


# MAINE STATE LEGISLATURE

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# 2017

## Maine Reportable Infectious Diseases Summary

## **Reportable Infectious Diseases in Maine 2017 Summary**

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# Thank you

Maine Center for Disease Control and Prevention (Maine CDC) annually publishes a report on infectious diseases in Maine. This report is prepared by the Division of Disease Surveillance and is intended to provide an overview of notifiable infectious diseases of public health importance in Maine.

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

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

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

For more information on what, when, and how to report infectious diseases please see the Notifiable Diseases and Conditions List (Page 71) of this report, visit our website at [www.maine.gov/idepi](http://www.maine.gov/idepi) or call 1-800-821-5821.



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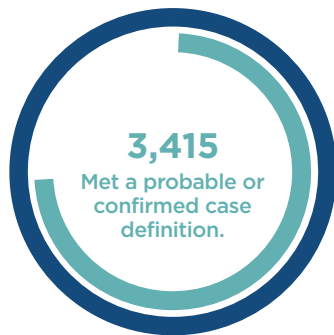




# 2017 Infectious Disease Surveillance Highlights

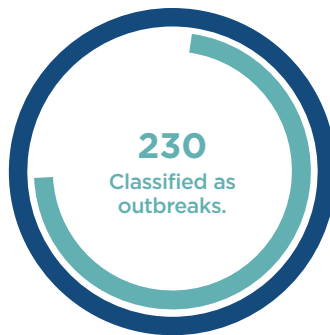
**4,643**

Disease reports investigated by Maine CDC staff including STD cases.



**319**

Potential outbreaks investigated by Maine CDC staff.



**11,548**

Disease reports handled without a full investigation by staff, either through passive surveillance or laboratory reports.\*



\*These diseases include chlamydia, chronic hepatitis C, latent TB, Lyme disease, invasive MRSA, rabies post-exposure prophylaxis, and some varicella cases.

**77**

Maine had 77 acute hepatitis B cases in 2017.

**756%**

Increase from 2015.



In Maine, the number one risk factor for acute hepatitis B is injection drug use.



**61**

61 Animals tested positive for rabies in 2017 at the Maine Health and Environmental Testing Lab (HETL) and occurred in all counties, except for Piscataquis.

**83**

Maine had 83 cases of infectious syphilis in 2017

**77%**

Increase from 2016.

**40%**  
DECREASE

Maine had 14 patients with active tuberculosis disease in 2017, a 40% decrease from 2016.

# 3,255

2017 Maine CDC Infectious Disease Program consults

Every consult is assigned to a staff member who calls the individual back and follows up as necessary.

**Top five topics for consults:**

Rabies (32% of all consults), pertussis, influenza, tuberculosis, and Lyme disease.

## Maine experienced a severe 2017-2018 influenza season.

Weekly reports with detailed information are available at [www.maineflu.gov](http://www.maineflu.gov).

### 9,000+

Positive flu reports

### 1,750+

Influenza-related hospitalizations

### 80+

Influenza-related deaths



## Tickborne diseases all increased.

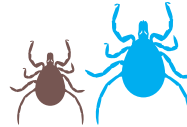
Anaplasmosis and babesiosis both increasing substantially.



### 78%

INCREASE

Maine had 663 anaplasmosis cases in 2017, a 78% increase from 2016.



### 44%

INCREASE

Maine had 118 babesiosis cases in 2017, a 44% increase from 2016.



Maine had two cases of a relatively rare mosquito-borne disease Jamestown Canyon virus. These are the first two cases of symptomatic Jamestown Canyon virus identified in Maine.



Maine had one imported measles cases, which was the first case identified in Maine in more than 20 years.

# 33

Maine had 33 hospitals participating in syndromic surveillance and sending HL7 (electronic) messages.



Maine CDC and their statewide partners honed their responses to foodborne outbreaks and the introduction of novel influenza by holding tabletop exercises in the fall/winter of 2017.



# Counts of Selected\* Reportable Diseases by Year

Condition	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<i>Anaplasma phagocytophilum</i>	17	15	17	26	52	94	191	185	372	<b>663</b>
Babesiosis	11	3	5	9	10	36	42	55	82	<b>118</b>
Brucellosis	0	0	2	0	0	0	0	0	0	<b>1</b>
Campylobacteriosis	151	172	148	195	189	229	225	221	255	<b>234</b>
Carbapenem-resistant Enterobacteriaceae (CRE)***	NR	NR	NR	NR	NR	NR	NR	12	51	<b>58</b>
Chikungunya Virus	NA	NA	NA	0	0	1	6	2	0	<b>1</b>
<i>Chlamydia trachomatis</i> infection	2597	2443	2588	3101	3413	3440	3491	3851	4152	<b>4554</b>
Creutzfeldt-Jakob Disease (CJD), <55 years of age	0	1	0	0	0	1	1	1	0	<b>0</b>
Cryptosporidiosis	46	67	93	51	58	35	51	34	55	<b>45</b>
Cyclosporiasis	0	0	1	0	0	0	7	1	3	<b>0</b>
Dengue	2	3	6	0	0	1	1	5	2	<b>0</b>
Ehrlichiosis, <i>chaffeensis</i>	1	1	4	1	3	3	8	5	7	<b>10</b>
Encephalitis, Eastern equine	0	0	0	0	0	0	1	1	0	<b>0</b>
Encephalitis, Powassan	0	0	0	0	0	1	0	1	1	<b>3</b>
Encephalitis, West Nile	0	0	0	0	1	0	0	1	0	<b>0</b>
Giardiasis	188	223	223	171	169	218	154	116	137	<b>129</b>
Gonorrhea	96	143	163	273	456	246	236	422	444	<b>577</b>
Group A <i>Streptococcus</i> , invasive	26	21	47	43	37	37	53	56	60	<b>56</b>
<i>Haemophilus influenzae</i> , invasive	21	21	13	26	23	25	21	39	29	<b>34</b>
Hantavirus infection, non-Hantavirus pulmonary syndromes	0	0	0	1	0	0	0	0	0	<b>0</b>
Hemolytic uremic syndrome	1	2	1	2	2	2	1	7	2	<b>2</b>
Hepatitis A, acute	18	1	7	6	9	10	8	8	8	<b>7</b>
Hepatitis B, acute	15	15	13	8	9	11	12	9	53	<b>77</b>
Hepatitis B, chronic	143	125	102	105	105	106	108	107	158	<b>179</b>
Hepatitis C, acute	4	2	2	12	12	9	31	29	37	<b>32</b>
Hepatitis C, chronic	1158	1112	1015	1085	1151	1235	1408	1442	1650	<b>1876</b>
Hepatitis D, acute	0	0	1	1	0	0	0	0	0	<b>0</b>
Hepatitis E, acute	0	0	0	1	0	0	0	0	1	<b>0</b>
HIV	46	51	57	51	46	33	61	48	53	<b>29</b>
Influenza Associated Pediatric Mortality	0	0	0	0	0	0	1	0	1	<b>0</b>
Invasive Pneumococcal Disease	NA	127	151	136	102	121	137	135	133	<b>141</b>
Legionellosis	11	10	12	18	18	23	19	16	16	<b>16</b>

NR = not reportable; NA = not available

MAINE, 2008-2017\*\*

Condition	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Listeriosis	5	4	1	4	5	4	8	7	11	5
Lyme disease	909	976	752	1013	1113	1384	1411	1215	1497	1848
Malaria	1	2	6	6	5	10	7	7	10	18
Measles ( <i>Rubeola</i> )	0	0	0	0	0	0	0	0	0	1
Mumps	5	6	2	2	0	1	0	0	34	1
<i>Neisseria meningitidis</i> , invasive (Mening. disease)	6	4	5	5	3	4	2	4	1	1
Novel Influenza A virus Infections	0	2219	17	3	0	0	0	0	0	0
Pertussis	49	80	53	205	737	332	557	281	259	410
Q fever	0	0	0	2	0	0	0	0	0	0
Rabies PEP	NR	59	77	145	190	128	107	112	131	108
Rabies, animal	70	63	67	66	91	50	44	28	66	61
<i>S. aureus</i> , methicillin resistant (MRSA), invasive	47	123	90	121	116	130	143	191	178	179
<i>S. aureus</i> , vancomycin intermediate resistance (VISA)	0	0	0	0	0	0	1	2	1	0
Salmonellosis	159	121	135	134	161	131	127	123	123	102
Shellfish poisoning	3	1	0	0	0	0	0	0	0	0
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	26	19	21	28	20	27	33	29	37	34
Shigellosis	20	5	8	32	7	5	29	4	2	13
Spotted Fever Rickettsiosis	1	5	2	1	3	2	3	1	4	3
Syphilis	20	14	40	19	20	17	15	49	47	83
Tetanus	0	0	0	0	0	1	0	0	1	1
Trichinosis (Trichinellosis)	0	0	1	1	0	0	0	0	0	0
Tuberculosis	9	9	8	9	17	15	14	18	23	14
Varicella (Chickenpox)	269	235	247	226	258	140	207	233	228	198
Vibriosis	3	4	5	4	10	9	9	6	7	7

\* Maine did not have any cases of the following reportable conditions in the last ten years:

- Anthrax
- Botulism
- California Serogroup viruses
- Chancroid
- Coronavirus
- Diphtheria
- Hepatitis D, chronic
- Leptospirosis
- Plague
- Polio
- Psittacosis
- Rabies, human
- Ricin
- Rubella
- Smallpox
- Saint Louis Encephalitis
- Tularemia
- Viral Hemorrhagic Fever
- Western Equine Encephalitis
- Yellow Fever

\*\* Counts are updated annually. Data as of 6/5/2018

\*\*\* CRE became reportable as of September 8, 2015 so the 2015 numbers do not represent a full year

# Rates of Selected\* Reportable Diseases by Year (per 100,000 Persons)

Condition	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<i>Anaplasma phagocytophilum</i>	1.3	1.1	1.3	2.0	3.9	7.1	14.4	13.9	27.9	<b>49.6</b>
Babesiosis	0.8	0.2	0.4	0.7	0.8	2.7	3.2	4.1	6.2	<b>8.8</b>
Brucellosis	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
Campylobacteriosis	11.5	13.0	11.1	14.7	14.2	17.2	16.9	16.6	19.2	<b>17.5</b>
Carbapenem-resistant Enterobacteriaceae (CRE)***	NR	NR	NR	NR	NR	NR	NR	0.9	3.8	<b>4.3</b>
Chikungunya Virus	NA	NA	NA	0.0	0.0	0.1	0.5	0.2	0.0	<b>0.1</b>
<i>Chlamydia trachomatis</i> infection	197.3	185.3	194.9	233.5	256.8	258.8	262.3	289.7	311.8	<b>340.9</b>
Creutzfeldt-Jakob Disease (CJD), <55 years of age	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	<b>0.0</b>
Cryptosporidiosis	3.5	5.1	7.0	3.8	4.4	2.6	3.8	2.6	4.1	<b>3.4</b>
Cyclosporiasis	0.0	0.0	0.1	0.0	0.0	0.0	0.5	0.1	0.2	<b>0.0</b>
Dengue	0.2	0.2	0.5	0.0	0.0	0.1	0.1	0.4	0.2	<b>0.0</b>
Ehrlichiosis, <i>chaffeensis</i>	0.1	0.1	0.3	0.1	0.2	0.2	0.6	0.4	0.5	<b>0.7</b>
Encephalitis, Eastern equine	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	<b>0.0</b>
Encephalitis, Powassan	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	<b>0.2</b>
Encephalitis, West Nile	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	<b>0.0</b>
Giardiasis	14.3	16.9	16.8	12.9	12.7	16.4	11.6	8.7	10.3	<b>9.7</b>
Gonorrhea	7.3	10.8	12.3	20.6	34.3	18.5	17.7	31.7	33.3	<b>43.2</b>
Group A <i>Streptococcus</i> , invasive	2.0	1.6	3.5	3.2	2.8	2.8	4.0	4.2	4.5	<b>4.2</b>
<i>Haemophilus influenzae</i> , invasive	1.6	1.6	1.0	2.0	1.7	1.9	1.6	2.9	2.2	<b>2.5</b>
Hantavirus infection, non-Hantavirus pulmonary syndromes	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
Hemolytic uremic syndrome	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.5	0.2	<b>0.1</b>
Hepatitis A, acute	1.4	0.1	0.5	0.5	0.7	0.8	0.6	0.6	0.6	<b>0.5</b>
Hepatitis B, acute	1.1	1.1	1.0	0.6	0.7	0.8	0.9	0.7	4.0	<b>5.8</b>
Hepatitis B, chronic	10.9	9.5	7.7	7.9	7.9	8.0	8.1	8.0	11.9	<b>13.4</b>
Hepatitis C, acute	0.3	0.2	0.2	0.9	0.9	0.7	2.3	2.2	2.8	<b>2.4</b>
Hepatitis C, chronic	88.0	84.4	76.4	81.7	86.6	92.9	105.8	108.5	123.9	<b>140.4</b>
Hepatitis D, acute	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
Hepatitis E, acute	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	<b>0.0</b>
HIV	3.5	3.9	4.3	3.8	3.5	2.5	4.6	3.6	4.0	<b>2.2</b>
Influenza Associated Pediatric Mortality	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	<b>0.0</b>
Invasive Pneumococcal Disease	NA	9.6	11.4	10.2	7.7	9.1	10.3	10.2	10.0	<b>10.6</b>
Legionellosis	0.8	0.8	0.9	1.4	1.4	1.7	1.4	1.2	1.2	<b>1.2</b>

NR = not reportable; NA = not available

MAINE, 2008-2017\*\*

Condition	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Listeriosis	0.4	0.3	0.1	0.3	0.4	0.3	0.6	0.5	0.8	<b>0.4</b>
Lyme disease	69.0	74.0	56.6	76.3	83.8	104.1	106.0	91.4	112.4	<b>138.3</b>
Malaria	0.1	0.2	0.5	0.5	0.4	0.8	0.5	0.5	0.8	<b>1.3</b>
Measles ( <i>Rubeola</i> )	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.1</b>
Mumps	0.4	0.5	0.2	0.2	0.0	0.1	0.0	0.0	2.6	<b>0.1</b>
<i>Neisseria meningitidis</i> , invasive (Mening. disease)	0.5	0.3	0.4	0.4	0.2	0.3	0.2	0.3	0.1	<b>0.1</b>
Novel Influenza A virus Infections	0.0	168.3	1.3	0.2	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
Pertussis	3.7	6.1	4.0	15.4	55.5	25.0	41.9	21.1	19.5	<b>30.7</b>
Q fever	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
Rabies PEP	NR	4.5	5.8	10.9	14.3	9.6	8.0	8.4	9.8	<b>8.1</b>
Rabies, animal	5.3	4.8	5.0	5.0	6.8	3.8	3.3	2.1	5.0	<b>4.6</b>
<i>S. aureus</i> , methicillin resistant (MRSA), invasive	3.6	9.3	6.8	9.1	8.7	9.8	10.7	14.4	13.4	<b>13.4</b>
<i>S. aureus</i> , vancomycin intermediate resistance (VISA)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	<b>0.0</b>
Salmonellosis	12.1	9.2	10.2	10.1	12.1	9.9	9.5	9.3	9.2	<b>7.6</b>
Shellfish poisoning	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	2.0	1.4	1.6	2.1	1.5	2.0	2.5	2.2	2.8	<b>2.5</b>
Shigellosis	1.5	0.4	0.6	2.4	0.5	0.4	2.2	0.3	0.2	<b>1.0</b>
Spotted Fever Rickettsiosis	0.1	0.4	0.2	0.1	0.2	0.2	0.2	0.1	0.3	<b>0.2</b>
Syphilis	1.5	1.1	3.0	1.4	1.5	1.3	1.1	3.7	3.5	<b>6.2</b>
Tetanus	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	<b>0.1</b>
Trichinosis (Trichinellosis)	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
Tuberculosis	0.7	0.7	0.6	0.7	1.3	1.1	1.1	1.4	1.7	<b>1.0</b>
Varicella (Chickenpox)	20.4	17.8	18.6	17.0	19.4	10.5	15.6	17.5	17.1	<b>14.8</b>
Vibriosis	0.2	0.3	0.4	0.3	0.8	0.7	0.7	0.5	0.5	<b>0.5</b>

\* Maine did not have any cases of the following reportable conditions in the last ten years:

- Anthrax
- Botulism
- California Serogroup viruses
- Chancroid
- Coronavirus
- Diphtheria
- Hepatitis D, chronic
- Leptospirosis
- Plague
- Polio
- Psittacosis
- Rabies, human
- Ricin
- Rubella
- Smallpox
- Saint Louis Encephalitis
- Tularemia
- Viral Hemorrhagic Fever
- Western Equine Encephalitis
- Yellow Fever

\*\* Counts are updated annually. Data as of 6/5/2018

\*\*\* CRE became reportable as of September 8, 2015 so the 2015 numbers do not represent a full year

# Cases of Reported Diseases by Age and Gender

Condition	Gender		Age Group							
	F	M	0-5 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65+ years
<i>Anaplasma phagocytophilum</i>	224	439	2	10	8	14	47	87	149	346
Babesiosis	47	71	1	3	2	2	7	13	26	64
<i>Borrelia miyamotoi</i>	1	5	1	0	0	0	0	0	2	3
Brucellosis	1	0	0	0	0	1	0	0	0	0
Campylobacteriosis	118	116	15	5	21	27	22	22	53	69
Carbapenem-resistant Enterobacteriaceae (CRE)	37	21	1	1	1	0	1	2	12	40
Chikungunya Virus	0	1	0	0	0	1	0	0	0	0
<i>Chlamydia trachomatis</i> infection	2958	1596	18	17	2853	1333	241	64	23	5
Cryptosporidiosis	19	26	6	5	13	7	5	3	5	1
Ehrlichiosis, <i>chaffeensis</i>	8	2	0	0	4	1	1	0	2	2
Ehrlichiosis/Anaplasmosis, undetermined	6	4	0	0	2	0	1	2	3	2
Emerging Infection	1	0	0	0	0	0	0	1	0	0
Encephalitis, Powassan	0	3	0	0	0	0	0	0	2	1
Giardiasis	61	68	1	13	17	21	14	16	21	26
Gonorrhea	216	361	0	1	179	226	107	44	17	3
Group A <i>Streptococcus</i> , invasive	31	25	1	1	1	4	3	7	12	27
<i>Haemophilus influenzae</i> , invasive	20	14	4	1	0	0	0	3	7	19
Hemolytic uremic synd, postdiarrheal	1	1	0	1	0	1	0	0	0	0
Hepatitis A, acute	1	6	0	0	0	0	1	4	0	2
Hepatitis B, acute	26	51	0	0	1	15	30	21	9	1
Hepatitis B, chronic	57	122	0	1	12	45	54	39	19	9
Hepatitis C, acute	14	18	0	0	3	16	9	4	0	0
Hepatitis C, chronic	813	1063	10	2	173	564	320	254	358	195
HIV	4	25	0	0	3	11	5	6	3	1
Invasive Pneumococcal Disease	71	70	4	3	1	3	7	19	35	69
Jamestown Canyon virus, neuroinvasive disease	1	0	0	0	0	0	0	0	0	1

