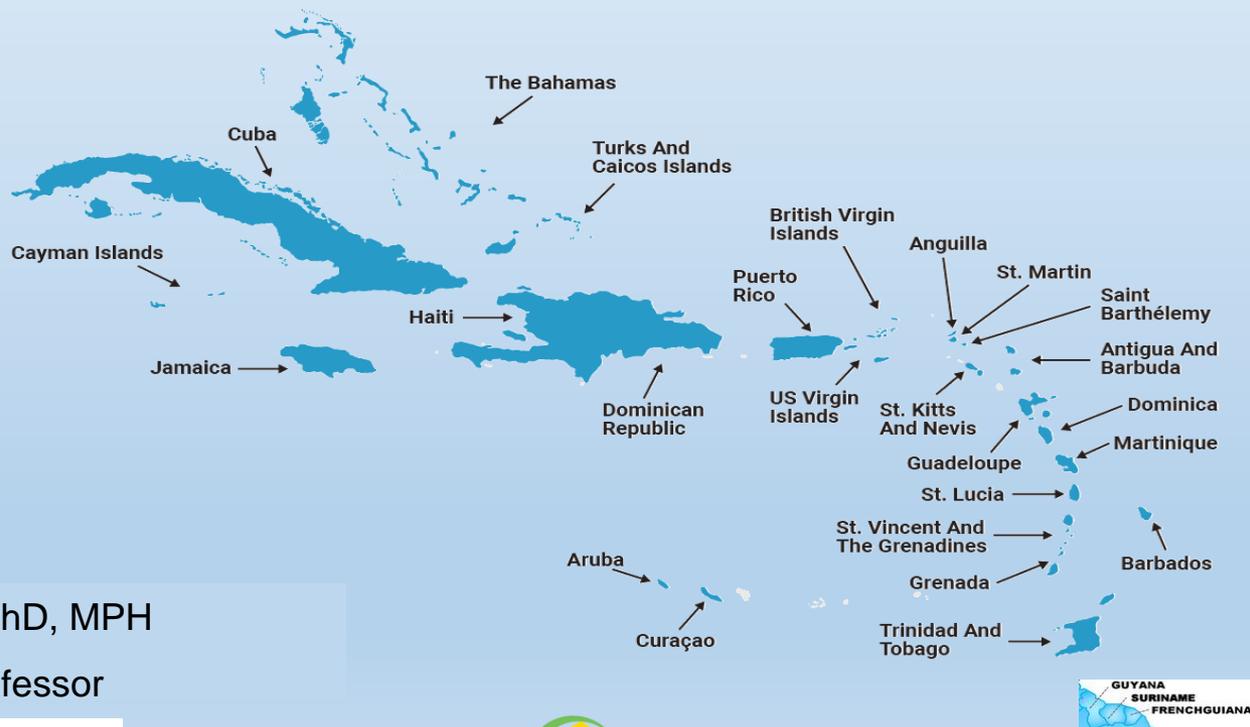


Addressing African Caribbean Disparities



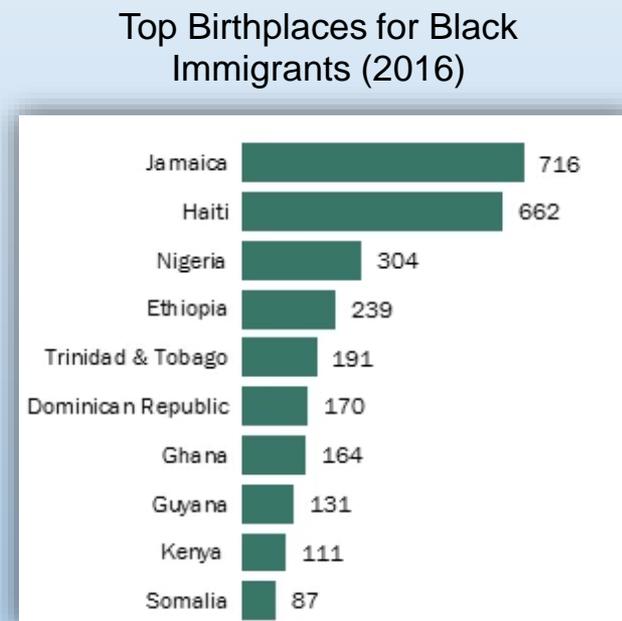
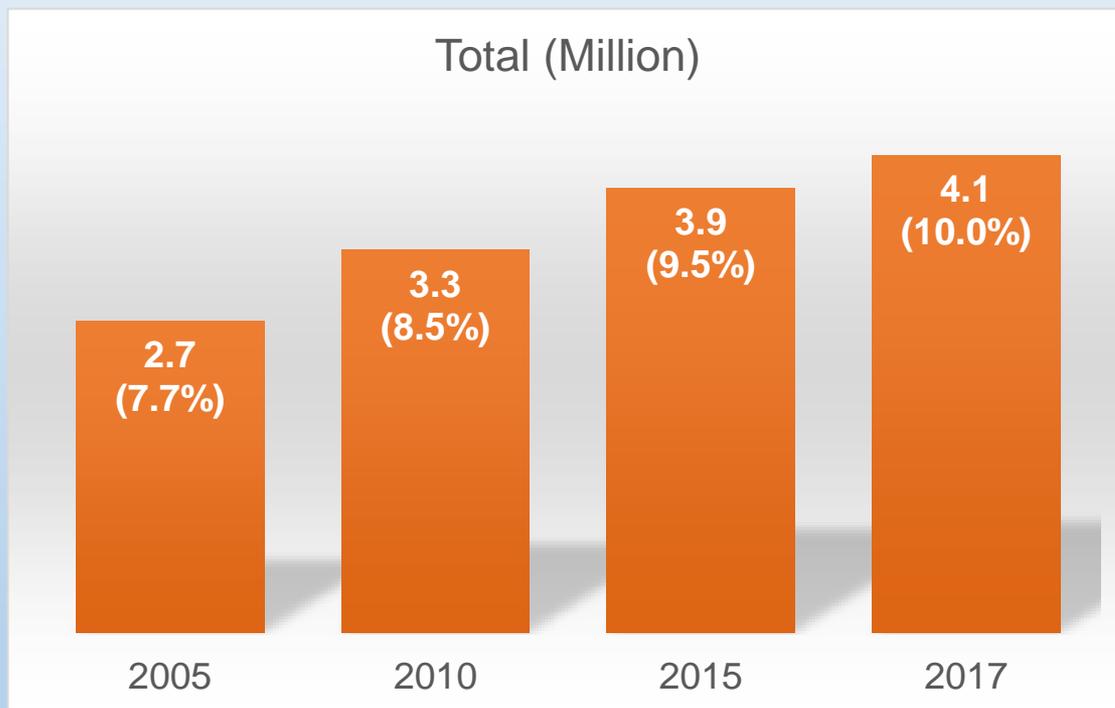
Camille Ragin, PhD, MPH

