

PROFILES OF SELECTED NOTIFIABLE DISEASES

LACROSSE VIRUS DISEASE

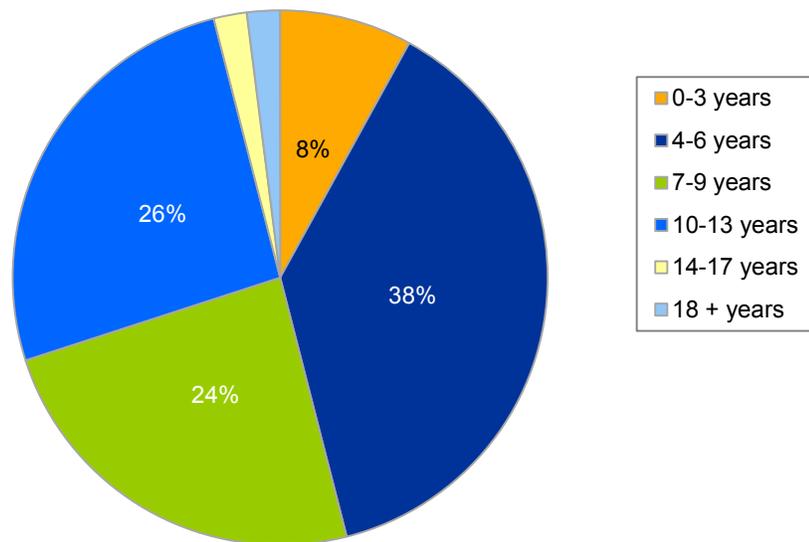
<i>Number of cases in 2011:</i>	50	<i>Rate in 2011:</i>	0.4
<i>Number of cases in 2010:</i>	24	<i>Rate in 2010:</i>	0.2

* Rates are based on the U.S. Census 2010 count and the 2011 estimate and are per 100,000 population.

LaCrosse virus disease is a viral illness transmitted through the bite of an infected mosquito, specifically the eastern treehole mosquito, *Aedes triseriatus*. People infected with LaCrosse virus disease usually experience fever, headache, nausea, vomiting and lethargy; however, severe disease can occur in children less than 16 years of age and include seizures, coma, paralysis and neurological complications after resolution of illness.¹ In Ohio, cases occur during the summer and fall, usually from July through October, coinciding with mosquito activity.¹ More cases have been reported in Ohio than any other state in the U.S.,¹ where 1,100 cases have been recorded since 1963.

Incidence of LaCrosse virus disease significantly increased in Ohio from five cases in 2009 to 24 cases in 2010 ($p = 0.0004$) to 50 cases in 2011 ($p = 0.0024$). In fact, 2011 was one of the highest years for LaCrosse virus disease incidence in Ohio, second only to 1975 when 52 cases were reported. The greatest proportion of cases in 2011 occurred in children aged 4-6 years, followed by children aged 10-13 years and children aged 7-9 years (see Figure 1). Cases also occurred among children 0-3 years, 14-17 years and in one adult.