MAINE, 2017

Condition	Gender		Age Group							
	F	M	0-5 years	5-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65+ years
Jamestown Canyon virus, non-neuroinvasive disease	1	0	0	0	0	0	0	0	0	1
Latent TB Infection	274	373	16	35	91	198	180	84	34	9
Legionellosis	3	13	0	0	0	1	0	2	6	7
Listeriosis	1	4	0	0	0	0	0	0	1	4
Lyme disease	746	1102	71	228	123	129	168	259	368	502
Malaria	11	7	2	0	3	3	4	3	0	3
Measles ( <i>Rubeola</i> )	1	0	0	0	1	0	0	0	0	0
Mumps	1	0	0	0	1	0	0	0	0	0
<i>Neisseria meningitidis</i> , invasive (Mening. disease)	0	1	0	0	1	0	0	0	0	0
Pertussis	198	212	94	152	120	8	13	10	7	6
Rabies PEP	56	52	5	11	15	14	17	18	14	14
Rabies, animal	NA	NA	61	0	0	0	0	0	0	0
<i>S. aureus</i> , methicillin resistant (MRSA), invasive	79	100	3	4	3	14	15	29	24	87
<i>Salmonellosis</i>	57	45	9	4	7	14	7	20	20	21
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	23	11	5	5	4	5	2	3	3	7
Shigellosis	5	8	2	3	1	2	3	1	1	0
Spotted Fever Rickettsiosis	1	2	0	0	0	0	1	1	0	1
Streptococcal toxic-shock syndrome	6	7	0	0	0	0	1	3	5	4
Syphilis	12	71	0	0	16	25	11	26	9	2
Tetanus	1	0	0	0	1	0	0	0	0	0
Tuberculosis	7	7	0	1	1	3	5	1	0	3
Varicella (Chickenpox)	106	92	38	40	16	17	19	16	22	30
Vibriosis	5	2	0	0	0	1	1	0	1	4
Zika virus disease, non-congenital	1	0	0	0	0	0	1	0	0	0

# Cases of Reported Diseases by Race and Ethnicity

Condition	RACE							ETHNICITY		
	American Indian or Alaska Native	Asian or Pacific Islander	Black or African American	White	Two or more	Other	Unknown	Hispanic	Non-Hispanic	Unknown
<i>Anaplasma phagocytophilum</i>	1	2	1	632	0	0	27	1	602	60
Babesiosis	0	2	0	113	0	0	3	0	113	5
<i>Borrelia miyamotoi</i>	0	0	0	6	0	0	0	0	3	3
Brucellosis	0	0	0	1	0	0	0	0	1	0
Campylobacteriosis	0	1	0	217	1	0	15	3	210	21
Carbapenem-resistant Enterobacteriaceae (CRE)	0	1	0	44	0	1	12	1	45	12
Chikungunya Virus	0	0	0	0	0	0	1	0	1	0
<i>Chlamydia trachomatis</i> infection	28	27	216	2905	7	116	1255	43	1956	2555
Cryptosporidiosis	0	0	2	41	0	0	2	0	43	2
Ehrlichiosis, <i>chaffeensis</i>	0	0	0	8	0	0	2	0	8	2
Ehrlichiosis/Anaplasmosis, undetermined	0	0	0	9	0	0	1	0	9	1
Emerging Infection	0	0	0	1	0	0	0	0	1	0
Encephalitis, Powassan	0	0	0	3	0	0	0	0	2	1
Giardiasis	1	2	5	116	0	0	5	1	112	16
Gonorrhea	4	7	85	429	2	22	28	13	479	85
Group A <i>Streptococcus</i> , invasive	0	1	1	54	0	0	0	1	52	3
<i>Haemophilus influenzae</i> , invasive	0	0	0	32	0	0	2	0	31	3
Hemolytic uremic synd,postdiarrheal	0	0	0	2	0	0	0	0	2	0
Hepatitis A, acute	0	0	0	7	0	0	0	0	7	0
Hepatitis B, acute	0	0	1	75	0	0	1	0	73	4
Hepatitis B, chronic	0	31	53	89	1	0	5	4	160	15
Hepatitis C, acute	0	0	1	31	0	0	0	0	29	3
Hepatitis C, chronic	16	7	35	1058	0	32	728	6	655	1215
HIV	0	0	3	24	1	1	0	1	23	5
Invasive Pneumococcal Disease	0	0	1	134	0	0	6	2	125	14
Jamestown Canyon virus, neuroinvasive disease	0	0	0	1	0	0	0	0	1	0



## Maine, 2017

Condition	RACE							ETHNICITY		
	American Indian or Alaska Native	Asian or Pacific Islander	Black or African American	White	Two or more	Other	Unknown	Hispanic	Non-Hispanic	Unknown
Jamestown Canyon virus, non-neuroinvasive disease	0	0	0	1	0	0	0	0	1	0
Latent TB Infection	1	24	509	89	1	3	20	34	591	22
Legionellosis	0	0	0	16	0	0	0	0	16	0
Listeriosis	0	0	0	5	0	0	0	0	5	0
Lyme disease	0	1	5	1482	3	0	357	3	546	1299
Malaria	0	1	14	3	0	0	0	0	16	2
Measles ( <i>Rubeola</i> )	0	0	0	1	0	0	0	0	1	0
Mumps	0	0	0	0	0	0	1	0	0	1
<i>Neisseria meningitidis</i> , invasive (Mening. disease)	0	0	1	0	0	0	0	0	0	1
Pertussis	0	4	3	359	2	0	42	6	340	64
Rabies PEP	0	2	1	74	0	2	29	0	65	43
Rabies, animal	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<i>S. aureus</i> , methicillin resistant (MRSA), invasive	0	1	4	144	0	0	30	0	58	121
<i>Salmonellosis</i>	0	1	1	95	0	0	5	4	91	7
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	0	0	0	30	0	0	4	0	29	5
Shigellosis	0	1	7	4	0	0	1	1	12	0
Spotted Fever Rickettsiosis	0	0	1	1	0	0	1	0	2	1
Streptococcal toxic-shock syndrome	0	0	0	13	0	0	0	1	12	0
Syphilis	0	0	6	76	1	2	1	5	72	6
Tetanus	0	0	0	1	0	0	0	0	1	0
Tuberculosis	0	2	7	5	0	0	0	2	12	0
Varicella (Chickenpox)	3	2	1	131	1	0	60	3	123	72
Vibriosis	0	0	0	7	0	0	0	0	6	1
Zika virus disease, non-congenital	0	0	0	1	0	0	0	0	1	0

# 2017 Maine Outbreaks

Outbreaks are a reportable condition in Maine and are classified into types of outbreak by the potential etiology. All reported outbreaks are assigned out for follow-up with a field epidemiologist. This table only represents those that met an outbreak definition of confirmed, probable, or suspect. Outbreak definitions vary based on the category, setting, and suspected etiology.

County	Absenteeism	ADC	GI	ILI*	Other	TB	Varicella	Vector	VPD
Androscoggin	0	2	2	16	0	0	0	1	0
Aroostook	1	2	2	8	1	0	0	0	0
Cumberland	3	3	10	28	0	1	1	0	10
Franklin	3	0	1	3	0	0	0	0	0
Hancock	2	0	1	3	0	0	0	0	0
Kennebec	1	1	10	19	0	0	0	0	4
Knox	1	0	2	6	0	0	0	0	0
Lincoln	1	0	3	2	0	0	0	0	0
Out of State	0	0	11	0	0	0	0	0	0
Oxford	1	0	0	8	0	0	0	0	0
Penobscot	4	0	2	18	1	0	0	0	0
Piscataquis	1	0	0	0	0	0	0	0	0
Sagadahoc	1	0	1	1	0	0	0	0	1
Somerset	8	0	3	5	0	0	0	0	0
Waldo	2	0	1	2	0	0	0	0	0
Washington	1	0	0	4	0	0	0	0	0
York	1	2	6	19	0	0	1	0	2
<b>Total</b>	<b>31</b>	<b>10</b>	<b>55</b>	<b>142</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>17</b>

\*ILI outbreaks included here are for the calendar year 2017, so includes outbreaks from the 2016-17 and 2017-18 influenza seasons.

Any outbreak can be healthcare associated.

## Outbreak Categories and Definitions

**Absenteeism:** Absenteeism reports are submitted by schools when they have  $\geq 15\%$  absenteeism due to illness. If there is a single etiology an absenteeism report may also be counted as a disease-specific outbreak as well.

**Airborne and Direct Contact (ADC):** Airborne and Direct Contact outbreaks are transmitted through airborne bacteria or viruses or through direct contact. Examples of Airborne and Direct Contact outbreaks include pneumonia, conjunctivitis, hand foot and mouth disease, and MRSA.

**Gastrointestinal Illness (GI):** GI illness outbreaks are characterized through gastrointestinal symptoms. The most commonly reported GI outbreak is caused by norovirus. Out of state GI outbreaks are when a Maine resident matches a national cluster through Pulsed-field Gel Electrophoresis (PFGE) testing such as Salmonella or Shiga toxin producing *E. coli* (STEC).

**Influenza-like Illness (ILI):** Influenza-like illness outbreaks are characterized as a respiratory illness with fever and/or sore throat without another known cause. The majority of ILI outbreaks are confirmed as influenza through laboratory testing.

**Other:** Outbreaks in this category are not captured in any other group. Examples include *C. difficile*, multi-drug resistant organisms, or outbreaks caused by contaminated devices.

**Tuberculosis (TB):** Tuberculosis outbreaks are characterized as three patients with genetically-matching active tuberculosis disease that are linked through contact investigations or two patients with genetically-matching active tuberculosis disease that are not identified through contact investigations, but are epidemiologically linked.

**Vaccine-Preventable Disease (VPD):** Vaccine-preventable disease outbreaks are caused by one of the illnesses for which there is a routine vaccine. The most commonly reported VPD outbreak is caused by pertussis.

**Varicella:** Varicella (chickenpox) outbreaks are caused by chickenpox. An outbreak is defined as three or more confirmed cases in a single setting.

**Vector:** Vector outbreaks are caused by an organism that spreads infection from one host to another. The most common vectors in Maine are ticks and mosquitoes, but the most common vector outbreak is caused by scabies.

# Counties

Since 2003, the Infectious Disease Program of Maine CDC publishes an annual summary of infectious disease data. Publishing reports on surveillance activities and data provides the health care community, government agencies, individuals, and groups with important statistical information on Maine's reportable diseases and conditions.

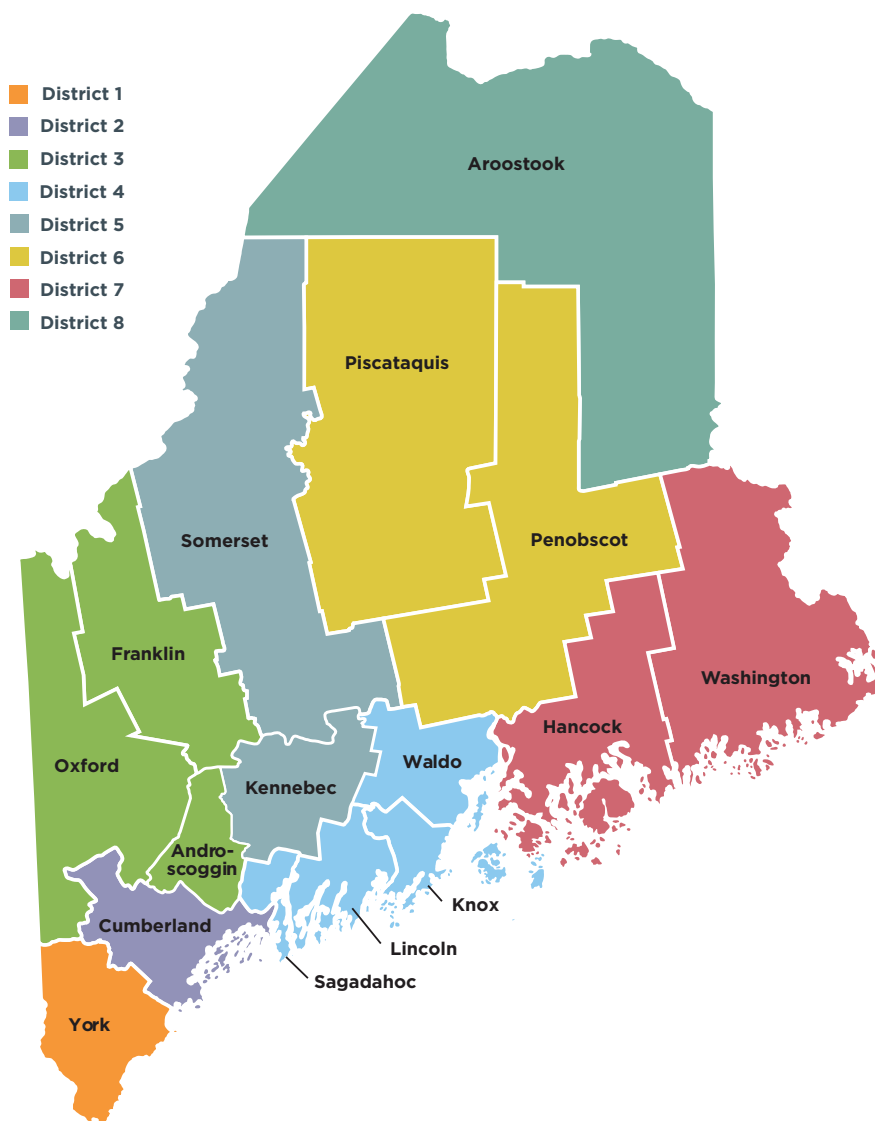
In 2016, Maine CDC updated the format of the annual report to provide more specific county-level data, provide data that is more easily compared, and summarize the important projects/investigations the department worked on throughout the year. Based on the positive feedback received from the new updated

format, this year's 2017 annual report follows the same format. This annual report also includes information on conditions that are investigated that are not explicitly reportable but have public health significance. Examples of these conditions include *Borrelia miyamotoi*, Jamestown Canyon virus, latent TB infections, and Zika virus. Maine also follows up on unusual conditions that may not have specific case definitions but potentially have public health significance. These conditions are indicated by "Emerging Infections." In 2017 the emerging infection case was a case of *Candida auris* which became nationally monitored in 2018. The goal of this annual report is to provide Maine CDC's partners with a helpful resource.

Maine CDC counts cases by their residence, not where they acquired the condition.

(Population data is from 2017 census estimates.)

## PUBLIC HEALTH DISTRICT MAP

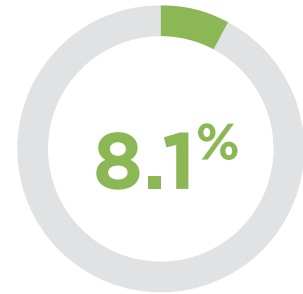


# Androscoggin County



**107,651**

Population



**8.1%**

Of Maine's Total Population

Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
<i>Anaplasma phagocytophilum</i>	42	39.0	57	29.2	663	49.6
Babesiosis	6	5.6	9	4.6	118	8.8
<i>Borrelia miyamotoi</i>	1	0.9	1	0.5	6	0.4
Brucellosis	1	0.9	1	0.5	1	0.1
Campylobacteriosis	5	4.6	23	11.8	234	17.5
Carbapenem-resistant Enterobacteriaceae (CRE)	0	0.0	3	1.5	58	4.3
Chikungunya Virus	0	0.0	0	0.0	1	0.1
<i>Chlamydia trachomatis</i> infection	576	535.1	812	416.2	4554	340.9
Cryptosporidiosis	3	2.8	7	3.6	45	3.4
Ehrlichiosis, <i>chaffeensis</i>	2	1.9	2	1.0	10	0.7
Ehrlichiosis/Anaplasmosis, undetermined	6	5.6	6	3.1	10	0.7
Emerging Infection	0	0.0	0	0.0	1	0.1
Encephalitis, Powassan	0	0.0	0	0.0	3	0.2
Giardiasis	8	7.4	18	9.2	129	9.7
Gonorrhea	161	149.6	180	92.3	577	43.2
Group A <i>Streptococcus</i> , invasive	5	4.6	7	3.6	56	4.2
<i>Haemophilus influenzae</i> , invasive	2	1.9	4	2.1	34	2.5
Hemolytic uremic synd, postdiarrheal	0	0.0	0	0.0	2	0.1
Hepatitis A, acute	1	0.9	1	0.5	7	0.5
Hepatitis B, acute	1	0.9	3	1.5	77	5.8

Counts of confirmed and probable cases. Rates of confirmed and probable cases per 100,000 people.

Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
Hepatitis B, chronic	25	23.2	28	14.4	179	13.4
Hepatitis C, acute	4	3.7	7	3.6	32	2.4
Hepatitis C, chronic	99	92.0	202	103.5	1876	140.4
HIV	1	0.9	2	1.0	29	2.2
Invasive Pneumococcal Disease	10	9.3	21	10.8	141	10.6
Jamestown Canyon virus, neuroinvasive disease	0	0.0	0	0.0	1	0.1
Jamestown Canyon virus, non-neuroinvasive disease	0	0.0	1	0.5	1	0.1
Latent TB Infection	238	221.1	242	124.1	647	48.4
Legionellosis	5	4.6	6	3.1	16	1.2
Listeriosis	0	0.0	0	0.0	5	0.4
Lyme disease	97	90.1	179	91.8	1848	138.3
Malaria	3	2.8	3	1.5	18	1.3
Measles ( <i>Rubeola</i> )	0	0.0	1	0.5	1	0.1
Mumps	0	0.0	0	0.0	1	0.1
<i>Neisseria meningitidis</i> , invasive (Meningococcal disease)	0	0.0	0	0.0	1	0.1
Pertussis	10	9.3	28	14.4	410	30.7
Rabies PEP	9	8.4	18	9.2	108	8.1
Rabies, animal	3	NA	8	NA	61	NA
<i>S. aureus</i> , methicillin resistant (MRSA), invasive	7	6.5	15	7.7	179	13.4
Salmonellosis	15	13.9	15	7.7	102	7.6
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	1	0.9	3	1.5	34	2.5
Shigellosis	6	5.6	6	3.1	13	1.0
Spotted Fever Rickettsiosis	0	0.0	1	0.5	3	0.2
Streptococcal toxic-shock syndrome	2	1.9	2	1.0	13	1.0
Syphilis	12	11.1	18	9.2	83	6.2
Tetanus	0	0.0	0	0.0	1	0.1
Tuberculosis	3	2.8	4	2.1	14	1.0
Varicella (Chickenpox)	9	8.4	13	6.7	198	14.8
Vibriosis	0	0.0	0	0.0	7	0.5
Zika virus disease, non-congenital	0	0.0	0	0.0	1	0.1

# Aroostook County



**67,653**

Population



**5.1%**

Of Maine's Total Population

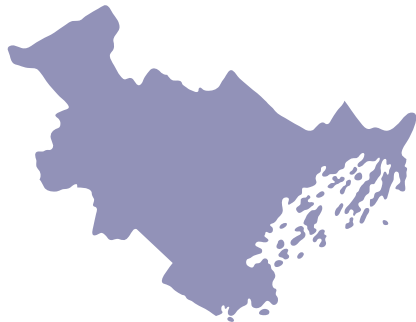
Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
<i>Anaplasma phagocytophilum</i>	0	0.0	0	0.0	663	49.6
Babesiosis	0	0.0	0	0.0	118	8.8
<i>Borrelia miyamotoi</i>	0	0.0	0	0.0	6	0.4
Brucellosis	0	0.0	0	0.0	1	0.1
Campylobacteriosis	17	25.1	17	25.1	234	17.5
Carbapenem-resistant Enterobacteriaceae (CRE)	0	0.0	0	0.0	58	4.3
Chikungunya Virus	0	0.0	0	0.0	1	0.1
<i>Chlamydia trachomatis</i> infection	167	246.8	167	246.8	4554	340.9
Cryptosporidiosis	3	4.4	3	4.4	45	3.4
Ehrlichiosis, <i>chaffeensis</i>	0	0.0	0	0.0	10	0.7
Ehrlichiosis/Anaplasmosis, undetermined	0	0.0	0	0.0	10	0.7
Emerging Infection	0	0.0	0	0.0	1	0.1
Encephalitis, Powassan	0	0.0	0	0.0	3	0.2
Giardiasis	3	4.4	3	4.4	129	9.7
Gonorrhea	2	3.0	2	3.0	577	43.2
Group A <i>Streptococcus</i> , invasive	5	7.4	5	7.4	56	4.2
<i>Haemophilus influenzae</i> , invasive	2	3.0	2	3.0	34	2.5
Hemolytic uremic synd, postdiarrheal	0	0.0	0	0.0	2	0.1
Hepatitis A, acute	0	0.0	0	0.0	7	0.5
Hepatitis B, acute	0	0.0	0	0.0	77	5.8

Counts of confirmed and probable cases. Rates of confirmed and probable cases per 100,000 people.

Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
Hepatitis B, chronic	6	8.9	6	8.9	179	13.4
Hepatitis C, acute	0	0.0	0	0.0	32	2.4
Hepatitis C, chronic	65	96.1	65	96.1	1876	140.4
HIV	0	0.0	0	0.0	29	2.2
Invasive Pneumococcal Disease	8	11.8	8	11.8	141	10.6
Jamestown Canyon virus, neuroinvasive disease	0	0.0	0	0.0	1	0.1
Jamestown Canyon virus, non-neuroinvasive disease	0	0.0	0	0.0	1	0.1
Latent TB Infection	36	53.2	36	53.2	647	48.4
Legionellosis	1	1.5	1	1.5	16	1.2
Listeriosis	0	0.0	0	0.0	5	0.4
Lyme disease	8	11.8	8	11.8	1848	138.3
Malaria	0	0.0	0	0.0	18	1.3
Measles ( <i>Rubeola</i> )	0	0.0	0	0.0	1	0.1
Mumps	0	0.0	0	0.0	1	0.1
<i>Neisseria meningitidis</i> , invasive (Meningococcal disease)	0	0.0	0	0.0	1	0.1
Pertussis	0	0.0	0	0.0	410	30.7
Rabies PEP	4	5.9	4	5.9	108	8.1
Rabies, animal	4	NA	4	NA	61	NA
<i>S. aureus</i> , methicillin resistant (MRSA), invasive	10	14.8	10	14.8	179	13.4
Salmonellosis	7	10.3	7	10.3	102	7.6
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	2	3.0	2	3.0	34	2.5
Shigellosis	0	0.0	0	0.0	13	1.0
Spotted Fever Rickettsiosis	0	0.0	0	0.0	3	0.2
Streptococcal toxic-shock syndrome	1	1.5	1	1.5	13	1.0
Syphilis	0	0.0	0	0.0	83	6.2
Tetanus	0	0.0	0	0.0	1	0.1
Tuberculosis	1	1.5	1	1.5	14	1.0
Varicella (Chickenpox)	12	17.7	12	17.7	198	14.8
Vibriosis	0	0.0	0	0.0	7	0.5
Zika virus disease, non-congenital	0	0.0	0	0.0	1	0.1

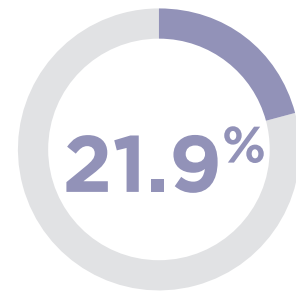


# Cumberland County



**292,500**

Population



Of Maine's Total Population

Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
<i>Anaplasma phagocytophilum</i>	102	34.9	102	34.9	663	49.6
Babesiosis	19	6.5	19	6.5	118	8.8
<i>Borrelia miyamotoi</i>	1	0.3	1	0.3	6	0.4
Brucellosis	0	0.0	0	0.0	1	0.1
Campylobacteriosis	54	18.5	54	18.5	234	17.5
Carbapenem-resistant Enterobacteriaceae (CRE)	25	8.5	25	8.5	58	4.3
Chikungunya Virus	0	0.0	0	0.0	1	0.1
<i>Chlamydia trachomatis</i> infection	1186	405.5	1186	405.5	4554	340.9
Cryptosporidiosis	12	4.1	12	4.1	45	3.4
Ehrlichiosis, <i>chaffeensis</i>	3	1.0	3	1.0	10	0.7
Ehrlichiosis/Anaplasmosis, undetermined	1	0.3	1	0.3	10	0.7
Emerging Infection	0	0.0	0	0.0	1	0.1
Encephalitis, Powassan	1	0.3	1	0.3	3	0.2
Giardiasis	34	11.6	34	11.6	129	9.7
Gonorrhea	180	61.5	180	61.5	577	43.2
Group A <i>Streptococcus</i> , invasive	18	6.2	18	6.2	56	4.2
<i>Haemophilus influenzae</i> , invasive	3	1.0	3	1.0	34	2.5
Hemolytic uremic synd, postdiarrheal	1	0.3	1	0.3	2	0.1
Hepatitis A, acute	0	0.0	0	0.0	7	0.5
Hepatitis B, acute	2	0.7	2	0.7	77	5.8

Counts of confirmed and probable cases. Rates of confirmed and probable cases per 100,000 people.

Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
Hepatitis B, chronic	71	24.3	71	24.3	179	13.4
Hepatitis C, acute	5	1.7	5	1.7	32	2.4
Hepatitis C, chronic	566	193.5	566	193.5	1876	140.4
HIV	9	3.1	9	3.1	29	2.2
Invasive Pneumococcal Disease	18	6.2	18	6.2	141	10.6
Jamestown Canyon virus, neuroinvasive disease	0	0.0	0	0.0	1	0.1
Jamestown Canyon virus, non-neuroinvasive disease	0	0.0	0	0.0	1	0.1
Latent TB Infection	340	116.2	340	116.2	647	48.4
Legionellosis	1	0.3	1	0.3	16	1.2
Listeriosis	1	0.3	1	0.3	5	0.4
Lyme disease	319	109.1	319	109.1	1848	138.3
Malaria	11	3.8	11	3.8	18	1.3
Measles ( <i>Rubeola</i> )	0	0.0	0	0.0	1	0.1
Mumps	0	0.0	0	0.0	1	0.1
<i>Neisseria meningitidis</i> , invasive (Meningococcal disease)	1	0.3	1	0.3	1	0.1
Pertussis	172	58.8	172	58.8	410	30.7
Rabies PEP	9	3.1	9	3.1	108	8.1
Rabies, animal	6	NA	6	NA	61	NA
<i>S. aureus</i> , methicillin resistant (MRSA), invasive	47	16.1	47	16.1	179	13.4
Salmonellosis	24	8.2	24	8.2	102	7.6
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	8	2.7	8	2.7	34	2.5
Shigellosis	0	0.0	0	0.0	13	1.0
Spotted Fever Rickettsiosis	1	0.3	1	0.3	3	0.2
Streptococcal toxic-shock syndrome	6	2.1	6	2.1	13	1.0
Syphilis	29	9.9	29	9.9	83	6.2
Tetanus	0	0.0	0	0.0	1	0.1
Tuberculosis	6	2.1	6	2.1	14	1.0
Varicella (Chickenpox)	55	18.8	55	18.8	198	14.8
Vibriosis	1	0.3	1	0.3	7	0.5
Zika virus disease, non-congenital	0	0.0	0	0.0	1	0.1

# Franklin County



**29,998**

Population



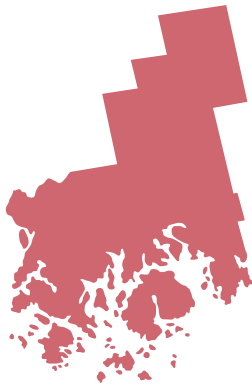
Of Maine's Total Population

Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
<i>Anaplasma phagocytophilum</i>	1	3.3	57	29.2	663	49.6
Babesiosis	0	0.0	9	4.6	118	8.8
<i>Borrelia miyamotoi</i>	0	0.0	1	0.5	6	0.4
Brucellosis	0	0.0	1	0.5	1	0.1
Campylobacteriosis	5	16.7	23	11.8	234	17.5
Carbapenem-resistant Enterobacteriaceae (CRE)	2	6.7	3	1.5	58	4.3
Chikungunya Virus	0	0.0	0	0.0	1	0.1
<i>Chlamydia trachomatis</i> infection	69	230.1	812	416.2	4554	340.9
Cryptosporidiosis	2	6.7	7	3.6	45	3.4
Ehrlichiosis, <i>chaffeensis</i>	0	0.0	2	1.0	10	0.7
Ehrlichiosis/Anaplasmosis, undetermined	0	0.0	6	3.1	10	0.7
Emerging Infection	0	0.0	0	0.0	1	0.1
Encephalitis, Powassan	0	0.0	0	0.0	3	0.2
Giardiasis	7	23.3	18	9.2	129	9.7
Gonorrhea	5	16.7	180	92.3	577	43.2
Group A <i>Streptococcus</i> , invasive	0	0.0	7	3.6	56	4.2
<i>Haemophilus influenzae</i> , invasive	0	0.0	4	2.1	34	2.5
Hemolytic uremic synd, postdiarrheal	0	0.0	0	0.0	2	0.1
Hepatitis A, acute	0	0.0	1	0.5	7	0.5
Hepatitis B, acute	0	0.0	3	1.5	77	5.8

Counts of confirmed and probable cases. Rates of confirmed and probable cases per 100,000 people.

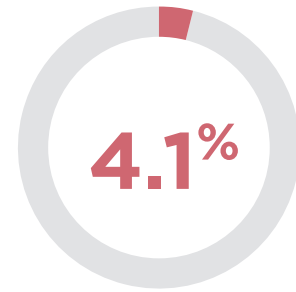
Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
Hepatitis B, chronic	0	0.0	28	14.4	179	13.4
Hepatitis C, acute	0	0.0	7	3.6	32	2.4
Hepatitis C, chronic	33	110.0	202	103.5	1876	140.4
HIV	0	0.0	2	1.0	29	2.2
Invasive Pneumococcal Disease	0	0.0	21	10.8	141	10.6
Jamestown Canyon virus, neuroinvasive disease	0	0.0	0	0.0	1	0.1
Jamestown Canyon virus, non-neuroinvasive disease	1	3.3	1	0.5	1	0.1
Latent TB Infection	1	3.3	242	124.1	647	48.4
Legionellosis	0	0.0	6	3.1	16	1.2
Listeriosis	0	0.0	0	0.0	5	0.4
Lyme disease	24	80.0	179	91.8	1848	138.3
Malaria	0	0.0	3	1.5	18	1.3
Measles ( <i>Rubeola</i> )	1	3.3	1	0.5	1	0.1
Mumps	0	0.0	0	0.0	1	0.1
<i>Neisseria meningitidis</i> , invasive (Meningococcal disease)	0	0.0	0	0.0	1	0.1
Pertussis	1	3.3	28	14.4	410	30.7
Rabies PEP	0	0.0	18	9.2	108	8.1
Rabies, animal	2	NA	8	NA	61	NA
<i>S. aureus</i> , methicillin resistant (MRSA), invasive	3	10.0	15	7.7	179	13.4
Salmonellosis	0	0.0	15	7.7	102	7.6
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	2	6.7	3	1.5	34	2.5
Shigellosis	0	0.0	6	3.1	13	1.0
Spotted Fever Rickettsiosis	0	0.0	1	0.5	3	0.2
Streptococcal toxic-shock syndrome	0	0.0	2	1.0	13	1.0
Syphilis	2	6.7	18	9.2	83	6.2
Tetanus	0	0.0	0	0.0	1	0.1
Tuberculosis	0	0.0	4	2.1	14	1.0
Varicella (Chickenpox)	2	6.7	13	6.7	198	14.8
Vibriosis	0	0.0	0	0.0	7	0.5
Zika virus disease, non-congenital	0	0.0	0	0.0	1	0.1

# Hancock County



**54,497**

Population



Of Maine's Total Population

Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
<i>Anaplasma phagocytophilum</i>	24	44.0	26	30.2	663	49.6
Babesiosis	3	5.5	3	3.5	118	8.8
<i>Borrelia miyamotoi</i>	0	0.0	0	0.0	6	0.4
Brucellosis	0	0.0	0	0.0	1	0.1
Campylobacteriosis	14	25.7	15	17.4	234	17.5
Carbapenem-resistant Enterobacteriaceae (CRE)	3	5.5	4	4.6	58	4.3
Chikungunya Virus	0	0.0	0	0.0	1	0.1
Chlamydia trachomatis infection	91	167.0	172	199.8	4554	340.9
Cryptosporidiosis	2	3.7	2	2.3	45	3.4
Ehrlichiosis, <i>chaffeensis</i>	0	0.0	0	0.0	10	0.7
Ehrlichiosis/Anaplasmosis, undetermined	0	0.0	0	0.0	10	0.7
Emerging Infection	0	0.0	0	0.0	1	0.1
Encephalitis, Powassan	0	0.0	0	0.0	3	0.2
Giardiasis	5	9.2	6	7.0	129	9.7
Gonorrhea	7	12.8	12	13.9	577	43.2
Group A <i>Streptococcus</i> , invasive	3	5.5	3	3.5	56	4.2
<i>Haemophilus influenzae</i> , invasive	2	3.7	4	4.6	34	2.5
Hemolytic uremic synd, postdiarrheal	0	0.0	0	0.0	2	0.1
Hepatitis A, acute	2	3.7	2	2.3	7	0.5
Hepatitis B, acute	9	16.5	14	16.3	77	5.8

Counts of confirmed and probable cases. Rates of confirmed and probable cases per 100,000 people.

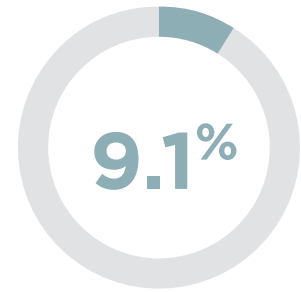
Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
Hepatitis B, chronic	5	9.2	8	9.3	179	13.4
Hepatitis C, acute	0	0.0	1	1.2	32	2.4
Hepatitis C, chronic	70	128.4	137	159.1	1876	140.4
HIV	2	3.7	4	4.6	29	2.2
Invasive Pneumococcal Disease	8	14.7	13	15.1	141	10.6
Jamestown Canyon virus, neuroinvasive disease	0	0.0	0	0.0	1	0.1
Jamestown Canyon virus, non-neuroinvasive disease	0	0.0	0	0.0	1	0.1
Latent TB Infection	0	0.0	2	2.3	647	48.4
Legionellosis	0	0.0	0	0.0	16	1.2
Listeriosis	0	0.0	1	1.2	5	0.4
Lyme disease	204	374.3	236	274.1	1848	138.3
Malaria	1	1.8	2	2.3	18	1.3
Measles ( <i>Rubeola</i> )	0	0.0	0	0.0	1	0.1
Mumps	0	0.0	0	0.0	1	0.1
<i>Neisseria meningitidis</i> , invasive (Meningococcal disease)	0	0.0	0	0.0	1	0.1
Pertussis	1	1.8	2	2.3	410	30.7
Rabies PEP	5	9.2	8	9.3	108	8.1
Rabies, animal	1	NA	3	NA	61	NA
<i>S. aureus</i> , methicillin resistant (MRSA), invasive	2	3.7	14	16.3	179	13.4
Salmonellosis	6	11.0	6	7.0	102	7.6
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	0	0.0	1	1.2	34	2.5
Shigellosis	0	0.0	0	0.0	13	1.0
Spotted Fever Rickettsiosis	0	0.0	0	0.0	3	0.2
Streptococcal toxic-shock syndrome	0	0.0	0	0.0	13	1.0
Syphilis	3	5.5	3	3.5	83	6.2
Tetanus	0	0.0	0	0.0	1	0.1
Tuberculosis	1	1.8	1	1.2	14	1.0
Varicella (Chickenpox)	8	14.7	10	11.6	198	14.8
Vibriosis	1	1.8	1	1.2	7	0.5
Zika virus disease, non-congenital	0	0.0	0	0.0	1	0.1

# Kennebec County



**121,821**

**Population**



**Of Maine's Total Population**

Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
<i>Anaplasma phagocytophilum</i>	71	58.3	75	43.5	663	49.6
Babesiosis	15	12.3	17	9.9	118	8.8
<i>Borrelia miyamotoi</i>	0	0.0	0	0.0	6	0.4
Brucellosis	0	0.0	0	0.0	1	0.1
Campylobacteriosis	20	16.4	31	18.0	234	17.5
Carbapenem-resistant Enterobacteriaceae (CRE)	3	2.5	3	1.7	58	4.3
Chikungunya Virus	0	0.0	0	0.0	1	0.1
<i>Chlamydia trachomatis</i> infection	390	320.1	536	310.8	4554	340.9
Cryptosporidiosis	3	2.5	3	1.7	45	3.4
Ehrlichiosis, <i>chaffeensis</i>	2	1.6	3	1.7	10	0.7
Ehrlichiosis/Anaplasmosis, undetermined	3	2.5	3	1.7	10	0.7
Emerging Infection	0	0.0	0	0.0	1	0.1
Encephalitis, Powassan	0	0.0	0	0.0	3	0.2
Giardiasis	9	7.4	21	12.2	129	9.7
Gonorrhea	50	41.0	54	31.3	577	43.2
Group A <i>Streptococcus</i> , invasive	5	4.1	6	3.5	56	4.2
<i>Haemophilus influenzae</i> , invasive	2	1.6	3	1.7	34	2.5
Hemolytic uremic synd, postdiarrheal	0	0.0	0	0.0	2	0.1
Hepatitis A, acute	2	1.6	2	1.2	7	0.5
Hepatitis B, acute	4	3.3	5	2.9	77	5.8

Counts of confirmed and probable cases. Rates of confirmed and probable cases per 100,000 people.



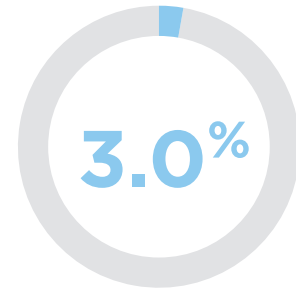
Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
Hepatitis B, chronic	8	6.6	9	5.2	179	13.4
Hepatitis C, acute	2	1.6	4	2.3	32	2.4
Hepatitis C, chronic	78	64.0	139	80.6	1876	140.4
HIV	2	1.6	2	1.2	29	2.2
Invasive Pneumococcal Disease	16	13.1	27	15.7	141	10.6
Jamestown Canyon virus, neuroinvasive disease	1	0.8	1	0.6	1	0.1
Jamestown Canyon virus, non-neuroinvasive disease	0	0.0	0	0.0	1	0.1
Latent TB Infection	3	2.5	3	1.7	647	48.4
Legionellosis	2	1.6	2	1.2	16	1.2
Listeriosis	1	0.8	1	0.6	5	0.4
Lyme disease	266	218.4	356	206.4	1848	138.3
Malaria	0	0.0	0	0.0	18	1.3
Measles ( <i>Rubeola</i> )	0	0.0	0	0.0	1	0.1
Mumps	0	0.0	0	0.0	1	0.1
<i>Neisseria meningitidis</i> , invasive (Meningococcal disease)	0	0.0	0	0.0	1	0.1
Pertussis	37	30.4	40	23.2	410	30.7
Rabies PEP	22	18.1	26	15.1	108	8.1
Rabies, animal	8	NA	14	NA	61	NA
<i>S. aureus</i> , methicillin resistant (MRSA), invasive	26	21.3	33	19.1	179	13.4
Salmonellosis	7	5.7	8	4.6	102	7.6
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	2	1.6	5	2.9	34	2.5
Shigellosis	1	0.8	2	1.2	13	1.0
Spotted Fever Rickettsiosis	0	0.0	0	0.0	3	0.2
Streptococcal toxic-shock syndrome	1	0.8	1	0.6	13	1.0
Syphilis	7	5.7	9	5.2	83	6.2
Tetanus	0	0.0	1	0.6	1	0.1
Tuberculosis	0	0.0	0	0.0	14	1.0
Varicella (Chickenpox)	13	10.7	22	12.8	198	14.8
Vibriosis	2	1.6	2	1.2	7	0.5
Zika virus disease, non-congenital	0	0.0	0	0.0	1	0.1

# Knox County



**39,790**

Population



Of Maine's Total Population

Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
<i>Anaplasma phagocytophilum</i>	110	276.5	289	193.7	663	49.6
Babesiosis	25	62.8	44	29.5	118	8.8
<i>Borrelia miyamotoi</i>	1	2.5	4	2.7	6	0.4
Brucellosis	0	0.0	0	0.0	1	0.1
Campylobacteriosis	15	37.7	35	23.5	234	17.5
Carbapenem-resistant Enterobacteriaceae (CRE)	3	7.5	8	5.4	58	4.3
Chikungunya Virus	0	0.0	0	0.0	1	0.1
<i>Chlamydia trachomatis</i> infection	158	397.1	444	297.6	4554	340.9
Cryptosporidiosis	1	2.5	6	4.0	45	3.4
Ehrlichiosis, <i>chaffeensis</i>	0	0.0	0	0.0	10	0.7
Ehrlichiosis/Anaplasmosis, undetermined	0	0.0	0	0.0	10	0.7
Emerging Infection	0	0.0	1	0.7	1	0.1
Encephalitis, Powassan	2	5.0	2	1.3	3	0.2
Giardiasis	4	10.1	25	16.8	129	9.7
Gonorrhea	8	20.1	24	16.1	577	43.2
Group A <i>Streptococcus</i> , invasive	0	0.0	4	2.7	56	4.2
<i>Haemophilus influenzae</i> , invasive	0	0.0	5	3.4	34	2.5
Hemolytic uremic synd, postdiarrheal	0	0.0	0	0.0	2	0.1
Hepatitis A, acute	0	0.0	0	0.0	7	0.5
Hepatitis B, acute	3	7.5	5	3.4	77	5.8

Counts of confirmed and probable cases. Rates of confirmed and probable cases per 100,000 people.