Associate Professor



Growth of Black Immigrants in US

Relevance of global cancer disparities research to US populations.



Anderson & Lopez, Pew Research Center, 2018



Cancer Incidence

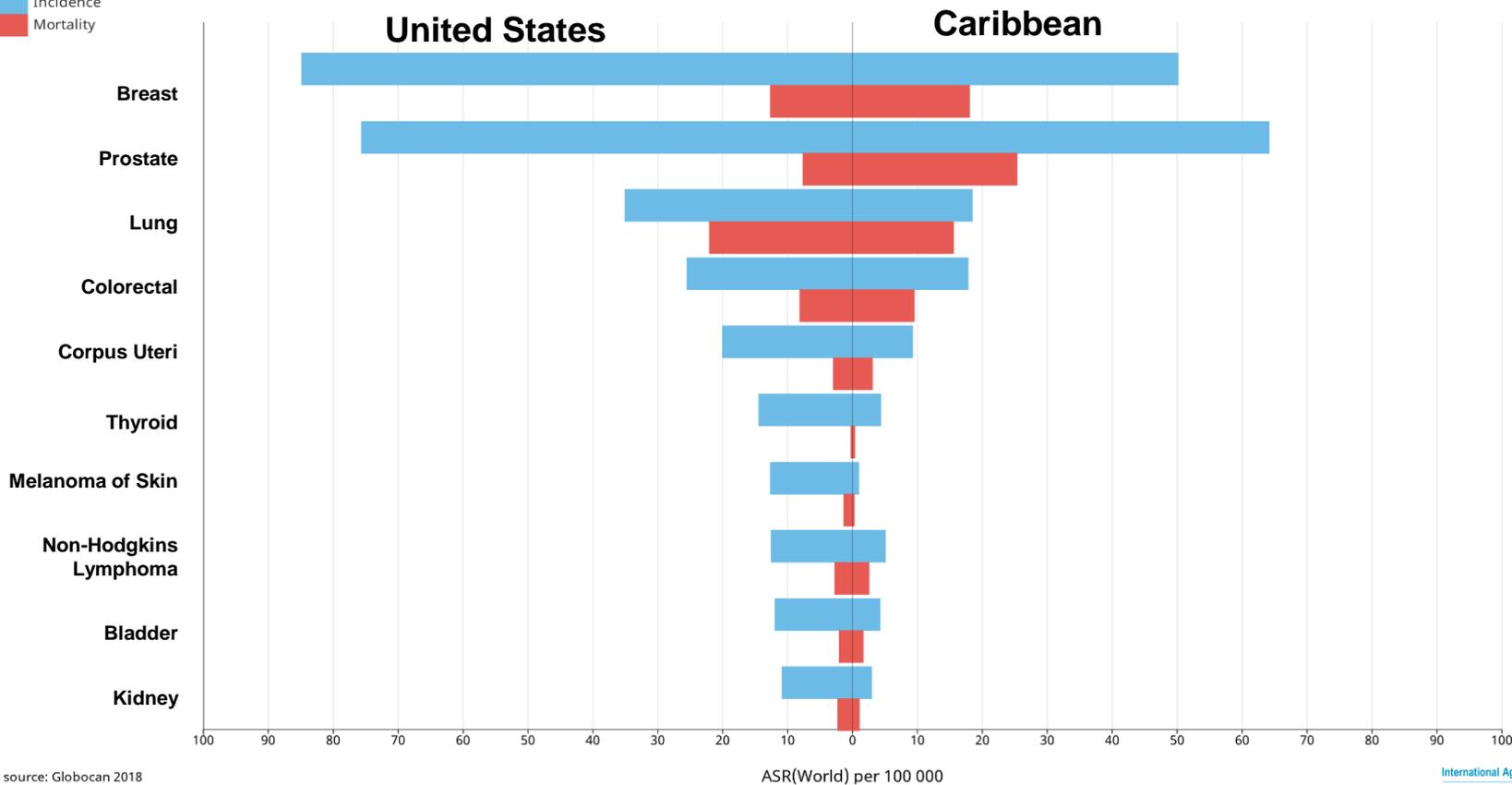


- Difficult to accurately determine cancer incidence rates within and between the Caribbean and US
 - In the Caribbean, there is very limited to no cancer registration in most countries
 - In the US, country of birth data not adequately documented by US cancer registries

