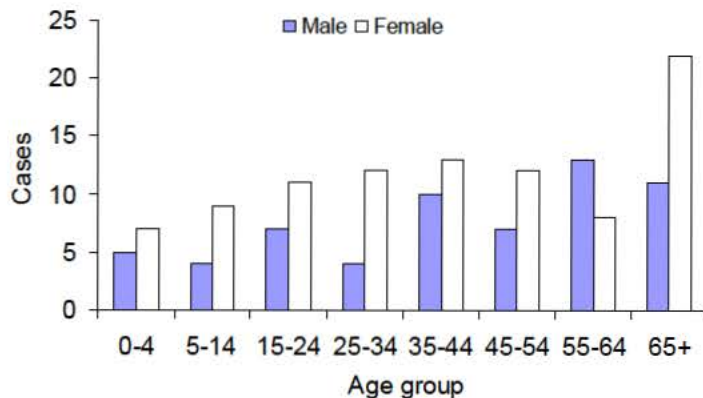
The most commonly seen types of salmonella in 2008 were enteritidis, typhimurium, 1,4(5),12:i-, newport and agona.

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.

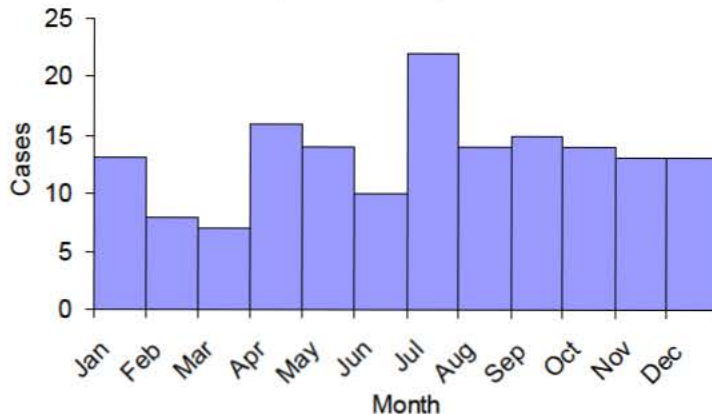
Salmonellosis Incidence, Maine and US, 2004-2008



Salmonellosis by Age and Gender, Maine, 2008



Salmonellosis by Month of Report, Maine, 2008



Shiga toxin *E. coli* (STEC)

2008 Case Total	26
Maine Rate	2.0 per 100,000
U.S. rate (2007)	1.6 per 100,000

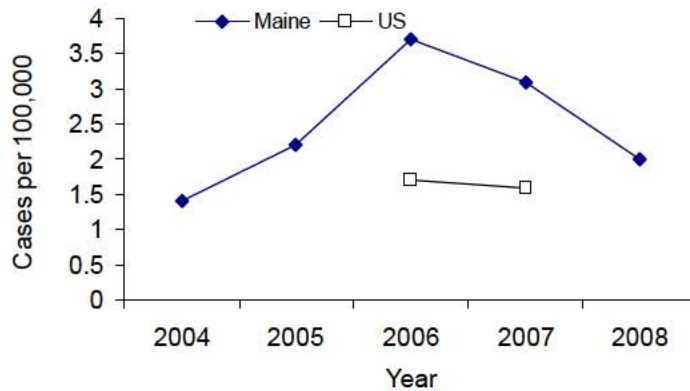
Escherichia coli are common bacteria that live in the digestive tract, some cause serious infection and some do not. Transmission of STEC is usually through consumption of food or water contaminated with fecal matter or through contact with farm animals. Commonly implicated food items include undercooked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

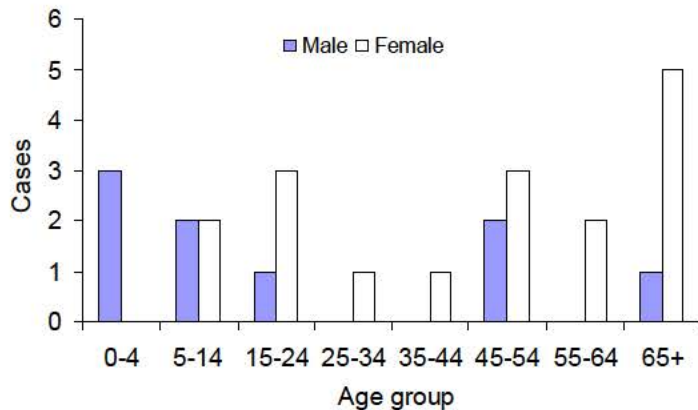
- Case total of 26 represents a 37% decrease from 2007
- The 2003-2007 median number of cases per year was 29
- Median age was 44.5 years
- Age range was 1 to 86 years
- Cases were 65% female and 35% male
- 20/26 (77%) cases were laboratory confirmed
- 35% of laboratory confirmed cases were O157:H7
- One hemolytic uremic syndrome (HUS) case was reported in a 5 year old

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.

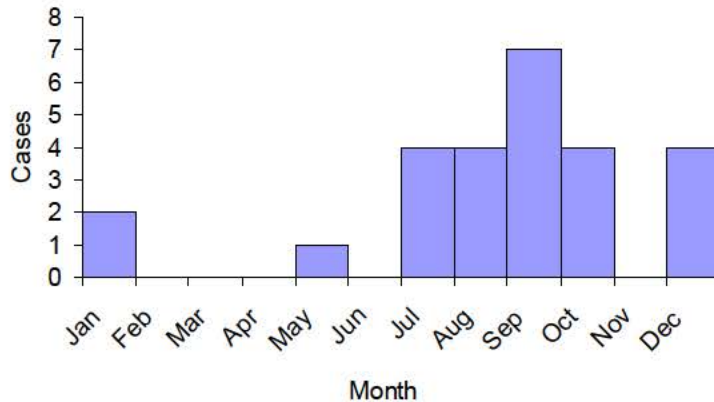
STEC Incidence, Maine and US, 2004-2008



STEC by Age and Gender, Maine, 2008



STEC by Month of Report, Maine, 2008



Shigellosis

2008 Case Total 20
Maine Rate 1.5 per 100,000
U.S. rate (2007) 6.6 per 100,000

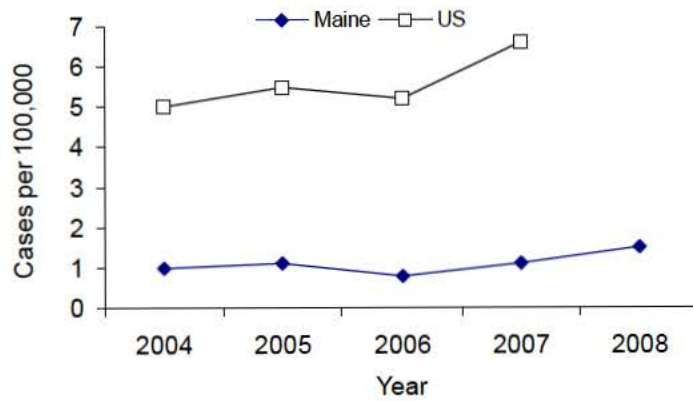
Shigellosis is a gastrointestinal illness caused by *Shigella* bacteria. *Shigella* is highly infectious and can easily be passed from one person to another through the fecal-oral route.

