



Summary of Vaccine Preventable Diseases Reported to the Michigan Department of Community Health, 2008

This is a summary of reported cases of selected vaccine-preventable diseases in Michigan in 2008 (reports received in the calendar year, January 1 – December 31). Totals for 2007 are provided for comparison in Table 1 (see last page).

Congenital Rubella – No cases of congenital rubella were reported in 2008.

Diphtheria – No cases of diphtheria were reported in 2008.

***Haemophilus influenzae* invasive disease** –

Thirty cases of invasive *H. influenzae* disease were reported to the Michigan Department of Community Health (MDCH) in 2008. Eight were in persons 5 years of age or younger (ten in persons 15 years of age or younger), and all were serotyped. Of these eight, 2 were determined to be type b. One was an 8 month old Amish male infant who had not received any doses of Hib vaccine. He was diagnosed with primary bacteremia and hospitalized for 7 days; blood cultures grew *H. influenzae* type b. The other type b case was a 31 month old female who had received 3 doses of Hib vaccine (at 2 months, 4 months, and 12 months of age) but no booster dose. She was admitted to intensive care with epiglottitis; blood culture grew *H. influenzae* type b.

Among the other 8 invasive *H. influenzae* cases under age 15 years, 3 were type f, one was type e, and 4 were untypeable. Specimens from which *H. influenzae* was isolated were blood (4 cases), CSF (3 cases), and sputum (1 case).

Measles –

Four measles cases were reported in 2008, all are considered part of the same outbreak. They occurred in the late winter and early spring in the Cadillac area. The first case was a 14 year-old unvaccinated female with an unknown exposure source; she may have been infected during travel to and/or from Alabama which involved extended layovers in the Atlanta international airport. The second case was her 10 year-old brother, also unvaccinated, who had rash onset 17 days after that of his sister. Both siblings were unvaccinated due to parental personal belief exemptions. The first case was not reported until after the diagnosis of her brother, hence appropriate confirmatory lab specimens were unavailable. However, a subsequent measles IgG antibody test was positive, which is presumptive confirmation of the diagnosis given her never-vaccinated status. Her brother was confirmed by positive measles IgM antibody and measles PCR tests; the viral genotype was determined to be D5.

The third and fourth cases were a husband and wife, ages 37 (born 1970) and 32 (born 1975), respectively. The husband's illness is believed to be secondary to exposure to the 10 year old boy discussed above. Although epidemiologic investigation did not identify a specific exposure, the two attend the same church. The husband's rash onset was 15 days after the boy's. His diagnosis was confirmed by detection of measles IgM antibody; PCR tests and viral

cultures were negative. The wife had a rash onset 10 days after her husband; she was confirmed by positive measles IgM and also had a positive PCR test. Genotyping was unsuccessful and cultures were negative. No documentation of immunization history was available for either the husband or wife.

