American Cancer Society®

Cancer Facts & Figures

for African American/Black People 2022-2024

Contents

This publication attempts to summarize current scientific information about cancer. Except when specified, it does not represent the official policy of the American Cancer Society.

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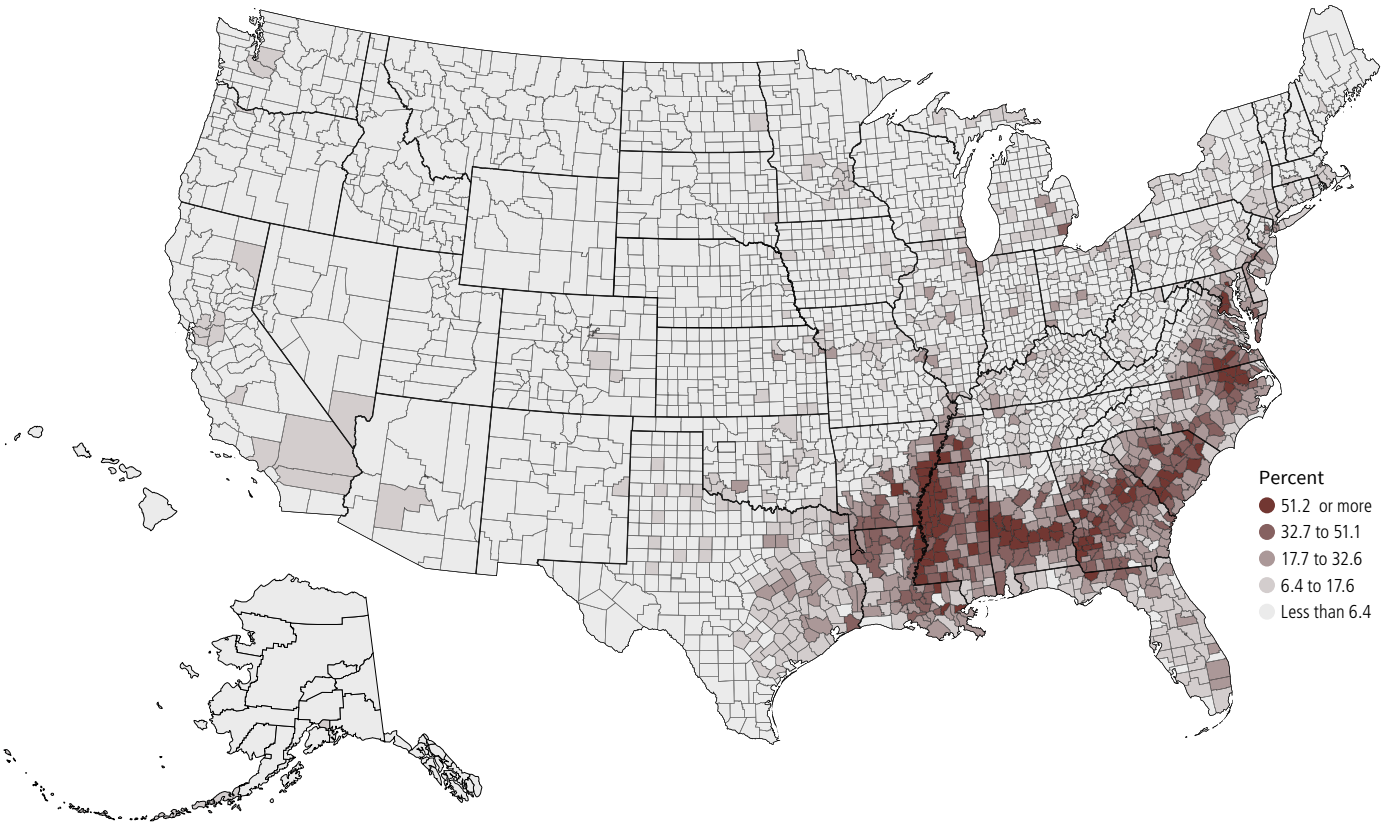
Basic Cancer Facts

Introduction

In 2020, there were 46.9 million Americans who identified as Black or African American, accounting for 14.2% of the total US population.[1,2] The Black population is the third-largest racial/ethnic group following White and Hispanic people and primarily resides in the South (Figure 1). The population includes ancestors of individuals brought to the US as slaves who largely identify as African American, as well as nearly 10% who are recent immigrants, mostly of African or Caribbean descent. The Black immigrant population has increased 5-fold over the past four decades, from 816,000 in 1980 to more than 4.3 million in 2019.[3]

Although racial classification is a social construct based on appearance, it remains useful for describing health patterns in the US because long-standing structural racism has contributed to inequalities in the social determinants of health. Although some cancer-associated genetic mutations are inherited, most health differences between population groups do not stem from biology, but from variations in socioeconomic status and access to medical care. Collectively, Black people have the highest death rates and shortest survival rates of any racial/ethnic group in the US for most cancers, largely driven by social mechanisms that are further explained on page 3. Notably, Black immigrants have lower cancer mortality than US-born Black people, highlighting the importance of where a person lives over race or biology.[4]

Figure 1. Non-Hispanic Black Population as a Percentage of Total County Population, 2020



Source: US Census Bureau, 2020 Decennial Census Redistricting Data. Released September 2021.

Table 1. Leading Causes of Death among Black and White People, US, 2019

Males	Black				White			
Cause of Death	**Rank**	**Number**	**%**	**Death Rate***	**Rank**	**Number**	**%**	**Death Rate***
Heart diseases	1	43,633	24%	264.9	1	277,828	25%	209.9
Cancer	2	35,567	20%	210.4	2	245,904	22%	178.2
Accidents (unintentional injuries)	3	15,337	8%	77.2	3	78,975	7%	73.7
Cerebrovascular disease	4	8,986	5%	57.6	5	46,589	6%	35.7
Assaults (homicides) & legal interventions	5	8,854	5%	40.6	18	3,823	<1%	4.0
All causes		182,341		1,079.6		1,118,660		865.5

Females	Black				White			
Cause of Death	**Rank**	**Number**	**%**	**Death Rate***	**Rank**	**Number**	**%**	**Death Rate***
Heart diseases	1	37,950	23%	163.2	1	235,845	22%	128.9
Cancer	2	35,277	21%	146.9	2	216,160	20%	130.1
Cerebrovascular disease	3	11,089	7%	48.4	5	64,471	6%	35.0
Diabetes	4	7,567	5%	32.2	7	23,833	2%	14.2
Accidents (unintentional injuries)	5	6,617	4%	29.0	6	46,780	4%	36.2
All causes		166,420		716.2		1,070,907		623.5

Race is exclusive of Hispanic ethnicity. *Rates are per 100,000 and age adjusted to the 2000 US standard population.
Source: National Center for Health Statistics, Centers for Disease Control and Prevention, 2021.

This report presents statistics on cancer incidence, mortality, survival, and risk factors for Black people in the US. Additional information is given for selected cancer sites, chosen due to their large disparity and impact on the Black population. When possible, data are confined to non-Hispanic Black people, who account for approximately 94% of the total Black population, to limit racial misclassification. It is intended to provide information to cancer control advocates, community leaders, public health and health care workers, and others interested in cancer prevention, early detection, and treatment in the Black community.

What Is Cancer?

Cancer is a group of diseases characterized by uncontrolled growth and spread of abnormal cells. If the spread is not controlled, it can result in death. Although the causes of cancer are not completely understood, numerous factors are known to increase risk, including many that are modifiable (e.g., tobacco use and excess body weight) and some that are not (e.g., inherited genetic mutations and immune conditions). These risk factors may act simultaneously or in sequence to initiate and/or promote cancer growth.

Can Cancer Be Prevented?

A substantial proportion of cancer is preventable, including all cancers caused by tobacco use. Overall, at least 42% of newly diagnosed cancers are potentially avoidable, including the 19% caused by smoking and the 18% caused by a combination of excess body weight, physical inactivity, excess alcohol consumption, and poor nutrition.[5] Many of the cancers caused by infectious organisms can also be prevented through behavioral changes, vaccination, or treatment of the infection. For more information on cancer risk factors, see page 22.

Screening can prevent colorectal and cervical cancers through the detection and removal of precancerous growths, as well as reduce mortality from cancers of the breast, colon, rectum, cervix, prostate, and lung and bronchus (among current or former heavy smokers) through early detection. A heightened awareness of changes in certain areas of the body, such as breast, skin, mouth, eyes, or genitalia, may also result in the early detection of cancer. For more information on cancer screening, see page 32.

Table 2. Lifetime Probability of Developing or Dying from Invasive Cancer by Race and Sex, US, 2016-2018*

		Developing		Dying	
		Black (%)	NH White (%)	Black (%)	NH White (%)
All sites†	Male	37.8 (1 in 3)	41.0 (1 in 2)	20.2 (1 in 5)	20.8 (1 in 5)
	Female	34.3 (1 in 3)	39.9 (1 in 3)	17.9 (1 in 6)	18.2 (1 in 5)
Breast	Female	11.6 (1 in 9)	13.6 (1 in 7)	3.0 (1 in 33)	2.5 (1 in 39)
Colon & rectum	Male	4.2 (1 in 24)	4.2 (1 in 24)	2.0 (1 in 49)	1.7 (1 in 58)
	Female	4.0 (1 in 25)	3.9 (1 in 25)	1.8 (1 in 55)	1.6 (1 in 63)
Kidney & renal pelvis	Male	1.9 (1 in 52)	2.3 (1 in 44)	0.5 (1 in 215)	0.6 (1 in 172)
	Female	1.3 (1 in 80)	1.3 (1 in 79)	0.3 (1 in 367)	0.3 (1 in 306)
Leukemia	Male	1.2 (1 in 82)	2.0 (1 in 50)	0.6 (1 in 161)	1.0 (1 in 101)
	Female	1.0 (1 in 104)	1.4 (1 in 72)	0.5 (1 in 185)	0.7 (1 in 144)
Liver & intrahepatic bile duct	Male	1.6 (1 in 63)	1.2 (1 in 85)	1.2 (1 in 85)	0.9 (1 in 111)
	Female	0.6 (1 in 164)	0.5 (1 in 200)	0.6 (1 in 171)	0.5 (1 in 209)
Lung & bronchus	Male	6.1 (1 in 16)	6.7 (1 in 15)	4.8 (1 in 21)	5.2 (1 in 19)
	Female	4.9 (1 in 21)	6.7 (1 in 15)	3.5 (1 in 29)	4.6 (1 in 22)
Myeloma	Male	1.5 (1 in 66)	0.9 (1 in 113)	0.7 (1 in 147)	0.4 (1 in 231)
	Female	1.4 (1 in 70)	0.6 (1 in 162)	0.6 (1 in 156)	0.3 (1 in 301)
Ovary	Female	0.9 (1 in 108)	1.2 (1 in 83)	0.7 (1 in 151)	0.9 (1 in 113)
Prostate	Male	16.7 (1 in 6)	12.0 (1 in 8)	3.8 (1 in 26)	2.3 (1 in 44)
Stomach	Male	1.2 (1 in 81)	0.8 (1 in 122)	0.7 (1 in 149)	0.3 (1 in 311)
	Female	0.9 (1 in 113)	0.5 (1 in 210)	0.4 (1 in 225)	0.2 (1 in 487)
Thyroid	Male	0.3 (1 in 336)	0.8 (1 in 132)	<0.1 (1 in 2,802)	0.1 (1 in 1,718)
	Female	1.1 (1 in 90)	1.9 (1 in 52)	0.1 (1 in 1,553)	0.1 (1 in 1,562)
Urinary bladder‡	Male	1.8 (1 in 55)	4.3 (1 in 23)	0.5 (1 in 187)	1.0 (1 in 101)
	Female	0.8 (1 in 121)	1.3 (1 in 76)	0.3 (1 in 296)	0.4 (1 in 284)
Uterine cevix	Female	0.8 (1 in 131)	0.6 (1 in 180)	0.3 (1 in 315)	0.2 (1 in 516)
Uterine corpus	Female	3.1 (1 in 32)	3.2 (1 in 31)	1.0 (1 in 97)	0.6 (1 in 167)

NH: non-Hispanic. Estimates are unavailable for NH Black. *For those who have not been previously diagnosed with cancer. †All sites excludes basal and squamous cell skin cancers and in situ cancers except urinary bladder. ‡Includes in situ cancers. Note: Percentages and "1 in" numbers may not be equivalent due to rounding.

Source: DevCan: Probability of Developing or Dying of Cancer Software, Version 6.7.9

Factors That Influence Cancer Disparities

Structural Racism

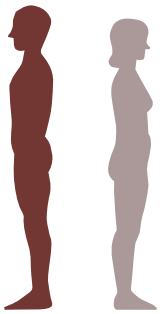
As noted earlier, the underlying source of health disparities among people of color is structural racism, which is discrimination perpetuated through interconnected institutions and reinforced through culture, history, ideology, and sanctioned practices. Structural racism impacts all facets of life to limit the accumulation of wealth and overall standard of living through unequal access to work, education, housing, healthy food, and quality health care.[6,7]

One example of structural racism is redlining, a historically legal form of lending discrimination in which creditworthy applicants who lived in poor neighborhoods, usually with a large Black population, were refused loans for housing improvement and purchase. This practice facilitated segregation by preventing Black people from gaining home equity and entering middle or upper class neighborhoods, and continues to influence health today.[8] Areas with historical redlining and/or current lending bias are associated with increased risk of late-stage cancer diagnosis[9] and have 2 times higher breast cancer mortality rates than other areas.[10] Other examples of

Figure 2. Leading Sites of New Cancer Cases and Deaths among Black People in US – 2022 Estimates*

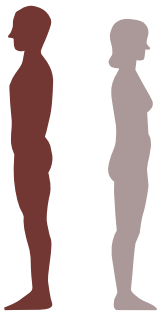
Estimated New Cases

Male			Female		
Prostate	41,600	37%	Breast	36,260	32%
Lung & bronchus	13,200	12%	Lung & bronchus	12,490	11%
Colon & rectum	10,590	9%	Colon & rectum	10,110	9%
Kidney & renal pelvis	6,340	6%	Uterine corpus	9,030	8%
Liver & intrahepatic bile duct	4,140	4%	Pancreas	4,410	4%
Pancreas	4,010	4%	Kidney & renal pelvis	4,010	4%
Myeloma	3,840	3%	Myeloma	3,970	4%
Non-Hodgkin lymphoma	3,630	3%	Non-Hodgkin lymphoma	3,240	3%
Urinary bladder	3,420	3%	Thyroid	2,890	3%
Leukemia	3,090	3%	Leukemia	2,650	2%
All sites	**111,990**		**All sites**	**112,090**	



Estimated Deaths

Male			Female		
Lung & bronchus	7,890	22%	Breast	6,800	18%
Prostate	6,040	17%	Lung & bronchus	6,270	17%
Colon & rectum	3,890	11%	Colon & rectum	3,310	9%
Pancreas	3,040	8%	Pancreas	3,300	9%
Liver & intrahepatic bile duct	2,720	7%	Uterine corpus	2,680	7%
Myeloma	1,260	3%	Ovary	1,480	4%
Leukemia	1,130	3%	Myeloma	1,270	3%
Stomach	1,060	3%	Liver & intrahepatic bile duct	1,150	3%
Non-Hodgkin lymphoma	890	2%	Leukemia	1,040	3%
Urinary bladder	870	2%	Uterine cervix	780	2%
All sites	**36,430**		**All sites**	**37,250**	



*Estimates are rounded to the nearest 10, and exclude basal and squamous cell skin cancers and in situ cancers with the exception of urinary bladder. Ranking is based on modeled projections and may differ from the most recent observed data.