Symptoms include cramping, fever and severe diarrhea which may be bloody.

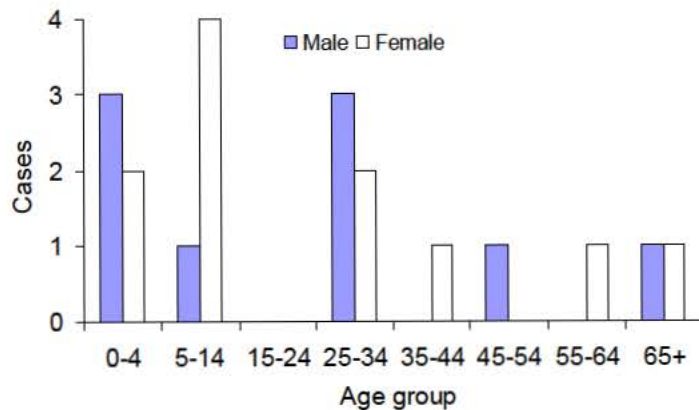
- Case total of 20 represents a 43% increase from 2007
- The 2003-2007 median number of cases per year was 13
- Median age was 18 years
- Age range was 1 to 72 years
- Cases were 55% female and 45% male
- 10 (50%) cases were laboratory confirmed; the others were all epi-linked to a laboratory confirmed case
- In July there were 2 non-related family clusters of illness, one due to a symptomatic family visitor with recent international travel
- *Shigella sonnei*, *flexneri* and *boydii* 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

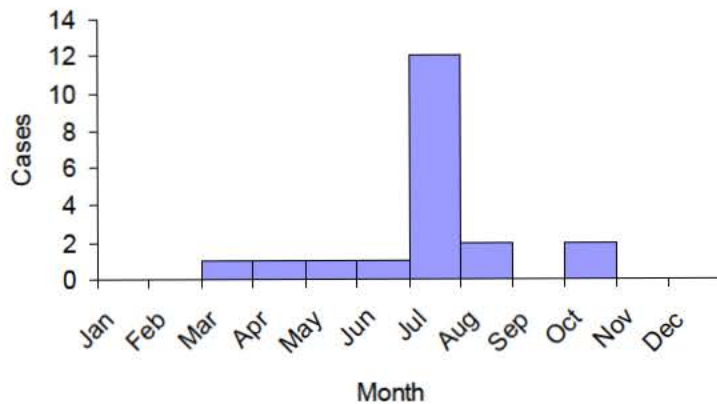
Shigellosis Incidence, Maine and US, 2004-2008



Shigellosis by Age and Gender, Maine, 2008



Shigellosis by Month of Onset, Maine, 2008



Drug Resistant *S. pneumoniae*

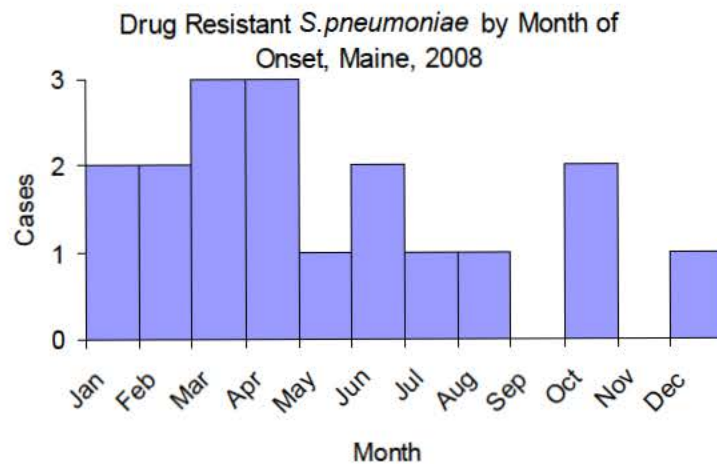
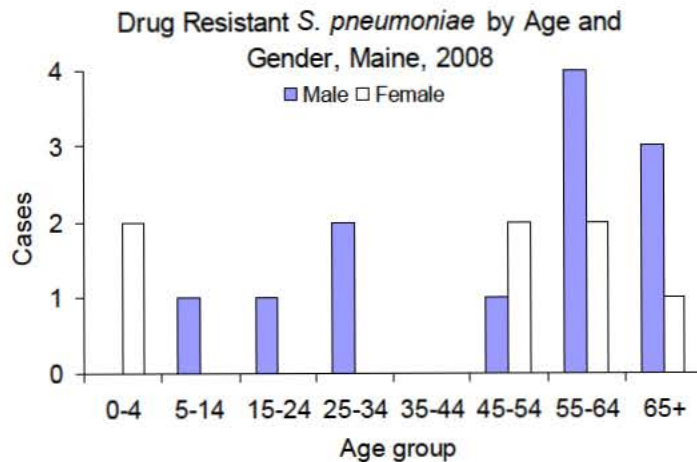
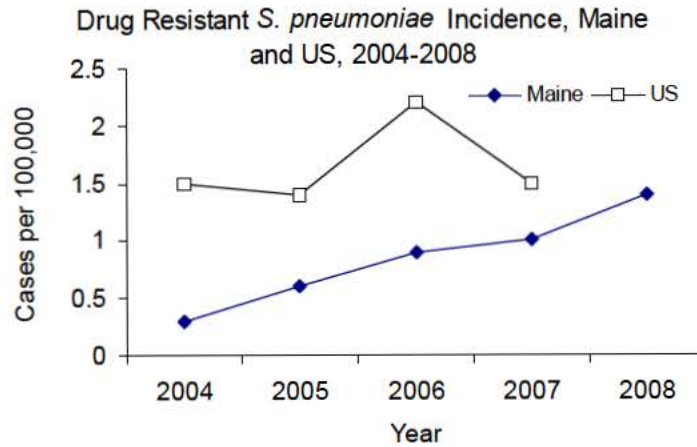
2008 Case Total	18
Maine Rate	1.4 per 100,000
U.S. rate (2007)	1.5 per 100,000

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 commonly used antibiotics) is typically characterized by one of seven serotypes (6A, 6B, 9V, 14, 19A, 19F and 23F).

- Case total of 18 represents a 38% increase from 2007
- The 2003-2007 median number of cases per year was 8
- Median age was 57 years
- Age range was 2 to 95 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).



Early Syphilis

2008 Case Total	20
Maine Rate	1.5 per 100,000
U.S. rate (2007)	7.4 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.

