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Overview

Research shows that many parents would prefer to get their child vaccinated at their pediatrician's office. However, little is known about how often COVID-19 vaccines are administered, and during which types of visits. Although COVID-19 vaccination prevents severe disease and hospitalization in children and adolescents, vaccination rates are too low. As COVID-19 vaccines are most likely delivered in pediatric practices, the study explored COVID-19 vaccine delivery in pediatric practices to guide future vaccine promotion efforts.

Researchers wanted to know

- What was the demographic profile of children ages 5 to 17 who were vaccinated between July 2021 and July 2022?
- At what types of visits (i.e., well-child visit, sick visit, etc) were COVID-19 vaccines administered?
- How did trends in vaccine administration evolve over time in comparison to case rates for COVID-19 infection?

Study

Our team at UMass Chan explored COVID-19 vaccination patterns on a safety-net pediatric clinic affiliated with a medical center in Central Massachusetts. The study used electronic health record data from July 1, 2021, to July 25, 2022 to examine demographics, visit types, and doses administered. We analyzed two age groups 5-to-11-year-olds and 12-to-17-year-olds because of differences in vaccine recommendations to the different age groups. The team analyzed the types of visits administering vaccines, the dose in the series that was administered (i.e., primary doses vs booster), and demographics of the patient population.

A total of 1,409 children received a total of 2,197 doses of the COVID-19 vaccines. The first doses was the most common (45%), followed by second doses (38%) and booster doses (17%). First doses are often given at nurse or well-child visits, while second doses primarily occur at nurse visits. Booster doses are mostly administered at well-child visits, follow-up, and sick visits. The analysis also identified vaccination trends, such as increases before the school year and during the Omicron surge. These findings suggest strategies to optimize vaccine delivery, such as utilizing all visit types, promoting nurse-only visits, and incorporating electronic health record (EHR) prompts for vaccine status. Study limitations included the single-clinic focus and potential for external vaccine administrations. Despite limitations, the results provide insights into challenges and strategies for improving pediatric COVID-19 vaccine delivery.

The Bottom Line

Leveraging clinic-level data to explore patterns in vaccine administration is important in better understanding opportunities to improve vaccine delivery. The results highlight the importance of well-child and nurse visits for vaccination delivery, and a potential to explore additional vaccine opportunities, such as sick visits and follow-up visits.

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Source

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Spotlight on Results

- 1,409 children were vaccinated in the study period; 55% were aged 5 to 11, 50% were female, and 37% were Hispanic/Latino. A total of 2,197 doses were administered during the first year, with 45% being first doses, 38% second doses, and 17% booster doses.
- Vaccination most commonly occurred at well-child or nurse-only visits, with very few vaccines given at follow-up or sick visits. First doses were often given at nurse or well-child visits, while second doses primarily occurred at nurse visits. Booster doses were mostly administered at well-child visits, follow-up, and sick visits.
- Looking at month-by-month trends, increases in vaccine doses being delivered occurred in Fall 2021 and during the height of the Omicron variant surge in January 2022.

Call for Action

Electronic health record data on vaccine administration can provide critical insight into the vaccine delivery process and help clinics identify areas of opportunity. These findings suggest strategies to optimize vaccine delivery, such as utilizing all visit types, promoting nurse-only visits, and incorporating electronic health record (EHR) prompts for vaccine status.

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