Increasing HPV Vaccine Coverage

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IHS Immunization Program Analyst

Photos courtesy of the Alaska Native Tribal Health Consortium and the Indian Health Service
Advisory Committee on Immunization Practices Recommendation

• Routine HPV vaccination for males and females ages 11-12 years
  – Catch up vaccination for males 13-21 years
    • Can be given to males 22-26 years at high risk
  – Catch up vaccination for females 13-26 years

• Vaccine can be given starting at age 9 years to males and females

• 3 dose series
  – Recommended schedule is 0, 1-2 months, 6 months

**Licensed HPV vaccines**

**Characteristics of the three human papillomavirus (HPV) vaccines licensed for use in the United States**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Bivalent (2vHPV)</th>
<th>Quadrivalent (4vHPV)</th>
<th>9-valent (9vHPV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand name</td>
<td>Cervarix</td>
<td>Gardasil</td>
<td>Gardasil 9</td>
</tr>
<tr>
<td>Virus Like Particles</td>
<td>16, 18</td>
<td>6, 11, 16, 18</td>
<td>6, 11, 16, 18, 31, 33, 45, 52, 58</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>GlaxoSmithKline</td>
<td>Merck and Co., Inc.</td>
<td>Merck and Co., Inc.</td>
</tr>
<tr>
<td>Volume per dose</td>
<td>0.5 ml</td>
<td>0.5 ml</td>
<td>0.5 ml</td>
</tr>
<tr>
<td>Administration</td>
<td>Intramuscular</td>
<td>Intramuscular</td>
<td>Intramuscular</td>
</tr>
<tr>
<td>Recommended for</td>
<td>Females</td>
<td>Females and Males</td>
<td>Females and Males</td>
</tr>
</tbody>
</table>
Nine-Valent HPV (9vHPV)

• February 2015 ACIP meeting
  – HPV vaccine recommendation updated to include 9vHPV
  – No HPV vaccine preference stated

• Ideally should complete the series with the same HPV vaccine, BUT can complete series with a different HPV product if not available

• Providers should NOT wait for HPV9 to begin series

• Pending Issues (June ACIP meeting)
  – Booster dose of 9vHPV for those who completed series with different vaccine
  – Discussion re: 2 dose schedules
HPV9 Vaccine Availability

• Currently available for private purchase
• Available through VFC in some states as of May 1st
• State variation in roll out
HPV VACCINE COVERAGE
U.S. Adolescent Vaccine Coverage
13-17 Year Olds, 2007-2013

National vs. IHS Vaccination Coverage
2013, Ages 13-17 years

[Bar chart showing vaccination coverage for Tdap, MCV, HPV 1st dose for females, and HPV 1st dose for males.]


IHS Quarterly Immunization Reports. FY 2014 Quarter 1. Available at: [http://www.ihs.gov/epi/index.cfm?module=epi_vaccine_reports](http://www.ihs.gov/epi/index.cfm?module=epi_vaccine_reports)
The Adolescent Immunization Report includes all adolescents meeting the electronically-determined “Active Clinical” user definition – i.e. 2 primary care visits in the last 3 years.

IHS Quarterly Immunization Reports. FY 2015 Quarter 2. Available at: [http://www.ihs.gov/epi/index.cfm?module=epi_vaccine_reports](http://www.ihs.gov/epi/index.cfm?module=epi_vaccine_reports)
Coverage by IHS Area
Tdap, MCV4, and HPV 1st dose

IHS Quarterly Immunization Reports. FY 2015 Quarter 2. Available at: http://www.ihs.gov/epi/index.cfm?module=epi_vaccine_reports
IHS HPV Vaccine Project

• Five IHS Areas
  – Navajo, Oklahoma City, Nashville, Portland, Great Plains

• 9 Best Practice and 10 Intervention Sites
  – Interviews to identify best practices and barriers
  – Intervention Sites
    • Identify barriers to HPV vaccination
    • Identify and implement best practices
    • Monitor HPV vaccine coverage
Preliminary Findings

