

HPV and Cervical Cancer among American Indian and Alaska Native Women

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Background

❑ **Cervical cancer:**

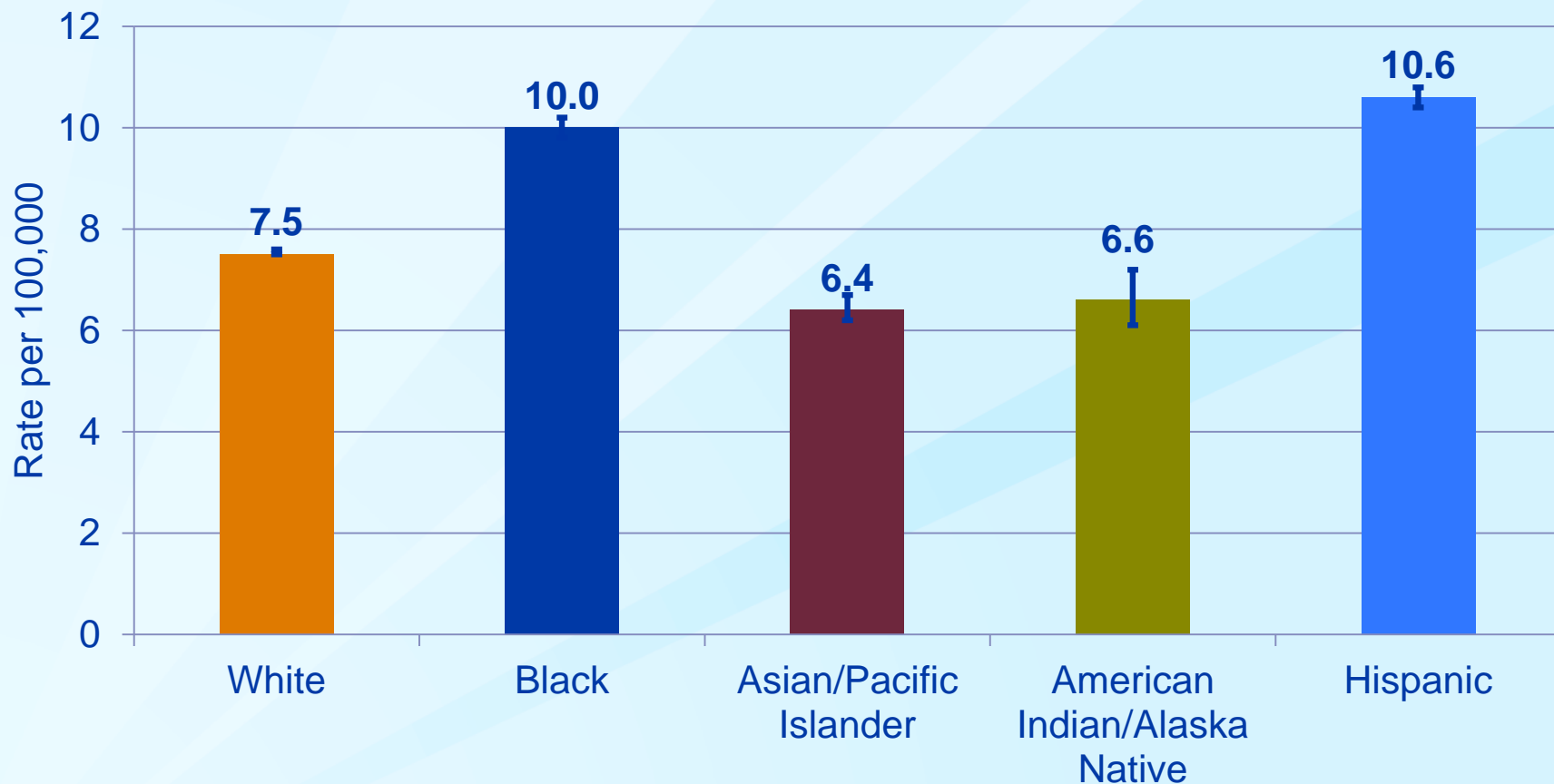
- 3rd most common cancer for women globally
- Less common in US because of screening (Pap test) and follow-up treatment
- Annually about 12,000 cases and 4,000 deaths in US

❑ **Human papillomavirus (HPV)**

- Primary cause of most cervical cancers
- HPV vaccines and HPV DNA tests now available for prevention and screening

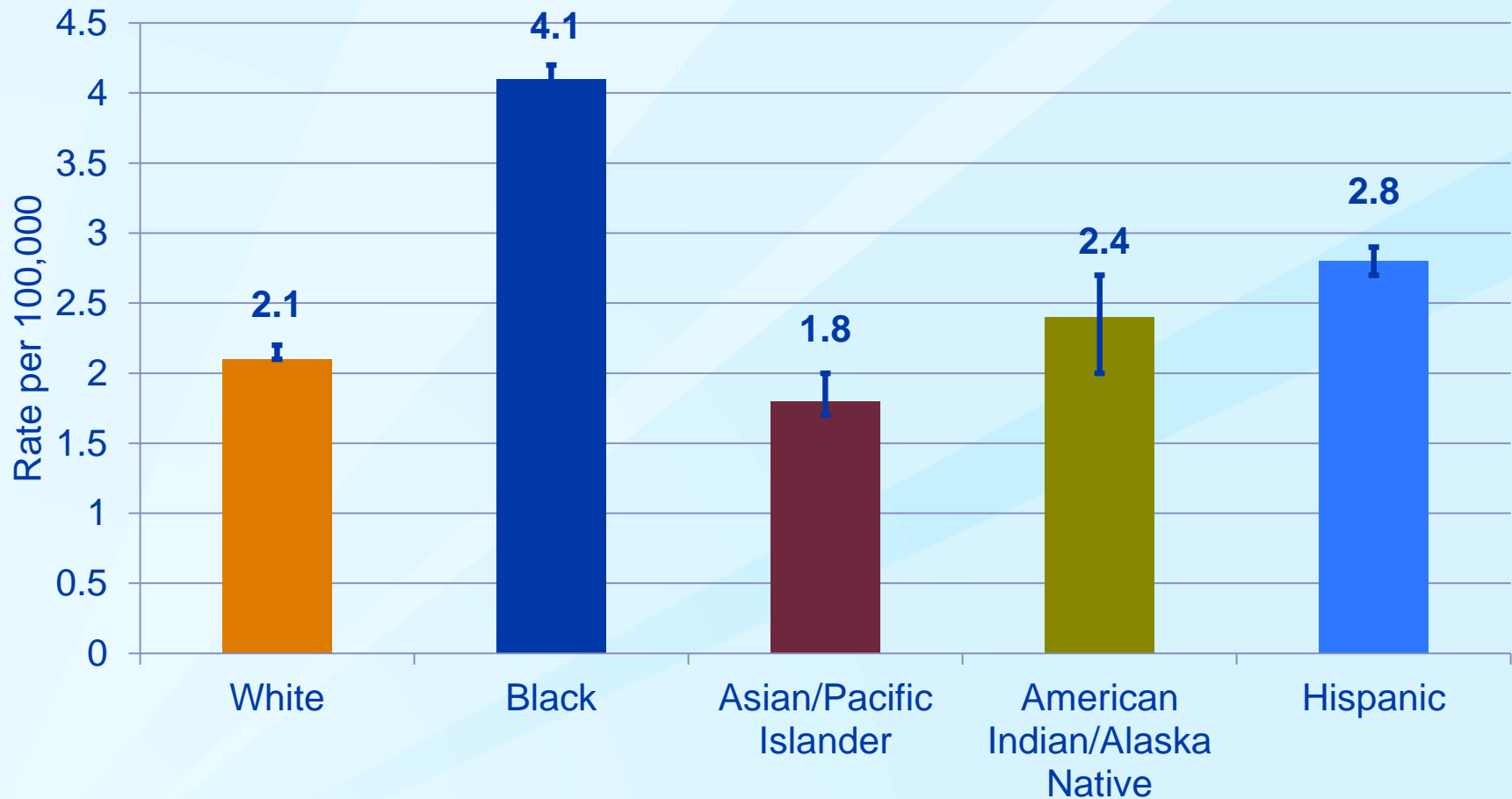
CERVICAL CANCER INCIDENCE AND MORTALITY

Cervical cancer incidence by race and ethnicity, United States Cancer Statistics, 2007-2011



Source: U.S. Cancer Statistics Working Group. *United States Cancer Statistics: 1999–2011 Incidence and Mortality Web-based Report*. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; 2014. Available at: www.cdc.gov/uscs.

Cervical cancer mortality by race and ethnicity, United States Cancer Statistics, 2007-2011



Source: U.S. Cancer Statistics Working Group. *United States Cancer Statistics: 1999–2011 Incidence and Mortality Web-based Report*. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; 2014. Available at: www.cdc.gov/uscs.

Misclassification of AI/AN populations

- ❑ **AI/AN populations underreported in cancer incidence and mortality data**
 - Information from medical records and death certificates
 - Misclassification of native ancestry varies regionally, by urban status
- ❑ **AI/AN ancestry identification higher in IHS Contract Health Service Delivery Areas (CHSDA)**
 - 64% of AI/AN live in CHSDA counties
- ❑ **Recent efforts linked IHS records with incidence and mortality data to improve identification**

References: USCS Technical notes http://www.cdc.gov/cancer/npcr/uscs/technical_notes/interpreting/race.htm#9

Melissa A. Jim, Elizabeth Arias, Dean S. Seneca, Megan J. Hoopes, Cheyenne C. Jim, Norman J. Johnson, and Charles L. Wiggins. Racial Misclassification of American Indians and Alaska Natives by Indian Health Service Contract Health Service Delivery Area. American Journal of Public Health: June 2014, Vol. 104, No. S3, pp. S295-S302.

