An HPV Vaccination Health System Case Study from Sanford Health

Featuring:
Lexi Pugsley, Program Director South Dakota Comprehensive Cancer Control Program

Tracy Bieber, Immunization Strategy Manager, Sanford Health

Molly Black, Associate Director, American Cancer Society VACs Program
**Efforts to Increase HPV Vaccination Coverage Rates in SD**

**Problem:** Low HPV Vaccination Coverage Rates Among Adolescents in SD

<table>
<thead>
<tr>
<th>Three-dose HPV vaccine series completion (NIS-Teen)</th>
<th>2013 (revised)</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males ages 13-17</td>
<td>7.7%</td>
<td>23.5%</td>
<td>22.0%</td>
</tr>
<tr>
<td>Females ages 13-17</td>
<td>40.9%</td>
<td>33.1%</td>
<td>32.4%</td>
</tr>
</tbody>
</table>

**Solution:** Target health systems to implement evidence-based interventions to increase vaccination rates
Increasing HPV Vaccination Rates in South Dakota

**Approach:** Develop a structured Request for Application process to select health system partners to collaborate on HPV vaccination interventions

**Partners:** SD Cancer Prevention and Control Program, SD Cancer Coalition, SD Breast and Cervical Early Detection Program (All Women Count!), and the SD Immunization Program

**Award Requirements:**
- Systems level change approach that impacts the permanent organizational culture around HPV vaccination
- Demonstrate potential for sustained efforts and lasting impact
- Quality improvement team
- Funds could not cover vaccine or vaccine administration fees

**Evidence-based Intervention Options:**
- Client Reminder and Recall Systems
- Provider Assessment and Feedback
- Provider Reminders
- Standing Orders
- Community Based Interventions (Implemented in Combination)

**Project Period:** Year One: July 1, 2015 - June 30, 2016 | Year Two: July 1, 2016 - June 30, 2017

**SD DOH Support:** Funding up to $10,000, practice coach, evaluation support, data feedback
Increasing HPV Vaccination Rates in South Dakota

**Data Indicators:**

**Baseline**
- Current policies and practices related to HPV vaccination
- Eligible patient population
- Baseline HPV vaccination coverage rates for varying age groups (1\textsuperscript{st} dose and series completion)
- Meningococcal vaccination data
- Total HPV doses administered

**During Project Period (Reported Quarterly)**
- Total HPV doses administered
- Numerator, Denominator, and Percentage of patients with zero doses, two doses, and series completion for males and females for thee age groups
- Monthly percentage of adolescents 11-26 with zero doses and series completion by practice site and individual provider
- Data on client reminders
- Process indicators
Dissemination of Outcomes

**Implementing Evidence-based Interventions to Increase HPV Vaccination Rates in SD**

The South Dakota Comprehensive Cancer Control Program in partnership with the All Women Count! program released a funding opportunity aimed at improving human papillomavirus (HPV) vaccination rates in South Dakota. The project was targeted to healthcare facilities to implement evidence-based interventions and system change strategies. Technical assistance and funding in the amount of $210,000 was provided during the project.

**PROJECT DETAILS**

- **Project Partner**: Sanford Health
  - (7 Primary Care Clinics in Sioux Falls)
- **Target Population**: male and female adolescents ages 11-26
- **Eligible Population**: 17,000 Adolescents
- **Project Period**: July 1, 2015 - June 30, 2016

**PROJECT OUTCOMES**

**HPV Vaccine Doses Administered**
- 5,783% increase over baseline

**Evidence-based Interventions Implemented**

- **Client Reminders**
  - Over 41,500 client reminders distributed (first dose and series completion)
- **Provider Assessment and Feedback**
  - Individual provider results (unblinded) were shared and compared among all physicians in each practice quarterly
- **Community-based Interventions**
  - Public education through panel discussions and screening of the Someone You Love Documentary

**Three-dose Series Completion**
- June 2015 (Baseline): 25.5%
- January 2016: 26.4%
- June 2016: 30.1%

**Zero Doses of HPV Vaccine Administered**
- June 2015 (Baseline): 37.7%
- January 2016: 54.1%
- June 2016: 52.4%

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**Year One Outcomes Infographic**

**National Comprehensive Cancer Control Success Story Submission**

**Abstract**: CDC Cancer Conference (August 2017)

**Final Outcomes Report** (Anticipated in Fall 2017)

**Presentations as Requested**
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SD Cancer Coalition Website: cancersd.com
Sanford Health
Comprehensive Cancer Coalition
HPV Grant

