

# Cervical Cancer in American Indian and Alaskan Native Women in the U.S.

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# Disclosures

- No financial relationships or conflict of interest to disclose

# American Indian /Alaskan Native (AI/AN) Population

Based on 2010 Census:

- 5.2 million - AI/AN in combination with other races
- 2.9 million - AI/AN only
- 70% of the AI/AN population resides in urban areas



# Disparities observed in AI/AN Population

	<b>AI/AN</b>	<b>U.S. All Races</b>
Median Age <sup>1</sup>	30.2 yrs	37.8 yrs
Median Income <sup>2</sup>	\$38,530	\$55,775
Poverty Rate <sup>2</sup>	26.6%	14.7%
High School graduate <sup>2</sup>	82.7%	87.1%

<sup>1</sup> Vintage 2015 Population Estimates

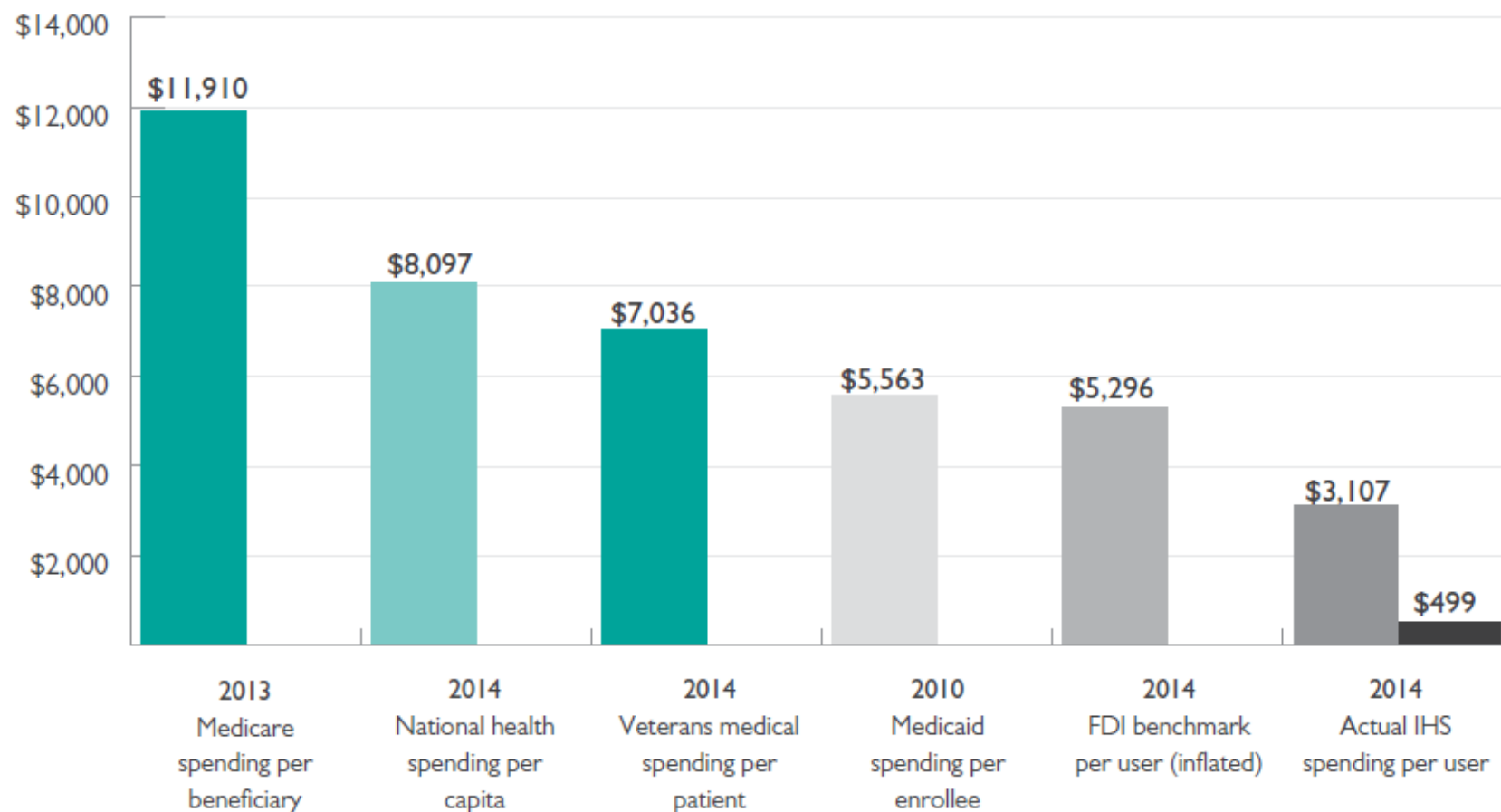
<sup>2</sup> 2015 American Community Survey



# Healthcare Challenges in AI/AN populations

- Indian Health Services (IHS) serves ~60% of the AI/AN population – serves only federally recognized AI/AN tribes
- AI/AN living in urban areas can only access IHS in their place of residence, where they are registered with IHS
- Limited funding provided to IHS

## 2014 IHS Expenditures Per Capita and Other Federal Health Care Expenditures



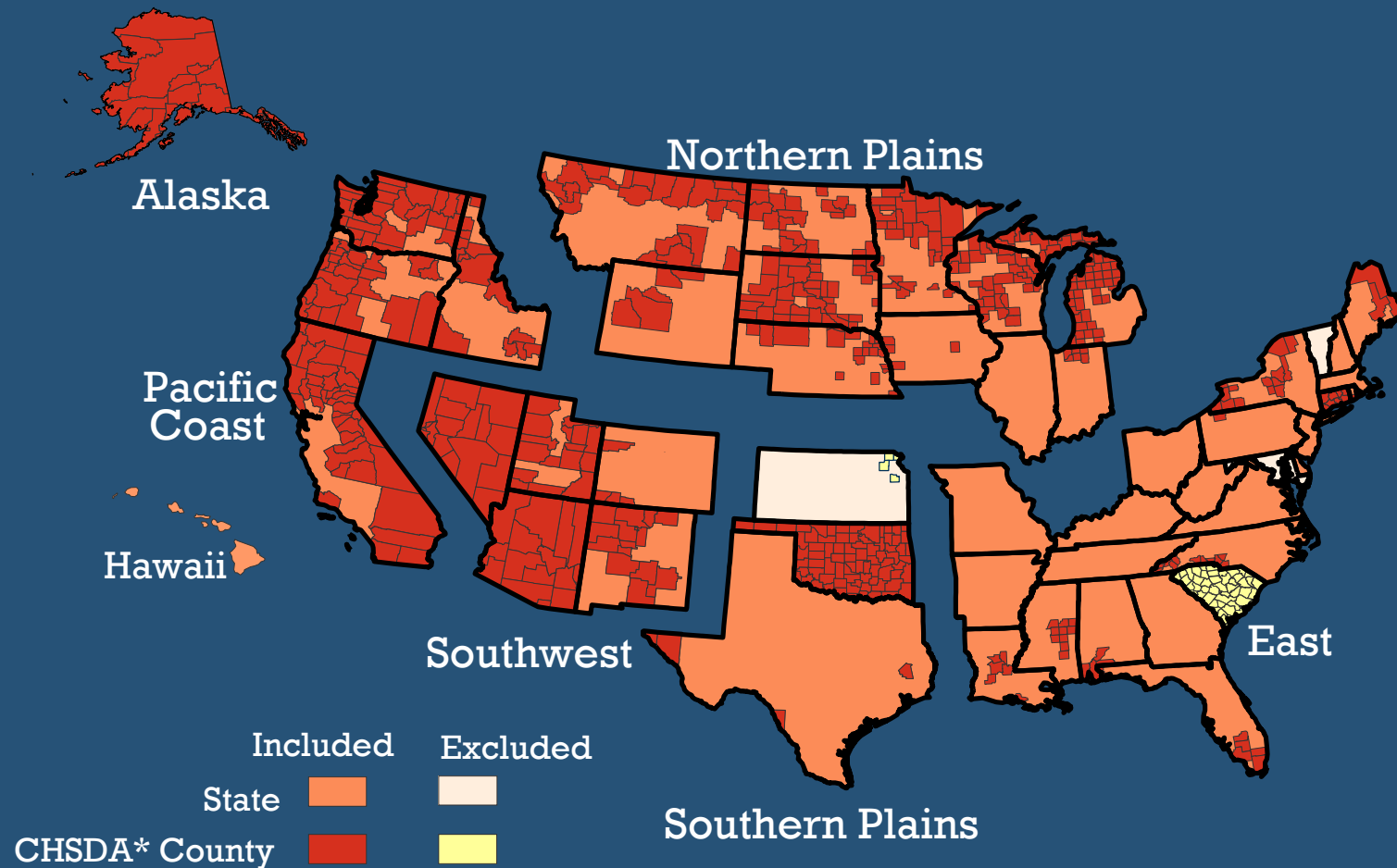
Source: The National Tribal Budget Formulation Workgroup's Recommendations on the Indian Health Service Fiscal Year 2017 Budget.



