Eliminating Missed HPV Vaccination Opportunities: One Performance Improvement At A Time

Antonia Blinn
Massachusetts League of Community Health Centers

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Disclosures

I, Antonia Blinn, 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.
Outline

• MA HPV Immunization Initiative
• National Call to Action to Prevent Cancer
• Strong Provider Recommendation and Other Evidence-Based Strategies
• Tools to Improve HPV Vaccination Rates
• Resources
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 Cancers

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

“What you say matters; how you say it matters more!”
National Estimated Vaccination Coverage among Adolescents 13-17 Years, NIS-Teen 2006-2012

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
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

Missed Opportunities for Adolescent Vaccination, 2006-2011 (n = 1,628)

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Missed Opportunities (%)</th>
</tr>
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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
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
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!!!
AAP: Strategies for Increasing Coverage Rates

- Patient Reminder-Recall
- Provider Prompts or Standing Orders
- Strong Provider Recommendation
- Include All Recommended Vaccinations at Every Visit
- Provider Feedback
- Find an Immunization Champion
- Educate Patients and Their Families
- Address Costs
- Hold Vaccine Clinics at Hours that are Convenient for Families
Patient Reminder/Recall

Tell parent that their child is due (reminder) or overdue (recall) for specific vaccinations

Methods:

- Phone Calls:
  - By Office Staff
  - Auto-dialers
- Mail reminder postcards
- Text Messages
- Patient Portals
Provider Prompts or Standing Orders
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.
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 upon 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.
AAP: Strategies for Increasing Coverage Rates✓

- Patient Reminder-Recall
- Provider Prompts or Standing Orders
- Strong Provider Recommendation
- Include All Recommended Vaccinations at Every Visit
- Provider Feedback
- Find an Immunization Champion
- Educate Patients and Their Families
- Address Costs
- Hold Vaccine Clinics at Hours that are Convenient for Families
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

Model for Improvement

- What are we trying to accomplish?
- How will we know that a change is an improvement?
- What change can we make that will result in improvement?

1. Developed by Associates in Performance Improvement
2. Developed by Shewhart, modified by Deming
Plan a Test

Act
- What changes are to be made?
- Next cycle?

Plan
- Objective
- Questions and predictions (why)
- Plan to carry out the cycle (who, what, where, when)
- Plan for Data Collection

Study
- Complete the analysis of the data
- Compare data to predictions
- Summarize what was learned

Do
- Carry out the plan
- Document problems and unexpected observations
- Collect data
Do the Test and Gather Data

Act
• What changes are to be made?
• Next cycle?

Plan
• Objective
• Questions and predictions (why)
• Plan to carry out the cycle (who, what, where, when)
• Plan for Data Collection

Study
• Complete the analysis of the data
• Compare data to predictions
• Summarize what was learned

Do
• Carry out the plan
• Document problems and unexpected observations
• Collect data
Study the Data

Act
• What changes are to be made?
• Next cycle?

Plan
• Objective
• Questions and predictions (why)
• Plan to carry out the cycle (who, what, where, when)
• Plan for Data Collection

Study
• Complete the analysis of the data
• Compare data to predictions
• Summarize what was learned

Do
• Carry out the plan
• Document problems and unexpected observations
• Collect Data
Act on What We’ve Learned

3 choices:
- Adopt
- Adapt
- Abandon

Act
- What changes are to be made?
- Next cycle?

Plan
- Objective
- Questions and predictions (why)
- Plan to carry out the cycle (who, what, where, when)
- Plan for Data Collection

Study
- Complete the analysis of the data
- Compare data to predictions
- Summarize what was learned

Do
- Carry out the plan
- Document problems and unexpected observations
- Collect data
Repeated Use of PDSA Cycles

Proposals, Theories, & Ideas

Very Small Scale

Follow-up Tests

Wide-Scale Tests of Change

Implementation of Change

Changes That Result in Improvement

Learning from Data
Aim: Improve HPV Vaccination Rates

Cycle 1: Develop system to track HPV Vaccination Rates

Cycle 2: Establish protocol/standing order for HPV Vaccine

Cycle 3: Collaborative Education Plan – Use CDC Messaging

Cycle 4: Set target levels for improvement

Cycle 5: Implement protocol with all staff
Quality Improvement Strategy

Define
- Begin A3
- Complete stakeholder analysis
- Communication

Measure/Analyze
- Create & validate process map
- Collect & analyze
- Root cause analysis
- Update Stakeholder Analysis
- Communication

Improve
- Brainstorm & select improvements
- Test improvements
- Collect results
- Implement improvements
- Communication

Spread & Sustain
- Create sustain plan
- Develop run chart
- Communication
What is A3?

- 11x17 piece of paper (Supposedly the largest size that could be faxed.)
- A problem solving approach – built around PDCA/PDSA
- A concise summary of the problem and solution
- A way of structuring thinking
- A communication tool for workers to report problems and improvement suggestions to management
- A way for management to structure and “discipline” the improvement process
- Used for any kind of problem in all parts of the organization
What is an A3?