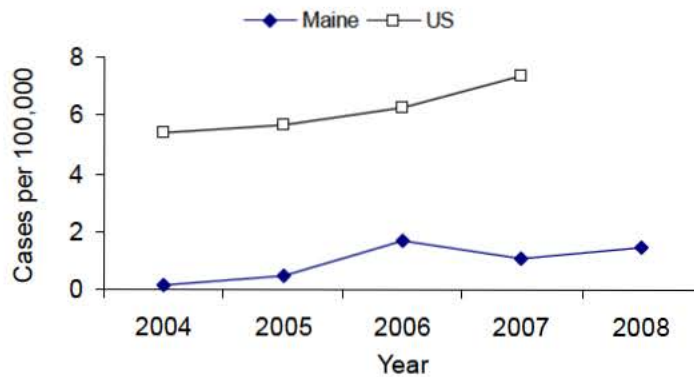
Early syphilis is defined as disease that occurs within the first year of infection. This is inclusive of the primary, secondary and early latent stages of the disease.

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.

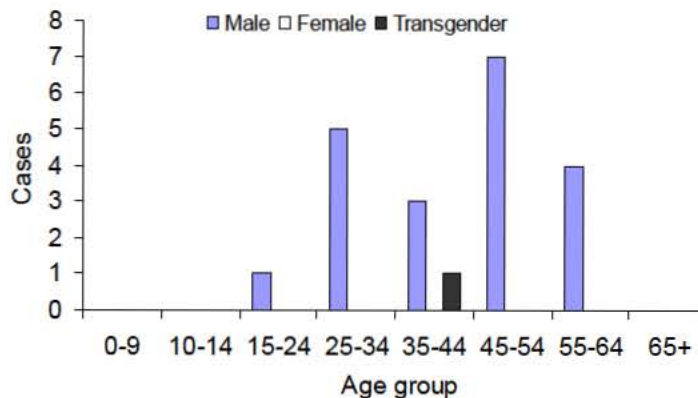
Many individuals infected with syphilis reach a latent stage having no symptoms for years, but they are still at risk for later complications (damage to internal organs, nerve damage, blindness and dementia) and death if not treated.

- Case total of 20 represents a 43% increase over 2007
- The 2003-2007 median number of cases per year was 14

Early Syphilis Incidence, Maine and US, 2004-2008



Early Syphilis by Age and Gender, Maine, 2008



- Cases were 95% male, with one transgendered female to represent the other 5%.
- All cases identified as having sex with men.

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

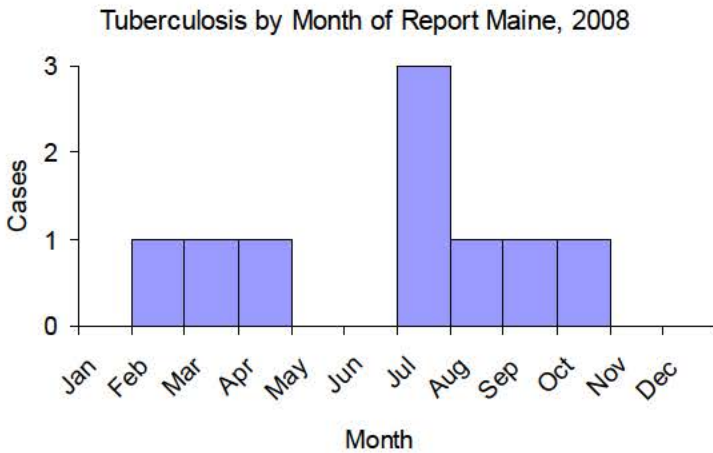
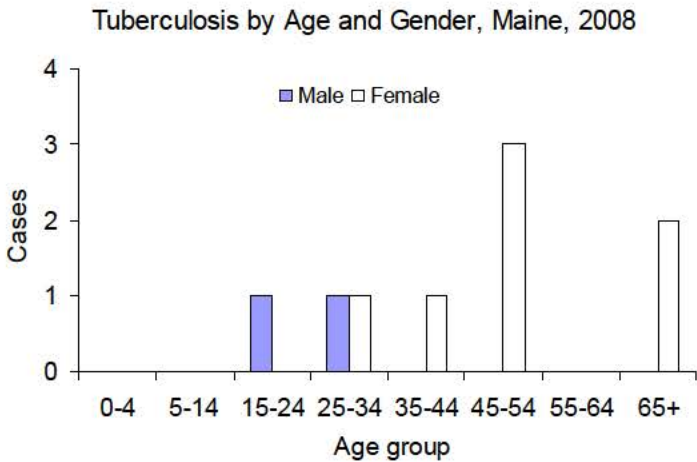
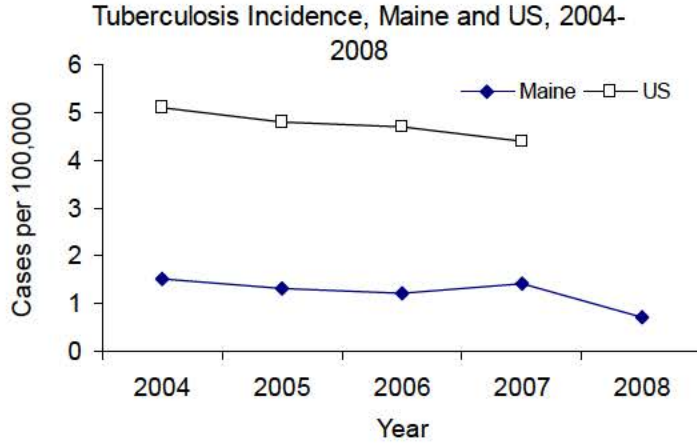
2008 Case Total 9
Maine Rate 0.7 per 100,000
U.S. rate (2007) 4.4 per 100,000

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 a 53% decrease from 2007
- The 2003-2007 median number of cases per year was 19
- Median age was 45 years
- Age range was 24 to 70 years
- Cases were 78% female and 22% male
- 8/9 cases (89%) were foreign born
- In 5 contact investigations, 75/78 (98%) identified contacts were evaluated
- Of 400 LTBI reports, 77% 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

2008 Case Total	269
Maine Rate	20.4 per 100,000
U.S. rate (2007)	13.2 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.

