

Effects of the COVID-19 Pandemic on Routine Pediatric Vaccine Ordering and Administration — United States, 2020

Jeanne M. Santoli, MD¹; Megan C. Lindley, MPH¹; Malini B. DeSilva, MD²; Elyse O. Kharbanda, MD²; Matthew F. Daley, MD³; Lisa Galloway¹; Julianne Gee, MPH⁴; Mick Glover⁵; Ben Herring⁶; Yoonjae Kang, MPH¹; Paul Lucas, MS¹; Cameron Noblit, MPH¹; Jeanne Tropper, MPH, MS, MBA¹; Tara Vogt, PhD¹; Eric Weintraub, MPH⁴

On March 13, 2020, the President of the United States declared a national emergency in response to the coronavirus disease-2019 (COVID-19) pandemic (1). With laboratory-confirmed reports in all 50 states by that time (2), disruptions were anticipated in the U.S. health care system's ability to continue providing routine preventive and other nonemergency care. In addition, many states and localities issued shelter-in-place or stay-at-home orders to reduce the spread of COVID-19, limiting movement outside the home to essential activities (3). On March 24, CDC posted guidance emphasizing the importance of routine well child care and immunization, particularly for children aged ≤ 24 months, when many childhood vaccines are recommended.*

Two data sources were examined to assess the impact of the pandemic on pediatric vaccination in the United States: Vaccines for Children Program (VFC) provider order data from CDC's Vaccine Tracking System and Vaccine Safety Datalink (VSD) vaccine administration data. Vaccination coverage is the traditional metric used to assess vaccine usage; however, provider orders and doses administered represent two immediately available proxy measures.

VFC is a national program that provides federally purchased vaccines to approximately 50% of U.S. children aged 0–18 years.[†] Cumulative doses of VFC-funded vaccines ordered by health care providers at weekly intervals during two periods (January 7, 2019–April 21, 2019 [period 1] and January 6, 2020–April 19, 2020 [period 2]) were tallied, and

differences in cumulative weekly vaccine doses ordered between period 2 and period 1 were calculated for all noninfluenza vaccines[§] that the Advisory Committee on Immunization Practices (ACIP) recommends for children and, as an example, for measles-containing-vaccines.[¶] VSD is a collaborative project between CDC's Immunization Safety Office and eight U.S. health care organizations serving publicly and privately insured patients.** Aggregate counts of measles-containing vaccine doses administered each week at VSD sites during period 2 were compared between two pediatric age groups: children aged ≤ 24 months and those aged >24 months through 18 years.

Vaccine Tracking System data indicate a notable decrease in orders for VFC-funded and ACIP-recommended noninfluenza childhood vaccines and for measles-containing vaccines during period 2 relative to period 1 (Figure). The decline began the week after the national emergency declaration; similar declines in orders for other vaccines were also observed. VSD data show a corresponding decline in measles-containing vaccine administrations beginning the week of March 16, 2020. The decrease was less prominent among children aged ≤ 24 months than among older children (Figure). The subsequent increase in vaccine administrations observed in late March was more prominent in younger than older children.

The substantial reduction observed in VFC-funded pediatric vaccine ordering after the COVID-19 emergency declaration is consistent with changes in vaccine administrations among children in the VSD population receiving care through eight

* <https://www.cdc.gov/coronavirus/2019-ncov/hcp/pediatric-hcp.html>.

[†] Children aged ≤ 18 years are eligible if they are Medicaid-eligible, uninsured, American Indian/Alaska Native, or underinsured and vaccinated at federally qualified health centers, rural health clinics, or provider sites with an approved deputization agreement with the state public health department. <https://www.cdc.gov/vaccines/programs/vfc/index.html>.

