After the Media Frenzy: What do Women Know About Cervical Cancer Now?

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HINTS Data Users Conference:
Partners in Progress
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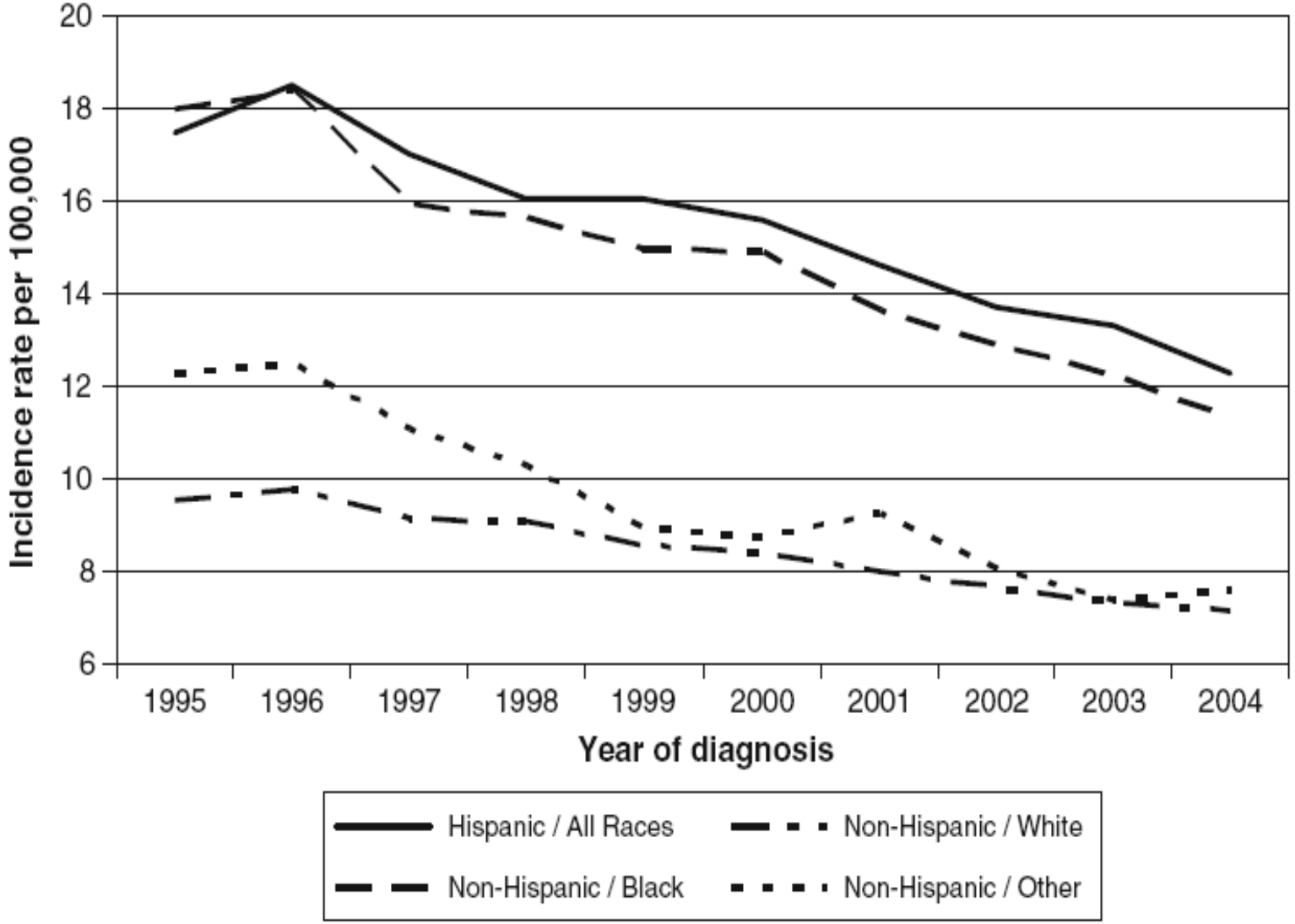
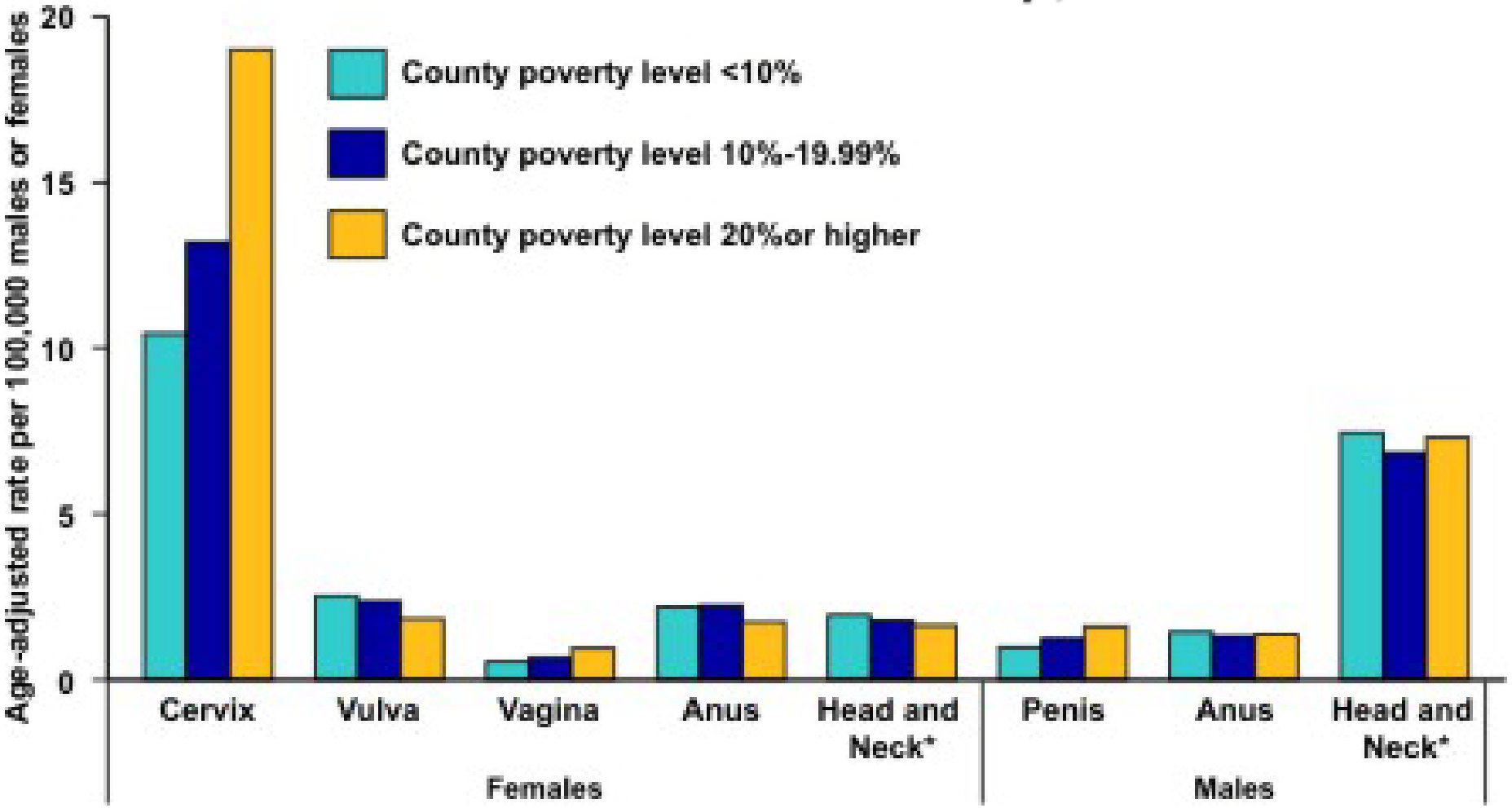
Age-adj US Incidence of Invasive Cervical Cancer by Race/Ethnicity, 1995–2004



