

Recognizing land and sovereignty of Native nations

State and Federally Recognized Tribes

- Cherokee (Western and Southern)
- Eastern Band of Cherokee Indians
- Cherokee, Choctaw, Creek, Seminole, and Muskogean
- Florida Seminole (Micanopy and Wekiwa)
- Lumbee (White, Redbone and Skowhegan)
- Haudenosaunee (Seneca, Oneida, Cayuga and Mohawk)
- Occaneechi Band of the Saponi Nation (Ardurians, Caswell and Orange)
- Roanoke (Pamlico)
- Haliwalumwee (Watauga and Catawba)
- Federally Recognized

UNC LINEBERGER COMPREHENSIVE CANCER CENTER

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Native protocol: Establishing relationality

Traditional practice of introductions rooted in relationality and kinship

- Mother's clan - "I am"**  
(Coyote pass - Ma'ii deizhgiizhnii)
- Father's clan - "Born for"**  
(Sleeprock people - Tsenahabihii)
- Maternal grandparents clan**  
(Coyote pass - Ma'ii deizhgiizhnii)
- Paternal grandparents clan**  
(Many hogans - Hoghantani)

Please do not duplicate

UNC LINEBERGER COMPREHENSIVE CANCER CENTER

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Improving access and treatment in American Indian/ Alaskan Natives (AIAN)

UNC LINEBERGER COMPREHENSIVE CANCER CENTER

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### Great diversity among AIANs

- ▶ 574 federally recognized tribes
  - ▶ Different culture, location, language and beliefs
- ▶ Primary healthcare provided by the Indian Health Service
  - ▶ Must be enrolled members of federally recognized tribe
  - ▶ Must reside on/near reservation within a contract health service delivery area

4 LINEBERGER COMPREHENSIVE CANCER CENTER

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### Urban AIANs

- ▶ The majority of AIAN persons reside in urban areas
- ▶ Outside of the Indian Health Service, AIAN have the lowest rate of private health insurance of any racial/ethnic group

Group	Uninsured	Medical/Other Public	Private
US Adults	21%	34%	45%
AIAN Adults (19-64)	37%	23%	41%

5 LINEBERGER COMPREHENSIVE CANCER CENTER

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Published Online First November 29, 2017; DOI: 10.1158/0008-5472.CCR-17-0429

Prevention and Epidemiology

**Disparities in Prostate, Lung, Breast, and Colorectal Cancer Survival and Comorbidity Status among Urban American Indians and Alaskan Natives**

Marc A. Emerson<sup>1</sup>, Matthew P. Banegas<sup>2</sup>, Niretu Chawla<sup>3</sup>, Ninah Achacoso<sup>1</sup>, Stacey E. Alexeeff<sup>4</sup>, Alyce S. Adams<sup>1</sup>, and Laurel A. Haber<sup>5</sup>

6 LINEBERGER COMPREHENSIVE CANCER CENTER

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### AIAN breast cancer mortality

	Adjusted for patient + disease characteristics HR (95% CI)	Adjusted for patient + disease characteristics + Charlson score HR (95% CI)
All-cause mortality	1.52 (1.17-1.99)	1.47 (1.13-1.92)
Cancer-specific mortality	1.31 (0.89-1.95)	1.31 (0.88-1.94)

Emerson MA et al. Cancer Res. 2017

7  LINEBERGER COMPREHENSIVE CANCER CENTER

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### Initiation and adherence to adjuvant endocrine therapy (AET) among insured, urban AIAN

8  LINEBERGER COMPREHENSIVE CANCER CENTER

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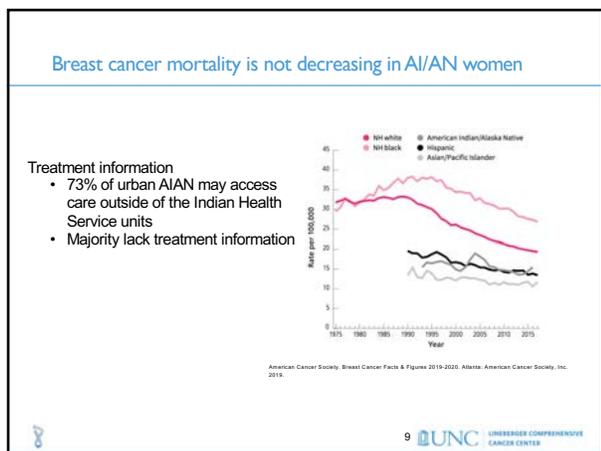
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**Objective**