Figure 1: LaCrosse Virus Disease by Age, Ohio, 2011

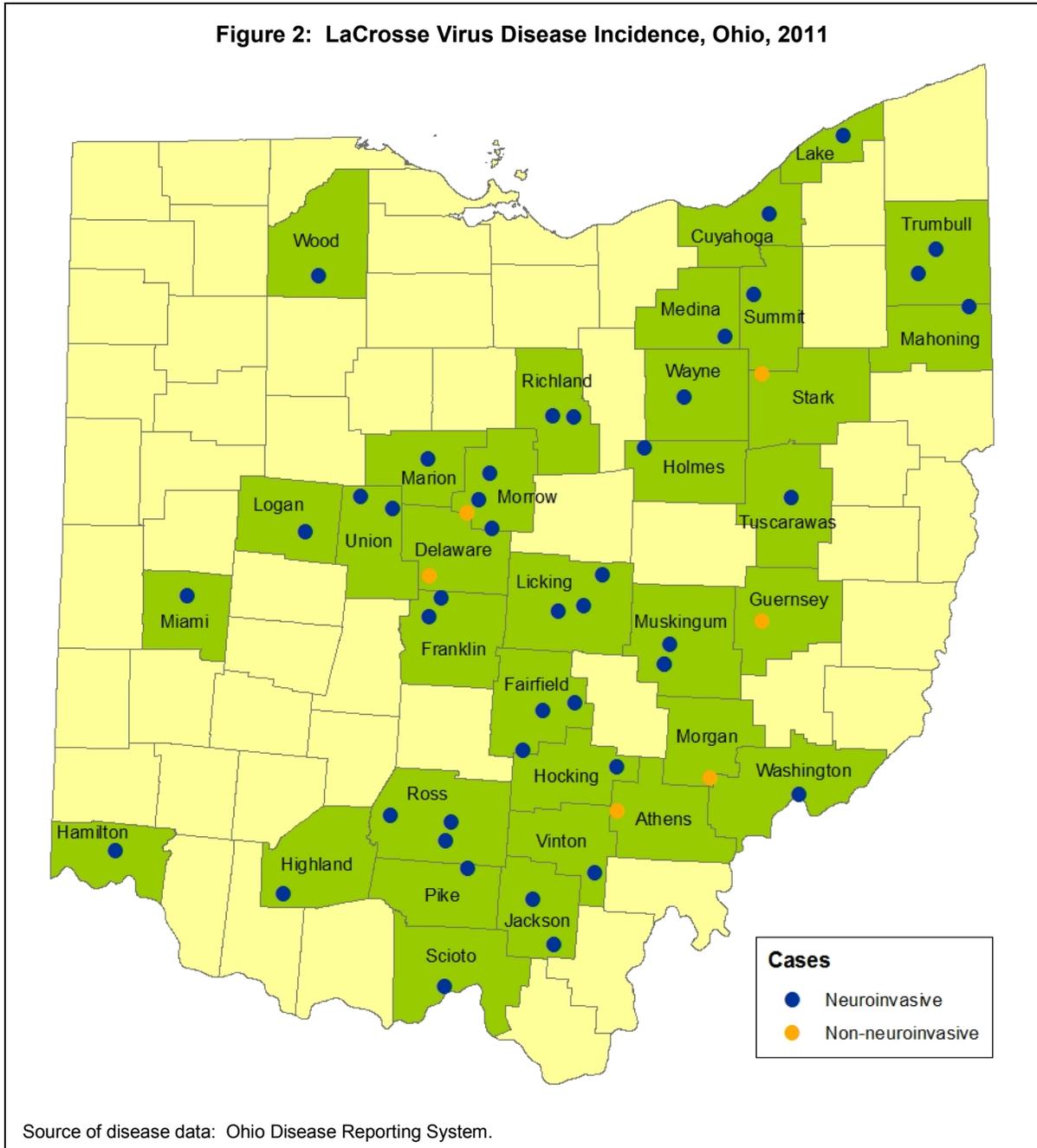


Source of disease data: Ohio Disease Reporting System.

As seen in Figure 2, most LaCrosse virus disease cases in 2011 occurred in central, northeastern and southeastern Ohio, in contrast to 2010 where the majority of cases occurred in the northeastern

part of the state. Nearly 90 percent of all LaCrosse cases in 2011 were neuroinvasive, meaning the affected individuals had neurological symptoms associated with their infections, such as meningitis, encephalitis or seizures. Non-neuroinvasive manifestations of LaCrosse virus disease include fever, headache, myalgia, arthralgia and/or rash. All 50 cases were hospitalized for their illness, and no deaths were reported.