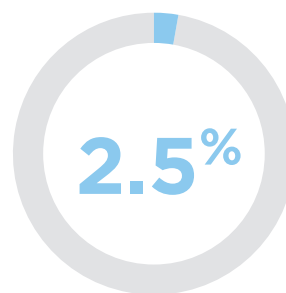
Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
Hepatitis B, chronic	4	10.1	9	6.0	179	13.4
Hepatitis C, acute	1	2.5	5	3.4	32	2.4
Hepatitis C, chronic	86	216.1	223	149.4	1876	140.4
HIV	0	0.0	0	0.0	29	2.2
Invasive Pneumococcal Disease	4	10.1	12	8.0	141	10.6
Jamestown Canyon virus, neuroinvasive disease	0	0.0	0	0.0	1	0.1
Jamestown Canyon virus, non-neuroinvasive disease	0	0.0	0	0.0	1	0.1
Latent TB Infection	1	2.5	5	3.4	647	48.4
Legionellosis	1	2.5	1	0.7	16	1.2
Listeriosis	1	2.5	1	0.7	5	0.4
Lyme disease	145	364.4	423	283.5	1848	138.3
Malaria	1	2.5	1	0.7	18	1.3
Measles ( <i>Rubeola</i> )	0	0.0	0	0.0	1	0.1
Mumps	0	0.0	0	0.0	1	0.1
<i>Neisseria meningitidis</i> , invasive (Meningococcal disease)	0	0.0	0	0.0	1	0.1
Pertussis	11	27.6	54	36.2	410	30.7
Rabies PEP	8	20.1	16	10.7	108	8.1
Rabies, animal	4	NA	15	NA	61	NA
<i>S. aureus</i> , methicillin resistant (MRSA), invasive	4	10.1	19	12.7	179	13.4
Salmonellosis	2	5.0	11	7.4	102	7.6
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	1	2.5	8	5.4	34	2.5
Shigellosis	0	0.0	0	0.0	13	1.0
Spotted Fever Rickettsiosis	0	0.0	0	0.0	3	0.2
Streptococcal toxic-shock syndrome	0	0.0	0	0.0	13	1.0
Syphilis	4	10.1	9	6.0	83	6.2
Tetanus	0	0.0	0	0.0	1	0.1
Tuberculosis	0	0.0	0	0.0	14	1.0
Varicella (Chickenpox)	5	12.6	22	14.7	198	14.8
Vibriosis	0	0.0	1	0.7	7	0.5
Zika virus disease, non-congenital	0	0.0	0	0.0	1	0.1

# Lincoln County



**34,204**

**Population**



**Of Maine's Total Population**

Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
<i>Anaplasma phagocytophilum</i>	95	277.7	289	193.7	663	49.6
Babesiosis	10	29.2	44	29.5	118	8.8
<i>Borrelia miyamotoi</i>	1	2.9	4	2.7	6	0.4
Brucellosis	0	0.0	0	0.0	1	0.1
Campylobacteriosis	5	14.6	35	23.5	234	17.5
Carbapenem-resistant Enterobacteriaceae (CRE)	3	8.8	8	5.4	58	4.3
Chikungunya Virus	0	0.0	0	0.0	1	0.1
<i>Chlamydia trachomatis</i> infection	81	236.8	444	297.6	4554	340.9
Cryptosporidiosis	0	0.0	6	4.0	45	3.4
Ehrlichiosis, <i>chaffeensis</i>	0	0.0	0	0.0	10	0.7
Ehrlichiosis/Anaplasmosis, undetermined	0	0.0	0	0.0	10	0.7
Emerging Infection	0	0.0	1	0.7	1	0.1
Encephalitis, Powassan	0	0.0	2	1.3	3	0.2
Giardiasis	10	29.2	25	16.8	129	9.7
Gonorrhea	2	5.8	24	16.1	577	43.2
Group A <i>Streptococcus</i> , invasive	2	5.8	4	2.7	56	4.2
<i>Haemophilus influenzae</i> , invasive	2	5.8	5	3.4	34	2.5
Hemolytic uremic synd, postdiarrheal	0	0.0	0	0.0	2	0.1
Hepatitis A, acute	0	0.0	0	0.0	7	0.5
Hepatitis B, acute	1	2.9	5	3.4	77	5.8

Counts of confirmed and probable cases. Rates of confirmed and probable cases per 100,000 people.

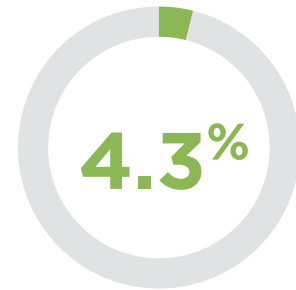
Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
Hepatitis B, chronic	1	2.9	9	6.0	179	13.4
Hepatitis C, acute	1	2.9	5	3.4	32	2.4
Hepatitis C, chronic	32	93.6	223	149.4	1876	140.4
HIV	0	0.0	0	0.0	29	2.2
Invasive Pneumococcal Disease	1	2.9	12	8.0	141	10.6
Jamestown Canyon virus, neuroinvasive disease	0	0.0	0	0.0	1	0.1
Jamestown Canyon virus, non-neuroinvasive disease	0	0.0	0	0.0	1	0.1
Latent TB Infection	1	2.9	5	3.4	647	48.4
Legionellosis	0	0.0	1	0.7	16	1.2
Listeriosis	0	0.0	1	0.7	5	0.4
Lyme disease	74	216.3	423	283.5	1848	138.3
Malaria	0	0.0	1	0.7	18	1.3
Measles ( <i>Rubeola</i> )	0	0.0	0	0.0	1	0.1
Mumps	0	0.0	0	0.0	1	0.1
<i>Neisseria meningitidis</i> , invasive (Meningococcal disease)	0	0.0	0	0.0	1	0.1
Pertussis	1	2.9	54	36.2	410	30.7
Rabies PEP	3	8.8	16	10.7	108	8.1
Rabies, animal	3	NA	15	NA	61	NA
<i>S. aureus</i> , methicillin resistant (MRSA), invasive	4	11.7	19	12.7	179	13.4
Salmonellosis	7	20.5	11	7.4	102	7.6
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	3	8.8	8	5.4	34	2.5
Shigellosis	0	0.0	0	0.0	13	1.0
Spotted Fever Rickettsiosis	0	0.0	0	0.0	3	0.2
Streptococcal toxic-shock syndrome	0	0.0	0	0.0	13	1.0
Syphilis	2	5.8	9	6.0	83	6.2
Tetanus	0	0.0	0	0.0	1	0.1
Tuberculosis	0	0.0	0	0.0	14	1.0
Varicella (Chickenpox)	1	2.9	22	14.7	198	14.8
Vibriosis	1	2.9	1	0.7	7	0.5
Zika virus disease, non-congenital	0	0.0	0	0.0	1	0.1

# Oxford County



**57,439**

Population



**4.3%**

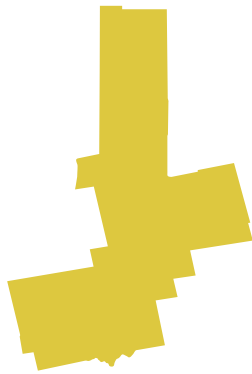
Of Maine's Total Population

Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
<i>Anaplasma phagocytophilum</i>	14	24.4	57	29.2	663	49.6
Babesiosis	3	5.2	9	4.6	118	8.8
<i>Borrelia miyamotoi</i>	0	0.0	1	0.5	6	0.4
Brucellosis	0	0.0	1	0.5	1	0.1
Campylobacteriosis	13	22.6	23	11.8	234	17.5
Carbapenem-resistant Enterobacteriaceae (CRE)	1	1.7	3	1.5	58	4.3
Chikungunya Virus	0	0.0	0	0.0	1	0.1
<i>Chlamydia trachomatis</i> infection	167	290.7	812	416.2	4554	340.9
Cryptosporidiosis	2	3.5	7	3.6	45	3.4
Ehrlichiosis, <i>chaffeensis</i>	0	0.0	2	1.0	10	0.7
Ehrlichiosis/Anaplasmosis, undetermined	0	0.0	6	3.1	10	0.7
Emerging Infection	0	0.0	0	0.0	1	0.1
Encephalitis, Powassan	0	0.0	0	0.0	3	0.2
Giardiasis	3	5.2	18	9.2	129	9.7
Gonorrhea	14	24.4	180	92.3	577	43.2
Group A <i>Streptococcus</i> , invasive	2	3.5	7	3.6	56	4.2
<i>Haemophilus influenzae</i> , invasive	2	3.5	4	2.1	34	2.5
Hemolytic uremic synd, postdiarrheal	0	0.0	0	0.0	2	0.1
Hepatitis A, acute	0	0.0	1	0.5	7	0.5
Hepatitis B, acute	2	3.5	3	1.5	77	5.8

Counts of confirmed and probable cases. Rates of confirmed and probable cases per 100,000 people.

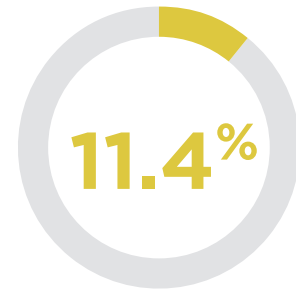
Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
Hepatitis B, chronic	3	5.2	28	14.4	179	13.4
Hepatitis C, acute	3	5.2	7	3.6	32	2.4
Hepatitis C, chronic	70	121.9	202	103.5	1876	140.4
HIV	1	1.7	2	1.0	29	2.2
Invasive Pneumococcal Disease	11	19.2	21	10.8	141	10.6
Jamestown Canyon virus, neuroinvasive disease	0	0.0	0	0.0	1	0.1
Jamestown Canyon virus, non-neuroinvasive disease	0	0.0	1	0.5	1	0.1
Latent TB Infection	3	5.2	242	124.1	647	48.4
Legionellosis	1	1.7	6	3.1	16	1.2
Listeriosis	0	0.0	0	0.0	5	0.4
Lyme disease	58	101.0	179	91.8	1848	138.3
Malaria	0	0.0	3	1.5	18	1.3
Measles ( <i>Rubeola</i> )	0	0.0	1	0.5	1	0.1
Mumps	0	0.0	0	0.0	1	0.1
<i>Neisseria meningitidis</i> , invasive (Meningococcal disease)	0	0.0	0	0.0	1	0.1
Pertussis	17	29.6	28	14.4	410	30.7
Rabies PEP	9	15.7	18	9.2	108	8.1
Rabies, animal	3	NA	8	NA	61	NA
<i>S. aureus</i> , methicillin resistant (MRSA), invasive	5	8.7	15	7.7	179	13.4
Salmonellosis	0	0.0	15	7.7	102	7.6
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	0	0.0	3	1.5	34	2.5
Shigellosis	0	0.0	6	3.1	13	1.0
Spotted Fever Rickettsiosis	1	1.7	1	0.5	3	0.2
Streptococcal toxic-shock syndrome	0	0.0	2	1.0	13	1.0
Syphilis	4	7.0	18	9.2	83	6.2
Tetanus	0	0.0	0	0.0	1	0.1
Tuberculosis	1	1.7	4	2.1	14	1.0
Varicella (Chickenpox)	2	3.5	13	6.7	198	14.8
Vibriosis	0	0.0	0	0.0	7	0.5
Zika virus disease, non-congenital	0	0.0	0	0.0	1	0.1

# Penobscot County



**151,957**

Population



Of Maine's Total Population

Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
<i>Anaplasma phagocytophilum</i>	6	3.9	6	3.6	663	49.6
Babesiosis	2	1.3	3	1.8	118	8.8
<i>Borrelia miyamotoi</i>	0	0.0	0	0.0	6	0.4
Brucellosis	0	0.0	0	0.0	1	0.1
Campylobacteriosis	13	8.6	16	9.5	234	17.5
Carbapenem-resistant Enterobacteriaceae (CRE)	2	1.3	2	1.2	58	4.3
Chikungunya Virus	0	0.0	0	0.0	1	0.1
<i>Chlamydia trachomatis</i> infection	583	383.7	620	367.5	4554	340.9
Cryptosporidiosis	6	3.9	9	5.3	45	3.4
Ehrlichiosis, <i>chaffeensis</i>	0	0.0	0	0.0	10	0.7
Ehrlichiosis/Anaplasmosis, undetermined	0	0.0	0	0.0	10	0.7
Emerging Infection	0	0.0	0	0.0	1	0.1
Encephalitis, Powassan	0	0.0	0	0.0	3	0.2
Giardiasis	11	7.2	13	7.7	129	9.7
Gonorrhea	53	34.9	55	32.6	577	43.2
Group A <i>Streptococcus</i> , invasive	7	4.6	7	4.1	56	4.2
<i>Haemophilus influenzae</i> , invasive	6	3.9	6	3.6	34	2.5
Hemolytic uremic synd, postdiarrheal	0	0.0	0	0.0	2	0.1
Hepatitis A, acute	2	1.3	2	1.2	7	0.5
Hepatitis B, acute	35	23.0	35	20.7	77	5.8

Counts of confirmed and probable cases. Rates of confirmed and probable cases per 100,000 people.



Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
Hepatitis B, chronic	26	17.1	27	16.0	179	13.4
Hepatitis C, acute	7	4.6	7	4.1	32	2.4
Hepatitis C, chronic	263	173.1	285	168.9	1876	140.4
HIV	7	4.6	7	4.1	29	2.2
Invasive Pneumococcal Disease	25	16.5	26	15.4	141	10.6
Jamestown Canyon virus, neuroinvasive disease	0	0.0	0	0.0	1	0.1
Jamestown Canyon virus, non-neuroinvasive disease	0	0.0	0	0.0	1	0.1
Latent TB Infection	3	2.0	3	1.8	647	48.4
Legionellosis	2	1.3	2	1.2	16	1.2
Listeriosis	0	0.0	0	0.0	5	0.4
Lyme disease	127	83.6	134	79.4	1848	138.3
Malaria	0	0.0	0	0.0	18	1.3
Measles ( <i>Rubeola</i> )	0	0.0	0	0.0	1	0.1
Mumps	1	0.7	1	0.6	1	0.1
<i>Neisseria meningitidis</i> , invasive (Meningococcal disease)	0	0.0	0	0.0	1	0.1
Pertussis	35	23.0	37	21.9	410	30.7
Rabies PEP	16	10.5	18	10.7	108	8.1
Rabies, animal	8	NA	8	NA	61	NA
<i>S. aureus</i> , methicillin resistant (MRSA), invasive	23	15.1	23	13.6	179	13.4
Salmonellosis	10	6.6	11	6.5	102	7.6
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	0	0.0	0	0.0	34	2.5
Shigellosis	0	0.0	0	0.0	13	1.0
Spotted Fever Rickettsiosis	0	0.0	0	0.0	3	0.2
Streptococcal toxic-shock syndrome	3	2.0	3	1.8	13	1.0
Syphilis	9	5.9	9	5.3	83	6.2
Tetanus	0	0.0	0	0.0	1	0.1
Tuberculosis	1	0.7	1	0.6	14	1.0
Varicella (Chickenpox)	36	23.7	41	24.3	198	14.8
Vibriosis	0	0.0	0	0.0	7	0.5
Zika virus disease, non-congenital	0	0.0	0	0.0	1	0.1

# Piscataquis County



**16,773**

Population



Of Maine's Total Population

Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
<i>Anaplasma phagocytophilum</i>	0	0.0	6	3.6	663	49.6
Babesiosis	1	6.0	3	1.8	118	8.8
<i>Borrelia miyamotoi</i>	0	0.0	0	0.0	6	0.4
Brucellosis	0	0.0	0	0.0	1	0.1
Campylobacteriosis	3	17.9	16	9.5	234	17.5
Carbapenem-resistant Enterobacteriaceae (CRE)	0	0.0	2	1.2	58	4.3
Chikungunya Virus	0	0.0	0	0.0	1	0.1
<i>Chlamydia trachomatis</i> infection	37	220.6	620	367.5	4554	340.9
Cryptosporidiosis	3	17.9	9	5.3	45	3.4
Ehrlichiosis, <i>chaffeensis</i>	0	0.0	0	0.0	10	0.7
Ehrlichiosis/Anaplasmosis, undetermined	0	0.0	0	0.0	10	0.7
Emerging Infection	0	0.0	0	0.0	1	0.1
Encephalitis, Powassan	0	0.0	0	0.0	3	0.2
Giardiasis	2	11.9	13	7.7	129	9.7
Gonorrhea	2	11.9	55	32.6	577	43.2
Group A <i>Streptococcus</i> , invasive	0	0.0	7	4.1	56	4.2
<i>Haemophilus influenzae</i> , invasive	0	0.0	6	3.6	34	2.5
Hemolytic uremic synd, postdiarrheal	0	0.0	0	0.0	2	0.1
Hepatitis A, acute	0	0.0	2	1.2	7	0.5
Hepatitis B, acute	0	0.0	35	20.7	77	5.8

Counts of confirmed and probable cases. Rates of confirmed and probable cases per 100,000 people.

