



THE HPV
VACCINE
EXAMPLE

2012-13

THE PRESIDENT'S
CANCER PANEL

PRESIDENT'S CANCER PANEL UPDATE

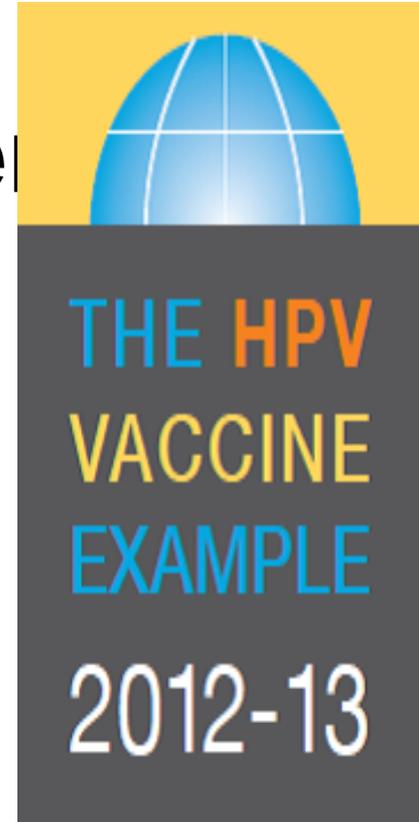
NATIONAL CANCER ADVISORY BOARD
MEETING

6/24/2013

Barbara K. Rimer, DrPH

Overview

- **Update: HPV Vaccine Series**
- **2013-2014 Series**



THE PRESIDENT'S
CANCER PANEL

PCP Mission

- **The Panel shall monitor the development and execution of the activities of the National Cancer Program, and shall report directly to the President.**
- **Any delays or blockages in rapid execution of the Program shall immediately be brought to the attention of the President.**

PCP Members

- **Barbara K. Rimer, DrPH,**
Univ. of North Carolina at Chapel Hill (Chair)
- **Owen N. Witte, MD,**
Univ. of California Los Angeles (Member)
- **Hill Harper, JD,**
*Cancer Survivor, Actor and Best-Selling
Author, Los Angeles, CA (Member)*

Accelerating Progress In Cancer Prevention: The HPV Vaccine Example

Four Workshops *(completed)*

1. **HPV Vaccination as a Model for Cancer Prevention**
2. **Achieving Widespread HPV Vaccine Uptake**
3. **Creating an Integrated HPV Vaccination and Screening Program**
4. **Challenges of Global HPV Vaccination**

Early HPV Vaccine Impact in the US

MAJOR ARTICLE

Reduction in Human Papillomavirus (HPV) Prevalence Among Young Women Following HPV Vaccine Introduction in the United States, National Health and Nutrition Examination Surveys, 2003–2010

Lauri E. Markowitz,¹ Susan Hariri,¹ Carol Lin,¹ Eileen F. Dunne,¹ Martin Steinau,² Geraldine McQuillan,³ and Elizabeth R. Unger²

¹Division of STD Prevention, National Center for HIV, Viral Hepatitis, STD, and TB Prevention, and ²Division of High-Consequence Pathogens and Pathology, National Center for Emerging and Zoonotic Infectious Diseases, Centers for Disease Control and Prevention (CDC), Atlanta, Georgia; and ³National Center for Health Statistics, CDC, Hyattsville, Maryland

Background. Human papillomavirus (HPV) vaccination was introduced into the routine immunization schedule in the United States in late 2006 for females aged 11 or 12 years, with catch-up vaccination recommended for those aged 13–26 years. In 2010, 3-dose vaccine coverage was only 32% among 13–17 year-olds. Reduction in the prevalence of HPV types targeted by the quadrivalent vaccine (HPV-6, -11, -16, and -18) will be one of the first measures of vaccine impact.

Methods. We analyzed HPV prevalence data from the vaccine era (2007–2010) and the prevaccine era (2003–2006) that were collected during National Health and Nutrition Examination Surveys. HPV prevalence was determined by the Linear Array HPV Assay in cervicovaginal swab samples from females aged 14–59 years; 4150 provided samples in 2003–2006, and 4253 provided samples in 2007–2010.

Results. Among females aged 14–19 years, the vaccine-type HPV prevalence (HPV-6, -11, -16, or -18) decreased from 11.5% (95% confidence interval [CI], 9.2–14.4) in 2003–2006 to 5.1% (95% CI, 3.8–6.6) in 2007–2010, a decline of 56% (95% CI, 38–69). Among other age groups, the prevalence did not differ significantly between the 2 time periods ($P > .05$). The vaccine effectiveness of at least 1 dose was 82% (95% CI, 53–93).