# Cancer Surveillance in the AI/ AN population

- Race misclassification of AI/AN occurs in cancer surveillance & vital statistics databases
- Varies by state
- To reduce AI/AN race misclassification, surveillance data is linked to IHS data and aggregated in these regions
- Decreasing misclassification can improve accuracy of health indicators & program planning/resource allocation

# AI/AN Aggregated IHS Regions



\*Contract Health Service Delivery Areas



# Cervical Cancer Incidence in AI/AN compared to NHW



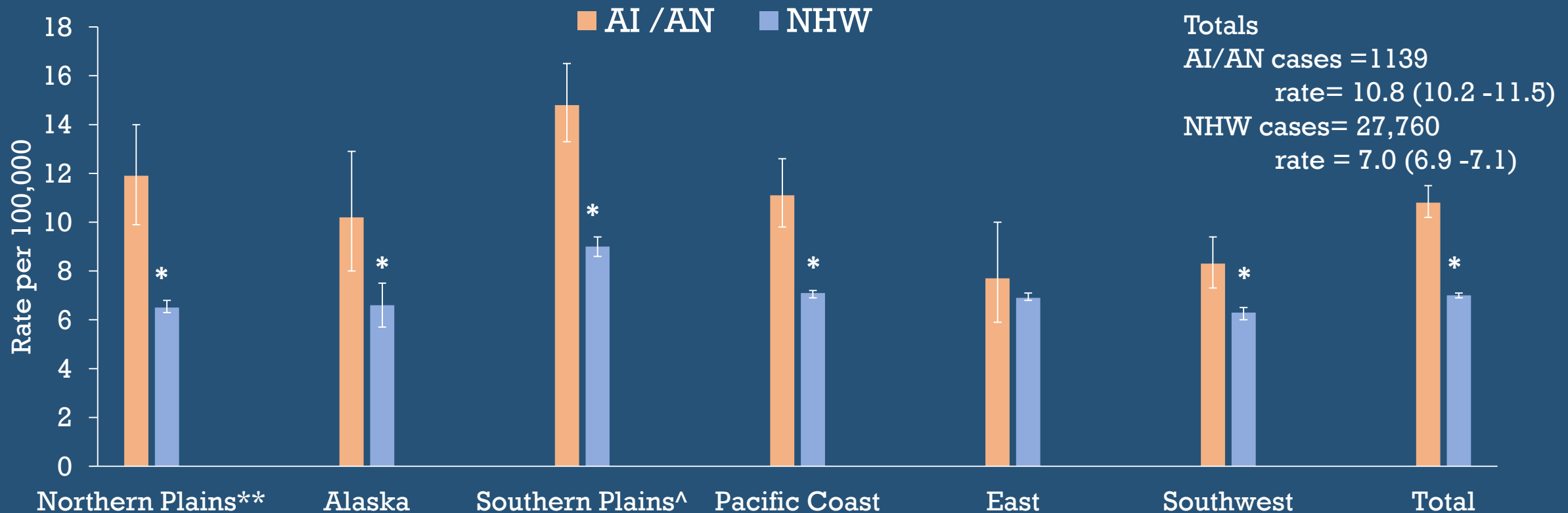
*Improving Lives Through the Prevention & Treatment  
of Anogenital & HPV-Related Diseases*

**ASCCP2018 Annual Meeting**

# Leading cancers for AI/AN Females by IHS Region, 1999-2014

#	Northern Plains	Alaska	Southern Plains	Pacific Coast	East	Southwest	US
...	All sites 1.23*	All sites 1.24*	All sites 1.31*	All sites 0.97*	All sites 0.62*	All sites 0.73*	All sites 0.95*
1	Breast (1) 0.98	Breast (1) 1.10*	Breast (1) 1.16*	Breast (1) 0.84*	Breast(1) 0.56*	Breast (1) 0.52*	Breast (1) 0.80*
2	Lung (2) 1.89*	Colorectal (3) 2.42*	Lung (2) 1.39*	Lung (2) 1.09*	Lung (2) 0.70*	Colorectal (3) 0.79*	Lung (2) 0.98
3	Colorectal (3) 1.49*	Lung (2) 1.25*	Colorectal (3) 1.53*	Colorectal (3) 1.22*	Colorectal (3) 0.72*	Uterus (4) 1.17*	Colorectal (3) 1.20*
4	Kidney (10) 2.54*	Uterus (4) 0.73*	Uterus (7) 1.38*	Uterus (5) 1.04	Uterus (4) 0.60*	Kidney (10) 1.76*	Uterus (4) 0.97
5	Uterus (4) 0.84*	Kidney (11) 1.68*	Kidney (10) 2.11*	NHL (6) 1.02	Kidney (12) 1.18	Ovary (8) 1.20*	Kidney (12) 1.82*
6	NHL (5) 1.07	Stomach (18) 6.52*	NHL (5) 1.30*	Kidney (12) 1.57*	Thyroid (6) 0.46*	Lung (2) 0.29*	NHL (7) 0.93*
7	Thyroid (7) 0.77*	Thyroid (6) 1.02	Ovary (8) 1.24*	Thyroid (7) 0.90	NHL (7) 0.51*	Thyroid (5) 0.67*	Thyroid (6) 0.78*
8	Ovary (8) 0.91	NHL (5) 0.78*	Thyroid (7) 1.13*	Ovary (8) 0.84*	Cervix (13) 1.12	NHL (7) 0.77*	Ovary (9) 0.99
9	Cervix (14) 1.82*	Pancreas (9) 1.19	Cervix (12) 1.64*	Pancreas (10) 1.10	Pancreas (11) 0.69*	Liver (17) 3.64*	Pancreas (10) 1.06
10	Leukemia (9) 1.06	Ovary (8) 0.93	Leukemia (9) 1.19*	Cervix (13) 1.57*	Ovary (8) 0.50*	Stomach (18) 3.55 *	Cervix (13) 1.56*