IARC-GLOBOCAN ESTIMATES

Estimated age-standardized incidence and mortality rates (World) in 2018, both sexes, all ages

Incidence
Mortality



Data source: Globocan 2018
Graph production: Global Cancer Observatory (<http://gco.iarc.fr>)

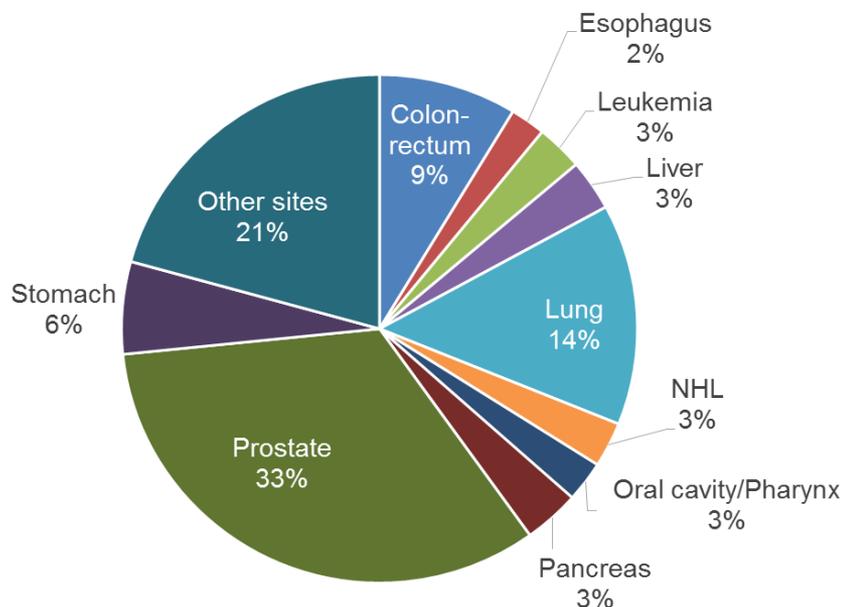
Cancer Mortality

- More accurate statistics are available in the Caribbean and US
- Able to examine disparities in mortality rates between immigrant Caribbean and US born Blacks.
 - Florida & NY
 - Pinheiro et al. Cancer Control, 2016
 - Pinheiro et al. CEBP, 2018
 - Other analyses are ongoing being conducted by AC3

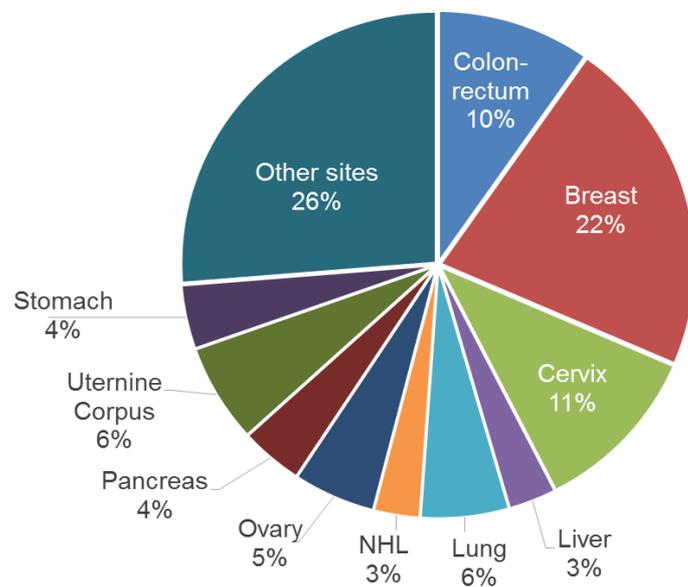


Top 10 Causes of Cancer Deaths in the Caribbean (5-year cumulative proportions)