To evaluate whether AET initiation and adherence were lower among AIAN than other races/ethnicities



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**Source population:**  
Kaiser Permanente Northern California

- Over 3.9 million currently active members
- Membership comprises approximately one-third of the population of California's San Francisco Bay Area and Central Valley



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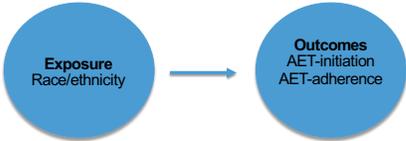
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**Participants and analysis overview**

23,680 AET eligible (first primary, stage I-III, hormone receptor-positive breast cancers) patients from 1997 to 2014



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graph LR; A((Exposure  
Race/ethnicity)) --> B((Outcomes  
AET-initiation  
AET-adherence))
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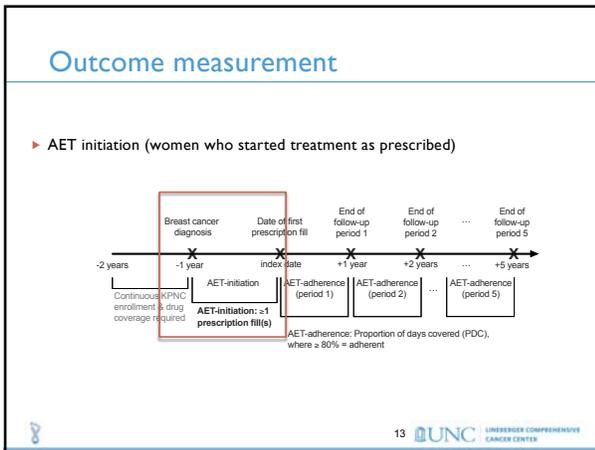
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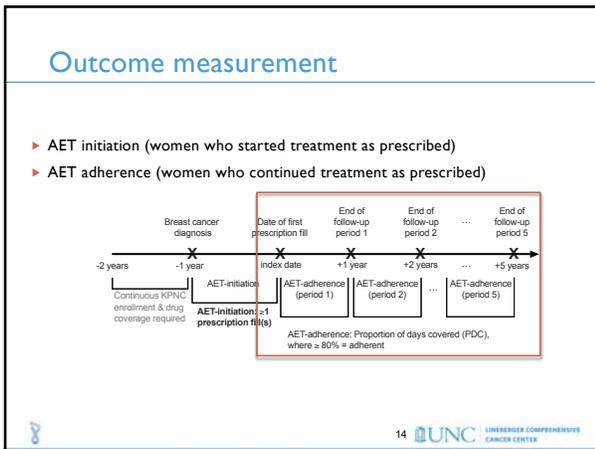
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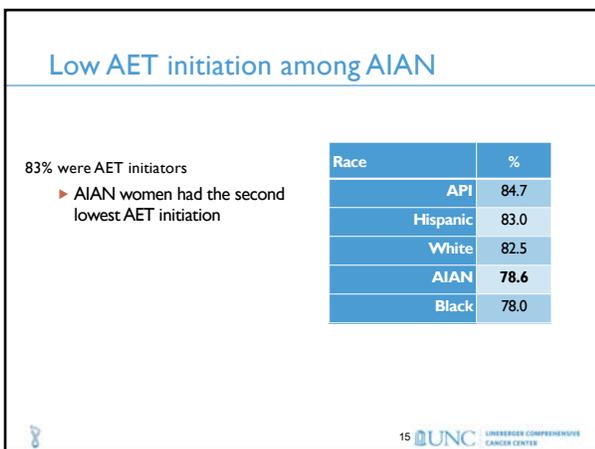
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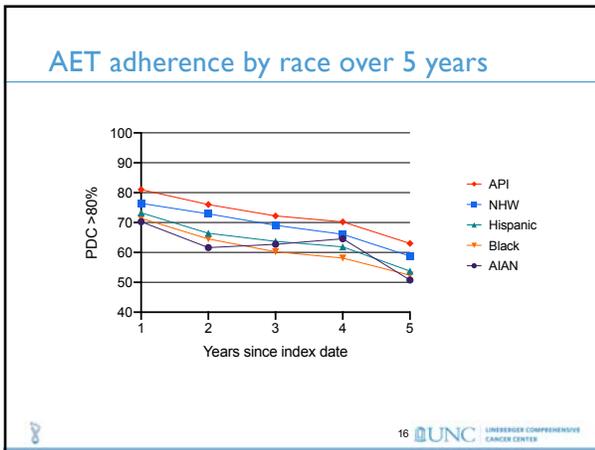
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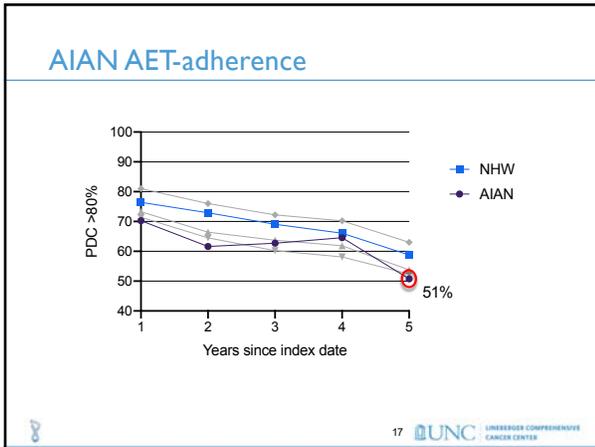
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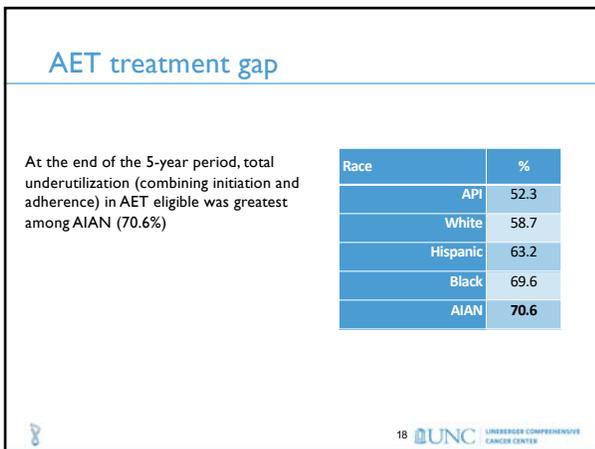
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### The takeaways