SUPPLEMENT TO

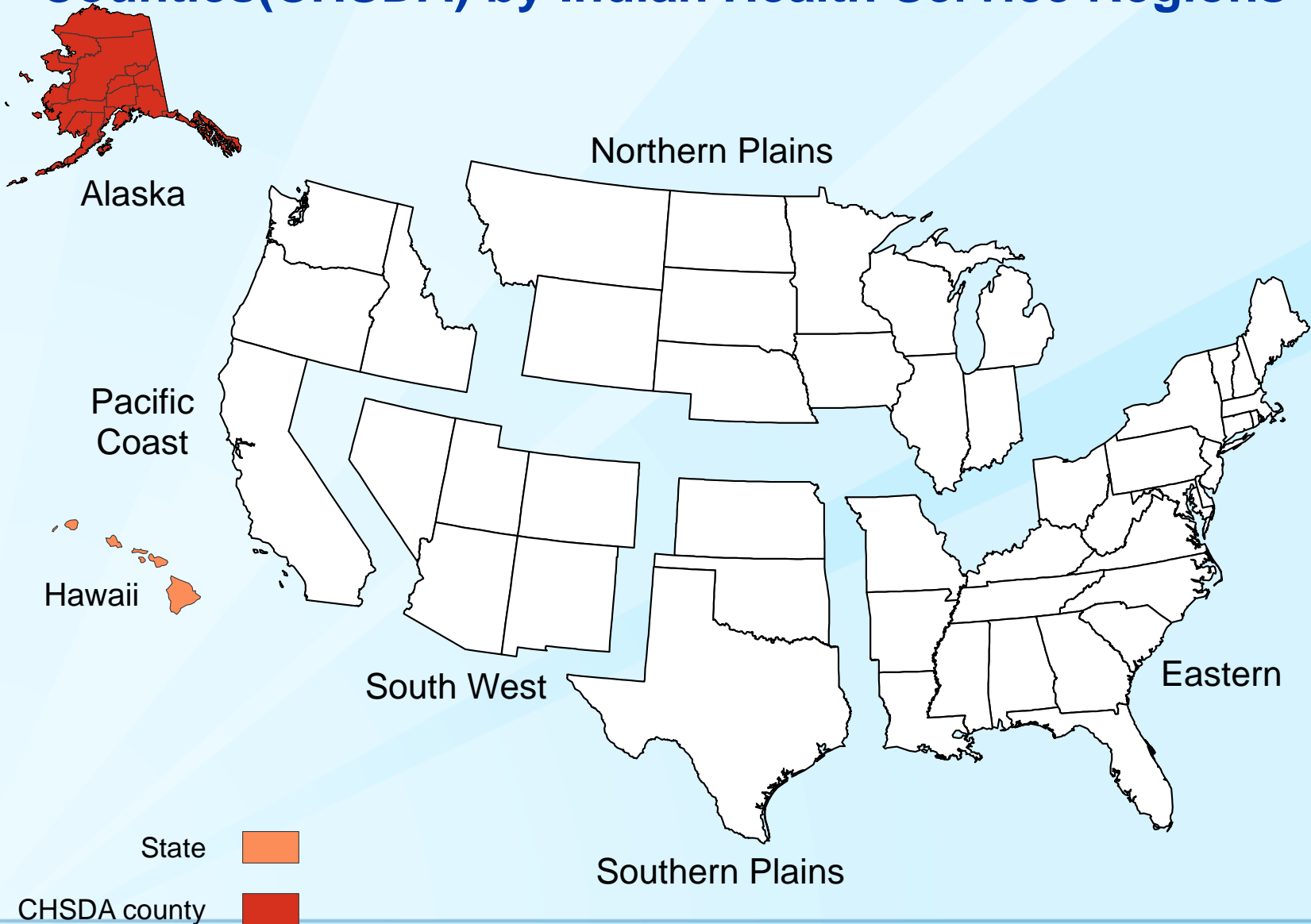
American Journal of
**PUBLIC
HEALTH**

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AMERICAN PUBLIC HEALTH ASSOCIATION

Geographic Variation in Colorectal Cancer Incidence and Mortality | Perspectives on Mortality Data From the Indian Health Service | Racial Misclassification of American Indians and Alaska Natives | **AMERICAN INDIAN AND ALASKA NATIVE MORTALITY** | Disparities in Cancer Mortality and Incidence Among AI/AN People | American Indian Health Policy | The Alcohol-Attributable Death Rate Disparity Between American Indians and Alaska Natives and Non-Hispanic Whites | What Are the Causes of Suicide Among Young Alaska Native Men?



States and Contract Health Service Delivery Area Counties(CHSDA) by Indian Health Service Regions



Cervical Cancer Incidence and Mortality Among American Indian and Alaska Native Women, 1999–2009

Meg Watson, MPH, Vicki Benard, PhD, Cheryl Thomas, MSPH, Annie Brayboy, MSW, MPH, Roberta Palsano, MHA, and Thomas Becker, MD, PhD

Cervical cancer is the third most common cancer for women, and the fourth most common cause of cancer deaths globally.¹ In the United States, cervical cancer is less common because of availability of screening and follow-up treatment, with about 12 000 cases diagnosed and 4000 deaths from the disease annually.² Cervical cancer screening has resulted in well-documented declines in cervical cancer incidence and mortality, but women who do not receive recommended screening and follow-up are at increased risk for cervical cancer mortality.³

Previous studies have shown higher cervical cancer incidence and mortality among American Indian/Alaska Native (AI/AN) populations, compared with White populations.^{4–8} Because most cases of invasive cervical cancer are preventable through screening and follow-up, disparities in measures of cervical cancer among AI/AN

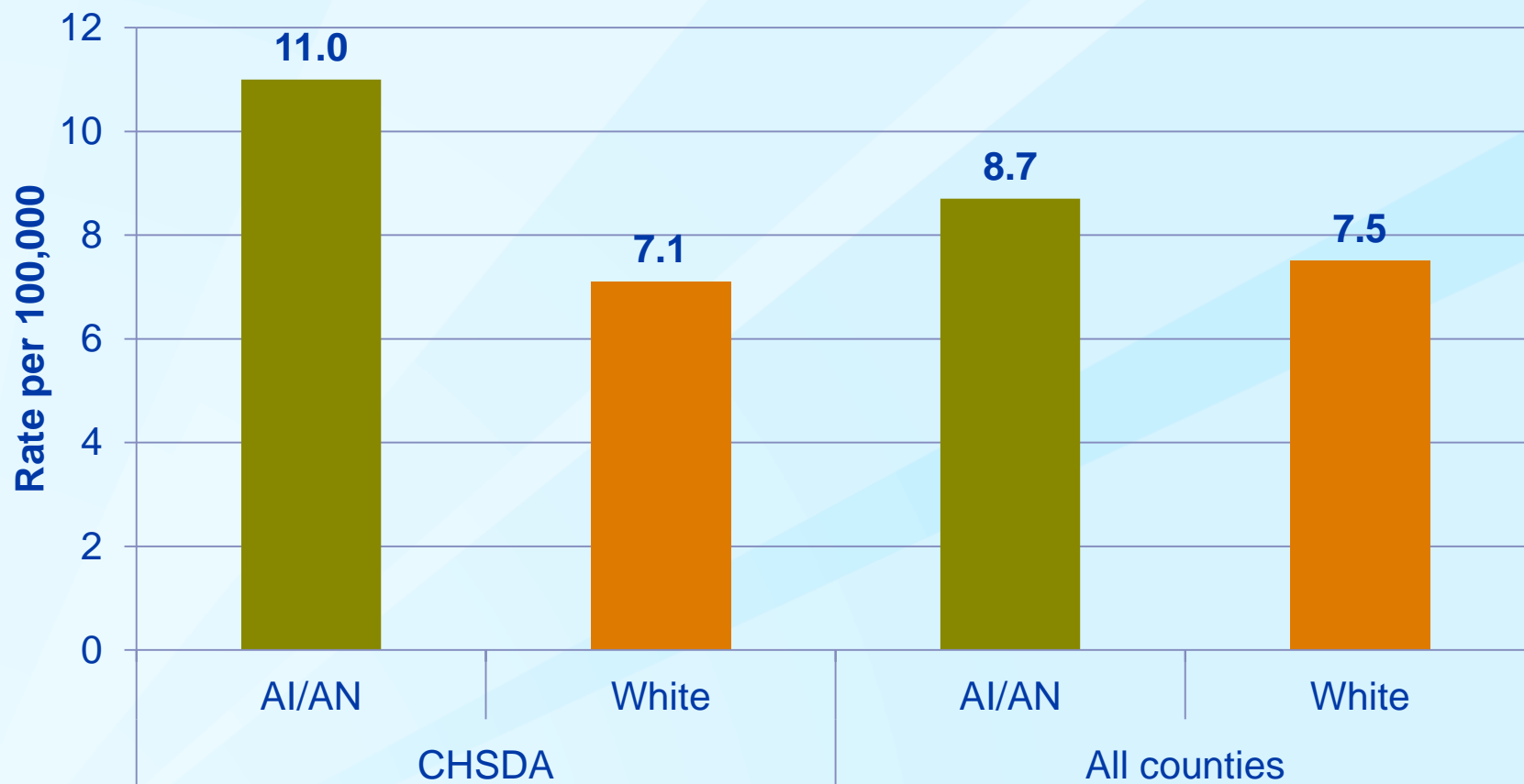
Objectives. We analyzed cervical cancer incidence and mortality data in American Indian and Alaska Native (AI/AN) women compared with women of other races.

Methods. We improved identification of AI/AN race, cervical cancer incidence, and mortality data using Indian Health Service (IHS) patient records; our analyses focused on residents of IHS Contract Health Service Delivery Area (CHSDA) counties. Age-adjusted incidence and death rates were calculated for AI/AN and White women from 1999 to 2009.

Results. AI/AN women in CHSDA counties had a death rate from cervical cancer of 4.2, which was nearly twice the rate in White women (2.0; rate ratio [RR] = 2.11). AI/AN women also had higher incidence rates of cervical cancer compared with White women (11.0 vs 7.1; RR = 1.55) and were more often diagnosed with later-stage disease (RR = 1.84 for regional stage and RR = 1.74 for distant stage). Death rates decreased for AI/AN women from 1990 to 1993 (–25.8%/year) and remained stable thereafter.