Caribbean Males



Caribbean Females

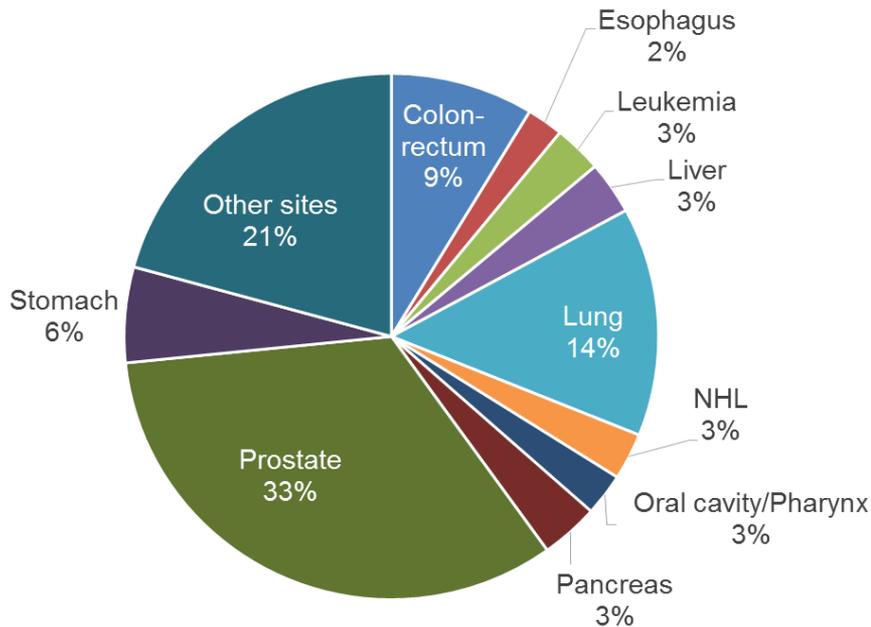


Top 10 Causes of Cancer Deaths

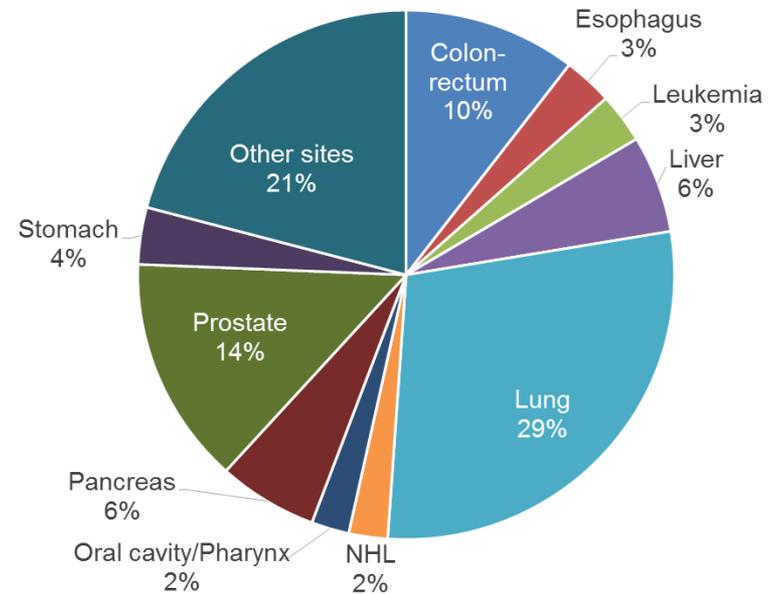
Caribbean Males vs US-Black Males

(5-year cumulative proportions)

Caribbean Males



US Males (Black)

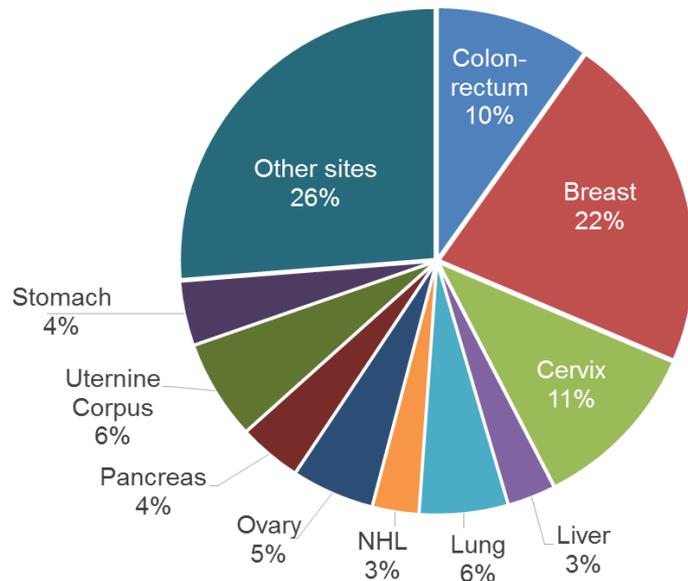


Top 10 Causes of Cancer Deaths

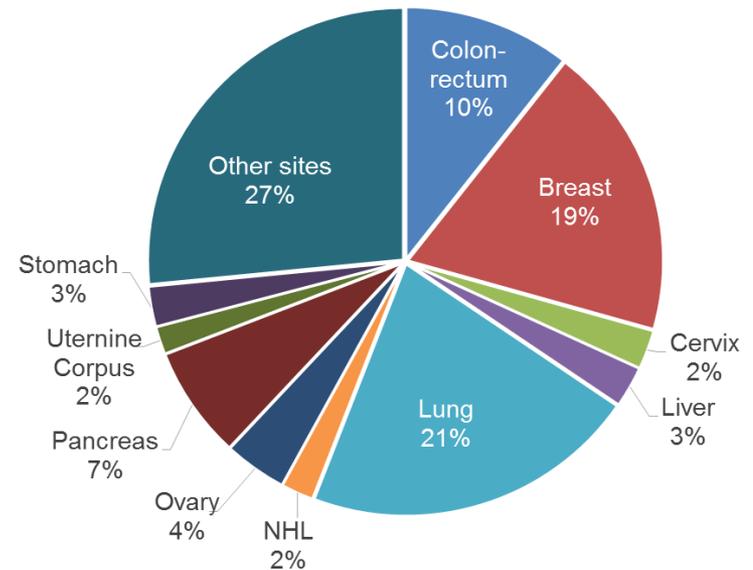
Caribbean Females vs. US-Black Females

(5-year cumulative proportions)

Caribbean Females



US Females (Black)

