



Summary of Vaccine Preventable Diseases Reported to the Michigan Department of Community Health, 2011

This is a summary of reported cases of selected vaccine-preventable diseases in Michigan in 2011 (reports received in the calendar year, January 1 – December 31). Totals for 2010 are provided for comparison in the table on the final page.

Congenital Rubella – No cases of congenital rubella were reported in 2011.

Diphtheria – No cases of diphtheria were reported in 2011.

***Haemophilus influenzae* invasive disease** –

A total of 73 cases of invasive *H. influenzae* were reported. Cases ranged in age from newborn to 98 years; 14 cases were in persons under 5 years of age. Serotyping was completed on 13 (93%) of these 14 cases; one was serotype b (a 9 month-old un-immunized child), 2 were serotype f, 2 were serotype e, and 8 were non-typeable. There were 3 cases between 5 and 15 years of age (one type f, one non-typeable, and one whose isolate was not serotyped).

Measles –

There were 2 measles cases reported in Michigan in 2011. In March a 28 year-old foreign-born male contracted measles while attending a work-related meeting in Florida and was part a multistate outbreak consisting of 6 cases. His immunization and measles disease history were unknown. The case was confirmed by measles IgM serology but no viral specimens were available; however, another case in the same outbreak from another state was determined to be genotype D4. The source of this outbreak was not identified. No secondary cases were identified.

In August a 50 year-old female with unknown disease and immunization history developed measles while aboard a North Sea cruise. Her rash onset was 12 days after the start of the cruise and 17 days after arriving in London from the US, suggesting that she was likely to have been exposed after arriving in Europe. The case was serologically confirmed after her return to the US; no viral specimens were available for genotyping. No secondary cases were identified.

Meningococcal disease –

Twelve cases of invasive meningococcal disease were reported in 2011. Cases ranged in age from 1 month to 92 years, with a median age of 21.5 years (mean 37.6 years). There were 5 cases between the age of 11 and 24 years.

Serogroup information was available for 12 cases; 6 were group B, 3 were group Y, 1 was group W-135, 1 was un-typeable, and 1 was non-growth/non-viable. There were 2 deaths reported, ages 79 and 90 years.

Mumps –

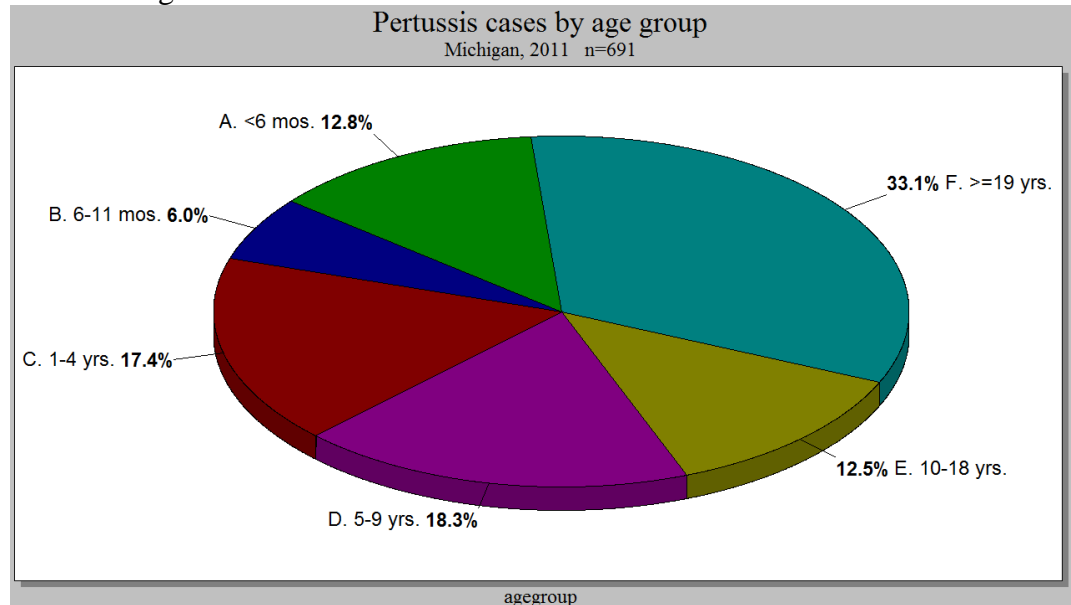
In 2011 a total of 21 mumps cases were reported to MDCH, 9 meeting the Confirmed case definition and 12 classified as Suspect (which are not nationally reported); none met the Probable case definition.

Among the 9 confirmed cases age ranged from 6 to 62 years, with a median age of 34 years (mean age 32.5 years); 7 (78%) were 20 years of age or older. Seven (78%) were female. Two cases reported having a history of 2 MMR vaccine doses, 1 had a history of 1 MMR vaccine dose, 1 had no doses due to parental refusal, and 5 had unknown mumps immunization history.