### A3 – Enhanced PDSA

**Project Title:** Improve HPV Rates  
**Owner:**  
**Date:**

<table>
<thead>
<tr>
<th>Team Members</th>
<th>Countermeasures (Plan):</th>
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<tbody>
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<table>
<thead>
<tr>
<th>Problem Statement:</th>
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<tr>
<th>Scope:</th>
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<table>
<thead>
<tr>
<th>Background/Current Conditions:</th>
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<tbody>
<tr>
<td>Initial Analysis</td>
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<tr>
<td>process chart/map</td>
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<table>
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<tr>
<th>Implementation Plan (Do):</th>
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<tbody>
<tr>
<td><strong>What</strong></td>
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<table>
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<tr>
<th>Root Causes:</th>
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<tr>
<th>Goals/Objective/Measure of Success:</th>
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<tr>
<th>Estimated Project Completion:</th>
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<th>Follow-up Actions (Act):</th>
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<tr>
<th>Results/Conclusion (Study):</th>
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A3 Problem Solving

1. The Issue
   State the issue through the eyes of the customer/patient.

2. Background
   Clarify the issue and add historical information.
   Determine the weight of the problem; how important is this issue to the customer or the organization?
   Add measurement!

3. Current Condition
   Graphically represent how the work happens now, from your observation.
   Validate with affected parties for accuracy and buy-in. Note problems with storm clouds as close as possible to where the problems occur.

4. Problem Analysis
   Review the storm clouds. Consolidate the ones that are related to each other (i.e., one may be a WHY? of another).
   Use outlining format and use the 5 "Why"s to get to the root cause.

5. Target Condition
   Draw the proposed better way to work and validate with staff. Does this move us closer to the Ideal State?

6. Countermeasures
   What are we going to do that will move us from the Current Condition to our proposed Target Condition which is closer to the Ideal State?

7. Implementation Plan
   The details of HOW we'll make the countermeasures happen: What, Who, When, and the Outcome.

8. Cost/Benefit
   Costs and benefits can be in the forms of financial, time, quality and safety and patient/employee satisfaction metrics.
   What will it cost to make the Target Condition happen?
   Can you put a dollar amount on the waste?
   Can you measure the improvement?
   Does the cost justify the changes and how will it drive ROI?

9. Test
   How will you test the process in a safe environment to demonstrate the value? What time, space, resources, etc., will be required?

10. Follow-Up
    How and when will you measure that the implementation has changed the work for the better?
    The follow-up information becomes the new Current State for future improvements.
Why use an A3?

- Secures agreement of everyone involved
- Keeps everyone focused along the way
- Useful way to share your project
  - internally
  - with others in the organization
What is Change Acceleration Process (CAP)?

A good technical solution is simply not enough for success.
GE’s Change Research

100% of all changes evaluated as “Successful” had a good technical solution or approach.

Over 98% of all changes evaluated as “Unsuccessful” also had a good technical solution or approach.

What is the differentiating factor between success and failure?
Effective Change Equation

Effective Results (E) are equal to the Quality (Q) of the solution times the Alignment (A), Acceptance (A) and Accountability (A) of the idea.

\[ Q \times A^3 = E \]

\[ 10 \times 4 = 40 \]
Change Acceleration Process (CAP)

Leading Change

Creating a Shared Need

Shaping a Vision

Mobilizing Commitment

Making Change Last

Monitoring Progress

Current State

Transition State

Improved State

Changing Systems & Structures

imagination at work

Massachusetts League of Community Health Centers

YOU ARE THE KEY TO CANCER PREVENTION

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Mobilizing Commitment: Why is this Important?

- Understanding the key stakeholders whose support and commitment will “make or break” the change effort
- Key difference between success and failure

Mobilizing the Commitment of Key Stakeholders is Essential to the Success of the Change
Mobilizing Commitment Tool:

Stakeholder Analysis

Used For:

- Identifying stakeholders and understanding resistance
- Developing strategy to eliminate or lessen resistance
# Mobilizing Commitment

*Stakeholder analysis & resistance tool*

<table>
<thead>
<tr>
<th>Name (Key Stakeholders)</th>
<th>Strongly Against</th>
<th>Moderately Against</th>
<th>Neutral</th>
<th>Moderately Supportive</th>
<th>Strongly Supportive</th>
<th>Issues / Concerns</th>
<th>“Wins”</th>
<th>Influence Strategy</th>
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</table>
# Mobilizing Commitment - Example