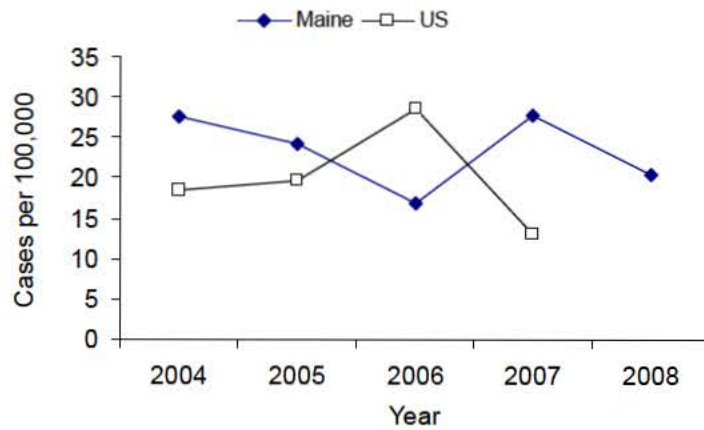
Person-to-person transmission occurs primarily through direct contact with respiratory tract secretions of infected individuals and is transmitted occasionally via the airborne route. Adolescents and adults are more at risk for severe disease which could include pneumonia, bacterial infection of the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

- Case total of 269 represents a 27% decrease over 2007
- Overall the greatest incidence was during the winter and spring months while school was in session

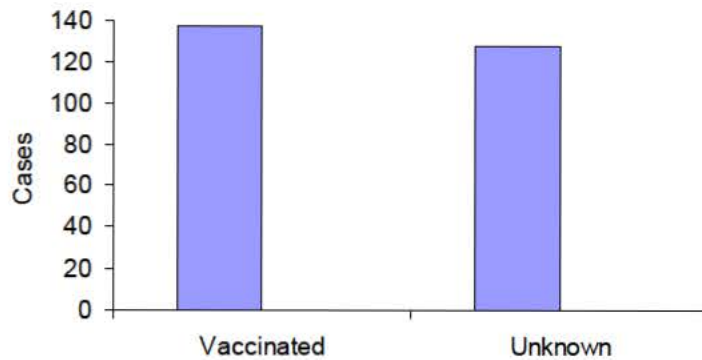
Varicella vaccine is a live attenuated viral vaccine. Studies place the effectiveness of one dose of the varicella vaccine above 70%. A two-dose series is estimated to be more than 90% effective in preventing infection. Break-through infection has been reported in vaccinated individuals.

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

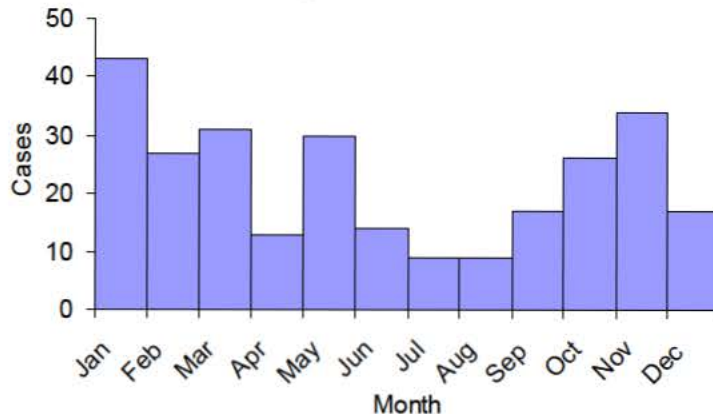
Varicella Incidence, Maine and US, 2004-2008



Varicella by Vaccine Status, Maine, 2008



Varicella by Month, Maine, 2008



Vibriosis

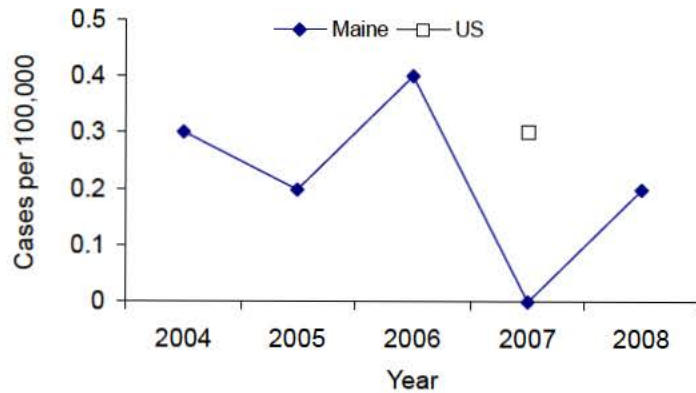
2008 Case Total	3
Maine Rate	0.2 per 100,000
U.S. rate (2007)	0.3 per 100,000

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

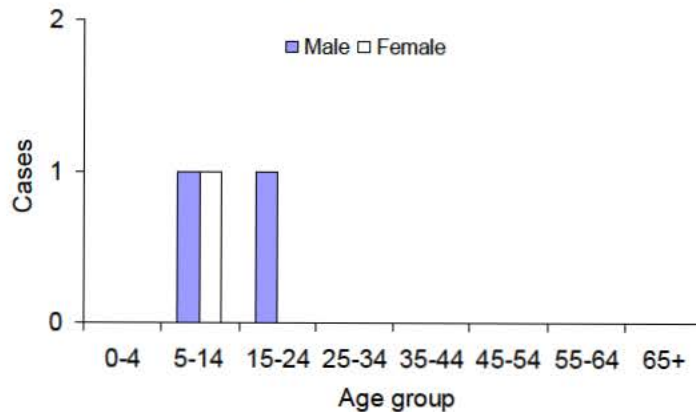
- Case total of 3 represents an increase from no cases in 2007
- The 2003-2007 median number of cases was 3
- Median age was 14 years
- Age range was 9 to 16 years
- Cases were 33% female and 66% male
- All 3 cases were *Vibrio alginolyticus*

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. The Maine CDC works closely with the Department of Marine Resources on each confirmed case of vibriosis to determine if the source is a commercial seafood establishment that needs to be inspected.

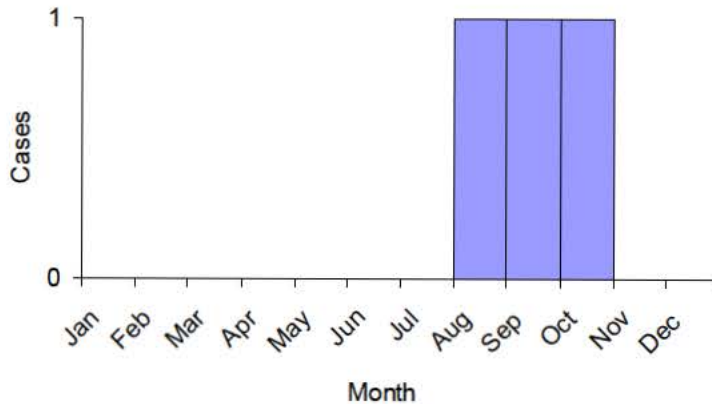
Vibriosis Incidence, Maine and US, 2004-2008



Vibriosis by Age and Gender, Maine, 2008



Vibriosis by Month of Report, Maine, 2008



Influenza Season 2008—2009

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 2008-09 influenza season, the Maine CDC conducted influenza surveillance in collaboration with fourteen health care providers, four hospitals, three laboratories, three city vital records offices, and seven hospital emergency departments during the reporting period from September 28, 2008 to May 23, 2009. This report summarizes 2008-09 influenza surveillance by key indicators.