Figure 2: LaCrosse Virus Disease Incidence, Ohio, 2011



LYME DISEASE

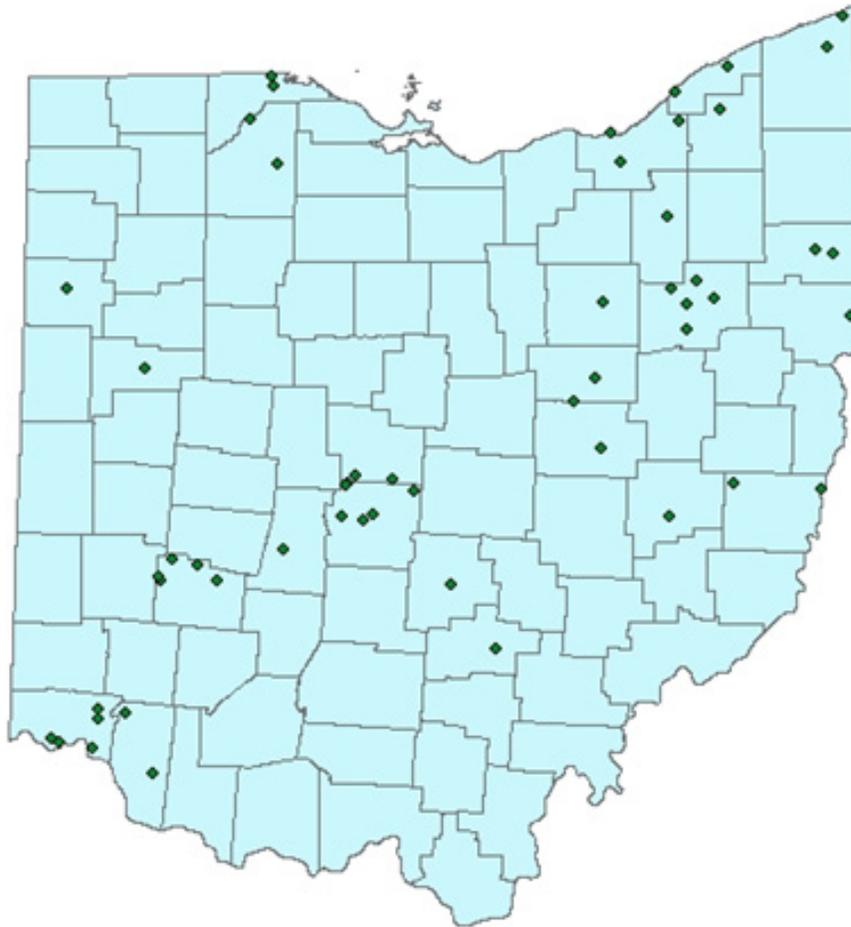
<i>Number of cases in 2011:</i>	52	<i>Rate in 2011:</i>	0.5
<i>Number of cases in 2010:</i>	37	<i>Rate in 2010:</i>	0.3

* Rates are based on the U.S. Census 2010 count and the 2011 estimate and are per 100,000 population.

Lyme disease is caused by bacteria called *Borrelia burgdorferi*. The bacteria are transmitted through the bite of an infected tick, *Ixodes scapularis*, also called the black-legged tick or deer tick. Black-legged ticks were once considered rare in Ohio; however, the tick is now believed to be established in 26 Ohio counties. Criteria to be considered an established population is based on tick distribution of at least six ticks reported or more than one life stage of the tick identified in a given county.

Figure 3 displays the county of residence for Ohio cases diagnosed with Lyme disease in 2011. Most cases occur in the upper Midwest and North Atlantic states. Many of Ohio's cases are still acquired out of state.

Figure 3: Lyme Disease Incidence, Ohio, 2011



Source of disease data: Ohio Disease Reporting System.

SALMONELLOSIS

<i>Number of cases in 2011:</i>	<i>1,183</i>	<i>Rate in 2011:</i>	<i>10.2</i>
<i>Number of cases in 2010:</i>	<i>1,309</i>	<i>Rate in 2010:</i>	<i>11.3</i>

* Rates are based on the U.S. Census 2010 count and the 2011 estimate and are per 100,000 population.

Table 1 demonstrates the proportion of salmonellosis cases linked to a known outbreak or cluster 2007-2011. From 2007-2010, 4 to 9 percent of cases were linked to a known outbreak or cluster; however this increased in 2011 to 13 percent. The increase is likely due to funding provided to the Ohio Department of Health (ODH) Laboratory to perform pulsed-field gel electrophoresis (PFGE) on all *Salmonella* isolates beginning in October 2010. PFGE analysis allows the lab to identify matching clusters of isolates within the state and also throughout the U.S. using a national database. Prior to receipt of this funding, only the top 5 *Salmonella* serotypes were analyzed with PFGE at ODH Lab.