Conclusions. Within 4 years of vaccine introduction, the vaccine-type HPV prevalence decreased among females aged 14–19 years despite low vaccine uptake. The estimated vaccine effectiveness was high.

Keywords. human papillomavirus; vaccine effectiveness; HPV vaccine; vaccine impact; prevalence.

“We found a [56%] decrease in vaccine type HPV prevalence among females 14-19 y.o. in the vaccine era (2007-2010) compared with the pre-vaccine era (2003-2006).”

Markowitz et al, J Infect Dis. (2013) doi: 10.1093/infdis/jit192
First published online: June 19, 2013

Early HPV Vaccine Impact in the US

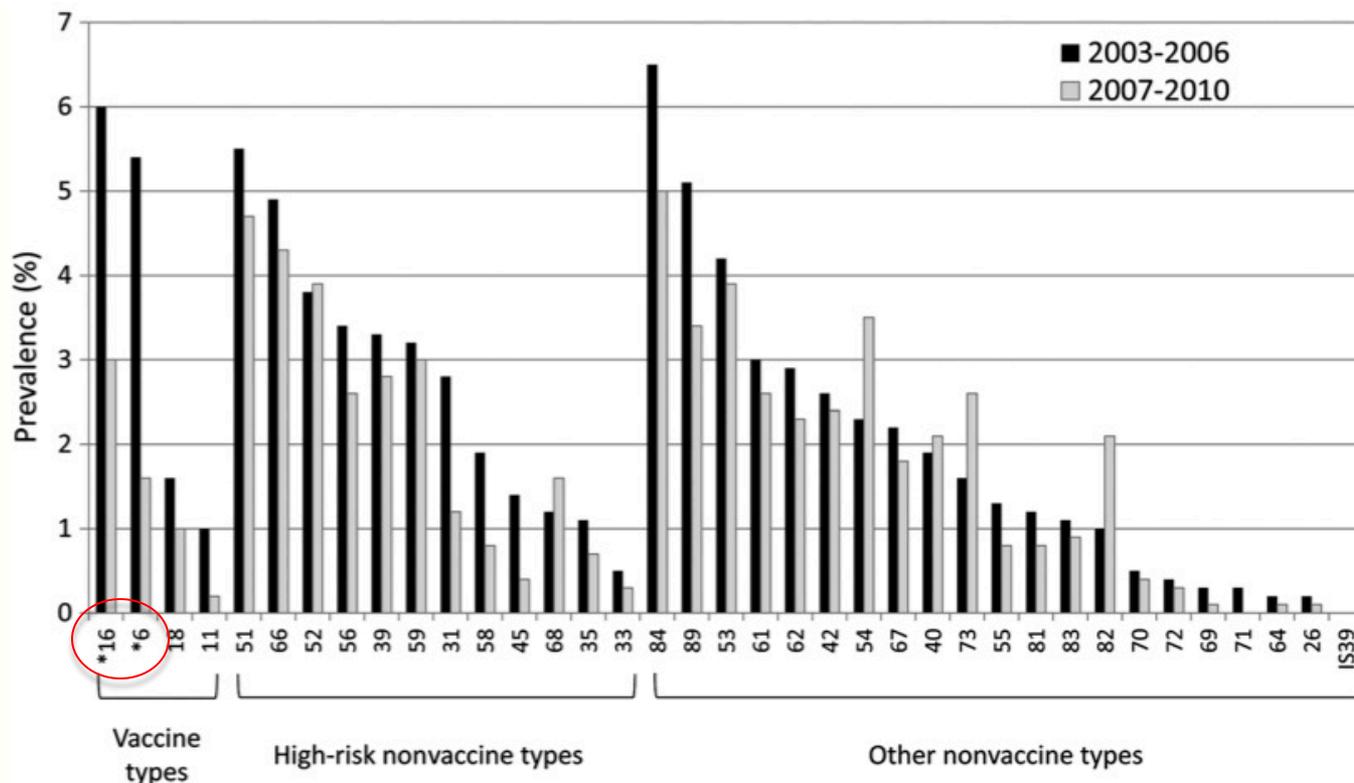


Figure 1. Prevalence of individual human papillomavirus (HPV) types among females aged 14–19 years, 2003–2006 and 2007–2010. Data are for all females aged 14–19 years, including those who did not report having had sex. HPV types ordered from highest to lowest prevalence in the prevaccine era within each HPV type category. Estimates with a relative standard error (RSE) of >30% or <10 observations: 2003–2006, HPV-11, -26, -33, -64, -69, -71, -72, -82 and -IS30; 2007–2010, HPV-11, -18, -21, -26, -31, -33, -35, -45, -55, -56, -58, -64, -69 -70, -72, and -81 (Supplementary Table 1 provides further detail). * $P < .05$.