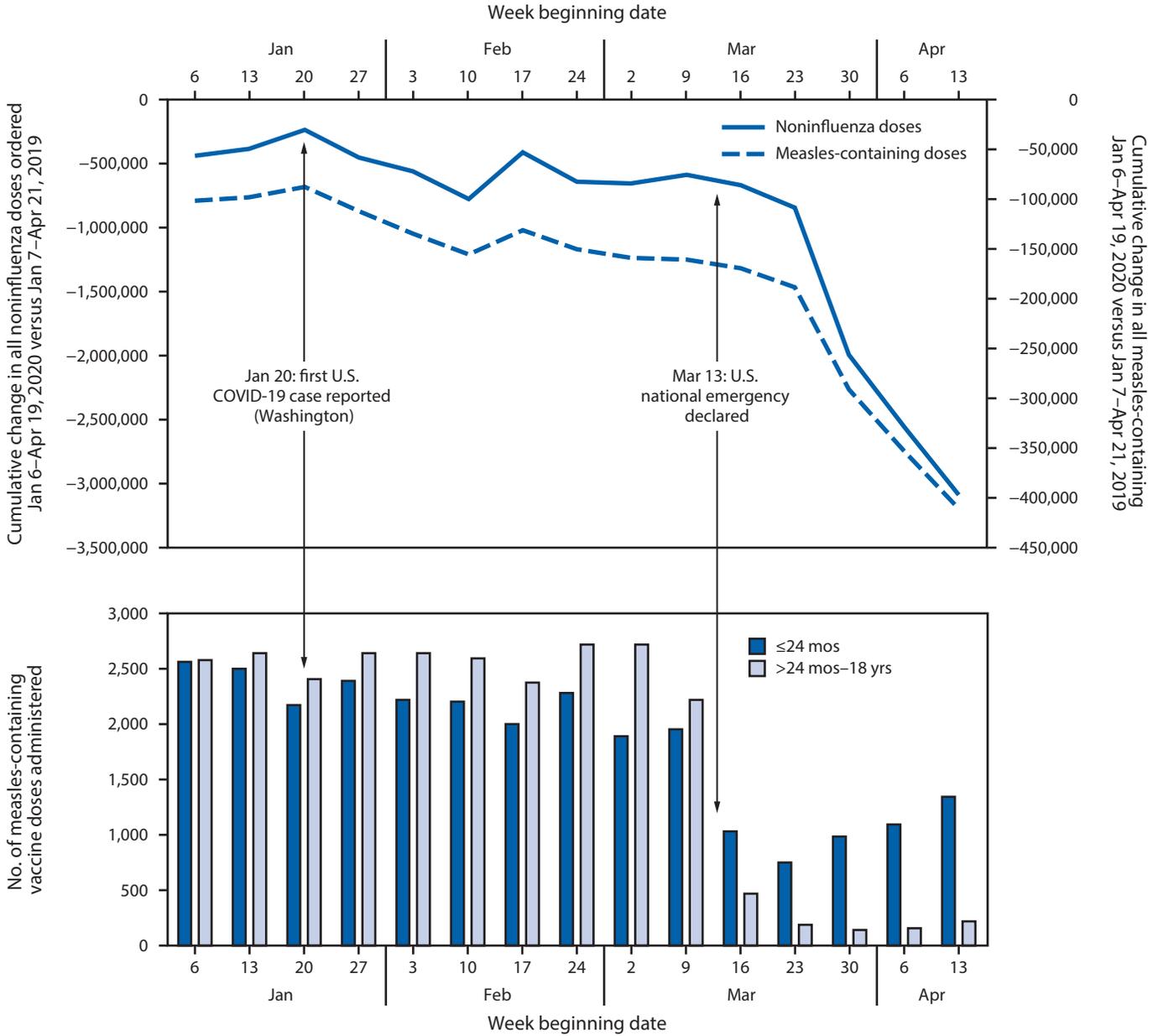
[§] <https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html>.

[¶] In the United States, two measles-containing vaccines are licensed for routine use in children: measles-mumps-rubella (MMR) vaccine and a combination MMR and varicella vaccine (MMRV). The Advisory Committee on Immunization Practices recommends that U.S. children receive a 2-dose series of measles-containing vaccines at ages 12–15 months and 4–6 years.

** <https://www.cdc.gov/vaccinesafety/ensuringsafety/monitoring/vsd/>.



FIGURE. Weekly changes in Vaccines for Children Program (VFC) provider orders* and Vaccine Safety Datalink (VSD) doses administered† for routine pediatric vaccines — United States, January 6–April 19, 2020



* VFC data represent the difference in cumulative doses of VFC-funded noninfluenza and measles-containing vaccines ordered by health care providers at weekly intervals between Jan 7–Apr 21, 2019, and Jan 6–Apr 19, 2020.

† VSD data depict weekly measles-containing vaccine doses administered by age group (age ≤24 mos and >24 mos–18 yrs).

large U.S. health care organizations. The smaller decline in measles-containing vaccine administrations among children aged ≤24 months suggests that system-level strategies to prioritize well child care and immunization for this age group are being implemented. Increases in vaccine administration to children aged ≤24 months beginning in late March might reflect early success of strategies implemented by VSD health care organizations to promote childhood vaccinations in the

context of the pandemic, including outreach to patients overdue for vaccinations and changing office workflows to minimize contact between patients (4). Assessment of state and local vaccination coverage is needed to quantify the impact among U.S. children of all ages and prioritize areas for intervention.

The ongoing COVID-19 pandemic is a reminder of the importance of vaccination. The identified declines in routine pediatric vaccine ordering and doses administered might

indicate that U.S. children and their communities face increased risks for outbreaks of vaccine-preventable diseases. Parental concerns about potentially exposing their children to COVID-19 during well child visits might contribute to the declines observed (5). To the extent that this is the case, reminding parents of the vital need to protect their children against serious vaccine-preventable diseases, even as the COVID-19 pandemic continues, is critical. As social distancing requirements are relaxed, children who are not protected by vaccines will be more vulnerable to diseases such as measles. In response, continued coordinated efforts between health care providers and public health officials at the local, state, and federal levels will be necessary to achieve rapid catch-up vaccination.

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Corresponding author: Jeanne Santoli, jsantoli@cdc.gov, 404-639-8877.

¹Immunization Services Division, National Center for Immunization and Respiratory Diseases, CDC; ²HealthPartners Institute, Minneapolis, Minnesota; ³Institute for Health Research, Kaiser Permanente Colorado, Aurora, Colorado; ⁴Division of Healthcare Quality Promotion, National Center for Emerging Zoonotic and Infectious Diseases, CDC; ⁵Total Solutions, Inc., Madison, Alabama; ⁶Carter Consulting, Inc., Atlanta, Georgia.

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