

Comparison of Influenza Vaccination Rate among children at Pediatric clinic over three seasons after intervention

Madeline Paul¹, Christopher S Wichman PhD¹, Jayan Vasudevan MBBS¹, Cristina Fernandez MD¹,

Debra Tomak MD², Meera Varman MD¹

Creighton University School of medicine, Children's Hospital and Medical Center, Omaha, NE

Background: There were 8467 influenza associated hospitalization and four pediatric deaths in 2015-16 season in US. The annual influenza vaccination is recommended for everyone six months of age and older by the center for disease control. The vaccine is either trivalent or quadrivalent covering the predicted prevalent strains of influenza. National influenza vaccination rates for the pediatric population (6 mos.-17 years) were 58.8% in the 2013-2014 season, 59.3% in 2014-2015, and have yet to be reported for the 2015-2016 season. This project evaluated the pediatric influenza vaccination rates in 3 consecutive seasons with interventions.

Method: Since this is a QI project IRB approval is waived. This is a retrospective and prospective assessment of influenza vaccination rates among children at a community pediatric clinic before and after interventions. We obtained baseline vaccination rate for August 2013-April 2014 season. There was extended clinic hours added for the season of August 2014-April 2015. In the August 2015- April 2016 influenza education was added in the clinic with CDC posters, hand-outs and a presentation of the influenza vaccination rate with intervention ideas. Rates were also evaluated for at-risk population of patients with asthma/reactive airway disease (RAD).

Results:

	2013-2014	2014-2015	2015-2016
Overall rate	58.7%	58.8%	57.9%
RAD/Asthmatics	67%	59%	59%
6 m -23 months	72%	71%	75%
≥14 years	39%	44%	43%

Overall there is a downward trend in influenza vaccination rate across seasons with increasing age (75% to 43%); 13-14 yr olds is significantly higher than 14-15 $p < 0.0001$; and 14-15 yr olds was significantly higher than 15-16 $p < 0.0001$. Among 13-14 yr olds those with asthma were vaccinated at a higher proportion than those without asthma $p = 0.0008$. Among asthmatics 13-14 yr old rate is higher than 14-15 $p = 0.0248$ and 15-16 yr olds $p = 0.0157$

Conclusion: The interventions did not result in significant improvement in the vaccination rates in the clinic including high risk patients. Overall rates at the CU Children's Physician clinic were consistent with national average. The reason for lower vaccination rates in the older age groups may be due to vaccination at an outside facility. Integrating the immunization information system from multiple facilities could predict accurate data. Further interventions with vaccine reminders, avoiding missed opportunities and team effort would be necessary to increase the vaccination rates.