Tracy Bieber
Immunization Strategy
Grant Expectations

• Notified of award May 2015
  – $10,000 to increase HPV rates within 7 Sanford Family Medicine Clinics

• Requirements of grant were to develop a client reminder system and a provider assessment intervention
Educate

- June 2015 - Mandatory education for all providers and nurses in each Family Medicine Clinic.
- February 2016 - Second round of education to providers and nursing
- Merck assisted with vaccine and disease education, framing of the conversation, and supplied reminder resources such as magnets and a texting program
Provider Feedback

• Reports created to show individual provider and clinic vaccination rates for Tdap, Meningococcal, and HPV
  • Healthy People 2020 goals were shared at each education session and with monthly data
• Rates of zero doses of HPV vaccine decreased on average 10% within the seven sites
• Rates for series completion increased on average 5%
HPV - Percentage of Zero Doses

Decreased by 30%

Decreased by 35%
HPV - Percentage of Completed Series

Increased by 8%

Increased by 18%

Increased by 16%
Adolescent Immunizations
Clinic Rates

- Increased by 10%
- Increased by 17%
- Decreased by 24%
- Increased by 16%
- Increased by 8%

June 2015 (Baseline)
September 2016
October 2016
November 2016
December 2016
Healthy People 2020 Goal
Client Reminder System

• August 2015 - First reminders sent via automated phone call and mailer
• November 2015 - Second automated call deployed
• March 2016 - Second mailer sent
No Missed Opportunities Culture

• “Every patient, every time”
• “Same Way, Same Day”
• Missed Opportunities report created
• Chart audits for any “missed opportunities” and feedback provided to clinic providers, nursing, supervisor and director
Educational Opportunities for the Community

• Family Fun Fest booth
  – July 25th, 2015
• CDC webinar for staff on HPV for Sanford on July 28, 2015
• College events sponsored by Sanford
  – Southeast Tech, SDSU, USD
• Community Screening of “Someone You Love: The HPV Epidemic” by Frederic Lumiere on June 14, 2016
Additional Activities

- Marketing Plan
- Digital billboards
- Social media
- Radio
- Banners
- Print advertising
- 605 & SHE Magazine ads
- Empire Mall table tents
- Panel cards
- Reminder card
- Flyers
- Sanford lobby screens
- Internal marketing
Sanford Health HPV Vaccination Implementation Grant Overview

• During the Year 1 Project Period:
  • Over 41,500 client reminders distributed
  • Nearly 7,000 doses of HPV vaccine administered
  • 12.8% decrease in adolescents with zero doses of HPV vaccine administered
  • 6.6% increase in adolescents who have completed the three doses series
  • Hosted “Someone You Love: the HPV Epidemic” Documentary Screenings at colleges and for the public
HPV Vaccine Doses Administered

578.3% increase over baseline

6 Month Baseline (July 1, 2014-Dec 31, 2014)
6 Month Project Period (July 1, 2015-Dec 31, 2015)

Number of HPV Vaccine Doses Administered

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Girls</th>
<th>Boys</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>699719</td>
<td>1418</td>
<td>8415</td>
</tr>
<tr>
<td>Q2</td>
<td>1929</td>
<td>926</td>
<td>2855</td>
</tr>
<tr>
<td>Q3</td>
<td>1818</td>
<td>828</td>
<td>2646</td>
</tr>
<tr>
<td>Q4</td>
<td>1965</td>
<td>954</td>
<td>2919</td>
</tr>
<tr>
<td>Year 1</td>
<td>6411</td>
<td>3427</td>
<td>6919</td>
</tr>
</tbody>
</table>

Girls  Boys  Total
Client Reminders

Number of Client Reminders Disseminated

Over 41,500 client reminders disseminated over the project period.
Adolescent boys and girls ages 11-26 at the seven participating primary care clinic sites with zero doses of HPV vaccine administered.