Challenges of Global HPV Vaccination

(Miami, 4/23 - 24, 2013)

Workshop Co-Chairs

- **Rima Khabbaz, MD (CDC)**
- **Ted Trimble, MD, MPH (NCI)**
- **Funmi Olopade, MD, FACP
(University of Chicago), NCAB**

Challenges of Global HPV Vaccination

Workshop Foci

- **Global epidemiology of HPV infection and HPV vaccination coverage**
- **Global HPV vaccine policy and financing**
- **Global vaccine program development, implementation, monitoring and evaluation**

22 participants from various global regions and organizations

Argentina

Australia

Canada

Mexico

Rwanda

Spain

Bill & Melinda Gates

Foundation

GAVI Alliance

PATH

GlaxoSmithKline

Biologicals

Merck Vaccines

IARC

PAHO

University of Chicago

University of North

Carolina

US Centers for Disease

Control and Prevention

US DHHS

US National Cancer

Institute

WHO

Challenges of Global HPV Vaccination

Key Points

- **Effective communications are a critical component of all HPV vaccine programs, in high- and low-resource settings.**
- **Clear, concise messages from credible sources increase vaccine uptake.**

Challenges of Global HPV Vaccination

Key Points

- **Financial resources and infrastructure (e.g., cost of purchasing and delivering vaccines) are implementation barriers for low and middle-income countries.**
- **US should continue to support programs like GAVI that make HPV vaccines available in low-resource areas.**



SAVING LIVES AND PROTECTING HEALTH THROUGH IMMUNISATION IN DEVELOPING COUNTRIES

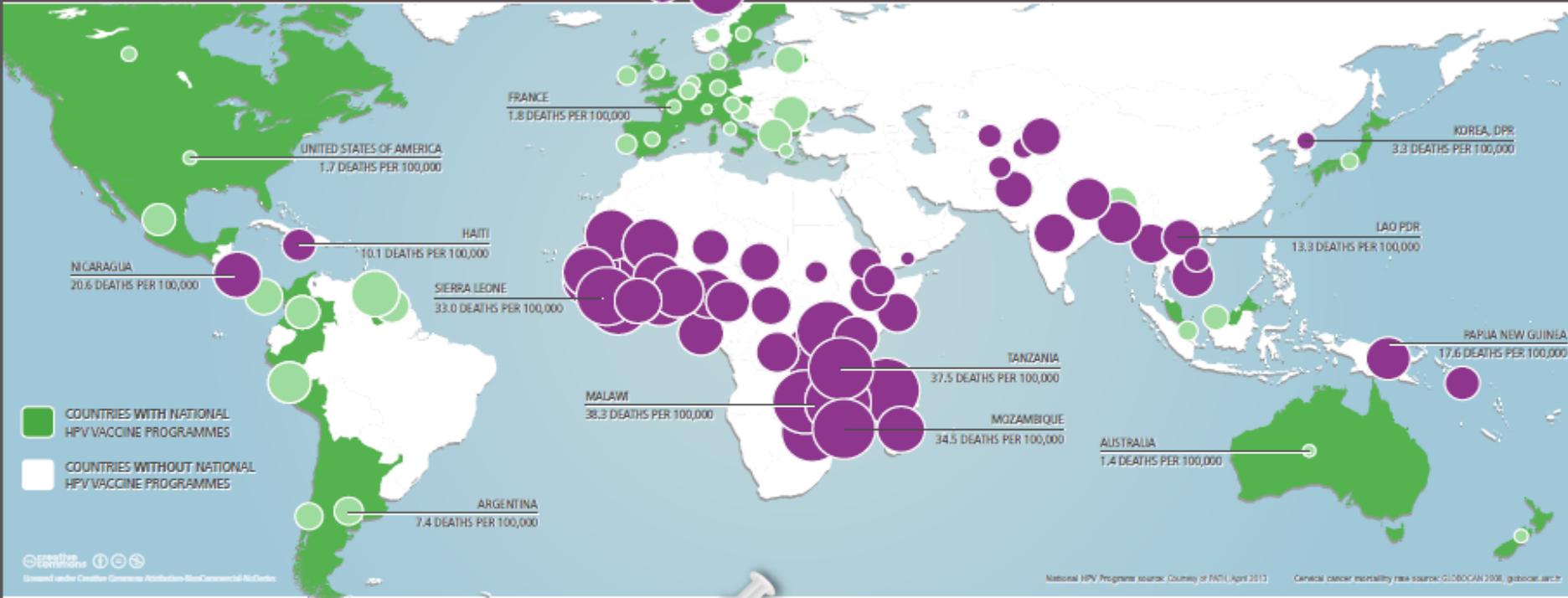
GAVI ALLIANCE TACKLES CERVICAL CANCER

EVERY YEAR, 275,000 WOMEN DIE OF CERVICAL CANCER. OVER 85% OF THOSE DEATHS ARE IN DEVELOPING COUNTRIES

○ COUNTRIES ELIGIBLE FOR GAVI'S HPV VACCINE FUNDING

○ 1 ○ 10 ○ 30 SCALE: CERVICAL CANCER DEATHS PER 100,000

● COUNTRIES WITH NATIONAL HPV VACCINE PROGRAMMES



CHANGING THE BALANCE



GAVI's support for HPV vaccines will help redress the inequity, delivering vaccines to countries with the highest burden.