• Reminders already in place at all sites
• All reported simultaneous administration of all recommended adolescent vaccines
  – Tdap, MCV4, and HPV
• Standing orders, reminder/recall strategies in place at most sites
  – Intervention sites reported less consistent implementation
• Best Practice sites more likely to provide nurse-only visits
• Best Practice sites more likely to provide HPV information/education outside the clinic
Interventions Implemented

• Missed opportunities and missing data analysis
• Reminder/recall strategies
  – Phone calls, magnets, recording of date for next dose on card for patient
• Provider education
  – Standing orders
  – Making a strong recommendation
• Establish nurse-only immunization clinics
• Information through health fairs, schools, newsletters, other community events
  – Some sites vaccinated outside the clinic
HPV 1\textsuperscript{st} dose Vaccine Coverage, Pre/Post Intervention Males and Females

[Bar chart showing HPV 1\textsuperscript{st} dose vaccine coverage by facility and year (2013, 2014, 2015).]
HPV 3\textsuperscript{rd} dose Vaccine Coverage, Pre/Post Intervention Males and Females
Conclusion

• Multi-faceted approaches including evidence-based practices are key

• Increases in both HPV 1 dose and HPV 3 dose coverage at all intervention facilities
  – Mean increase in HPV vaccine series initiation (dose 1)
    • 21.6% (range 6.4% - 35.4%)
  – Mean increase in HPV vaccine series completion (dose 3)
    • 18.4% (range 2.2% - 29.1%).
Free Resources
Free Resources

• CDC Education Resources
  – Free posters
    • http://www.cdc.gov/vaccines/who/teens/products/print-materials.html?tab=2#TabbedPanels1
  – You Are The Key
    • http://www.cdc.gov/vaccines/who/teens/for-hcp/hpv-resources.html

• Immunization Action Coalition
  – http://www.immunize.org/hpv/

• Minnesota Department of Health
  – Provider videos re: making a strong recommendation
    • http://www.health.state.mn.us/divs/idepc/immunize/hcp/adol/hpv-videos.htm
HPV Vaccine Coverage Improvements: GIMC 2014 to 2015

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Deputy Chief of Pediatrics
Medical Consultant to the Child Protection Team
Gallup Indian Medical Center (GIMC)
Gallup, New Mexico
Gallup Indian Medical Center

- Indian Health Service (IHS) Hospital & Clinics
- Inpatient, Emergency Department (ED), Urgent Care Clinic (UCC), Pediatrics and Family Medicine Clinics
- Deliveries = ~600-700 per year
- Pediatrics Clinic = ~15,000 visits per year
- Peds & Family Med = Preventive Care Visits
- Demographics = Native American
2013
HPV Vaccine Coverage
13-17 year olds

CDC. National Immunization Survey-Teen. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6329a4.htm
IHS Quarterly Immunization Reports. FY 2014 Quarter 1. Available at: http://www.ihs.gov/epi/index.cfm?module=epi_vaccine_reports
Adolescent Vaccines Coverage Trends
GIMC, 13-17 Year-olds

Interventions began

Percent Vaccinated

- Tdap
- Mening
- HPV1 (all)
- HPV3 (all)

IHS Quarterly Immunization Reports. Available at: http://www.ihs.gov/epi/index.cfm?module=epi_vaccine_reports
HPV Vaccine Coverage Trends
GIMC, 13-17 Year-olds

http://www.ihs.gov/epi/index.cfm?module=epi_vaccine_reports
Reported Barriers to HPV Vaccination (Based on GIMC Practitioner Responses)

- **Patient/Parent barriers**
  - Beliefs that HPV vaccine isn’t safe, effective, or necessary
  - Lack of parent/patient awareness about the health benefits
  - Parental opposition due to moral/religious values...
    - Belief = vaccination promotes or condones early sexual activity
  - Parents may be unwilling to allow vaccine at acute care visits
  - Addresses & phone numbers change often (so recall/reminder calls and letters cannot reach families)

