Correlates of HPV Vaccine Initiation, Completion, and Dosing Intervals among Female and Male Adolescents in Inner-City Community Health Centers for 2011-2013

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Presenter Disclosure

- **Rula Btoush; Diane Brown; Dennis Carmody; Jennifer Bucalo**
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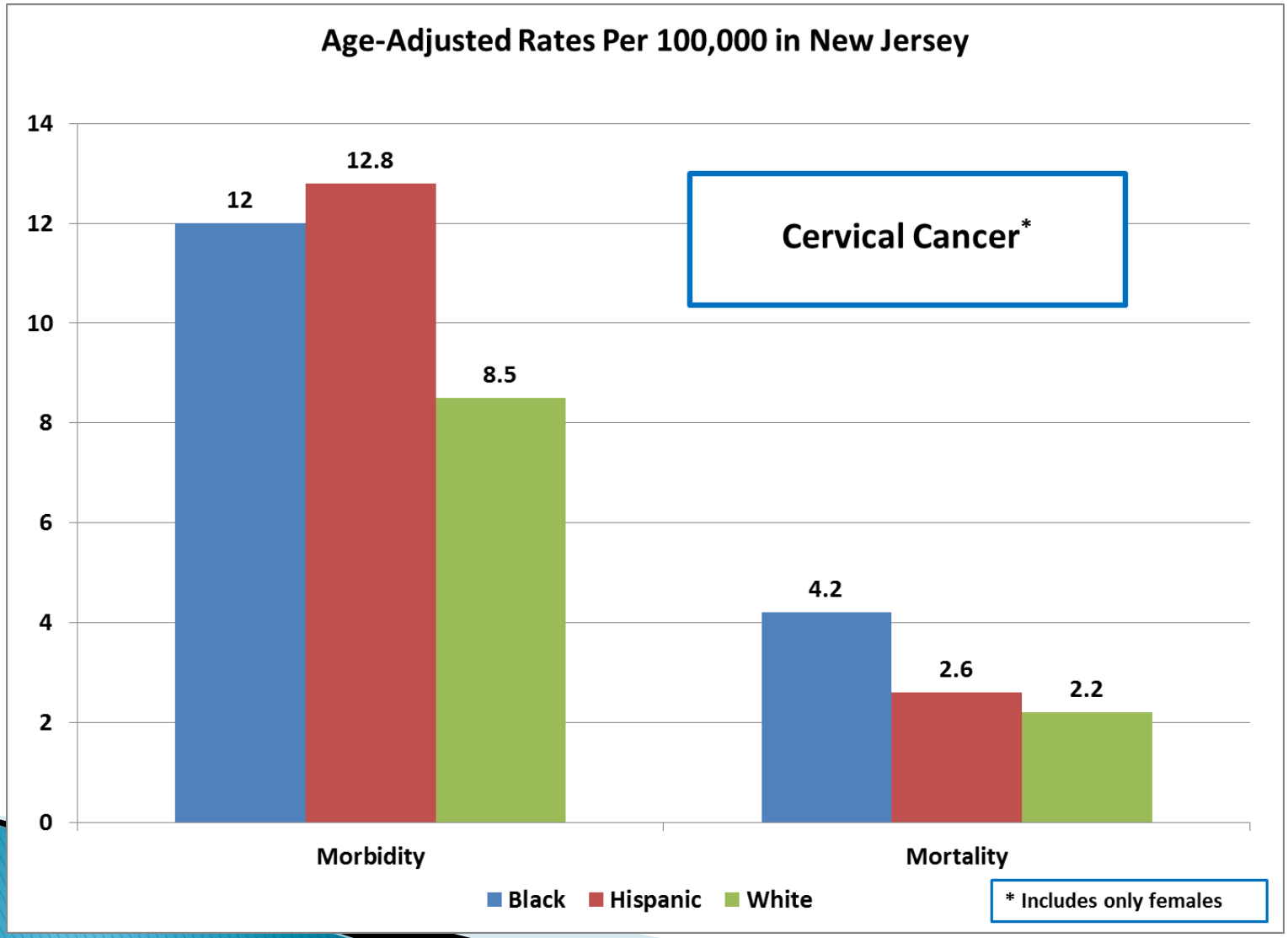
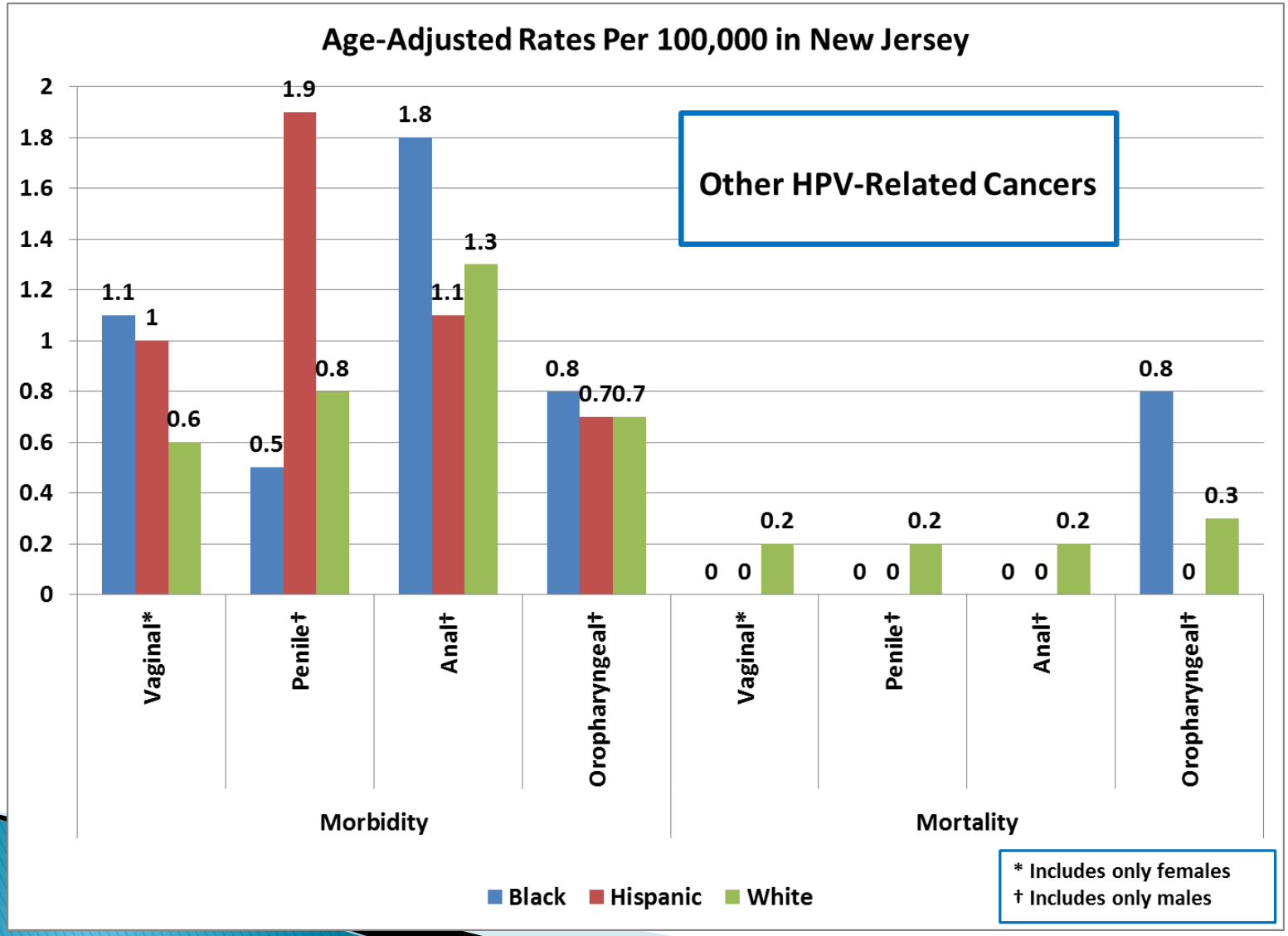
Background

