Progress in Developing Adult Immunization Composite Measures

CAPT THOMAS WEISER, MD, MPH
MEDICAL EPIDEMIOLOGIST
PORTLAND AREA INDIAN HEALTH SERVICE
NORTHWEST TRIBAL EPIDEMIOLOGY CENTER
TWEISER@NPAIHB.ORG

NANCY BENNETT, MBA, BS
BIOSTATISTICIAN
NORTHWEST TRIBAL EPIDEMIOLOGY CENTER
NBENNETT@NPAIHB.ORG

AMY GROOM, MPH

Northwest Tribal Epidemiology Center

- Established in 1996, housed within the Northwest Portland Area Indian Health Board
- Collaborates with 43 member tribes to provide health-related research, surveillance, training, and technical assistance to improve the quality of life for Northwest AI/AN
- All activities supported by tribal resolutions, and reviewed by the Portland Area IHS Institutional Review Board
Beyond Influenza and Pneumococcal vaccine

- The adult immunization schedule has grown more complex with the recent introduction of several new vaccines
- 2012 National Adult Influenza and Immunization Summit recommended a study to assess the feasibility of implementing adult immunization composite measures to include all recommended adult vaccines
  - The IHS and VA worked together to develop Phase I of the Adult Immunization Composite Measure project
  - The current project, “Phase II”, was designed to evaluate the measure under real-world conditions
Why a Composite Measure?

- Provides a broad perspective on the system of vaccination at a facility
  - Rather than a campaign to increase coverage with one vaccine, encourages a systematic approach for all vaccines
- Multiple measures make it challenging to implement broad-based immunization quality improvement activities
- “Composite measures can enhance measurement to extend beyond tracking performance on separate measures and can provide a potentially deeper view of the reliability of the care system”


Vaccines Included

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Vaccines Included</th>
<th>Optional</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 – 59 years</td>
<td>Tdap ever; Tdap or Td within 10 years (Tdap/Td)</td>
<td>Influenza</td>
</tr>
<tr>
<td>60 – 64</td>
<td>Tdap/Td; Zoster</td>
<td>Influenza</td>
</tr>
<tr>
<td>≥ 65</td>
<td>Tdap/Td; Zoster; Pneumococcal polysaccharide-23 (PPSV-23) or pneumococcal conjugate (PCV-13)</td>
<td>Influenza</td>
</tr>
</tbody>
</table>

Guiding Principals:
1. Focus on routine, age-based vaccine recommendations
2. Keep it simple
Electronic Health Records In IHS, Tribal and Urban Indian Health System

- **Resource and Patient Management System (RPMS)**
  - Derived from same original system as Veteran’s Affairs “VISTA”
  - EHR communicates with RPMS
  - No interconnectivity between sites
  - Patient Medical Record Number is unique to each site
  - Advanced Population Health Management tools
- **Non-RPMS (Commercial Off The Shelf [COTS])**
  - NextGen, Epic, Cerner, Centricity
Applicability of Composite Measures

- IHS
  - Government Performance and Results Act (GPRA)
- HRSA/FQHC
  - Uniform Data System (UDS)
- CMS
  - Meaningful Use
  - Medicare Access and CHIP Reauthorization Act (MACRA)
- Private Insurance/Other
  - Healthcare Effectiveness Data and Information Set (HEDIS)

Phase I Results

Composite Immunization Measure

[Bar chart showing the percentage of composite immunization measure for different age groups]
Phase II Objectives

- Assess the feasibility of implementing Adult Immunization Composite Measurement across IHS under different conditions
  - Ambulatory Care settings
  - Tribal settings using non-IHS Electronic Health Record systems
  - Hospital setting
- Evaluate the utility of the Adult Immunization Composite Measure for Quality Improvement

Phase II Deliverables

- Compile and review baseline data
- Introduce short-term quality improvement activities
- Monitor adult immunization coverage by reviewing immunization data on a monthly basis
- Evaluate measure through site visits and staff interviews
- Convene a final stakeholder’s meeting
- Provide feedback in a final report describing the pilot projects’ findings
Phase II Results

- Recruited 5 sites from 3 IHS Areas to participate:
  - 2 IHS Ambulatory Clinics
  - 2 Tribal Ambulatory Clinics using Next Gen EHR
  - 1 IHS Hospital
- Conducted monthly project webinars
- Reviewed data collected from sites monthly
- Visited site to assess current status of project, and conduct staff interviews
- Developed draft HEDIS measure proposal at stakeholder’s meeting