- June 2015 (Baseline): 65.2%
- January 2016: 56.1%
- June 2016: 52.4%

12.8% ↓ in zero doses administered.
Three Dose Series Completion

HPV three-dose series completion among adolescent boys and girls ages 11-26 at the seven participating primary care clinic sites

- June 2015 (Baseline): 23.5%
- January 2016: 26.4%
- June 2016: 30.1%

6.6% ↑ in three dose series completion
Three Dose Series Completion

<table>
<thead>
<tr>
<th>Gender/Age Category</th>
<th>Percentage of patient population with three doses of the HPV vaccine for the 7 clinic sites</th>
<th>Increase</th>
</tr>
</thead>
</table>
| Girls ages 11-12    | June 30, 2015: 25%  
                        June 30, 2016: 31% | 6%       |
| Girls ages 13-17    | June 30, 2015: 46%  
                        June 30, 2016: 51% | 5%       |
| Girls ages 18-26    | June 30, 2015: 40%  
                        June 30, 2016: 42% | 2%       |
| Boys ages 11-12     | June 30, 2015: 13%  
                        June 30, 2016: 21% | 8%       |
| Boys ages 13-17     | June 30, 2015: 23%  
                        June 30, 2016: 31% | 8%       |
| Boys ages 18-26     | June 30, 2015: 7%   
                        June 30, 2016: 10% | 3%       |
Next Steps.....

- Expansion to all Sanford South Dakota clinics
- Focus on series completion for the pilot family medicine clinics
- Goal is to reach 80% Healthy People 2020 goal by 2020!
QUESTIONS?

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Steps for Increasing HPV Vaccination in Practice:
An Action Guide

Molly Black | Associate Director, HPV Vaccination
American Cancer Society
I have:

A. Not seen the guide, but I’m excited to learn about it.
B. Seen or shared the guide.
C. Used the guide in a project to increase HPV vaccination.
Building from NCCRT Success
Steps for Increasing HPV Vaccination in Practice:
An Action Guide to Implement Evidence-based Strategies for Clinicians


- Toolkit
- Road map
- Portal to resources
- Launched June 2015
- Tested and improved by 30 FQHC Pilots
Saving Lives through Cancer Prevention

Nearly all cases of cervical cancer are caused by infection with high-risk types of human papilloma virus (HPV). The virus also has been linked to cancers of the vagina, vulva, anus, penis, and oropharynx (back of the throat). Each year in the US, an estimated 33,000 men and women will receive a diagnosis of cancer caused by HPV. In addition to cancers, each year there are 330,000 women who undergo treatment for new cases of precancerous, high-grade cervical dysplasia.

The HPV vaccine is cancer prevention. It prevents infection by virus types that cause the vast majority of these cancers and genital warts. The vaccine is most effective when given before age 13 to achieve the best immune response, and it provides the most complete coverage against cancer-causing types of HPV. That’s why the American Cancer Society recommends that boys and girls get the HPV vaccine at age 11 or 12.

Despite the power of HPV vaccination to prevent cancers caused by HPV in 2014, less than 40% of girls and boys had completed the three-dose series. Too many boys and girls in the US are not getting the HPV vaccine and are missing the protection it could provide.

The biggest predictor of HPV vaccination uptake is an effective recommendation from a healthcare provider. You have the power to make a lasting impact on HPV vaccination and help reduce the HPV-related cancer burden in your community. On the pages that follow, you will find detailed steps, evidence-based strategies, and tools for your clinic to increase HPV vaccination. Additionally, follow the links provided in the Tools for Your Practice section of each step to access numerous valuable resources to support your practice’s quality improvement efforts to increase HPV vaccination rates.

Benefits to Your Health System Include:

- More patients who come into your clinic and leave vaccinated
- Patients who are motivated to get their child vaccinated against cancer
- Interventions that are evidence-based and, when used consistently, can improve overall vaccination rates
- Cancer prevention integrated into existing systems of care

Peninsula Community Health Services, WA used this content to recruit staff to join QI team.
**Increasing HPV Vaccination: An Overview**

- **What steps to take**
- **Where to start**
- **Foundation of Quality Improvement**

Steps 1-3 help build capacity to implement the evidence-based strategies in Step 4.

**ARcare, AR checked off boxes as they were completed.**
WHAT: Evidence-Based Interventions

HOW: Evidence-Based Quality Improvement
Step 1: Assemble a Team

- Detailed explanation
- bit.ly provides portal printable and virtual resources

Eau Clare Cooperative Health Centers, SC recruited key external partners: state immunization, Merck and MCO to support project.
Step #1 Assemble a Team

Identify an HPV Vaccination Champion.

Form a Quality Improvement Team for HPV Vaccination.

Identify External Organizations and Resources to Support Your Efforts.