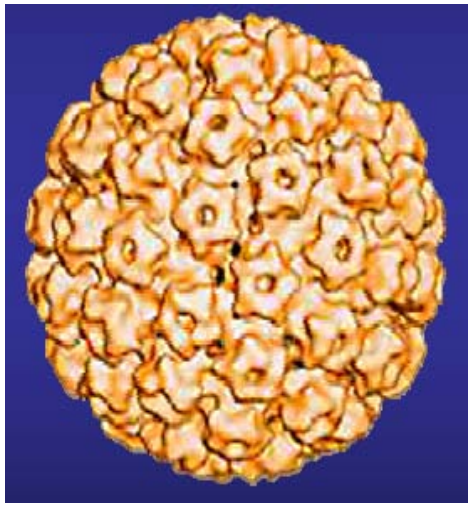
Barnholtz-Sloan et al. Cancer Causes & Control, 2009 Sep;20(7):1129-38.

Age Adjusted U.S. Incidence of HPV Associated Cancers and Poverty,1998-2003



CDC, http://www.cdc.gov/cancer/hpv/statistics/cervical.htm

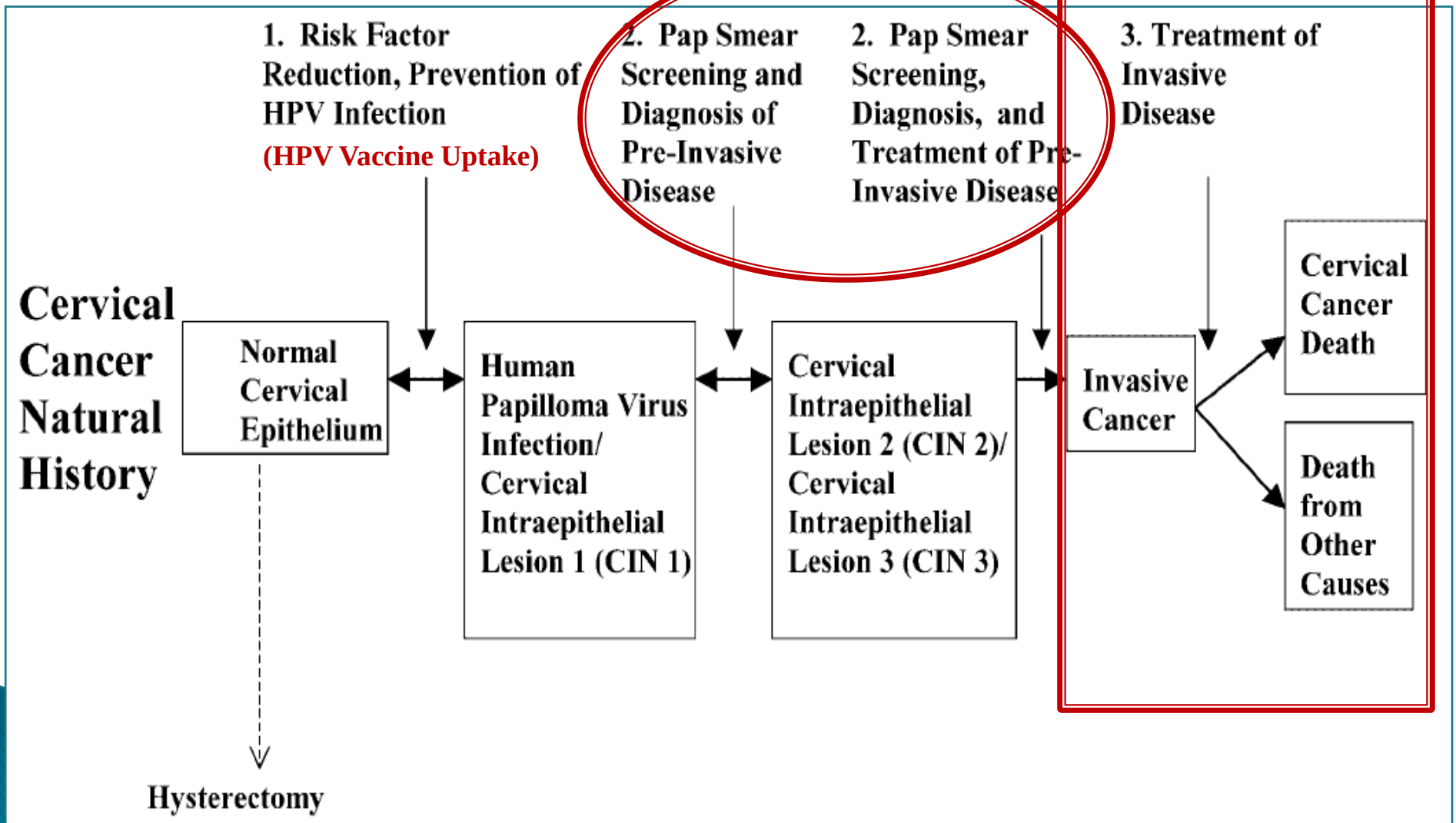
Cervical Cancer – HPV Link



Necessary, BUT not sufficient