H1N1 Swine Origin Influenza Virus

During the 2008-09 season, a novel strain of influenza emerged. This strain is an influenza virus that is more commonly associated with swine. This strain first appeared in the United States in mid April, and has since been found all over the world. Surveillance of this particular strain of H1N1 is continuing past the traditional end of the influenza season. As of May 23 (the official end of the influenza season), Maine had nine confirmed cases of this novel influenza virus. Surveillance is ongoing and updated information will be available from www.mainepublichealth.gov.

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 2008-09 season, a total of 33 outbreaks of influenza were reported in Maine, a decrease from the 2007-08 season when 82 outbreaks were reported. Of these outbreaks, 18 were in long-term care facilities, 14 in schools, and one in an acute care facility. Outbreaks occurred in all of the eight districts within the state. All but four of the outbreaks were laboratory confirmed as influenza.

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 2008-09 season, a total of 2,038 deaths were reported by the vital records offices. Of these 171 (8.4%) were attributed to pneumonia or influenza.

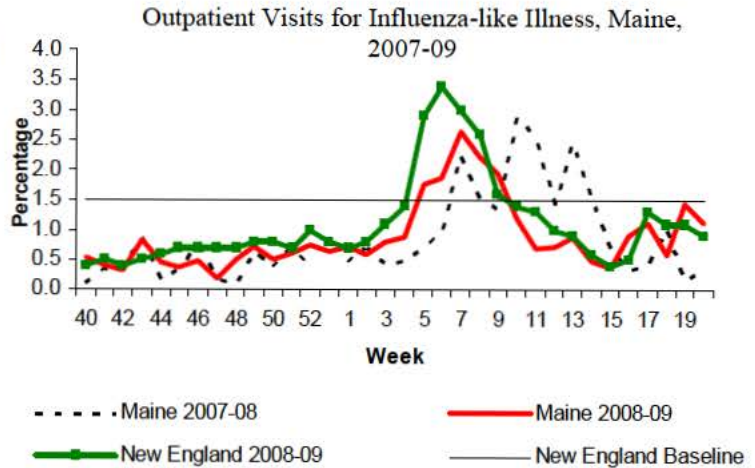
Pediatric Fatalities

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 2008-09 season.

Influenza Season 2008—2009

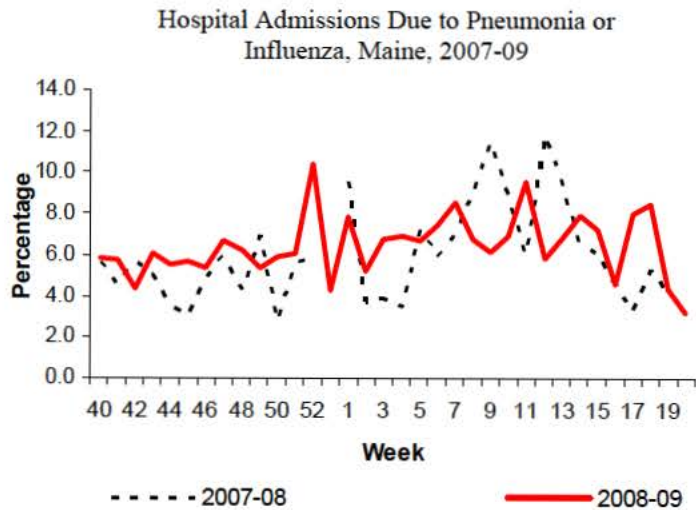
Outpatient influenza-like illness (ILI)

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 2008-09 season, 14 health care providers reported the total number of patients seen in their practices and the number of those patients seen for ILI by age group on a weekly basis. Outpatient ILI visits in Maine peaked during the middle of February (week 7). The New England region peaked about a week earlier than the Maine region.



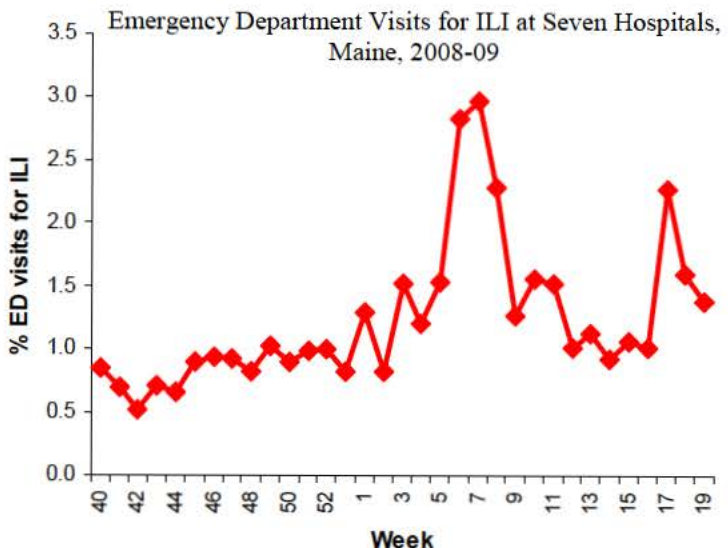
Hospital Inpatients

Inpatient surveillance for respiratory illness admissions in Maine was conducted in collaboration with four hospitals. During the 2008-09 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 52), and then again in mid March (week 11).



Emergency Room Visits

Syndromic surveillance was conducted in the Emergency Departments of 7 hospitals and analyzed using the Early Aberration Reporting System (EARS). These visits are grouped by chief complaint. The percentage of ED visits that had a chief complaint consistent with ILI peaked in February (weeks 6-8).