Pertussis –

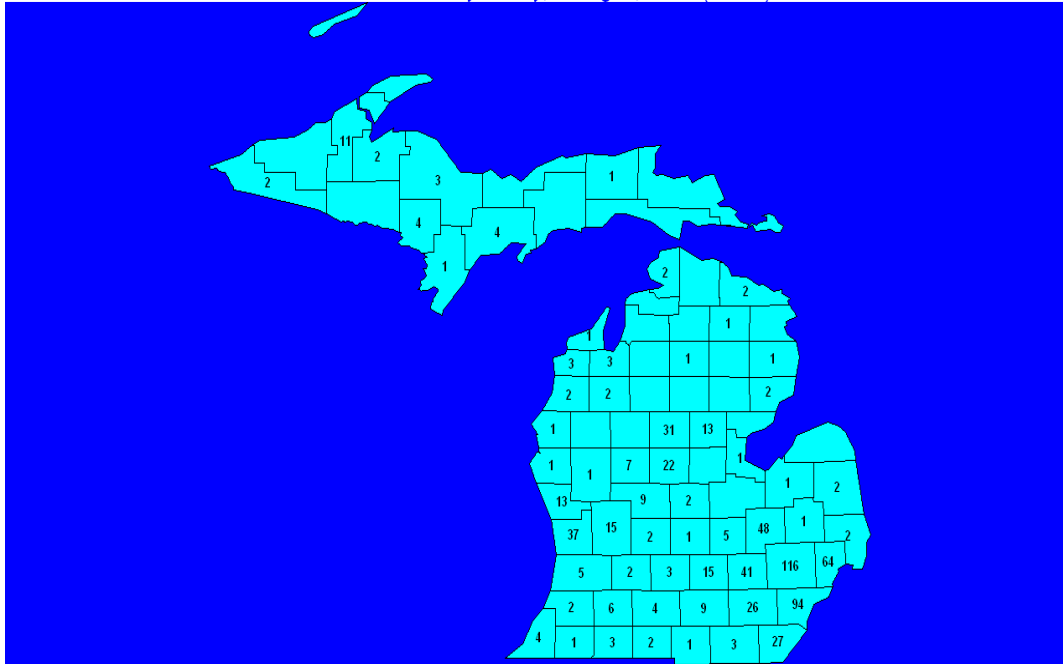
There were 691 cases of pertussis reported in 2011, a decline of 56% from the 1,564 cases reported in 2010. Cases ranged in age from 5 days to 87 years, with a median age of 8 years and a mean age of 18.2 years. Similar to 2010, one-third of reported cases were among adults (age 19 years and older) and this was the largest proportion of cases among the age groups routinely used for pertussis surveillance (see Pertussis Figure 1). The proportion of cases 10-18 years of age declined from 20.5% in 2010 to 12.5% in 2011, which might reflect efforts of targeted Tdap vaccine use in this population. There were 88 cases (12.7%) reported among infants under 6 months of age, of which 29 (33%) were hospitalized. There were no deaths reported. Cases were reported from 60 counties (see Pertussis Figure 2). Among the 375 cases less than 10 years of age, 249 (66.4%) had received an age-appropriate number of pertussis vaccine doses. Among 296 cases 11 years of age or older, 49 (16.6%) reported having received a dose of Tdap.

Pertussis Figure 1



Pertussis Figure 2

Pertussis cases by county, Michigan, 2011 (n=691)



Rubella –

There were no cases of rubella reported in 2011.

Tetanus –

There were 4 cases of tetanus reported, two males and two females, all were adults ranging in age from 41 to 82 years of age. An acute wound preceding the illness was reported for 3 of the 4 cases. One case reported last having a tetanus toxoid four years prior, but documentation of receipt of tetanus toxoid was not available; the other cases had unknown immunization histories.

Varicella –

A total of 1,036 varicella cases were reported in 2011, representing a 29% decline from the 1,450 cases reported in 2011. Reported cases were evenly split between males and females. Age was reported for 1,029 (99.3%) of cases, and ranged from 1 month to 88 years, with a median of 8 years (mean 9.7 years). The largest proportion of cases was reported in the 5-9 year age group (35.9%), followed by the 10-19 year age group (32.4%). Overall, 930 (89.7%) of case reports included information about varicella vaccine history, of which 552 (59.3%) indicated prior receipt of at least 1 dose of varicella vaccine.

Table 1 - Number of reported cases of selected vaccine preventable diseases, Michigan, 2010 and 2011.

Disease	Total Cases 2010	Total Cases 2011
Congenital Rubella	0	0
Diphtheria	0	0
<i>H. influenzae</i> invasive <5 years (serotype b)	6 (0)	14 (1)
Measles	0	2
Meningococcal disease	24	12
Mumps	47 (27 suspect)	21 (12 suspect)
Pertussis	1,564	691
Poliomyelitis	0	0
Rubella	0	0
Tetanus	2	4
Varicella	1,450	1,036