**Stakeholder analysis & resistance tool: Example for improving HPV vaccinate rates**

<table>
<thead>
<tr>
<th>Name (Key Nurse Stakeholders)</th>
<th>Strongly Against</th>
<th>Moderately Against</th>
<th>Neutral</th>
<th>Moderately Supportive</th>
<th>Strongly Supportive</th>
<th>Issues/Concerns</th>
<th>“Wins”</th>
<th>Influence Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>R. Jones, RN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>Project taking 16 wks to complete</td>
<td>Project shows results quickly</td>
<td>Keep informed, Ask for help as needed</td>
</tr>
<tr>
<td>B. Smith, RN</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td>Impact of project on current staffing</td>
<td>Project completed without delays</td>
<td>Focus on Laws, Wills and Kiles</td>
</tr>
<tr>
<td>T. Alsop, RN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>Loss of Control and Power</td>
<td>Increased Control</td>
<td>Assign alternative project. Involve in long term process monitoring</td>
</tr>
<tr>
<td>K. Laws, RN</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td>30-yr employee – often resists change</td>
<td>See results right away</td>
<td>Smith to show WIIFM or “options”.</td>
</tr>
<tr>
<td>P. Wills, RN</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td>Sees new duties of medical assistants as risky</td>
<td>Fully understand MA abilities and strengths</td>
<td>Smith to share laws with her.</td>
</tr>
<tr>
<td>B. Kiles, RN</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td>Thinks providers should conduct vitals on their own pts</td>
<td>Understand tech ACLS training.</td>
<td>Smith to show her ACLS training.</td>
</tr>
</tbody>
</table>

X: Current level of commitment. *: Level of commitment we need.
Shaping a Vision Tool:

Elevator Speech

Used For:

- Clearly and simply stating the need for change and describing the future state
- Rallying the support and commitment of key stakeholders
Elevator Speech

Simple 4-part formula for your elevator speech:

“What our effort is about . . . .”

“Why it is important to do . . . .”

“What success will look like . . . .”

“What we need from you . . . .”
# Communication Plan

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>Message</th>
<th>Media</th>
<th>Who</th>
<th>When/Where</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(inform, persuade, influence)</td>
<td>• (written, newsletter, bulletin board, senior leader memo, events, meeting one-on-one, department meeting, all staff mtg., offsite meeting)</td>
<td>Which team member?</td>
<td>Dates/Times</td>
</tr>
</tbody>
</table>

- Announce the Project
- Shaping the vision
- Mobilizing Commitment (what’s in it for this group/individual)
- Begin to monitor progress
- Changing Systems & Structures
Change Acceleration Process

Leading Change

Creating a Shared Need

Shaping a Vision

Mobilizing Commitment

Making Change Last

Monitoring Progress

Changing Systems & Structures

Current State

Transition State

Improved State
## Change Acceleration Process

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Leading Change</strong></td>
<td>Having a sponsor/champion and team members who demonstrate visible, active, public commitment and support of the change.</td>
</tr>
<tr>
<td><strong>Creating A Shared Need</strong></td>
<td>The reason to change, whether driven by threat or opportunity, is instilled within the organization and widely shared through data, demonstration or demand. The need for change must exceed its resistance.</td>
</tr>
<tr>
<td><strong>Shaping A Vision</strong></td>
<td>The desired outcome of change is clear, legitimate, widely understood and shared; the vision is shaped in behavioral terms.</td>
</tr>
<tr>
<td><strong>Mobilizing Commitment</strong></td>
<td>There is a strong commitment from constituents to invest in the change, make it work, and demand and receive management attention; Constituents agree to change their own actions and behaviors to support the change.</td>
</tr>
<tr>
<td><strong>Making Change Last</strong></td>
<td>Once change is started, it endures, and learnings are transferred throughout the organization. Change is integrated with other key initiatives; early wins are encouraged to build momentum for the change.</td>
</tr>
<tr>
<td><strong>Monitoring Progress</strong></td>
<td>Progress is real; benchmarks set and realized; indicators established to guarantee accountability.</td>
</tr>
<tr>
<td><strong>Changing Systems And Structures</strong></td>
<td>Making sure that the management practices (Staffing, Development, Rewards, Measures, Communication, Organizational Design, and Information Technology Systems) are used to complement and reinforce change</td>
</tr>
</tbody>
</table>
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.”
HPV Challenge

Which tool will be helpful for you in improving HPV vaccination rates?

- PDSA
- A3
- Stakeholder Analysis Tool
- Elevator Speech
- Process Map
- WWW
CDC “You Are the Key” Website

CDC: http://www.cdc.gov/vaccines/who/teens/for-hcp/hpv-resources.html
MCAAP Quick Link: http://mcaap.org/immunization-hpv/
Resources and Contact Information

Massachusetts League of Community Health Centers
– Antonia Blinn
  – ablinn@massleague.org

HPV Initiative (Join or get on list serve)
– Allison Hackbarth
  – Allison_hackbarth@jsi.com

MA Chapter of American Academy of Pediatrics (MCAAP)
– Cynthia McReynolds
  – cmcreynolds@mms.org

MCAAP Website has quick links to key HPV materials:
  http://mcaap.org/immunization-hpv/