Using Immunization Information System Provider Level Data to Guide VFC Flu Prebooking

Jalyn Ingalls, MA and Adam Hart, MPH
Michigan Department of Health and Human Services

Background

The vaccines for Children (VFC) program is a federally funded program that provides vaccines at no cost to children who might not otherwise be vaccinated because of an inability to pay. In Michigan there were 1,222 active providers enrolled in the VFC program, with almost 550,000 children eligible for VFC vaccines as of October 2016. Using the Michigan Care Improvement Registry (MCIR), Michigan’s Immunization Information System (IIS), providers enrolled in the VFC program prebook flu vaccine for the upcoming flu season. On average, Michigan VFC providers only prebooked enough flu vaccine to cover 66% of their VFC population during the 2016-17 flu season. This is problematic as the VFC provider should be ensuring that all of the VFC children enrolled at their office are receiving all recommended vaccines.

In response to this trend, the Division of Immunization created a tool for local health departments to use to share data with VFC providers that showed possible gaps in the number of flu vaccines ordered for their VFC population, and a target number of flu vaccine doses they would need to vaccinate 70% and 100% of their VFC population. There were three objectives for this project:

1) Increase the number of flu vaccine doses prebooked by VFC providers
2) Increase flu vaccination coverage among children ages 6 months to 17 years of age
3) Educate VFC providers and local health departments on the gaps in flu vaccination coverage among their VFC populations

Flu Prebooking Tool Methods

- Discussions were held via conference call to determine what data would be most helpful for VFC providers making decisions during the flu prebooking process
- Variables were chosen at the request of the Immunization coordinators and Immunization leads at local health departments
- Focus was to create a tool that was straightforward for the end users (immunization coordinators, local health department staff, and VFC providers)
- Tool consisted of VFC provider level data broken down by county
- Each column had a title heading and a description of exactly what data were provided. Columns in the tool included:
  - VFC Provider Name
  - VFC Provider County
  - VFC Provider Population
  - VFC Provider PPR Coverage
  - VFC Provider Doses Administered
  - VFC Provider Doses Prebooked

Flu Prebooking Tool Results

- The tool was distributed in January 2017 to local health departments to assist VFC providers with the 2017-18 flu season.
- Once 2017-18 flu prebooking was closed, a paired-samples t-test was conducted to compare the number of flu vaccines prebooked for the 2016-17 season and the number of flu vaccines prebooked for the 2017-18 flu season.
- A paired-samples t-test was also conducted to compare the percent of VFC population that could be covered if all prebooked doses were administered in the 2017-18 flu season and the percent of VFC population that could be covered if all prebooked doses were administered in 2016-17 flu season.
- A one question survey was distributed to all local health departments during a statewide Immunization Coordinators meeting, which asked, “How did you use the Flu Prebooking Tool to guide your VFC providers during the flu prebooking process?”

**Results of the Local Health Department Survey**

- There were 1,222 providers enrolled in the VFC program that reported a VFC population in October 2016. The average VFC provider population was 404, ranging from 1 to 6,006.
- The average number of doses were prebooked ranging from 0 to 3,350. In comparison, the 2017-18 flu season, following the distribution of the Flu Prebooking Tool, the average number of flu doses prebooked was 230, with a range from 0 to 3,160.
- There was a statistically significant increase in the number of flu vaccines doses prebooked for the 2017-18 flu season (M=229.8, SD=361.5) compared to the 2016-17 flu season (M=204.6, SD=330.2); t(1221)=5.49, p<.0001.
- There was also a statistically significant increase in the percent of VFC population that each provider could cover, if they administered all of the flu vaccines that they prebooked for the 2017-18 flu season (M=0.74, SD=2.0) compared to the 2016-17 flu season (M=0.66, SD=1.8); t(1221)=2.66, p=.008.

These results suggest that the use of the Flu Prebooking Tool increased the number of flu vaccine doses that were prebooked by Michigan VFC providers, and increased the percent of VFC population a VFC provider could cover if all of the prebooked doses were administered from 66% to 74%.

**Discussion**

The use of the Flu Prebooking Tool led to an increase in the number of flu vaccine doses that were prebooked for the 2017-18 flu season, and an increase in the percent of VFC population a VFC provider could cover if all of the prebooked doses were administered. The tool was designed to provide a target prebook amount to encourage providers to prebook enough flu vaccine to cover at least 70% of their VFC population. While it is not guaranteed that providers will use these doses, the goal of Flu Prebooking Tool was achieved. Results of the survey showed that the majority of local health departments used the information provided to help guide their VFC providers during the prebooking process. Based on feedback, the Flu Prebooking Tool will be disseminated earlier in the prebooking process so that local health departments have sufficient time to work with VFC providers in their counties. Moving forward, analysis will be done on the number of doses administered in comparison to how many were prebooked to determine if VFC providers are making the use of the increased number of flu vaccine doses they receive.

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**Author Contact Information**

Jalyn Ingalls, MA, Influenza Outreach Coordinator
P: 517-284-4874; IngallsJH@Michigan.gov