Evidence-Based Strategies for Increasing HPV Vaccination Rates

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MCAAP-MDPH
Webinar
4-10-14

Your Strong Recommendation Is Critical!
I, Susan Lett, have been asked to disclose any significant relationships with commercial entities that are either providing financial support for this program or whose products or services are mentioned during my presentations.

- I have no relationships to disclose.

I will discuss the use of vaccines in a manner not approved by the U.S. Food and Drug Administration.

- But in accordance with ACIP recommendations.
Outline

- MA HPV Immunization Initiative
- National Call to Action to Prevent Cancer
- Burden of HPV-Related Disease
- Strong Provider Recommendation and Other Evidence-Based Strategies
- Resources
- Upcoming Webinars
MA HPV Initiative Activities

1. Development of statewide joint initiative with partners and stakeholders

2. Implementation of media campaign targeting parents

3. Training and supporting a subset of providers to pilot the MIIS (MA immunization registry) to use immunization coverage and reminder/recall reports

4. Educating healthcare providers about burden of HPV disease, HPV vaccine schedule, evidence-based strategies

MDPH one of 11 states funded by CDC
National Call to Action to Prevent HPV-Related Cancer

- Presidents Cancer Panel Report
- “Dear Colleague” letter Endorsed by CDC, AAP, AAFP, ACOG, CDC and IAC

“What you say matters; how you say it matters more!”

Accelerating HPV Vaccine Uptake:
Urgency for Action to Prevent Cancer

HPV Vaccines Prevent Cancers Why Are So Few U.S. Adolescents Vaccinated?

A Report to the President of the United States from
The President’s Cancer Panel
Cervical Cancer

Cervical cancer is the most common HPV-associated cancer among women

- 500,000+ new cases and 275,000 attributable deaths world-wide in 2008
- 11,000+ new cases and 4,000 attributable deaths in 2011 in the U.S.

37% of cervical cancers occur in women who are between the ages of 20 and 44

Average Number of New HPV-Associated Cancers by Sex, in the United States, 2005-2009

Women (N=20,413)
- Cervix: 55% (n=11,279)
- Vulva: 15% (n=3,039)
- Oropharynx: 11% (n=2,317)
- Anus: 15% (n=3,084)
- Vagina: 4% (n=694)

Men (N=12,002)
- Oropharynx: 78% (n=9,312)
- Anus: 14% (n=1,687)
- Penis: 8% (n=1,003)

Non-cervical cancers are increasing

National Estimated Vaccination Coverage among Adolescents 13-17 Years, NIS-Teen 2006-2012

- Tdap: 85%
- MCV4: 74%
- ≥1 HPV (girls): 54%
- 3 HPV (girls): 33%
- ≥1 HPV (boys): 21%
- 3 HPV (boys): 7%

Source: MMWR. 2013;62;685-93
Massachusetts Estimated Vaccination Coverage with Tdap, MCV4, and HPV* among Adolescents 13-17 yrs, 2008 – 2012

Source: NIS Teen
Missed Opportunities for Adolescent Vaccination, 2006-2011 (n = 1,628)

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Missed Opportunities (%)</th>
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<tbody>
<tr>
<td>MCV</td>
<td>82%</td>
</tr>
<tr>
<td>Tdap</td>
<td>85%</td>
</tr>
<tr>
<td>HPV1</td>
<td>82%</td>
</tr>
<tr>
<td>HPV2</td>
<td>63%</td>
</tr>
<tr>
<td>HPV3</td>
<td>71%</td>
</tr>
</tbody>
</table>

- Adolescents with at least 1 preventive health visit were significantly less likely to have missed opportunities.
- **Non-preventive visits** were significantly associated with more missed opportunities than preventive visits.
- Females were more likely to have a missed opportunity for HPV1 than Tdap or MCV at their 11-12 y/o visit (p<0.001).

Evidence-Based Strategies to Increase Immunization Rates

TASK FORCE ON COMMUNITY PREVENTIVE SERVICES RECOMMENDATIONS

www.thecommunityguide.org/vaccines/index.html
Task Force Methodology

Steps in a systematic review

- Conduct search of peer-reviewed literature
- Review and assess quality of each study
- Summarize body of evidence
  - How strategies work in different populations and settings
  - Cost-effectiveness
  - Publications
- Identify gaps and develop recommendations

http://www.thecommunityguide.org/about/methods.html
AAP’s Adolescent Immunizations: Strategies for Increasing Coverage Rates

AAP Quality Improvement for Practices

• Has section on adolescent immunization

• Identifies the most successful evidence-based strategies and translates them into an easy to use tool for practices

• A most invaluable resource to improve immunization rates!!