Source: Estimated new cases are based on 2004-2018 incidence data reported by the North American Association of Central Cancer Registries. Estimated deaths are based on 2005-2019 US mortality data from the National Center for Health Statistics, Centers for Disease Control and Prevention. See Sources of Statistics on page 39 for more information.

discriminatory practices include the diversion from historically Black neighborhoods of public transportation, grocery stores, and public green spaces, all of which limits the availability of affordable healthy food and opportunities for physical activity.[7, 11, 12] Additionally, this environment increases the prevalence of chronic stress, infectious disease, and other exposures that contribute to poorer health.[6, 7, 11-14]

Socioeconomic Status

As a result of this historical context and social structure, race is strongly correlated with socioeconomic status (SES) in the United States. During 2019-2020, 19% of Black people were living below the federal poverty level compared to 7% of White people, and only 28% had completed four years of college compared to 41% of Whites.[15, 16] Cancer risk and mortality increase with decreasing SES, regardless of race/ethnicity. This is largely because of higher prevalence of cancer risk factors due to marketing strategies that target low-income populations; environmental and community factors mentioned in the previous section; and unequal access to high-quality care. However, Black people have higher death rates than White people at every level of SES.[17, 18] Although racial disparities in cancer mortality have begun to narrow, socioeconomic disparities have widened over the past several decades.[18]

Access to Care

Access to health care influences the use of prevention and early detection services (e.g., tobacco cessation counseling and cancer screening), as well as receipt of cancer treatment and survivorship care. One of the largest obstacles to high-quality care is cost, which is exacerbated for Black people by disproportionately low insurance coverage. In the US, insurance coverage is closely tied to employment. However, Black people are further disadvantaged by having a higher likelihood of inadequate health insurance even with employment.[7] Compared to their uninsured counterparts, people with health insurance are more likely to have a usual source of

Table 3. Incidence Rates* for Selected Cancers in Black People by Sex and State, 2014-2018

	All Cancers		Lung & Bronchus		Colon & Rectum		Prostate	Breast
State	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
Alabama	537.4	385.9	82.5	37.4	54.6	41.5	186.6	126.7
Alaska	389.2	344.8	†	†	†	†	138.1	108.2
Arizona	407.2	331.2	59.6	41.2	33.0	29.9	121.5	105.3
Arkansas	601.8	413.5	108.6	51.8	60.3	46.5	195.9	121.6
California	467.3	390.3	61.7	45.8	43.6	34.9	141.4	126.1
Colorado	441.7	339.6	51.2	34.4	39.1	34.9	142.6	113.7
Connecticut	516.6	396.3	70.1	45.2	43.6	31.4	175.8	128.7
Delaware	534.5	418.2	72.7	53.4	50.1	34.3	196.0	138.7
District of Columbia	518.5	431.0	69.7	52.0	53.3	37.4	149.0	140.4
Florida	465.6	381.4	58.3	32.8	45.1	33.7	147.9	111.1
Georgia	557.3	400.9	78.7	40.0	52.6	38.6	196.6	131.2
Hawaii	468.8	348.3	†	†	48.0	†	179.7	116.8
Idaho	496.9	331.7	†	†	†	†	154.5	†
Illinois	561.1	444.9	89.6	62.6	59.9	43.4	175.2	137.0
Indiana	529.8	406.9	82.3	57.9	50.9	37.3	165.3	125.8
Iowa	597.0	473.5	96.4	68.4	57.2	40.2	178.9	127.3
Kansas	515.6	419.6	78.9	52.6	44.2	37.5	162.0	132.0
Kentucky	551.4	451.6	101.9	70.6	55.6	41.5	160.6	128.8
Louisiana	593.8	424.5	96.4	45.7	61.0	44.9	184.8	136.1
Maine	382.0	305.5	†	†	†	†	135.3	82.6
Maryland	521.5	406.4	63.8	47.7	46.7	34.2	190.7	133.0
Massachusetts	475.6	384.7	54.4	38.7	44.3	30.3	177.4	119.6
Michigan	529.9	408.8	83.2	57.5	51.9	38.5	159.3	121.2
Minnesota	547.8	403.4	76.6	52.4	44.9	31.0	169.0	108.5
Mississippi	596.0	408.0	105.9	46.0	68.2	46.3	192.2	125.0
Missouri	537.6	431.7	96.0	65.2	51.2	39.4	146.2	133.9
Montana	514.2	†	†	†	†	†	†	†
Nebraska	599.3	435.4	73.3	67.4	56.0	39.0	206.0	112.0
Nevada‡§	384.9	345.0	48.6	46.0	43.4	32.9	110.1	108.8
New Hampshire	376.0	278.4	†	†	†	†	158.3	†
New Jersey	560.1	430.5	66.4	46.6	51.8	38.4	207.0	134.5
New Mexico	393.6	331.9	61.6	47.2	†	30.8	128.4	103.9
New York	545.9	404.5	61.6	40.4	47.8	34.1	203.0	124.1
North Carolina	553.9	407.9	88.4	46.1	47.6	34.2	182.3	137.2
North Dakota	251.4	222.3	†	†	†	†	94.9	†
Ohio	519.5	412.5	87.6	60.6	45.0	34.8	161.0	127.3
Oklahoma	514.7	394.0	84.3	48.9	47.5	37.5	166.6	126.1
Oregon	538.9	385.0	75.6	53.4	34.3	29.8	173.3	115.8
Pennsylvania	553.0	448.8	85.0	66.8	46.6	36.4	160.7	127.9
Rhode Island	415.6	368.1	72.5	51.6	30.7	23.1	128.3	114.3
South Carolina	528.7	386.2	83.9	39.1	52.7	34.8	167.8	128.8
South Dakota	390.6	238.6	†	†	†	†	120.2	†
Tennessee	559.3	403.5	93.3	50.6	54.8	39.0	182.8	123.9
Texas	524.6	395.0	80.0	45.3	55.3	38.6	161.1	120.6
Utah	444.9	343.9	†	†	†	†	159.8	107.1
Vermont	418.5	312.1	†	†	†	†	†	†
Virginia	498.0	392.3	74.7	46.3	46.5	33.5	162.7	134.8
Washington	471.9	389.4	63.2	47.7	40.0	34.2	140.0	110.6
West Virginia	533.8	374.5	91.9	51.2	48.7	35.1	174.4	119.9
Wisconsin	670.5	492.8	118.9	72.9	59.2	43.0	196.6	141.5
Wyoming	305.2	204.3	†	†	†	†	†	†
US	**529.2**	**405.3**	**77.4**	**47.2**	**50.4**	**37.1**	**172.6**	**127.1**

Race is exclusive of Hispanic ethnicity. *Rates are per 100,000 and age adjusted to the 2000 US standard population. †Rates are suppressed when there are fewer than 25 cases. ‡Data from this registry is not included in US combined rates because they did not consent or because they did not meet NAACCR high-quality standards for all years during 2014-2018. §Colon & rectum incidence for this state includes appendix cancer.

Source: North American Association of Central Cancer Registries, 2021.

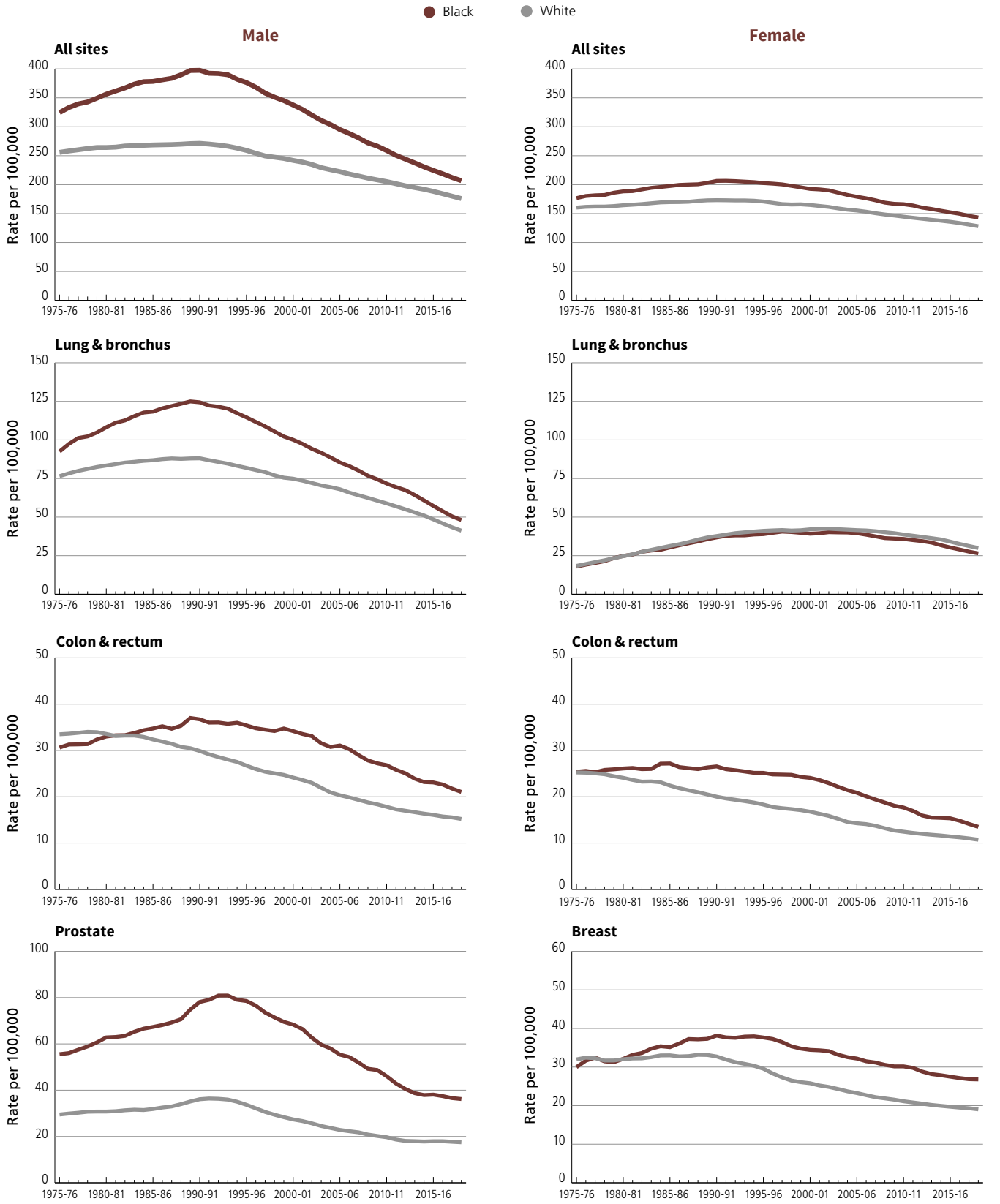
Table 4. Death Rates* for Selected Cancers in Black People by Sex and State, 2015-2019

	All Cancers		Lung & Bronchus		Colon & Rectum		Prostate	Breast
State	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
Alabama	241.0	150.2	65.3	25.1	25.3	16.2	40.7	27.6
Alaska	188.9	106.5	†	†	†	†	†	†
Arizona	184.7	134.7	42.8	24.7	18.5	13.4	32.5	27.6
Arkansas	251.0	166.0	74.9	34.5	25.6	19.7	40.2	28.2
California	215.2	157.1	46.1	29.5	20.9	14.9	42.6	30.4
Colorado	195.0	128.8	40.4	22.5	20.2	11.9	43.9	26.2
Connecticut	188.8	133.4	41.6	24.5	14.5	10.2	33.2	22.6
Delaware	200.5	157.3	47.4	35.5	17.9	12.9	32.6	27.8
District of Columbia	239.9	176.6	50.7	28.9	24.7	17.0	39.6	33.6
Florida	190.5	137.0	40.6	20.6	20.4	13.7	34.8	25.4
Georgia	218.4	142.0	52.5	24.2	23.4	14.4	41.5	27.4
Hawaii	139.7	119.0	†	†	†	†	†	†
Idaho	†	†	†	†	†	†	†	†
Illinois	248.4	175.1	62.5	38.4	28.3	18.0	43.6	31.9
Indiana	233.1	158.7	59.4	36.9	23.9	15.2	38.5	27.4
Iowa	232.8	164.4	55.2	46.2	21.8	16.4	35.8	20.9
Kansas	219.7	167.6	51.7	38.6	17.3	14.0	35.0	27.3
Kentucky	232.2	157.6	64.6	41.4	23.9	15.3	35.1	25.7
Louisiana	255.2	162.5	72.0	31.8	26.8	16.9	34.5	29.8
Maine	144.0	149.4	†	†	†	†	†	†
Maryland	211.6	148.3	45.8	29.3	21.1	13.9	37.0	27.4
Massachusetts	171.4	118.5	31.7	19.8	16.2	9.1	34.8	19.6
Michigan	224.2	163.7	58.1	36.5	23.3	15.4	33.5	28.8
Minnesota	205.5	146.6	50.7	27.5	15.2	11.8	28.2	23.4
Mississippi	268.1	161.5	79.2	30.6	28.0	17.0	46.8	29.5
Missouri	247.8	166.4	66.9	40.6	23.1	14.7	37.8	28.9
Montana	†	†	†	†	†	†	†	†
Nebraska	239.6	166.2	49.6	37.4	24.7	15.6	49.0	31.4
Nevada	202.8	150.2	43.0	30.1	27.1	16.6	37.1	32.8
New Hampshire	151.3	†	†	†	†	†	†	†
New Jersey	210.2	155.0	45.2	27.4	22.7	15.0	39.7	29.1
New Mexico	186.4	114.8	39.0	†	†	†	34.9	27.0
New York	181.8	136.3	38.0	22.1	17.8	13.0	32.9	25.4
North Carolina	234.6	148.7	60.5	28.2	21.6	13.9	40.1	27.1
North Dakota	219.7	†	†	†	†	†	†	†
Ohio	232.3	162.1	63.4	37.5	22.6	14.9	34.9	28.2
Oklahoma	239.7	168.6	63.1	34.0	26.9	18.2	42.8	30.7
Oregon	223.0	132.8	44.8	29.7	17.5	†	39.1	25.2
Pennsylvania	237.0	172.9	57.6	39.0	21.0	15.5	39.0	29.4
Rhode Island	153.8	112.1	38.3	23.1	†	†	†	21.4
South Carolina	236.9	148.1	58.2	25.0	24.8	14.3	41.0	27.7
South Dakota	162.0	†	†	†	†	†	†	†
Tennessee	251.1	162.3	68.1	33.7	27.4	16.4	42.4	29.3
Texas	225.5	152.7	56.8	28.7	25.7	15.9	34.5	29.3
Utah	170.8	135.6	†	†	†	†	†	†
Vermont	†	†	†	†	†	†	†	†
Virginia	221.9	147.6	53.4	28.7	23.7	14.4	37.4	28.2
Washington	190.3	133.8	39.2	26.5	14.9	13.2	31.0	21.5
West Virginia	246.7	167.1	63.3	37.5	25.5	16.2	36.6	32.9
Wisconsin	270.7	179.9	75.2	42.7	22.6	14.9	38.6	27.8
Wyoming	†	†	†	†	†	†	†	†
US	**221.4**	**152.1**	**54.0**	**29.2**	**22.7**	**14.8**	**37.9**	**28.0**

Race is exclusive of Hispanic ethnicity. *Rates are per 100,000 and age adjusted to the 2000 US standard population. †Rates are suppressed when there are fewer than 25 deaths.

Source: National Center for Health Statistics, Centers for Disease Control and Prevention, 2021.

Figure 3. Trends in Death Rates* for Selected Cancer Sites among Black and White People, US, 1975-2019



Race includes Hispanic ethnicity. *Rates are age adjusted to the US standard population and are 2-year moving averages.