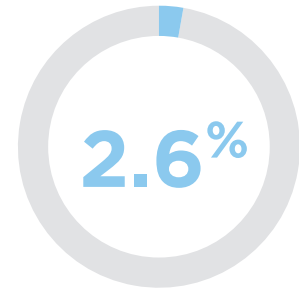
Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
Hepatitis B, chronic	1	6.0	27	16.0	179	13.4
Hepatitis C, acute	0	0.0	7	4.1	32	2.4
Hepatitis C, chronic	22	131.2	285	168.9	1876	140.4
HIV	0	0.0	7	4.1	29	2.2
Invasive Pneumococcal Disease	1	6.0	26	15.4	141	10.6
Jamestown Canyon virus, neuroinvasive disease	0	0.0	0	0.0	1	0.1
Jamestown Canyon virus, non-neuroinvasive disease	0	0.0	0	0.0	1	0.1
Latent TB Infection	0	0.0	3	1.8	647	48.4
Legionellosis	0	0.0	2	1.2	16	1.2
Listeriosis	0	0.0	0	0.0	5	0.4
Lyme disease	7	41.7	134	79.4	1848	138.3
Malaria	0	0.0	0	0.0	18	1.3
Measles ( <i>Rubeola</i> )	0	0.0	0	0.0	1	0.1
Mumps	0	0.0	1	0.6	1	0.1
<i>Neisseria meningitidis</i> , invasive (Meningococcal disease)	0	0.0	0	0.0	1	0.1
Pertussis	2	11.9	37	21.9	410	30.7
Rabies PEP	2	11.9	18	10.7	108	8.1
Rabies, animal	0	NA	8	NA	61	NA
<i>S. aureus</i> , methicillin resistant (MRSA), invasive	0	0.0	23	13.6	179	13.4
Salmonellosis	1	6.0	11	6.5	102	7.6
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	0	0.0	0	0.0	34	2.5
Shigellosis	0	0.0	0	0.0	13	1.0
Spotted Fever Rickettsiosis	0	0.0	0	0.0	3	0.2
Streptococcal toxic-shock syndrome	0	0.0	3	1.8	13	1.0
Syphilis	0	0.0	9	5.3	83	6.2
Tetanus	0	0.0	0	0.0	1	0.1
Tuberculosis	0	0.0	1	0.6	14	1.0
Varicella (Chickenpox)	5	29.8	41	24.3	198	14.8
Vibriosis	0	0.0	0	0.0	7	0.5
Zika virus disease, non-congenital	0	0.0	0	0.0	1	0.1

# Sagadahoc County



**35,392**

**Population**



**Of Maine's Total Population**

Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
<i>Anaplasma phagocytophilum</i>	46	130.0	289	193.7	663	49.6
Babesiosis	8	22.6	44	29.5	118	8.8
<i>Borrelia miyamotoi</i>	2	5.7	4	2.7	6	0.4
Brucellosis	0	0.0	0	0.0	1	0.1
Campylobacteriosis	7	19.8	35	23.5	234	17.5
Carbapenem-resistant Enterobacteriaceae (CRE)	1	2.8	8	5.4	58	4.3
Chikungunya Virus	0	0.0	0	0.0	1	0.1
<i>Chlamydia trachomatis</i> infection	119	336.2	444	297.6	4554	340.9
Cryptosporidiosis	3	8.5	6	4.0	45	3.4
Ehrlichiosis, <i>chaffeensis</i>	0	0.0	0	0.0	10	0.7
Ehrlichiosis/Anaplasmosis, undetermined	0	0.0	0	0.0	10	0.7
Emerging Infection	1	2.8	1	0.7	1	0.1
Encephalitis, Powassan	0	0.0	2	1.3	3	0.2
Giardiasis	4	11.3	25	16.8	129	9.7
Gonorrhea	8	22.6	24	16.1	577	43.2
Group A <i>Streptococcus</i> , invasive	2	5.7	4	2.7	56	4.2
<i>Haemophilus influenzae</i> , invasive	2	5.7	5	3.4	34	2.5
Hemolytic uremic synd, postdiarrheal	0	0.0	0	0.0	2	0.1
Hepatitis A, acute	0	0.0	0	0.0	7	0.5
Hepatitis B, acute	1	2.8	5	3.4	77	5.8

Counts of confirmed and probable cases. Rates of confirmed and probable cases per 100,000 people.

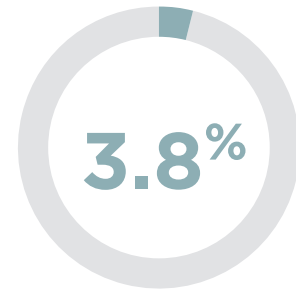
Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
Hepatitis B, chronic	0	0.0	9	6.0	179	13.4
Hepatitis C, acute	1	2.8	5	3.4	32	2.4
Hepatitis C, chronic	33	93.2	223	149.4	1876	140.4
HIV	0	0.0	0	0.0	29	2.2
Invasive Pneumococcal Disease	3	8.5	12	8.0	141	10.6
Jamestown Canyon virus, neuroinvasive disease	0	0.0	0	0.0	1	0.1
Jamestown Canyon virus, non-neuroinvasive disease	0	0.0	0	0.0	1	0.1
Latent TB Infection	3	8.5	5	3.4	647	48.4
Legionellosis	0	0.0	1	0.7	16	1.2
Listeriosis	0	0.0	1	0.7	5	0.4
Lyme disease	61	172.4	423	283.5	1848	138.3
Malaria	0	0.0	1	0.7	18	1.3
Measles ( <i>Rubeola</i> )	0	0.0	0	0.0	1	0.1
Mumps	0	0.0	0	0.0	1	0.1
<i>Neisseria meningitidis</i> , invasive (Meningococcal disease)	0	0.0	0	0.0	1	0.1
Pertussis	19	53.7	54	36.2	410	30.7
Rabies PEP	2	5.7	16	10.7	108	8.1
Rabies, animal	7	NA	15	NA	61	NA
<i>S. aureus</i> , methicillin resistant (MRSA), invasive	3	8.5	19	12.7	179	13.4
Salmonellosis	1	2.8	11	7.4	102	7.6
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	0	0.0	8	5.4	34	2.5
Shigellosis	0	0.0	0	0.0	13	1.0
Spotted Fever Rickettsiosis	0	0.0	0	0.0	3	0.2
Streptococcal toxic-shock syndrome	0	0.0	0	0.0	13	1.0
Syphilis	2	5.7	9	6.0	83	6.2
Tetanus	0	0.0	0	0.0	1	0.1
Tuberculosis	0	0.0	0	0.0	14	1.0
Varicella (Chickenpox)	6	17.0	22	14.7	198	14.8
Vibriosis	0	0.0	1	0.7	7	0.5
Zika virus disease, non-congenital	0	0.0	0	0.0	1	0.1

# Somerset County



**50,626**

Population



**3.8%**

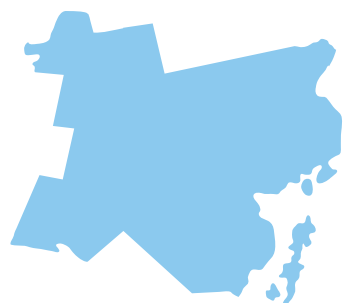
Of Maine's Total Population

Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
<i>Anaplasma phagocytophilum</i>	4	7.9	75	43.5	663	49.6
Babesiosis	2	4.0	17	9.9	118	8.8
<i>Borrelia miyamotoi</i>	0	0.0	0	0.0	6	0.4
Brucellosis	0	0.0	0	0.0	1	0.1
Campylobacteriosis	11	21.7	31	18.0	234	17.5
Carbapenem-resistant Enterobacteriaceae (CRE)	0	0.0	3	1.7	58	4.3
Chikungunya Virus	0	0.0	0	0.0	1	0.1
<i>Chlamydia trachomatis</i> infection	146	288.4	536	310.8	4554	340.9
Cryptosporidiosis	0	0.0	3	1.7	45	3.4
Ehrlichiosis, <i>chaffeensis</i>	1	2.0	3	1.7	10	0.7
Ehrlichiosis/Anaplasmosis, undetermined	0	0.0	3	1.7	10	0.7
Emerging Infection	0	0.0	0	0.0	1	0.1
Encephalitis, Powassan	0	0.0	0	0.0	3	0.2
Giardiasis	12	23.7	21	12.2	129	9.7
Gonorrhea	4	7.9	54	31.3	577	43.2
Group A <i>Streptococcus</i> , invasive	1	2.0	6	3.5	56	4.2
<i>Haemophilus influenzae</i> , invasive	1	2.0	3	1.7	34	2.5
Hemolytic uremic synd, postdiarrheal	0	0.0	0	0.0	2	0.1
Hepatitis A, acute	0	0.0	2	1.2	7	0.5
Hepatitis B, acute	1	2.0	5	2.9	77	5.8

Counts of confirmed and probable cases. Rates of confirmed and probable cases per 100,000 people.

Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
Hepatitis B, chronic	1	2.0	9	5.2	179	13.4
Hepatitis C, acute	2	4.0	4	2.3	32	2.4
Hepatitis C, chronic	61	120.5	139	80.6	1876	140.4
HIV	0	0.0	2	1.2	29	2.2
Invasive Pneumococcal Disease	11	21.7	27	15.7	141	10.6
Jamestown Canyon virus, neuroinvasive disease	0	0.0	1	0.6	1	0.1
Jamestown Canyon virus, non-neuroinvasive disease	0	0.0	0	0.0	1	0.1
Latent TB Infection	0	0.0	3	1.7	647	48.4
Legionellosis	0	0.0	2	1.2	16	1.2
Listeriosis	0	0.0	1	0.6	5	0.4
Lyme disease	90	177.8	356	206.4	1848	138.3
Malaria	0	0.0	0	0.0	18	1.3
Measles ( <i>Rubeola</i> )	0	0.0	0	0.0	1	0.1
Mumps	0	0.0	0	0.0	1	0.1
<i>Neisseria meningitidis</i> , invasive (Meningococcal disease)	0	0.0	0	0.0	1	0.1
Pertussis	3	5.9	40	23.2	410	30.7
Rabies PEP	4	7.9	26	15.1	108	8.1
Rabies, animal	6	NA	14	NA	61	NA
<i>S. aureus</i> , methicillin resistant (MRSA), invasive	7	13.8	33	19.1	179	13.4
Salmonellosis	1	2.0	8	4.6	102	7.6
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	3	5.9	5	2.9	34	2.5
Shigellosis	1	2.0	2	1.2	13	1.0
Spotted Fever Rickettsiosis	0	0.0	0	0.0	3	0.2
Streptococcal toxic-shock syndrome	0	0.0	1	0.6	13	1.0
Syphilis	2	4.0	9	5.2	83	6.2
Tetanus	1	2.0	1	0.6	1	0.1
Tuberculosis	0	0.0	0	0.0	14	1.0
Varicella (Chickenpox)	9	17.8	22	12.8	198	14.8
Vibriosis	0	0.0	2	1.2	7	0.5
Zika virus disease, non-congenital	0	0.0	0	0.0	1	0.1

# Waldo County



**39,832**

Population



Of Maine's Total Population

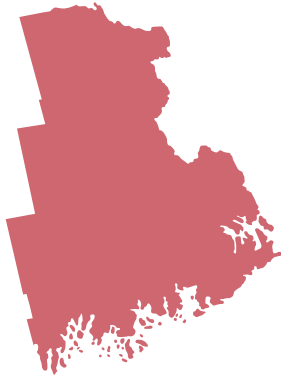
Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
<i>Anaplasma phagocytophilum</i>	38	95.4	289	193.7	663	49.6
Babesiosis	1	2.5	44	29.5	118	8.8
<i>Borrelia miyamotoi</i>	0	0.0	4	2.7	6	0.4
Brucellosis	0	0.0	0	0.0	1	0.1
Campylobacteriosis	8	20.1	35	23.5	234	17.5
Carbapenem-resistant Enterobacteriaceae (CRE)	1	2.5	8	5.4	58	4.3
Chikungunya Virus	0	0.0	0	0.0	1	0.1
<i>Chlamydia trachomatis</i> infection	86	215.9	444	297.6	4554	340.9
Cryptosporidiosis	2	5.0	6	4.0	45	3.4
Ehrlichiosis, <i>chaffeensis</i>	0	0.0	0	0.0	10	0.7
Ehrlichiosis/Anaplasmosis, undetermined	0	0.0	0	0.0	10	0.7
Emerging Infection	0	0.0	1	0.7	1	0.1
Encephalitis, Powassan	0	0.0	2	1.3	3	0.2
Giardiasis	7	17.6	25	16.8	129	9.7
Gonorrhea	6	15.1	24	16.1	577	43.2
Group A <i>Streptococcus</i> , invasive	0	0.0	4	2.7	56	4.2
<i>Haemophilus influenzae</i> , invasive	1	2.5	5	3.4	34	2.5
Hemolytic uremic synd, postdiarrheal	0	0.0	0	0.0	2	0.1
Hepatitis A, acute	0	0.0	0	0.0	7	0.5
Hepatitis B, acute	0	0.0	5	3.4	77	5.8

Counts of confirmed and probable cases. Rates of confirmed and probable cases per 100,000 people.



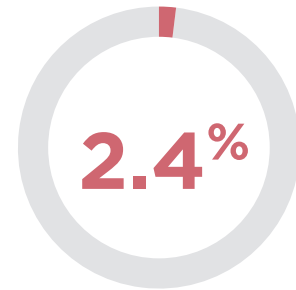
Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
Hepatitis B, chronic	4	10.0	9	6.0	179	13.4
Hepatitis C, acute	2	5.0	5	3.4	32	2.4
Hepatitis C, chronic	72	180.8	223	149.4	1876	140.4
HIV	0	0.0	0	0.0	29	2.2
Invasive Pneumococcal Disease	4	10.0	12	8.0	141	10.6
Jamestown Canyon virus, neuroinvasive disease	0	0.0	0	0.0	1	0.1
Jamestown Canyon virus, non-neuroinvasive disease	0	0.0	0	0.0	1	0.1
Latent TB Infection	0	0.0	5	3.4	647	48.4
Legionellosis	0	0.0	1	0.7	16	1.2
Listeriosis	0	0.0	1	0.7	5	0.4
Lyme disease	143	359.0	423	283.5	1848	138.3
Malaria	0	0.0	1	0.7	18	1.3
Measles ( <i>Rubeola</i> )	0	0.0	0	0.0	1	0.1
Mumps	0	0.0	0	0.0	1	0.1
<i>Neisseria meningitidis</i> , invasive (Meningococcal disease)	0	0.0	0	0.0	1	0.1
Pertussis	23	57.7	54	36.2	410	30.7
Rabies PEP	3	7.5	16	10.7	108	8.1
Rabies, animal	1	NA	15	NA	61	NA
<i>S. aureus</i> , methicillin resistant (MRSA), invasive	8	20.1	19	12.7	179	13.4
Salmonellosis	1	2.5	11	7.4	102	7.6
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	4	10.0	8	5.4	34	2.5
Shigellosis	0	0.0	0	0.0	13	1.0
Spotted Fever Rickettsiosis	0	0.0	0	0.0	3	0.2
Streptococcal toxic-shock syndrome	0	0.0	0	0.0	13	1.0
Syphilis	1	2.5	9	6.0	83	6.2
Tetanus	0	0.0	0	0.0	1	0.1
Tuberculosis	0	0.0	0	0.0	14	1.0
Varicella (Chickenpox)	10	25.1	22	14.7	198	14.8
Vibriosis	0	0.0	1	0.7	7	0.5
Zika virus disease, non-congenital	0	0.0	0	0.0	1	0.1

# Washington County



**31,593**

Population



Of Maine's Total Population

Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
<i>Anaplasma phagocytophilum</i>	2	6.3	26	30.2	663	49.6
Babesiosis	0	0.0	3	3.5	118	8.8
<i>Borrelia miyamotoi</i>	0	0.0	0	0.0	6	0.4
Brucellosis	0	0.0	0	0.0	1	0.1
Campylobacteriosis	1	3.2	15	17.4	234	17.5
Carbapenem-resistant Enterobacteriaceae (CRE)	1	3.2	4	4.6	58	4.3
Chikungunya Virus	0	0.0	0	0.0	1	0.1
<i>Chlamydia trachomatis</i> infection	81	256.4	172	199.8	4554	340.9
Cryptosporidiosis	0	0.0	2	2.3	45	3.4
Ehrlichiosis, <i>chaffeensis</i>	0	0.0	0	0.0	10	0.7
Ehrlichiosis/Anaplasmosis, undetermined	0	0.0	0	0.0	10	0.7
Emerging Infection	0	0.0	0	0.0	1	0.1
Encephalitis, Powassan	0	0.0	0	0.0	3	0.2
Giardiasis	1	3.2	6	7.0	129	9.7
Gonorrhea	5	15.8	12	13.9	577	43.2
Group A <i>Streptococcus</i> , invasive	0	0.0	3	3.5	56	4.2
<i>Haemophilus influenzae</i> , invasive	2	6.3	4	4.6	34	2.5
Hemolytic uremic synd, postdiarrheal	0	0.0	0	0.0	2	0.1
Hepatitis A, acute	0	0.0	2	2.3	7	0.5
Hepatitis B, acute	5	15.8	14	16.3	77	5.8

Counts of confirmed and probable cases. Rates of confirmed and probable cases per 100,000 people.

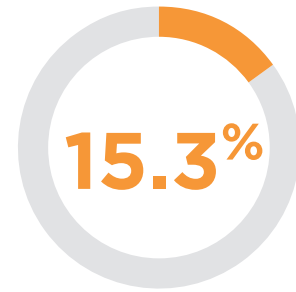
Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
Hepatitis B, chronic	3	9.5	8	9.3	179	13.4
Hepatitis C, acute	1	3.2	1	1.2	32	2.4
Hepatitis C, chronic	67	212.1	137	159.1	1876	140.4
HIV	2	6.3	4	4.6	29	2.2
Invasive Pneumococcal Disease	5	15.8	13	15.1	141	10.6
Jamestown Canyon virus, neuroinvasive disease	0	0.0	0	0.0	1	0.1
Jamestown Canyon virus, non-neuroinvasive disease	0	0.0	0	0.0	1	0.1
Latent TB Infection	2	6.3	2	2.3	647	48.4
Legionellosis	0	0.0	0	0.0	16	1.2
Listeriosis	1	3.2	1	1.2	5	0.4
Lyme disease	32	101.3	236	274.1	1848	138.3
Malaria	1	3.2	2	2.3	18	1.3
Measles ( <i>Rubeola</i> )	0	0.0	0	0.0	1	0.1
Mumps	0	0.0	0	0.0	1	0.1
<i>Neisseria meningitidis</i> , invasive (Meningococcal disease)	0	0.0	0	0.0	1	0.1
Pertussis	1	3.2	2	2.3	410	30.7
Rabies PEP	3	9.5	8	9.3	108	8.1
Rabies, animal	2	NA	3	NA	61	NA
<i>S. aureus</i> , methicillin resistant (MRSA), invasive	12	38.0	14	16.3	179	13.4
Salmonellosis	0	0.0	6	7.0	102	7.6
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	1	3.2	1	1.2	34	2.5
Shigellosis	0	0.0	0	0.0	13	1.0
Spotted Fever Rickettsiosis	0	0.0	0	0.0	3	0.2
Streptococcal toxic-shock syndrome	0	0.0	0	0.0	13	1.0
Syphilis	0	0.0	3	3.5	83	6.2
Tetanus	0	0.0	0	0.0	1	0.1
Tuberculosis	0	0.0	1	1.2	14	1.0
Varicella (Chickenpox)	2	6.3	10	11.6	198	14.8
Vibriosis	0	0.0	1	1.2	7	0.5
Zika virus disease, non-congenital	0	0.0	0	0.0	1	0.1

# York County



**204,191**

**Population**



**Of Maine's Total Population**

Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
<i>Anaplasma phagocytophilum</i>	108	52.9	108	52.9	663	49.6
Babesiosis	23	11.3	23	11.3	118	8.8
<i>Borrelia miyamotoi</i>	0	0.0	0	0.0	6	0.4
Brucellosis	0	0.0	0	0.0	1	0.1
Campylobacteriosis	43	21.1	43	21.1	234	17.5
Carbapenem-resistant Enterobacteriaceae (CRE)	13	6.4	13	6.4	58	4.3
Chikungunya Virus	1	0.5	1	0.5	1	0.1
<i>Chlamydia trachomatis</i> infection	617	302.2	617	302.2	4554	340.9
Cryptosporidiosis	3	1.5	3	1.5	45	3.4
Ehrlichiosis, <i>chaffeensis</i>	2	1.0	2	1.0	10	0.7
Ehrlichiosis/Anaplasmosis, undetermined	0	0.0	0	0.0	10	0.7
Emerging Infection	0	0.0	0	0.0	1	0.1
Encephalitis, Powassan	0	0.0	0	0.0	3	0.2
Giardiasis	9	4.4	9	4.4	129	9.7
Gonorrhea	70	34.3	70	34.3	577	43.2
Group A <i>Streptococcus</i> , invasive	6	2.9	6	2.9	56	4.2
<i>Haemophilus influenzae</i> , invasive	7	3.4	7	3.4	34	2.5
Hemolytic uremic synd, postdiarrheal	1	0.5	1	0.5	2	0.1
Hepatitis A, acute	0	0.0	0	0.0	7	0.5
Hepatitis B, acute	13	6.4	13	6.4	77	5.8

Counts of confirmed and probable cases. Rates of confirmed and probable cases per 100,000 people.