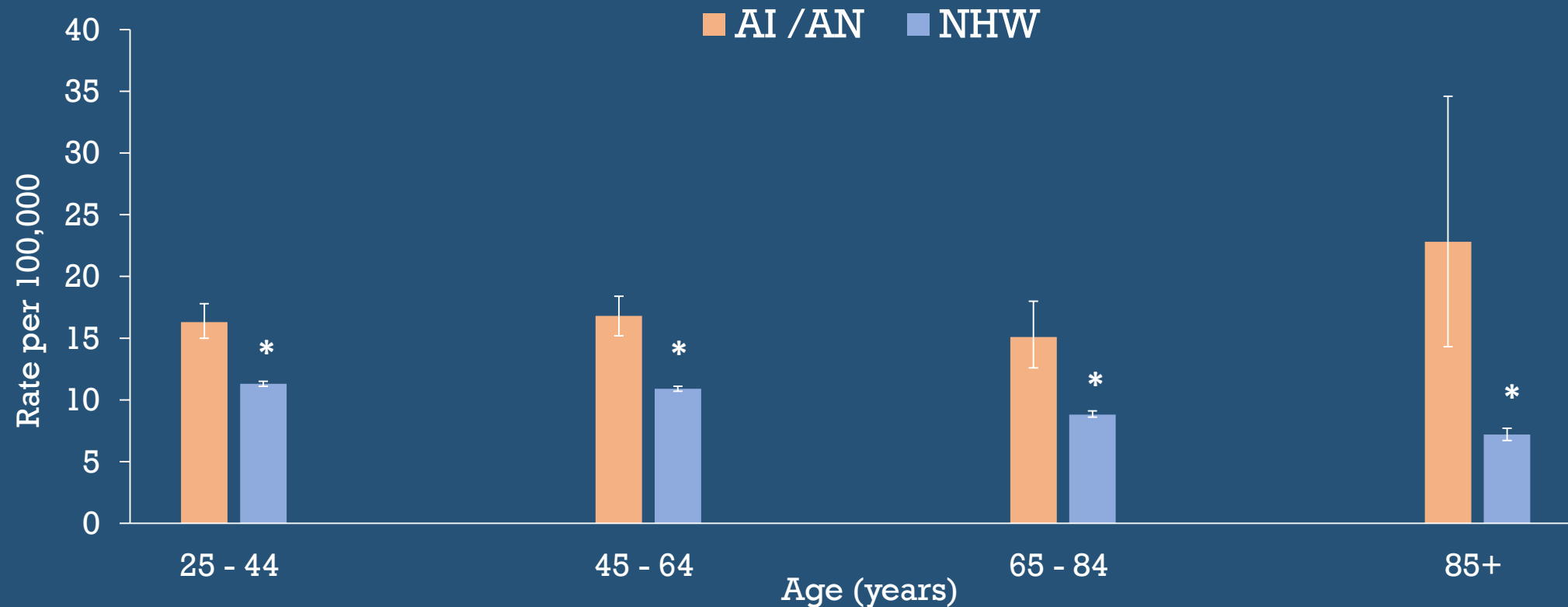
# AI/AN cervical cancer rates by IHS region, compared to US Non-Hispanic White (NHW) Women, 1999 -2014



\* AI/AN rates are significantly different from rates in NHW women ( $p < 0.005$ )

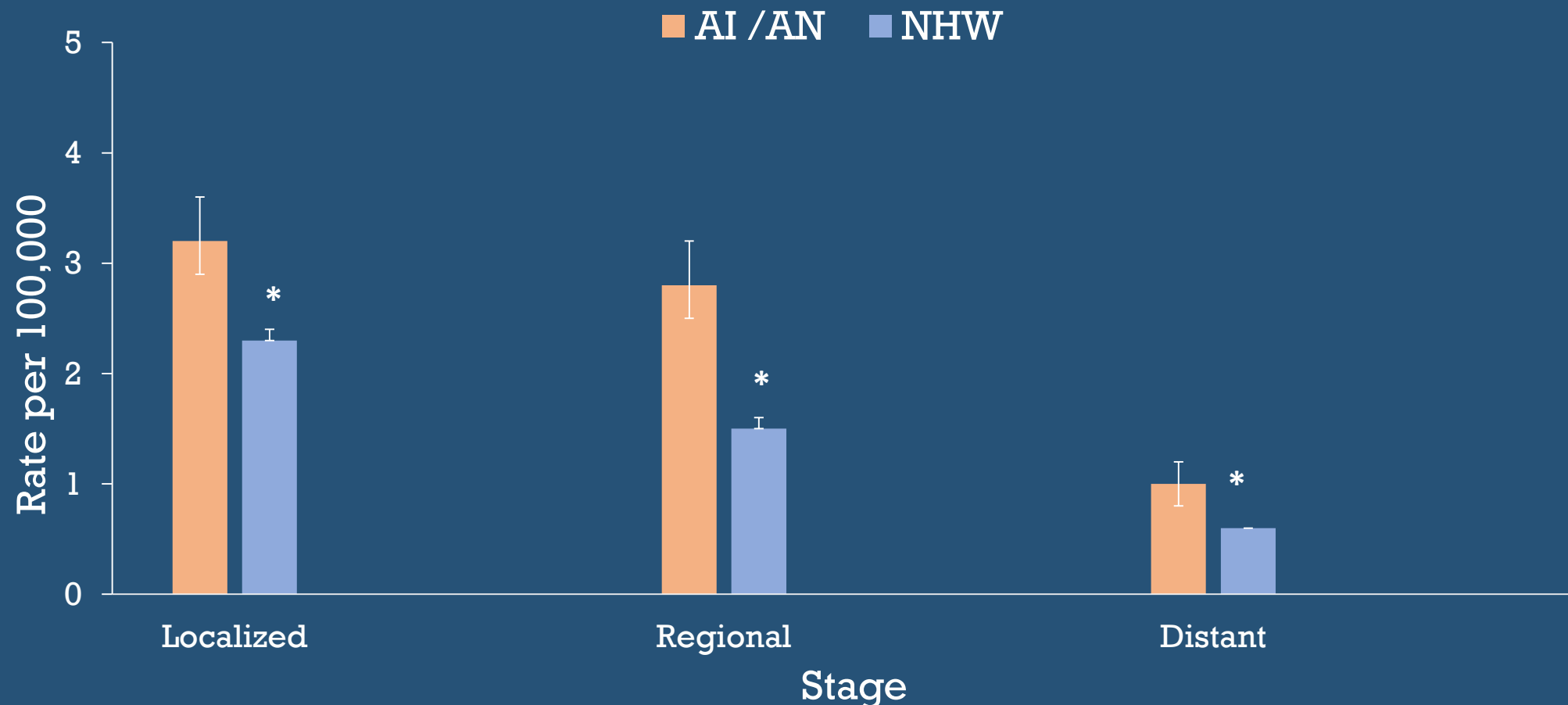
\*\*MN data not included in analysis; ^ KS data not included in analysis