http://www2.aap.org/immunization/pediatricians/pdf/TopStrategiesforIncreasingCoverage.pdf
What Providers Can Do

- Strong, clear, routine recommendation for HPV vaccine at 11-12 years
- Assess and vaccinate at every visit
- Use reminder/recall systems
- Assessment and feedback
- Standing Orders
- Immunization Champion
Talking about HPV vaccine

Strength of a Provider’s Recommendation
Top 5 reasons for not vaccinating daughter, among parents with no intention to vaccinate in the next 12 months, NIS-Teen 2012

<table>
<thead>
<tr>
<th>Reason</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not needed or necessary</td>
<td>19.1%</td>
</tr>
<tr>
<td>Not recommended by provider</td>
<td>14.2%</td>
</tr>
<tr>
<td>Safety concern/side effects</td>
<td>13.3%</td>
</tr>
<tr>
<td>Lack of knowledge</td>
<td>12.6%</td>
</tr>
<tr>
<td>Not sexually active</td>
<td>10.1%</td>
</tr>
</tbody>
</table>

Response categories are not mutually exclusive

MMWR 2013; 62:591-5
Current Strength of Recommendation to Female Patients, Pediatricians and Family Physicians (N=609)*

- **11-12 yo females**
  - Strongly recommend: 53%
  - Recommend, but not strongly: 37%
  - Make no recommendation: 8%
  - Recommend against: 2%

- **13-15 yo females**
  - Strongly recommend: 82%
  - Recommend, but not strongly: 15%
  - Make no recommendation: 3%
  - Recommend against: 1%

- **16-18 yo females**
  - Strongly recommend: 87%
  - Recommend, but not strongly: 10%
  - Make no recommendation: 2%
  - Recommend against: 0%

*Allison et al., Academic Pediatrics 2013;13:466-74
Parent opinions on the importance of vaccines and provider estimates of parental responses

Talking about HPV vaccine

FRAMING THE CONVERSATION
Reduction in prevalence of vaccine-type HPV by 56% in girls age 14-19 with vaccination rate of ~30% (compare with 80% rate in Rwanda)

Our low vaccination rates will lead to 50,000 girls developing cervical cancer – that would be prevented if we reach 80% vaccination rates

For every year we delay increasing vaccination rates to this level, another 4,400 women will develop cervical cancer

Markowitz et al. JID 2013;208:385-393.
Make a Strong, Routine Recommendation at Age 11-12 years

- Make in the same manner as for other others

- “Your child needs 3 vaccines today: HPV, Tdap and MCV4”

- Listen carefully and welcome questions

Decide as a practice to adopt this policy. According to CDC, this is the single most effective way to get the 1st dose into patients and increase coverage!
Tips and Time-savers for Talking with Parents about HPV Vaccine

Recommend the HPV vaccine series the same way you recommend the other adolescent vaccines. For example, you can say "Your child needs these shots today," and name all of the vaccines recommended for the child’s age.

Parents may be interested in vaccinating, yet still have questions. Taking the time to listen to parents’ questions helps you save time and give an effective response. CDC research shows these straightforward messages work with parents when discussing HPV vaccine—and are easy for you or your staff to deliver.

CDC RESEARCH SHOWS: The “HPV vaccine is cancer prevention” message resonates strongly with parents. In addition, studies show that a strong recommendation from you is the single best predictor of vaccination.

TRY SAYING: HPV vaccine is very important because it prevents cancer. I want your child to be protected from cancer. That’s why I’m recommending that your daughter/son receive the first dose of HPV vaccine today.

CDC RESEARCH SHOWS: Disease prevalence is not understood, and parents are unclear about what the vaccine actually protects against.

TRY SAYING: HPV can cause cancers of the cervix, vagina, and vulva in women, cancer of the penis in men, and cancers of the anus and the mouth or throat in both women and men. There are about 26,000 of these cancers each year—and most could be prevented with HPV vaccine. There are also many more precancerous conditions requiring treatment that can have lasting effects.

CDC RESEARCH SHOWS: Parents want a concrete reason to understand the recommendation that 11–12 year olds receive HPV vaccine.

TRY SAYING: We’re vaccinating today so your child will have the best protection possible long before the start of any kind of sexual activity. We vaccinate people well before they are exposed to an infection, as is the case with measles and the other recommended childhood vaccines. Similarly, we want to vaccinate children well before they get exposed to HPV.

CDC RESEARCH SHOWS: Parents may be concerned that vaccinating may be perceived by the child as permission to have sex.

TRY SAYING: Research has shown that getting the HPV vaccine does not make kids more likely to be sexually active or start having sex at a younger age.