- **Provider barriers**
  - Missed opportunities
    - Patients get Tdap and Meningococcal Vaccines, but not HPV

- **Other barriers**
  - Missing vaccines in the GIMC Electronic Health Record (EHR)
    - Past vaccines elsewhere: RMCH, NMSIIS, ASIIS
  - HPV vaccine not required for school entry
    - Parents only wanting ‘required’ vaccines
1. Provider education re: HPV Diseases & Vaccine
   • 2 sessions for GIMC staff (physicians, RN/HTs, pharmacists)
   • 1 session for GIMC Public Health Nurses (PHNs)
   • 1 session for Navajo Nation Community Health Representatives (CHRs)
   • Offered CEUs at the provider trainings

2. Docs make strong recommendations for HPV vaccine
   • Recommend all adolescent vaccines be administered during the same visit
   • Avoid the word “optional” when talking about HPV with parents, and adopt the language of “anti-cancer”
   • Engage in conversation with hesitant parents
Interventions - GIMC

3. Missed opportunities
   - IHS Immunization Program staff: missed opportunities analysis
   - Started administering the vaccine during walk-in visits
   - Started HPV vaccination at age 9 years...
     - Get that first dose in early
     - Can pick up the series when they come back at age 11, if they've failed to return for boosters before then.
     - Not every 9-year-old comes in for a PE, but the ones who do would get a head start on others who don't.

4. Missing data
   - Completed missing data analysis
     - Added data from ASIIS and NMSIIS to patient records in GIMC EHR...
       » Added 1,046 immunization visits not previously entered into Electronic Health Record
       » 261 visits were for Tdap, 291 were for MCV, and 494 were for HPV
Other Interventions - GIMC

- Reminder calls the day before scheduled immunization-only RN visits for HPV boosters
- Reminder calls for PEs, expectation for shots
- No longer using reminder letters: excessive work, cost, and not much benefit
- Pre-visit planning by Health Techs, using NMSIIS and ASIIS, in addition to GIMC EHR
Adolescent Vaccines Coverage
13-17 year olds
Pre-Intervention, March 2014

Gallup Indian Medical Center

- Tdap: 85.2%
- Mening: 83.3%
- HPV 1st dose: 61.9%
- HPV 3rd dose: 33.9%

MISSED OPPORTUNITIES: 23.3%

IHS Quarterly Immunization Reports. FY 2015 Quarter 2. Available at: http://www.ihs.gov/epi/index.cfm?module=epi_vaccine_reports
Missed Opportunities Analysis

- Missed opportunity = visit during which the adolescent was due for a HPV vaccine, but did not get vaccinated...

- Evaluated 140 patients due for next dose of HPV
  - 67% (94) of adolescents had at least 1 missed opportunity
  - 14% (20) of adolescents had 3 or more missed opportunities

- Vast majority of missed opportunities occurred at Pediatric Clinic visits...
  - Did not include separate ED, UCC, or pharmacy visits
Adolescent Vaccines Coverage
13-17 year olds
Post-Intervention, March 2015

Gallup Indian Medical Center

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Coverage</th>
<th>MISSED OPPORTUNITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tdap</td>
<td>89.0%</td>
<td></td>
</tr>
<tr>
<td>Mening</td>
<td>87.9%</td>
<td></td>
</tr>
<tr>
<td>HPV 1st dose</td>
<td>75.4%</td>
<td>13.6%</td>
</tr>
<tr>
<td>HPV 3rd dose</td>
<td>45.2%</td>
<td></td>
</tr>
</tbody>
</table>

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Adolescent Vaccines Coverage Trends
GIMC, 13-17 Year-olds

Interventions began

IHS Quarterly Immunization Reports. Available at: http://www.ihs.gov/epi/index.cfm?module=epi_vaccine_reports
Next Steps?

- Sustain interventions adopted thus far...
- We’re not vaccinating the 9-year-olds!
- We said we’d do it, but without other shots to give, we’re forgetting...
- We need to start as early as possible...
- Adopt the “It’s Easy as 1-2-3” Motto to remind us about one Tdap, two MCV-4s, and three HPVs for older children and adolescents!
Thanks!