- CDC estimates 26,000 new HPV-associated cancers each year
  - cervical, vulvar, vaginal, penile, anal, and oropharyngeal cancers
- Pervasive disparities exist in HPV-associated cancers as well as HPV vaccination among Black, Hispanic, and low-income adolescents

2009 NJ Age-Adjusted Morbidity and Mortality Rates of Cervical Cancer per 100,000



2009 NJ Age-Adjusted Morbidity and Mortality Rates of Other HPV-Related Cancers per 100,000



NJ ranked top 10th state for cervical cancer morbidity for 2006-2010

Invasive Cervical Cancer in NJ 2005-2009

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Preliminary Findings
Higher %:

- Blacks, Hispanics, Foreign Born
- Non-English speaking
- LT High School
- Not Married
- Unemployed
- Below Poverty and low income families
- Rental occupied homes

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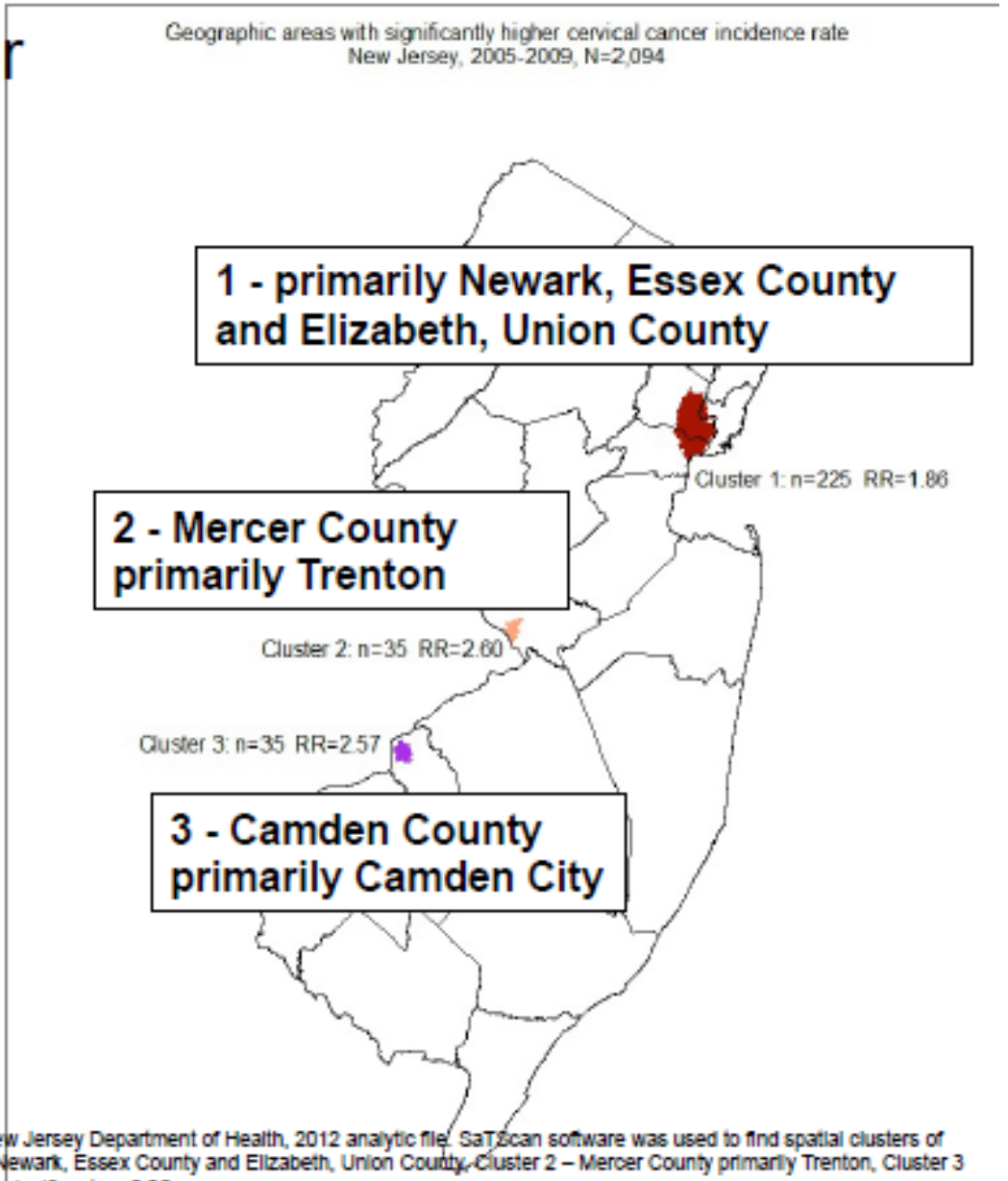


