Understanding primary care policies in Iowa related to the completion of the HPV vaccine

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Objective & Aims of project

- **Objective**
  - To gather formative information to develop a health communication intervention designed to encourage providers to become more consistent vaccinators.

- **Aim**
  - Identify modifiable clinic policies and practices related to adolescent vaccinations
HPV affects almost everyone

- Most common STI
- Associated with cervical, vulvar, vaginal, penile, anal, and oropharyngeal cancers
- Over 10,000 new cases of cervical cancer annually
- The HPV vaccine could prevent 21,000 of these cancers each year
Transmission of HPV

- Cancer causing HPV spread through sexual contact
- At least 50% of sexually active men and women have had HPV at sometime
- 20 million people in US currently infected with one of the HPVs
HPV vaccine works

- Three dose series, boys and girls 11-12 or up to age 26
- Prevents nearly 100% of the cancer causing HPV strains
## HPV vaccine: What is it?

<table>
<thead>
<tr>
<th></th>
<th>Which HPVs?</th>
<th>Cancers</th>
<th>Genital warts</th>
<th>Dosage</th>
<th>FDA Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gardasil (Merck)</strong></td>
<td>6, 11, 16, 18</td>
<td>X</td>
<td>X</td>
<td>3 does 1&lt;sup&gt;st&lt;/sup&gt; = now&lt;br&gt;2&lt;sup&gt;nd&lt;/sup&gt; = 1-2 months after 1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>Females and males 9-26</td>
</tr>
<tr>
<td><strong>Cervarix (GlaxoSmithKline)</strong></td>
<td>16, 18</td>
<td>X</td>
<td></td>
<td>3&lt;sup&gt;rd&lt;/sup&gt; = 6 months after 1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>Females 9-25 years old</td>
</tr>
</tbody>
</table>
Vaccine efficacy

- Less effective if person is already exposed to HPV
- Currently no evidence for decrease in efficacy over time
- Gardasil: females- nearly 100% effective
- Cervavix: females- 93% effective
Vaccine safety

- Adverse event rates same as other vaccines for this age group
- Pain, swelling, and redness at injection site
- Headache, nausea, fever, syncope (fainting)
- As of June 2012 - 46 million doses distributed
Vaccine recommendations

**11-12 YEARS**
- Tetanus, Diphtheria, Pertussis (Tdap) Vaccine
- Human Papillomavirus (HPV) Vaccine (3 Doses)$^2$
- Meningococcal Conjugate Vaccine (MCV4) Dose $^3$
- Influenza (Yearly)$^4$
- Pneumococcal Vaccine$^5$
- Hepatitis A (HepA) Vaccine Series$^6$

**13-18 YEARS**
- Tdap
- HPV
- MCV4 Dose $^3$
- Booster at age 16 years
- Hepatitis B (HepB) Vaccine Series
- Inactivated Polio Vaccine (IPV) Series
- Measles, Mumps, Rubella (MMR) Vaccine Series
- Varicella Vaccine Series
Low rates

Figure 3
HPV Vaccination Rates of Adolescent Girls ages 13-17, by State

Completion of 3 dose HPV vaccine series among females ages 13-17, 2013

2013 U.S. average= 37.6%

Estimated vaccine coverage for females ages 13-17
- <30% (10 states)
- 30 – 37.6% (17 states + DC)
- 37.7 – 44.9% (16 states)
- ≥45 (7 states)

NOTES: Share of females ages 13-17 who have received all 3 doses of the HPV series. *Statistically significant (p<.05) increase from 2012. **Statistically significant (p<.05) decrease from 2012.
Low rates

Figure 2

Estimated HPV Vaccination Coverage Among Female Adolescents in the US

Share that have received 3-doses of HPV Vaccine, 2013

<table>
<thead>
<tr>
<th>Total</th>
<th>Race/ Ethnicity</th>
<th>Poverty Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>38%</td>
<td>35%</td>
<td>42% Below poverty level</td>
</tr>
<tr>
<td></td>
<td>34%</td>
<td>36% At or above poverty level</td>
</tr>
<tr>
<td></td>
<td>45% Hispanic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>43% Asian</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: Among female adolescents ages 13-17.
Iowa specific rates

- 2013 (Immunization Program Report), 13-15 year olds
  - Males complete 10%
  - Female complete 25%
  - Tdap 69%
  - Meningitis 56%
Mother and health care provider attitudes are fairly positive
- Parents will vaccinate...if providers recommend

Barriers to vaccination
- Misperceptions: disinhibit, safety
- Age group does not access health care
- 3 doses
- Cost
- Do not perceive risk
What can be done to increase rates?