Reducing Missed Opportunities

- **ASSESS** for and **ADMINISTER** all needed vaccines, including HPV at every opportunity
  - Well child
  - Sick visits
  - Sports physicals
  - Nurse only visits

- Schedule follow-up appointments before leaving

- Extend hours

- Collaborate with other agencies
Actual and Achievable Vaccination Coverage if Missed Opportunities Were Eliminated: Adolescents 13-17 Years, NIS-Teen 2012

Among girls unvaccinated for HPV, 84% had a missed opportunity.

Missed opportunity: Encounter when some, but not all ACIP-recommended vaccines are given.

HPV-1: Receipt of at least one dose of HPV.
Provider Reminder/Recall

Tell providers that an individual client is due (reminder) or overdue (recall) for specific vaccinations

Methods:

- Nurse prompts:
  - Stickies
  - Checklists
  - Preprinted notes in clients chart

- EHR prompts:
  - Automatic pop-ups
  - ‘To do’ task list
  - Many EHRs have prompts pre-installed that can be customized

Immunization Registries

Strong evidence from over 40 studies with a median increase in coverage from 10-16 percentage points.
Patient is 16 years old and only received 1 dose of HPV

*** HPV reminder: this patient is due for HPV vaccine***
Effectiveness of Decision Support for Families, Clinicians or Both on HPV Receipt

- Physician intervention:
  - provider education
  - provider prompts in EHR
  - assessment and feedback

- Family interventions: reminder telephone calls

- Clinician focused intervention more effective than family intervention for \textit{initiating} the series.

- Family focused intervention more effective for \textit{completing} the series

- Combined interventions most effective for overall completion and timeliness

HPV Vaccination Rate Improvement by Intervention and Dose, 2010-2011
(n=22,466 girls 11-17 years in 22 practices)

<table>
<thead>
<tr>
<th>Dose</th>
<th>Intervention</th>
<th>Clinician</th>
<th>Family</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPV1</td>
<td>8%</td>
<td>2%</td>
<td>9%</td>
<td>11%</td>
</tr>
<tr>
<td>HPV2</td>
<td>6%</td>
<td>0%</td>
<td>8%</td>
<td>13%</td>
</tr>
<tr>
<td>HPV3</td>
<td>4%</td>
<td>0%</td>
<td>4%</td>
<td>13%</td>
</tr>
</tbody>
</table>

Timeliness also improved by 151 days, 68 days and 93 days for HPV1, HPV2 and HPV3 respectively.

Patient Reminder/Recall

- Varying content: most involve specific notification for specific client and may include educational message

- Methods:
  - Telephone (by staff or autodialer)
  - Letter or postcard
  - Text messages
  - Patient portals
  - Immunization registries

Strong evidence from over 60 studies with a median increase in coverage from 11-16 percentage points.
Recall for HPV, TdaP and MCV Vaccines 2009-2010
(n = 4,115 adolescents ages 11-17 years in 37 practices)

<table>
<thead>
<tr>
<th>Method</th>
<th>Percent Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mail</td>
<td>21%*</td>
</tr>
<tr>
<td>Telephone</td>
<td>17%*</td>
</tr>
<tr>
<td>Control</td>
<td>13%</td>
</tr>
</tbody>
</table>

The proportion of adolescents with preventive visits also increased significantly.

*p<0.05

Szylagyi. Academic Pediatrics
Impact of Text Reminders to Parents on Receipt of HPV2 and HPV3, 2009

Kharbanda. Vaccine 2011;29:2537

* p=.001 ** p=.003

n = 124  n = 308  n = 1080
Standing Orders

- Protocol enabling assessment of vaccination status and vaccine administration w/o direct physician order
  - Provider offices
  - Health departments
  - Schools & their health centers
  - Pharmacies
  - Commercial vaccinators
- Facilitates adolescents and adults beginning vaccination in one venue and finishing in another

Strong evidence from over 34 studies with a median increase in coverage from 24-27 percentage points.
Standing Orders in MA

- Licensed registered and practical nurses can administer vaccines under standing orders (BORN Advisory Ruling No. 0804)
- Pharmacists can administer vaccines to adults (105 CMR700.004)

MDPH model standing orders vaccines available at:  www.mass.gov/dph/imm
Provider Assessment and Feedback

Providers change their behavior (clinical practices) based on feedback that they are different from their peers.

Methods:
- Immunization record review
- Giving feedback
- Can include incentives or benchmarking
- Immunization registries

Strong evidence from over 34 studies with a median increase in coverage from 24-27 percentage points.
What gets measured gets done...