Source: National Center for Health Statistics, Centers for Disease Control and Prevention, 2021.

care, utilize preventive services, and seek care when it is needed.[19] Conversely, individuals without health insurance are more likely to be diagnosed with advanced cancer and have a higher risk of cancer death compared to people who are privately insured.[20-22] For example, colorectal cancer patients with stage II disease who have health insurance are more likely to survive 5 years than uninsured people with stage I disease.[23]

Studies show that equal treatment reduces racial disparities.[24-26] The 2010 passage of the Affordable Care Act (ACA) and subsequent expansion of Medicaid by many states has helped to mitigate the financial burden of health care and reduce the number of people who are uninsured, particularly among those with lower SES. People of color have had the largest gains,[27] with the uninsured rate declining from 20% in 2010 to 12% in 2019 in Black people and from 14% to 9% in White people.[28, 29] However, people of color are still more likely to be uninsured and are disproportionately represented in states that did not expand Medicaid.[27] (For more information about how the ACA influences people diagnosed with cancer, see the Advocacy section on page 36.) Even when Black people do have access to care it is more often of lower quality compared to White people.[7]

Comorbidities (Other Health Conditions)

Discriminatory practices and disproportionate poverty also contribute to a higher prevalence of other chronic diseases, which may increase cancer risk independently and/or through shared risk factors, as well as reduce the likelihood of cancer survival.[30] For instance, diabetes increases risk of cancer incidence and mortality, and is more common among Black people than any other racial/ethnic group.[31, 32] (For more information about diabetes, see page 29.) The death rate for diabetes is about two times higher in Black people than in White people among both men and women (Table 1). Black people also have higher

Table 5. Comparison of Cancer Incidence Rates between Black and White People, US, 2014-2018

Male					Female				
Cancer	Black Rate*	White Rate*	Absolute Difference†	Rate Ratio‡	Cancer	Black Rate*	White Rate*	Absolute Difference†	Rate Ratio‡
Kaposi sarcoma	1.6	0.4	1.2	4.32	Kaposi sarcoma	0.1	<0.1	0.1	3.60
Myeloma	16.7	7.8	8.9	2.14	Myeloma	12.3	4.8	7.5	2.60
Stomach	13.3	7.4	5.9	1.80	Stomach	7.4	3.5	3.9	2.14
Prostate	172.6	99.9	72.7	1.73	Liver & intrahepatic bile duct	5.5	3.9	1.6	1.40
Liver & intrahepatic bile duct	17.8	10.9	6.9	1.63	Pancreas	15.0	11.2	3.8	1.34
Breast	1.9	1.3	0.6	1.47	Uterine cervix	8.8	7.2	1.6	1.22
Larynx	7.8	5.5	2.3	1.43	Colon & rectum	37.1	31.3	5.8	1.18
Colon & rectum	50.4	41.5	8.9	1.21	Esophagus	2.1	1.8	0.3	1.16
Pancreas	17.8	15.1	2.7	1.18	Kidney & renal pelvis	13.5	11.8	1.7	1.14
Lung & bronchus	77.4	69.0	8.4	1.12	Uterine corpus	28.1	27.8	0.3	1.01
Kidney & renal pelvis	26.1	23.5	2.6	1.11	Breast	127.1	132.5	-5.4	0.96
Hodgkin lymphoma	3.0	3.2	-0.2	0.95	Hodgkin lymphoma	2.4	2.6	-0.2	0.92
Leukemia	13.7	19.1	-5.4	0.72	Lung & bronchus	47.2	56.0	-8.8	0.84
Non-Hodgkin lymphoma	17.3	24.2	-6.9	0.71	Ovary	8.8	11.1	-2.3	0.79
Esophagus	6.0	8.7	-2.7	0.69	Leukemia	9.0	11.5	-2.5	0.79
Oral cavity & pharynx	13.8	20.0	-6.2	0.69	Non-Hodgkin lymphoma	12.3	16.5	-4.2	0.74
Brain & other nervous system	4.8	8.6	-3.8	0.55	Oral cavity & pharynx	5.1	7.0	-1.9	0.72
Urinary bladder	19.3	38.0	-18.7	0.51	Urinary bladder	6.5	9.4	-2.9	0.69
Thyroid	3.8	8.1	-4.3	0.47	Thyroid	13.2	22.0	-8.8	0.60
Testis	1.6	7.0	-5.4	0.22	Brain & other nervous system	3.5	6.2	-2.7	0.56
Melanoma of the skin	1.1	36.4	-35.3	0.03	Melanoma of the skin	0.9	24.1	-23.2	0.04
All sites	**529.2**	**501.3**	**27.9**	**1.06**	**All sites**	**405.3**	**442.8**	**-37.5**	**0.92**

Races are exclusive of Hispanic ethnicity. Sites listed in descending order by rate ratio. *Rates are per 100,000 and age adjusted to the 2000 US standard population. †Absolute difference is the rate in Black minus the rate in White people. ‡Rate ratio is the unrounded rate in Black divided by the unrounded rate in White people.

Source: North American Association of Central Cancer Registries, 2021.

Table 6. Comparison of Cancer Death Rates between Black and White People, US, 2015-2019

Male					Female				
Cancer	Black Rate*	White Rate*	Absolute Difference†	Rate Ratio‡	Cancer	Black Rate*	White Rate*	Absolute Difference†	Rate Ratio‡
Stomach	7.5	3.0	4.5	2.51	Stomach	3.5	1.5	2.0	2.31
Prostate	37.9	17.8	20.1	2.13	Myeloma	5.1	2.3	2.8	2.24
Myeloma	7.4	3.8	3.6	1.96	Uterine corpus	9.0	4.6	4.4	1.97
Larynx	2.9	1.6	1.3	1.80	Uterine cervix	3.4	2.0	1.4	1.65
Liver & intrahepatic bile duct	13.3	8.5	4.8	1.57	Breast	28.0	19.9	8.1	1.41
Colon & rectum	22.7	15.8	6.9	1.44	Liver & intrahepatic bile duct	4.8	3.6	1.2	1.35
Pancreas	15.4	13.0	2.4	1.18	Colon & rectum	14.8	11.3	3.5	1.31
Lung & bronchus	54.0	47.0	7.0	1.15	Pancreas	12.4	9.6	2.8	1.28
Oral cavity & pharynx	4.4	4.1	0.3	1.07	Esophagus	1.6	1.5	0.1	1.04
Kidney & renal pelvis	5.3	5.4	-0.1	0.98	Urinary bladder	2.3	2.2	0.1	1.04
Hodgkin lymphoma	0.3	0.4	-0.1	0.90	Kidney & renal pelvis	2.2	2.3	-0.1	0.95
Leukemia	6.8	8.7	-1.9	0.78	Leukemia	4.3	4.8	-0.5	0.91
Non-Hodgkin lymphoma	5.2	7.2	-2.0	0.72	Ovary	5.9	6.9	-1.0	0.86
Urinary bladder	5.3	8.1	-2.8	0.66	Lung & bronchus	29.2	34.2	-5.0	0.85
Esophagus	5.0	7.7	-2.7	0.65	Hodgkin lymphoma	0.2	0.2	0.0	0.83
Brain & other nervous system	3.3	6.2	-2.9	0.54	Non-Hodgkin lymphoma	3.1	4.2	-1.1	0.74
Melanoma of the skin	0.4	4.0	-3.6	0.10	Brain & other nervous system	2.3	4.1	-1.8	0.56
					Melanoma of the skin	0.3	1.8	-1.5	0.15
All sites	**221.4**	**186.2**	**35.2**	**1.19**	**All sites**	**152.1**	**135.4**	**16.7**	**1.12**

Races are exclusive of Hispanic ethnicity. Sites listed in descending order by rate ratio. *Rates are per 100,000 and age adjusted to the 2000 US standard population. †Absolute difference is the rate in Black minus the rate in White people. ‡Rate ratio is the unrounded rate in Black divided by the unrounded rate in White people.

Source: National Center for Health Statistics, Centers for Disease Control and Prevention, 2021.

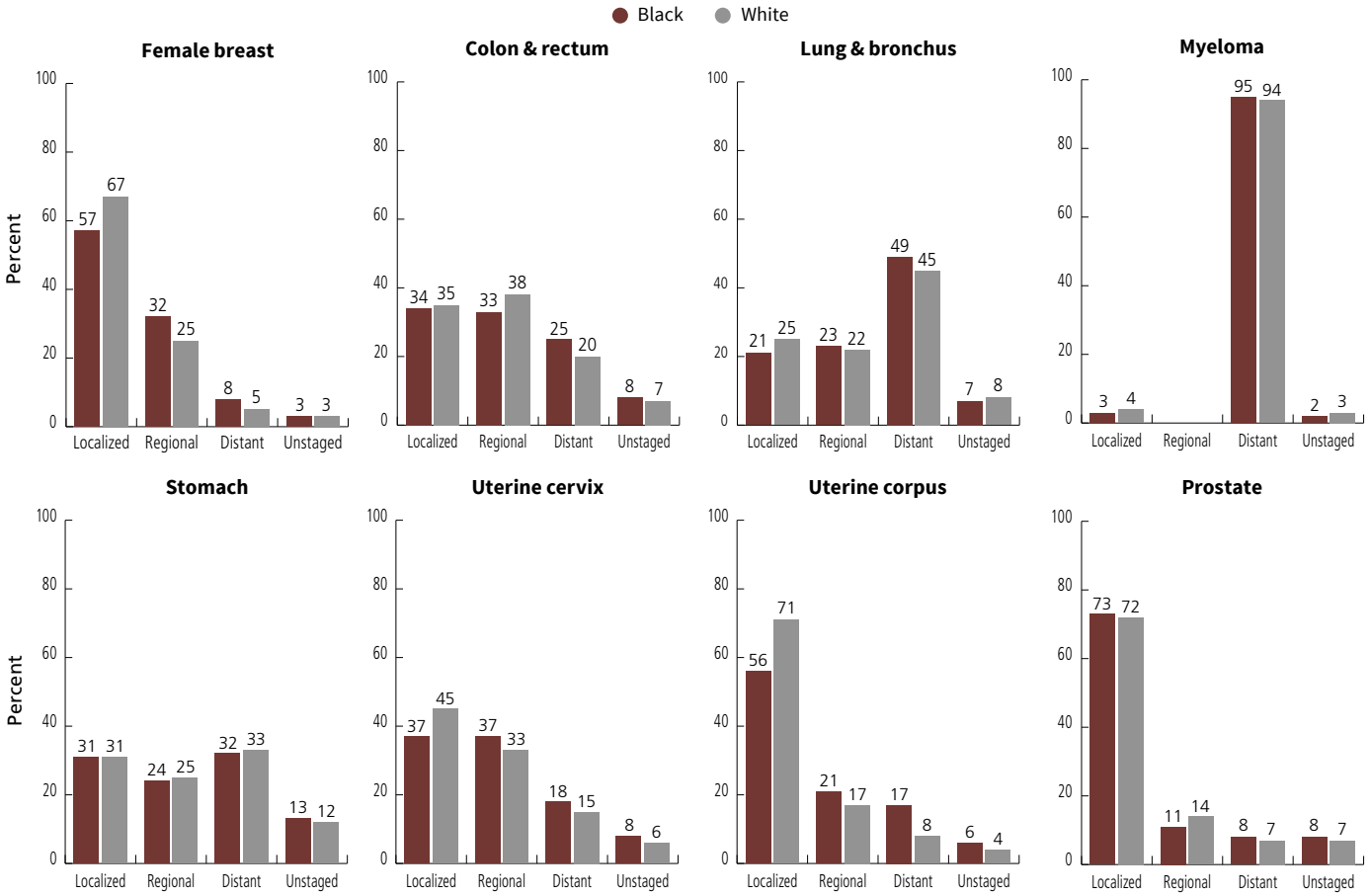
death rates for heart disease, stroke, and hypertension, which have shared risk factors with cancer, as well as HIV/AIDS, which increases risk of several cancers.

Not surprisingly, the coronavirus disease 2019 (COVID-19) pandemic has exacerbated health disparities among people of color.[33-35] Black individuals were about 3 times more likely to be hospitalized with COVID-19 and twice as likely to die from the disease compared to White individuals in 2020.[36, 37] The 20% of counties in the US that are disproportionately Black accounted for 58% of COVID-19 deaths nationally from 2019 through mid-April 2020, highlighting the contribution of structural racism and racial segregation to health outcomes.[33] Worse disease outcomes among Black patients may have been contributed to by less access to paid sick and vacation leave. In addition, employment is closely tied to health insurance, and the pandemic abruptly erased 5 years of progress in narrowing the Black-White unemployment gap.[38] The long-term impact of the pandemic, including increased cancer incidence and mortality because of health care disruptions like decreased cancer screening,[39] will unfold slowly over many years to come.

Medical Mistrust and Health System Implications

Studies have shown that Black people have higher mistrust in the medical system compared to Whites, with one-quarter expressing high mistrust of physicians.[40] This is likely due in part to a long history of racial bias and discrimination in the US health care system, including exploitation of Black people for medical advancement,[41, 42] unequal treatment at segregated hospitals, and provider bias.[43, 44, 45] For example, over 50% of surveyed medical students and residents believed one or more false statements regarding differences in how Black people perceive pain (e.g., they have thicker skin or less sensitive nerve endings).[46] These biases likely explain the underprescription of opioid medicines to Black patients even when they have the same pain level, treatment preferences, and history of opioid abuse as White patients.[47]

Figure 4. Stage Distribution for Selected Cancers in Black and White People, US, 2014-2018

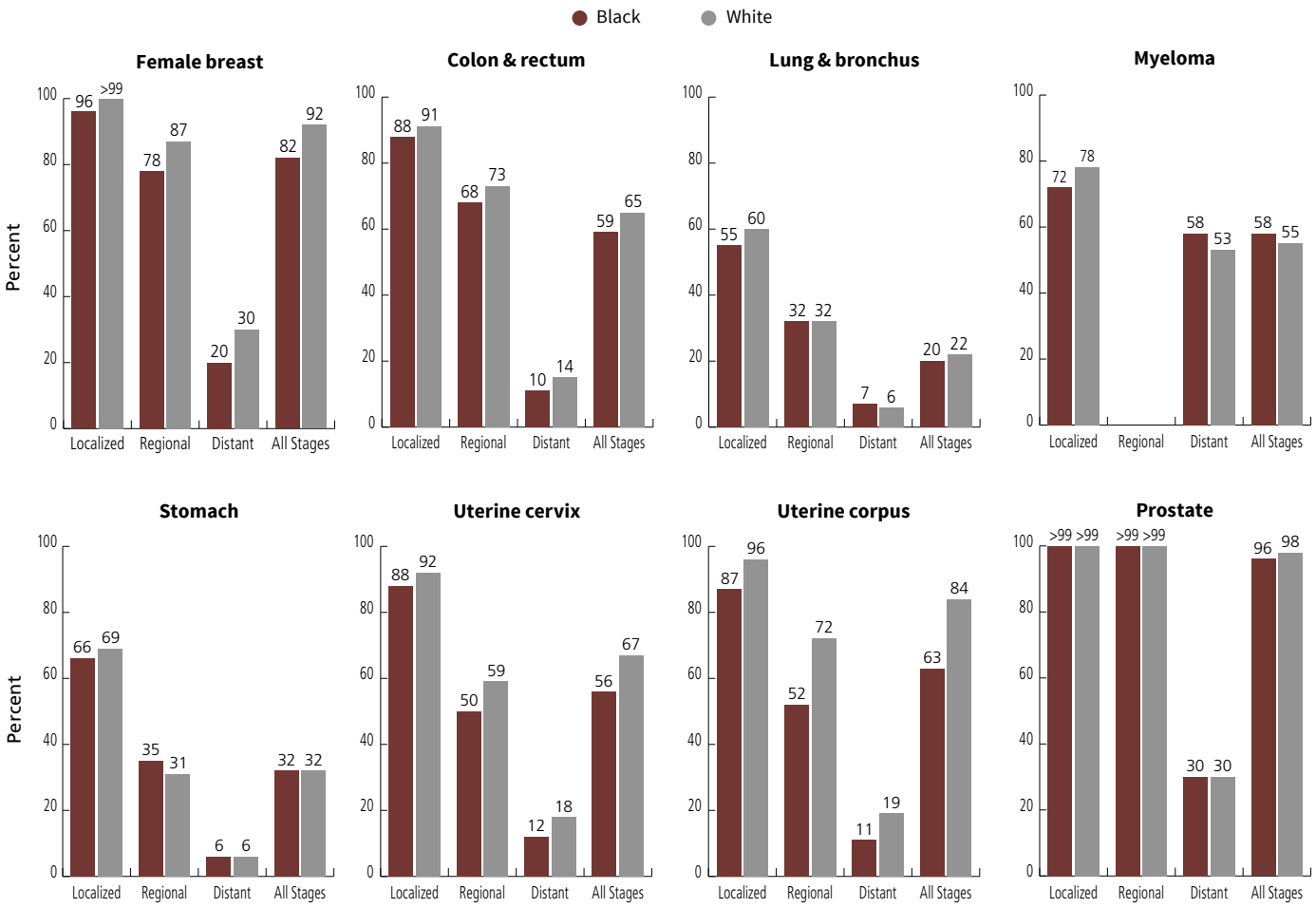


Race is exclusive of Hispanic ethnicity. Percentages may not total 100% due to rounding. Myeloma does not have regional stage per staging system. **Localized:** an invasive cancer confined entirely to the organ of origin. **Regional:** a malignant cancer that 1) has extended beyond the limits of the organ of origin directly into surrounded organs or tissues; 2) involves regional lymph nodes; or 3) has both regional extension and involvement of regional lymph nodes. **Distant:** a malignant cancer that has spread to parts of the body remote from the primary tumor either by direct extension or by discontionous metastasis to distant organs, tissues, or via the lymphatic system to distant lymph nodes.

Source: North American Association of Central Cancer Registries, 2021.

Mistrust in providers and the medical system is associated with lower cancer screening and quality of life in Black prostate cancer survivors[42, 48] and also contributes to the underrepresentation of Black individuals in clinical trials.[49] Diverse clinical trial participation is necessary to inform clinicians about the efficacy of cancer therapies among the general population, as well as among specific groups.[50-53] However, most clinical trial participants are middle-aged White people without other health conditions, which neither reflects the cancer population as a whole, nor informs the treatment of Black or other patients of color, older patients, or other medically underserved individuals. In 2020, Black people represented 14% of the of the total population but only 7% of US Food and Drug Administration cancer trials participants.[54] In addition to medical mistrust, factors that contribute to low participation include study design (e.g., lack of diverse recruitment), medical provider bias, enrollment requirements (e.g., exclusion of people with other illnesses), and barriers to access. [52, 53, 55, 56] Although decades of effort to increase diversity in clinical trials have yielded little progress,[57] there is new hope with the Henrietta Lacks Enhancing Cancer Research Act signed into law in 2021. This legislation requires both the study of policies that impact diverse enrollment and implementation of changes to address these barriers.[58] For more information on how the American Cancer Society and the American Cancer Society Cancer Action Network[SM] work to reduce cancer disparities, see the Advocacy section on page 36.