- Parents support vaccine if provider recommends it
- Health care providers are not consistently recommending the vaccine
- Do health care providers and clinics have systems in place to make vaccination the default?
Methods

- Survey informed by the CDC’s best practices recommendations for vaccine completion & The Guide to Community Preventive Services

- Mailed to 914 clinic managers at primary care clinics in Iowa, online option, follow-up phone call

- Clinic managers
Results- characteristics

- Response rate was 25.7% (n = 139)
  - 84.3% family practice clinics
  - 17.3% pediatric clinics
  - 11.8% primary care clinics
  - 4.7% general practice clinics
  - 3.9% internal medicine practices

- 61.5% have an Electronic Medical Record (EMR)
Results - characteristics

- % patient population age 11-18
  - 25% or less: 59.8%
  - 26%-50%: 21.3%
  - 51-75%: 1.6%
  - 76%-100%: 1.6%
Results–Vaccines for Children

- 80.2% clinics participated
- VCF
  - 33% healthcare provider
  - 28.3% clinic manager
  - 25.2% medical assistant
  - 5.5% nurse manager
  - 3.1% other support staff
92.9% use state’s electronic immunization system
  - 87.1% ‘always’ use the system
How much influence do clinic policies and practices have over vaccination behaviors of providers?

- A lot (45.5%)
- Some (24.0%)
- A little (14.9%)
- None at all (15.7%)
Results: What clinics aren’t doing

- Standing orders to administer vaccines
- Front desk staff trained on immunization schedules
- Immunization resources for patients and parents
- Use of an immunization 'champion'
- Contacts parent within 3 to 5 days of 'no show'
- Schedules next vaccination visit before leaving office
- Measure and share immunization levels
- Offers walk-in or immunization-only visits
- Has reminders/recalls in place for pediatric patients
- Schedules wellness visits for 11-12 year olds
Results – Visit type for HPV vaccination

- Well child: 85%–90%
- Sick or urgent: 15%–20%
- Immunization: 5%–10%
- Other: <5%

Percentage range: 0%–100%
Results - HPV vaccine-specific practices & policies

- 2nd & 3rd when sick
  - Yes: 40%
  - Sometimes: 20%
  - No: 40%

- 2nd & 3rd any visit
  - Yes: 60%
  - Sometimes: 20%
  - No: 20%

- 3rd schedule during 2nd
  - Yes: 50%
  - Sometimes: 30%
  - No: 20%

- 2nd schedule during 1st
  - Yes: 60%
  - Sometimes: 40%
  - No: 0%

- 2nd & 3rd without appointment
  - Yes: 60%
  - Sometimes: 20%
  - No: 20%
Results - HPV vaccine-specific practices & policies

- **Refer to health dept**
  - Yes: 20%
  - Sometimes: 40%
  - No: 40%

- **Standing order**
  - Yes: 80%
  - Sometimes: 0%
  - No: 0%

- **Materials on cervical**
  - Yes: 40%
  - Sometimes: 20%
  - No: 40%

- **Materials on HPV vaccine**
  - Yes: 60%
  - Sometimes: 20%
  - No: 20%
Results - HPV vaccine-specific practices & policies

- Reminders in EHR: 40%
- Phone calls: 40%
- Letters & postcards: 60%
- Text message: No
- Flags in charts: No

- Yes
- Sometimes
- No
Results—reminders to parents

- 63% do not send letters or postcard reminders
  - 11.9% only use letters sometimes

- 45.2% do not use phone call reminders
  - 24.4% only use phone call sometimes

- 64.4% do not use text messaging reminders
  - 3% only use text messages sometimes
Results – reminder systems for providers

- To alert providers to need to give 2\textsuperscript{nd} and 3\textsuperscript{rd} dose to patient
  - 42.2% of clinics do not use reminders in the electronic health record
    - 12.6% use only sometimes
Results - Barriers to completion after 1st dose

- Parents not bring 2nd dose
- Parents not bring 3rd dose
- Children not come in regularly
- Parents too busy
- Children too busy
- Parents decide against
- Parents not view important
- Completion low priority parents
- Children object pain
- Children decide against
- Language
- Keeping vaccine costly
- Culture
- Inadequate reimbursement
- Completion low priority providers
Results - Facilitators to completion

- Family & friends support
- Registry
- Community acceptability
- Educational materials
- Address beliefs
- Partnering
Conclusion

- Clinics are not consistently best practices
  - Client reminder and recall systems
  - Immunization information systems!!!!
  - Provider reminders (EHR)
  - Standing orders
  - Scheduling appointments
  - Missed opportunities
  - Missed appointments
Clinics need to focus more on the logistics and processes

- Use **every clinic visit** to discuss or administer vaccine
- Implement reminder systems for parents and providers
- Engage the front desk staff more
- Schedule the 2\textsuperscript{nd} and 3\textsuperscript{rd} shot at the time of the initial shot
What can be done to increase rates?

- Focus on health care providers/clinic who are in favor of vaccinating, but are not consistently vaccinating
- Focus on initiation or completion?
Next steps

- Develop intervention to focus on the dissemination and implementation of clinic practices and policies
- Use Community Guide to inform intervention