



Summary of Vaccine Preventable Diseases Reported to the Michigan Department of Community Health, 1999

This report summarizes reported cases of selected vaccine-preventable diseases in Michigan in 1999. Features of the descriptive epidemiology of the diseases are provided. Totals for 1999 and 1998 for comparison are given in Table 1, below.

Congenital Rubella - No cases of congenital rubella were reported in 1999.

Diphtheria - No cases of diphtheria were reported in 1999 (last Michigan case reported in 1980).

***Haemophilus influenzae* invasive disease** - Twenty *H. influenzae* invasive disease cases were reported in 1999. Of the 20, eight occurred in children under age 5 years (the surveillance priority for *H. influenzae* invasive disease), the rest ranged in age from 5 to 82 years.

Of the eight cases in children under age 5 years:

- § two were confirmed serotype b. Both of these were 3 month old infants (a male and a female), each with a history of 1 prior dose of Hib vaccine;
- § four had cultured isolates serotyped as a type other than type b;
- § two had no serotype information (not typed or unknown serotype): these were a 2 day-old female and a 15 day-old male.

Measles - A total of 6 measles cases were reported to MDCH in 1999. In June a case was reported and confirmed in a 4 month old female; the child had recently been adopted from China. Her onset of rash was 2 days after arriving in the U.S. No secondary cases of measles were identified. In December, a 17 year old unimmunized female was confirmed with measles; exposure occurred in England where the case attended boarding school. She was known to be exposed to rash illness in Manchester, England (where a large outbreak of measles was subsequently confirmed). Her onset of rash occurred 7 days after arriving in the U.S. Five unimmunized siblings in the household ranging in age from 3 years to 13 years developed rash illness subsequently confirmed as measles (one of these had a rash onset after January 1, 2000 and will therefore be counted as a 2000 case). A sixth sibling who had a documented history of MMR vaccination did not develop measles. Virology and molecular epidemiology studies conducted at CDC measles laboratory determined the virus to be of the D6 genotype, a strain previously identified from viruses imported from various countries of Europe during 1994-98 and from outbreaks in S. America from 1997.

Mumps - Ten cases of mumps were reported in 1999, the lowest annual total for Michigan to date. No outbreaks of disease were identified. Cases ranged in age from 5 to 40 years with a median age of 6 years. Laboratory studies for confirmation were ordered in 4 (40%) of cases; two cases (a 20 year-old female and a 40 year-old female) were confirmed, both by mumps IgM antibody tests (another test had indeterminate results, and the other was IgM negative but the physician felt mumps was the appropriate diagnosis). Nine of the cases (90%) had documentation in their medical history of having received 2 doses of mumps vaccine on or after 12 months of age (the 40 year-old confirmed case had an unknown immunization history).

Pertussis - Seventy-four cases of pertussis were reported from 26 different counties. No outbreaks were reported. Cases ranged in age from 20 days to 60 years, with median age of 5 months; 54 (73%) of all reported cases were less than 5 years of age. Fifteen cases were reported in persons over 20 years of age. Culture-positive confirmation of the diagnosis was obtained for 39 (53%) cases; an additional eight cases not tested were considered confirmed by epidemiological linkage to a laboratory confirmed case.

Information on immunization history was known for 60 (81%) of cases (available for 98% and 13% of cases under age 21 and 21 or over, respectively). Of these, 38 (63%) were immunized with the appropriate number of pertussis vaccine doses for their age. Of the 30 children 3 months to 4 years of age with reported pertussis in 1999, 17 (57%) were not age-appropriately vaccinated with pertussis-containing vaccine.

Overall, 35 (47%) of cases were hospitalized, with hospitalization rates highest for infants under 1 year of age (73%). Pneumonia (confirmed by chest x-ray) was reported for 11(15%) of cases; 9 of the 11 cases of pneumonia occurred in infants under one year of age. Seizure-related complications were reported for two cases. There were no reported pertussis-related deaths in 1999.

Rubella - No cases of rubella were reported in 1999; this is the second time no cases were reported in Michigan in a calendar year (1997 was the first).

Tetanus - Two cases of tetanus were reported in Michigan in 1999. The first case was reported in a 72 year-old female diabetic with an ulcer of the toe. The patient's tetanus immunization history was unknown; the last previous dose of tetanus toxoid was given more than 10 years before illness. The patient died 3 days after onset of disease. The second case was 69 year-old female who suffered a puncture splinter injury to the hand. The patient, who had an unknown tetanus immunization history, was hospitalized and survived following a prolonged convalescence.

Varicella - Surveillance for varicella in Michigan consists of school- and day-care-based weekly aggregate count case reports. In 1999, a total of 12,260 cases were reported, representing a 48% decline from the 1998 total of 23,647. This decrease in reported cases is believed to be due to a trend of declining varicella incidence as a result of increasing varicella vaccine usage.

Table 1 - Number of reported cases of vaccine preventable diseases,
Michigan, 1999 and 1998

Disease	Total Cases 1999	Total Cases 1998	Cases < 5 y.o. 1999	Cases < 5 y.o. 1998
Congenital Rubella	0	0	0	0
Diphtheria	0	0	0	0
<i>H. influenzae</i> invasive	20	13	8	2
Hepatitis B	509	477	18	21
Measles	6	10	1	7
Mumps	10	33	0	9
Pertussis	74	71	54	53
Poliomyelitis	0	0	0	0
Rubella	0	1	0	0
Tetanus	2	2	0	0