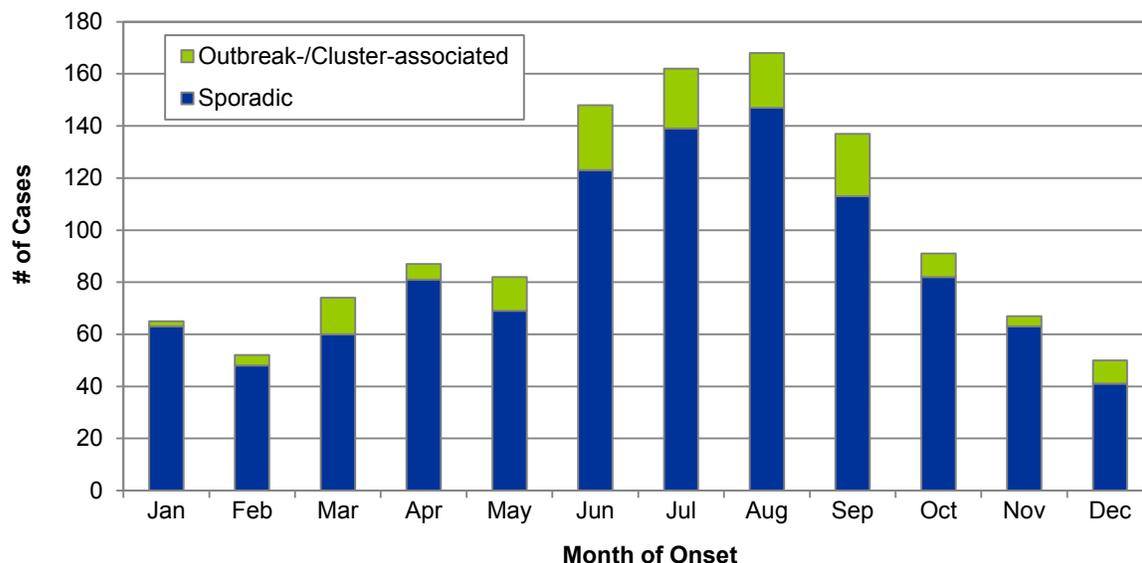
Table 1: Salmonellosis by Outbreak/Cluster Status, Ohio 2007-2011

Year	Outbreak-/Cluster-associated		Sporadic		Total
2007	77	6%	1,246	94%	1,323
2008	129	9%	1,249	91%	1,378
2009	49	4%	1,328	96%	1,377
2010	102	8%	1,207	92%	1,309
2011	154	13%	1,029	87%	1,183

Source of disease data: Ohio Disease Reporting System.

As seen in Figure 4, cases of salmonellosis peaked June-September during 2011. The proportion of cases linked to known outbreaks and clusters ranged from 3 to 19 percent each month, with a median of 14 percent of cases outbreak- or cluster-associated per month.

Figure 4: Salmonellosis by Month of Onset and Outbreak/Cluster Status , Ohio, 2011



Source of disease data: Ohio Disease Reporting System.