Two strategies

- Compare vaccination rates pre- and post-implementation
- Set a goal prior to implementing strategy and track vaccination rates over time (benchmarking), for example:
  - 80% of girls and 35% of boys will receive HPV1
# Adult Vaccination Rates from Four Community Health Centers, 2011 and 2013*

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>2011</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPV – females, 3 doses, 18-26 y/o</td>
<td>15%</td>
<td>32%</td>
</tr>
<tr>
<td>HPV – males, 3 doses, 18-26 y/o</td>
<td>0%</td>
<td>3%</td>
</tr>
<tr>
<td>Influenza, 18+ y/o**</td>
<td>25%</td>
<td>32%</td>
</tr>
<tr>
<td>PPSV23, 65+ y/o</td>
<td>44%</td>
<td>48%</td>
</tr>
<tr>
<td>Tdap, 18+ y/o</td>
<td>15%</td>
<td>32%</td>
</tr>
<tr>
<td>Zoster, 60+ y/o</td>
<td>4%</td>
<td>14%</td>
</tr>
</tbody>
</table>

* Patients had ≥1 visit to health center in the year of time prior to reporting dates of 6-30-11 and 6-30-13
** Patients had ≥1 visit to health center in the year of time prior to reporting dates of 6-30-11 and 6-30-13 and a flu shot during prior season

Quality Improvement and HPV Vaccine
Next Webinar

- Antonia Blinn from the Mass League of Community Health Centers will be sharing information about quality improvement (QI) and process improvement strategies, tools and a framework for replication.

- Dr. Huy Nguyen will share results of an adolescent HPV QI project at a CHC in Boston using many of the strategies reviewed today.

- Improvement in rates was amazing!

Please join us Thursday, June 5, 2014:
Eliminating Missed Opportunities, One Process Improvement at a Time
MA Immunization Information System (MIIS)

- Pilot of 10 CHCs and 10 pediatric practices will receive technical assistance and training to:
  - Run practice-based adolescent vaccination coverage reports
  - Generate reminder/recall materials for adolescents due and overdue for the HPV vaccine series (and other adolescent vaccines)
Immunization Champion

- Is an **advocate** in your practice
- Can be any clinical provider
  - Some recommend it not be a physician
- Part of job description and has protected time

The change agent in your practice who will inspire others and implement your plan!
Provider HPV Vaccine Challenge #1

Start your vaccine discussions with all 11-12 year-olds and their parents by saying:

“Your child needs 3 vaccines today – HPV, Tdap and meningococcal.”
Provider HPV Challenge #2
Which other evidence-based strategy discussed today will you try?

- Assess and vaccinate at every visit
- Use reminder/recall systems
- Standing Orders
- Assessment and feedback
- Immunization Champion
CDC “You Are the Key” Website

http://www.cdc.gov/vaccines/who/teens/for-hcp/hpv-resources.html

MCAAP Quick Link
http://mcaap.org/immunization-hpv/
Two Articles about HPV Vaccine by Dr. Rebecca Perkins

You Are the Key to HPV Cancer Prevention
FOR PROVIDERS

MCAAP Website:

Letters to Remember: HPV FOR GENERAL PUBLIC

The medical world is awash in alphabet soup, made more familiar by news reporting and the many direct-to-consumer television commercials we see every day. From AFIB (atrial fibrillation) to COPD (chronic obstructive pulmonary disorder) to PAD (peripheral artery disease), to RA (rheumatoid arthritis), it seems almost every condition or test (EKG, MRI) gets whittled down to just a few letters, with the hope of raising awareness and speeding communication between physician and patient.

MMS Website:
http://www.massmed.org/News-and-Publications/Physician-Focus/Physician-Focus-Extra--HPV/#.UuITsPnIZg0
Provider Education Webinars

Webinar Schedule: posted on MCAAP Website

January: You are the Key to HPV Cancer Prevention
Dr. Rebecca Perkins

April: Evidence-Based Strategies for Improving Vaccination Rates

June: Eliminating Missed HPV Vaccination Opportunities, One Process Improvement at a Time

October: Using the MIIS to Improve Vaccination Rates

*Planning a 5th webinar on racial & ethnic disparities

See: http://mcaap.org/immunization-hpv/
Resources and Contact Information
Massachusetts

- **MDPH Immunization Program**
  - Susan M. Lett
  - susan.lett@state.ma.us

- **HPV Initiative (Join or get on list serve)**
  - Allison Hackbarth
  - allison_hackbarth@jsi.com

- **MA Chapter of AAP**
  - Cynthia McReynolds
  - cmcreynolds@mms.org

**MA Chapter of AAP Website has quick links to key HPV materials:**
http://mcaap.org/immunization-hpv/