Conclusions. Although rates decreased over time, AI/AN women had disproportionately higher cervical cancer incidence and mortality. The persistently higher rates among AI/AN women compared with White women require continued improvements in identifying and treating cervical cancer and precancerous lesions. (*Am J Public Health*. 2014;104:S415–S422. doi:10.2105/AJPH.2013.301681)

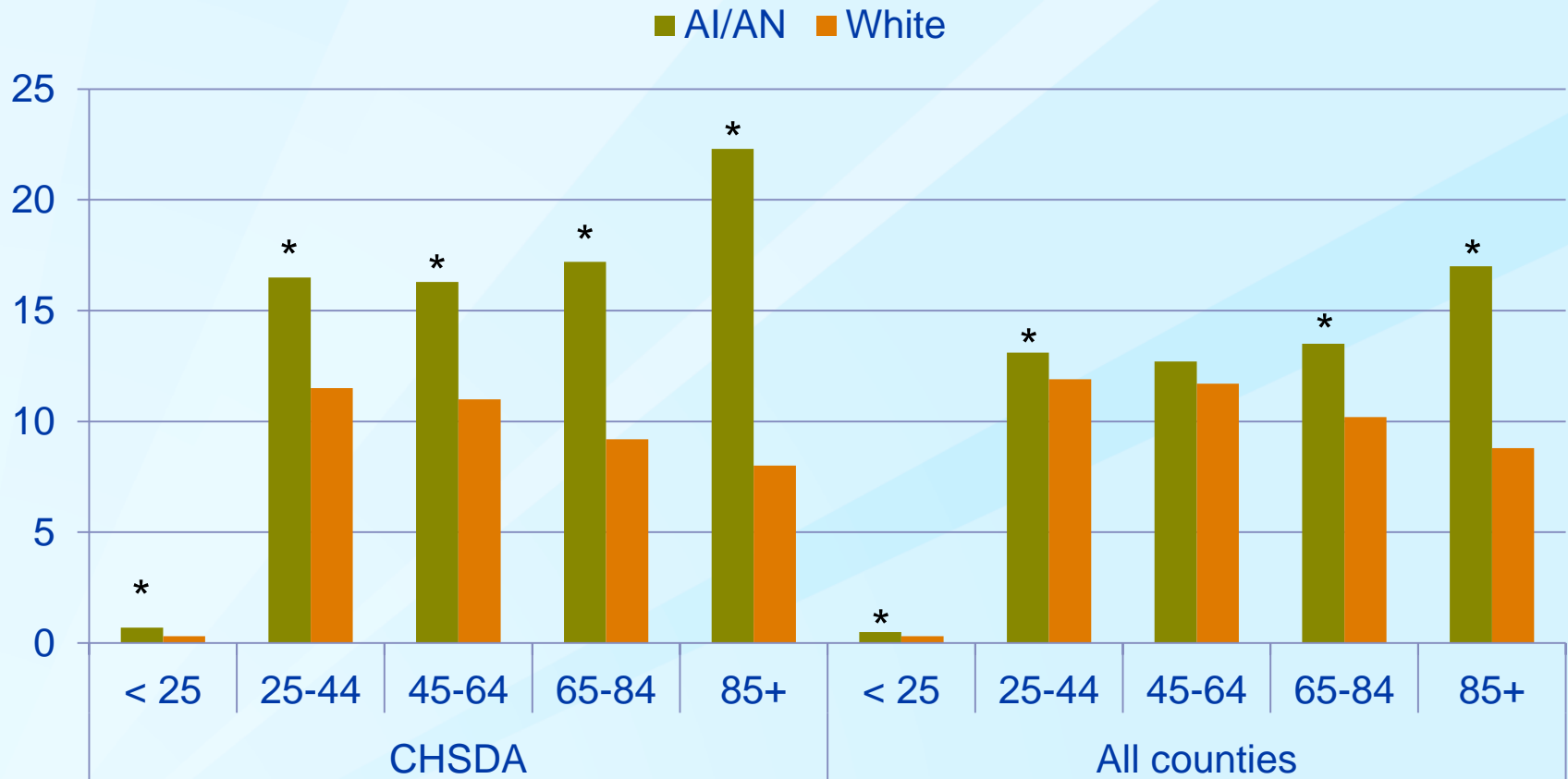
Invasive cervical cancer incidence rates for American Indian/Alaska Native and white Women: United States, 1999–2009



SOURCE: Cervical Cancer Incidence and Mortality Among American Indian and Alaska Native Women, 1999–2009.

Meg Watson, Vicki Benard, Cheryl Thomas, Annie Brayboy, Roberta Paisano, Thomas Becker. American Journal of Public Health: June 2014, Vol. 104, No. S3: S415–S422.

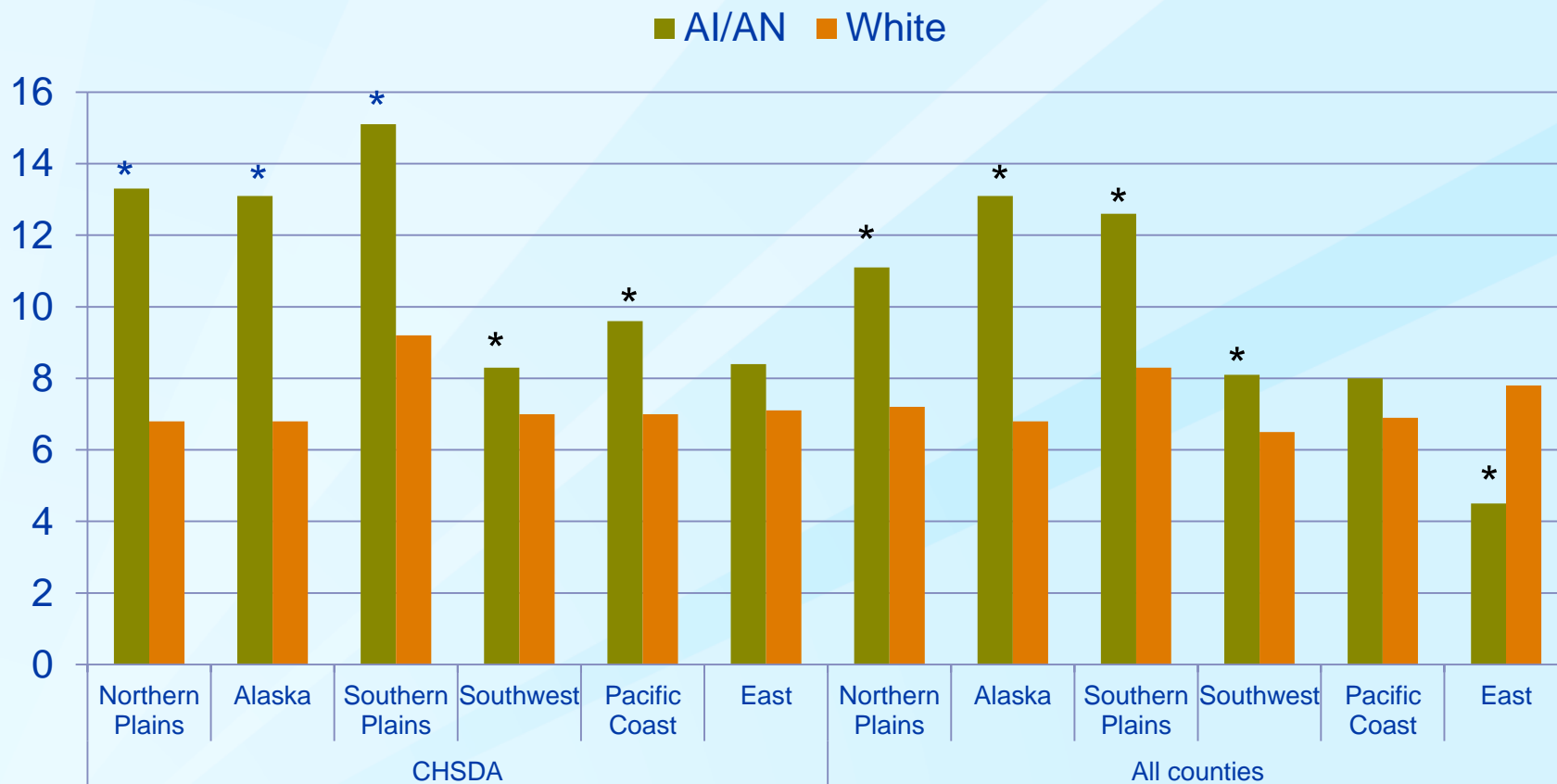
Invasive cervical cancer incidence rates by age for American Indian/Alaska Native and white Women: United States, 1999–2009



SOURCE: Cervical Cancer Incidence and Mortality Among American Indian and Alaska Native Women, 1999–2009.

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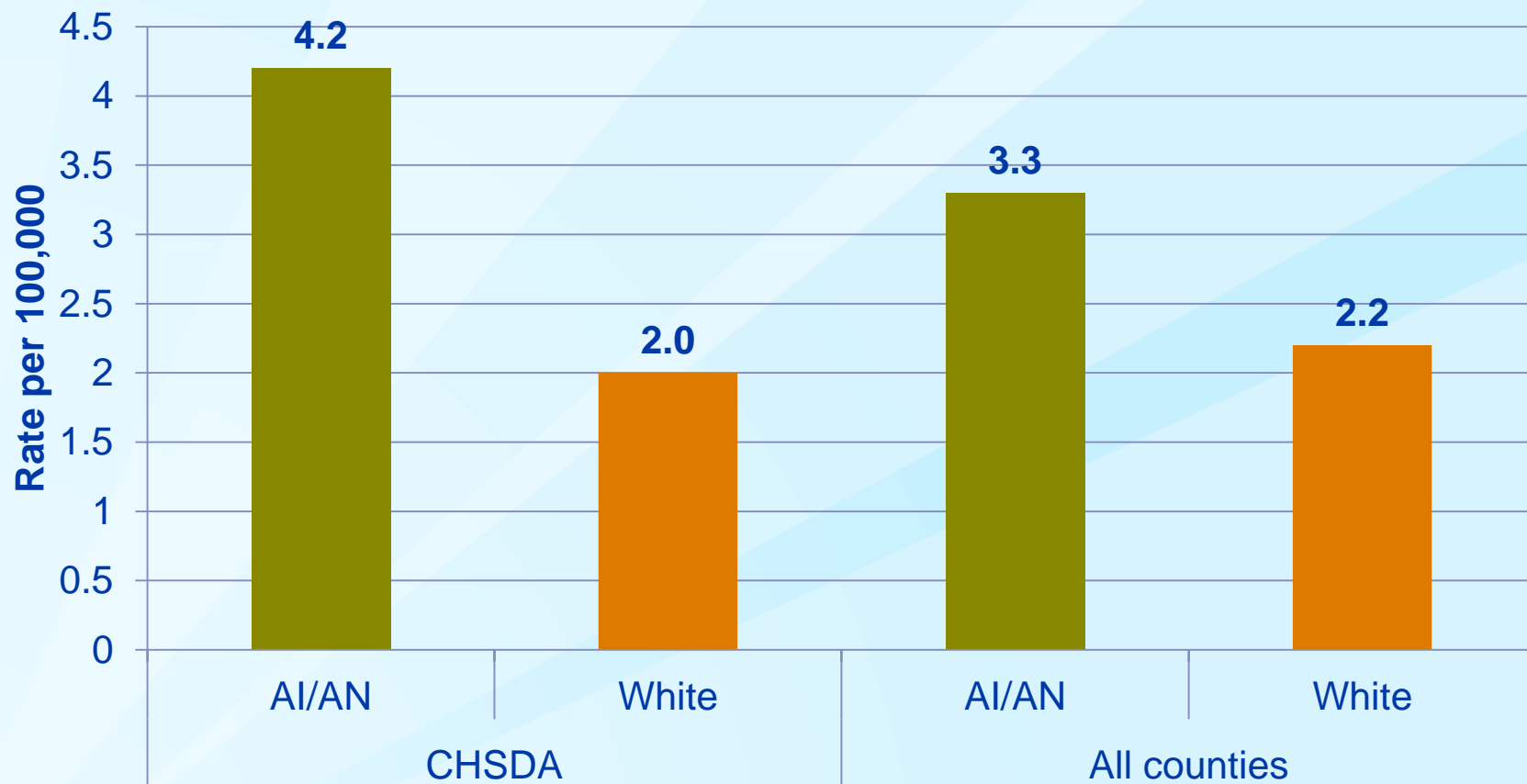
Invasive cervical cancer incidence rates by region for American Indian/Alaska Native and white women: United States, 1999–2009



SOURCE: Cervical Cancer Incidence and Mortality Among American Indian and Alaska Native Women, 1999–2009.