- ▶ Our results suggest that AET initiation and adherence are particularly low for insured urban AIAN women.
- ▶ Results may represent a "best-case scenario" for access yet still highlights substantial racial disparities
- ▶ Interventions that address barriers specific to AIAN women are needed

19  LINEBERGER COMPREHENSIVE CANCER CENTER

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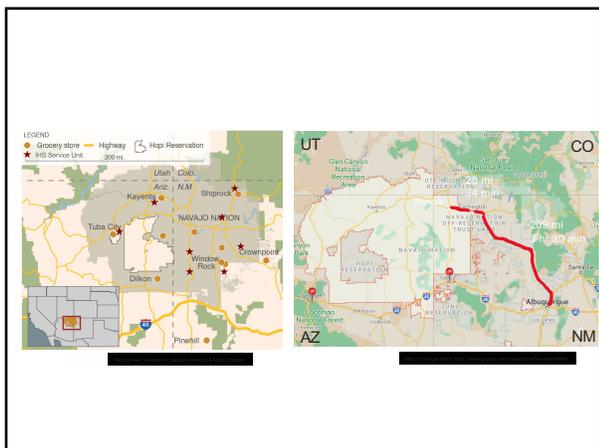
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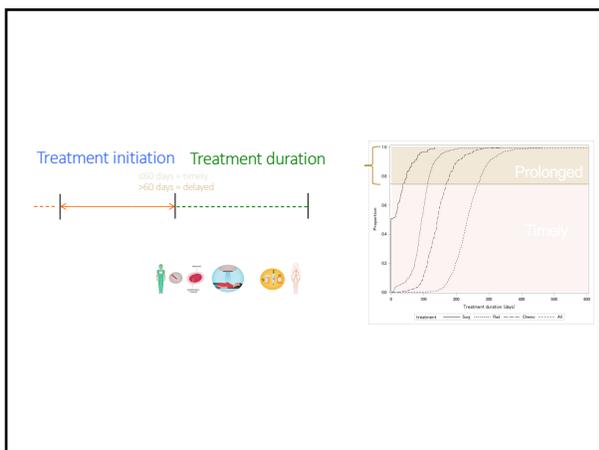
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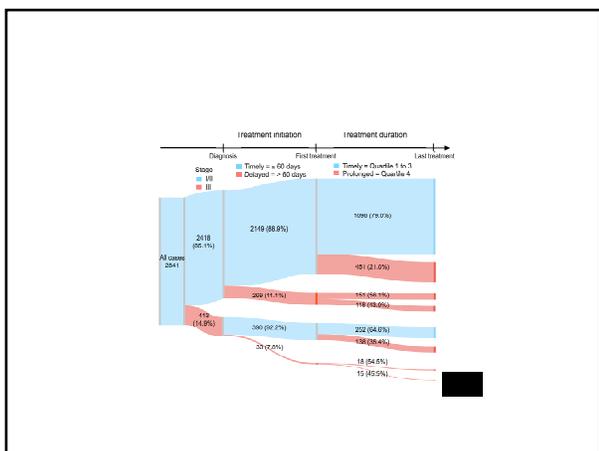
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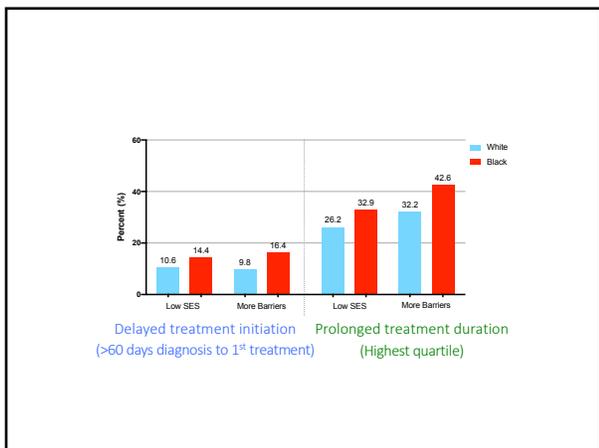
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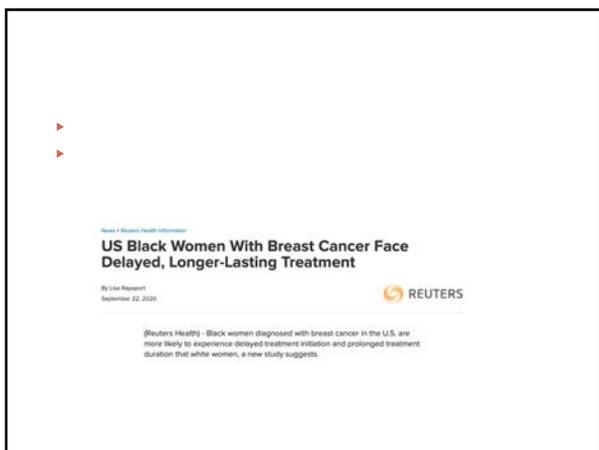
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## MEETING THE CANCER PREVENTION AND CARE NEEDS OF NORTH CAROLINA'S INDIGENOUS COMMUNITIES

Ronny A. Bell, PhD, MS  
 Professor of Social Sciences and Health Policy  
 Wake Forest School of Medicine  
 Director, Office of Cancer Health Equity  
 Wake Forest Baptist Comprehensive Cancer Center

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Black or African American alone, percent (a)	22.2%
American Indian and Alaska Native alone, percent (a)	1.6%
Asian alone, percent (a)	3.2%
Native Hawaiian and Other Pacific Islander alone, percent (a)	0.1%
Two or More Races, percent	2.3%
Hispanic or Latino, percent (b)	9.8%
White alone, not Hispanic or Latino, percent	62.6%

