Increasing HPV Vaccine Coverage

Cheyenne Jim
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

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 Coverage for 13-17 year olds, Males and Females
Tdap, MCV4, HPV 1st dose, HPV 3rd dose

* 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)
IHS HPV VACCINE PROJECT
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
HPV 3rd 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

If there were a vaccine against cancer, wouldn't you get it for your kids?

HPV vaccine is cancer prevention. Talk to the doctor about vaccinating your 11–12 year old sons and daughters against HPV.

www.cdc.gov/vaccines/teens
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

John Ratmeyer, M.D, FAAP
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

<table>
<thead>
<tr>
<th></th>
<th>Female</th>
<th>- Female</th>
<th>Male</th>
<th>- Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPV 1st dose</td>
<td>62.3%</td>
<td>45.9%</td>
<td>47.9%</td>
<td>18.1%</td>
</tr>
<tr>
<td>HPV 1st dose - Female</td>
<td>71.3%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HPV 3rd dose</td>
<td>45.9%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HPV 3rd dose - Female</td>
<td></td>
<td></td>
<td></td>
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</table>

CDC. National Immunization Survey-Teen. Available at: [http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6329a4.htm](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](http://www.ihs.gov/epi/index.cfm?module=epi_vaccine_reports)
Adolescent Vaccines Coverage Trends
GIMC, 13-17 Year-olds

Interventions began

![Graph showing vaccination coverage trends for different vaccines among 13-17 year-olds, with specific data for Tdap, Mening, HPV1 (all), and HPV3 (all) from June 2013 to March 2015.](http://www.ihs.gov/epi/index.cfm?module=epi_vaccine_reports)
HPV Vaccine Coverage Trends
GIMC, 13-17 Year-olds

Interventions began

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

Interventions began

Percent Vaccinated

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%


Tdap
Mening
HPV1 (all)
HPV3 (all)

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

Interventions began

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

Interventions began

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*