Meg Watson, Vicki Benard, Cheryl Thomas, Annie Brayboy, Roberta Paisano, Thomas Becker. American Journal of Public Health: June 2014, Vol. 104, No. S3: S415–S422.

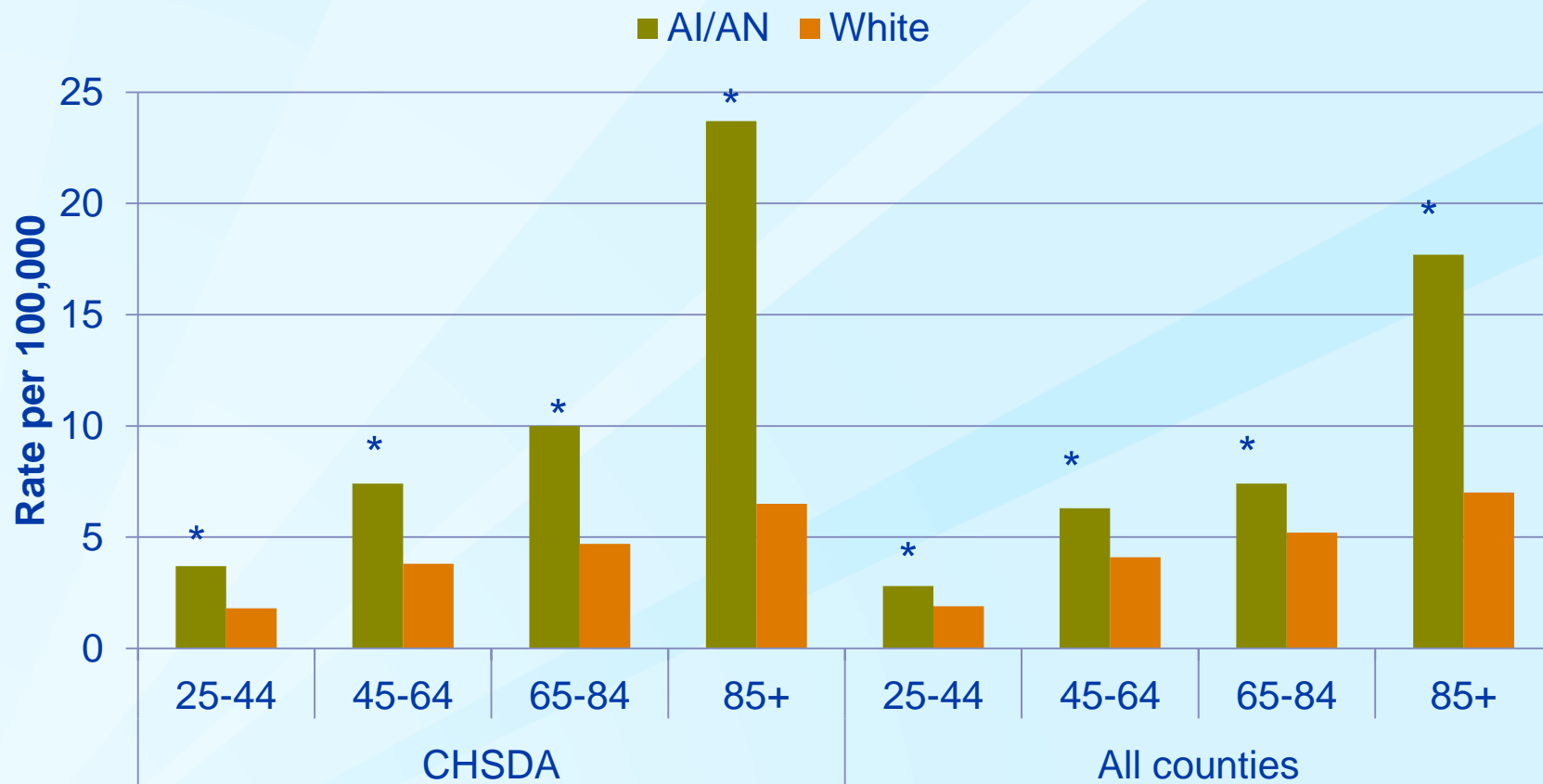
Cervical cancer death rates for American Indian/Alaska Native and white women: United States, 1999–2009



SOURCE: Cervical Cancer Incidence and Mortality Among American Indian and Alaska Native Women, 1999–2009.

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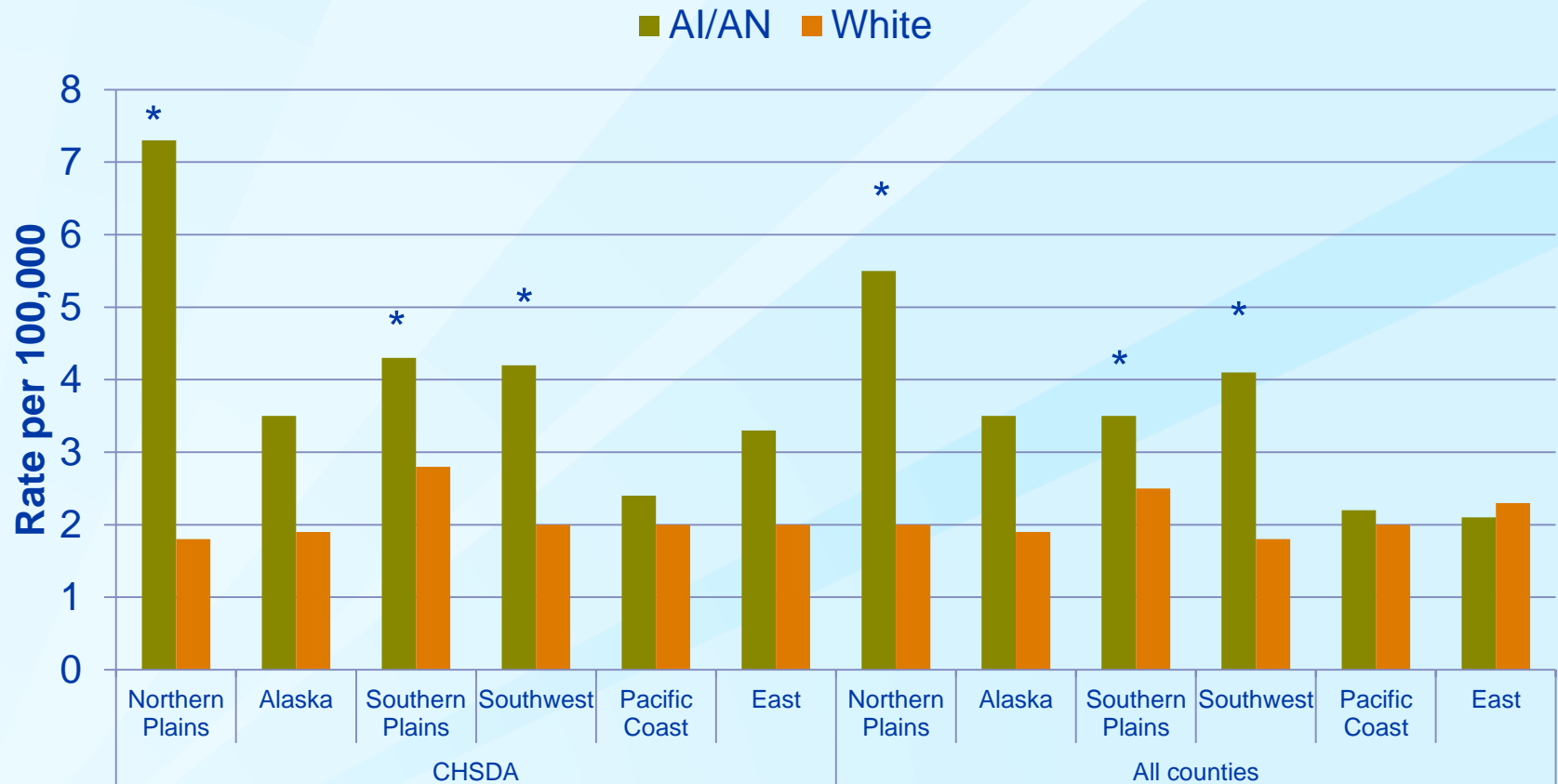
Cervical cancer death rates by age for American Indian/Alaska Native and white women: United States, 1999–2009



SOURCE: Cervical Cancer Incidence and Mortality Among American Indian and Alaska Native Women, 1999–2009.