# AI/AN cervical cancer rates by age, compared to US Non-Hispanic White (NHW) Women, 1999 -2014



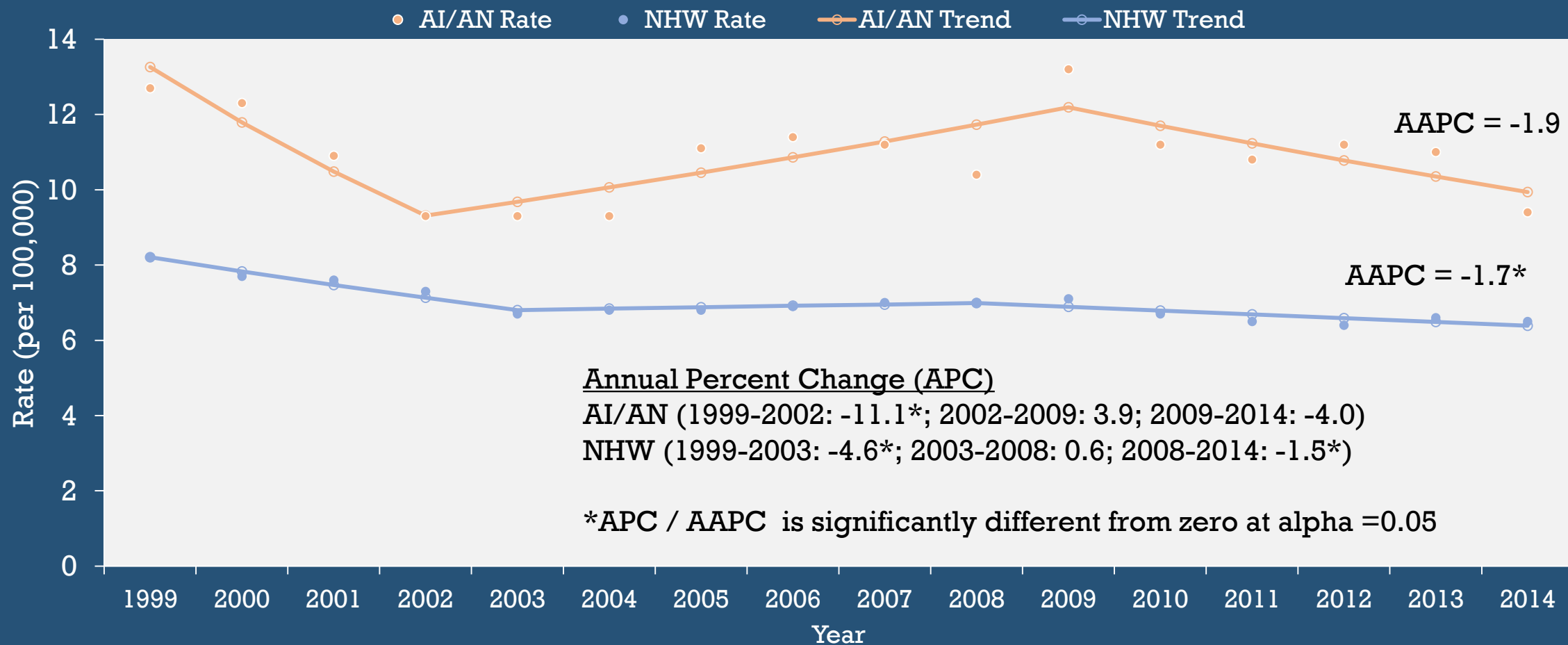
\* AI/AN rates are significantly different from rates in NHW women ( $p < 0.005$ )

# AI/AN cervical cancer rates by stage, compared to US Non-Hispanic White (NHW) Women, 1999 -2014



\* AI/AN rates are significantly different from rates in NHW women ( $p < 0.005$ )

# Trends cervical cancer incidence rates for AI/AN and NHW women, 1999-2014





# Cervical Cancer Prevention in AI/AN



*Improving Lives Through the Prevention & Treatment  
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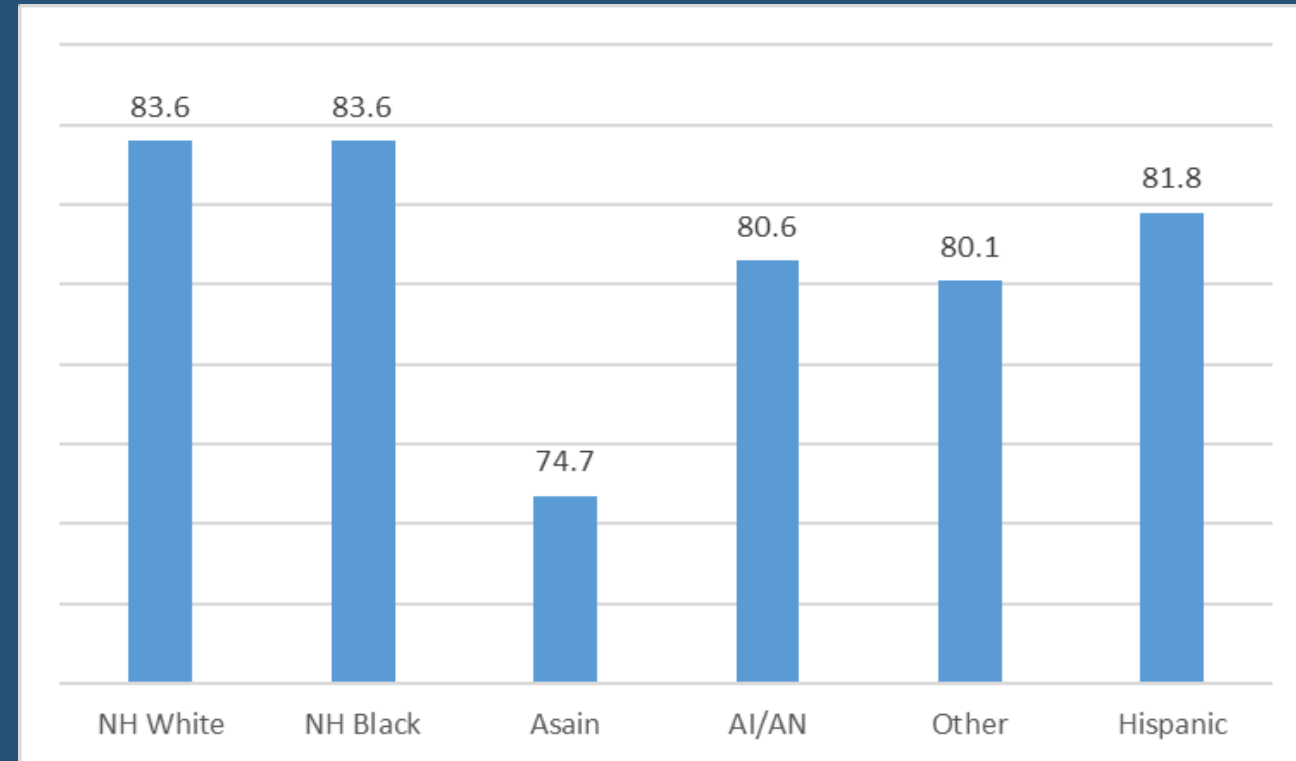
# Self-reported screening coverage by race/ethnicity: Behavioral Risk Factor Surveillance System, 2016

Includes :

