ASSESSING IMMUNIZATION STATUS OF EVERY PATIENT, EVERY TIME: A QUALITY IMPROVEMENT PROJECT

Kimberly A. Peterson, BS(N), RN, DNP Student
University of Missouri – Sinclair School of Nursing

INTRODUCTION

- 28 vaccine-preventable diseases (VPD); 17 recommended beginning within 24 hours of birth (U.S. Department of Health and Human Services [USDHHS], 2012)
- Current practice includes use of electronic medical record (EMR) as simple and secure way to record and track immunizations
- Use of immunization information systems increases efficiency of data collection and facilitates rapid and accurate reporting of immunization status (Wilson, Atkinson, Deeks, & Crowcroft, 2015)
- Provider oversights plays important role in missed opportunities to immunize individuals
  - ≈ 22.4 million children worldwide not vaccinated in 2011 (World Health Organization, 2012); Yearly average of adult hospitalizations related to influenza in US is 226,000 (USDHHS, 2015)

Objectives

1. 50% of all office visits will have immunization status verified through the Minnesota Immunization Information Connection (MIIC) database in the EMR
2. A 15% improvement in immunization rates in the clinic

MATERIALS AND METHODS

Using a confidence level of 95%, a maximum margin of error of 5%, and a population size of 2000, with a 9% response distribution, a minimum of 120 charts were required at baseline and follow-up.

- Baseline: 20 charts (n = 120)
- Follow-Up: 30 charts (n = 180)

Results

Total Patient Immunizations Up To Date.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Baseline Group</th>
<th>Follow-Up Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth-18M</td>
<td>38</td>
<td>42</td>
</tr>
<tr>
<td>19-36M</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>36M and Over</td>
<td>74</td>
<td>71</td>
</tr>
</tbody>
</table>

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- Level of significance = p ≤ .05

CONCLUSIONS

Objective 1 met ~ 79% of follow-up charts included documentation in the EMR of MIIC verification

Objective 2 met ~ 17% increase in overall immunizations was identified in the clinic

- Strong clinical significance indicating the practical importance of this project
- This type of program has the ability to improve patient and population health
- Strengths
  - Systematic random sampling at baseline and follow-up
  - Demonstration of statistical and clinical significance in primary and multiple secondary outcomes
- Limitations
  - Short time period of the study
  - Implementation in a single primary care clinic
  - Baseline collection of data completed at beginning of flu season with follow-up completed at its height

RECOMMENDATIONS

- Continue the practice of obtaining immunization status from MIIC and comparing to the EMR to obtain the most complete information, and documenting status to improve adherence to process
- Monthly reminders to assess immunization status for every patient
- Include education in new provider orientation
- Ongoing encouragement to providers that continued use of this process would lead to hardwiring a permanent change in practice

REFERENCES

- United States Department of Health and Human Services, Centers for Disease Control and Prevention. (2012). (I)

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Contact: kap535@mail.missouri.edu
Sinclair SON URL: http://nursing.missouri.edu/index.php