Influenza Season 2008—2009

HETL

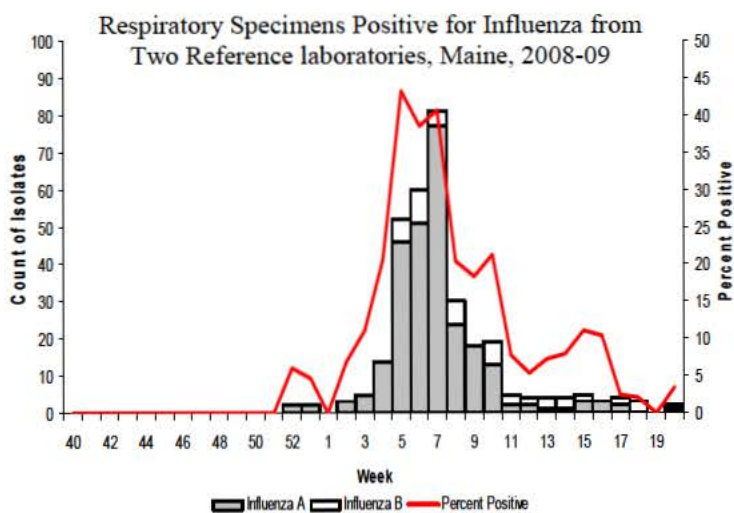
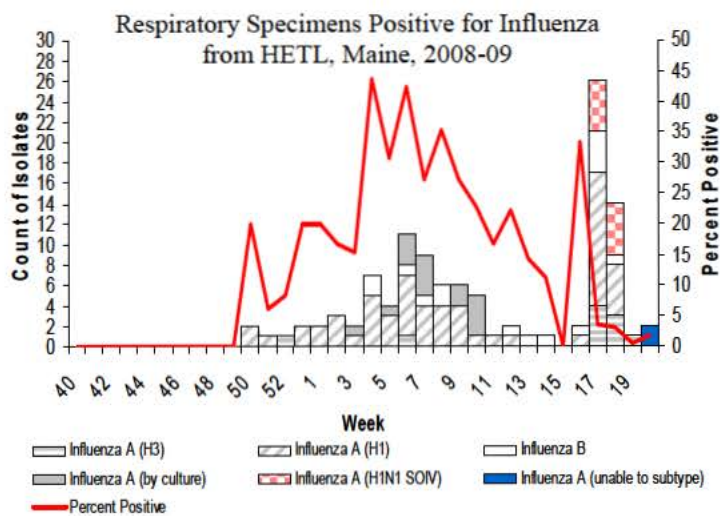
Maine CDC's Health and Environmental Testing Laboratory (HETL) worked collaboratively with hospitals and private laboratories to collect specimens for respiratory virus testing and influenza positive isolate subtyping. HETL reported the number of specimens received for respiratory virus testing and the 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 2008-09 season, 1,863 respiratory specimens were tested by HETL for influenza. Of those 111 (6.0%) were positive for influenza (59 for influenza A/H1, 10 for influenza A/H3, 15 for influenza A by culture, 10 for influenza A/H1N1 SOIV, 2 for influenza A unable to subtype, and 15 for influenza B).

Reference Labs

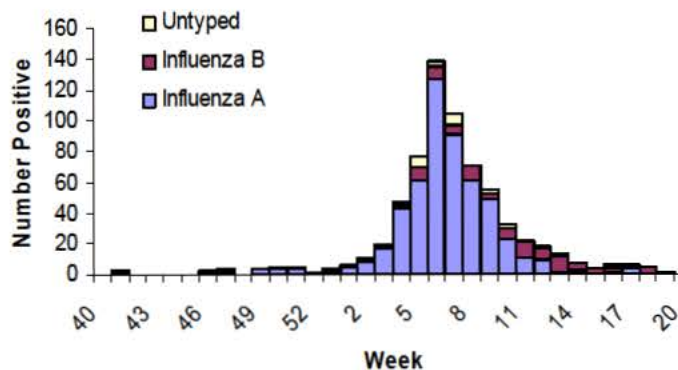
Two reference laboratories submitted weekly reports of laboratory-confirmed influenza by culture or reverse-transcriptase polymerase chain reaction (RT-PCR) and number of specimens negative by final test result date. During the 2008-09 season, a total of 2,206 respiratory specimens were submitted for viral testing to these laboratories. Of these, 320 (14.5%) specimens were positive for influenza (270 for influenza A and 50 for influenza B).

Rapid testing

Many hospitals, labs, and physician offices voluntarily report positive rapid antigen tests to the state. During the 2008-09 season 665 positive tests were reported, 532 for influenza A, 101 for influenza B, and 32 that were not typed.



Positive Rapid Influenza Tests, Maine, 2008-09



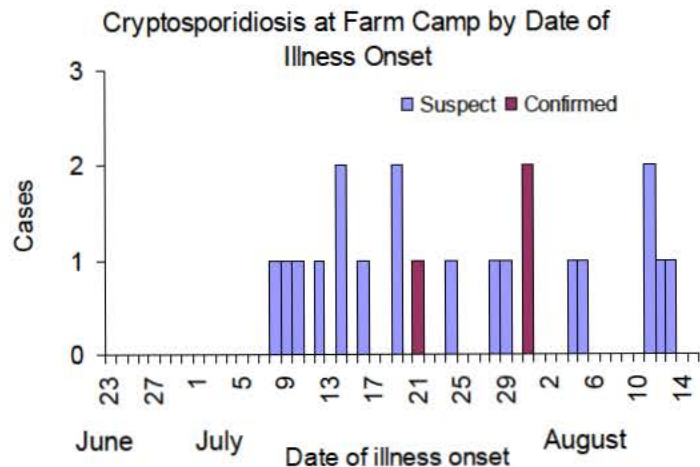
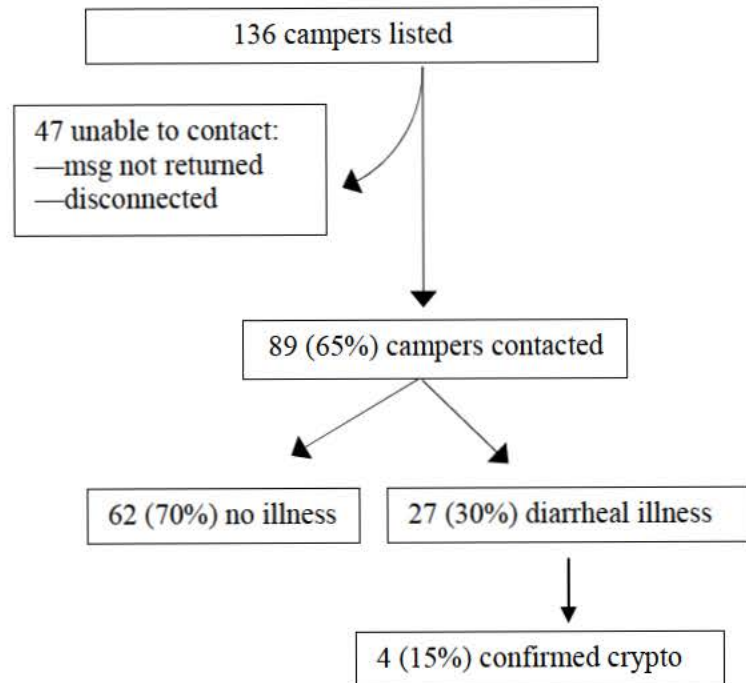
Cryptosporidiosis Outbreak

Cryptosporidium, a parasite that can cause severe diarrheal illness, affects 60,000 - 300,000 persons annually in the United States. Transmission is often from contaminated water or food or direct contact with infected animals. Farm camps are neither licensed nor inspected in Maine. In August 2008, we investigated an outbreak of gastrointestinal illness among children aged 6 - 14 years who had attended a farm day camp to determine etiology and prevent additional cases. A case was defined as a diarrheal illness (>3 loose stools/24 hours) in a person who had attended the farm camp for at least one of the seven 1-week summer sessions during June 23 - August 18th. We identified attendees from camp records and conducted laboratory testing of water sources, animals, and campers.

