



Infectious Disease Epidemiology Report

Cryptosporidiosis Surveillance Report 2008 -- Maine



Introduction

Cryptosporidiosis is a parasitic diarrheal disease caused by the protozoan parasite *Cryptosporidium* and is commonly designated as 'crypto'. It is recognized as the leading cause of waterborne disease in the United States. The Infectious Disease Epidemiology program of the Maine Center for Disease Control and Prevention (Maine CDC) monitors the incidence of cryptosporidiosis through reporting cases of illness. This report summarizes surveillance data on cryptosporidiosis from 2008.

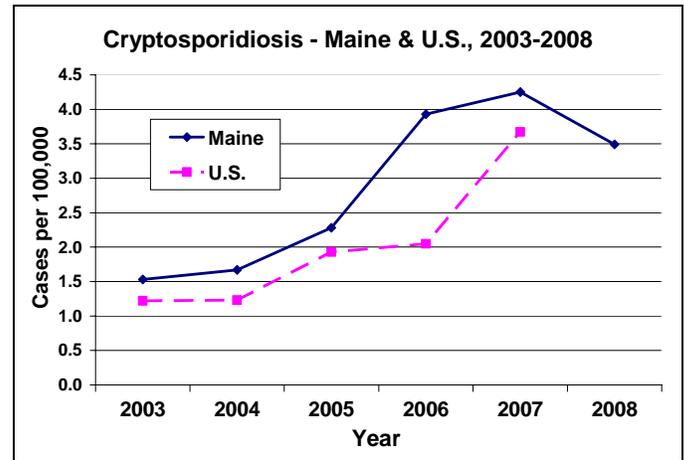
Methods

Cryptosporidiosis is a reportable disease in Maine. For surveillance purposes, cryptosporidiosis is defined as demonstration, in symptomatic or asymptomatic persons, of *Cryptosporidium* oocysts in intestinal contents; or antigens by immunodiagnostic methods or PCR techniques; or demonstration of reproductive stages in tissue preparations. The Maine CDC collects surveillance data on all laboratory confirmed reports of *Cryptosporidium* infections. Maine-specific data presented here were extracted from the National Electronic Disease Surveillance System (NEDSS), a disease-reporting database. National level data were obtained from Morbidity and Mortality Weekly Reports (MMWR). Population denominators were based on 2008 population estimates.

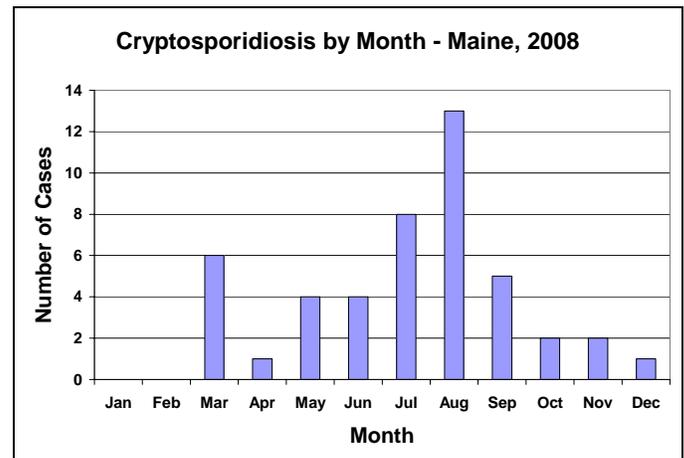
Results

A total of 46 cryptosporidiosis cases were reported to Maine CDC in 2008 and were laboratory confirmed. Twenty-nine (63%) of the reported cases were female and seventeen cases (37%) were male. The median age was 19 years, with a range of 1 to 91 years. This represents an overall rate of 3.5 cases per 100,000 people. There were six hospitalizations and no known deaths due to *Cryptosporidium* infections.

Five-Year Trend: The incidence of cryptosporidiosis in Maine increased from 2003-2007 but decreased in 2008. The case rate of 3.5 per 100,000 was lower than the rates for 2006 and 2007; 3.9 and 4.3 per 100,000 respectively. Similarly the incidence rate for the U.S. increased in 2006 and 2007; the 2008 data are not yet available.



Distribution By Month: Cases of cryptosporidiosis occurred between the months of March and December, with an average of 3.8 cases per month reported. There was a distinct rise in cases in the summer months which can partially be attributed to two documented outbreaks.