% women aged 21-65 with  
Pap in 3 yrs

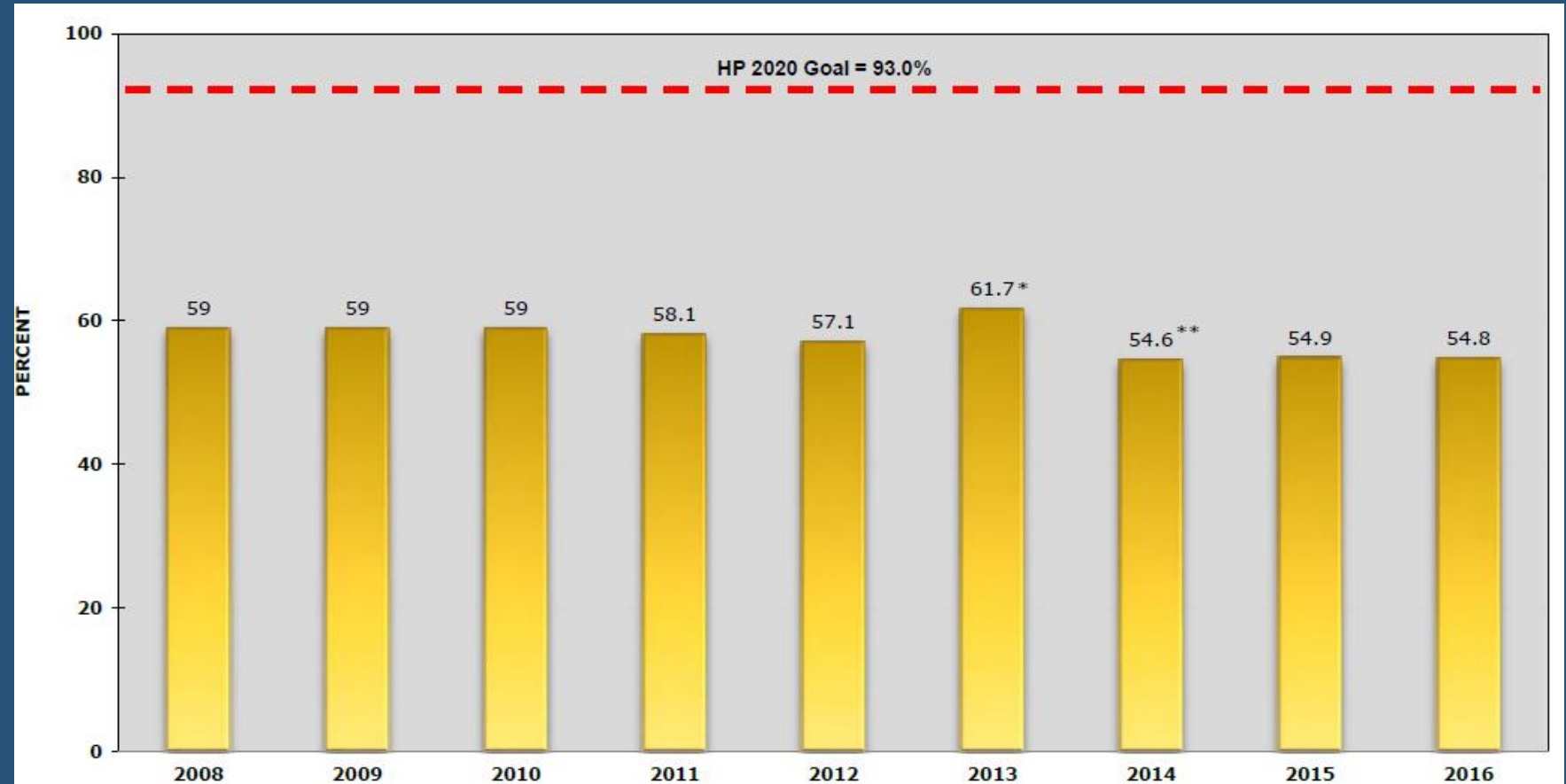
OR

% women aged 30-65 with  
Co-testing in past 5 yrs

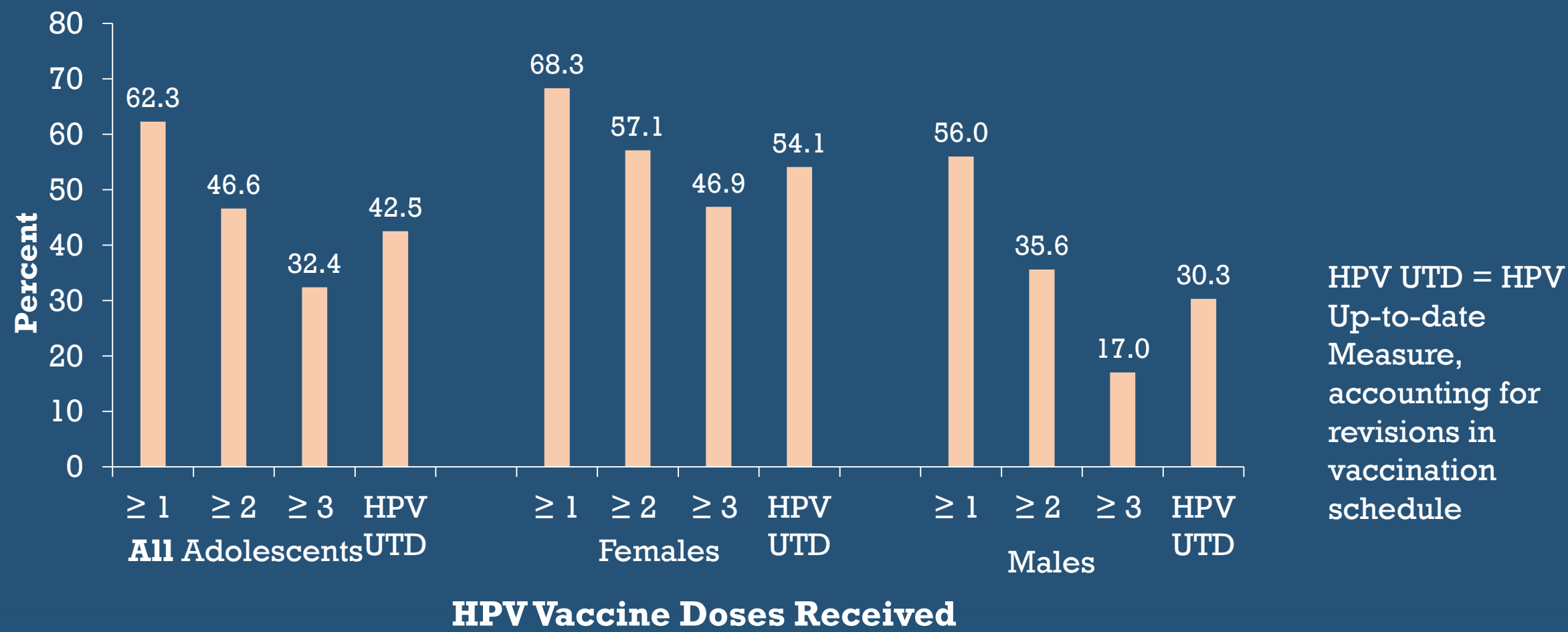


# Medical chart data on screening coverage: Indian Health Services, 2008-2016

Includes :  
% women 21-  
64 with Pap  
in 3 yrs  
OR  
% women 30-  
64 with Co-  
testing in  
past 5 yrs  
(2014-2016)