Mumps –

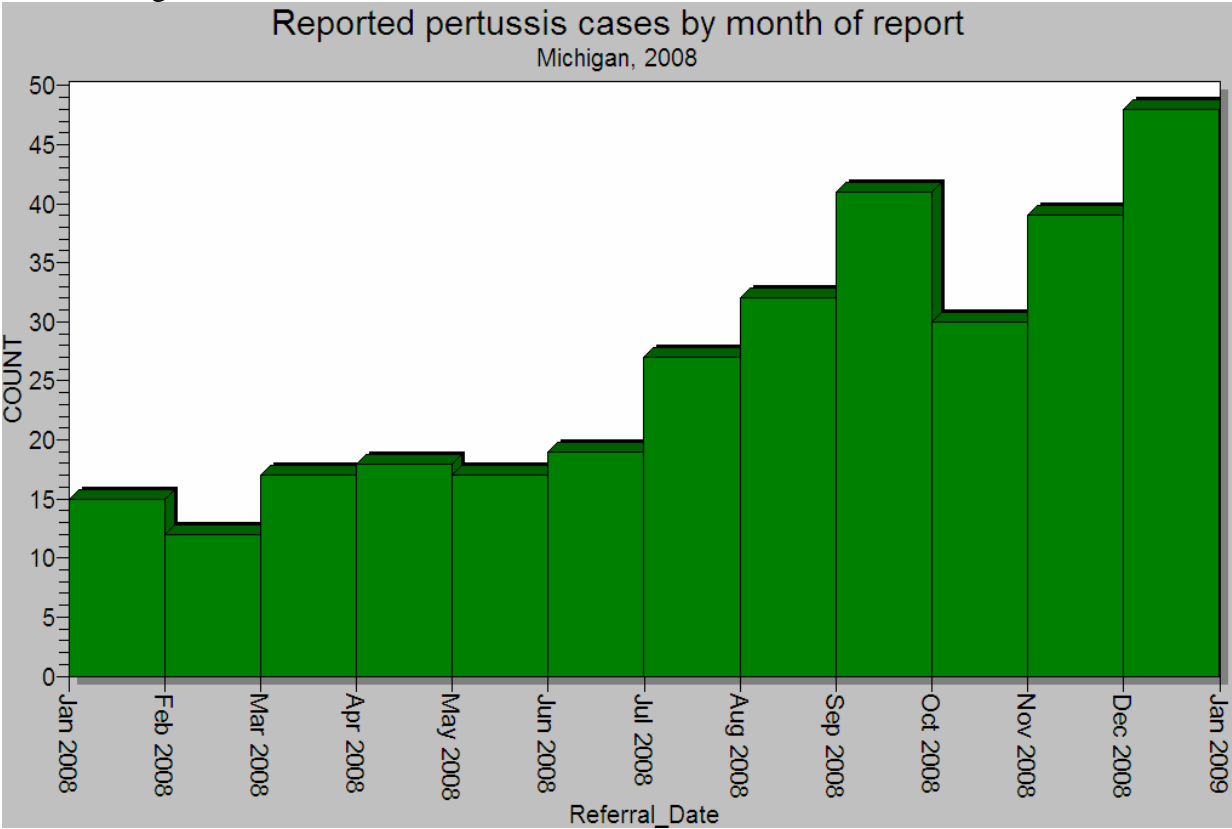
There were 39 cases of mumps reported to MDCH in 2008, which included 10 confirmed, 12 probable, and 17 suspect. “Suspect” is a new classification for mumps in the 2008 revision of the Council for State and Territorial Epidemiologists (CSTE) and Centers for Disease Control and Prevention (CDC) case definition. There were no outbreaks identified. Cases ranged in age from 3 years to 63 years (median age 19.5 years). Of 30 cases between the ages of 12 months and 24 years, 21 (70%) had received the age-appropriate number of mumps-containing vaccine doses. Cases were reported from 19 counties.