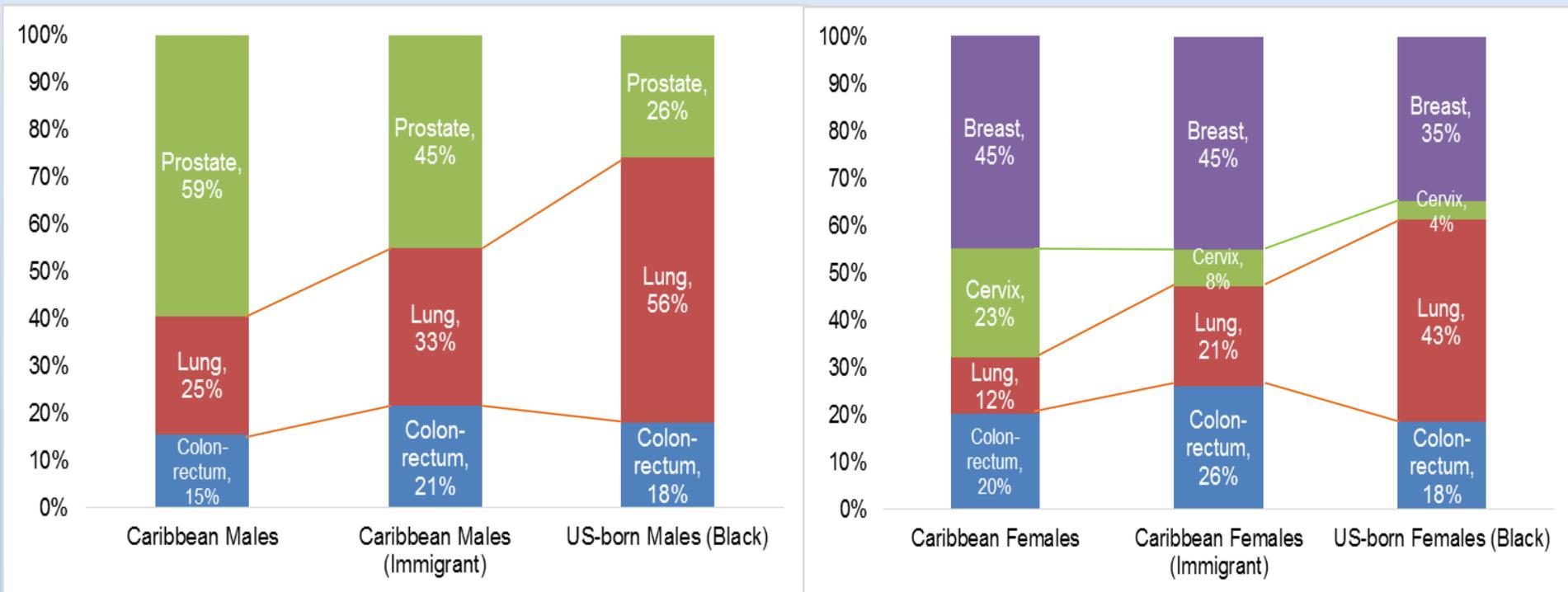


Mortality Varies among Black Sub-groups

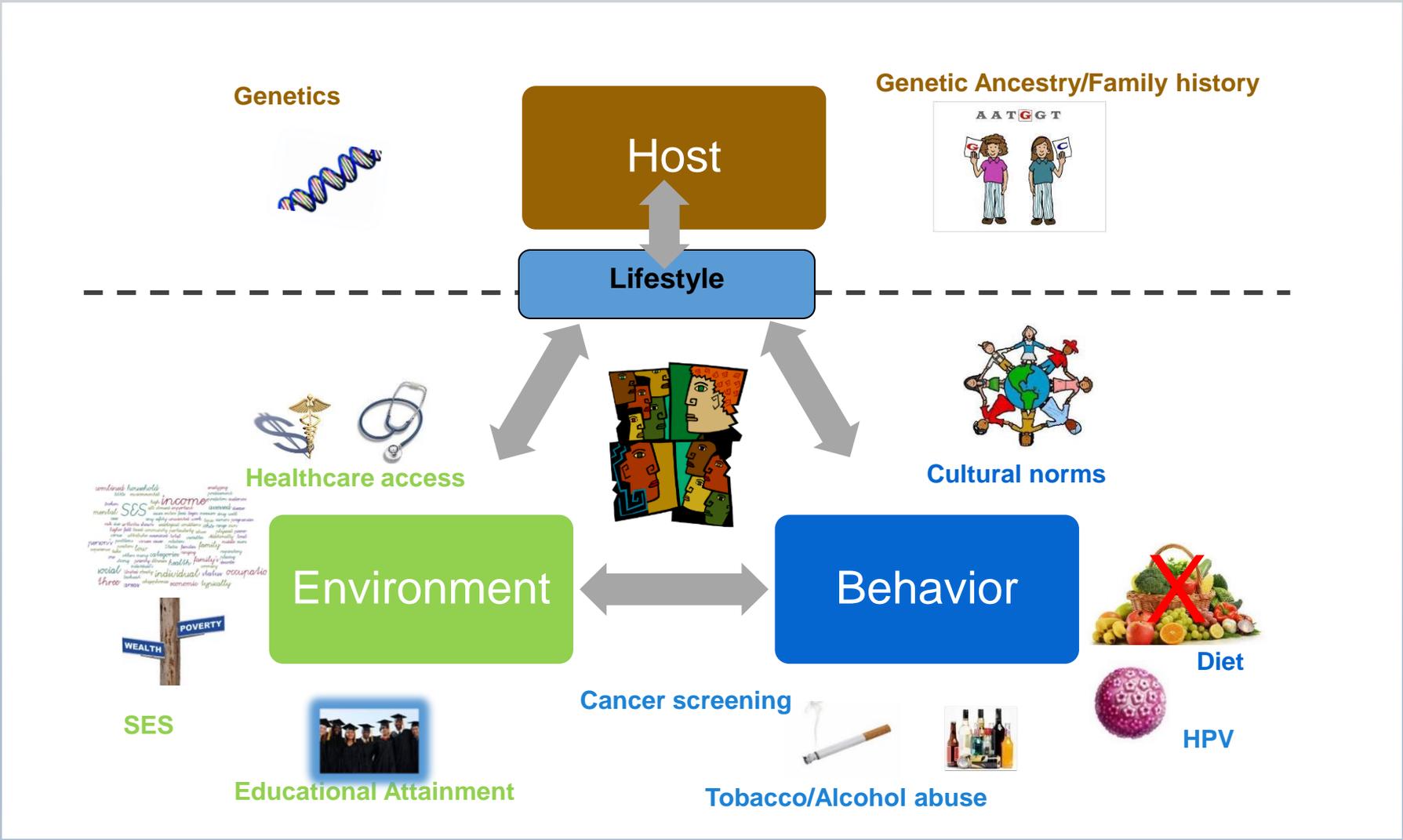
(Cumulative Proportions, Deaths: Selected Cancers)