- Of 136 identified campers, 89 (65%) persons responded
- 27 (30%) met the case definition
- Average age of patients was 9 years (range: 6 - 14 years)
- 52% were male
- Attack rates varied by camp session from 5% to 50%
- The median illness duration was 6.5 days (range: 2 - 14 days)
- Cryptosporidium was isolated from four campers; 7 samples were negative

Cryptosporidium was not isolated from serial water testing of two drilled wells, although *E. coli*/coliform contamination was detected. Genotyping of the samples was not possible as they were collected in media that inhibits PCR.

Results of Investigation



Campers might have been exposed to Cryptosporidium from multiple sources at the farm camp, including contaminated water and direct animal contact. Cryptosporidium was not isolated from either water nor animals possibly because sampling occurred at least 2 weeks after camp closure. Recommendations included improving hand hygiene, remediating contaminated wells, and establishing a separate area for food consumption. Regulatory oversight for farm camps should also be considered.

2008 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, 2008

County	<i>Ixodes scapularis</i> (Deer Tick)	<i>Dermacentor variabilis</i> (American Dog Tick)	<i>Ixodes cookei</i> (Woodchuck Tick)	Others
Androscoggin	95	28	2	1
Aroostook	3	0	0	0
Cumberland	211	64	1	1
Franklin	20	10	5	0
Hancock	108	7	3	2
Kennebec	69	17	2	0
Knox	42	9	0	0
Lincoln	36	8	2	0
Oxford	22	11	3	3
Penobscot	66	9	1	5
Piscataquis	9	1	2	11
Sagadahoc	22	5	0	0
Somerset	30	31	1	1
Waldo	51	9	0	0
Washington	18	1	0	0
York	101	27	3	0
Unspecified	41	6	12	28

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.mmcricri.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:

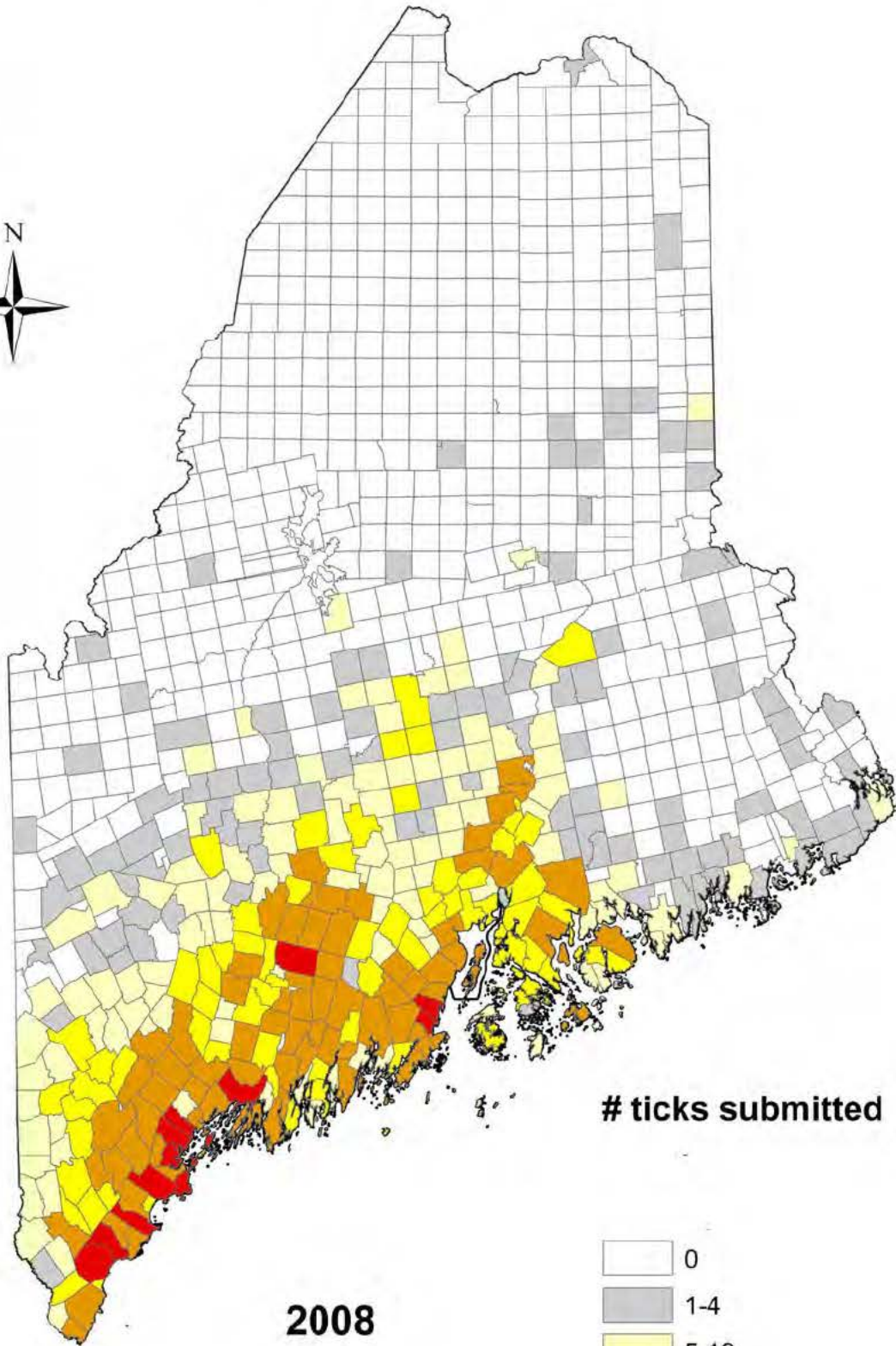
*Vector-borne Disease Laboratory
Maine Medical Center Research Institute
75 John Roberts Rd., Suite 9B
South Portland, ME 04106*

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 2008.

Maine Medical Center Research Institute
Vector-borne Disease Laboratory
Deer Tick Submissions 1989 - 2008