ABOUT HPV VACCINE



Safe and effective, human papillomavirus (HPV) vaccines protect against 70% of cervical cancer.

LOWERING THE PRICE



The new low price of US \$4.50 per dose marks a two-thirds reduction on the current lowest public sector price.

DRAMATIC ACCELERATION

By 2020, over **30** million girls in more than **40** countries will be vaccinated against HPV

The first GAVI-supported HPV vaccines will be delivered in May 2013.

What can the US learn from the rest of the world?

- **Champions should be recruited to promote HPV vaccination within US.**
- **US should develop stronger public health messages to encourage HPV vaccination and use multiple channels.**
- **US should support research to make vaccine delivery affordable and sustainable.**
 - **Vaccine research (e.g., reduced dosage)**
 - **Health delivery systems research**

Next Steps...

Coming
Soon

- **Cross-walks to show how our recommendations complement those of others**
- **Designs for online and mobile versions**
- **Report completed late summer**
- **Examine ways to assess**

EMERGING MEDIA AND CANCER PREVENTION



Prospects, Perspectives &
Partnerships

Emerging Media and Cancer Prevention

- ❑ **Massive shifts in how people get information**
 - **85% of US adults use the Internet.**
 - **72% of them looked for health information online.**
 - **56% of US adults use smartphones.**
- ❑ **Emerging media enable access to the vast universe of information about how to prevent, detect, diagnose, and treat cancer.**



Fox S., Health Online, Pew Internet & American Life Project, Jan 15, 2013,
<http://www.pewinternet.org/Reports/2013/Health-online.aspx>, June 12, 2013.

Emerging Media and Cancer Prevention



- ❑ **The Internet has altered boundaries between communicators and the public.**
- ❑ **Older technologies, such as print, television and radio, co-exist with new technologies.**
- ❑ **Online sources and communities are vital communication portals.**
- ❑ **Government and NGO communicators**

Emerging Media and Cancer Prevention

Social Media Landscape



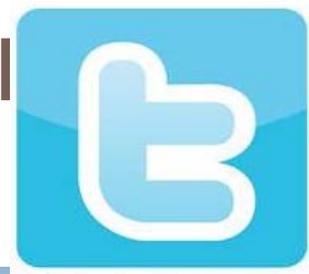
New Media



Emerging Media and Cancer Prevention

- **More information, more ways to access it, and more communicators than ever before**
- **Content can be created by anyone.**
- **Established organizations (incl government) are no longer the only respected or sought after communicators.**
- **Rapid pace of technological innovation creates a growing gap between public**

Emerging Media and Cancer Prevention



- **How can we accelerate use of emerging media for cancer control, especially, prevention?**
 - **Today, no major cancer organization has a free or low-cost E-book on how to prevent or cope with cancer. (Google search 6/17=0)**
 - **Could we have known, even before Twitter, that we would need to highlight the benefits of quitting smoking in 140 characters?**
 - **On 6/18, 6-10 tweets/minute mentioned HPV vaccines.**
 - **Mobile health applications are proliferating, but**

Emerging Media and Cancer Prevention

- ❑ **Still, millions of people in the US lack access to credible health information.**
- ❑ **Inequities in communication may widen knowledge gaps instead of bridging them.**
- ❑ **May also exacerbate health c**
- ❑ **Emerging media could improve reach of communication about cancer prevention to diverse audiences**



Emerging Media and Cancer Prevention: **Planning**

Workshop

- ❑ **Invitees--people who can anticipate the future**
- ❑ **Leaders and innovators from communication, technology (including EHR, mHealth, and HIT developers), policy, academic, health, government and advocacy sectors**
- ❑ **Shape series on use of emerging media to accelerate cancer prevention and reduce cancer communication inequities**

Emerging Media and Cancer Prevention:

Planning Workshop

- Identify who should participate to discuss:
 - ▣ Strategies to overcome barriers to health organizations' use of emerging media to improve health and reduce communication inequities;
 - ▣ How to increase individuals' access to emerging media; and
 - ▣ Opportunities to link EHRs w/ individualized health messages.

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