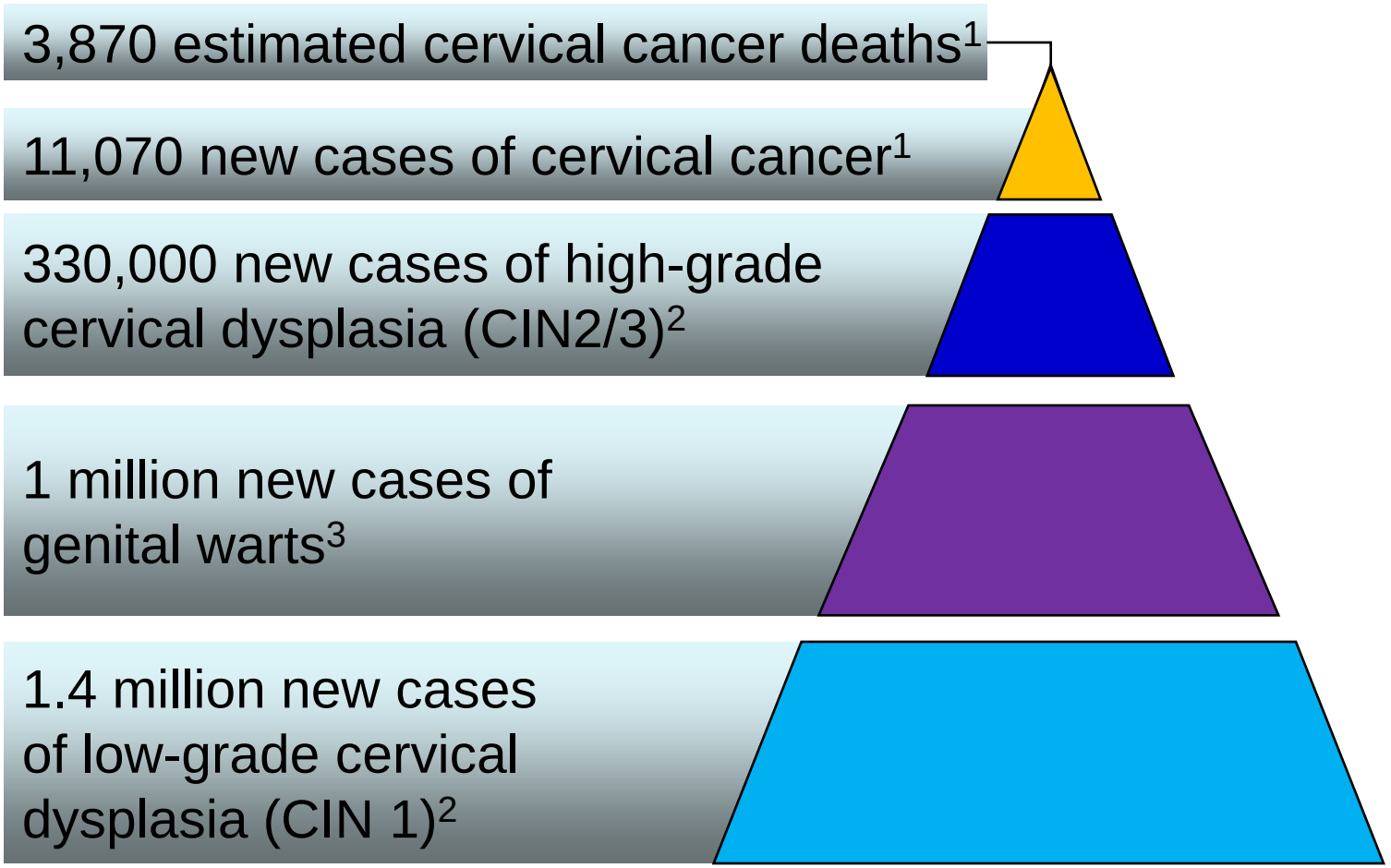
- 50% of sexually active men and women will contract HPV in their lifetime
- Documented in 1980s that high-risk types of HPV can lead to cervical cancer
- Types 16 & 18 cause 70% of all cervical cancers
- Spread through skin contact during sexual activities
- Immune system will usually get rid of the virus