- Cheyenne Jim,
  IHS Immunization Program Analyst
- Amy Groom,
  IHS Immunization Program Manager
- Nurses and Docs at GIMC
- Pharmacists at GIMC
- Adolescents and Parents!
Winnebago Tribe of Nebraska
HPV Project

Shannon Wright, RN, BSN
Public Health Nursing
Adolescent Vaccines Coverage Trends
Winnebago, 13-17 Year-olds

IHS Quarterly Immunization Reports. Available at: [http://www.ihs.gov/epi/index.cfm?module=epi_vaccine_reports](http://www.ihs.gov/epi/index.cfm?module=epi_vaccine_reports)
HPV Vaccine Coverage Trends
Winnebago, 13-17 Year-olds

IHS Quarterly Immunization Reports. Available at: http://www.ihs.gov/epi/index.cfm?module=epi_vaccine_reports
Barriers to HPV Vaccination

• Missing data
  - perhaps from patients living in Sioux City

• Older adolescents do not come in to the clinic often, limiting the number of opportunities to administer the HPV vaccine

• Staff inconsistency:
  ➢ All providers do not offer HPV vaccine consistently or with a strong recommendation
  ➢ All nurses do not remind providers what vaccinations the patient is due for

• Many patients become lost to follow-up and do not receive their 2\textsuperscript{nd} or 3\textsuperscript{rd} doses
Barriers to HPV Vaccination

- Standing orders are not in place for the HPV vaccine
- Many people in the community do not know about the evening clinics and weekend clinics
  - Schedule Always changing
- Some parents/patients not educated about the benefits of HPV vaccine
- Large refusal rate
  - Once refusals happen, nurses/providers don’t offer the vaccine again
  - Some parents consent to the 1\textsuperscript{st} dose and refuse 2\textsuperscript{nd} or third dose
- PHN’s administered the 2\textsuperscript{nd} shot as follow-up to 1\textsuperscript{st} shot given in clinic
- Vaccine kept in Pharmacy fridge
Interventions

• Increase efforts to obtain parental consent
• Patient reminder phone calls:
  – Call parents during mornings when schools are closed
  – Offer HPV vaccine at PHN office
• CHR supervisor calls parents and obtains verbal consent
  – CHR’s go to patient homes with consent and VIS
• Administer HPV vaccine at health fairs, at schools, Summer youth program
• Standing orders
• VIS and consent forms in student handbook
• PHN administer 1st shot
Interventions continued...

• We are pretty much thinking of HPV all the time
  – Whenever an opportunity to either obtain signatures from parents (for the first dose) or when kids are available to us we administer the vaccine

• Every month we print out a list of shots due, obtain consents and coordinate with school
  – CHR accompanies to bring kids from class to school nurse office

• The school has scheduled a series of Mondays to be closed to students so on those days (2 days so far) we call parents and offer the HPV shot in our PHN offices
  – We had about 10 kids come in on each day

• Purchase of a vaccine refrigerator for PHN office

• HPV Flyer on PHN Facebook

• Position created for an Immunization Nurse
Challenges to Implementing Interventions

- Phone numbers are not always current
- Consent for each shot or for the series?
- Challenge to locate adolescents during the summer
  - especially the older kids
- School activity schedule (includes testing, game days, etc), PHN and CHR schedules have to coincide
- Clinic scheduling
- Clinic staff
Collaboration

Involved partners include

• PHN Nursing and Administrative staff
• CHR Staff
• Pharmacy Techs
• Outpatient Nursing Director
• Winnebago Public School Nurse
• Parents
Next Steps

• Immunization nurse (new position) will coordinate scheduling of immunizations

• Increased communication with clinic staff esp., O/P nursing supervisor

• Monthly Immunization Committee meetings

• Increased community education –Host the video *Someone You Love: The HPV Epidemic*