

Summary of Vaccine Preventable Diseases Reported to the Michigan Department of Health and Human Services, 2017

This is a summary of reported cases of selected vaccine-preventable diseases in Michigan in 2017. Totals for 2016 are provided for comparison in the table on the final page.

Note: case totals presented here may vary somewhat from other publications owing to differences in date variables used. These totals are based on date of case report to the Michigan public health system.

Congenital Rubella – No cases of congenital rubella were reported in 2017.

Diphtheria – No cases of diphtheria were reported in Michigan in 2017

***Haemophilus influenzae* invasive disease** –

There were 26 cases of invasive *Haemophilus influenzae* disease under the age of 15 years reported in 2017 in Michigan, ranging in age from newborn to 7 years. Isolates were recovered from blood in 22 cases (85%), from cerebro-spinal fluid in 2 cases (8%), from both blood and CSF in 1 case, and from lung tissue in 1 case. All isolates from invasive cases in persons under the age of 15 years were serotyped. One case of serotype b was identified, a 5-year-old fully vaccinated male. Of the remaining cases 4 were serotype a, 4 were serotype f, and 17 were non-typeable isolates.

Measles –

There were two cases of measles reported in Michigan in 2017. The first case was a 13-month-old unvaccinated female who traveled to Bangladesh with family and who had onset of illness during just prior to returning by commercial aircraft travel to their home in Michigan. The child was ill on the flight and was immediately hospitalized with a diagnosis of dehydration. The diagnosis of measles was confirmed serologically and by PCR testing, measles viral genotype B3. Subsequently, a 60-year-old male passenger who sat directly behind the child on the same flight developed a febrile rash illness approximately 18 days later; his illness was confirmed serologically and by PCR as measles, with the same B3 genotype.

Meningococcal disease –

Five cases of meningococcal disease were reported in Michigan in 2017. Cases ranged in age from 42 to 91 years; none were in age groups or risk groups specifically targeted for meningococcal immunization. All five cases were serogrouped, three were serogroup B, one case was serogroup C and one case was serogroup W135. There was no evidence of epidemiologic linkage or connections among the three group B cases.

Mumps –

There were 46 mumps cases reported in Michigan in 2017: 10 Confirmed, 21 Probable, 15 Suspect. There was one outbreak identified which occurred on a college campus consisting of four cases ranging in age from 19 to 23 years. Two of the cases in this outbreak had vaccination records indicating prior receipt of 2 mumps vaccine doses, and two had uncertain vaccination history. In addition to this outbreak there were two instances of a case resulting in secondary transmission to a family member. All other cases appeared to be sporadic with no

identified connection to other reported cases. Overall, among the 46 cases, 59% were male and age ranged from 18 months to 85 years with a median of 22 years.

Pertussis –

There were 773 reported pertussis cases in 2017, an increase of 98% over the 389 cases in 2016. Cases were reported in 53 of the state’s 83 counties. Cases ranged in age from 17 days to 85 years with a median case age of 9 years, and 53% of cases were female. Hospitalization was reported for 64 (8.3%) of cases. There were no reported deaths.

Rubella –

There were no rubella cases in Michigan in 2017.

Tetanus –

There were two reported tetanus cases in Michigan in 2017. A 31-year-old female with an ongoing history of intravenous drug abuse presented with a thigh abscess which yielded *C. tetani* on culture. The case was hospitalized for 5 days and received TIG. Immunization history was unknown. The second case was a 70-year-old female with a puncture wound to the foot after stepping on a nail. Her immunization history was unknown. She experienced some possible symptoms of generalized tetanus and was hospitalized and received TIG therapy.

Varicella –

In 2017 there were 540 cases of varicella reported. Cases ranged in age from 1 month to 86 years, with a median age of 9 years (mean age 13 years) and 53% of cases were male. There 16 reported hospitalizations; no deaths were reported. Laboratory testing was reported as being done for 163 (30.2%) cases, with PCR specimens reported as collected for 115 (21.3%) of reported cases; PCR was reported positive for 100 cases (18.5%). There were 15 outbreaks identified, ranging in size from 2 to 39 cases; the average number of cases in outbreaks was 6.6 with a median of 3 cases. Most outbreaks occurred in school or day care settings but there was one college-based outbreak.

Table 1 - Number of reported cases of selected vaccine preventable diseases, Michigan, 2016 and 2017 (Confirmed and Probable cases unless otherwise noted).

Disease	Total Cases 2016	Total Cases 2017
Congenital Rubella	0	0
Diphtheria	0	0
<i>H. influenzae</i> invasive <15 years (serotype b)	17 (0)	26 (1)
Measles	1	2
Meningococcal disease	6	5
Mumps (includes Suspect)	38	46
Pertussis	389	773
Poliomyelitis	0	0
Rubella	0	0
Tetanus	1	2
Varicella	567	540