# Self-reported Vaccination Coverage in AI/AN adolescents aged 13-17 years – NIS Teen Survey, 2016



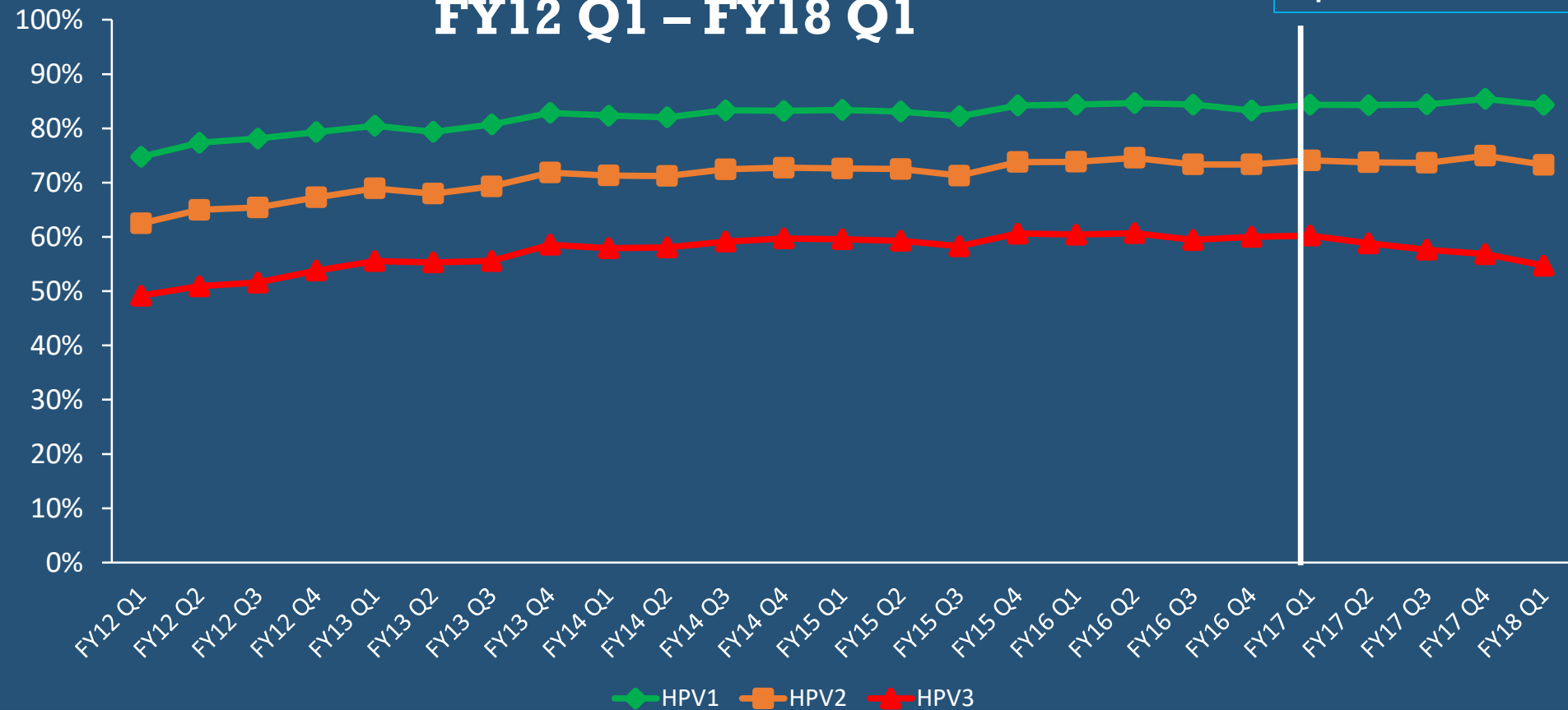
# HPV Vaccination Coverage in AI/AN adolescents aged 13-17 years –IHS, 2016

HPV Vaccine coverage in males and females 13-17 years :

- Received 1<sup>st</sup> dose HPV = 82%
- All 3 doses HPV = 56%

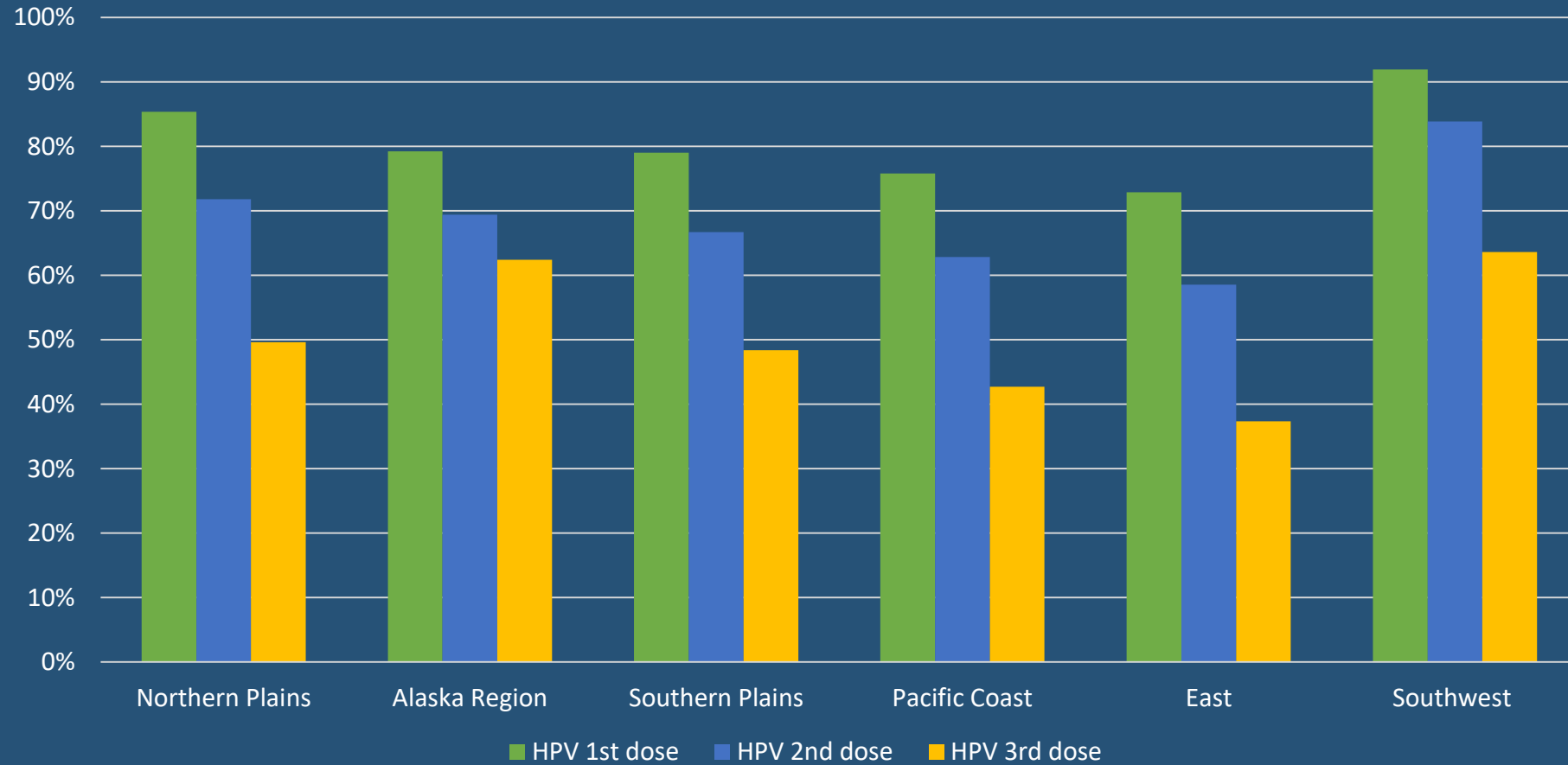
Source: <https://www.ihs.gov/newsroom/ihs-blog/january2017/ihs-highlights-importance-of-vaccination-and-regular-cancer-screenings-to-prevent-cervical-cancer/>

