Progress in Developing Adult Immunization Composite Measures

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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
NW Tribal Epidemiology Center
Adult Immunization Composite Measure
Project Team

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Tribal Epi-Center Director

CAPT Tom Weiser
Medical Epidemiologist

Clarice Charging
Immunizations Coordinator

Sujata Joshi
IDEA NW Project Director

Nancy L. Bennett
Project Biostatistician

Monika Trimble
Project Specialist
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”

_Institute of Medicine, Performance Measurement: Accelerating Improvement, Washington, DC: National Academies Press; 2006_
## Vaccines Included

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Vaccines Included</th>
<th>Optional</th>
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<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
Indian Health Service

Service Population: 2.2 Million
Phase I Results

Composite Immunization Measure

Coverage among Primary Care patients was higher in all 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 Medical 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
- Monthly project webinars
- Sites submitted data monthly
- Site Visits to assess current status of project, interview staff regarding overall perceptions, successes and challenges
- Stakeholder’s meeting in Portland Feb. 10-11
# Example of Specific Antigen Improvement

<table>
<thead>
<tr>
<th>60-64</th>
<th>Baseline</th>
<th>July</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</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>
</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>
</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>
</tr>
<tr>
<td>Zoster</td>
<td><strong>12.3%</strong></td>
<td>14%</td>
<td>15%</td>
<td>17%</td>
<td><strong>21%</strong></td>
<td><strong>24%</strong></td>
<td><strong>26%</strong></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>
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<table>
<thead>
<tr>
<th>65+</th>
<th>Baseline</th>
<th>July</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
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</thead>
<tbody>
<tr>
<td>Td/Tdap, Zoster, Pneumovax, Flu</td>
<td>11%</td>
<td>0%</td>
<td>0%</td>
<td>10%</td>
<td>18%</td>
<td>24%</td>
<td>26%</td>
</tr>
<tr>
<td>Td/Tdap, Zoster, Pneumovax</td>
<td>12%</td>
<td>15%</td>
<td>18%</td>
<td>21%</td>
<td>24%</td>
<td>29%</td>
<td>31%</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>
</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>
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<tr>
<td>Pneumovax</td>
<td>86%</td>
<td>83%</td>
<td>84%</td>
<td>85%</td>
<td>85%</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>
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</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 and (unfortunately) IRB considerations
- 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
Next Steps

- Complete site-specific reports and 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
  - NPAIHB staff training with Next Gen
  - Review other data mining and reporting software
Acknowledgments

HHS/NVPO

NPAIHB

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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!