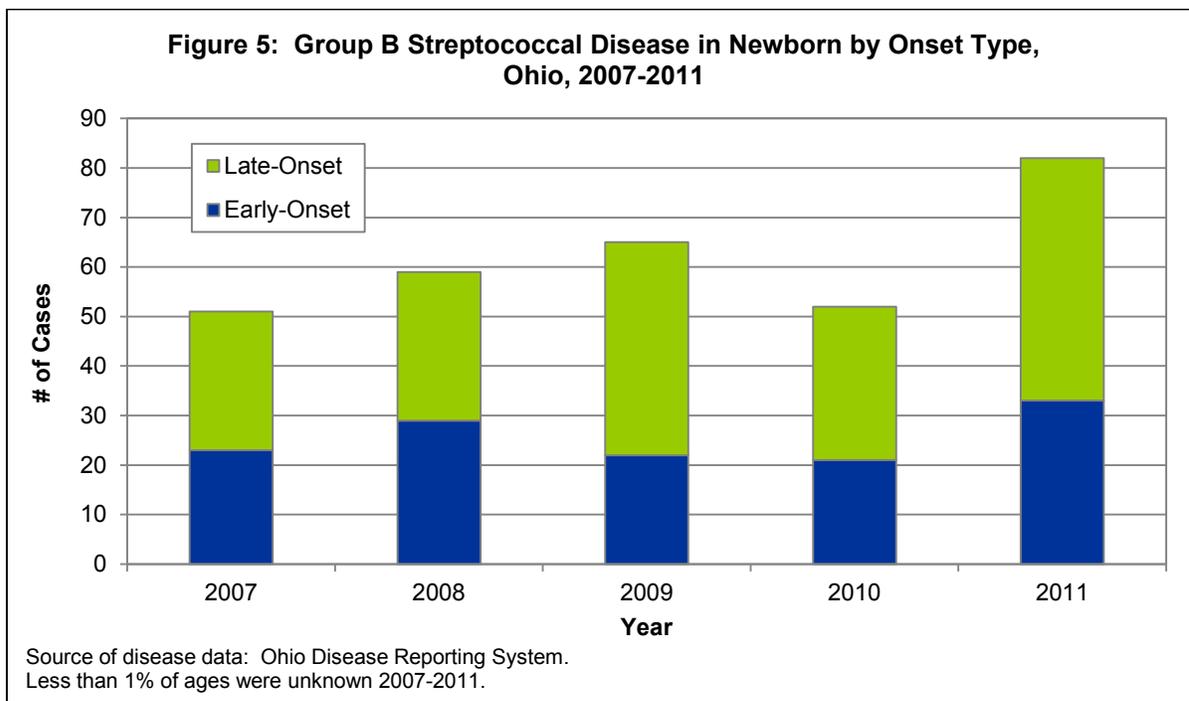
STREPTOCOCCAL DISEASE, GROUP B, IN NEWBORN

<i>Number of cases in 2011:</i>	<i>71</i>	<i>Rate in 2011:</i>	<i>0.6</i>
<i>Number of cases in 2010:</i>	<i>41</i>	<i>Rate in 2010:</i>	<i>0.4</i>

* Rates are based on the U.S. Census births reported for Ohio and are per 1,000 population.

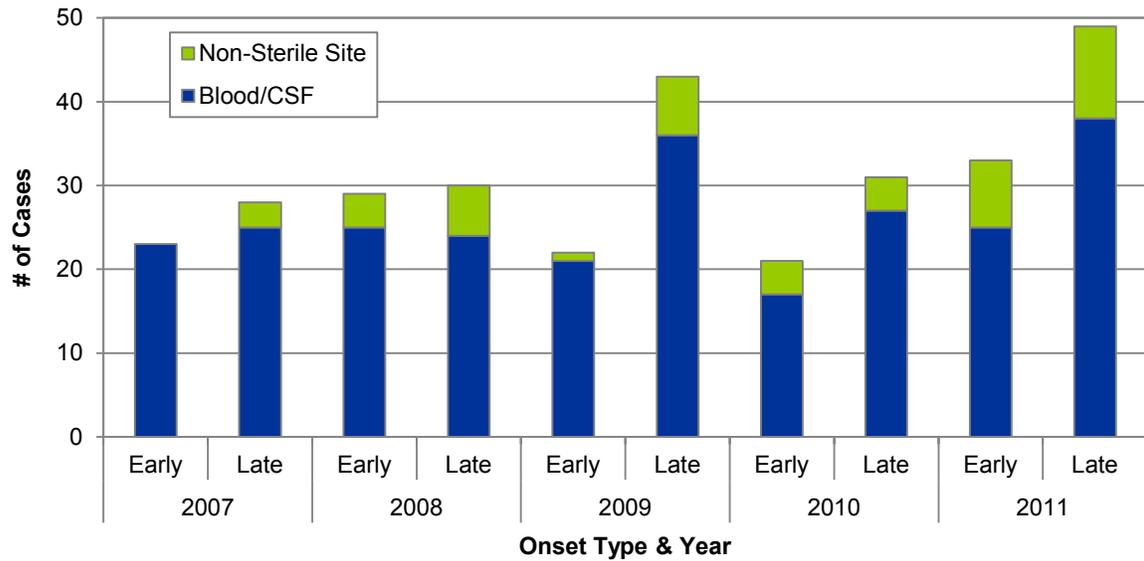
Group B streptococci are bacteria commonly found in the digestive tract and birth canal of pregnant women. Group B streptococci can cause systemic and focal infections in infants from birth until three months of age. Disease in young infants is categorized on the basis of chronologic age at onset. Early-onset disease usually occurs within the first 24 hours of life (range 0-6 days). Late-onset disease occurs between seven days and three months.

Figure 5 demonstrates the burden of group B streptococcal infections in Ohio newborns over the past five years by onset type. Over the past five years, higher incidence of infection was observed among infants older than six days of age than infants six days old or less.



Early-onset infections of group B streptococcal infections may present as signs of systemic infection, respiratory distress, apnea, shock, pneumonia and, less often, meningitis. Late-onset infections commonly manifest as occult bacteremia or meningitis; other focal infections such as osteomyelitis, septic arthritis, adenitis and cellulitis can occur. Figure 6 demonstrates the number of cases of early-onset and late-onset infections occurring in blood or cerebrospinal fluid (CSF) and non-sterile sites.

Figure 6: Group B Streptococcal Disease in Newborn by Specimen Type and Onset Type, Ohio, 2007-2011



Source of disease data: Ohio Disease Reporting System.