Cervical Cancer Control Process in Relation to Disease Natural History



Adapted from Yabroff, J Rural Health, 2005.

Estimated Annual Burden of HPV-Related Diagnoses in the United States, 2008



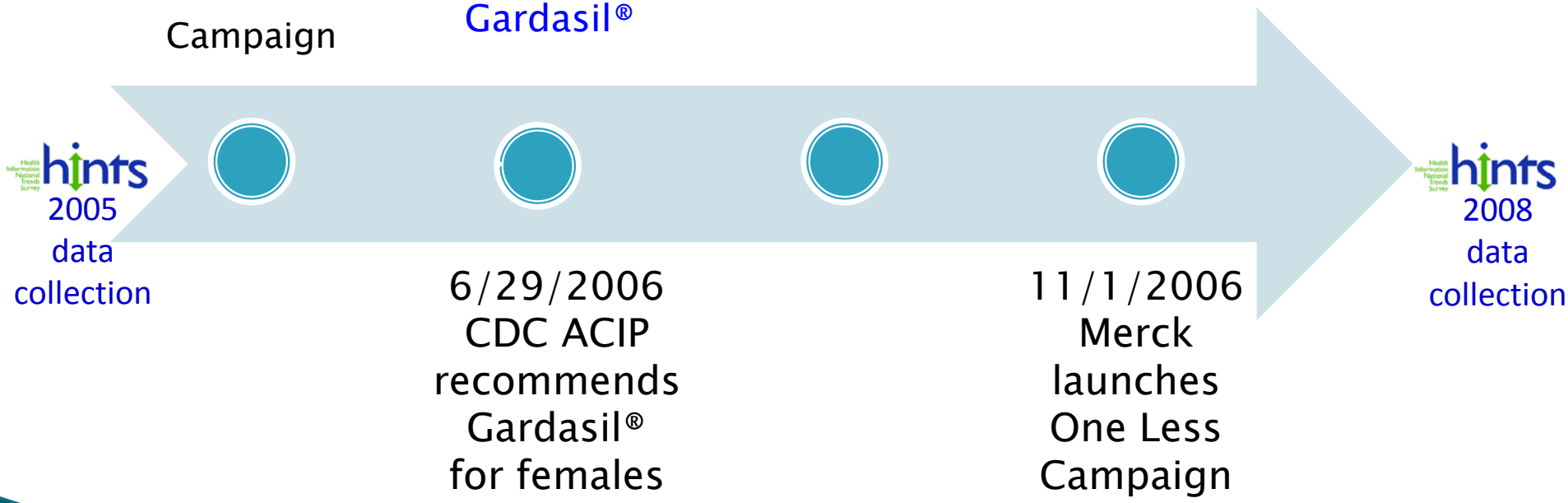
1. American Cancer Society (ACS). *Cancer Facts and Figures 2008*. Atlanta: ACS. 2008
2. Schiffman M et al. *Arch Pathol Lab Med*. 2003;127:946–949. 3. Fleischer AB et al. *Sex Transm Dis*. 2001;28:643–647.