Florida# & Pennsylvania*

Florida# & Pennsylvania*



Contributing Factors for Disparities in Cancer



Comparative studies can help to disentangle influences of genetics, behavior and environment !!

Environment & Behavior



Dr. Donald Simeon



Urgent need to strengthen and expand screening and other cancer control programs in the CARICOM Caribbean

Renee A. Franklin¹ · Donald T. Simeon¹

Table 1 Key elements of national cancer control programs in CARICOM

Countries	Prevention policies			Screening services			Treatment		Palliation	Registry
	Tobacco control	Immunization for human papillomavirus (HPV)	Overweight and obesity/physical inactivity/harmful use of alcohol	Cervical	Breast	Colorectal	Radiotherapy	Chemotherapy	Care centers	
Antigua and Barbuda	P	✓	x	✓	✓	✓	x	✓	✓	x
Bahamas	P	✓	x	✓	✓	✓	✓	✓	✓	✓ (h)
Barbados	P	✓	✓	✓	✓	✓	✓	✓	✓	✓ (p)
Belize	P	✓	x	✓	✓	✓	x	x	✓	x
Dominica	P	✓	x	✓	✓	✓	x	✓	x	x
Grenada	P	✓	x	✓	✓	✓	x	✓	x	x
Guyana	P	✓	–	✓	✓	–	✓	✓	x	✓ (p)
Haiti	P	✓	–	✓	–	–	–	–	–	–
Jamaica	P	✓	x	✓	✓	✓	✓	✓	✓	✓ (p)
St Kitts & Nevis	P	✓	x	✓	✓	✓	x	x	✓	x
Saint Lucia	P	✓	x	✓	✓	✓	x	✓	✓	x
St Vincent and the Grenadines	P	–	–	✓	–	–	–	–	–	x
Suriname	P	✓	✓	✓	✓	✓	✓	✓	✓	✓ (h)
Trinidad and Tobago	P	✓	✓	✓	✓	✓	✓	✓	✓	✓ (p)

✓ yes—in place, x no—not in place, – no data, P partial, h hospital, p population

Cancer Screening & Treatment Resources in the Caribbean

- Available cancer screening severely underutilized
- Limited availability of cancer treatment

Reasons:

- Cultural beliefs/stigma
- Limited access/availability (long wait times)
- Cost (public vs. private sectors)

Utilization of Cancer Screening in US

CAP3 Cohort
N = 852, (2012-2014)

Age-Adjusted rates of cancer screenings by ethnic subgroup

	Healthy People 2020 Goal	Healthy People 2015 Data	US-born	Caribbean Immigrants	African Immigrants
			% (N)	% (N)	% (N)
Mammogram [€]	81.1	74.9	89.0 (103/112)	85.2 (69/78)	64.8 (23/27)
Clinical Breast Exam [£]	-	-	89.1 (166/184)	91.5 (100/112)	76.0 (38/47)
Pap-Smear [‡]	93	84.3	90.8 (196/210)	83.7 (86/95)	77.4 (57/64)
Colon Exam ^{**¥}	70.5	60.6	68.9 (104/164)	63.7 (65/103)	49.6 (23/44)
Prostate Specific Antigen Test (PSA) [†]	-	-	58.5 (59/98)	59.3 (27/45)	55.3 (19/35)

€ Women receiving a mammogram within past 2 years (50–74 years)

£ Women receiving a clinical breast exam ever (>=40 years)

‡ Women receiving a Pap test within past 3 years (21–65 years)

**Colon Exam = either colonoscopy or sigmoidoscopy

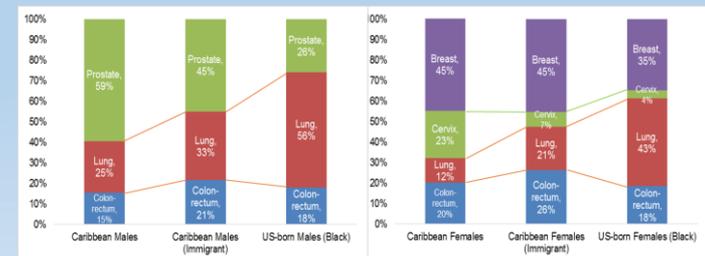
¥Adults receiving colorectal cancer screening based on most recent guidelines (age adjusted, percent, 50–75 years)

Screening Habits - Immigrants

(Years in US)

CAP3 Cohort
N = 852, (2012-2014)

- For every year spent in the US
 - 8% increase in **colon** cancer screening
 - 8% increase in **prostate** cancer screening
 - 9% increase in screening for **cervical** cancer
 - 11% increase in screening for **breast** cancer($p < 0.0001$ for all)





Tobacco use



- Meta-Analysis of PAHO-STEPs National Risk Factor Surveys conducted in 11 Caribbean countries
 - 18-64 Yrs, 2006-2014

	Geographic Region	
Tobacco Use	Caribbean	Africa
Current	15.8% (13.4-18.1)	10.0% (7.7-12.3)