Condition	County		District		State	
	Count	Rate	Count	Rate	Count	Rate
Hepatitis B, chronic	21	10.3	21	10.3	179	13.4
Hepatitis C, acute	3	1.5	3	1.5	32	2.4
Hepatitis C, chronic	259	126.8	259	126.8	1876	140.4
HIV	5	2.4	5	2.4	29	2.2
Invasive Pneumococcal Disease	16	7.8	16	7.8	141	10.6
Jamestown Canyon virus, neuroinvasive disease	0	0.0	0	0.0	1	0.1
Jamestown Canyon virus, non-neuroinvasive disease	0	0.0	0	0.0	1	0.1
Latent TB Infection	16	7.8	16	7.8	647	48.4
Legionellosis	3	1.5	3	1.5	16	1.2
Listeriosis	1	0.5	1	0.5	5	0.4
Lyme disease	193	94.5	193	94.5	1848	138.3
Malaria	1	0.5	1	0.5	18	1.3
Measles ( <i>Rubeola</i> )	0	0.0	0	0.0	1	0.1
Mumps	0	0.0	0	0.0	1	0.1
<i>Neisseria meningitidis</i> , invasive (Meningococcal disease)	0	0.0	0	0.0	1	0.1
Pertussis	77	37.7	77	37.7	410	30.7
Rabies PEP	9	4.4	9	4.4	108	8.1
Rabies, animal	3	BA	3	NA	61	NA
<i>S. aureus</i> , methicillin resistant (MRSA), invasive	18	8.8	18	8.8	179	13.4
Salmonellosis	20	9.8	20	9.8	102	7.6
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	7	3.4	7	3.4	34	2.5
Shigellosis	5	2.4	5	2.4	13	1.0
Spotted Fever Rickettsiosis	1	0.5	1	0.5	3	0.2
Streptococcal toxic-shock syndrome	0	0.0	0	0.0	13	1.0
Syphilis	6	2.9	6	2.9	83	6.2
Tetanus	0	0.0	0	0.0	1	0.1
Tuberculosis	1	0.5	1	0.5	14	1.0
Varicella (Chickenpox)	23	11.3	23	11.3	198	14.8
Vibriosis	2	1.0	2	1.0	7	0.5
Zika virus disease, non-congenital	1	0.5	1	0.5	1	0.1

# Workgroup Summaries

## FOOD SAFETY WORKGROUP

The Maine Interagency Food Safety Workgroup is led by Maine CDC's Foodborne Disease Epidemiologist and is comprised of representatives from state and federal agencies involved in improving food safety in Maine (including, but not limited to, Maine Department of Marine Resources, Maine Department of Agriculture, Conservation, and Forestry, Maine Department of Education, United States Department of Agriculture (USDA), and the Food and Drug Administration (FDA)). These agencies collaborate to reduce the incidence of food and waterborne infectious diseases in the state, respond to foodborne and waterborne outbreaks, and work together to advance food safety initiatives. The Workgroup meets quarterly during the year to discuss the latest developments and cooperate to improve response and prevention. It occasionally holds trainings for its member agencies and invites industry members to meetings to discuss ways to resolve common issues.

The Workgroup and Maine CDC infectious disease epidemiologists met in Augusta in November 2017 for a half day foodborne tabletop exercise to test agencies abilities to work together to investigate and control a large simulated foodborne outbreak. The exercise focused on improving outbreak communication and efficiency. The Workgroup also completed a Memorandum of Understanding (MOU) that outlines the agencies roles and responsibilities during foodborne and waterborne disease outbreak investigations. Members of the Workgroup conducted several outbreak investigations over the course of the year. Several members of the Workgroup presented at various conferences and meetings throughout the year, including the Maine CDC Infectious Disease Conference in November 2017.

## INFLUENZA WORKGROUP

Maine's Influenza Workgroup meets quarterly to address current topics in influenza and other viral respiratory pathogens. The Workgroup is chaired by the Influenza Surveillance Coordinator and includes representatives from epidemiology, Public Health Preparedness, the Maine Immunization Program, the Health and Environmental Testing Laboratory, Maine Department of Agriculture, Conservation, and Forestry, and other relevant partners. The Workgroup coordinates surveillance and response to influenza and maintains and updates the Pandemic Influenza Plan. The Influenza Workgroup also sponsors a start of influenza season conference call for healthcare providers and labs to update them on new guidance, reporting requirements, and assistance available from the state. In December 2017, the Influenza Workgroup hosted an influenza tabletop exercise bringing together partners from animal health and human health.



## RABIES WORKGROUP

The Maine Rabies Workgroup meets quarterly to address current topics in statewide rabies prevention and management. The Workgroup, co-chaired by the State Epidemiologist and the State Veterinarian, is comprised of animal and human health representatives from local, state, and federal agencies whose mission is to control the spread of rabies, a fatal zoonotic disease that is endemic in Maine. Agencies and organizations that participate in the Workgroup include, but are not limited to, Maine CDC, Maine Department of Agriculture, Conservation and Forestry, Maine Department of Inland Fisheries and Wildlife, United States Department of Agriculture (USDA), and Maine Animal Control Association.

The Workgroup updated the Maine Rabies Management Guidelines when it published the 4th edition in 2017. It included updated guidance on the management of dogs, cats, and ferrets exposed to rabies from the National Association of Public Health Veterinarians' 2016 Compendium on Animal Rabies Prevention and Control. Members of the Workgroup provide training to town animal control officers regarding rabies biology and prevention and control of the disease in Maine. Workgroup members also participated in the oral rabies vaccine distribution effort by the USDA's Animal and Plant Health Inspection Service. The USDA distributes oral rabies vaccines in certain areas of the state with the goal to reduce the incidence of raccoon rabies in the state. The Workgroup also plans statewide events to promote awareness for annual World Rabies Day celebrations in September.



## VECTORBORNE WORKGROUP

Maine's Vectorborne Workgroup meets every other month to address current topics in vectorborne diseases, particularly related to ticks and mosquitoes. The Workgroup is chaired by the Vectorborne Epidemiologist and includes representatives from epidemiology, environmental health, the Health and Environmental Testing Laboratory, Maine Department of Agriculture, Conservation, and Forestry, Maine Department of Environmental Protection, Maine Department of Education, Maine Medical Center Research Institute, University of Maine Cooperative Extension, Maine Inland Fisheries and Wildlife, the Biodiversity Research Institute, pest control companies, and other relevant individuals. Subcommittees include the Wildlife Subcommittee which works on issues like deer density, the Messaging Committee which works on creating and standardizing information for common questions, and the Education Subcommittee which works on outreach. The Workgroup coordinates mosquito and tick surveillance within the state, and supports Lyme Disease Awareness Month in May. In 2017, the Messaging Committee launched a new tick messaging website with commonly asked questions, their answers and the references that back the answers up. This website can be viewed at [www.maine.gov/dhhs/tickfaq](http://www.maine.gov/dhhs/tickfaq).





# Use of Genotyping to Identify a Tuberculosis Outbreak

## MAINE 2016-2017

Maine is a low-incidence state for active tuberculosis (TB) cases with around 14-23 sporadic cases of active TB disease per year. Outbreaks of active TB disease in Maine are rare. In the past 15 years, Maine CDC identified three outbreaks: two in the homeless population and one in a long-term care facility.


### In Maine, a confirmed outbreak of TB is defined as follows:

- Two or more contacts are found to have active TB disease during a contact investigation and at least three of the genotypes (any combination of contacts and/or the initial case) are identical; OR
- Two or more patients with active TB disease occur within 2 years of each other, are not identified during a contact investigation, but are later found to have an epidemiologic link and identical genotypes.

Past outbreaks all had overt commonalities such as place of residence. When commonalities are not as apparent, genotyping can be a tool to determine which patients have TB that is genetically linked. Samples on all patients with culture positive TB are sent to the U.S. Centers for Disease Control and Prevention (US CDC) for genotyping. US CDC manages genotyping results in the Tuberculosis Genotyping Information Management System (TB GIMS), which also monitors and alerts states for clusters of identical genotypes.

Maine CDC's TB Control Program and Public Health Nursing (PHN) conduct contact investigations for all patients with infectious TB disease to identify and evaluate close contacts of each case patient. This includes administering Tuberculin Skin Tests (TST) and placing referrals for chest x-rays and provider evaluations if indicated.

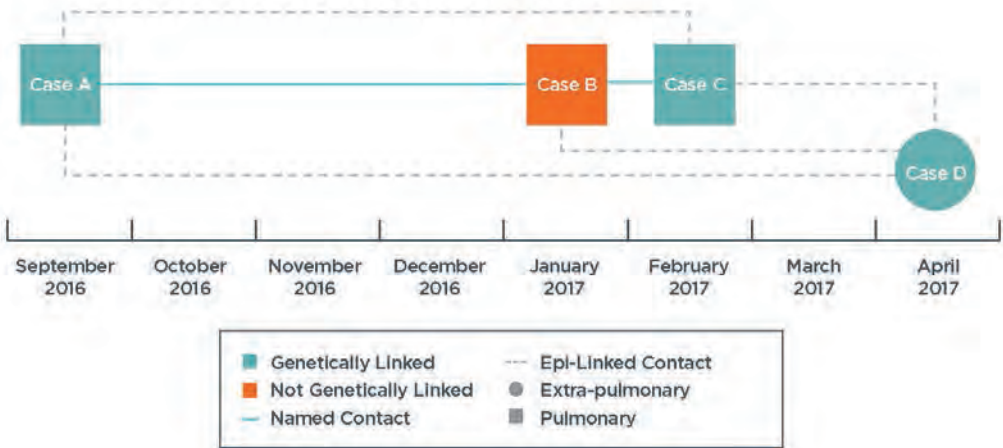
During September 2016 – February 2017 providers diagnosed three patients with active pulmonary TB (Cases A, B and C). The resulting contact investigations found that all three patients were of the same sex, nationality, social group, and HIV status, and all had a history of previous active TB disease. Maine CDC initially believed that these three patients constituted an outbreak of TB. However, TB genotyping showed that only two of the patients' isolates matched (Cases A and C) and therefore this was not an outbreak.



TB genotyping showed that only two of the patients' isolates matched and therefore this was not an outbreak.



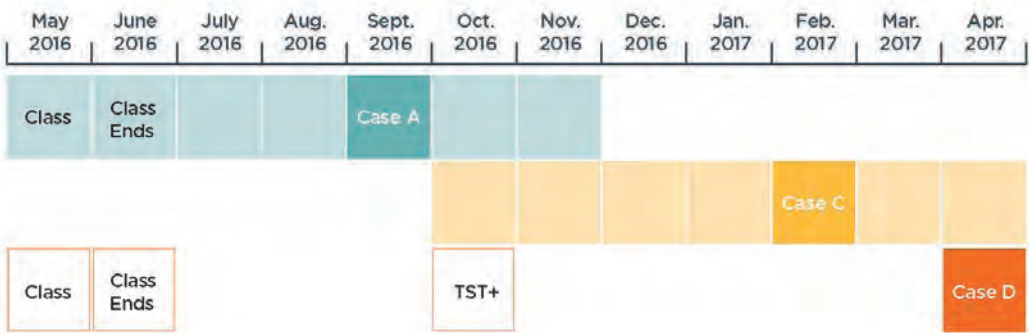
### Timeline for Diagnosis, Type of Association, and Site of Disease for Active TB Patients Linked to the Outbreak



In April of 2017 an employee of the hospital involved in the diagnosis of Cases A, B and C was diagnosed with non-infectious, extrapulmonary TB (Case D). However, Case D was not a known contact of Cases A, B and C. In May of 2017, genotyping results showed that Case D’s TB matched the TB genotype of Cases A and C. The only commonality of Case D with Cases A and C was gender. Case D had a documented negative TST in 2015 and documented TST conversion in 2016, which indicated recent TB infection.

While the hospital connection constituted an epidemiologic link, Maine CDC and PHN began to look for a more concrete exposure and determined that Case D had taken college courses with Case A while Case A was still infectious.

### Infectiousness Timeline



Dark shaded area: month diagnosed; Light shaded area: infectious period

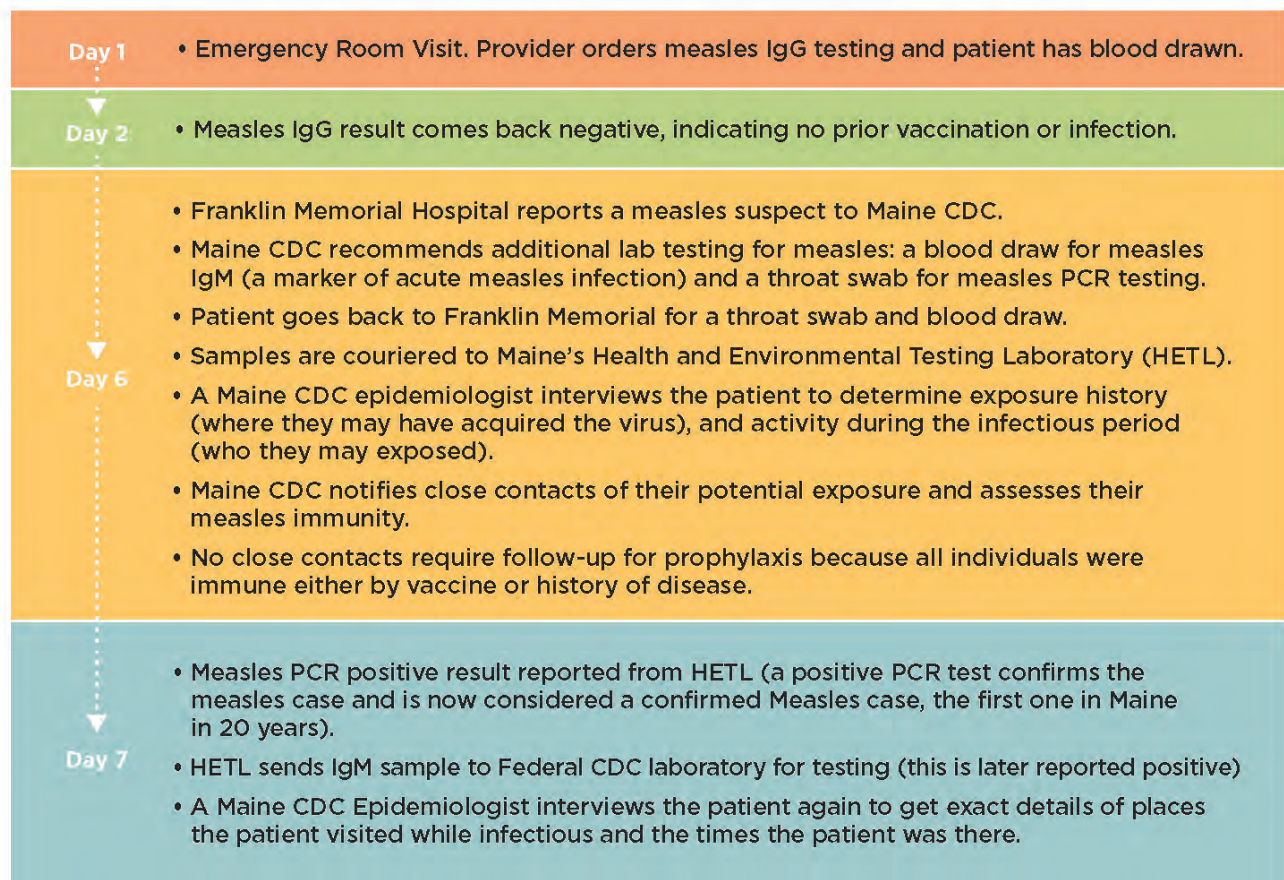
While genotyping initially ruled out an outbreak amongst a cluster of three patients with active pulmonary TB, it found an additional patient with extrapulmonary TB that otherwise would not have been associated with the cluster and enabled Maine CDC to confirm an outbreak of TB. The genotyping results also allowed Maine CDC to identify the outbreak source patient and expand the contact investigations to test previously unknown contacts. Genotyping can be a useful tool to confirm outbreaks and find additional outbreak-associated cases, especially when case patients may not remember or reveal their close contacts.

# Measles in Maine

In June 2017, Franklin Memorial Hospital alerted Maine Center for Disease Control and Prevention (Maine CDC) of a suspect measles case. The patient presented to the hospital emergency department (ED) with fever, sore throat, cough, and ear pain. The patient reported recent international travel and had flown into the United States nine days prior to illness onset. The patient also reported an epidemiological link to two family members who reportedly had measles during that time, though Maine CDC was unable to confirm the measles in family members. ED staff drew blood for measles serology and discharged the patient home. Two days later the patient presented to the ED again, complaining of a skin rash. The patient had fever, chills, sore throat, and a reported eye irritation. The clinical diagnosis at this time was measles.

Measles is a viral illness characterized by a cough, runny nose, inflamed eyes, sore throat, fever and a red, blotchy skin rash. Measles is very rare in the United States because of high vaccination rates and most of the cases that do occur originate from outside the country. Measles is spread to others through coughing and sneezing. Measles patients can spread the virus to others from four days before to four days after rash onset. Measles is extremely contagious because the virus can live for up to two hours in the air or on surfaces. It's estimated that 90% of unvaccinated close contacts of measles patients will get infected.

## Timeline of Measles Case, Laboratory Results and Maine CDC Action



Given the potential for transmission within the community, Maine CDC issued a press release to inform the public of their potential exposure to measles. The press release contained all public places the case visited during their infectious period (restaurants, movie theatre, etc.), as well as the specific timeframes in which exposure may have occurred. Maine CDC advised members of the public to review their medical records to assess immune status to measles and to call their health care provider if they developed any signs or symptoms of measles.

In addition to the press release, Maine CDC issued a Health Alert via the Health Alert Network (HAN). The HAN is a state system that sends information to all subscribed health care providers in Maine. Since measles is an extremely rare disease in Maine the goal of the measles HAN was to inform front line health care providers of the confirmed case of measles, remind providers of the appropriate specimen collection and laboratory testing for measles, reinforce the importance of prompt reporting to Maine CDC, and provide recommendations for control measures including vaccination.

Maine CDC monitored for additional cases of measles for two incubation periods (42 days). There were no additional cases reported to Maine CDC.

**Upon Maine CDC's evaluation of the investigation and response, there were a few takeaways to be noted:**



Early reporting of disease, or suspect disease, is important to establish an efficient and timely investigation



Establish a primary contact at the healthcare facility to ensure clear communication

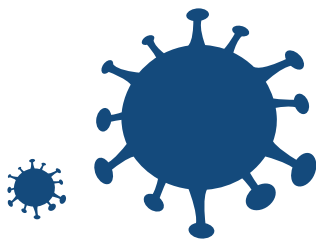


Keep healthcare providers in Maine informed

Maine CDC advised members of the public to review their medical records to assess immune status to measles and to call their health care provider if they developed any signs or symptoms of measles.