Figure 1: Data are from the New Jersey State Cancer Registry, New Jersey Department of Health, 2012 analytic file. SaTScan software was used to find spatial clusters of elevated invasive cervical cancer incidence. Cluster 1 – primarily Newark, Essex County and Elizabeth, Union County. Cluster 2 – Mercer County primarily Trenton, Cluster 3 – Camden County primarily Camden City. Clusters are statistically significant, $p<0.05$.

Rates of HPV vaccination

	2013 NIS	Other Studies
Initiation – Females	57.3%	9.4% – 62.9%
Completion – Females	37.6%	1.9% – 26.5%
Initiation – Males	34.6%	1.1% – 30%
Completion – Males	13.9%	1.5% – 4.0%

- Lower initiation: Black & Hispanic adolescents, poverty, uninsured, shorter enrollment in Medicaid or private insurance, & in non-pediatric practices
- Lower completion: older and Black adolescents, uninsured, & in non-pediatric practices

Study Purpose

- The purpose of this study was to examine HPV vaccine initiation and completion among 9-20 year old adolescents seen at community health centers in the Greater Newark Area in 2011
  - Rates of HPV vaccine initiation and completion
  - Duration between HPV vaccine doses
  - Correlates
    - Gender, race/ethnicity, age, language, health insurance, provider specialty, site

Methods

- Descriptive, correlational study using Electronic Health Records (EHR) data for 2011–2013
- **6,690 adolescents**, 10–20 years of age
- At a federally qualified health center, providing services at seven sites in predominantly minority, low-income urban areas
- Only five centers were included in this study; two excluded centers do not provide pediatric services
- Excluded adolescents seen only for dental and mental health visits
- Manually verified data on HPV vaccination

Demographic Characteristics of Study Sample

Gender	
Female	**59.4%**
Male	40.6%
Race/Ethnicity	
Hispanic	**30.7%**
Black, Non- Hispanic	**56.1%**
White, Non- Hispanic	7.7%
Other, Non- Hispanic	5.4%
Age *(M=15.59; SD=3.19)*	
10-12	22.9%
13-15	23.9%
16-18	30.1%
19-20	23.0%
Language	
English	**74.8%**
Spanish	17.8%
Haitian Creole	7.4%
Insurance	
Private	65.9%
Medicaid	3.5%
Uninsured/Self-pay	**30.6%**