Figure 5. Five-year Relative Survival Rates* for Selected Cancers by Race, US, 2011-2017



Race is exclusive of Hispanic ethnicity. *Survival rates are based on patients diagnosed between 2011 and 2017 and followed through 2018. Note: Myeloma does not have regional staging per staging system.

Source: Surveillance, Epidemiology, and End Results (SEER) Program, 18 Registries, National Cancer Institute, 2021.

Cancer Occurrence in Black People

How Many Black Americans Alive Today Have Ever Had Cancer?

More than 1.4 million Black Americans with a history of cancer were alive on January 1, 2018, most of whom were diagnosed years earlier.[59]

What Is the Risk of Developing or Dying of Cancer?

The risk of being diagnosed with cancer increases with age because most types of cancer require many years to develop. About 1 in 3 Black men and women will be diagnosed with cancer in their lifetime and 1 in 5 Black men and 1 in 6 Black women will die from the disease (Table 2).

How Many New Cancer Cases and Deaths Are Expected in 2022?

New cases: About 111,990 cancer cases in Black men and 112,090 in Black women are expected to be newly diagnosed in 2022 (Figure 2). The most commonly diagnosed cancers are prostate, lung and bronchus (hereafter lung), and colon and rectum (hereafter colorectal) in Black men and breast, lung, and colorectal in Black women. These four cancers account for more than half of all new cases among Black people.

Deaths: About 36,430 Black men and 37,250 Black women are expected to die of cancer in 2022 (Figure 2). Lung cancer is the most common cause of cancer death among Black men (22%), followed by prostate cancer (17%), whereas breast cancer is the leading cause of cancer death in Black women (18%), followed by lung cancer (17%). This is in contrast to the overall female population, among whom lung cancer is the leading cause of cancer death. Colorectal cancer is the third-leading cause of cancer death in Black men and women, similar to the general population.

Does Cancer Occurrence Vary by State?

There is wide variation in cancer occurrence by state, particularly for cancers closely tied to behavioral factors like smoking (Table 3 and Table 4). For example, lung cancer incidence rates for Black men residing in the Southern states of Arkansas, Mississippi, and Kentucky are nearly twice those in Colorado and Nevada due to historically higher smoking prevalence that continues today.

How Has Cancer Occurrence Changed over Time?

Trends in Cancer Incidence

Since the early 1990s, incidence rates for all cancers combined have generally declined in Black men and remained stable in Black women. Patterns among Black men largely reflect declines in cancers of the prostate, lung, and colorectum. Whereas, among women, declines in lung and colorectal cancer are offset by increasing incidence of uterine corpus and breast cancer, though the trend for breast cancer has recently slowed and is approaching stabilization.

Trends in Cancer Mortality

Overall cancer death rates increased from the mid-1970s until 1991 at a much steeper pace in Black people than in White people, especially among men (Figure 3), largely driven by the tobacco epidemic. From 2010 to 2019, the death rate declined faster in Black men than in White men (3% versus 2% per year) but the pace was similar among women (2% per year).

The overall higher cancer death rates in Black people are largely due to cancers of the breast and colorectum in women and cancers of the prostate, lung, and colorectum in men. The more rapid progress in recent years, especially among Black men, largely reflects steep declines for lung and other smoking-related cancers because of rapid reductions in smoking prevalence over the past 40 years. (For more information on smoking, see page 22.) As a result, the Black-White disparity narrowed among men (Figure 3).

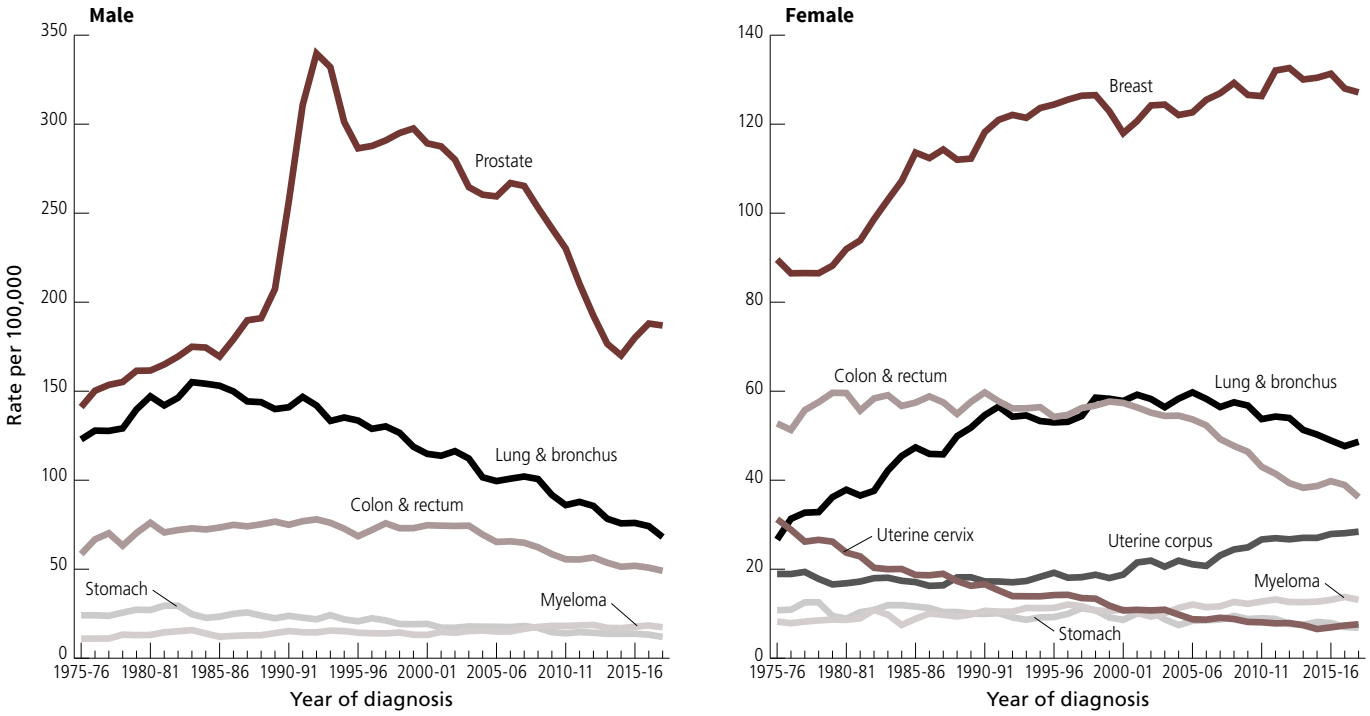
Major Differences in the Cancer Burden between Black and White People

Incidence and Death Rates

The risk of developing cancer is higher in Black than in White people for many cancers, especially those associated with infectious agents, such as stomach, liver, and cervical cancers. Table 5 and Table 6 show cancer incidence, mortality rates, and rate ratios in Black versus White people. Rate ratios greater than 1 indicate a higher rate in Black people and rate ratios less than 1 indicate a higher rate in White people.

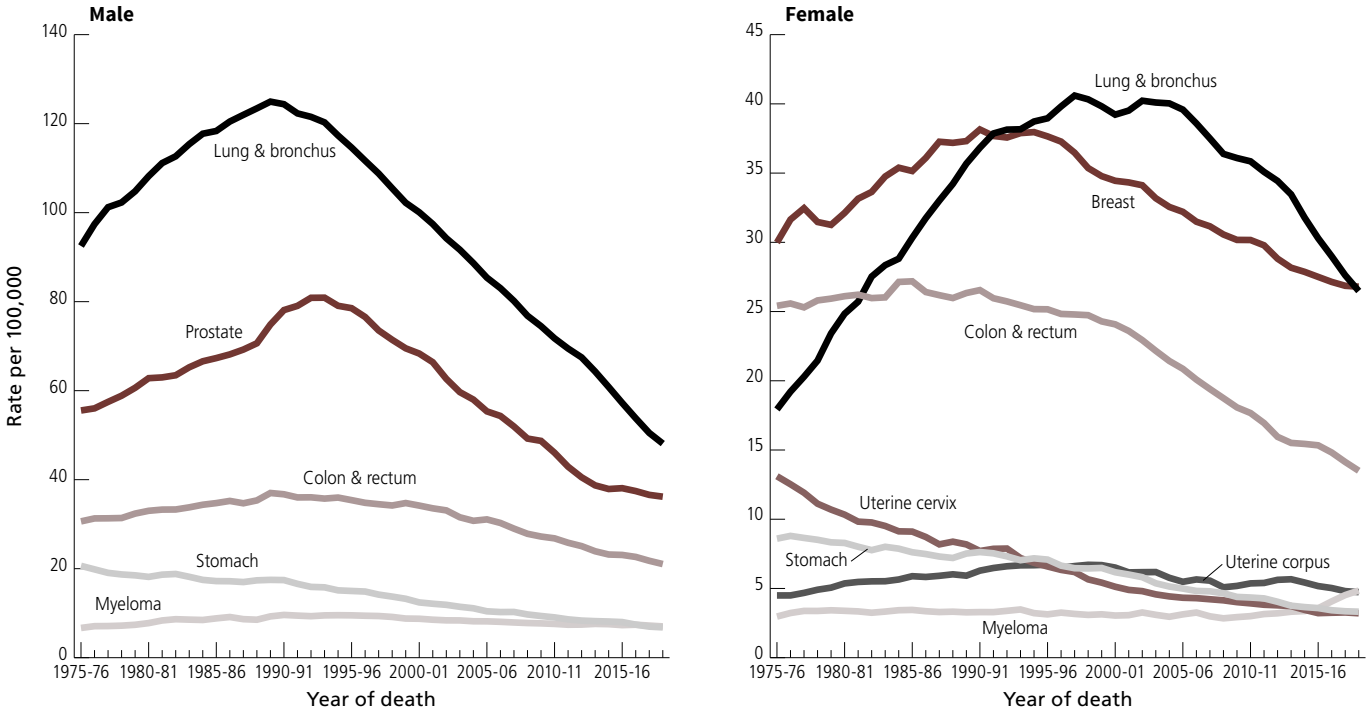
Overall, Black men have 6% higher cancer incidence but 19% higher cancer mortality than White men, reflecting lower survival rates. Even more striking, Black women have 8% lower cancer incidence than White women, but 12% higher cancer mortality. This is partly driven by breast and uterine corpus cancers, for which Black women have slightly lower or similar incidence but 41% and 97% higher mortality, respectively. Uterine corpus cancer incidence rates that are calculated using hysterectomy-adjusted population denominators (i.e., only including women with an intact uterus who are at risk for this disease) are higher in Black than White

Figure 6a. Trends in Incidence Rates* among Black People for Selected Cancers by Sex, 1975-2018



Race includes Hispanic ethnicity. *Rates are delay adjusted and age adjusted to 2000 US standard population and 2-year moving averages.
Source: SEER Program, 9 SEER Registries, National Cancer Institute, 2021.

Figure 6b. Trends in Death Rates* among Black People for Selected Cancers by Sex, US, 1975-2019



Race includes Hispanic ethnicity. Rates are age adjusted to 2000 US standard population and 2-year moving averages.
Source: National Center for Health Statistics, Centers for Disease Control and Prevention, 2021.

women because Black women are more likely to have had a hysterectomy. Thus, the uterine cancer mortality disparity would be even higher if corrected for hysterectomy prevalence.

The largest racial disparities in incidence and mortality are for stomach and prostate cancers and myeloma, with death rates more than 2-fold higher in Black people than in White people. In addition, incidence rates for Kaposi sarcoma (KS) are almost 4 times higher in Black people (Table 5). In the US, KS is a relatively rare cancer that primarily occurs among people infected with the human immunodeficiency virus (HIV), which is more common among Black people. (For more information on HIV infection, see page 31.)

Stage at Diagnosis and Survival

Stage of disease is the extent or spread of cancer at the time of diagnosis and has a large influence on cancer survival. In this report, stage is broadly classified as localized, regional, or distant, the definitions for which are provided in the footnotes of Figure 4. For most cancers, Black people are more likely than White people to be diagnosed with an advanced (regional or distant) stage, when treatment is usually more extensive and less successful (Figure 4).

A common measure of cancer survival is relative survival, which is the percentage of people with cancer who are alive at a specified time following diagnosis (typically 5 years), divided by the percentage expected to be alive in the absence of cancer based on normal life expectancy. Although 5-year relative survival rates for all cancers combined are useful in monitoring trends over time and comparing survival differences between groups, they do not predict individual prognosis because they do not account for many important factors that influence survival, such as tumor characteristics and other patient illnesses.

The overall 5-year relative survival rate among Black people has increased from approximately 27% during 1960-1963 to 63% during 2011-2017. Still, Black people continue to have lower 5-year survival than White people (68%) overall and for each stage of diagnosis for most cancer sites (Figure 5). Some of the largest racial disparities in 5-year relative survival include cancers of the oral cavity and pharynx (Black: 51%; White: 69%) and urinary bladder (Black: 65%; White: 78%). Most of the differences in survival are due to socioeconomic barriers that limit access to timely, appropriate, and high-quality medical care as opposed to biological differences.[18, 60, 61] For more information on how socioeconomic status and access to care contribute to racial disparities, see Factors That Influence Racial Health Disparities, page 3.

Selected Cancers

Female Breast

Incidence

Breast cancer is the most commonly diagnosed cancer among Black women, with an estimated 36,260 new cases expected to be diagnosed in 2022. Similar to the pattern among White women, incidence rates among Black women increased rapidly during much of the 1980s (Figure 6a), largely due to increased detection of asymptomatic lesions through newly introduced mammography screening. Recently, increases have slowed and are approaching stabilization in Black women, in contrast to continued increases among White women.

During 2014-2018, the overall breast cancer incidence rate was 127.1 cases per 100,000 in Black women compared to 132.5 in White women (Table 5), although rates are higher among Black women younger than 40 years of age.[62] As a result, and also because of shorter life expectancy, the median age of diagnosis is younger for Black women, 60 years compared to 64 for White women.[62, 63]

Black women are twice as likely as women of other racial and ethnic groups in the US to be diagnosed with triple negative breast cancer (TNBC),[64] so called because the tumor lacks estrogen receptors, progesterone receptors, and human epidermal growth factor receptor-2. Women with TNBC generally have poorer outcomes because of few effective treatments. Nevertheless, Black women are still about 30% more likely to die from these tumors than White women, partly because of lesser rates of surgery and chemotherapy.[65] Black breast cancer survivors also have a much higher likelihood of being diagnosed with new cancers because young-onset receptor negative tumors, such as TNBC, are associated with a higher risk of subsequent malignancies than other breast cancer subtypes.[66] Although breast cancer in men is rare, Black men have a higher incidence of all breast cancer subtypes than White men, including a two-fold higher risk of TNBC.[67]

Black women are also more likely to be diagnosed with inflammatory breast cancer, a rare but aggressive subtype.[68] Reasons for the Black-White variation in subtype distribution remain unclear, but do not appear to be completely explained by the differences in the prevalence of inherited genetic mutations.[69] For more information about breast cancer subtypes, see *Breast Cancer Facts & Figures* at cancer.org/statistics.

Mortality

An estimated 6,800 deaths from breast cancer are expected to occur among Black women in 2022, making it the leading cause of cancer death in this population. Improvements in early detection and screening have led to a decrease in mortality for Black women since 1990. However, because the decline began later and was slower compared to White women, this progress led to a widening disparity that peaked in 2011-2012 (Figure 3). From 2010 to 2019, mortality rates continued to decrease in Black and White women by a little over 1% per year; from 1990, the breast cancer death rate dropped by 30% in Black women versus 41% in White women.