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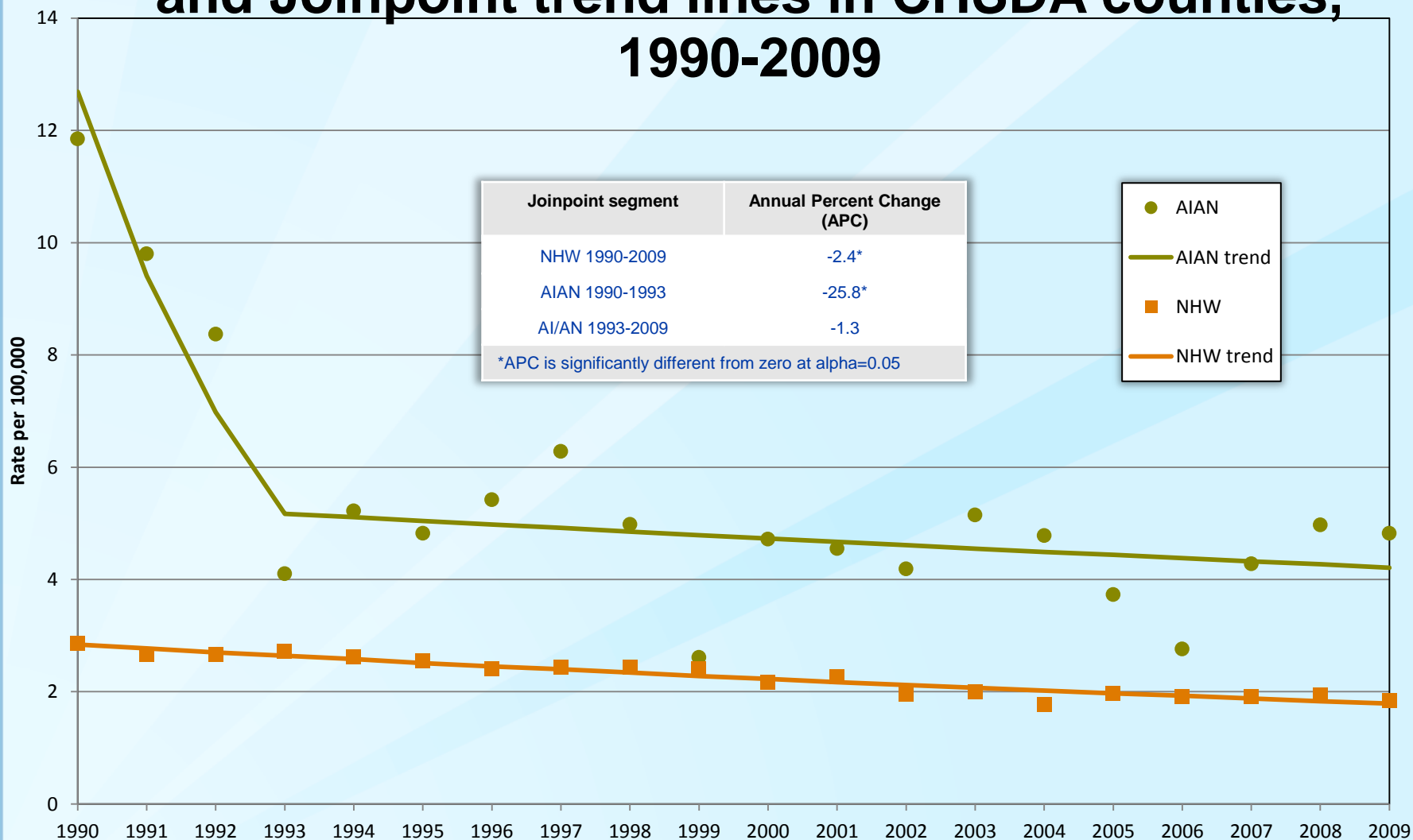
Cervical cancer death rates by region for American Indian/Alaska Native and white women: United States, 1999–2009



SOURCE: Cervical Cancer Incidence and Mortality Among American Indian and Alaska Native Women, 1999–2009.

Meg Watson, Vicki Benard, Cheryl Thomas, Annie Brayboy, Roberta Paisano, Thomas Becker. American Journal of Public Health: June 2014, Vol. 104, No. S3: S415–S422.

Annual age-adjusted cervical cancer death rates and Joinpoint trend lines in CHSDA counties, 1990-2009



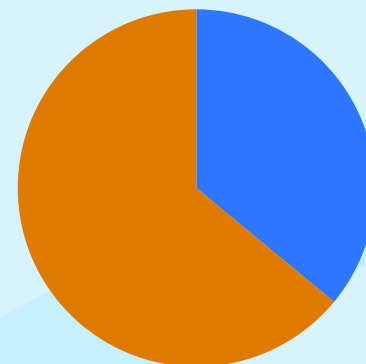
NHW data excluded for the following states and years: LA: 1990; NH: 1990-1992; OK: 1990-1996

Timeline of federal cervical cancer prevention activities for AI/AN women

IHS provides screening

1990: Breast and Cervical Cancer Mortality Prevention Act establishes NBCCEDP

1993 reauthorization amendments direct CDC to improve screening in tribal communities



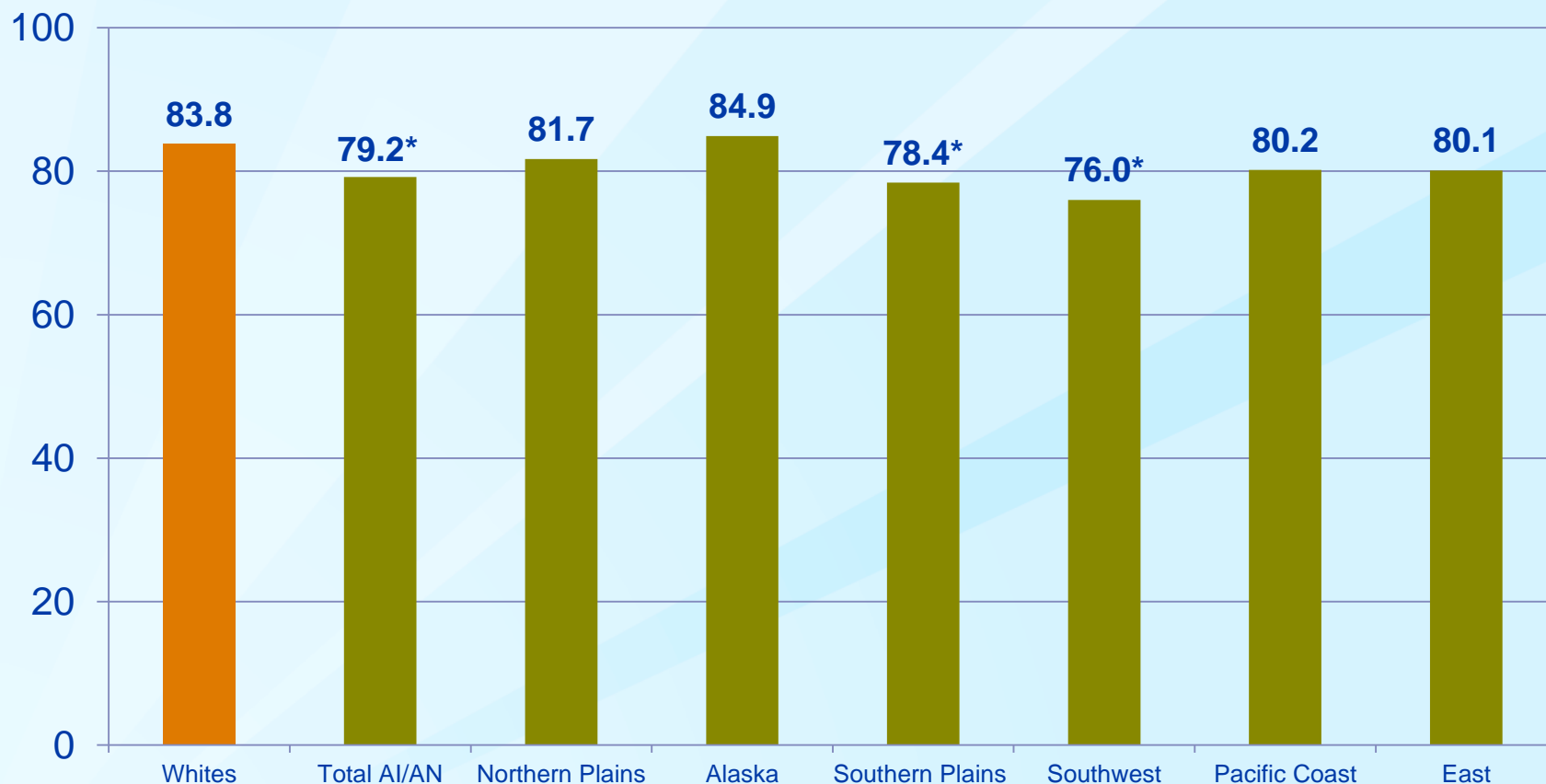
1960 1970 1980 1990 2000 2010

CERVICAL CANCER SCREENING

Cervical cancer screening: Current recommendations

- ❑ **Age 21-29: screen with a Pap test every 3 years**
- ❑ **Age 30-64, either:**
 - Screen with a Pap test every 3 years, or
 - Screen with a Pap test + HPV test every 5 years
- ❑ **Screening intervals assume normal results**
- ❑ **Women with intact cervix**
- ❑ **Stop at 65 if a history of normal results**

Reported Pap tests within 3 years among American Indian/Alaska Native and white women: BRFSS, CHSDA, 34 US States, 2000–2010