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
<p>Acquired Immunodeficiency Syndrome (AIDS) Anthrax Arboviral Infection Babesiosis Botulism Brucellosis Campylobacteriosis Carbon Monoxide Poisoning, including - Clinical signs, symptoms or known exposure consistent with diagnosis of carbon monoxide poisoning and/or: a carboxyhemoglobin (COHb) level $\geq 5\%$ Chancroid Chlamydia Chickenpox (Varicella) Creutzfeldt-Jakob disease, <55 years of age Cryptosporidiosis Dengue Diphtheria E. coli, Shiga toxin-producing (STEC) disease including E. coli: O157:H7 Ehrlichiosis Giardiasis Gonorrhea Haemophilus influenzae disease, invasive, include all serotypes Hantavirus, pulmonary syndrome Hemolytic-uremic syndrome (post-diarrheal) Hepatitis A, B, C, D, E (acute) Hepatitis B (chronic, and/or perinatal) Hepatitis C (chronic) Hepatitis, acute (etiologic tests pending or etiology unknown) Human Immunodeficiency Virus (HIV), including: - Confirmed, positive ant body tests - Viral load tests, all results - CD4 lymphocyte counts, all results Influenza-associated pediatric death Influenza-like illness outbreaks Influenza A, Novel Legionellosis Leptospirosis Listeriosis Lyme Disease</p>	<p>Malaria Measles Meningitis (bacterial) Meningococcal Invasive Disease Mumps Paralytic Shellfish Poisoning Pertussis Plague Poliomyelitis Psittacosis Q Fever Rabies (human and animal) Rabies Post-Exposure Prophylaxis Ricin Poisoning Rocky Mountain Spotted Fever Rubella (including congenital) Salmonellosis Severe Acute Respiratory Syndrome (SARS) Shigellosis Smallpox Staphylococcus aureus, Methicillin-Resistant (MRSA) invasive, Staphylococcus aureus with resistance (VRSA) or intermediate resistance (VISA) to Vancomycin isolated from any site Staphylococcal enterotoxin B Streptococcal invasive disease, Group A Streptococcal invasive disease, Group B Streptococcus pneumoniae, invasive disease Syphilis Tetanus Toxoplasmosis Trichinosis Tuberculosis (active and presumptive cases) Tularemia Unusual or increased case incidence, critical illness, unexplained death(s) of any suspect infectious disease Vibrio species, including Cholera Viral Hemorrhagic Fever Venezuelan equine encephalitis Yellow Fever Yersiniosis</p>	<p>Directors of laboratories are to submit cultures or clinical specimens for the following to the <i>Maine Health and Environmental Testing Laboratory</i> for confirmation, typing and/or ant biotic sensitivity:</p> <p>Acid-Fast Bacillus Bacillus anthracis Bordetella pertussis Brucella species Clostridium tetani Clostridium botulinum Corynebacterium diphtheriae Coxiella burnetii <i>Escherichia coli</i>, Shiga toxin-producing <i>Haemophilus influenzae</i> <i>Human Immunodeficiency Virus</i> Influenza virus, Novel <i>Listeria monocytogenes</i> Mumps virus Mycobacterium tuberculosis Neisseria meningitidis Rabies virus Ricin Poisoning Rubella virus Rubeola virus <i>Salmonella</i> species SARS Coronavirus <i>Shigella</i> species <i>Toxoplasma gondii</i> Variola virus <i>Vibrio</i> species Yersinia pestis</p>

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

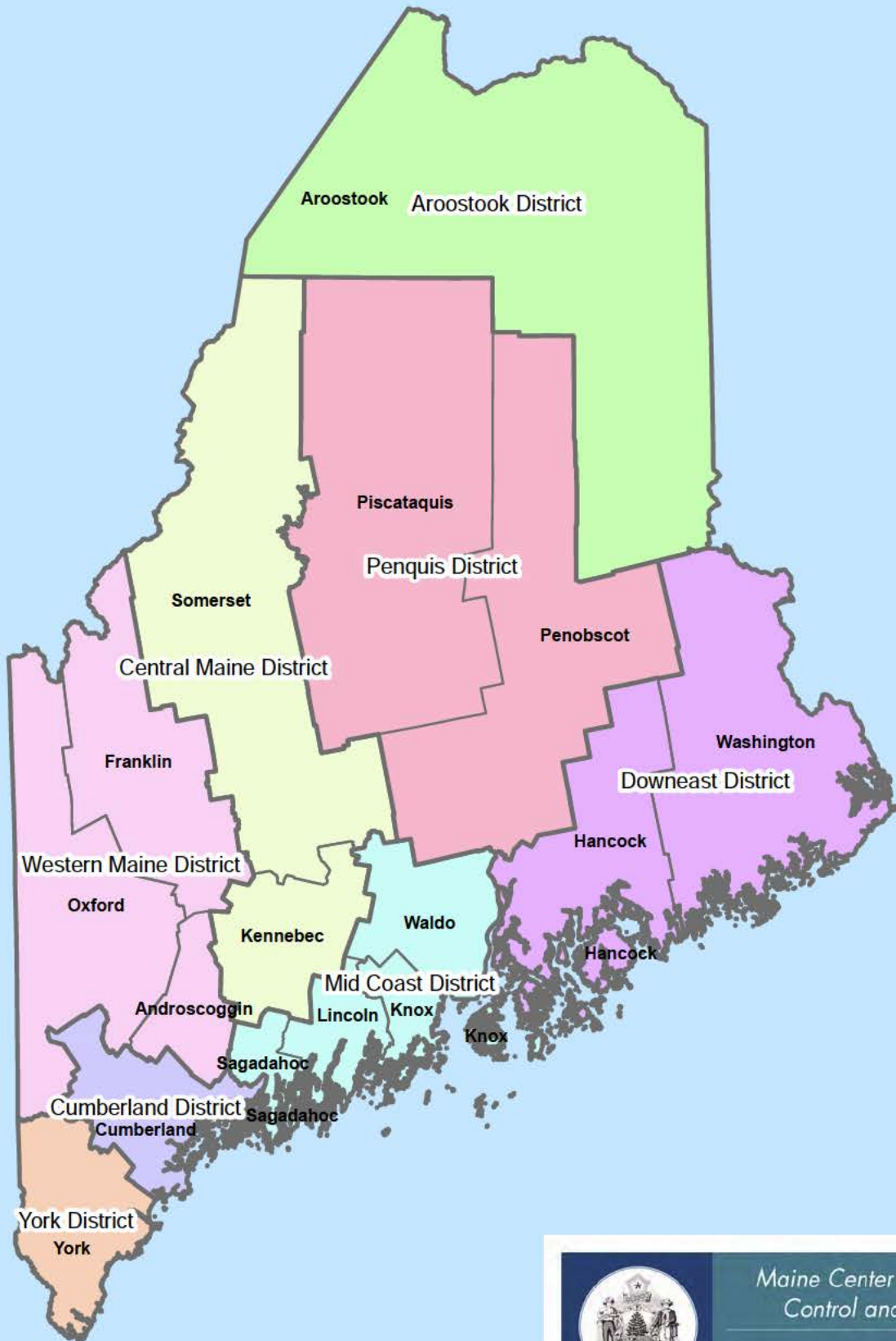
Complete Rules for the Control of Notifiable Conditions at:
http://www.maine.gov/dhhs/boh/ddc/disease_reporting.htm

Disease Reporting
24 Hours A Day
7 Days A Week

Telephone
1-800-821-5821

Fax
1-800-293-7534

DHHS Districts with County Borders Maine 2008



Map created by the Office of Public Health Emergency Preparedness
Updated March 13, 2008



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

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Maine Center for Disease Control and Prevention
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Governor

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John E. Baldacci, Governor

Brenda M. Harvey, Commissioner

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