Pertussis –

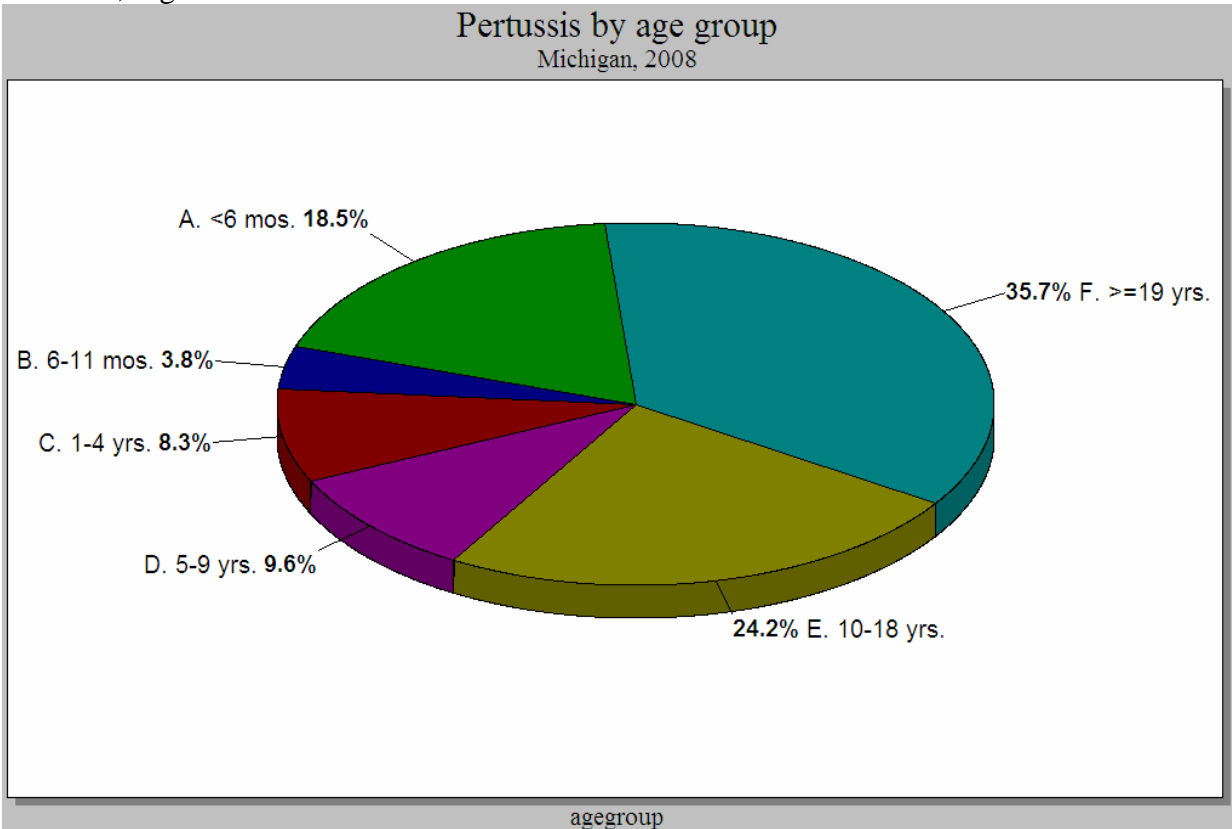
There were 315 pertussis cases reported to MDCH in 2008, an 8% increase over the number reported in 2007. Case reports increased steadily through the year, with twice as many cases reported in the 2nd half of the year compared to the first half (see Pertussis Figure 1). Females accounted for 57% of cases. The largest proportion of cases, 36%, was among adults (persons aged 19 years and older), followed by 10-19 year-olds (24%, see Pertussis Figure 2). Fifty-eight cases (18%) were reported in infants less than 6 months of age, a group at high risk for severe disease and complications; 71% of cases in this age group were hospitalized. There were no reported deaths. Among the 205 cases less than 19 years of age, a cohort for whom immunization history information should be readily available, 63 (31%) lacked documentation of the recommended number of pertussis vaccine doses for their age.

(See Pertussis Figures 1 and 2, next page)

Pertussis Figure 1



Pertussis, Figure 2.



Rubella –

There were no cases of rubella reported in 2008.

Tetanus –

One case of tetanus was reported in 2008; the case was a 66 year-old male with a history of a rusty nail puncture wound to the foot approximately 14 days prior to onset. His prior tetanus immunization history was unknown. He experienced generalized tetanus symptoms including muscle rigidity and spasms of the back and jaw. Hospitalization lasted several weeks and included mechanical ventilation and other intensive care.

Varicella –

In 2008 there were 3,048 cases of varicella (chickenpox) reported to MDCH; this represents a 27% decline from the number reported in 2007. Gender was reported for 2,989 (98.1%), cases were evenly split between males and females. Age was reported for 3,009 (97.7%); the median age was 8 years (mean 9.5), with cases ranging from 19 days to 93 years. The largest number of cases was reported in the 5-9 year-old age group (1,481, 48.1% of cases), followed by the 10-19 year-old age group (967, 31.4% of cases) – see Varicella Figure 1.