Baseline HPV Knowledge & Awareness (HINTS 2005, n=3,076)

- 40% women age 18-75 had heard of HPV
- 20% knew HPV causes cervical cancer
- 26% knew HPV is a STI
- <2% knew HPV resolves without treatment

Tiro, JA et. al. *Cancer Epidemiol Biomarkers Prev* 2007;16(2): 288-294.

Vaccine Approval & Media Time Line



Research Hypothesis & Aim

- Hypothesis: HPV knowledge and awareness increased from 2005 and 2008
- Aim: Assess trends in knowledge and awareness of HPV and cervical cancer before and after FDA approval and direct to consumer (DTC) marketing.
- Research Question: Were populations segments with low screening rates as aware and knowledgeable of HPV as the general population?

Sample

- Inclusion Criteria: Women aged 18-75
- Exclusion Criteria: Men, Women with a history of cervical cancer, Postal respondents in the 2008 HINTS administration
- Final sample sizes for HINTS 2005 (N=3,072) and HINTS 2008 (N=1,903)

Measures

- Dependent variables:
  - *Have you heard of HPV? (yes, no)*
  - *Do you think that HPV can cause cervical cancer? (yes/no)*

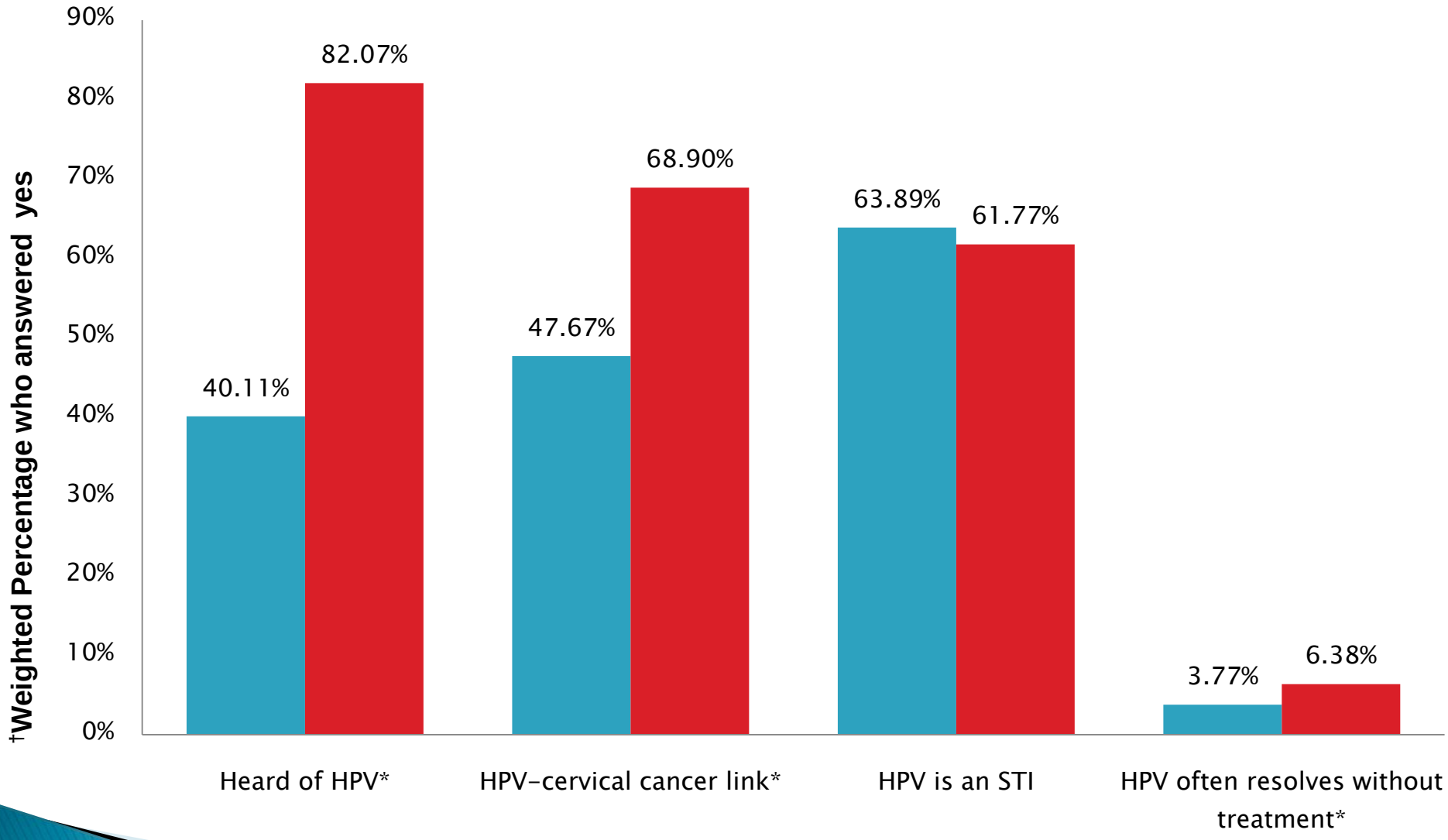
- Independent variables:
  - *Sociodemographic, healthcare access, health communication, cancer history, and screening history variables*

