HPV-Impact:

Cervical pre-cancer surveillance and HPV vaccine impact monitoring

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Presentation Summary

• The HPV-Impact Vaccine Monitoring Surveillance effort

• What are we seeing?

• How can you help?
What is HPV-Impact?

Population-based surveillance of cervical pre-cancer to evaluate the impact of the HPV vaccines, by

1. Monitoring cervical pre-cancer
2. Monitoring HPV types
3. Tracking HPV vaccine history and cervical cancer screening
Progression from Infection to Cancer

Wright & Schiffman, NEJM 2003

- Cervical intraepithelial neoplasia CIN 2 and CIN 3
- Adenocarcinoma in-situ (AIS)
- High-grade cervical lesions
- Cervical pre-cancer
Screening and Diagnosis of Cervical Lesions

PAP TEST RESULT:
ATYPICAL CELLS OF UNDETERMINED SIGNIFICANCE (ASCUS)
HIGH-RISK HPV POSITIVE

Pap smear: cells are scraped from the cervix and examined under a microscope to check for disease or other problems.

Cervical biopsy ("punch"): small tissue samples are taken from the cervix and examined for disease or other problems.
HPV-Impact in Alameda County

• Surveillance began January 1, 2008
• Reportable in Alameda County September 2013
• 18 Histopathology labs reporting cases
• Follow-up with over 200 medical providers
  – Demographic data
  – Vaccine history
  – Pap screening history
Emerging Infections Program

CEIP is one of 10 EIP sites in the United States.

With a nationwide catchment of approximately 44 million persons, or 15% of the US population, the EIP network is a national resource for the surveillance, prevention, and control of emerging infectious diseases.
Where is Cervical Pre-cancer Reportable?

Alameda County

Los Angeles
So what are we seeing?
Are the vaccines working?
Vaccine Impact: Cervical Disease

- Australia (2013, 2014)
  - Analysis from national registries
  - ↓ risk cervical lesions among vaccinated

- Denmark (2014)
  - Disease and vaccine registries linked
  - ↓ risk of cervical lesions in younger birth cohorts

Baldur-Felskov J Natl Cancer Inst 2014;106(3)
Vaccine Impact: Cervical Disease…cont’d

- United States (2012)
  - Sentinel HPV-Impact national data
  - ↓ high-grade lesions in women vaccinated 24 months prior to abnormal Pap

- United States (2013)
  - NHANES Nat’l Health and Nutrition Examination
  - ↓ 56% vaccine-type HPV prevalence in 14-19 yr old girls from self-collected cervicovaginal swabs

Powell Vaccine 2012;31(1)
Markowitz J Infect Dis 2013;204(4)
Note: National data on HPV vaccine coverage in Canada are not available. However, Canadian provinces report three-dose coverage among target age groups between 50 and 85 percent.
National Estimated Vaccination Coverage Levels among Adolescents 13-17 Years, NIS-Teen 2006-2012

Source: MMWR. 2013;62;685-93

From Shannon Stokley, NVAC Mtg Sept 11, 2013
Incidence Trends of High-Grade Cervical Lesions in Adult Alameda County Women

Incidence (per 100,000)

Year

2008
2009
2010
2011
2012
2013
Incidence of High-Grade Lesions by Age, 2008-2013

Incidence (Per 100,000) vs. Age Group

- 18-20
- 21-24
- 25-29
- 30-39
- 40+

Years:
- 2008
- 2009
- 2010
- 2011
- 2012
- 2013
Changes in Cervical Cancer Screening Affecting Incidence?

![Graph showing changes in cervical cancer screening and incidence from 2008 to 2012. The graph displays data for different age groups and screening methods, indicating trends in incidence and screening rates over the years.](image-url)
HPV Type by Frequency

- From California high-grade diagnosed cervical tissue specimens
- 80% single-type HPV; 20% >2 HPV types
HPV Vaccine-Preventable Type Distribution by Diagnosis

Of 1157 cervical tissue samples
Challenges

• Understanding cervical pre-cancer incidence trends

• Obtaining HPV vaccine status

• Low HPV vaccine uptake and series completion
How Can You Help?

1. Recommend HPV vaccination
2. Record HPV vaccine history: CAIR and/or medical record
3. Complete HPV-Impact form
How Can You Help?

1. Recommend HPV vaccination
   - Girls and boys
   - All 3 doses needed
   - Look for opportunities at any office visit
   - School nurses can be important supporters

2. Record HPV vaccine history: CAIR and/or medical record

3. Complete HPV-Impact form
How Can You Help?

1. Recommend HPV vaccination

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Contact: Catharine.Ratto@acgov.org

http://cairweb.org
How Can You Help?

1. Recommend HPV vaccination
2. Record HPV vaccine history in medical record
3. Complete HPV-Impact form
Visit & read more!

http://ceip.us/projects/hpv-impact

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