Breast cancer death rates in the most recent time period (2015-2019) are 41% higher in Black women compared to White women (Table 6). The racial disparity is largely due to more advanced stage at diagnosis; higher prevalence of obesity, other comorbidities, and unfavorable tumor characteristics (e.g., TNBC); and less access to high-quality treatment, likely due to financial barriers. [70-72] Lack of private insurance and unfavorable tumor characteristics explain one-third and one-fifth of the disparity, respectively among women with early-stage disease younger than 65 years of age.[73] Although there are some differences between Black and White women in the prevalence of genetic variations, they do not appear to explain the survival gap.[74]

Prevention and Early Detection

Potentially modifiable factors that increase breast cancer risk include weight gain after the age of 18 and/or being overweight or obese (for postmenopausal breast cancers), menopausal hormone therapy (combined estrogen and progestin), alcohol consumption, and physical inactivity.[75] Studies increasingly suggest that high consumption of non-starchy vegetables is associated with lower risk for hormone receptor-negative breast cancers.[75, 76] If confirmed, this would be especially relevant for Black women, who have a higher proportion of hormone receptor-negative breast cancer.[64]

Screening mammography can detect breast cancer at an early stage, when treatment is often less intensive and more successful. However, effectiveness is influenced by both the quality of screening and the timeliness of follow-up. Black women are less likely than White women to have their imaging performed at a facility with the most current technology, such as digital breast tomosynthesis,[77] and also have a longer time between abnormal results and follow-up.[78-80] Despite similar self-reported screening prevalence, only 57% of breast cancers in Black women are diagnosed at a local stage compared to 67% in White women (Figure 4). A recent study found that over half of this disparity is due to differences in insurance coverage.[81] For more information on breast cancer screening, see page 32.

Survival and Stage Distribution

The overall 5-year relative survival rate for breast cancers diagnosed in 2011-2017 was 82% for Black women compared to 92% for White women (Figure 5), partly due to more advanced stage at diagnosis, as mentioned earlier.

However, Black women have lower survival at every stage of disease, largely because of less access to high-quality health care, including receipt of care at low-resourced and/or unaccredited facilities.[74, 78, 79, 82] The greater burden of TNBC in Black women also contributes to disparate outcomes,[83, 84] although research suggests that Black women have lower survival than White women regardless of molecular subtype.[64]

Visit cancer.org/statistics for additional information about breast cancer in the latest edition of *Breast Cancer Facts & Figures*

Colon and Rectum

Incidence

Colorectal cancer is the third most common cancer in Black men and women, with an estimated 20,700 cases expected to be diagnosed in 2022. Black people have the second-highest incidence of colorectal cancer in the US, following the Alaska Native/American Indian population. Incidence rates are about 20% higher in Black people than in White people among both men and women (Table 5). However, incidence was historically higher in White people[85] and the crossover occurred in the early 1990s because of changing patterns in risk factors and slower dissemination of screening among Black people.[86-90] From 2009 to 2018, incidence rates for colorectal cancer decreased by about 3% per year among Black people versus 2% per year among White people. Overall trends mask increasing incidence among people younger than 50 years of age, which is much steeper in White people (2% per year) than in Black people (0.5% per year).[85]

Mortality

An estimated 7,200 deaths from colorectal cancer are expected to occur among Black people in 2022. Colorectal cancer is the third-leading cause of cancer death in both Black men and women.[89] Similar to incidence rates, colorectal cancer mortality rates were historically higher in White people than in Black people (Figure 3), but have reversed and are now 44% higher in Black men and 31% higher in Black women compared to Whites (Table 6). This gap is two times larger than the disparity for incidence but has begun to shrink in recent years because of steeper declines in death rates from 2010 to 2019 in Black people (about 3% per year) than in White people (about 2% per year). One study estimated that 19% of the racial disparity in mortality can be attributed to less screening and 36% to lower stage-specific survival among Black people.[89]

Prevention and Early Detection

Major modifiable factors that increase risk for colorectal cancer include excess body weight, type 2 diabetes, physical inactivity (colon only), long-term smoking, high consumption of red or processed meat, low calcium intake, moderate to heavy alcohol consumption, and very low intake of fruits and vegetables and whole-grain fiber.[91, 92] Vitamin D deficiency, which is more common among Black than White people,[93] has also been associated with increased risk and may contribute to racial differences in disease occurrence and outcomes.[94, 95] Many of these risk factors are described in the section on Risk Factors for Cancer on page 22.

For adults ages 45 and older who are at average risk for the disease, colorectal cancer risk is also reduced through the use of screening tests that can detect and remove precancerous polyps, as well as detecting cancer at an early stage before symptoms develop.[88-90] However, recommended colorectal cancer screening use in 2018 remained lower in Black people (65% up-to-date) than White people (68%) (Table 8). For more information on colorectal cancer screening, see page 32.

Survival and Stage Distribution

The 5-year relative survival rates for colorectal cancer improved from 45% in 1975-1977 to 59% in 2011-2017 among Black people versus 50% to 65% among White people. Some of the survival disparity is due to later-stage diagnosis among Black people, although this gap has narrowed: 34% of colorectal cancers in Black people are diagnosed at a localized stage compared to 35% in White people (Figure 4). Five-year relative survival rates remain lower in Black than in White patients for each stage of diagnosis (Figure 5).

Racial disparities in stage-specific survival largely reflect differences in treatment, comorbidities, and tumor characteristics.[22, 96-99] Numerous studies have documented that Black people with colorectal cancer are less likely than White people to receive recommended surgical treatment, radiation, and chemotherapy.[100-102] Additionally, Black people are more likely to have treatment delays, even within similar socioeconomic backgrounds,[103] and are about 30% more likely than White people to be diagnosed with proximal (right-sided) tumors, which have less favorable outcomes.[104]

Visit cancer.org/statistics for more information on colorectal cancer in the latest edition of *Colorectal Cancer Facts & Figures*.

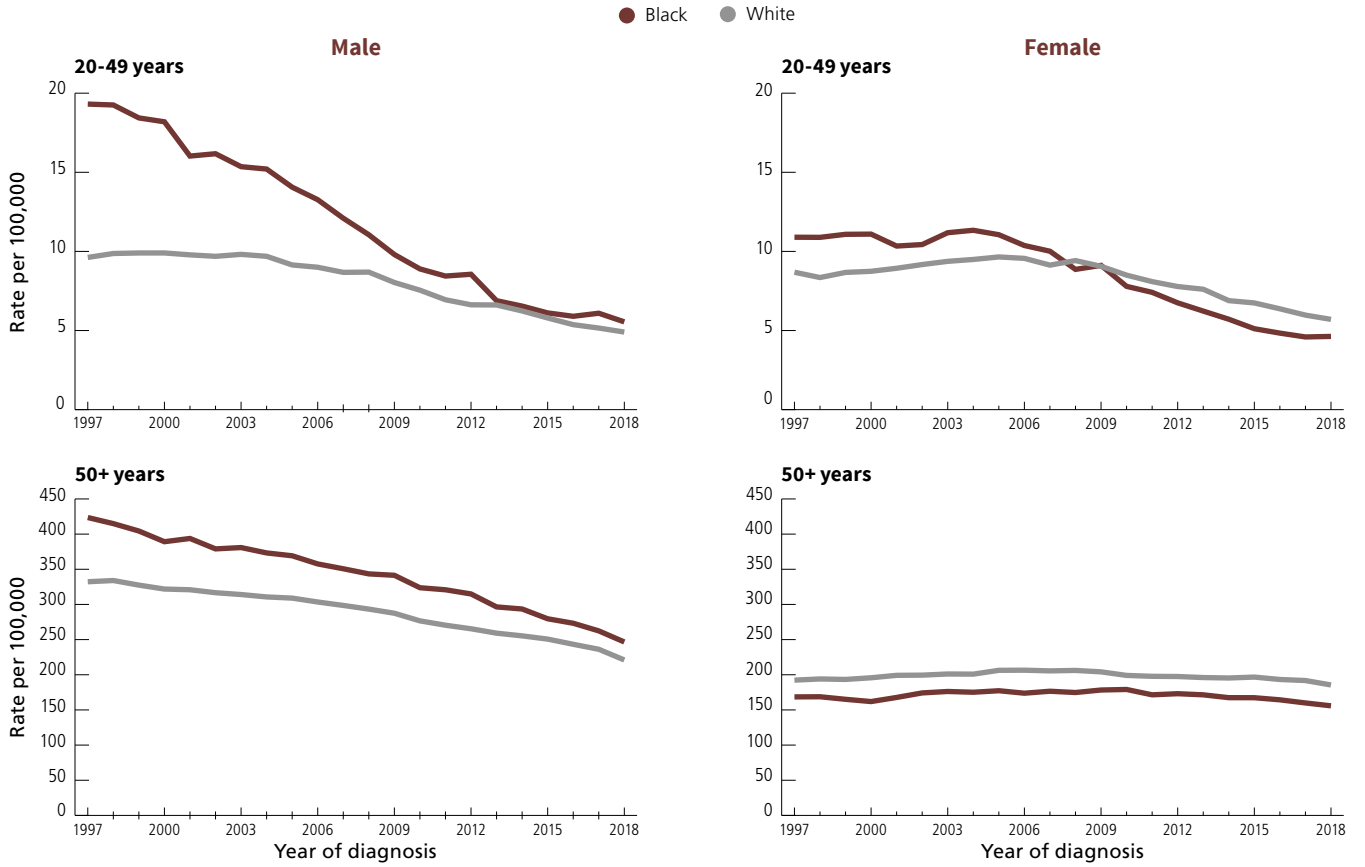
Lung and Bronchus

Incidence

Lung cancer will be diagnosed in an estimated 25,690 Black people in 2022, and is the second most common cancer in both men and women. During 2014-2018, incidence rates were 12% higher in Black men than in White men but 16% lower in Black women than in White women (Table 5). However, both Black men and women are more likely to be diagnosed with lung cancer at a younger age than Whites, with a median age at diagnosis of 67 versus 71, respectively.[63]

Lung cancer occurrence reflects historical differences in smoking patterns, as over 80% of lung cancer cases overall are caused by smoking.[5, 105, 106] Similar to White men, incidence rates in Black men increased rapidly until the mid-1980s because of widespread smoking uptake

Figure 7. Trends in Incidence Rates* for Lung Cancer by Race, Sex, and Age, US, 1997-2018



Race is exclusive of Hispanic ethnicity.*Rates are age adjusted to the 2000 US standard population.
Source: North American Association Central Cancer Registries, 2021.

during the first half of the 20th century, but have since declined steadily due to reductions in smoking. In contrast, rates in Black women increased until the late 2000s before declining because of later and slower smoking uptake and cessation compared to men (Figure 6a). Steeper smoking declines in Black people than in White people have resulted in a convergence in lung cancer incidence among young Black and White men and a crossover among women (Figure 7).[106, 107] From 2009 to 2018, the annual decline in incidence was about 3% in Black and White men, 2% in Black women, and 1% in White women.

Mortality

Lung cancer is the leading cause of cancer death in Black men and the second-leading cause in Black women. An estimated 14,160 deaths from lung cancer are expected to occur among Black people in 2022. After increasing for decades, lung cancer death rates have declined since 1990 at a generally faster pace in Black men than in White men, reducing the racial disparity from an excess of 40% in Black men in 1990-1992 to 15% in 2015-2019. In women, the downturn began about a decade later than that in men and is also steeper in Black than White women (Figure 3). Consequently, although Black and White women had similar lung cancer mortality until the early 1990s, in 2015-2019 rates were 15% lower in Black women.

The more favorable trends among Black people reflect the steep decline in smoking initiation unique to Black youth from at least the mid-1970s until the early 1990s.[108, 109] (For information on smoking trends, see page 22.) During 2015-2019, the lung cancer death rate declined by about 6% per year in Black men, 5% per year in White men, and 4% per year in Black and White women (Figure 6b). These accelerated trends reflect recent advances in lung cancer treatment, as well as reductions in smoking.

Prevention and Early Detection

Combustible tobacco is the most important risk factor for lung cancer, accounting for about 80% of lung cancer deaths in the US among all races/ethnicities combined.[5] Risk increases with both quantity and duration of tobacco use. For more information on tobacco use, see page 22.

Screening with low-dose spiral computed tomography has been shown to reduce lung cancer mortality by 20% to 39% among current or former (quit within 15 years) heavy smokers.[110, 111] For more information on lung cancer screening, see page 33.

Survival and Stage Distribution

The 5-year relative survival rate for lung cancer is slightly lower in Black people than in White people overall, 20% versus 22%, with the largest difference for localized-stage disease (55% versus 60%, Figure 5). Localized-stage lung cancer is only diagnosed in 21% of Black people and 25% of White people because symptoms generally do not appear until the disease is advanced.

Numerous studies have shown that even when lung cancer is diagnosed early, Black people are less likely than White people to receive surgery, which is the most effective treatment for survival.[112-116 117] When treatment is equivalent, outcomes are similar between Black and White individuals.[118]

Myeloma

Incidence

An estimated 7,810 new cases of multiple myeloma are expected to be diagnosed among Black people in 2022. Myeloma is a cancer of cells in the immune system called plasma cells. Incidence of myeloma is more than 2 times higher in Black people compared to White people (Table 5), and median age at diagnosis is younger (66 versus 70 years of age).[63] Incidence continued to increase steadily in Black women by about 2% per year from 2009 through 2018, whereas rates in Black men may be stabilizing in recent years, resembling trends in White men.

Mortality

An estimated 2,530 myeloma deaths are expected to occur among Black men and women in 2022. Similar to incidence, mortality rates are about twice as high in Black people as in White people (Table 6). During 2015-2019, myeloma death rates declined by about 3% per year in Black women and 1% per year in Black men and White men and women due to improved treatment.[119, 120]

Prevention

Excess body weight is the only known modifiable risk factor for myeloma; risk is about 20% higher in adults who are overweight or obese compared to people who are normal weight.[121] Higher rates of obesity among Black people (see Excess Body Weight on page 24) may contribute to the racial disparity for myeloma,[122] especially among women.

Myeloma is preceded by an asymptomatic premalignant condition known as monoclonal gammopathy of undetermined significance (MGUS); individuals with MGUS have a risk of progression to myeloma of about 1%-2% per year.[123] MGUS is also more prevalent and diagnosed at earlier ages in Black people than people of any other racial/ethnic group.[124, 125] A family history of blood cancers is also associated with increased risk that is stronger among Black people than White people.[126]

Survival and Stage Distribution

The 5-year relative survival rate has improved from 29% during 1975-1977 to 58% during 2011-2017 among Black people versus 24% to 55% among White people. The somewhat higher contemporary survival among Black people may reflect a lower prevalence of aggressive disease.[127, 128] Indeed, Black people have benefited less from recent improvements in treatment because of less access to care, lower utilization of new treatment, and more delays in treatment.[127-130]

Prostate

Incidence

An estimated 41,600 cases of prostate cancer are expected to be diagnosed among Black men in 2022, accounting for 37% of all new cancers in Black men. Approximately 1 in 6 Black men will be diagnosed with prostate cancer in his lifetime compared to 1 in 8 White men. During 2014-2018, the average annual prostate cancer incidence rate was 172.6 cases per 100,000 Black men, 73% higher than the rate in White men (Table 5).

Similar to White men, incidence rates in Black men increased sharply from 1989 to 1992, then declined until the early 2010s, reflecting changes in use of the prostate-specific antigen (PSA) blood test. Rates were stable in Black and White men from 2014 through 2018, although this trend reflects localized-stage disease, which accounts for the majority of cases; rates for regional- and distant-stage disease increased during this time period by about 5% per year in Black and White men. The upturn in advanced disease likely reflects the reduction in screening following the US Preventive Services Task Force (USPSTF) 2012 recommendation against routine PSA testing.[131] In 2018 the USPSTF revised the guideline again to recommend informed decision making among men ages 55-69 years.

Mortality

Prostate cancer is the second-leading cause of cancer death in Black men, with an estimated 6,040 deaths expected in 2022. Black men have the highest death rate for prostate cancer of any racial or ethnic group in the US, 2 times higher than White men (Table 6). Although there is some evidence that aggressive prostate cancer is more common in Black men,[132, 133] the larger disparity for mortality than incidence largely reflects less access to high-quality treatment.[134, 135]

The prostate cancer death rate in Black men has dropped by more than 50%, from a peak of 82.1 deaths per 100,000 in 1993 to 36.6 deaths per 100,000 in 2019, similar to the decline among White men. Factors that have likely contributed to the decrease include early detection through PSA testing, improved surgical and radiologic treatment, and the use of hormonal therapy for advanced-stage disease.[136-140]

However, rapid declines since the mid-1990s have slowed in recent years, likely reflecting the uptick in advanced disease.[131] From 2015 to 2019, the death rate declined by 1.3% per year among Black men and by 0.7% per year among White men (Figure 3).[131]

Studies continue to document that Black men are relatively more likely to receive substandard treatment for prostate cancer.[132, 141-143] Recently, it was reported that Black men diagnosed with advanced-stage prostate cancer were significantly less likely to receive any treatment compared to White men, even when accounting for similar insurance.[144] When treatment is similar, prostate cancer 10-year survival is comparable[135] or even higher among Black men.[134, 135]

Prevention and Early Detection

The strongest known risk factors for prostate cancer are a family history of the disease, African ancestry,[145] and certain inherited genetic conditions (e.g., Lynch syndrome and *BRCA1* and *BRCA2*).[146, 147] Smoking and excess body weight may increase risk of aggressive/and or fatal disease.[148-152]

Prostate cancer usually has no symptoms until disease is advanced, but is a good candidate for early detection through screening because it is usually slow-growing. No organization presently endorses routine screening with the PSA test for men at average risk because of concerns about overdiagnosis (detection of disease that would never have caused harm) and serious treatment-related side effects. However, a recent modeling study estimated that screening Black men 45-69 years of age could reduce mortality by 26%-29% while limiting overdiagnosis.[153] The USPSTF recommends that men ages 55-69 discuss the benefits of screening with their health care providers and make informed decisions based on family history, race/ethnicity, and comorbidities. The American Cancer Society similarly recommends informed decision-making beginning at age 45 for Black men and age 50 for other men. For more information on PSA testing, see page 33.