# HPV vaccine coverage Adolescent Females (13 - 17 years old) IHS National FY12 Q1 – FY18 Q1





HPV vaccine coverage  
Adolescent Females (13 - 17 years old)  
IHS Areas  
FY18 Q1

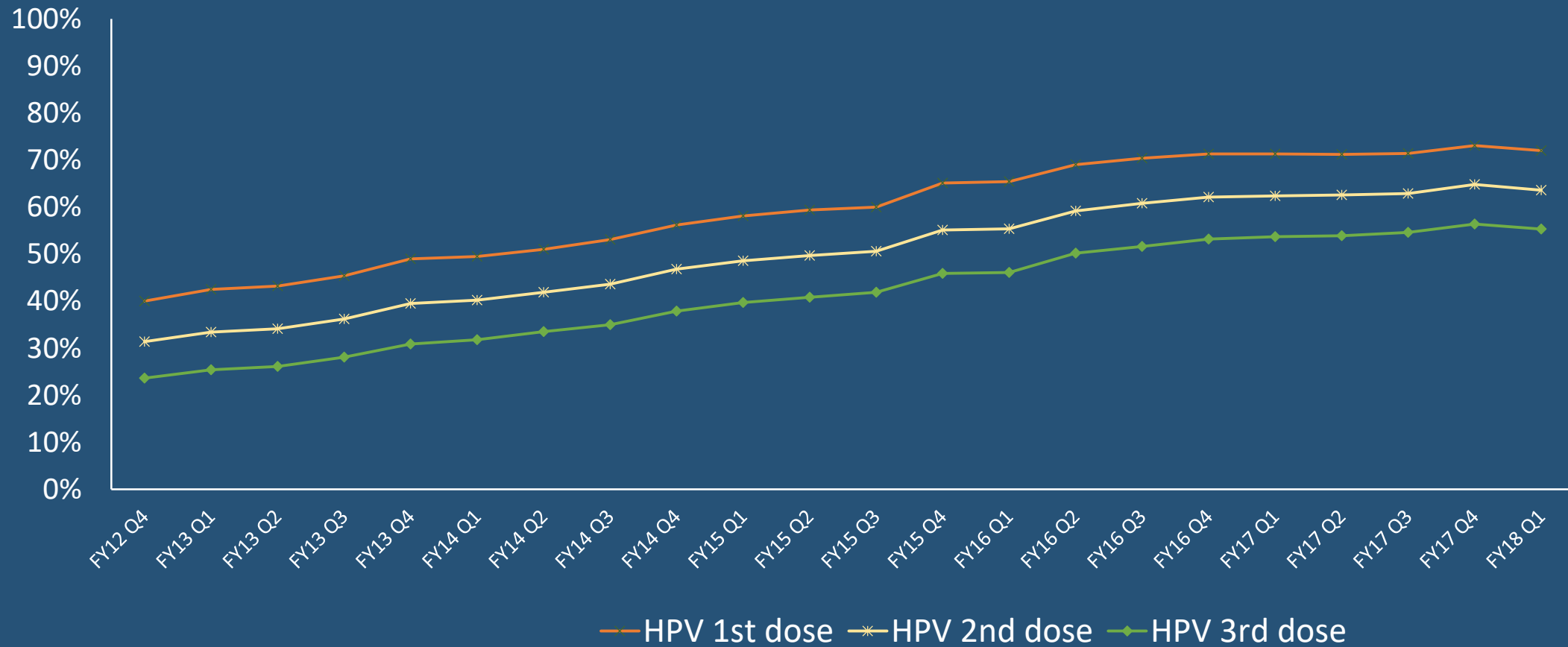


# HPV vaccine coverage

## Adult Females (19-26 years old)

### IHS National

#### FY13 Q2 – FY18 Q1



# CDC -Supported Cancer Prevention Programs



**The National  
Breast and  
Cervical Cancer  
Early Detection  
Program**



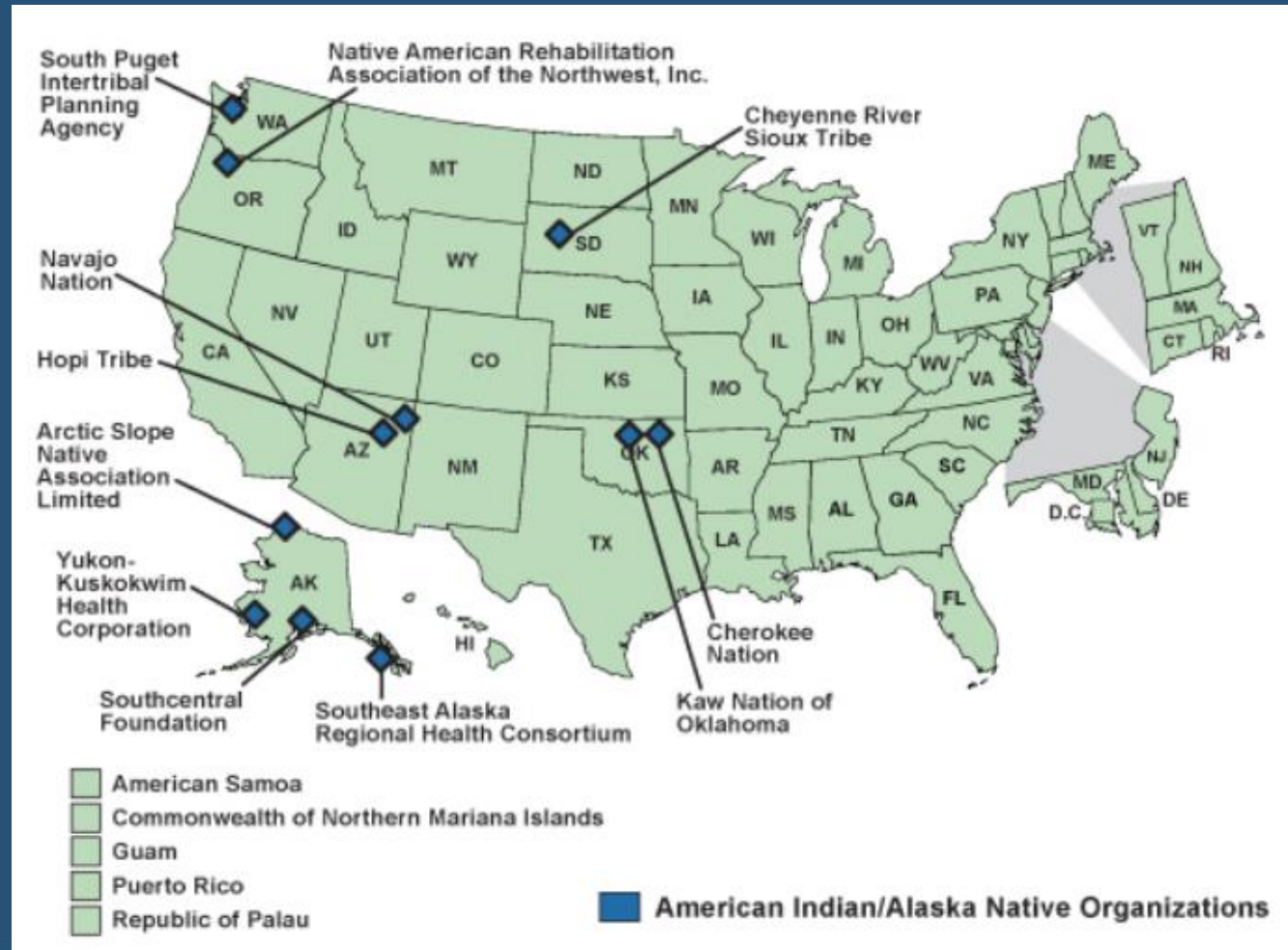
**The National  
Comprehensive  
Cancer Control  
Program**