# Hepatitis B Vaccination Outreach Project

Maine saw a sharp increase in rates of hepatitis B and hepatitis C over the past few years. From 2013 to 2016 there was a 382% increase in the number of cases of acute hepatitis B and the 311% increase in the number of cases of acute hepatitis C. During this time, Maine CDC identified many individuals newly diagnosed with hepatitis B who had a previous hepatitis C diagnosis. Individuals with hepatitis C are known to be at high-risk for hepatitis B and should be vaccinated for hepatitis B. Vaccination against hepatitis B consists of three doses over a six-month period. There is no vaccine available for hepatitis C. Failure to vaccinate individuals who have hepatitis C against hepatitis B is a missed opportunity to prevent high-risk individuals from contracting hepatitis B.



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**382%**

Increase in acute hepatitis B  
from 2013 to 2016

**311%**

Increase in acute hepatitis C  
from 2013 to 2016

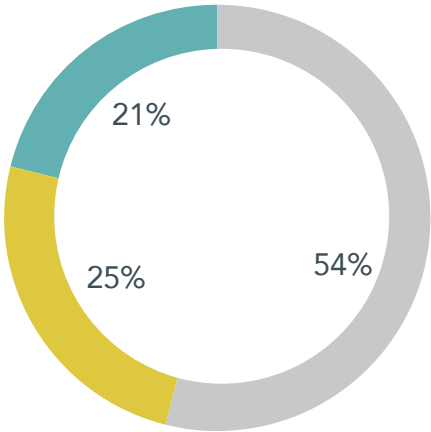
From October 2017 to January 2018, Maine CDC conducted a pilot program to increase hepatitis B vaccination rates among individuals with hepatitis C. Because hepatitis B and C are notifiable conditions, Maine CDC examined lab reports on a weekly basis to identify people newly reported with hepatitis C without immunity to hepatitis B by either vaccination or natural infection. Maine CDC's Infectious Disease Public Health Educator contacted patients' primary care providers and recommended vaccinating their patients for hepatitis B. The Public Health Educator made three calls to each patient's provider with the first call giving the recommendation and the second and third calls documenting progress and collecting information on why patients were not vaccinated. The second call occurred two weeks after the initial recommendation and the third call a month after the second call. The Public Health Educator sent each provider information on testing protocols for hepatitis. If the provider was unable to contact the patient, the Public Health Educator mailed the patient a hepatitis educational packet, recommended the patient start the hepatitis B vaccination series, and provided information on where the patient could get vaccinated.

At the end of the three-month program, 46% of all patients identified received at least one dose of hepatitis B vaccine.

A significant portion of these individuals received hepatitis testing at a hospital, which made finding their primary care provider and speaking to them about getting vaccinated more difficult. Overall, most individuals who spoke with their provider about getting vaccinated did begin the 3-dose series.

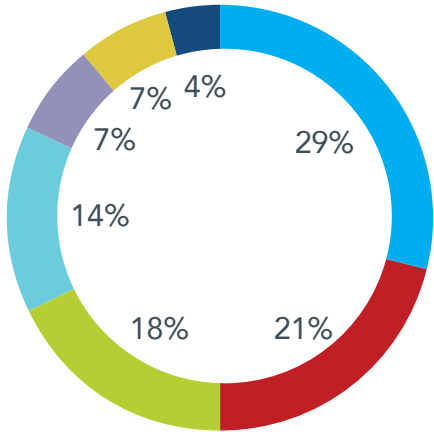
Maine CDC tracked the outcome of individuals that did not receive their first dose of hepatitis B vaccine, which included canceled or missed appointments, the inability of the provider to reach the patient, or an unknown primary care provider. Due to the success of this pilot program, Maine CDC will continue this project in an effort to increase hepatitis B vaccination rates among individuals with hepatitis C.

**Number of Hepatitis B Vaccine Doses Received as a Result of this Project**



- 0 doses received
- 1 dose received
- 2 doses received

**Outcome After 3 Calls for Individuals that did not Receive a Hepatitis B Vaccine**



- Appointment scheduled
- Patient no showed/cancelled appointment
- PCP unknown
- Provider unable to reach patient
- Provider did not attempt to contact the patient
- Patient refusal
- Death

# Maine's Ryan White Part B and AIDS Drug Assistance Program

The Ryan White Part B Program helps low-income people living with HIV (PLWH) in Maine fill gaps in care and treatment by providing a variety of services, depending on individual need, with the ultimate goal being the achievement and maintenance of viral suppression. The AIDS Drug Assistance Program helps low-income PLWH obtain and maintain access to prescription drugs to treat HIV and its related conditions by paying health insurance premiums, copays, deductibles, coinsurance, HIV-related lab tests, and the full cost of HIV-related drugs for those without insurance. The Ryan White Part B Program helps low-income PLWH access food, dental care, and housing. The Program also supports medical case management for those who do not qualify for other types of case management.

## Unduplicated People Living with HIV Utilizing Ryan White Part B Services 2015-2017

Service	2015	2016	2017
Dental assistance	183	180	279
Food assistance	497	522	579
Full-cost drugs	110	120	106
Housing assistance	168	199	257
Insurance premiums	208	190	240
Lab tests	14	20	24
Medical case management	87	90	97
Prescription wrap-around	626	602	544
Total utilizing members	882	923	939

PLWH who are virally suppressed (defined as a viral load of less than 200 copies/mL) are less likely to develop HIV-related complications, which leads to longer, healthier lives and less costly care and treatment. PLWH who are virally suppressed are much less likely to transmit the virus to others. The National HIV/AIDS Strategy calls for viral suppression among 80% of all PLWH in the U.S. by 2020. In 2017, 85% of people living with HIV who were enrolled in Maine's Ryan White Part B Program were virally suppressed as of the last result reported in 2017.



### Viral Suppression Among Ryan White Part B Enrollees by Public Health District 2017

District	Number Virally Suppressed	Number Enrolled	% Virally Suppressed
Aroostook	20	26	77%
Central	118	139	85%
Cumberland	346	393	88%
Downeast	49	64	77%
Mid Coast	60	66	91%
Penquis	70	88	80%
Western	119	144	83%
York	125	144	87%
<b>Overall</b>	<b>907</b>	<b>1,064</b>	<b>85%</b>

In 2017, 85% of people living with HIV enrolled in Maine's Ryan White Part B Program were virally suppressed.



# Shiga toxin-producing *E. coli* (STEC) in a Daycare Attendee

*E. coli* bacteria live in intestines of animals and people. Some strains produce a chemical toxin called “Shiga toxin.” There are many different serotypes, but O157 is most familiar; O26, O45, O103, O111, O121, and O145 are also common. The bacteria are spread by the fecal-oral route, through consumption of contaminated food or water, or contact with a contaminated environment.

Symptoms of *E. coli* infection include severe diarrhea (often bloody) and stomach cramps. Duration of shedding of the organisms can be varied and prolonged, even without symptoms. Hemolytic Uremic Syndrome (HUS) can develop in some; kidney dialysis and blood transfusions may be necessary.

In 2017, Maine CDC epidemiologists investigated 34 cases of STEC. Six of those were under six years of age.

In mid-May 2017, a previously well, 10-month old male infant had onset of diarrhea, occasionally bloody. The pediatric provider saw the child the following week and reviewed symptoms with the parents. The case had no fever and no rash at time of the visit. Parents collected stool on May 22, 2017 and submitted the sample to the local hospital lab for testing. The provider ordered a stool culture, parasite screen, and full ova and parasite exam.

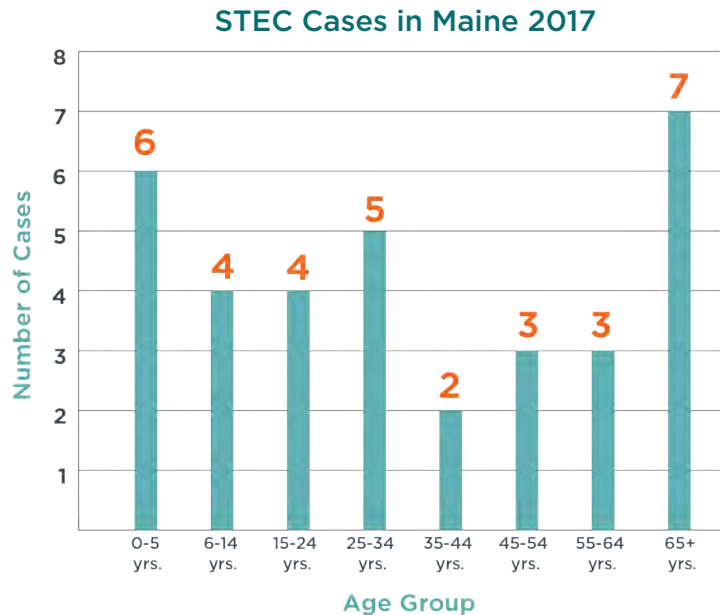
The hospital lab reported Shiga toxin 1 (STX-1) to Maine CDC within 48 hours of specimen collection. The stool culture was negative for Salmonella, Shigella, Campylobacter, and Aeromonas. The laboratory submitted the broth to the Maine Health and Environmental Testing Lab (HETL) for Shiga toxin confirmation and serogroup determination as required by the notifiable conditions rule and investigation protocol.

Maine CDC initiated an investigation upon report and interviewed the provider. The provider had not treated the child with antibiotics for current symptoms, and he identified the child as a daycare attendee. Spread of STEC in daycare settings can have grave consequences, with children under 5 years of age being at greatest risk of developing hemolytic uremic syndrome if infected. Maine CDC conducted a preliminary interview with parents and obtained recent food history. The case was breast-fed with recent introduction of some solid foods including commercially prepared organic baby foods, and small tastes of family meals including egg, chicken breast, beef, various vegetables, fruits, berries, and yogurt. The family had a domestic cat and a dog at home but the child had no contact with livestock, poultry, or reptiles. There was no exposure to animal venues, no travel, and no recreational water exposure. The parent interview concluded with a recommendation that the child not return to daycare pending confirmation of STX-1 at HETL. Neither parent worked in a high risk setting or had symptoms, so no restrictions were necessary for the rest of the family.



HETL confirmed STX-1 and began the serogroup identification process. Maine CDC staff recommended the following:

- Child must remain out of daycare until 2 stools collected at least 24 hours apart are negative for Shiga toxin-producing *E. coli* (STEC)
- Primary care provider/parents would collect required specimens and coordinate with hospital lab to submit them to HETL
- Maine CDC notified the daycare director and sent a letter to all staff and parents of attendees, informing them that there was a case of STEC in the daycare.
- Daycare recommendations included:
  - Strict hand hygiene
  - Environmental sanitation
  - Review of food hygiene practices
  - Gloves for diaper changes
  - Increased surveillance for diarrheal illness
  - Exclude and test any attendees or staff with diarrhea



HETL confirmed *E. coli* O103 nonmotile and the child's symptoms resolved after 2 weeks. The parents collected a total of 29 stool specimens daily until July 5, 2017, except during the family vacation week. Twenty-four of those consecutive specimens were Shiga toxin positive and culture confirmed. The next three specimens tested negative, and the final two did not require testing. On July 6, 2017, Maine CDC notified the family, pediatrician, and daycare of negative tests and sent a letter allowing the child's return to daycare.

STEC was shed/carried by this case for more than five weeks, and presented challenges in timing of specimen collection and logistics of appropriate transport. Hours of lab operation and test turnaround time were also factored into the investigation. The multiple positive lab results extended the exclusion from daycare, and the resulting parental time off from work proved cumbersome after such a lengthy period.

Prompt reporting of this notifiable condition by the hospital lab enabled Maine CDC to make exclusions in a timely manner. Parental cooperation in specimen collection, the daycare's practice review, and adherence to recommendations were key factors in protecting the health of vulnerable children and adults. Maine CDC did not identify any new cases of STEC at the daycare during this investigation.

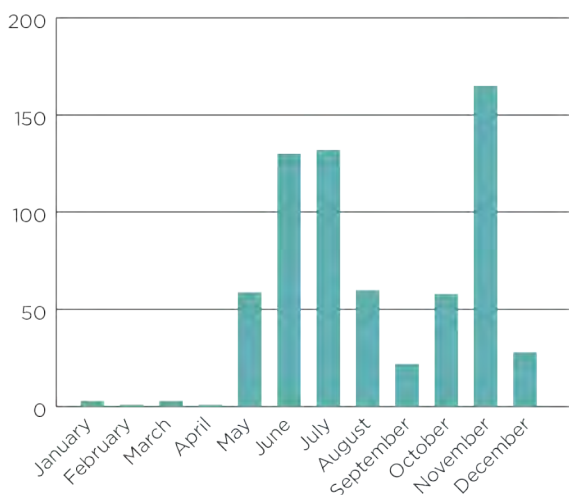
# Vectorborne Disease Update

Vectorborne diseases are infections spread by the bite of infected arthropod species, such as mosquitoes or ticks. Maine CDC monitors and investigates vectorborne diseases to identify changes in geographic distribution and to make preventive recommendations to the public. In 2017, Maine CDC noted a significant increase in the number of reported anaplasmosis cases, more Powassan cases compared to previous years, and investigated the first cases of the arboviral disease Jamestown Canyon virus.

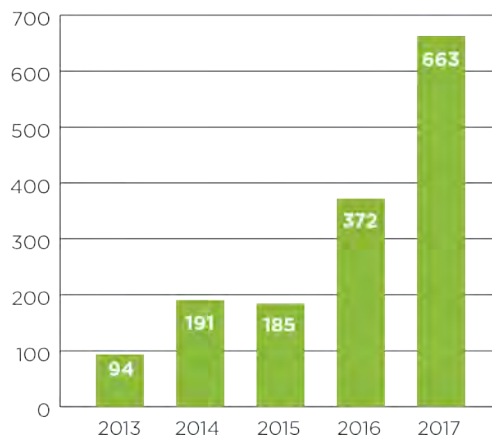
## THE RISE OF ANAPLASMOSIS

In 2017, there were two distinct peaks in reported anaplasmosis cases: one during the summer and one in late fall (Figure 1). This correlates to the peaks of tick populations in Maine. Adult deer ticks are abundant in spring and fall, while nymph deer ticks are most abundant during the late spring and summer. Ticks can be active at any time temperatures are above freezing. Deer ticks in the nymph stage are very small, and can often be missed during personal tick checks, leading to the possibility of increased illness.

**Figure 1: 2017 Anaplasmosis Cases by Month of Report (N = 663)**



**Figure 2: Reported Anaplasmosis Cases Maine 2013 - 2017**



In 2017, the number of reported anaplasmosis cases increased significantly compared to previous years (Figure 2). Possible reasons for this increase in the number of anaplasmosis cases include an increase in public and health care provider awareness of these diseases, improved laboratory screening, increased rate of testing, behavioral and environmental factors, and an increased proportion of infected ticks.

Anaplasmosis can sometimes cause severe illness, especially in people with compromised immune systems. Of the cases of anaplasmosis infections reported in 2017, 26.7% reported hospitalization, and 5.1% experienced severe clinical complications. There were no deaths attributed to anaplasmosis in 2017.

**TABLE 1: SYMPTOMS REPORTED FOR ANAPLASMOSIS CASES  
2017**

	<b>Not Hospitalized</b>	<b>Hospitalized</b>	<b>Total</b>
Headache	277 (57%)	57 (32%)	334 (51%)
Muscle Aches	354 (73%)	87 (49%)	441 (67%)
Rash	39 (8%)	6 (3%)	45 (7%)
Elevated Hepatic Transaminases	135 (28%)	98 (55%)	233 (35%)
Anemia	49 (10%)	63 (36%)	112 (17%)
Thrombocytopenia	166 (34%)	129 (73%)	295 (45%)
Leukopenia	139 (29%)	93 (53%)	232 (35%)
<b>TOTAL</b>	<b>484</b>	<b>177</b>	<b>663</b>

### Powassan virus

Powassan virus disease, which is spread by the bite of an infected deer or woodchuck tick, was first identified in Maine in 2000 but is still uncommon. Many people who become infected with Powassan do not show any symptoms, but some infections can cause severe illness. In 2017, Maine CDC investigated 3 confirmed cases of Powassan. Maine CDC previously investigated one case of Powassan virus disease each in 2015 and 2016. Testing for Powassan virus usually occurs in people with severe symptoms like encephalitis, so Powassan virus disease may be underdiagnosed.

### Jamestown Canyon virus (JCV)

Mosquito-borne diseases are rarely reported in Maine. Most people infected with mosquito-borne diseases will have no symptoms. However, in some instances, mosquito-borne diseases can cause serious illness.

In 2017, Maine CDC investigated two confirmed cases of Jamestown Canyon virus (JCV) in Maine residents. These are the first two cases of JCV identified in Maine. Providers submitted samples for Powassan testing, and after testing negative at Maine's Health and Environmental Testing Laboratory (HETL) for Deer Tick virus and Powassan by PCR, and Eastern Equine Encephalitis, Saint Louis Encephalitis, and West Nile virus by serology; HETL forwarded the samples to CDC Fort Collins for additional Powassan serologic testing. CDC Fort Collins performs regional arboviral screening tests and both individuals tested positive for JCV, and were subsequently confirmed. JCV is a disease that can be carried by multiple mosquito species, including mosquito species found in Maine. Reported cases of JCV are rare throughout the U.S., but testing is uncommon so it is likely underdiagnosed.

## PREVENTION

Maine residents can reduce the risk of contracting vectorborne diseases by being aware of tick and mosquito habitats, wearing protective clothing, using personal repellent, and performing daily tick checks on yourself, your family, and your pets when they come inside. For more information, please visit the Maine CDC ID epi page at <https://maine.gov/idepi>.

## Foodborne Outbreak Tabletop Exercise

On November 16, 2017, Maine CDC infectious disease epidemiologists and state and federal food safety partners participated in a half day tabletop exercise simulating a large foodborne outbreak in Maine. The Maine CDC Foodborne Disease Epidemiologist, members of the Maine Food Safety Workgroup, and Maine CDC Public Health Preparedness designed the tabletop exercise which was held in Augusta. The scenario simulated an intentional foodborne outbreak affecting a population attending a school and agriculture fair which resulted in multiple cases of Shiga toxin producing *E. coli* infections. The participants took part in three planned modules designed to generate discussion about the outbreak investigation process and appropriate timely responses in an outbreak investigation.

### The goals of the exercise were to:

- Test foodborne outbreak multi-agency response and protocols
- Collaborate with law enforcement and other partners in a simulated response to an intentional foodborne outbreak
- Assess public messaging and processes for disseminating timely, accurate, and useful information

**Participant agencies and programs included, but were not limited to:** Maine CDC, Maine Department of Agriculture, Conservation, and Forestry, Maine Department of Marine Resources, Maine Department of Education, University of Maine Cooperative Extension, United States Department of Agriculture, Food and Drug Administration, Maine State Police, and Federal Bureau of Investigation.

Lessons learned and feedback received from this tabletop exercise assist the Maine Food Safety Workgroup with planning improvements in outbreak response strategies as well as further defining roles and responsibilities of agencies and programs involved in foodborne outbreak investigations in Maine.



# Influenza Tabletop Exercise

Maine Center for Disease Control and Prevention's Influenza Workgroup sponsored a one day tabletop exercise "Can't Flu Me" on December 13, 2017. The Maine Influenza Workgroup and invited partners met to assess the adequacy of the State of Maine's Pandemic Influenza Plan. The Pandemic Influenza Plan outlines multiple agency responsibilities in the event of an influenza pandemic.