Survival and Stage Distribution

The overall 5-year relative survival rate for prostate cancer is 96% for Black men and 98% for White men (Figure 5). Eighty-four percent of all prostate cancers among Black men are diagnosed at a local or regional stage, for which the 5-year relative survival rate approaches 100%. When prostate cancer is diagnosed at a distant stage, 5-year survival drops to 30% in both Black and White men.

Stomach

Incidence

An estimated 4,510 cases of stomach cancer are expected to be diagnosed in Black men and women in 2022. Stomach cancer incidence is about 2 times higher in Black men and women than White men and women (Table 5). However, higher rates are limited to cancers in the lower stomach, or non-cardia, whereas rates for cardia tumors, in the upper stomach near the esophagus, are similar by race.[154] From 2009-2018, stomach cancer incidence rates declined more steeply in Black people (2% per year) than in White people (1% per year).

Mortality

Approximately 1,830 deaths from stomach cancer are expected to occur among Black people in 2022. Stomach cancer death rates are more than 2-fold higher in Black than White people, only in part due to higher incidence. The racial disparity in mortality is greater for men than for women, whereas the reverse is true for incidence (Table 5 and Table 6). During 2010-2019, stomach cancer death rates declined in Black men and women by 3% per year, similar to declines in White people.

Prevention

Helicobacter (H.) pylori infection is the most important risk factor for stomach cancer and is more than three times more common in Black than White people.[155] For more information on *H. pylori*, see page 30. Other risk factors for stomach cancer include excess body weight (cardia cancer), smoking, high consumption of grilled and salt-preserved meat, and occupational exposures such as coal, rubber, and metal processing.[156, 157]

Survival and Stage Distribution

Overall, 5-year relative survival for stomach cancer in Black people is 32%, comparable to that in White people (Figure 4). However, 5-year relative survival for non-cardia tumors, which account for more than half (55%) of cases in Black people but only 34% in White people, is 36% in Black people versus 44% in White people. Five-year relative survival rates for cardia tumors, which are less amenable to surgical treatment, are similar in Black and

White people (23% verus 24%, respectively). Similar to other cancers, research suggests that Black patients with stomach cancer are less likely to receive appropriate surgical treatment than White patients.[158] Nearly 1 in 3 Black stomach cancer patients are diagnosed with distant-stage disease, including 40% for cardia and 30% for non-cardia, for which the 5-year relative survival rate is 5% for both cardia and non-cardia.

Uterine Cervix

Incidence

In 2022, an estimated 2,460 cases of invasive cervical cancer are expected to be diagnosed among Black women. The incidence rate of cervical cancer is 22% higher in Black women than in White women (Table 5). However, the disparity is much wider when rates exclude women who cannot develop cervical cancer because of a hysterectomy (removal of uterus and cervix), a procedure more common in Black women.[159] One study found that after correcting for hysterectomy, incidence for cervical cancer was approximately 40% higher in Black than White women.[160] From 2009-2018, cervical cancer incidence rates among Black and White women were stable.

Mortality

An estimated 780 deaths from cervical cancer are expected among Black women in 2022. Mostly as a result of screening, cervical cancer death rates have declined steadily since the 1970s (Figure 6b); rates in Black women continued to decline by 2% per year from 2010 through 2019, but have stabilized in White women in recent years. Despite this progress, Black women remain 65% more likely to die from cervical cancer than White women (Table 6), with an even larger disparity after rates are corrected for hysterectomy prevalence.[159]

Prevention and Early Detection

Cervical cancer is caused by persistent infection with certain types of human papillomavirus (HPV) and is highly preventable through screening and vaccination. It is one of only two cancers (colorectal is the other) that can be prevented through screening. Most cervical abnormalities are detected as preinvasive lesions rather than invasive cancers because of the widespread uptake of screening with the Pap test and more recently the HPV test. For more information on cervical cancer screening and HPV prevention, see page 32 and page 29, respectively.

Survival and Stage Distribution

The overall 5-year relative survival rate for cervical cancer among Black women is 56%, compared to 67% among White women, partly because Black women are more likely to be diagnosed with regional- or distant-stage disease (Figure 4). Racial differences in stage at diagnosis may be due to differences in the quality of screening and/or follow-up after abnormal results.[161-165] However, Black women have lower survival than White women for every stage of diagnosis (Figure 5), likely reflecting disparities in access to care and receipt of high-quality treatment. For example, one study found that among people diagnosed with early-stage disease, 17% of Black women did not receive surgery compared to just 9% of White women.[166] Further, Black women are less likely to receive recommended radiation therapy for every stage of disease.[167]

Uterine Corpus (Endometrial)

Incidence

An estimated 9,030 cases of cancer of the uterine corpus (body of the uterus) will be diagnosed in Black women in 2022. Cancer of the uterine corpus is often referred to as endometrial cancer because more than 90% of cases occur in the endometrium (lining of the uterine corpus). The uterine cancer incidence rate in Black women (28.1 per 100,0000) is similar to that in White women (27.8 per 100,000) without correction for hysterectomy prevalence (Table 5). However, hysterectomy correction results in an 80% increase in the rate for Black women versus a 58% increase for White women,[168] equating to a 15% to 20% higher rate among Black women.

Historically, endometrial cancer incidence rates have been lower in Black then White women but a steeper and earlier increasing trend, beginning in the mid-1990s, has led to the recent convergence of rates. Increased risk may be related to the obesity epidemic, although a subtype that is less strongly associated with obesity appears to be driving the trend.[168] From 2014 to 2018, incidence rates

increased by about 2% per year in Black women but appeared to stabilize in White women.

Mortality

In 2022, an estimated 2,680 deaths from uterine corpus cancer will occur among Black women. The uterine corpus cancer death rate in Black women is nearly double that in White women (9.0 versus 4.6 deaths per 100,000, respectively; Table 6), likely due to unequal access to high-quality treatment. From 2010 to 2019, the death rate increased by about 2% per year in Black women, similar to increases in White women.

Prevention and Early Detection

An estimated 71% of all uterine corpus cancers are attributable to modifiable risk factors; excess weight alone is associated with 60% of all cases.[5] Other risk factors include the use of postmenopausal estrogen (estrogen plus progestin does not appear to increase risk) and Tamoxifen, a drug used to prevent and treat breast cancer that increases risk slightly. Pregnancy and use of oral contraceptives or intrauterine devices are associated with reduced risk.

Although there is no recommended screening test for women at average risk, early signs of disease include bleeding between periods and postmenopausal bleeding. Women are encouraged to report any unexpected bleeding or spotting to their physicians.

Survival and Stage Distribution

The Black-White disparity in 5-year relative survival for uterine corpus cancer is among the largest of any cancer: 63% in Black women compared to 84% in White women. Later-stage diagnosis, more aggressive tumors, and lower likelihood of timely optimal treatment contribute to the disparity.[169, 170] Close to half (44%) of uterine corpus cancers in Black women are diagnosed at an advanced stage or are unstaged (usually advanced) compared to 29% in White women (Figure 4). Survival is lower for Black women for every stage of diagnosis, with the largest difference for regional-stage disease (52% versus 72%; Figure 5). This may partly reflect a higher prevalence of aggressive uterine cancer subtypes (e.g., uterine serous cancer, uterine carcinosarcoma).[168, 171, 172]

Risk Factors for Cancer

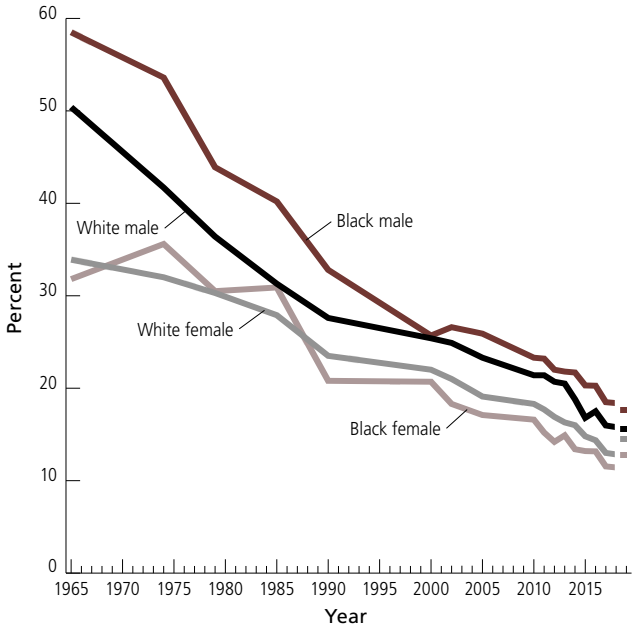
The American Cancer Society estimates that 42% of all cancer cases and 45% of cancer deaths in the US are attributed to potentially modifiable risk factors, including cigarette smoking, excess body weight, alcohol intake, poor diet, physical inactivity, and exposure to cancer-associated infectious agents.[5] This section provides information about major cancer risk factors and their prevalence among Black people in the US. It is critical to recognize that social, economic, and cultural factors, as well as policy, can influence health-related behaviors, and although these choices are made by individuals, they are largely influenced by the communities and environments in which people live. For information about cancer risk factors beyond what is included in this section, visit cancer.org/statistics to review the most recent edition of *Cancer Prevention & Early Detection Facts & Figures*.

Tobacco

Cigarette Smoking

Tobacco use remains the most preventable cause of death in the US, increasing risk for at least 12 cancers: oral cavity and pharynx, larynx, lung, esophagus, pancreas, uterine cervix, kidney, bladder, stomach, colorectum, liver, and acute myeloid leukemia.[173] Cigarette smoking may also increase risk of fatal prostate cancer and a rare type of ovarian cancer,[150, 173, 174] and is estimated to cause about 30% of all cancer deaths in the US.[5] Black communities are particularly at risk due to a history of targeted ads, specifically for menthol cigarettes. Tobacco-related cancer mortality is higher among Black people than White people because of historically higher smoking prevalence, but is also declining more rapidly because of steeper reductions in smoking initiation.[109, 175]

Figure 8. Adult Cigarette Smoking Prevalence (%) by Sex and Race, US, 1965-2019



Race includes Hispanic ethnicity. Due to changes in NHIS survey design, 2019 estimates are not directly comparable to prior years and are separated from the trend line.

Sources: 1965-2015: *Health, United States*, 2016. 2016-2019: National Health Interview Surveys, 2016-2019.

- Historically, smoking prevalence was markedly higher in Black men compared to White men, but differences have narrowed during the past 20 years (Figure 8); in 2019, 18% of Black men currently smoked compared to 16% of White men.
- Historically, Black and White women had similar smoking prevalence, but since about 1990 rates have been lower in Black women (Figure 8);[176] in 2019, 13% of Black women currently smoked cigarettes compared to 16% of White women.
- Among adults who smoked in 2018, the rate of successful cessation in the past year was lower among Black (5%) than White (8%) people, even though Black people attempted to quit at higher levels (62% versus 53%). This inconsistency may reflect unequal access to cessation medications.[177]
- In 2020, 3% of Black high school students reported current cigarette use compared to 5% of White high school students (Figure 9).
- Among Black people who smoke, more than 80% use menthol cigarettes compared to about 30% of White people,[178] likely because of targeted marketing of menthol products in Black communities.[179] Menthol may increase cigarette and cigar initiation and nicotine dependence among youth and young adults and make quitting more difficult.[180-182]

Other Combustible Tobacco Products

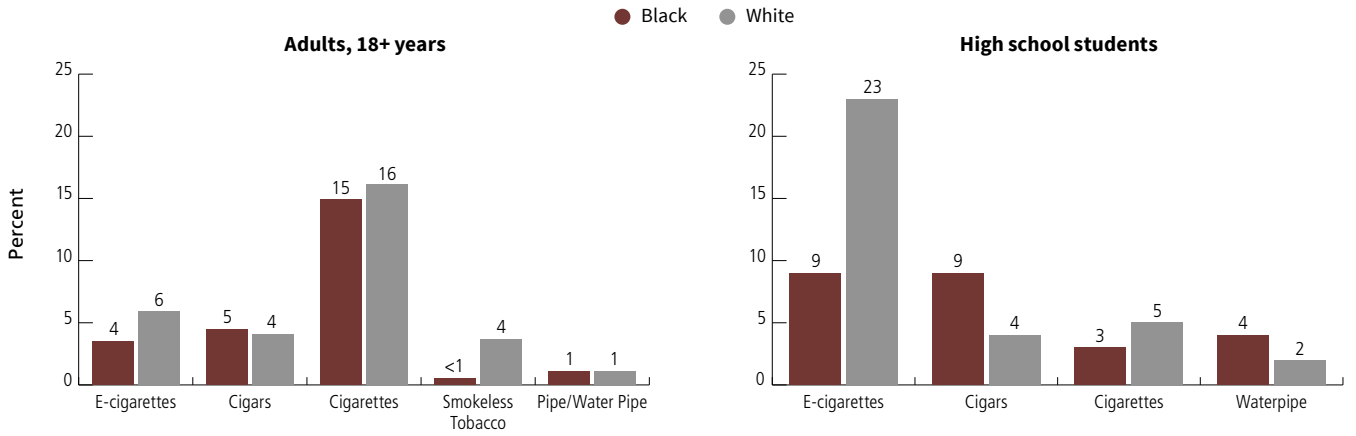
People who smoke cigars have an increased risk of cancers of the lung, oral cavity, larynx, and esophagus compared to people who do not smoke cigars.[183-185] Cigars, including little cigars or cigarillos, cost less than cigarettes; are often sold as singles and include flavorings; and are disproportionately marketed in Black communities.[186] Waterpipes heat tobacco (often flavored) and smoke is passed through water, a process that cools the smoke and enables deeper inhalation among novice smokers. Although many individuals perceive waterpipe smoking to be less harmful than cigarettes because it is done in social settings (e.g., hookah bars), this form of tobacco use is known to increase the risk of lung, oral, and esophageal cancers, as well as noncancer respiratory illnesses.[187-189]

- Cigar, cigarillo, or filtered little cigar smoking prevalence in Black adults ages ≥18 years was 2 to 3 times higher than among White adults in the past decade,[190] but the gap appears to be narrowing (2019: 5% in Black people; 4% in White people) (Figure 9).
- Over the past decade, cigar, cigarillo, or little cigar smoking prevalence was consistently higher in Black students (9% in 2020) than in White (4%) or Hispanic (6%) students (Figure 9).[191]
- While regular pipe, waterpipe, or hookah smoking is similar in Black and White adults (1%), Black high school students (4%) report a higher prevalence of hookah use than White (2%) students (Figure 9).

E-cigarettes (Vaping Devices)

E-cigarettes, which emerged in the mid-to-late 2000s, are devices that aerosolize a liquid nicotine solution. Although evidence suggests that switching completely from conventional to e-cigarettes reduces exposure to numerous toxins and carcinogens,[192] there is accumulating

Figure 9. Current* Cigarette Smoking Prevalence (%) by Sex and Race/Ethnicity, US, 2019-2020



*Adults: Ever smoked 100 cigarettes in lifetime and smoking every day or some days at time of survey. High school students: Smoked on at least 1 day out of the 30 days preceding the survey. Note: Race is exclusive of Hispanic ethnicity. Adult estimates are age adjusted to the 2000 US standard population.