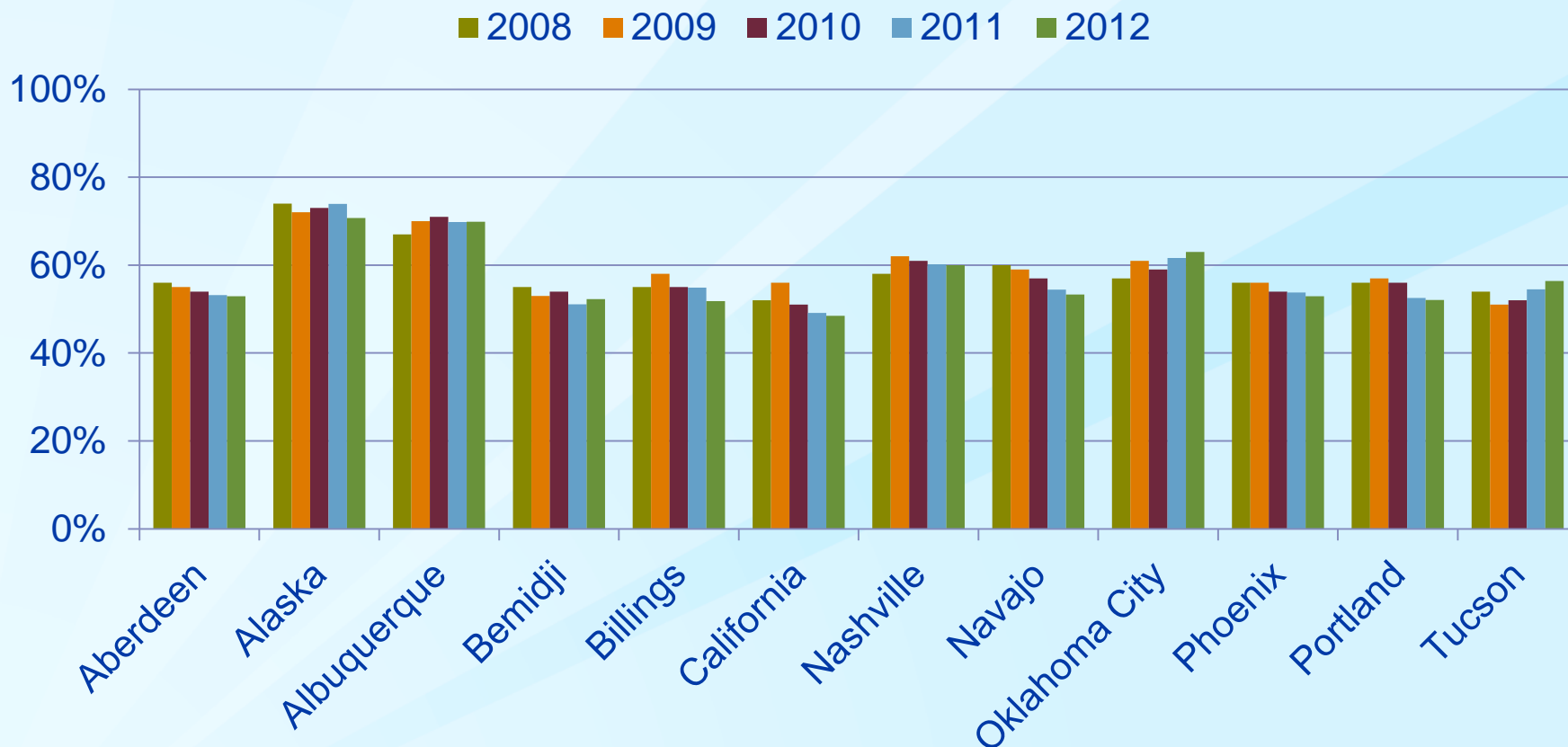
Source: Health Behaviors and Risk Factors Among American Indians and Alaska Natives, 2000–2010. Nathaniel Cobb, David Espey, Jessica King. American Journal of Public Health: June 2014, Vol. 104, No. S3: S481–S489.

Percent of IHS AI/AN Female Patients with Cervical Cancer Screening within 3 Years



SOURCE: Indian Health Service. Quality of IHS Health Care. Performance Measures: Cervical cancer screening. Available at http://www.ihs.gov/qualityofcare/index.cfm?module=chart&rpt_type=gpra&measure=15.

Percent of IHS AI/AN Female Patients with Cervical Cancer Screening within 3 Years, by IHS Region 2008-2012



SOURCE: Indian Health Service. Quality of IHS Health Care. Performance Measures: Cervical cancer screening. Available at http://www.ihs.gov/qualityofcare/index.cfm?module=chart&rpt_type=gpra&measure=15.

HPV VACCINATION

HPV Vaccines

- ❑ HPV vaccines prevent infection with most common cancer-causing HPV types
- ❑ Recommended for ages 11-12 (girls and boys)
 - 3 doses
 - Can be vaccinated as young as 9 or up to age 26 (females) or 21 (males)
- ❑ Vaccines for Children program covers cost for AI/AN children younger than 19
- ❑ Outreach to AI/AN populations
 - <http://www.cdc.gov/vaccines/spec-grps/ai-an.htm>

Now is the time to protect your pre-teen daughter from cervical cancer.

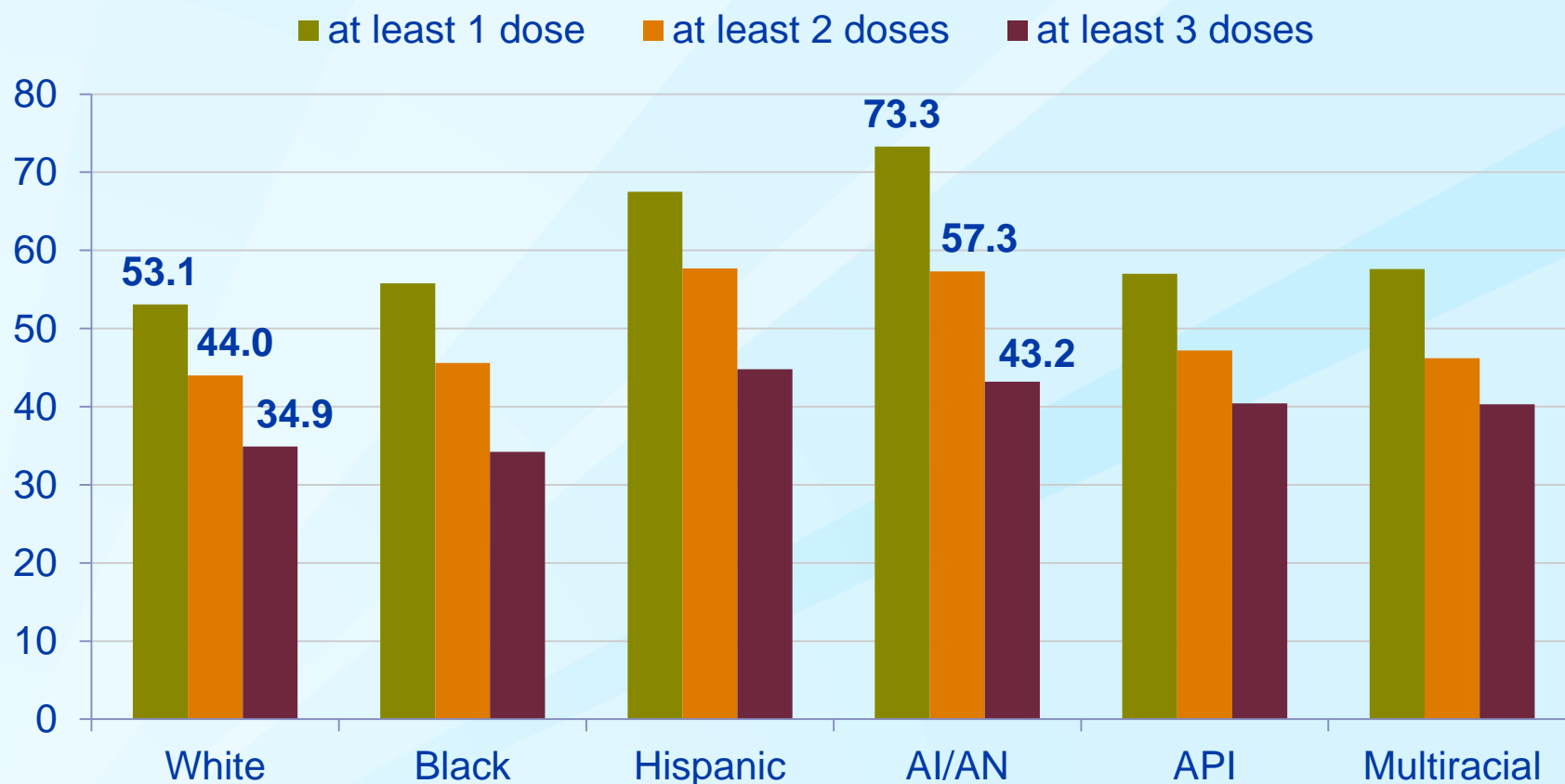


- ▶ Cervical cancer is caused by a common virus called the **human papillomavirus (HPV)**.
- ▶ Each year in the U.S., about 12,000 women get cervical cancer and about 4,000 women die from it.
- ▶ The HPV vaccine can prevent cervical cancer.
- ▶ The vaccine is safe and very effective.
- ▶ Doctors recommend the HPV vaccine for all 11 and 12 year old girls. Ideally, girls should get this vaccine before their first sexual contact, when they could be exposed to HPV.
- ▶ Girls and young women ages 13 through 26 should also get the vaccine if they have not done so yet.
- ▶ All IHS, tribal, and urban Indian health clinics offer vaccines. So do many private doctors. AI/AN children from birth through their 19th birthday can get vaccines for free through the Vaccines for Children (VFC) Program. Ask your doctor or your local clinic.

For more information on shots,
ask your child's healthcare provider
or call **800-CDC-INFO** (800-232-4636)
Website: [www.cdc.gov/vaccines/
preteen/aiian](http://www.cdc.gov/vaccines/preteen/aiian)

