Methods. We reviewed US national surveillance data on confirmed measles cases reported to the Centers for Disease Control and Prevention during January 1, 2017– April 26, 2019. We describe the demographic characteristics, vaccination status, and disease epidemiology of measles cases.

Results. During 2017–April 2019, 1,196 measles cases were reported in 37 US States and Washington DC, including 146 (12%) importations from 37 countries; 108 (74%) of importations were US residents returning from travel abroad, of which 56 (50%) were unvaccinated and 31 (29%) had unknown vaccinations status. Among 1,148 cases who were US-residents, the highest incidence of measles was among infants and children aged 6–12 and 12–15 months (112 cases [9% of all person-years] and 106 cases [78% of all person-years], respectively). Among US-resident cases, 846 (74%) were unvaccinated and 163 (14%) had unknown vaccination status; 777 (68%) were considered to have preventable measles (i.e., were eligible for vaccination but unvaccinated). Among the 1,196 cases, 85 were single cases, and the remaining 1,111 represented 19 two-case chains and 34 outbreaks of 3 or more cases linked epidemiologically; the median outbreak size and duration was 6 cases (range, 3 to 452 cases) and 19.5 days (range, 5 to 205 days). A total of 934 (78%) of the 1,196 cases and 13 (38%) of the 34 outbreaks occurred in under-immunized close-knit communities; eight outbreaks are ongoing.

Conclusion. Outbreaks of measles in the United States result from recurring measles introductions and subsequent measles spread, especially in under-immunized close-knit communities. To sustain measles elimination, it will be necessary to maintain timely routine high coverage with MMR vaccine, improve implementation of pretravel recommendations to minimize importations, and close immunity gaps in communities of US residents who remain unvaccinated.

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2902. Pertussis Antibody Levels in Preterm Infants After Maternal Tdap Immunization During Pregnancy

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Background. Maternal immunization with tetanus, diphtheria, acellular pertussis vaccine (Tdap) in the third trimester reduces infant pertussis, but data are lacking on how this strategy impacts pertussis levels in large cohorts of preterm infants.

Methods. We collected paired maternal delivery–cord sera from infants of women who received Tdap ≥27 days before birth. IgG to pertussis toxin (PT), filamentous hemagglutinin (FHA), fimbrial proteins (FIM) and pertactin (PRN) was quantified by Luminex assay (IU/mL). Geometric mean concentrations (GMC) with 95% confidence intervals (CI) for pertussis antibodies were calculated. Four infant groups were compared by weeks of gestation: very (<32), moderate (32–33) and late preterm (34–36), and term (≥37).

Results. 344 preterm and 688 term mother-infant pairs were included. Among preterm infants, mean maternal age was 31.2 years (range 15.1–39.3); 37% were white, 37% Hispanic, 17% Black, 8% Asian and 3% other. Fifty-six were very preterm infants (16%, mean gestation 30.5 weeks), 82 moderate (24%, 33.1 weeks), and 206 late (60%, 35.4 weeks); 17% (50) were born <32 weeks. For preterm infants, Tdap was administered at a mean gestation of 29.9 weeks (27.9; 29.7; 29.3; [P < .001]) and 3 days before delivery (very 17; moderate 24; late 34.5; [P < .001]). Eleven (3%) women received Tdap during the second trimester (8 very, 2 moderate, 1 late), GMCs (95% CI) of pertussis-specific IgG at birth varied by gestation interval (CI for pertussis antibodies were calculated). Four infant groups were compared by weeks of gestation: very (<32), moderate (32–33) and late preterm (34–36), and term (≥37).

Conclusion. Although levels are lower than in term infants, maternal immunization with Tdap results in substantial pertussis-specific antibodies in most preterm infants, especially late preterm infants.

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