Analyses

- Chi-square tests examined overall differences in awareness of HPV and knowledge of HPV-cervical cancer link between 2005 and 2008 and within population segments

- Multivariate logistic regression included variables significant at $p<.10$.

HINTS HPV Knowledge Increase 2005-2008



†Among those who had heard.
*p<0.5

Multivariate Results- Demographics

Variables	Heard of HPV: Odds Ratio (95% CI) N=4,810	HPV-Cervical Cancer link: Odds Ratio (95% CI) N=2676
Education		
<HS	0.20 (0.14- 0.28)	0.48 (0.26-0.88)
High School Grad	0.32 (0.25- 0.41)	0.54 (0.39- 0.74)
Some College	0.62 (0.49- 0.78)	0.66 (0.52- 0.85)
College Grad	1.00	1.00

Multivariate Results Screening

Variables	Heard of HPV: Odds Ratio (95% Confidence Interval)	HPV-Cervical Ca: Odds Ratio (95% Confidence Interval)
Had recent Pap (3 yr)		
No	0.54 (0.42-0.69)	NS
Yes	1.00	NS
Ever told you had HPV		
No	NS	0.27 (0.15- 0.49)
Yes	NS	1.00

Multivariate Results- Health Communication

Variables	Heard of HPV: Odds Ratio (95% Confidence Interval)	HPV-Cervical Ca: Odds Ratio (95% Confidence Interval)
Ever Looked for Cancer Info		
No	0.58 (0.49- 0.70)	0.67 (0.52- 0.87)
Yes	1.00	1.00
Trust Health Sources		
Mistrusts1+source	0.66 (0.54-0.81)	0.67 (0.52-0.87)
Trusts all sources	1.00	1.00

Controlled for race/ethnicity, age, [illegible] year, and personal history of non-cervical history.

Multivariate Results- Interactions

- Interaction terms:
  - Survey year x Age
  - Survey year x Race/Ethnicity

- Between 2005 and 2008, the magnitude of increase among older age groups who were aware of HPV was **LOWER** than among 18-29 year olds (6-fold vs. 3 fold difference).

  - Same pattern for the HPV-cervical cancer knowledge item

- Awareness gains among minorities were **LOWER** than among Caucasians. Knowledge gains followed similar trends except among Hispanics who had increased odds of knowing about the HPV-cervical cancer link than Caucasians. (Differences were not as large as those seen between age groups).

Conclusion

- Dramatic increase in knowledge and awareness
  - Virtually no gains in themes not covered by DTC
- Underserved populations are gaining awareness and knowledge, but NOT equivalently
  - Did not reach populations where there is the biggest potential for impact

Implications

- Suggests we need complimentary educational campaigns to provide more comprehensive knowledge to make informed decisions

- Targeted campaigns
  - Message and Channel

Thank you!

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