The scenario involved facing a potential introduction of avian influenza into both humans and animals in the State of Maine, and required players to face an ever-worsening situation. The scenario progressively deteriorated to include both human and non-human fatalities and the potential for pandemic spread of a novel virus strain.

## The primary objectives were to:

- Identify shortfalls in resources, limits in capabilities, and conflicts in planning across multiple departments and agencies
- Exercise the decision-making process and identify areas needing refinements
- Test and evaluate key concerns that prompt the response effort for potential activation of the Public Health Emergency Operations Center (EOC)
- Demonstrate abilities to establish emergency operations coordination and ability to communicate with multijurisdictional partners and the public
- Assess the ability of the Maine CDC Epidemiology and Public Health Emergency Preparedness (PHEP) programs to respond to a potential Medical Surge Incident
- Validate the Maine CDC's ability to coordinate and conduct epidemiologic surveillance and investigation in response to a biological event in coordination with the public health laboratory.

**As a result of this exercise, the Influenza Workgroup will:** develop a Zoonotic Annex for the State of Maine's Pandemic Influenza Plan; update the State of Maine's Pandemic Influenza Plan with current position titles; develop plans to routinely assess and document staff training and include Incident Command System (ICS) and National Incident Management System (NIMS) Training as requirements for response elements/agencies; strengthen communication to and between Maine Public Health EOC and Maine (Maine State) MEMA EOC; and develop additional standardized messaging and communications for use in an influenza pandemic.



The Pandemic Influenza Plan outlines multiple agency responsibilities in the event of an influenza pandemic.

## Rabies Consultations

Animal rabies is endemic in Maine. In 2017, Maine’s Health and Environmental Testing Laboratory (HETL) and USDA APHIS tested a total of 991 animals for rabies and 67 animals tested positive (*Table 1*). However, this represents a small sample of the true number of animals with rabies. The prevalence of animal rabies in Maine is unknown, as all wild animals are not tested for rabies. Maine CDC recommends that only wild animals that bite a person or domestic animal, and domestic animals that bite a person and cannot be quarantined, should be submitted for rabies testing at the Health and Environmental Testing Laboratory (HETL). USDA APHIS Wildlife Services also tests a small number of wild animals each year.

In addition to the people or pets exposed to the rabid animals above, many more potential rabies exposures occurred where the animal could not be tested. Maine CDC epidemiologists are available 24/7 to provide recommendations following exposures to domestic and wild animals, including testing animals for rabies, guidance on periods of observation and quarantine for domestic animals, and protocols for administering post-exposure prophylaxis (PEP) with rabies vaccine and rabies immune globulin (RIG). This service is intended to help prevent human cases of rabies in Maine. The last case of human rabies in Maine occurred in 1937.

In 2017, Maine CDC received 1,025 calls from healthcare providers, animal professionals, and the public on the following topics:

### EXPOSURES TO WILD ANIMALS

The majority of calls were regarding people and pets with exposure to bats. Several calls were about people, including children, who handled or attempted to rehabilitate wild animals (baby otters, bats, skunks, raccoons, voles, and moles). These cases required euthanasia and testing of the wild animals and in some cases, PEP for the exposed persons. There were also many cases of people and pets bitten or scratched by wild animals, including foxes, weasels, woodchucks, coyotes, raccoons, bobcats, and monkeys. In these instances, the wild animals were euthanized and submitted for rabies testing if the body was available; Maine CDC recommended PEP when the animal tested positive or could not be captured. Maine CDC recommended that exposed pets receive a rabies vaccine booster and go through a period of observation or quarantine, depending on the pet’s vaccine history. Maine CDC received over 20 calls about bites from small rodents, such as mice, rats, squirrels, and chipmunks, though these animals do not usually carry rabies and exposures rarely require testing or PEP.

### EXPOSURES TO DOMESTIC ANIMALS

Bites from owned dogs and cats and feral cats represented a significant proportion of rabies consultations. These included children severely injured or killed and situations in which domestic animals bit animal professionals, home support staff, delivery persons, and others who provide in-home services while working. In most cases, bite victims could identify the animal and owner so that an animal control officer could enforce laws regarding animal vaccine and a 10-day quarantine, which eliminated the need for PEP. However, many

**Table 1. Number of Animals that Tested Positive for Rabies at HETL and USDA APHIS – Maine, 2017**

Animal	Number
Bat	8
Fox	8
Raccoon	31
Skunk	20
<b>Total</b>	<b>67</b>



calls were about bites from animals that could not be located and when PEP should be given in these situations. Maine CDC recommended owners submit ill farm animals suspected of having rabies. Owners submitted sheep, goats, horses, cows, alpaca, and pigs for rabies testing but all were negative.

## VACCINE QUESTIONS

Rabies PEP consists of rabies vaccine and, for persons with no previous rabies vaccine, rabies immune globulin (RIG). Immune globulin is dosed by weight and multiple injections are needed. Rabies vaccine requires four doses administered over the course of two weeks. A fifth dose is sometimes required. While these guidelines are clear, Maine CDC received many calls to discuss unusual circumstances and deviations from the recommended vaccine schedule. Several calls were also from animal professionals or travelers about where to obtain pre-exposure rabies vaccine and titer checks.

### Most of the animal exposures and need for post-exposure prophylaxis could be prevented by following these rules:



Vaccinate dogs and cats (including indoor cats) against rabies.



Do not feed or attempt to domesticate feral cats.



Keep dogs on a leash.



Never leave children unattended in the presence of any animal, even trusted family pets.



Do not approach, feed, or attempt to rehabilitate animals, even if they appear injured or do not look sick. Call an animal professional, such as your local animal control officer or game warden instead.



If bitten, contact the animal control officer (domestic animals) or game warden (wild animal) to locate the animal and submit for testing, if indicated. Seek immediate medical attention for wound cleaning, infection prevention, and tetanus vaccine. PEP may need to be started immediately in some cases such as severe wounds or bites to the head/neck. Some animal bites, such as those from monkeys or rats require assessment for possible exposure to other infectious diseases.



Bats that bite a person or pet should be safely captured and submitted for rabies testing. Bats should also be tested if they are found in a room with an unattended child or pet or a deeply sleeping or intoxicated adult. If a bat is unable to be tested, Maine CDC should be consulted to determine if post-exposure vaccine is needed.



Consider getting pre-exposure rabies vaccine before traveling abroad or if you are an animal professional.

Maine CDC and Maine Department of Agriculture, Conservation, and Forestry, together with the Maine Rabies Workgroup, updated the Maine Rabies Management Guidelines for 2017. To review these guidelines and other resources, please visit <http://www.maine.gov/dhhs/mecdc/infectious-disease/epi/zoonotic/rabies/>.

# 2017 HIV and Sexually Transmitted Diseases (STD) Updates

## DRAMATIC RISE IN GONORRHEA AND SYPHILIS

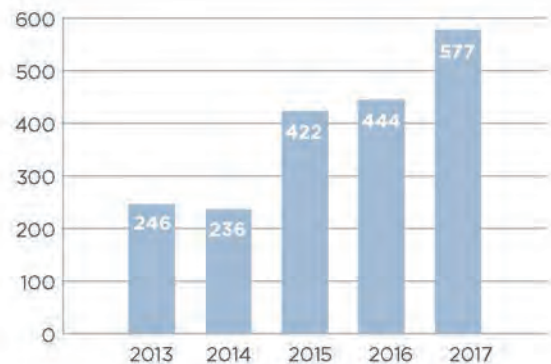
During 2017, Maine continued to see confirmed case counts of gonorrhea and syphilis that were well above five-year medians. It is unclear what exactly is driving this increase in STD rates – increased transmission, improved surveillance, or increased testing of at-risk populations. Nationally, STD case counts have increased as well. The most recent STD data available nationally is for 2016, and it showed:

- a 18.5% increase in the number of gonorrhea cases, and
- a 17.6% increase in the number of syphilis cases, all since 2015.

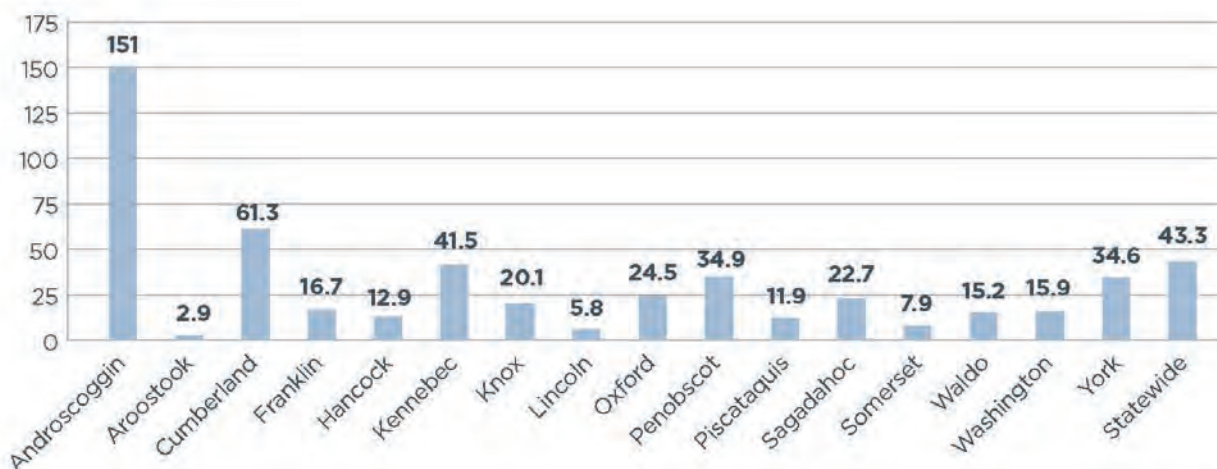
### Gonorrhea

Gonorrhea rates rose 30% between 2016 and 2017, from 33.3 per 100,000 to 43.3 per 100,000. Androscoggin county had the highest case rate in Maine, increasing dramatically from 2016 to 2017; in 2016, the case rate was 69.9 per 100,000 in 2016 and rose to 151.0 per 100,000 in 2017. Statewide, most cases were males (63%). The median age of cases was 28 years, and the age range was 14 to 69 years old. Ninety five percent of cases received treatment.

**Figure 1: Reported Gonorrhea Cases, Maine 2013 - 2017**



**Figure 2: Gonorrhea Rates per 100,000 persons, Maine counties, 2017**





## Syphilis

Published syphilis reports in Maine include counts and rates for the infectious stages of syphilis i.e. primary, secondary, and non-primary/non-secondary (formerly early latent) syphilis. Rates of infectious syphilis increased 80% between 2016 and 2017, going from 3.5 per 100,000 in 2016 to 6.3 per 100,000 in 2017. Females made up a greater percentage of cases in 2017 as compared to 2016, increasing to 14% of cases in 2017 from 6% in 2016. All cases received treatment for their infection.

## HIV/STD PREVENTION SERVICES

### Partner Services

All cases of HIV, gonorrhea and syphilis are offered Partner Services to help prevent transmission of disease and increase treatment rates. Partner Services involves interviewing the case patient, eliciting information on sexual partners and others deemed to be at risk, and connecting those identified to testing and/or treatment. Partner Services, provided by trained disease intervention specialists, also aims to make sure case patients receive appropriate treatment for their diagnoses. Services identified over 300 individuals at risk for HIV/STD infection and attempted to connect those persons to testing and treatment services.

### HIV and STD Testing

In 2017, the program funded 1,919 HIV tests resulting in five newly diagnosed individuals, and 2,365 combination Chlamydia / Gonorrhea screening tests resulting in 210 new Chlamydia diagnoses and 94 new Gonorrhea diagnoses. The program funded 574 syphilis screenings (RPR) resulting in 52 positive results. Not all positive tests result in a newly diagnosed person, but screening and testing is important for known cases to determine the stage of disease and to ensure that treatment is successful. These numbers only reflect the screening results for services funded through the program and does not reflect efforts through other clinics or providers. See specific disease information for total statewide counts.

# Emerging Threat: *Candida auris*

*Candida auris* is an emerging multi-drug resistant fungus that presents a serious health threat for the people of Maine.

## THE THREAT:

- Most labs do not speciate yeast, and existing laboratory identification methods may misidentify *C. auris* as another *Candida* spp. Thus, infection or colonization may go unrecognized, increasing risk of transmission.
- Colonization of close contacts is likely and colonization can persist for a long time, posing long-term risk of transmission.
- Multi-drug Resistance
  - 93% resistance to fluconazole.
  - 35% resistance to amphotericin B.
  - 7% resistance to echinocandins.
  - 41% resistance to 2 antifungal classes.
  - 4% resistance to all 3 antifungal classes.
- *C. auris*-related mortality is 30-60%.
- Potential for outbreaks is high.
  - Risk of unrecognized colonization or infection.
  - Commonly used disinfectants are not sufficiently effective against *C. auris*.
  - *C. auris* can survive on surfaces for several weeks.
- *C. auris* is spreading quickly
  - First isolate identified in Japan in 2009.
  - Now in 19 countries, including USA.
- Healthcare organizations should not wait until Maine is on the map to take action. The challenges of *C. auris* identification imply undetected and underreported cases. Take action today:
  - Promote and practice good hand hygiene.
  - Admission screen procedures should include questions to help identify a history of infection or colonization, or risk factors (e.g. hospitalization outside of USA, immunocompromised, extensive healthcare exposure).
  - Use Contact Precautions for suspected or confirmed cases of *C. auris*.
  - Know your facility's laboratory yeast identification methodology and how a suspect case of *C. auris* would be identified.
  - Review your facility environmental disinfection products. A sporicidal agent is recommended for those with *C. auris* colonization or infection.
  - Inter-facility communication is critical to minimize potential transmission when patients are transferred between facilities.

**Healthcare facilities should notify Maine CDC at 1-800-821-5821 when:**



There is a suspected or confirmed case of *C. auris*.



A *C. auris* positive patient or resident transfer is anticipated (either in-state or out-of-state)



Healthcare associated transmission of *C. auris* is suspected.

**NOTIFIABLE DISEASES AND CONDITIONS LIST**

24 Hours A Day, 7 Days A Week Disease Reporting:

**Telephone: 1-800-821-5821 Fax: 1-800-293-7534**☎ Conditions are reportable **immediately** by telephone on recognition or strong suspicion of diseaseAll others are reportable by telephone, fax, electronic lab report, or mail within **48 hours** of recognition or strong suspicion of disease→ ☎ Directors of laboratories are to submit isolates or clinical specimens, as well as any isolates or clinical specimens as requested by Maine CDC, to the *Maine Health and Environmental Testing Laboratory* for confirmation, typing, and/or antibiotic sensitivity

- Acid-Fast Bacillus → ☎  
 Acquired Immunodeficiency Syndrome (AIDS)  
 Anaplasmosis  
 ☎ Anthrax → ☎ (*Bacillus anthracis*)  
 Babesiosis  
 ☎ Botulism → ☎ (*Clostridium botulinum*)  
 ☎ Brucellosis → ☎ (*Brucella* species)  
 California Serogroup Viruses  
 Campylobacteriosis  
 Carbapenem-resistant Enterobacteriaceae (CRE)<sup>1</sup>  
 Carbon Monoxide Poisoning<sup>2</sup>  
 Chancroid  
 Chlamydia  
 Chickenpox (Varicella)  
 Chikungunya  
 ☎ Coronavirus, Novel and SARS → ☎  
 Creutzfeldt-Jakob disease, <55 years of age  
 Cryptosporidiosis  
 Cyclosporiasis  
 Dengue  
 ☎ Diphtheria → ☎ (*Corynebacterium diphtheriae*)  
 E. coli, Shiga toxin-producing (STEC) → ☎  
 Eastern Equine Encephalitis  
 Ehrlichiosis  
 Giardiasis  
 Gonorrhea  
 Haemophilus influenzae, invasive → ☎  
 Hantavirus, pulmonary and non-pulmonary syndromes  
 Hemolytic-uremic syndrome (post-diarrheal)  
 ☎ Hepatitis A, B, C, D, E (acute)  
 Hepatitis B, C, D (chronic)  
 Human Immunodeficiency Virus (HIV)<sup>3</sup>  
 Influenza-associated pediatric death  
 ☎ Influenza A, Novel → ☎  
 Influenza-associated hospitalizations, laboratory-confirmed  
 Legionellosis  
 Leptospirosis  
 Listeriosis → ☎ (*Listeria monocytogenes*)  
 Lyme Disease  
 Malaria  
 ☎ Measles → ☎ (Rubeola virus)  
 ☎ Meningococcal Disease, invasive → ☎ (*Neisseria meningitidis*)  
 ☎ Mumps → ☎  
 ☎ Pertussis  
 ☎ Plague → ☎ (*Yersinia pestis*)  
 ☎ Poliomyelitis → ☎ (Polio virus)  
 Powassan Virus  
 Psittacosis  
 ☎ Q Fever  
 ☎ Rabies (human and animal) → ☎ (Rabies virus)  
 Rabies Post-Exposure Prophylaxis  
 ☎ Ricin Poisoning → ☎  
 ☎ Rubella (including congenital) → ☎ (Rubella virus)  
 Salmonellosis → ☎ (*Salmonella* species)  
 ☎ Shellfish Poisoning  
 Shigellosis → ☎ (*Shigella* species)  
 ☎ Smallpox → ☎ (Variola virus)  
 Spotted Fever Rickettsiosis  
 St. Louis Encephalitis  
 Staphylococcus aureus, Methicillin-Resistant (MRSA), invasive  
 ☎ Staphylococcus aureus with resistance to Vancomycin (VRSA) → ☎  
 Streptococcus Group A, invasive  
 Streptococcus pneumoniae, invasive  
 Syphilis  
 ☎ Tetanus → ☎ (*Clostridium tetani*)  
 Trichinosis  
 ☎ Tuberculosis (active and presumptive) → ☎ (*Mycobacterium tuberculosis*)  
 ☎ Tularemia → ☎ (*Francisella tularensis*)  
 Vibrio species, including Cholera → ☎ (*Vibrio* species)  
 ☎ Viral Hemorrhagic Fever  
 West Nile Virus  
 Western Equine Encephalitis  
 Yellow Fever  
 ☎ **Any Case of Unusual Illness of Infectious Cause**  
 ☎ **Any Cluster/Outbreak of Illness with Potential Public Health Significance**

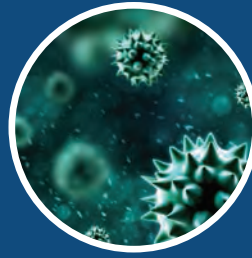
**Who must report:** Health Care Providers, Medical Laboratories, Health Care Facilities, Administrators, Health Officers, Veterinarians**What to report:** Disease reports must include as much of the following as is known:

- Disease or condition diagnosed or suspected
- Patient's name, date of birth, address, phone number, occupation, race, and ethnicity
- 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

Footnotes:

1. Carbapenem-resistant Enterobacteriaceae (CRE): See current definition as adopted by the United States Centers for Disease Control and Prevention
2. Carbon Monoxide, including clinical signs, symptoms or known exposure consistent with diagnosis of carbon monoxide poisoning and/or: a carboxyhemoglobin (COHb) level  $\geq 5\%$
3. Human Immunodeficiency Virus (HIV), including:
  - Confirmed, positive antibody tests
  - Viral load tests, all results
  - CD4 lymphocyte counts, all results

**Complete Rules for the Control of Notifiable Diseases and Conditions:**<http://www.maine.gov/dhhs/mecdc/infectious-disease/epi/disease-reporting/index.shtml>**Maine Center for Disease  
Control and Prevention**An Office of the  
Department of Health and Human Services



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

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