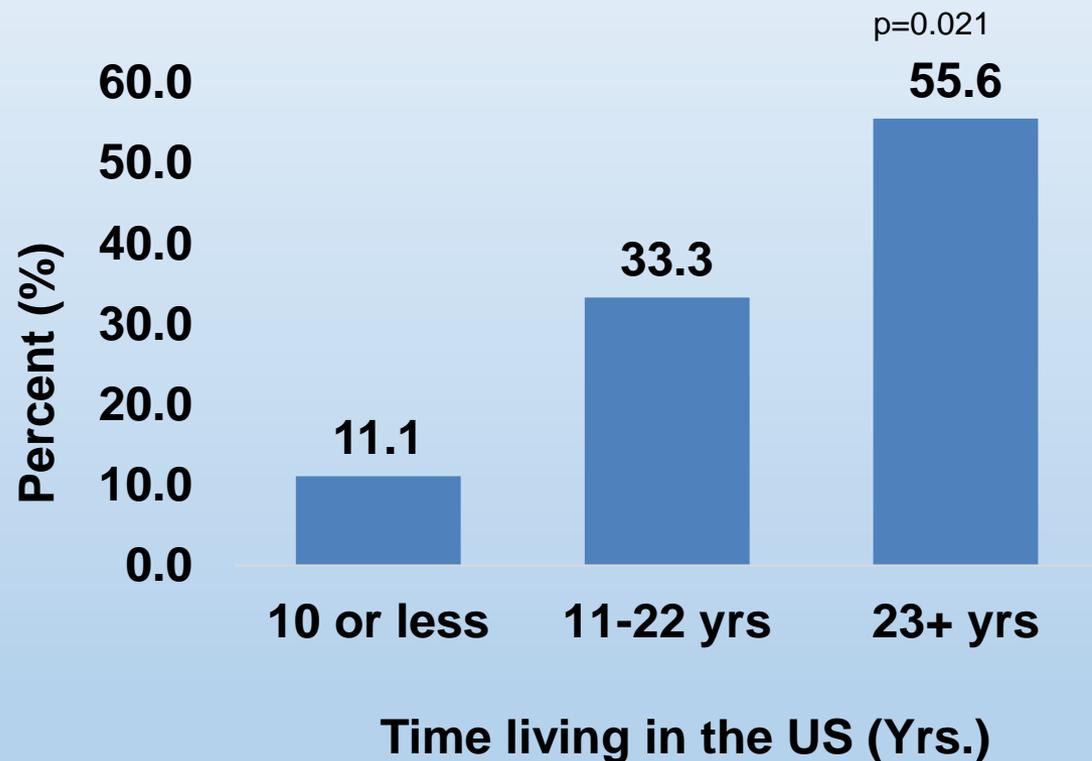
Summary of estimates weighted on each country's population

Tobacco Use in US Black Subgroups

	US Black Subgroups						Total	
Tobacco Use	Caribbean immigrants		African immigrants		US-born		African American/Black	
	Males	Females	Males	Females	Males	Females	Males	Females
Never	75.7 %	98.3 %	86.6 %	96.8 %	57.4 %	63.8 %	70.0 %	77.5 %
Former	3.2 %	1.7 %	13.4%	3.2 %	13.9 %	12.3 %	11.3 %	8.1 %
Current	21.1 %	0.0%	0.0 %	0.0 %	28.7 %	23.9 %	18.7 %	14.4 %

Estimates age-standardized and weighted on each population subgroup- Philadelphia

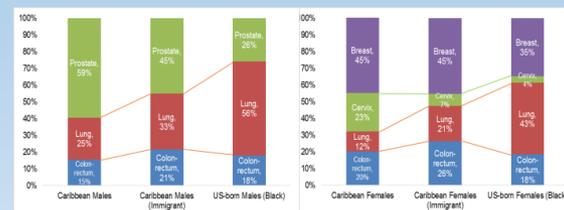
Current Cigarette Smoking (Immigrants)



CAP3 Cohort
N = 852, (2012-2014)



Blackman et al. Ethnicity & Health, 2018



BMI between sub-groups

CAP3 Cohort
(2012-2014)

	US-born	Caribbean-Immigrants	African-Immigrants	Other Immigrants	Total	p-value
	N (%)	N (%)	N (%)	N (%)	N (%)	
BMI						
<= 25	134 (26.8)	53 (25.2)	46 (32.6)	10 (45.4)	243 (27.8)	
> 25	366 (73.2)	157 (74.8)	95 (67.4)	12 (54.5)	630 (72.2)	
Total	500 (100.0)	210 (100.0)	141 (100.0)	22 (100.0)	873 (100.0)	0.113

Odds of being over weight (BMI ≥25)	Caribbean-Immigrants (N= 205)	African-Immigrants N = 140)
	Odds Ratios (95% CI)*	
Time Living in the US		
10 months-11 years	Ref (1.0)	Ref (1.0)
11-22 years	0.9 (0.4-2.0)	1.4 (0.6-3.1)
23+ years	2.3 (1.0-5.4)	1.3 (0.3-5.1)