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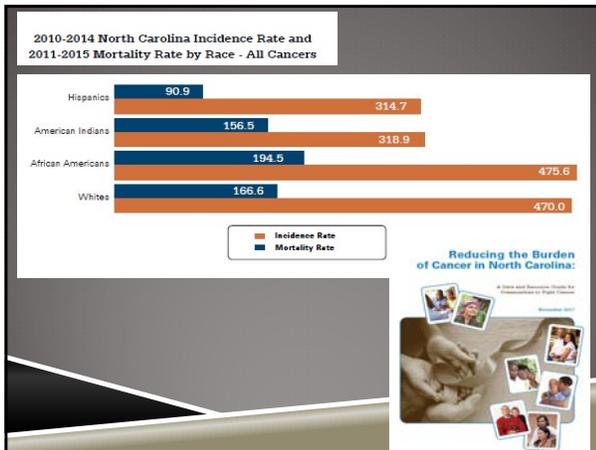
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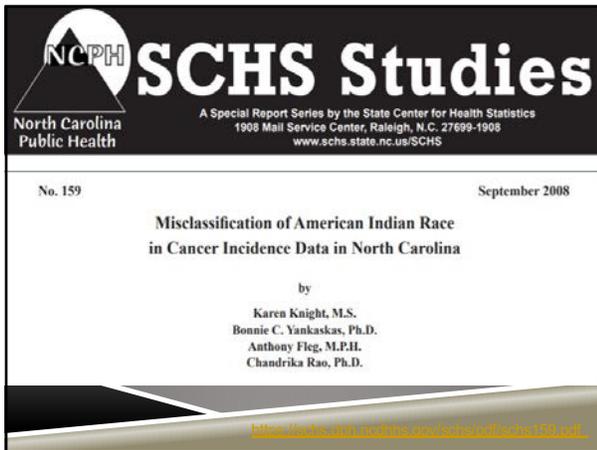
SITE	Non-Hispanic Whites		Non-Hispanic African Americans		Non-Hispanic American Indians		Non-Hispanic Other Races		Hispanics		All Races and Ethnicities	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Oral Cavity	6,310	13.6	1,050	8.8	43	6.5	163	14.7	175	7.2	7,601	12.3
Esophagus	2,061	4.3	430	3.6	12	1.7	42	3.7	43	2.4	2,586	4.0
Stomach	2,302	4.9	1,084	9.6	33	5.3	147	13.2	207	9.0	3,773	6.1
Colon/Rectum	15,572	34.8	4,468	38.4	196	30.5	619	48.9	622	28.5	21,477	35.2
Liver	3,825	7.8	1,196	8.8	62	9.2	156	13.9	223	10.6	5,422	8.2
Gallbladder	364	0.8	194	1.7	7	1.1	20	2.2	41	1.9	626	1.0
Pancreas	3,822	12.1	1,647	16.1	36	8.0	122	11.7	208	11.0	6,057	12.8
Larynx	1,740	3.7	576	4.6	29	4.3	28	2.5	39	2.1	2,418	3.7
Lung & Bronchus	31,858	65.0	6,982	59.2	433	66.3	502	46.7	501	33.2	40,306	62.8
Bones & Joints	360	1.0	76	0.7	7	1.1	27	2.2	51	0.7	491	0.9
Soft Tissue	1,305	3.1	349	3.1	14	2.1	61	4.6	101	3.0	1,830	3.2
Melanoma (Skin)	14,352	33.0	89	0.8	22	4.0	690	58.5	149	6.6	15,302	25.5
Female Breast	39,039	106.2	10,620	90.2	302	102.5	1,353	106.7	1,500	120.9	53,212	93.4
Cervix Uteri	1,154	6.4	496	7.2	24	7.3	96	8.2	173	11.4	1,872	6.7
Corpus Uteri	6,187	24.9	1,851	26.3	64	18.4	232	32.2	353	26.9	8,687	25.3
Ovary	2,336	10.2	485	7.5	22	6.5	97	13.7	131	8.3	3,071	9.8
Prostate	24,128	102.2	6,589	175.8	277	84.8	1,313	263.6	722	81.8	36,029	116.9
Testes	971	6.6	92	1.8	8	1.4	30	3.3	114	4.3	1,215	5.1
Bladder	10,004	20.8	1,293	11.5	62	10.4	187	18.1	164	10.2	11,710	18.8
Kidney	7,691	16.9	2,311	19.3	110	18.9	158	12.4	308	15.4	10,628	17.1
Endocrine	4,774	13.1	1,014	8.8	60	9.6	314	19.9	429	12.4	6,601	12.1
Multiple Myeloma	2,783	5.8	1,650	14.4	37	6.1	75	7.3	145	7.3	4,690	7.5
Leukemia	5,909	13.1	1,123	9.9	56	9.8	244	21.8	275	11.5	7,607	12.6
Brain & Other CNS (includes benign brain)	8,290	19.8	1,984	17.7	66	10.8	336	25.9	478	17.3	11,154	19.2
Brain & Other CNS (excludes benign brain)	2,782	6.8	1,456	14.4	27	4.7	137	11.4	147	4.4	3,505	6.2
Hodgkin Disease	855	2.5	316	2.7	11	1.1	42	2.5	80	2.3	1,304	2.5
Non-Hodgkin Lymphoma	6,038	17.5	1,510	13.0	43	6.6	261	21.9	304	17.3	10,246	16.8
Other Cancer	15,128	34.7	3,863	32.8	147	23.0	623	54.0	659	29.2	20,759	34.5
ALL CANCERS	218,296	475.7	55,056	482.9	2,225	342.8	7,668	638.7	8,124	351.9	291,779	489.2