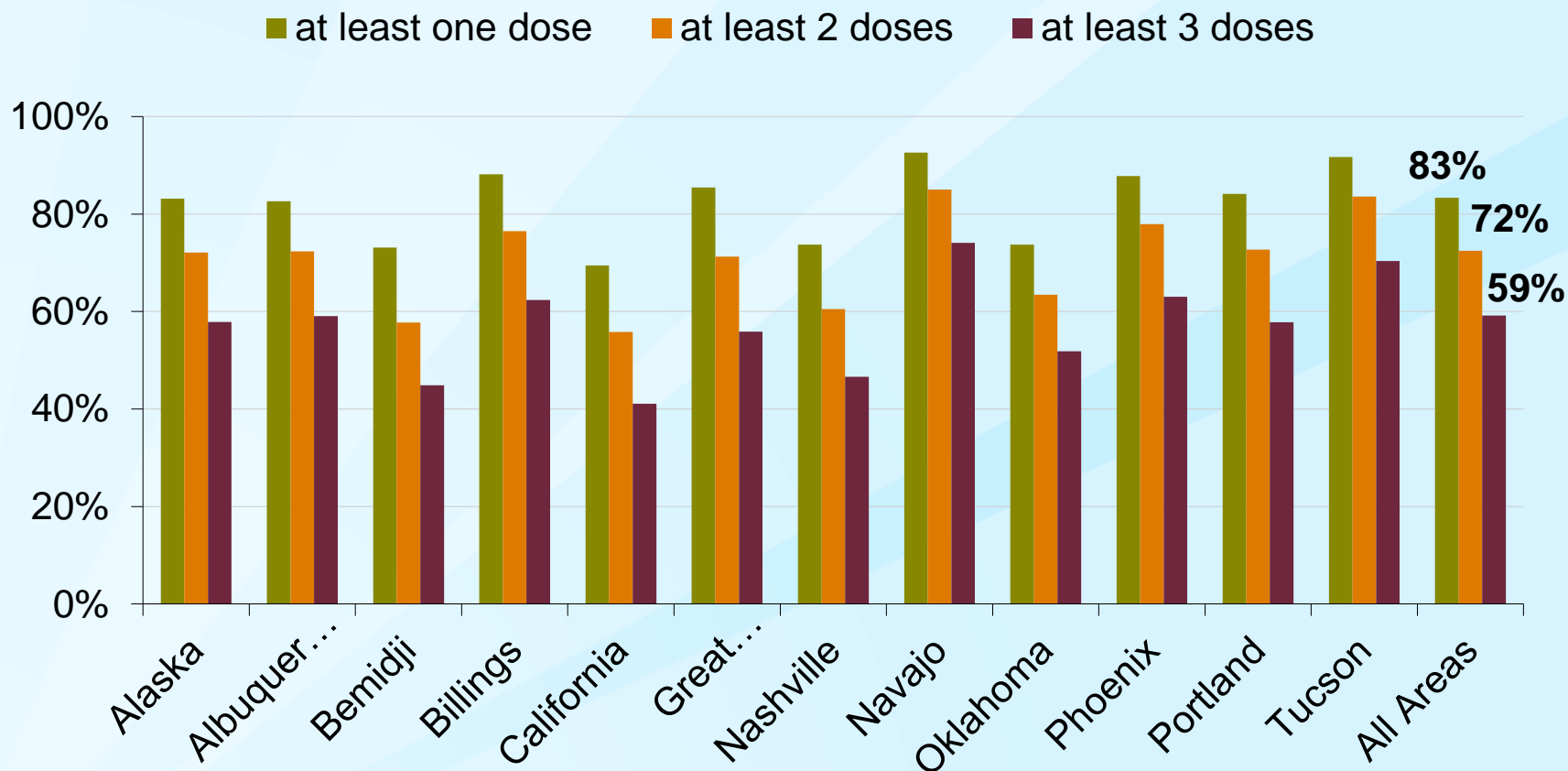


Estimated HPV vaccination coverage among adolescent females aged 13–17 years,— National Immunization Survey–Teen, United States, 2013



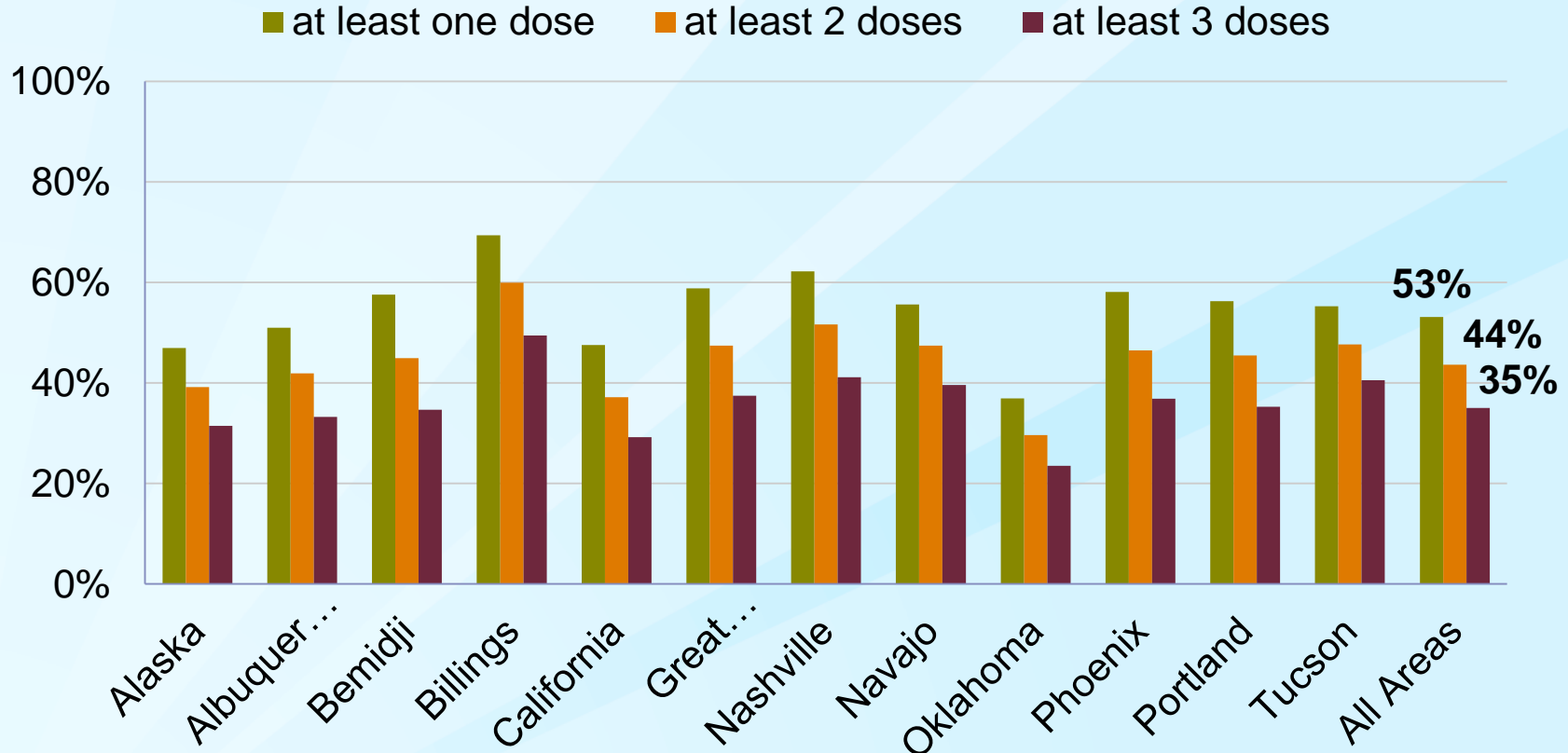
Source: National, Regional, State, and Selected Local Area Vaccination Coverage Among Adolescents Aged 13–17 Years — United States, 2013. Laurie D. Elam-Evans, David Yankey, Jenny Jeyarajah, James A. Singleton, C. Robinette Curtis, Jessica MacNeil, Susan Hariri. MMWR Weekly: July 25, 2014 / 63(29);625-33.

HPV vaccine coverage, females age 13-17 years, IHS, 3rd Quarter, 2014



SOURCE: Indian Health Service, Division of Epidemiology and Disease Prevention.
http://www.ihs.gov/epi/index.cfm?module=epi_vaccine_reports.

HPV vaccine coverage, females age 19-26 years, IHS, 3rd Quarter 2014



SOURCE: Indian Health Service, Division of Epidemiology and Disease Prevention.
http://www.ihs.gov/epi/index.cfm?module=epi_vaccine_reports.

CONCLUSION

HPV and cervical cancer among AI/AN women: Conclusion

- ❑ **Most cervical cancer incidence and deaths are preventable!**
- ❑ **Rates and deaths are declining among AI/AN women but still too high**
 - Need to identify and address geographic, financial and bureaucratic barriers
 - Screening still low
 - Incidence and deaths among older women high
- ❑ **HPV vaccines show promise**
 - Rates need improvement
 - Vaccinated women still need screening

References and Resources

- ❑ **June 2014 Supplement in the American Journal of Public Health**
 - Cervical Cancer Incidence and Mortality Among American Indian and Alaska Native Women, 1999–2009
- ❑ **July 2014 MMWR on HPV vaccine coverage**
- ❑ **August 2014 MMWR on HPV vaccination**
- ❑ **CDC AI/AN Vaccine website:**
 - <http://www.cdc.gov/vaccines/spec-grps/ai-an.htm>
- ❑ **IHS data:**
 - Vaccines:
http://www.ihs.gov/epi/index.cfm?module=epi_vaccine_reports
 - Screening:
http://www.ihs.gov/qualityofcare/index.cfm?module=chart&rpt_type=gpra&measure=15.



Questions?

Thank you!

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For more information please contact Centers for Disease Control and Prevention