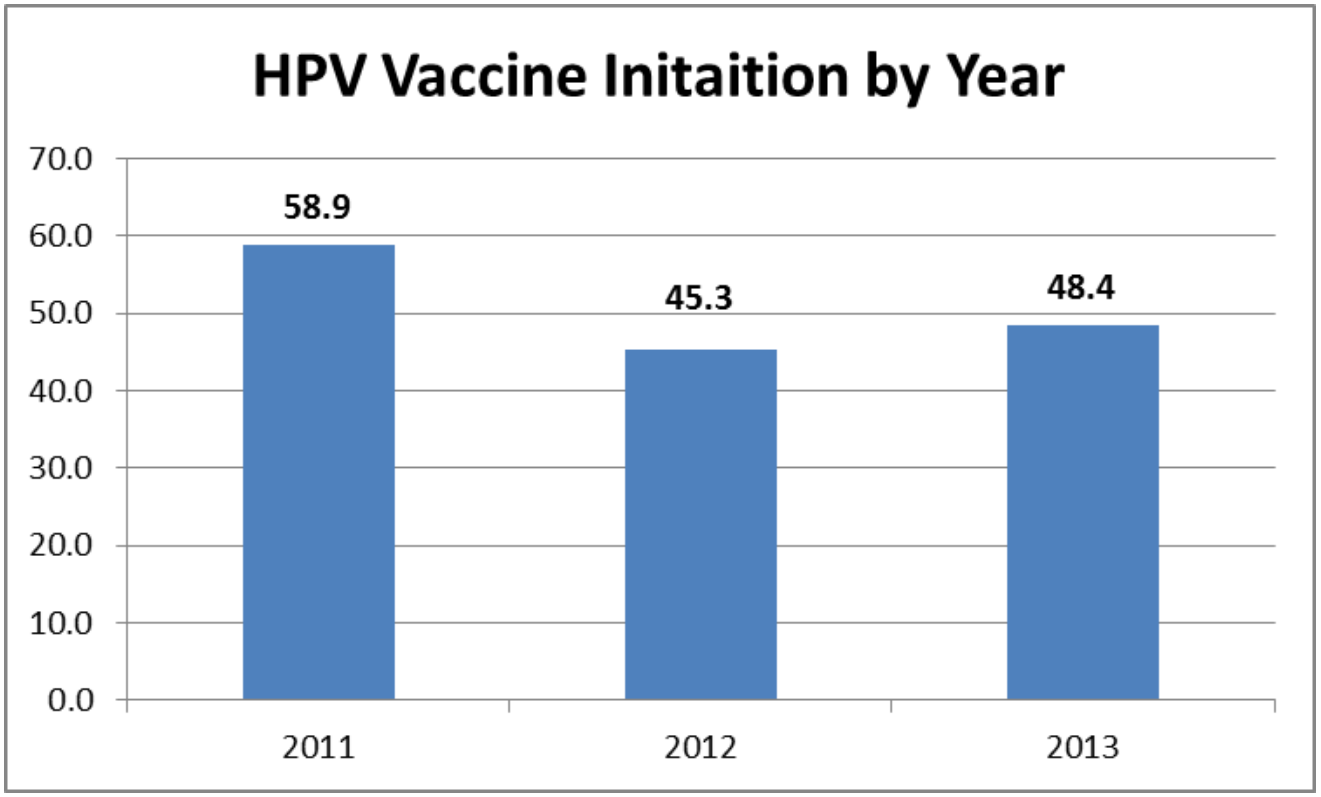
Provider Specialty & Site

Department	
Pediatrics	**68.9%**
OB/GYN	13.5%
Internal Medicine	13.4%
Nurse Visit (RN or NP)	3.3%
Site	
Newark- North	**22.3%**
Newark- South	12.1%
East Orange	**28.1%**
Irvington	**26.5%**
Orange	11.0%