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SITE	Non-Hispanic Whites		Non-Hispanic African Americans		Non-Hispanic American Indians		Non-Hispanic Other Races		Hispanics		All Races and Ethnicities	
	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
ORAL CAVITY	1,250	2.6	333	2.8	13	2.1	25	2.2	20	1.0	1,654	2.4
ESOPHAGUS	1,796	3.7	344	2.9	8	1.4	14	1.2	30	1.8	1,729	2.9
STOMACH	990	2.1	564	5.3	22	3.5	49	4.8	54	4.2	1,229	2.9
COLON/RECTUM	5,729	12.4	1,662	16.0	62	14.1	63	7.4	166	9.2	7,666	13.6
LIVER	3,037	6.2	998	7.8	65	9.4	76	7.8	128	7.2	4,320	6.8
GALLBLADDER	299	0.7	159	1.4	6	1.0	12	1.1	17	1.0	372	0.6
PANCREAS	5,041	10.5	1,500	13.7	69	11.8	72	7.2	127	7.9	6,867	10.8
LARYNX	433	0.9	207	1.7	11	1.9	5	0.4	5	0.3	662	1.0
LUNG/BRONCHUS	21,100	43.3	4,862	40.8	324	51.0	309	27.8	117	10.9	26,629	42.0
BONE	162	0.4	41	0.4	2	0.3	2	0.2	12	0.6	219	0.4
SOFT TISSUE	561	1.3	164	1.6	8	1.3	11	1.1	43	1.8	807	1.4
MELANOMA (SKIN)	1,278	2.8	46	0.4	0	0.0	1	0.1	10	0.5	1,339	2.2
FEMALE BREAST	4,826	19.0	1,734	17.5	79	12.2	405	31.1	459	18.8	6,929	20.5
CERVIX UTERI	372	1.8	182	2.8	6	1.0	14	1.4	17	1.8	593	2.0
CORPUS UTERI	1,683	4.0	516	8.5	13	2.1	23	3.4	36	3.9	1,712	4.8
OVARY	1,591	6.2	332	5.0	18	4.9	37	5.9	41	4.6	2,028	5.8
PROSTATE	3,204	16.0	1,428	40.1	44	22.8	32	9.2	60	10.9	4,796	19.7
TESTES	29	0.1	6	0.1	1	0.1	1	0.1	5	0.3	41	0.2
BLADDER	2,073	4.4	363	3.5	16	2.9	14	1.1	32	2.5	2,501	4.1
KIDNEY	1,785	3.8	419	3.7	16	2.8	15	1.5	44	2.3	2,284	3.7
ENDOCRINE	312	0.7	102	0.9	5	0.8	7	0.7	17	0.7	443	0.7
MULTIPLE MYELOMA	1,439	3.0	700	6.7	17	3.0	13	1.1	37	2.1	2,213	3.8
LEUKEMIA	2,884	6.3	564	5.2	24	4.0	46	4.8	104	5.6	3,640	6.1
BRAIN/OTHER CNS	2,109	4.7	285	2.5	13	2.1	35	3.1	59	2.6	2,504	4.1
HODGKINS DISEASE	121	0.3	31	0.3	2	0.3	2	0.2	4	0.2	161	0.3
NON-HODGKINS LYMPHOMA	2,445	5.2	438	4.0	19	2.9	39	4.0	66	4.0	3,017	5.0
OTHER CANCERS	7,954	16.8	2,025	18.1	87	13.8	98	9.3	175	10.3	10,369	16.8
ALL CANCERS	73,813	155.6	20,178	180.2	870	156.3	1,019	88.8	1,788	100.9	97,965	158.0

