Improving Immunization Rates for Hepatitis A and Influenza in a Federally Qualified Health Center

Angie A. Garcia BSN, RN
DNP Chair: Sallie Porter, DNP, PhD, APN, RN-BC CPNP, FNAP ; Team Member: Melanie Percy, RN, PhD, CPNP, FAAN

Introduction

- Vaccination is probably one of the most effective public health initiatives, reducing childhood morbidity and mortality as well as reducing the financial burden of disease within the healthcare system (Ventola, 2016)
- Problem: A quarterly manual chart review conducted in 2018 for a Federally Qualified Health Center in Northern NJ indicates the most common trends of vaccines missing or given after 24 months of age include hepatitis A and the influenza vaccines
- The purpose of this quality improvement project is to identify if electronic alerts embedded in the electronic medical record system that serve as a reminder for pediatric healthcare providers would increase hepatitis A and influenza immunization rates within the 6-24 month pediatric population at an urban FQHC
- Computer- based provider alerts are recommended by the American Academy of Pediatrics (2019) as a strategy to increase immunization rates and is also supported by various studies (Bundy et al., 2013; Erst, 2017; Ruffin et al., 2015)
- Alerts followed recommendations by the Advisory Committee on Immunization Practices (ACIP) schedule

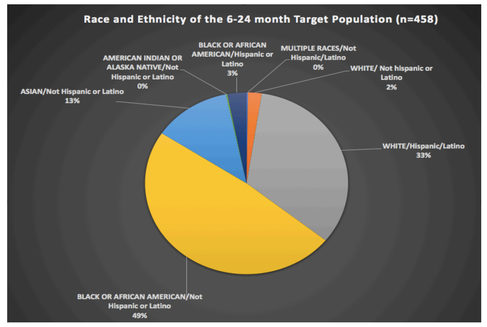
Methodology

- This quality improvement project used a pre-and post-implementation design in which chart audits were conducted to assess for statistically significant changes on hepatitis A and Influenza immunization rates, as well as changes when simple percentages were calculated
- Pre- implementation data included chart review of the previous year's rates for hepatitis A and influenza vaccines (October 2018 and November 2018)
- Participants in the study included pediatric healthcare providers who were employed at the FQHC site
- The electronic alerts were implemented for 2 months (October 2019 and November 2019)
- A data abstraction form tool was used to collect both pre and post-implementation data

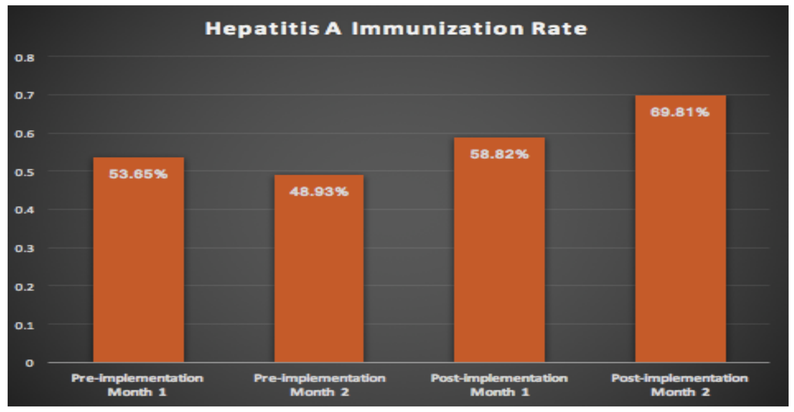
Findings

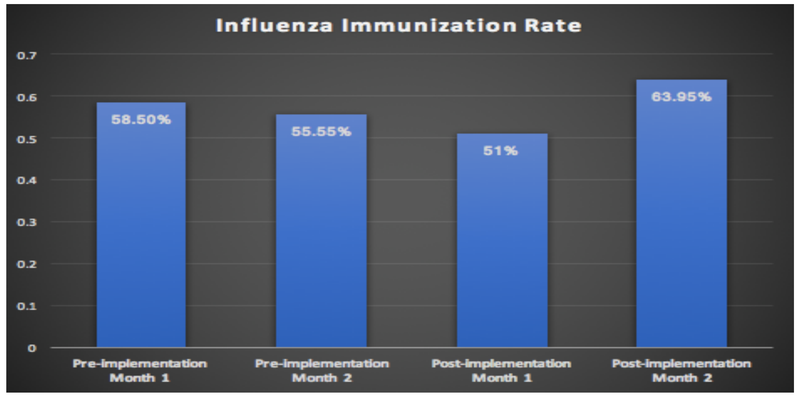
- **Participants**: 4 pediatric healthcare providers
- **Subjects :** 6-24 month pediatric population, with a total of (*n*= 458) charts included from audit
  - Pre-implementation: (*n* =240)
  - Post-implementation: (*n* =218)

- **Subject demographics**:
  - Race and Ethnicity
  - Gender: 47% Female/ 51% Male
  - Mean Age: 13.7 months



- Pre and post-implementation immunization rates were not statistically significant for hepatitis A vaccine (p = .066)
- Pre and post-implementation immunization rates were not statistically significant for the influenza vaccine (p = .841)
- This two-month long implementation resulted in no statistically significant differences in hepatitis A or Influenza pre and post immunization rates using a chi square test when comparing pre and post implementation rates
- Hepatitis A immunization rates, although not statistically significant, did demonstrate an overall increase of 11.11%
- There was an increase in hepatitis A vaccination given on the date of medical visit, with more than a 50 % increase from baseline percentage
- Month by month data showed a trend of increased uptake for the influenza vaccination given on same day of medical visit in the second month post-implementation, which was 51.16%.
- Data analyzed month by month for influenza vaccine immunization rates showed an initial decrease followed by an increased trend of vaccine compliance





Discussion

- Implementation of electronic alerts on the computers of pediatric providers demonstrated increased immunization rates in this 6-24 month population
- It may also decrease missed opportunities, as suggested by the increase in vaccination given on date of visit for both vaccines, especially hepatitis A
- The results of this study may be helpful in deciding what strategies could be useful in increasing immunization rates for other healthcare facilities/organizations/clinics

Implications

- May allow for decrease in barriers to vaccinations such as "missed opportunities" (CDC, 2018) in pediatric primary care
- Potential economic benefits of the project include the potential minimization of the overall financial burden of hepatitis A and influenza disease
- Education for healthcare providers can be beneficial and can include the purpose of the electronic alert
- Policy may be added or modified at project site to include the use of electronic alerts
- Pediatric Primary care settings can use this strategy to increase immunization rates on other vaccines and possibly in the adult population
- Children within this community may be better protected from disease and out breaks (specifically hepatitis A and influenza)
- Plans for future scholarship involve other quality improvement projects, and community assessments in order to implement strategies based on evidence-based practice to continue to improve immunization rate/compliance within this specific community

Conclusion

- The findings of the project did not reflect other studies that demonstrated statistically significant increases in immunization rates, but an overall increase (11.11%) in percentage was seen for hepatitis A, as well as an increase in vaccination given on date of visit
- Implementation of alerts may encourage pediatric primary care providers to timely vaccinate as per (ACIP) schedule
- Further research is needed before a conclusion can be made about the ultimate effectiveness of electronic alerts on immunization rates

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Contact: Angie A. Garcia BSN, RN
Email: angieagarcia24@gmail.com