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Title

Impact of the COVID-19 pandemic on routine immunization coverage in children under 2 years old in Ontario, Canada

Priority 1 (Research Category)

COVID-19

Presenters

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Abstract

Context: The COVID-19 pandemic has caused a disruption in routine childhood immunization coverage all around the world. Such data has not yet been reported in Canada, where vaccines are mainly given in family medicine/primary care settings. Objective: To determine the immunization coverage for children under 2 years old in Ontario, Canada, before and during the pandemic, using primary care data. Study Design: Retrospective, repeated cross-sectional study. Dataset: Electronic medical record data from January 2019 to December 2020 from primary care practices included in the University of Toronto Practice-Based Research Network (UTOPIAN) database. Population studied: 12,313 children born on/after January 1, 2017, who receive care from family physicians included in UTOPIAN and have at least 2 visits recorded, were included. Outcome Measures: Immunization up-to-date (UTD) coverage by age (2, 4, 6, 12, 15, 18 and 24 months), by specific vaccine (DTaP, PneuC, Rot, MenCC, MMR, Var) and overall were compared over 3 periods of time: T1 = baseline/before the pandemic (Jan 1, 2019–March 16, 2020); T2 = during first wave/lockdown of the pandemic (March 17–July 31, 2020), and T3 = after first lockdown (Aug 1–Dec 31, 2020). Results: Overall UTD coverage was 71.0% in T1, dropped by 5.7% (95% CI: -6.2, -5.1) in T2 and remained 4.0% (95% CI: -4.6, -3.6) lower in T3 compared to T1. The most important decreases were seen at ages 15-month and 18-month old, with drops in UTD coverage of 14.7% (95% CI: -18.7, -10.6) and 16.4% (95% CI: -20.0, -12.8) respectively during T2, with improved but still lower coverage in T3 compared to T1. UTD coverage for younger children aged 2 and 4-months was not significantly impacted by the pandemic. Varicella vaccine (given at 15 months) UTD coverage is the lowest at baseline (72.9%) and decreased the most in T2 (-6.3%; 95% CI: -7.2, -5.4). MMR vaccine (given at 12 months) UTD coverage slightly decreased in T2 (-1.7%; 95% CI: -2.3, -1.2). Conclusions: The pandemic has negatively impacted the UTD coverage of routine immunizations for children under 2 years old in Ontario, especially for children between 1-2 years old. While there is some improvement in UTD coverage in the later period of the pandemic, rates remain lower than the pre-pandemic period. Public

health and educational interventions for providers and parents are needed to ensure adequate catch-up of delayed/missed immunizations to prevent potential outbreaks of vaccine-preventable diseases.