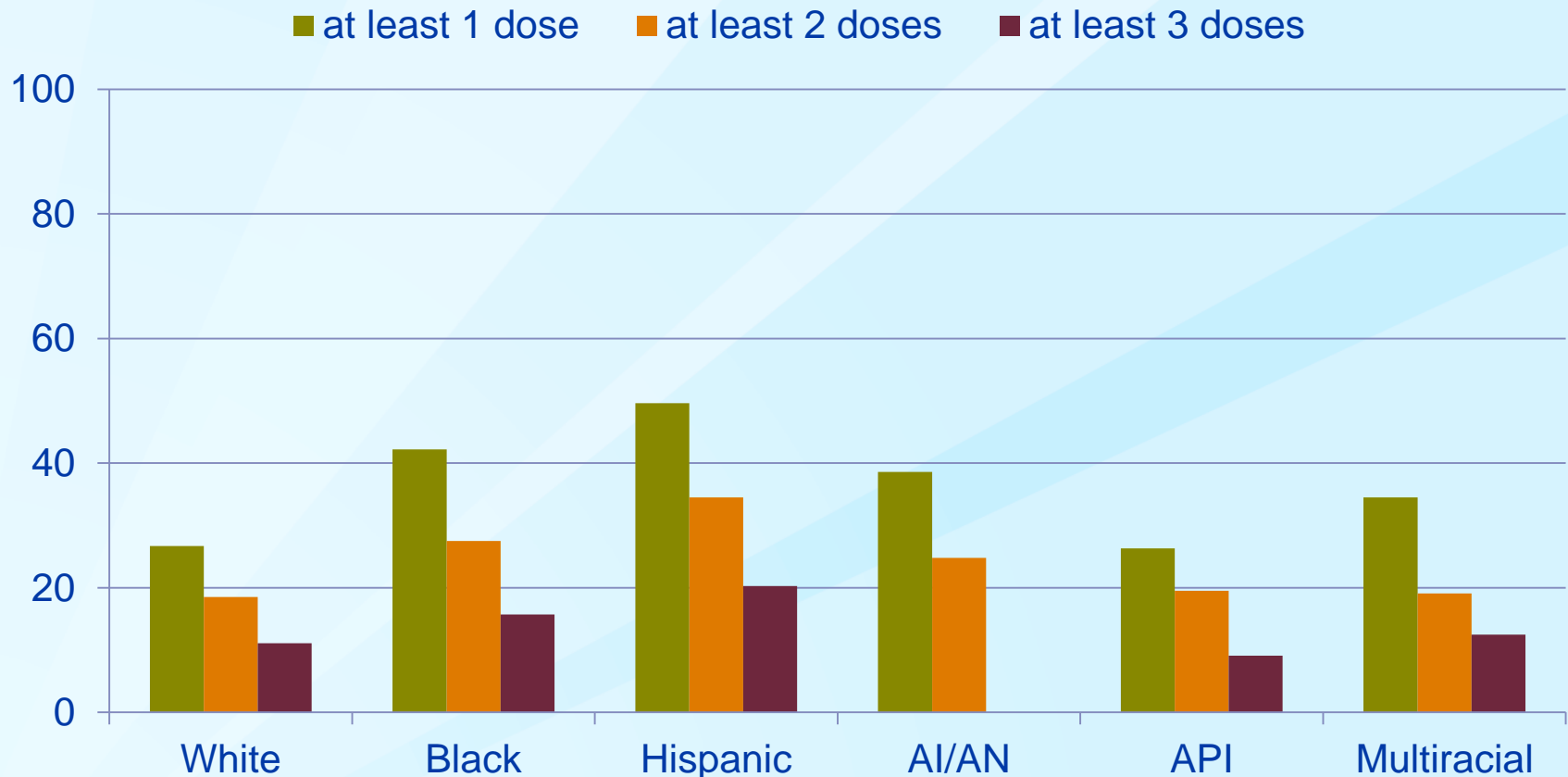
1600 Clifton Road NE, Atlanta, GA 30333

Telephone, 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348

E-mail: cdcinfo@cdc.gov Web: www.cdc.gov

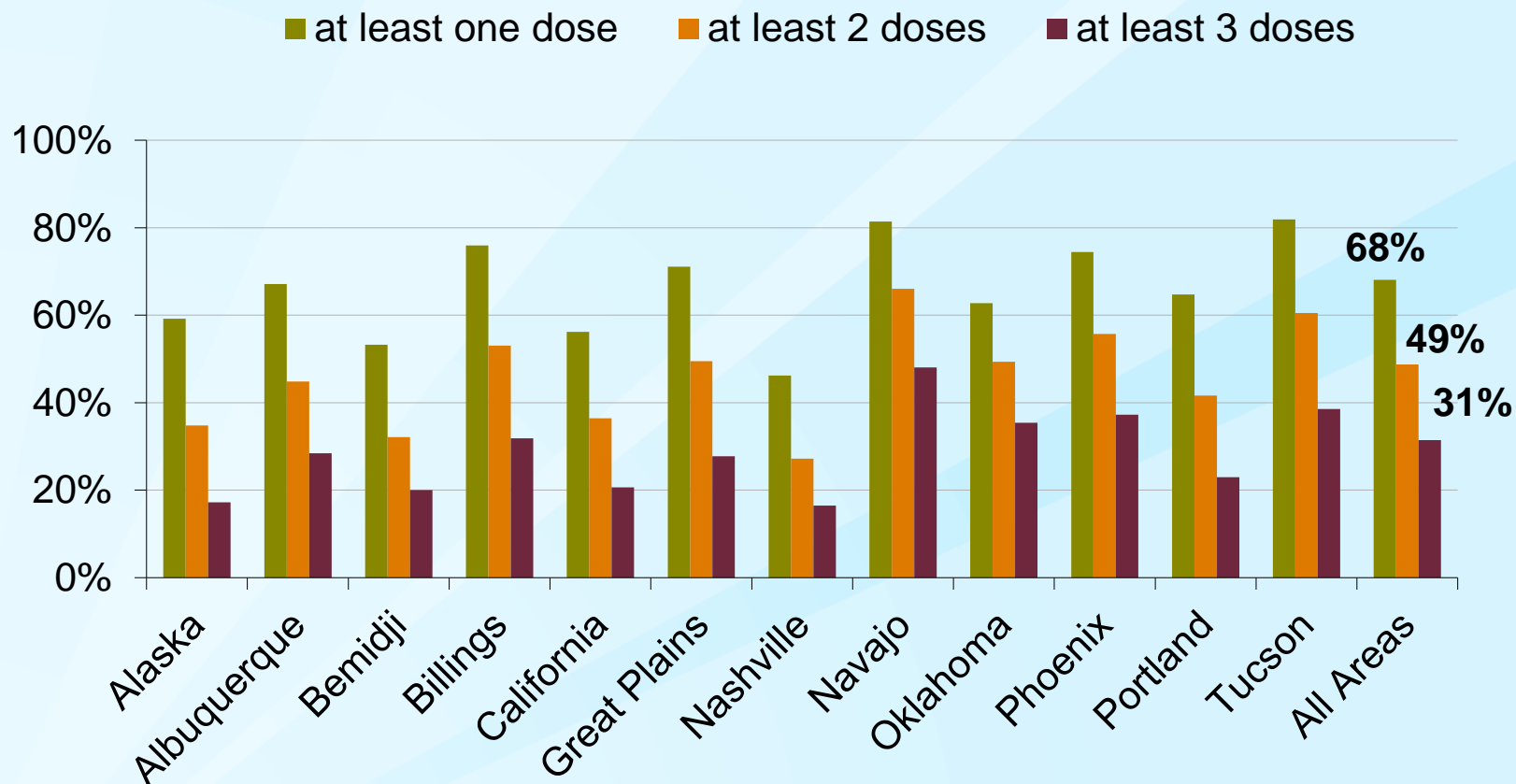
The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Estimated HPV vaccination coverage among adolescent males aged 13–17 years,— National Immunization Survey–Teen, United States, 2013



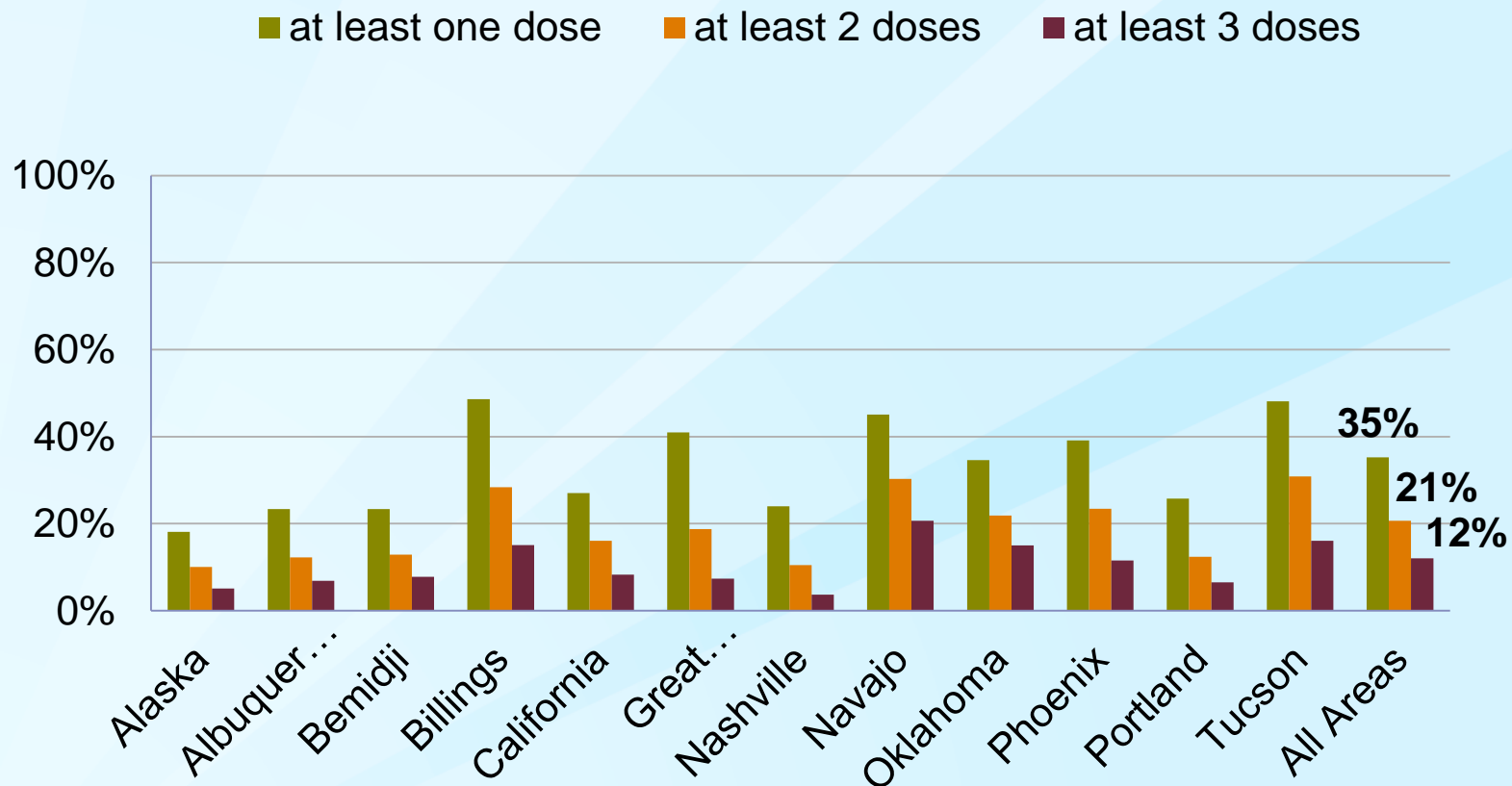
Source: National, Regional, State, and Selected Local Area Vaccination Coverage Among Adolescents Aged 13–17 Years — United States, 2013. Laurie D. Elam-Evans, David Yankey, Jenny Jeyarajah, James A. Singleton, C. Robinette Curtis, Jessica MacNeil, Susan Hariri. MMWR Weekly: July 25, 2014 / 63(29);625-33.

HPV vaccine coverage, males age 13-17 years, IHS, 3rd Quarter, 2014



SOURCE: Indian Health Service, Division of Epidemiology and Disease Prevention.
http://www.ihs.gov/epi/index.cfm?module=epi_vaccine_reports

HPV vaccine coverage, males age 19-21 years, IHS, 3rd Quarter, 2014



SOURCE: Indian Health Service, Division of Epidemiology and Disease Prevention.
http://www.ihs.gov/epi/index.cfm?module=epi_vaccine_reports