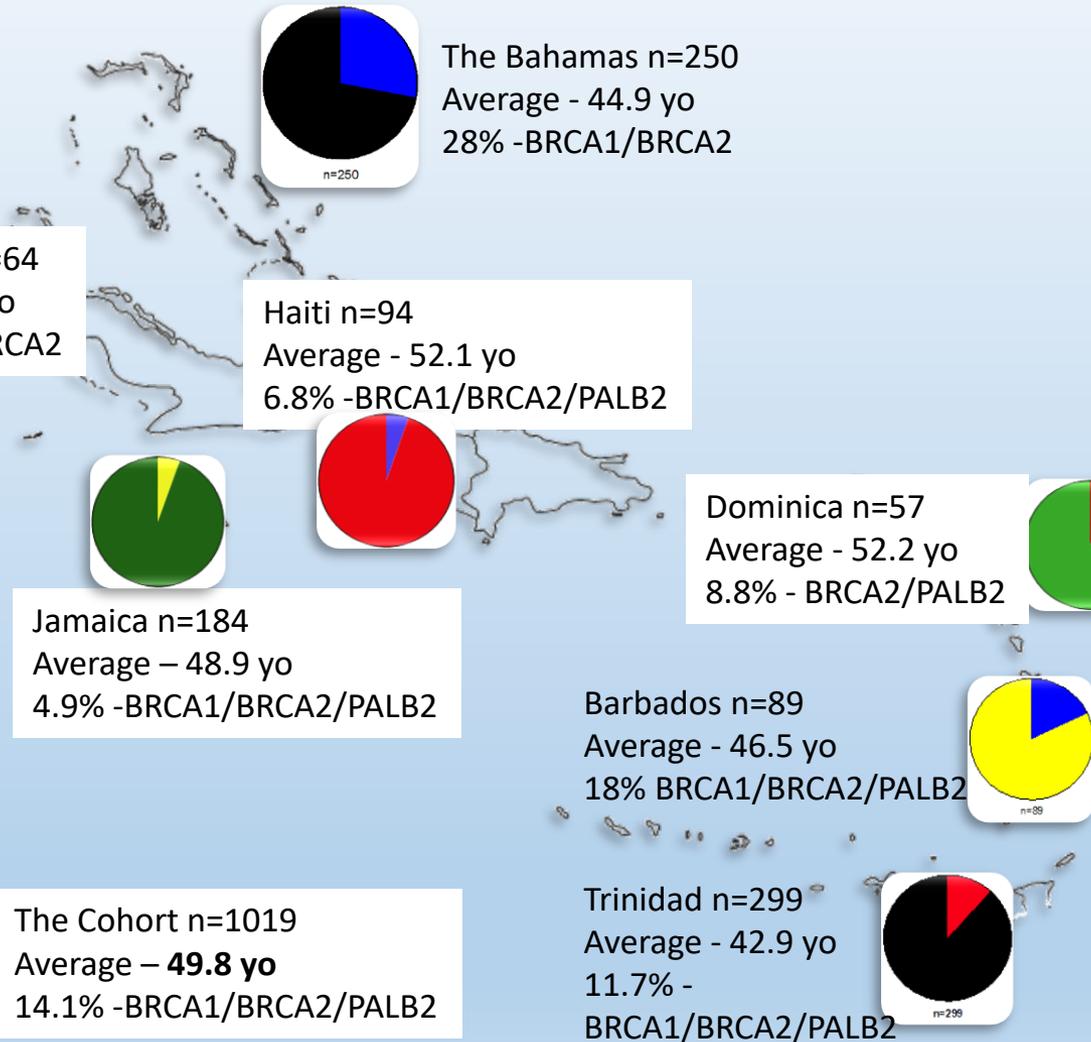
*Adjusted for age and sex

Host Factors

Higher frequency of Hereditary Breast Cancer in the Caribbean



Dr. Sophia George



12% in Ashkenazi Jews
3% in US/Canada

Donenberg et al 2011
Akabari et al 2013
Donenberg et al 2016
Lenner-Ellis et al 2017
Donenberg et al 2018

Higher Frequency EGFR mutations in Lung cancers in the Caribbean

Leduc et al., Targ Oncol (2017) 12:689–693

- All patients diagnosed with lung adenocarcinoma
- Martinique and Guadeloupe (2013 and 2015)
- N = 241
- EGFR mutations
 - 37% of patients
 - Associated with nonsmoker status
 - Better overall survival

****US Blacks: EGFR mutations 10-14%**

Bauml, J., et al., 2013

Bollig-Fischer, A. et al., 2015

Campbell, J.D. et al., 2017

Summary

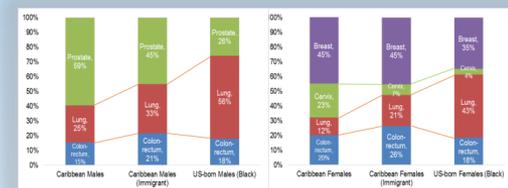
Preliminary findings:



- Distinct differences in health-related behaviors between US-born Blacks, Caribbean populations.
- For Immigrants, as length of time in the US increases
 - Cancer screening habits improve
 - Cigarette smoking increases
 - BMI increases
- As immigrants begin to assimilate with the dominant culture, they learn both positive and negative health behaviors

To Increase Health Equity

- Focused interventions are needed among Caribbean immigrants (proportion of breast cancer deaths higher in comparison to US-born Black females)
- Further research investigating the frequency of hereditary breast cancer among Caribbean Immigrants is warranted
- Targeted interventions needed to increase genetic testing especially among Caribbean women to identify those with germline mutations
- Further prostate cancer research involving Caribbean and US-born Black men is warranted
- Targeted/culturally tailored interventions are needed
 - Address the disparity between Caribbean immigrants and US-born Blacks
 - Increase health equity for all Blacks in the US
 - Lung cancer
 - Colon-rectum cancer





African-Caribbean
Cancer Consortium

Funding:

American Cancer Society: RSG-14-033-01-CPPB

National Cancer Institute (NCI): P20 CA210294



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