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**Table 2. Misclassification of American Indian Race in the CCR, by Tribe**

Tribe	Number of CCR Records Matching to Tribal Rolls	Subset with American Indian Race Not Recorded in the CCR	Percent Misclassified
Lumbee	554	86	15.5%
Haliwa-Saponi	20	3	15.0%
Waccamaw-Siouan	23	10	43.5%
Coharie	16	2	12.5%
Occaneechi	9	8	88.9%
Meherrin	2	2	100.0%
Sappony	2	1	50.0%
<b>Total</b>	<b>626</b>	<b>112</b>	<b>17.9%</b>

**Caution:** All of the percentages by tribe except the one for Robeson are based on small numbers and thus may be statistically unstable.

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**Table 3. Comparison of 1996–2000 Cancer Incidence Rates\* (Per 100,000 Population) Before and After Correction of Misclassification**

Cancer Site	Before Correction						After Correction					
	White		African American		American Indian		White		African American		American Indian	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Colon/Rectum	1,496	51.6	583	53.7	46	20.5	1,492	51.4	584	53.9	50	22.7
Lung/Bronchus	2,164	73.1	684	62.4	113	52.5	2,193	74.1	682	62.3	124	57.6
Female Breast	2,327	148.5	827	129.6	118	91.5	2,291	146.0	830	129.9	139	107.6
Prostate	1,651	131.4	907	210.6	120	131.2	1,664	133.1	957	222.7	162	186.1
All Cancers	12,707	435.9	4,858	440.3	635	285.8	12,917	443.2	4,932	447.4	752	341.4

\* Rates are calculated for the counties of Alamance, Bladen, Columbus, Halifax, Harnett, Hertford, Hoke, Nash, Orange, Person, Robeson, Sampson, Scotland, and Warren, and are age adjusted to the 2000 United States Census population.

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**HEALTHY NATIVE NORTH CAROLINIANS**

**Participants**

- Coharie Indian Tribe
- Confederated Tribes Association for Indian People
- Quillard Native American Association
- Haliwa-Saponi Indian Tribe
- Lumbee Tribe of North Carolina
- Medicine Indian Nation
- Occomoco Band of the Saponi Nation
- Sappony
- Triangle Native American Society
- Wachonaw Indian Tribe

**Grant Administrator**

- North Carolina Commission of Indian Affairs

**Capacity Building Team**

- American Indian Center & Center for Health Promotion and Disease Prevention, both at the University of North Carolina-Chapel Hill

**Supported by**

- Kate D. Reynolds Charitable Trust

<https://americanindiancenter.org/unc/healthy-native-north-carolinians/>

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Health Equity  
Volume 4.1, 2020  
DOI: 10.1089/req.2019.0095

Health Equity  
Mary Ann Liebert, Inc. publishers

ORIGINAL ARTICLE Open Access

**Testing a Culturally Adapted Colorectal Cancer Screening Decision Aid Among American Indians: Results from a Pre-Post Trial**

Leah Frerichs,<sup>1,2\*</sup> Cherry Beasley,<sup>3</sup> Kim Pevia,<sup>4</sup> Jan Lowery,<sup>5</sup> Renée Ferrari,<sup>2</sup> Ronny Bell,<sup>6</sup> and Dan Reuland<sup>2,7</sup>

**The HOPE Project is a partnership of the following tribes and agencies:**

- Coharie Indian Tribe
- Haliwa-Saponi Indian Tribe
- Lumbee Tribe
- American Indian Center for Health, Education and Technology
- North Carolina American Indian Health Board
- Robeson Health Care Corporation
- University of North Carolina at Chapel Hill
- University of North Carolina at Pembroke

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**HOPE**

	FOBT	COLONOSCOPY
	average	high
EFFECTIVENESS		
TIME	10-20 minutes	1.5 days
FREQUENCY	every year	every 10 years
DISCOMFORT	low	moderate
RISK OF COMPLICATIONS	0	1 in 1000
COST	\$10-\$20*	\$800-\$1600*