Overall, 1,737 (57%) cases indicated prior receipt of varicella vaccine.

Varicella Figure 1

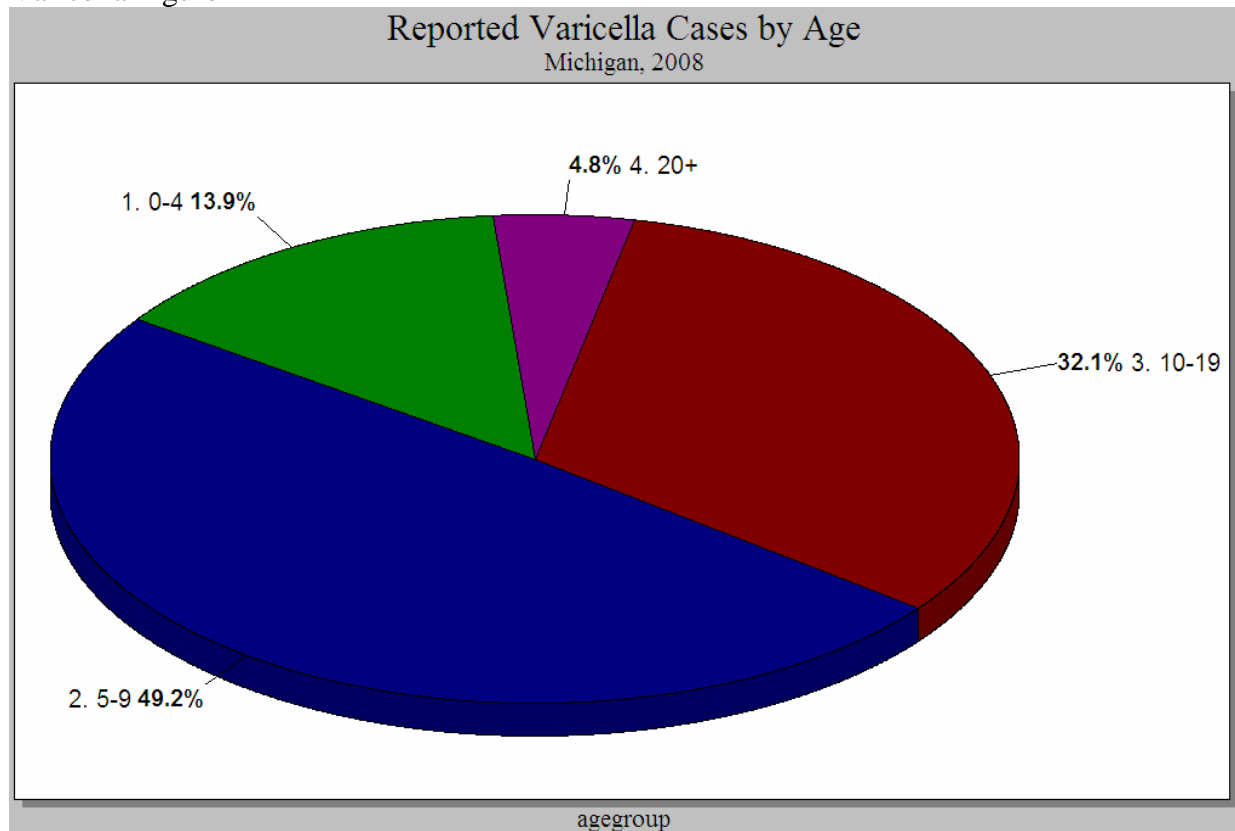


Table 1 - Number of reported cases of selected vaccine preventable diseases, Michigan, 2008 and 2007.

Disease	Total Cases 2008	Total Cases 2007
Congenital Rubella	0	0
Diphtheria	0	0
<i>H. influenzae</i> invasive <5 years (serotype b)	8(2)	13(1)
Measles	4	3
Mumps	39	29
Pertussis	315	292
Poliomyelitis	0	0
Rubella	0	3
Tetanus	1	0
Varicella	3,048	4,191