Sources: Adults: National Health Interview Survey, 2019. High school students: National Youth Tobacco Survey, 2020.

evidence of negative short-term effects on airways and blood vessels.[193, 194] However, because these products are relatively new, risks associated with long-term use are unknown.[192, 195] Adolescent and young adult e-cigarette users are more likely than non-users to begin using combustible tobacco products.[196, 197]

- In 2019, 4% of Black adults were current e-cigarette users compared to 6% of White adults (Figure 9).
- E-cigarettes, alongside cigars, were the most commonly used tobacco product among Black high school students (9%) in 2020, although use was lower than among White (23%) or Hispanic (19%) students (Figure 9).[191]

Secondhand Smoke

About 3% of all lung cancer cases in the US can be attributed to secondhand smoke exposure.[5]

- Approximately 42% of Black nonsmoking people ages ≥20 years have serum markers for secondhand smoke compared to just 18% of White people.[198]
- Secondhand smoke exposure is even higher among youth; 57%-58% of Black youth ages 3-17 had evidence of exposure compared to 36%-41% of White youth in 2017-2018.[199]

Excess Body Weight, Alcohol, Diet, and Physical Activity

Aside from avoiding tobacco use, maintaining a healthy weight and limiting alcohol consumption are among the most effective strategies for reducing cancer risk.[200] An estimated 18% of all cancers can be attributed to the combined effects of excess body weight, alcohol consumption, physical inactivity, and an unhealthy diet.[5] The American Cancer Society's 2020 diet and physical activity guideline provides recommendations to help individuals adopt healthy benefits.[200] Those who most closely follow these recommendations are 10%-20% less likely to be diagnosed with cancer and 25% less likely to die from cancer.[201] Community action strategies are also included in the guideline because of strong environmental influence on individual food and activity behaviors.

Excess Body Weight

An estimated 5% of all cancer cases in men and 11% in women can be attributed to excess body weight.[5] Excess body weight (overweight or obesity) increases risk for many cancers: uterine corpus (endometrium), esophagus (adenocarcinoma), liver, stomach (cardia), kidney (renal cell), meningioma, multiple myeloma, pancreas, colorectum, gallbladder, ovary, female breast (post-menopausal), and thyroid.[121] Although the evidence is less

2020 American Cancer Society Guideline on Diet and Physical Activity for Cancer Prevention[200]

1. Achieve and maintain a healthy body weight throughout life.

- Keep body weight within the healthy range and avoid weight gain in adult life.

2. Be physically active.

- Adults should engage in 150-300 minutes of moderate-intensity physical activity per week, or 75-150 minutes of vigorous-intensity physical activity, or an equivalent combination; achieving or exceeding the upper limit of 300 minutes is optimal.
- Children and adolescents should engage in at least 1 hour of moderate- or vigorous-intensity activity each day.
- Limit sedentary behavior, such as sitting, lying down, and watching television, and other forms of screen-based entertainment.

3. Follow a healthy eating pattern at all ages.

A healthy eating pattern includes:

- Foods that are high in nutrients in amounts that help achieve and maintain a healthy body weight
- A variety of vegetables – dark green, red, and orange, fiber-rich legumes (beans and peas), and others
- Fruits, especially whole fruits with a variety of colors
- Whole grains

A healthy eating pattern limits or does not include:

- Red and processed meats
- Sugar-sweetened beverages
- Highly processed foods and refined grain products

4. It is best not to drink alcohol.

- People who do choose to drink alcohol should limit their consumption to no more than 1 drink per day for women and 2 drinks per day for men.

Recommendation for Community Action

- Public, private, and community organizations should work collaboratively at national, state, and local levels to develop, advocate for, and implement policy and environmental changes that increase access to affordable, nutritious foods; provide safe, enjoyable, and accessible opportunities for physical activity; and limit alcohol for all individuals.

For more information, visit:

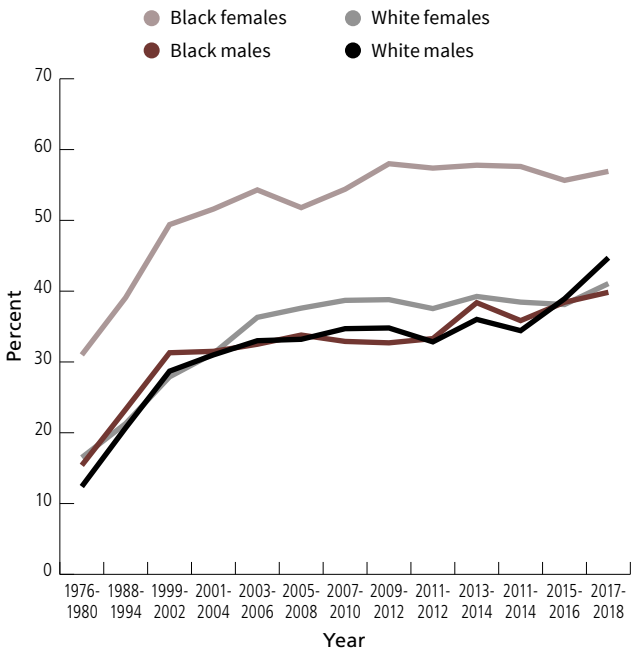
- Guidelines for cancer prevention: cancer.org/healthy/eat-healthy-get-active/acs-guidelines-nutrition-physical-activity-cancer-prevention/guidelines.html
- Guidelines for cancer survivors:[202] cancer.org/health-care-professionals/american-cancer-society-prevention-early-detection-guidelines/nupa-guidelines-for-cancer-survivors.html

clear, excess weight may also increase the risk of cancers of the mouth, pharynx, larynx, and male breast, as well as fatal prostate cancer and non-Hodgkin lymphoma (diffuse large B-cell lymphoma).[203] The prevalence of obesity increased in all adults over the past four decades and is especially high among Black women (Figure 10).

Additionally, physical inactivity and excessive weight gain that begin during childhood often continue into adulthood, resulting in long-term cumulative exposure to excess body fatness and subsequent health consequences.[204, 205] Furthermore, overweight Black youth are more likely to become obese adults than their White counterparts (Figure 11),[206] likely at least in part because of a lower-resourced community environment.[207-209] For example, there is a higher prevalence of food deserts/swamps (i.e., areas with limited access to a variety of healthy and affordable food) and lower prevalence of safe greenspaces for physical activity in neighborhoods with a larger proportion of people of color.[210, 211]

- The prevalence of obesity in Black women continued to rise through 2017-2018 (57%) and has been consistently higher than all other race/sex groups (Figure 10).[212]
- In contrast, obesity prevalence has stabilized among Black men since 2005-2006, and prevalence in 2017-2018 (41%) was not statistically significantly different than among White men (45%) (Figure 10).[212]

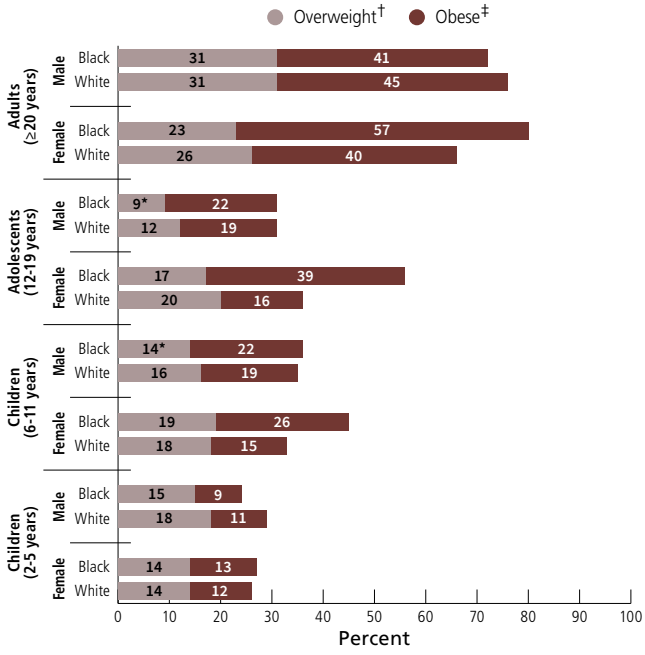
Figure 10. Trends in Obesity* Prevalence (%), Adults 20-74 Years, by Sex and Race/Ethnicity, US, 1976-2018



Note: Race is exclusive of Hispanic ethnicity. *Body mass index >= 30.0 kg/m2. Notes: Estimates are age adjusted to the 2000 US standard population.

Sources: 1976-2010: *Health, United States, 2013*. 2011-2018: National Health and Nutrition Examination Surveys, 2011-2018.

Figure 11. Excess Body Weight Prevalence (%), Youth and Adults, 2017-2018



Race is exclusive of Hispanic ethnicity. *Estimates are unstable. †For youth: Body mass index (BMI) at or above 85th percentile but below 95th percentile of CDC growth chart. For adults: BMI 25.0-29.9 kg/m^2. ‡For youth: BMI at or above 95th percentile of CDC growth chart. For Adults: BMI >= 30 kg/m^2. Estimates for adults are age adjusted to 2000 US standard population.

Sources: National Health and Nutrition Examination Surverys, 2017-2018.

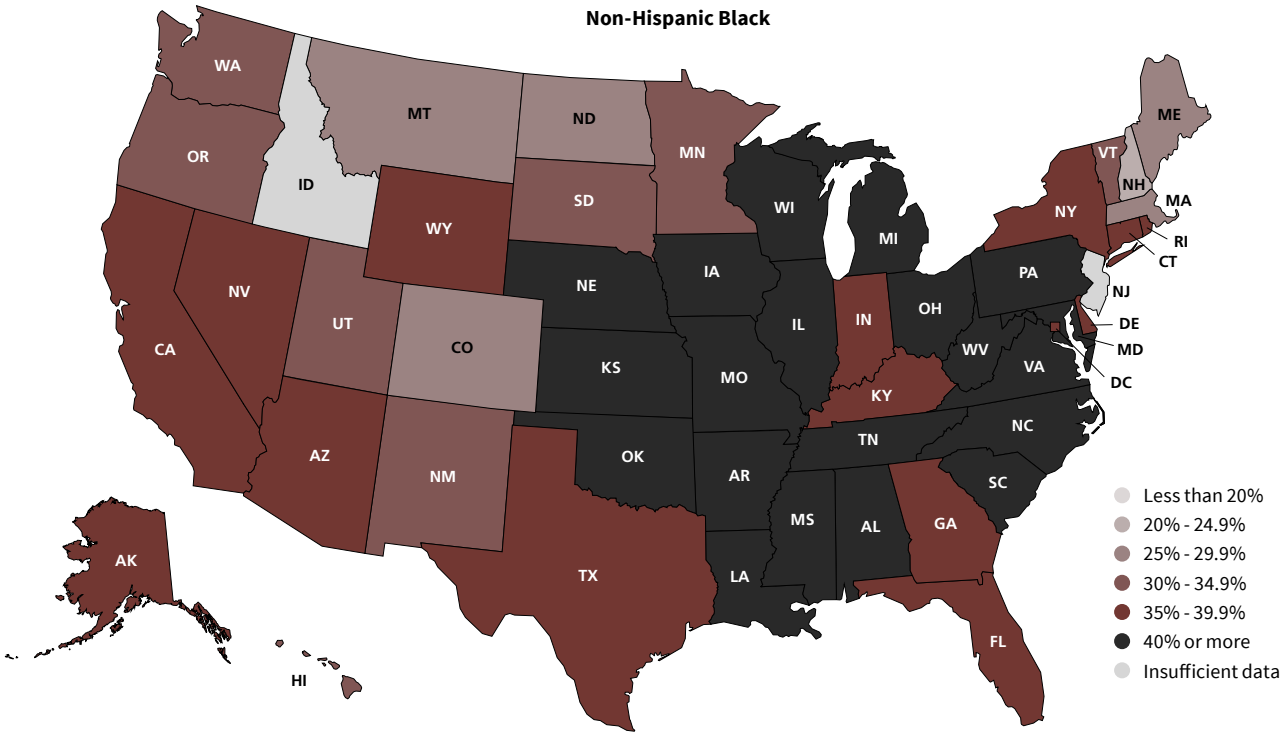
- Among both Black men and women, overweight prevalence was similar to their White counterparts. (Figure 11).
- In 2017-2019, the prevalence of obesity among Black people was greater than 40% in 20 states and did not fall below 20% in any state. In contrast, prevalence among White people did not exceed 40% in any state and was less than 20% in Hawaii and the District of Columbia (Figure 12).
- Obesity prevalence nearly doubled among Black youth ages 2-19 years between 1988-1990 (13%) and 2017-2018 (24%).[212,213]
- Black girls ages 2-19 years have had consistently higher obesity prevalence than all other race/sex groups since 1988-1994,[213] even at young ages; for example, 26% of Black girls ages 6-11 years were obese compared to 15% of White girls, whereas there is no racial disparity for boys at any age (Figure 11).

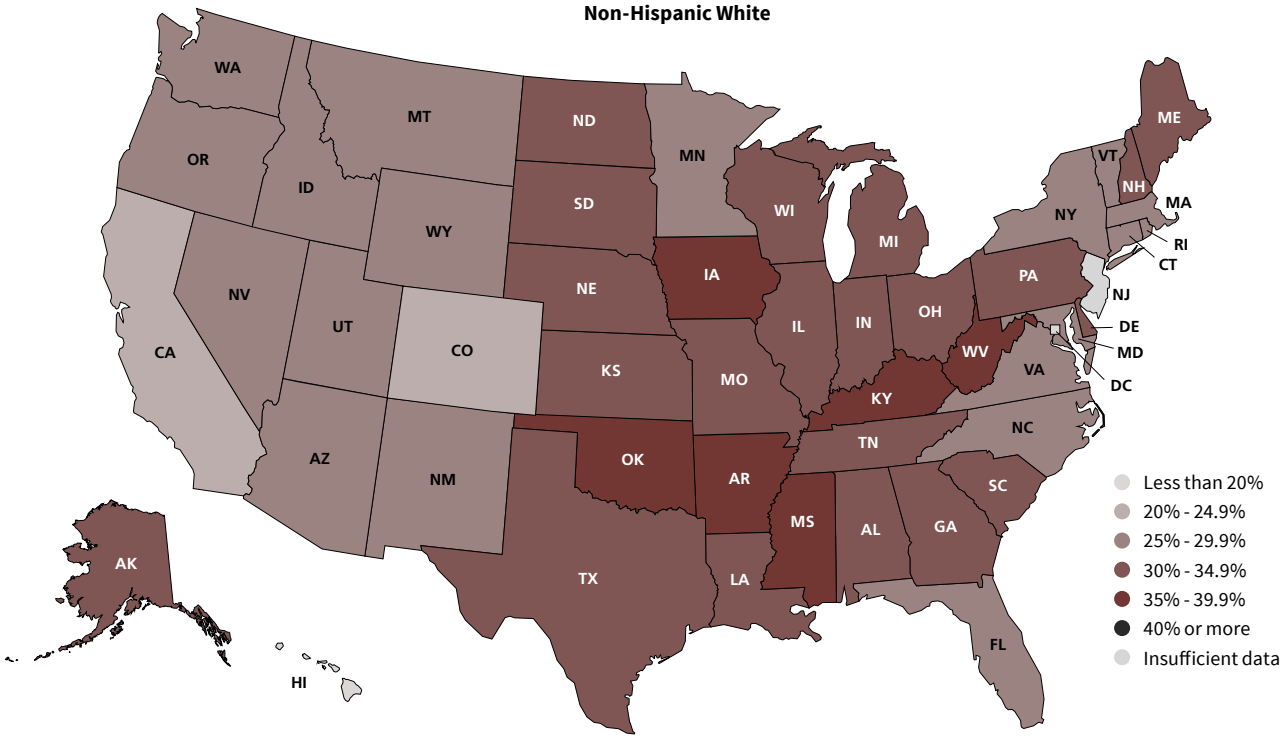
Alcohol

An estimated 6% of cancer cases can be attributed to alcohol consumption,[5] which increases the risk for cancers of the mouth, pharynx, larynx, esophagus (squamous cell carcinoma), liver, colorectum, female breast, and stomach.[75] Risk increases with alcohol volume, and even a few drinks per week may slightly increase risk of female breast cancer.[214] The use of alcohol and tobacco combined interacts to increase the risk of cancers of the mouth, pharynx, larynx, and esophagus far more than the independent effect of either drinking or smoking alone.[215]

- In 2018, heavier drinking was lower in Black people (men and women: 3%) than in White people (men: 6%; women: 7%) (Table 7).
- Among high school students in 2019, about 15% of Black men and 19% of Black women reported current (past month) alcohol consumption, compared to 33% and 36% of White men and women, respectively (Table 7).

Figure 12. Prevalence of Obesity* (%), Adults 18 Years and Older, 2017-2019





Note: Race is exclusive of Hispanic ethnicity. *BMI >= 30 kg/m^2

Source: Centers for Disease Control and Prevention, 2021.