Penobscot Community Health Care, ME presented the steps and evidence slides in conjunction with You Are The Key slides.
Step 1 - Assemble a Team

Assembling a team is essential to increasing your clinic’s HPV vaccination rates. Identify a HPV vaccination champion to advocate for practice change, and provide leadership on the quality improvement team. Form a quality improvement team that engages staff, reviews vaccination rates, and utilizes the Institute for Healthcare Improvement’s Model for Improvement and PDSA processes. Identify external organizations and resources to bolster your clinic’s efforts. Use these downloadable quality improvement tools to assist you during Step 1.

### Identify an HPV Vaccination Champion

<table>
<thead>
<tr>
<th>Document Link</th>
<th>Organization</th>
<th>Resource Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child and Adolescent Immunization Office Champions Project Final Report</td>
<td>American Academy of Family Physicians (AAFP)</td>
<td>Details how to develop and implement an Immunization Office Champions program designed to increase child and adolescent immunization rates in family physician practices.</td>
</tr>
</tbody>
</table>

### Form a Quality Improvement Team for HPV Vaccination

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</thead>
<tbody>
<tr>
<td>Creating Quality Improvement Teams and QI Plans</td>
<td>Agency for Healthcare Research and Quality (AHRQ)</td>
<td>Self-published article on how to create a QI team in a practice and who should be involved, key driver models, improvement plans for QI teams.</td>
</tr>
<tr>
<td>Creating Capacity for Improvement in Primary Care: The Case for Developing a QI Infrastructure</td>
<td>Agency for Healthcare Research and Quality (AHRQ)</td>
<td>Self-published article about Quality Improvement, QI capacity, and infrastructure.</td>
</tr>
</tbody>
</table>
Step 2: Make a Plan

- Leverage evidence to gain internal support

Lincoln Community Health Center, NC leveraged instructions to partner with state immunization registry on baseline.
Step 3: Make a Plan

- Highlights ALL staff

North Hudson Community Action Corporation, NJ held a Someone You Love viewing with all staff and then presented You Are The Key onsite with each center to allow more staff to attend a training.
Step 4: Get Your Patients Vaccinated Before Their 13th Birthday

**Make an Effective Recommendation**

A recommendation from a health care provider is the single most persuasive reason children get vaccinated. To increase the effectiveness of an HPV vaccine recommendation, consider the following:

- Recommend the HPV vaccine for all boys and girls at 11 or 12 years of age the same day, same way you recommend other vaccines.
- Try saying, "Your child needs 3 vaccines today: Tdap, MMR, and meningococcal" or "Today your child should have 3 vaccines. They’re designed to protect him from the cancers caused by HPV, meningitis, tetanus, diphtheria, and pertussis."

**Prompt the Health Care Provider**

Ensure clinicians know that a specific patient is due or overdue for HPV vaccination. Patient-specific prompts can come from your EHR, nursing staff, or both. Prompts can take many forms. Consider the following when developing your prompting system: EHR automatic popups, EHR visit task lists, highlighted last in EHR chart, sticky notes in chart, checklists, preprinted notes in clinic’s chart, or a highlighted current procedural terminology code on a visit summary.

**Increase Access**

Assess the need for, and administer the HPV vaccine at every opportunity. Consider the following types of encounters: well child visits, sick visits, sports physicals, and name-only visits. Incorporate standing orders into clinic procedures. Provide walk-ins or immunization-only appointments.

**Track Series Completion and Follow-up**

Schedule follow-up appointments for the next doses before the patient leaves your clinic. Remind parents when it’s time for the next dose of the vaccine or the vaccine is overdue for their child. Ensure your privacy statement includes: phone, mail, email, and text message as options for communication.

**Measure and Improve Performance**

A program measures its success by demonstrating an improvement from baseline rates. Some programs have found it helpful to provide monthly reports for the clinic system, clinic, and individual health care providers with vaccination rates and data on missed opportunities. Systematically solicit feedback from staff, providers, and parents to refine and improve the impact of your efforts. Conducting PI/SA cycles will streamline the implementation of a practice change into a strategy that meets the individual needs of a practice and providers.

**Tools for Your Practice**

Visit the Step 4 webpage to access downloadable strategy implementation tools. This page includes resources for making an effective HPV vaccine recommendation, sample standing orders, parent reminder templates, sample HPV vaccination IODA cycles, and tools for provider, clinic, and system-level data. [http://bit.ly/VACsStep4](http://bit.ly/VACsStep4)

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Health Services Incorporated, AL did it all, but not all at once.
Key Success Using the Guide
Steps for Increasing HPV Vaccination in Practice: An Action Guide to Implement Evidence-based Strategies for Clinicians

How will you use, enhance and/or disseminate the guide?
ACS.HPV.VACs@cancer.org