Distribution By County: In 2008, 12 of 16 counties reported cases of cryptosporidiosis. There were no cases reported from Androscoggin, Oxford, Piscataquis and Washington Counties. Kennebec and Somerset Counties had the highest number of cases with 10, representing 21.7% of all cases, and 7 cases, representing 15.7% of cases, respectively. These case counts reflect closely what has been seen in previous years. Somerset County had the highest rate followed closely by Hancock County at 13.6 and 11.3 per 100,000 respectively.

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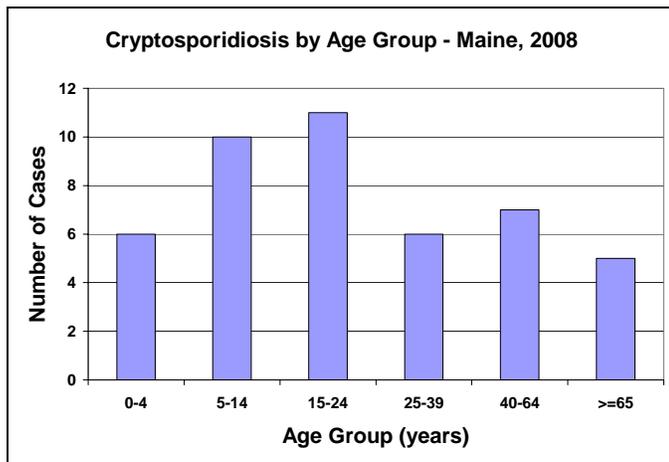
Confirmed cryptosporidiosis cases by county— Maine, 2008

County	Count (%)	Case Rate [‡]
Androscoggin	0 (0)	0
Aroostook	5 (10.9)	7.0
Cumberland	1 (2.2)	0.4
Franklin	1 (2.2)	3.3
Hancock	6 (13.0)	11.3
Kennebec	10 (21.7)	8.3
Knox	2 (4.3)	4.9
Lincoln	1 (2.2)	2.9
Oxford	0 (0)	0
Penobscot	5 (10.9)	3.4
Piscataquis	0 (0)	0
Sagadahoc	1 (2.2)	2.8
Somerset	7 (15.2)	13.6
Waldo	5 (10.9)	13
Washington	0 (0)	0
York	2 (4.3)	1.0
State of Maine	46	3.5

Note: Population denominators are from 2008 census data

[‡]Rate per 100,000 population

Cases by Age Group: Cryptosporidiosis affected persons of all ages.



Outbreaks and Clusters: The infectious disease program and clinical laboratories across the state routinely identify clusters and outbreaks of disease.

Maine identified two outbreaks associated with cryptosporidiosis during 2008. No clusters of cryptosporidiosis were identified in 2008.

- The first outbreak involved 27 children visiting a farm camp in August.

- The second outbreak consisted of 5 individuals consuming a contaminated fruit drink at a regional fair in July.

Discussion and Recommendations

Cryptosporidiosis occurs with moderate frequency in Maine. *Cryptosporidium* lives in the intestine of infected humans or animals from where it is released during bowel movements. Excreted oocysts are found in soil, food, water or surfaces that have been contaminated with infected animal or human feces. Infection results from the consumption of contaminated food or water, or through person-to-person or animal-to-person transmission. The infectious dose is low and healthy individuals are known to get sick from ingesting as few as 10-30 oocysts.

It is not surprising that most cases occur during the warm summer months. Summer and fall coincide with increased outdoor activities such as recreational swimming, camping trips to farms, and visits to agricultural fairs and petting zoos. These activities present various opportunities for children and adults alike to come into contact with parasites that cause diseases including cryptosporidiosis. Persons who engage in outdoor activities or use group bathing facilities such as pools, spas or hot tubs are strongly encouraged to practice good personal hygiene (i.e. hand washing, not swimming if they have diarrhea, etc), not use swimming pools when symptomatic and to avoid water that may be contaminated.

Prevention and Control

Cryptosporidiosis is on the Notifiable Conditions List and can be reported by calling 1-800-821-5821, or by faxing reports to 207-287-6865. For more information on cryptosporidiosis, see the Maine CDC website <http://www.maine.gov/dhhs> and federal CDC website.

References

Centers for Disease Control and Prevention.
<http://www.cdc.gov/crypto/>