All Age-Recommended Vaccines Received, Ages 19 and over*

* Does not include influenza
Example of Specific Antigen Improvement

### 60-64

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Td/Tdap, Zoster, Flu</td>
<td>10%</td>
<td>0%</td>
<td>0%</td>
<td>6%</td>
<td>15%</td>
<td>20%</td>
<td>22%</td>
<td>28%</td>
</tr>
<tr>
<td>Td/Tdap, Zoster</td>
<td>12%</td>
<td>13%</td>
<td>14%</td>
<td>17%</td>
<td>20%</td>
<td>24%</td>
<td>26%</td>
<td>32%</td>
</tr>
<tr>
<td>Td/Tdap</td>
<td>86%</td>
<td>89%</td>
<td>89%</td>
<td>90%</td>
<td>90%</td>
<td>91%</td>
<td>91%</td>
<td>88%</td>
</tr>
<tr>
<td>Zoster</td>
<td>12.3%</td>
<td>14%</td>
<td>15%</td>
<td>17%</td>
<td>21%</td>
<td>24%</td>
<td>26%</td>
<td>35%</td>
</tr>
<tr>
<td>Flu</td>
<td>58%</td>
<td>0%</td>
<td>0%</td>
<td>24%</td>
<td>46%</td>
<td>52%</td>
<td>53%</td>
<td>62%</td>
</tr>
</tbody>
</table>

### 65+

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Td/Tdap, Zoster, Pneum, Flu</td>
<td>11%</td>
<td>0%</td>
<td>0%</td>
<td>10%</td>
<td>18%</td>
<td>24%</td>
<td>26%</td>
<td>28%</td>
</tr>
<tr>
<td>Td/Tdap, Zoster, Pneumo</td>
<td>12%</td>
<td>15%</td>
<td>18%</td>
<td>21%</td>
<td>24%</td>
<td>29%</td>
<td>31%</td>
<td>33%</td>
</tr>
<tr>
<td>Td/Tdap</td>
<td>87%</td>
<td>85%</td>
<td>85%</td>
<td>86%</td>
<td>87%</td>
<td>87%</td>
<td>88%</td>
<td>88%</td>
</tr>
<tr>
<td>Zoster</td>
<td>13%</td>
<td>17%</td>
<td>19%</td>
<td>23%</td>
<td>26%</td>
<td>30%</td>
<td>34%</td>
<td>35%</td>
</tr>
<tr>
<td>Pneumao</td>
<td>86%</td>
<td>83%</td>
<td>84%</td>
<td>85%</td>
<td>85%</td>
<td>86%</td>
<td>86%</td>
<td>86%</td>
</tr>
<tr>
<td>Flu</td>
<td>68%</td>
<td>1%</td>
<td>1%</td>
<td>27%</td>
<td>50%</td>
<td>59%</td>
<td>61%</td>
<td>62%</td>
</tr>
</tbody>
</table>
Site Feedback

- The regular, monthly monitoring helped teams focus on improving immunizations systematically
- Teams worked to optimize EHR reminders, identified individuals to learn how to run report
- Teams also defined roles for team members with regard to encouraging adult immunizations:
  - Nurses and Medical Assistants were primarily responsible for reviewing EHR reminders, initiating discussions with patients
  - Providers act as “back-up” - they counsel patients who are hesitant, provide staff education and generally let the nurses and MAs operate with a high level of autonomy

Challenges

- Only able to recruit 1 hospital given time constraints
- Zoster vaccine proved to be the rate-limiting antigen, especially for smaller sites
  - Cost
  - Storage and handling
- Data collection from non-IHS EHR sites proved difficult
  - Easier if used additional software package
Next Steps

• Complete final project report
• Make recommendation to IHS to replace current GPRA measure (PPSV-23 for adults 65 and older and Influenza for adults 18 and older) with the Adult Composite Measure ✔
• Advocate for additional financial support for zoster vaccine (NPAIHB)
• Continue to enhance data collection from non-IHS EHR
  o NPAIHB staff training with Next Gen
  o Review other data mining and reporting software

Acknowledgments
HHS/NVPO
NPAIHB
Victoria Warren-Mears Nancy Bennett Monika Damron Clarice Charging Sujata Joshi
IHS/CDC
Amy Groom, Diane Leach
IHS Division of Epidemiology & Disease Prevention
Our IHS and Tribal Site Partners!

Thank You!