Findings

HPV Vaccination Initiation

- 54.2% received at least 1 dose

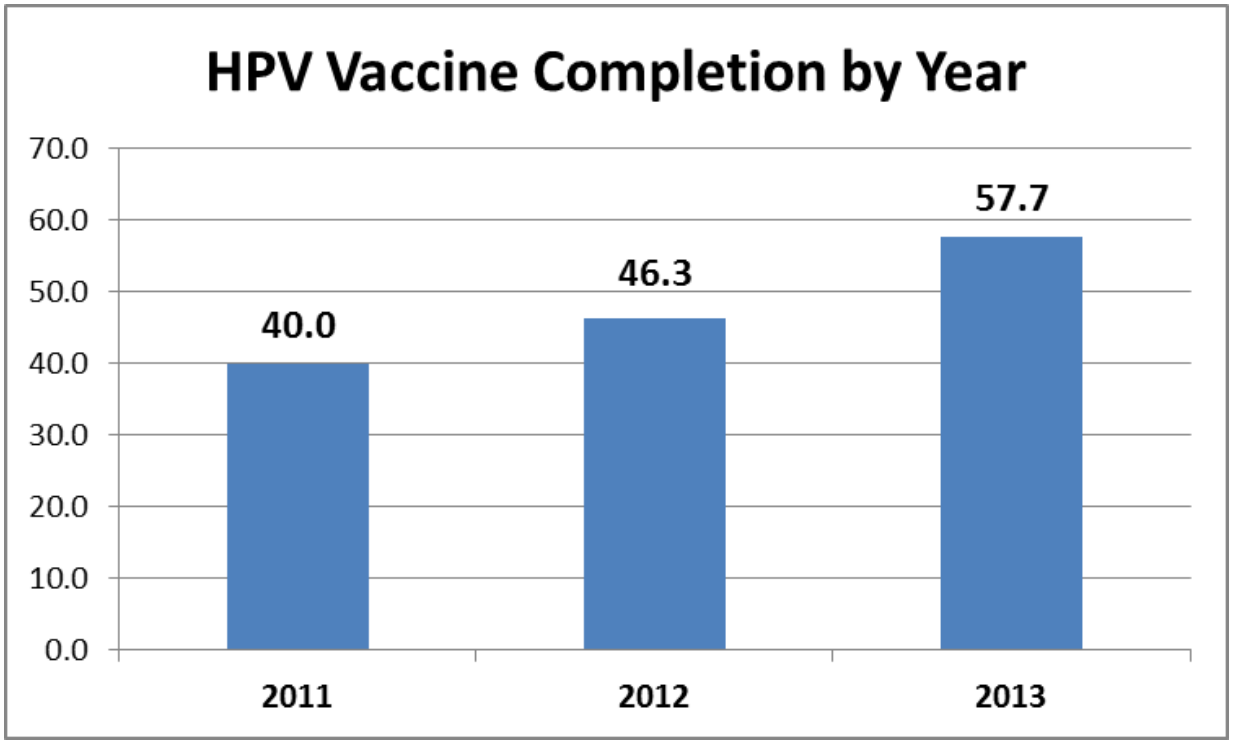


$X^2=90.472$; $P<0.001$

Correlates of HPV Vaccine Initiation

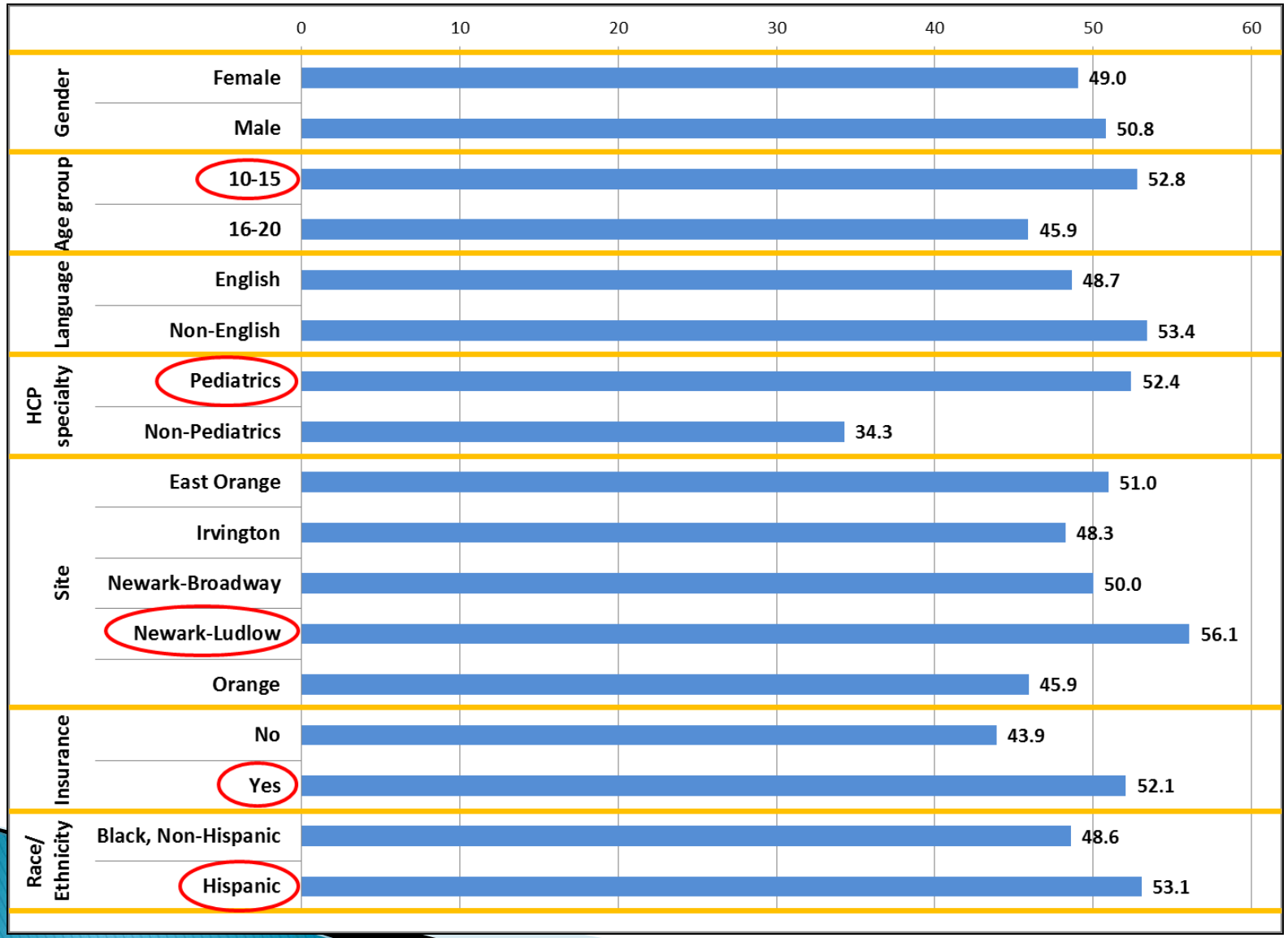
HPV Vaccination Completion

- 27% of all adolescents
- 49.8% of adolescents who initiated



$X^2=73.836$; $P<0.001$

Correlates of HPV Vaccine Completion



Duration between Doses 1 and 2

- Mean=**6.6** months (SD=6.89)

Should be 2 months

- Predictors of duration between doses 1 and 2
  - **Year**
    - Shorter durations in 2012 and 2013
  - **Gender**
    - Shorter duration for males
  - **Language**
    - Shorter duration for non-English speakers

Duration between Doses 1 and 3

- Mean=12.6 months (SD=8.67)

Should be 6 months

- Predictors of duration between doses 1 and 3
  - **Year**
    - Shorter duration in 2011
  - **Age group**
    - Shorter duration among 10-15 year olds
  - **HCP specialty**
    - Shorter duration among those seen by non-pediatric HCPs

Summary

- HPV vaccine rates are lower than CDC reported rates but close to a few studies with similar populations
- Initiation rate (54.2%) is lower than rates in neighboring and similar cities: New York City (64.2%) and Philadelphia (78.4%)
- The healthcare provider specialty and site influence vaccination
- Language influences initiation *(English speakers had lower rates)*
- Insurance influences initiation and completion
- Duration between doses is much longer than durations recommended by CDC

Implications

- Using pediatric practices to educate parents about HPV vaccine
- The need to involve non-pediatric providers *(e.g., Ob/Gyn, family & internal medicine, nurses, social workers)*
- Lower HPV vaccination among English speakers?
- Differences by site?

Thank you.

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