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### AI CANCER DISPARITIES

- Currently, cancer is the leading cause of death for AIs living in North Carolina
- There is a very low rate of cancer screenings for early detection in AI communities
- Many AI's are using tobacco outside of ceremonial contexts
- AI men are TWICE as likely than white men to die from prostate cancer

#### NC AMERICAN INDIAN Cancer Disparities

Cancer is the leading cause of death in American Indians

<b>Breast</b>  1/3 of American Indian women are not screened for breast cancer	<b>Lung</b>  20% of American Indians smoke which greatly increases risk of lung cancer	<b>Prostate</b>  American Indian men are 50% more likely to die from prostate cancer than white men	<b>Colon</b>  1/2 of American Indian men are not screened for colon cancer
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BUT THERE IS HOPE

the impact of cancer can be significantly reduced through:

- early detection
- avoiding harmful tobacco use
- living a healthy lifestyle (exercising, eating healthy foods, and maintaining a healthy weight)

For more information go to:  
[www.schs.state.nc.us](http://www.schs.state.nc.us)  
 &  
[www.cancer.org](http://www.cancer.org)

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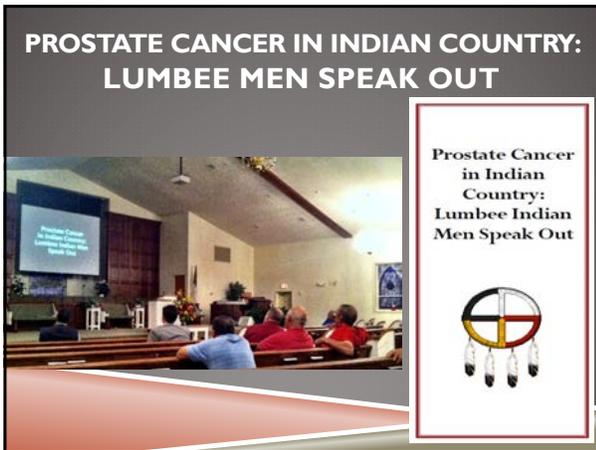
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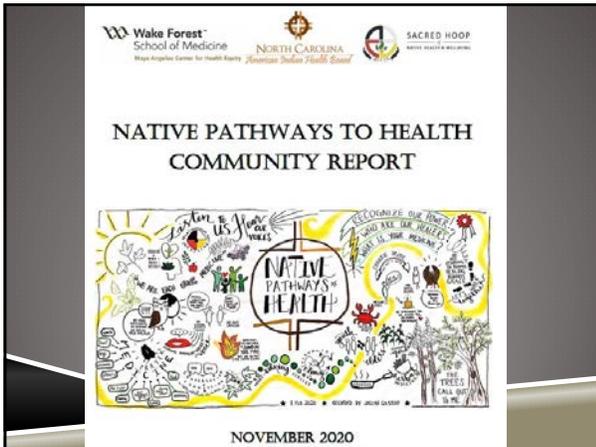
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**SAVE THE DATE**

**AMERICAN INDIAN  
CANCER HEALTH  
PROMOTION EVENT**

**SOUTHEASTERN  
AMERICAN INDIAN  
CANCER HEALTH EQUITY  
PARTNERSHIP  
(SAICHEP)**

A COLLABORATION BETWEEN

WV **Wake Forest** School of Medicine **UNC** **University of North Carolina** **Duke Cancer Institute**

TOGETHER WITH

**UNC** **Lineberger Cancer Center** **UNC**

- NETWORKING LUNCH
- CANCER HEALTH EDUCATION
- FREE GIVEAWAYS
- HEALTHY COOKING DEMONSTRATIONS BY LOCAL CHEFS
- CANCER SCREENING INFORMATION

**WHERE:** LUMBEE CULTURAL CENTER  
157, 207 TERRY SANFORD DR.  
MAXTON, NC 28364

**WHEN:** OCTOBER 23RD, 2021  
10AM - 2PM

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**MEETING THE CANCER PREVENTION AND CARE NEEDS OF NORTH CAROLINA'S INDIGENOUS COMMUNITIES**

- ▶ Accurate cancer data
- ▶ Tribally-specific data
- ▶ Cancer screening data
- ▶ Cancer care data
- ▶ Cancer survivorship data
- ▶ Evidence-based intervention data

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