# National Breast and Cervical Cancer Early Detection Program (NBCCEDP)

NBCCEDP has funded AI/AN orgs since 1994.

Currently 11 American Indian /Alaskan Native organizations are NBCCEDP grantees

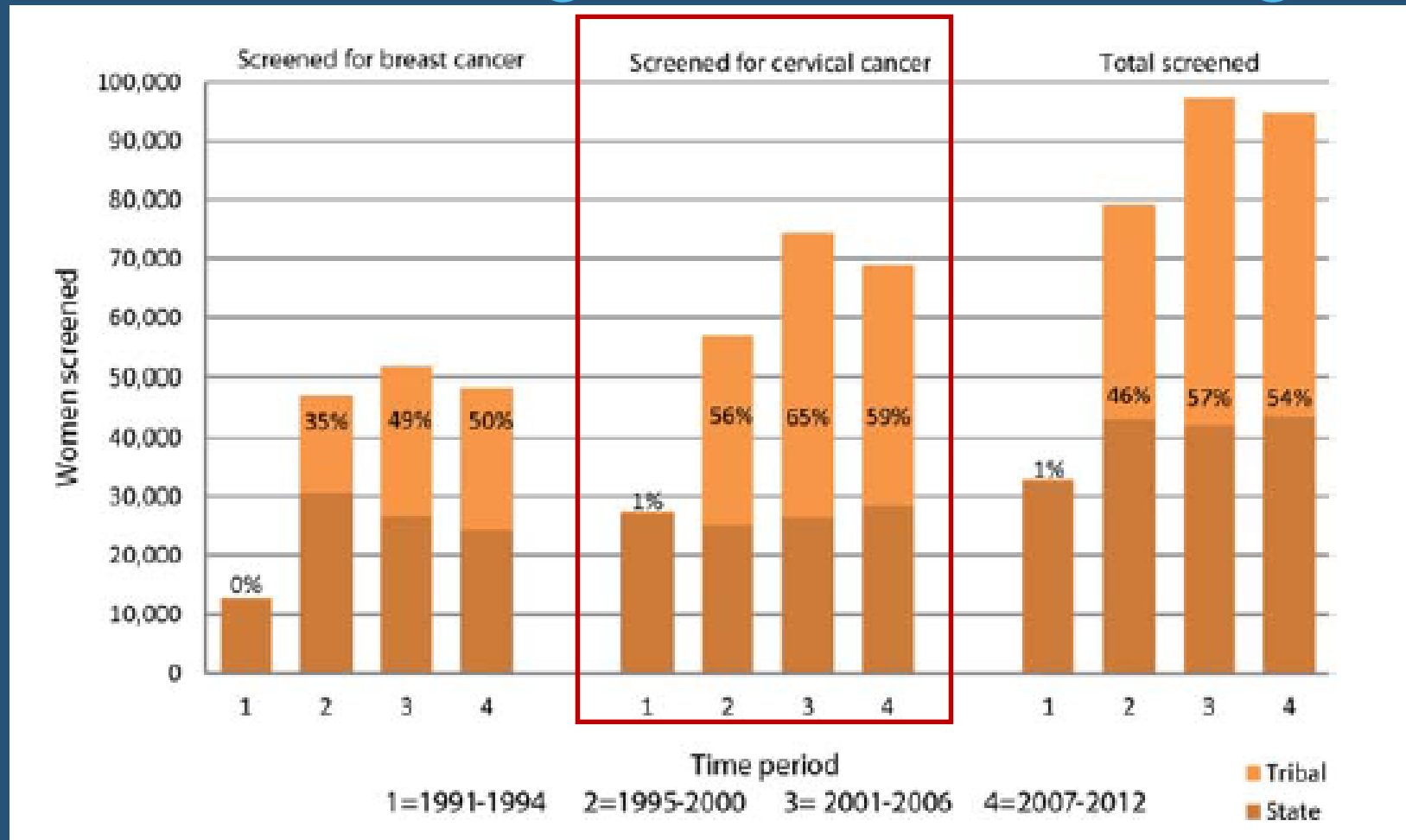


# NBCCEDP Programs in AI/ AN organizations

Strong Partnerships have enabled the NBCCEDP programs in AN/AN women to succeed

- Strong partnership with Indian Health Services (IHS) and Tribal Health Care Providers  
Key success – NBCCEDP funding IHS to conduct annual colposcopy training for primary care providers
- Several NBCCEDPs have strong partnerships with other organizations in AI/AN populations to reach, enroll and screen more women.

# NBCCEDP Programs in AI/ AN organizations



The proportion of AI/AN women screened by tribal NBCCEDP programs is substantial

*Espey et al, Cancer, 2014*

*Percentage of AI/AN women served in NBCCEDP by grantee type*



# NBCCEDP cervical cancer screening program data: July 2011- June 2016

	AI/AN organizations	National Aggregate
Pap tests provided	39,847	973,898
Pap tests with abnormal results	1,367	32,346
Percentage of Pap tests with abnormal results	3.4	3.3
Cervical cancers or premalignant cervical lesions	973	21,273
CIN1 or LSIL	669 (68.8%)	13,175 (61.9%)
CIN 2 or worse	304 (31.2%)	8,098 (38.1%)
Rate of CIN2 or worse detected per 1,000 Pap tests	7.6	8

Outcomes in AI/AN orgs are comparable to national outcomes

# Comprehensive Cancer Control (CCC) Programs in AI/ AN organizations

Currently 8 AI/AN tribal organizations are grantees for National Comprehensive Cancer Control Program.

Alaska Native Tribal Health Consortium

Cherokee Nation

Fond Du Lac Reservation

Northwest Portland Area Indian Health Board

South Puget Intertribal Planning Agency

California Rural Indian Health Board

Intertribal Council of Michigan, Inc.

American Indian Cancer Foundation

Cervical cancer prevention activities by CCC programs mainly include promoting HPV vaccination and increasing awareness about the importance of cervical cancer screening.

## *Disparities still exist in this community*

- Higher rates of cervical cancer in the AI/AN population
- Not statistically significant decrease in APC

## *There is hope:*

- More efforts to primary prevention with HPV vaccine through interventions with the IHS
- Additional interventions dedicated to reaching AI/AN women for cervical cancer screening