Diet

An estimated 4%-5% of cancer cases can be attributed to poor diet.[5] Diet patterns high in processed and red meat, starchy foods, refined carbohydrates, and sugary drinks are associated with higher risk of developing cancer (predominately colon).[216] Conversely, dietary patterns emphasizing a variety of fruits and vegetables, whole grains, legumes, and fish or poultry and few red and processed meats are associated with lower cancer risk.[217, 218] Diet is also influenced by access to healthy food, which is influenced by socioeconomic and community factors.[12, 14, 210]

- Among Black adults in 2019, 10% consumed three or more servings of vegetables per day and 24% reported eating two or more servings of fruits daily, somewhat lower than that for White adults (Table 7).
- Among Black high school students in 2019, about 12% consumed vegetables three or more times per day and 27% consumed fruit/100% fruit juices two or more times per day, similar to that among White students (Table 7).
- Overall dietary patterns as measured by the Healthy Eating Index (HEI) between 1999 and 2016 showed no improvements among Black people.[219]
- Between 1999 and 2018, total energy consumed from ultra-processed foods among youth ages 2-19 years increased more in Black than White youth.[220]
- Consumption of "fast food" on any given day was higher among Black (42%) than White (37%) adults in 2013-2016 and in Black (17%) than White (13%) youth in 2015-2018.[221]
- Despite a decrease in prevalence of sugar-sweetened beverage consumption in youth and adults overall between 2003-2018,[222] Black adults contributed more to total consumption in 2015-2018 than White adults (15% versus 9%).[223]

Physical Activity

Physical activity decreases the risk of cancers of the colon (but not rectum), female breast, endometrium, kidney, bladder, esophagus (adenocarcinoma), stomach (cardia), and possibly lung.[224-226] Approximately 3% of cancer cases can be attributed to lack of physical activity, although

Table 7. Health Risk Prevalence (%), Adults and High School Students, by Sex and Race/Ethnicity, US 2018-2019

	Black	White
No leisure-time physical activity		
Adults (≥18 yrs)		
All	34	22
Males	27	20
Females	41	23
High School Students*		
All	26	13
Males	22	11
Females	31	15
Met recommended levels of aerobic activity		
Adults (>= 18 yrs)**		
All	47	58
Males	54	61
Females	41	55
High School Students***		
All	21	26
Males	29	35
Females	13	16
Alcohol consumption		
Adults (Heavy Consumption, >= 18 yrs)†		
All	3	7
Males	3	6
Females	3	7
High School Students‡		
All	17	34
Males	15	33
Females	19	36
Consumed ≥2 fruit servings a day		
Adults (>= 18 yrs)		
All	24	26
Males	22	23
Females	27	29
High School Students		
All	27	28
Males	30	29
Females	24	26
Consumed ≥3 vegetable servings a day		
Adults (>= 18 yrs)		
All	10	13
Males	9	11
Females	12	16
High School Students		
All	12	14
Males	13	14
Females	11	13

Races are exclusive of Hispanic ethnicity. Estimates for adults are age adjusted to the 2000 standard US population. *Not physically active for a total of at least 60 minutes on at least 1 day out of the past week. **Includes 150 minutes of moderate-intensity activity or 75 minutes of vigorous-intensity activity each week. ***Were physically active at least 60 minutes per day on all 7 days prior to survey. †Men: >14 drinks per week, women: >7 drinks per week. ‡At least one drink of alcohol, on at least 1 day during the 30 days before the survey.

Source: Adults – Physical Activity and Alcohol consumption: National Health Interview Survey, 2018. Adults – Fruit and Vegetable consumption: Behavioral Risk Factor Surveillance System, 2019. Youth – Youth Risk Behaviour Surveillance System, 2019.

this is likely an underestimate because it is only based on colon, female breast, and endometrial cancers.[5] Conversely, people with cancer who are physically active are less likely to have adverse effects and to die from the disease than those who are inactive.[227] Extended leisure-time sitting has also been associated with increased risk of cancer death,[228] whereas replacing sedentary time with even short durations of moderate to vigorous physical activity appears to reduce cancer mortality.[229]

- In 2018, Black adults reported no leisure-time physical activity more often than White adults (34% versus 22%, Table 7).
- Similarly, 47% of Black adults reported meeting recommended levels of aerobic activity compared to 58% of White adults (Table 7).
- Racial disparities in physical activity were larger among women than among men (Table 7).
- In 2015-2018, the prevalence of physical inactivity was 30% or higher in 23 states among Black adults versus only 5 states among White adults.[230]
- Black high school girls (31%) and boys (22%) were twice as likely to report no physical activity compared to White girls (15%) and boys (11%) (Table 7).
- In 2019, 21% of Black high school students reported at least 60 minutes of daily physical activity in comparison to 26% of White high school students (Table 7).

Type 2 Diabetes

Type 2 diabetes is a chronic condition in which the body loses the ability to respond to insulin and shares several modifiable risk factors with cancer, including excess body weight, poor diet, and lack of physical activity. Evidence suggests that type 2 diabetes may independently increase risk for several cancers, including liver, endometrium, pancreas, colorectum, kidney, bladder, breast, and ovary.[231-233] In 2017-2018, the prevalence of diabetes among Black adults (12%) was greater than that among White adults (8%).[234] Although body weight differences contribute to this disparity, Black people have a higher prevalence of both diabetes and prediabetes than White people at lower body weights, suggesting that mechanisms other than obesity are involved.[235] In 2019, Black people were twice as likely to die from diabetes as their White counterparts (38.3 versus 19.0 per 100,000).

Infectious Agents

About 3% of all cancers in the US are due to infections caused by agents such as human papillomavirus, *Helicobacter pylori*, and hepatitis B and C viruses.[5] Fortunately, there are opportunities to prevent or treat most of these infections.

Human Papillomavirus (HPV)

HPV is the most common sexually transmitted disease in the US, with approximately 13 million people newly infected in 2018.[236] Although most HPV infections are cleared by the body and do not cause cancer, virtually all cervical and anal cancers are caused by persistent HPV infection, as well as 70% of oropharyngeal cancers and 60%-70% of vaginal, vulvar, and penile cancers.[237] Cervical cancer is the most common HPV-related cancer in women, and oropharyngeal cancer is the most common in men. The virus is spread primarily through direct sexual contact and is usually asymptomatic.

While there are more than 100 different types of HPV, only about 14 of these cause cancer.[238] The HPV vaccine currently used in the US protects against 9 HPV types and has the potential to avert 90% of HPV-associated cancers.[237] The American Cancer Society's 2020 guideline recommends routine HPV vaccination of both girls and boys between 9-12 years of age (see sidebar, page 30).[239] However, because vaccination does not prevent established infections from progressing to cancer or protect against all HPV subtypes, all women should receive cervical cancer screening according to recommendations, regardless of vaccination status. (For more information about cervical cancer screening, see page 32.)

- In 2013-2016, the prevalence of high-risk oral HPV was similar among Black (5%) and White (4%) adults, but prevalence of high-risk genital HPV was much higher in Black (39%) than White (22%) people. There is some evidence of variations in the prevalence of specific HPV genotypes in Black compared to White women.[240]

American Cancer Society Recommendations for HPV Vaccine Use

- HPV vaccination works best when given to girls and boys between ages 9 and 12 years.
- Teenagers and young adults ages 13 through 26 years who have not been vaccinated or who have not received all of their shots should get the vaccine as soon as possible. Vaccination of young adults will not prevent as many cancers as vaccination of children and teens.
- The American Cancer Society does not recommend HPV vaccination for people older than 26 years of age.

- In 2019, slightly over half of Black girls (53%) and boys (55%) ages 13-17 were up to date with HPV vaccination, similar to coverage among White girls but higher than White boys (49%) (Table 8).

Helicobacter Pylori (H. Pylori)

Chronic infection with *H. pylori*, a bacterium that grows in the stomach and causes damage to the stomach lining, increases risk of adenocarcinoma of the stomach, the most common type of stomach cancer, as well as lymphoma of the stomach.[241] In the US, about 65% of non-cardia gastric cancers (cancers in the lower part of the stomach) and 31% of all stomach cancers are attributable to *H. pylori* infection.[5] *H. pylori* is thought to spread from person to person through fecal-oral and oral-oral routes and is facilitated by crowded living conditions and poor sanitation. The prevalence of *H. pylori* infection in the US is about twice as high in Black than White adults, with increased odds of infection associated with African ancestry. [242, 243]

Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV)

Chronic infection with HBV or HCV increases risk of liver cancer and non-Hodgkin lymphoma.[244-246]

Table 8. Prevalence (%) of HPV Vaccination (2019) and Cancer Screening (2018), US

	Black	White
HPV vaccination (adolescents 13-17 years)		
Females		
≥ 1 dose	72	71
Up-to-date*	53	54
Males		
≥ 1 dose	72	66
Up-to-date*	55	49
Breast cancer screening		
Up-to-date (women 45+ years)**	66	64
Mammogram within the past two years (women 50-74 years) (USPSTF guidelines)	74	73
Cervical cancer screening (women 25-65 years)		
Up-to-date†	88	86
Colorectal cancer screening‡		
Adults 50+ years	65	68
Males	64	69
Females	66	66
Adults 45+ years	57	58
Males	58	59
Females	57	57
Prostate-specific antigen test (men 50+ years)* **		
Within the past year	33	37

Races are exclusive of Hispanic ethnicity. Estimates for screening are age adjusted to the 2000 US standard population and do not distinguish between examinations for screening and diagnosis. HPV: human papillomavirus. *According to recommendations; see sources for more information.[239] **Mammogram within the past year (ages 45-54 years) or past two years (ages ≥55 years). †Pap test in the past 3 years among women 25-65 years OR Pap test and HPV test within the past 5 years among women 30-65 years. ‡For ages ≥45 and ≥50 years: FOBT/FIT, sigmoidoscopy, colonoscopy, computed tomography (CT) colonography, OR sDNA test in the past 1, 5, 10, 5 and 3 years, respectively. For ages 50-75 years: FOBT/FIT, sigmoidoscopy, colonoscopy, computed tomography (CT) colonography, OR sDNA test in the past 1, 5, 10, 5 and 3 years, respectively, OR sigmoidoscopy in the past 10 years with FOBT/FIT in past 1 year. ***Among men who have not been diagnosed with prostate cancer.

Sources: Vaccination: National Immunization Survey-Teen, 2019. Screening: National Health Interview Survey, 2018.

HBV: About 7% of all liver cancers in the US are attributable to HBV, a virus that is transmitted through blood or mucosal contact with infectious blood or body fluids (e.g., semen, saliva).[5] Most new HBV infections occur in unvaccinated adults with high-risk behaviors, such as injection drug use and multiple sex partners.[247] HBV can also be passed from an infected mother to her child during childbirth.

Vaccination against HBV is the primary prevention strategy to reduce prevalence of the virus. Those who should be vaccinated include infants, youth under age 19 who have not been vaccinated, and unvaccinated adults who are at high risk of infection (e.g., health care workers, travelers to regions where HBV infections is endemic).[247]

In 2020, the US Preventive Services Task Force (USPSTF) maintained its previous screening recommendations for HBV after considering new evidence that treating HBV infections leads to better health outcomes. Screening is recommended by the USPSTF for people who have not been vaccinated against HBV, as well as those who are at increased risk of infection because they were born in a country with high prevalence or engage in risky behaviors, such as injection drug use or unprotected sex with multiple partners, regardless of vaccination status.[248]

- HBV infection rates have been steady since 2010. In 2019, the rate of newly reported chronic HBV infection was about 4 times higher among Black people (6.7 cases per 100,000) than White people (1.8 cases per 100,000).[249]
- HBV vaccination coverage in 2019 was 91% among Black adolescents and 94% among White adolescents.[249]

HCV: Nearly one-quarter of liver cancers in the US are attributable to HCV.[5] HCV transmission is most common through intravenous drug use, but can also occur through needle-stick injuries in health care settings, mother-to-child transmission during birth, and less commonly through sexual contact with an infected partner. Most people with HCV will become chronically infected and remain unaware of their infection until liver disease develops. In contrast to HBV infection, there is no vaccine to protect against HCV infection.

In 2020, the US Preventive Services Task Force updated their guidelines recommending one-time screening among all men and women ages 18 to 79 years.[250] Those who test positive for HCV are advised to begin antiviral treatment to reduce the risk of negative health effects and to be counseled on how to prevent transmission to others. [251]

- During 2012-2016, approximately 2.4 million people in the US were living with current HCV infection. [252]
- From 2013 through 2016, HCV prevalence was twice as high in Black (2.3%) compared to White (1.0%) adults.[253]
- In 2017, only 18% of adults born between 1945 and 1965 had ever been tested (according to guidelines at that time), with similar screening prevalence in Black and White adults.[254]

Human Immunodeficiency Virus (HIV)

HIV infection is almost twice as common in Black people as in White people and is associated with elevated cancer risk both directly and indirectly. HIV may be present in the body for a long time without showing symptoms; however, as the infection progresses and the immune system is weakened, acquired immunodeficiency syndrome (AIDS) develops. HIV is primarily transmitted through sexual intercourse and injection drug use. There are several AIDS-defining (serious illness that signals the progression of HIV-infection to AIDS) cancers, including Kaposi sarcoma, high-grade non-Hodgkin lymphoma, and cervical cancer. HIV-infected individuals are also at an increased risk of developing other cancers, including Hodgkin lymphoma, some head and neck cancers, and anal and liver cancers.[244] The weakened immune system, along with shared routes of transmission with other cancer-causing infectious agents (e.g., HPV, HCV), increases the risk of cancers in this population.[255] There are several primary prevention strategies for HIV, such as practicing safe sex and using sterile needles. Among people diagnosed with HIV, antiviral medications reduce viral load and associated cancer risk. [256]

- In 2018, the prevalence of diagnosed or undiagnosed HIV was 7 times higher in Black people compared to White people ages 13 years and older.[249]
- HIV-infected Black people are less likely to receive treatment than White people; in 2018, 63 out of 100 Black individuals received treatment compared to 70 out of 100 White individuals.[257]

Cancer Screening

Early detection of cancer through screening reduces mortality from cancers of the colon and rectum, breast, uterine cervix, and lung. In addition to detecting cancer early, screening for colorectal and cervical cancers can prevent these cancers by identifying and removing precancerous lesions. The American Cancer Society guidelines for the early detection of cancer are available at: https://www.cancer.org/healthy/find-cancer-early/cancer-screening-guidelines/american-cancer-society-guidelines-for-the-early-detection-of-cancer.html. Black people generally have lower rates of cancer screening, likely related to less access to care and perhaps lower likelihood of physician recommendation and medical mistrust.[42] For information on cancer screening beyond what is included in this section, please visit cancer.org/statistics to review the latest edition of *Cancer Prevention & Early Detection Facts & Figures*.

Breast Cancer Screening

Mammography is a low-dose x-ray procedure that can detect breast cancer at an early stage when treatment is often less intensive and more successful. The American Cancer Society guidelines recommend that women at average risk begin screening at 45 years of age, with an option to begin at age 40; see page 49 for detailed screening recommendations. The American Cancer Society recommends that women with an elevated breast cancer risk (e.g., those with *BRCA1* or *BRCA2* gene mutations or a family history) begin annual screening with magnetic resonating imaging (MRI) starting at age 30. This is especially important for Black women, who are more likely to be diagnosed at a younger age and with more aggressive breast cancer subtypes.[64]

- Among Black women ages 40 and older, mammography screening declined from a peak of 71% in 1999 to 65% in 2005, and has since remained relatively stable.[249]
- In 2018, 66% of Black women and 64% of White women ages 45 years and older reported being up to date with breast cancer screening (Table 8). However, self-reported survey data overestimate screening prevalence, particularly for Black women.[258, 259]
- Black women are less likely to have screening at high-quality facilities,[82] and to have access to digital breast tomosynthesis screening (or 3-D mammography), which has a higher detection rate and lower recall compared to older technology (digital mammograms). [260]

Cervical Cancer Screening

Regular use of Pap and HPV tests followed by appropriate and timely treatment can help prevent cervical cancer occurrence and death.[261] In 2020, the American Cancer Society recommended that women ages 25 to 65 receive cervical cancer screening with the primary HPV test (preferred), co-testing that combines an HPV test with a Pap test, or a Pap test alone. (For more information on cervical cancer screening guidelines, see page 49.)

- Cervical cancer screening prevalence declined in Black women ages 21 to 65 years from 90% in 2000 to 82% in 2015, and has since increased to 87% in 2018.[249]
- In 2018, self-reported up-to-date cervical cancer screening prevalence among women ages 24-64 years was 88% in Black women and 86% in White women (Table 8).
- Black women appear to be less likely to receive recommended follow-up after a positive cervical cancer screening test.[262]

Colorectal Cancer Screening

Colorectal cancer (CRC) screening can prevent cancer through the detection and removal of precancerous growths, as well as detect cancer at an early stage when treatment is usually less intensive and more successful. The American Cancer Society recommends that colorectal cancer screening begin at age 45 for people at average risk with either a stool-based test or structural exam (e.g., colonoscopy). (See more specific information on colorectal cancer screening recommendations on page 49).

- From 2000 to 2018, colorectal cancer screening among adults ages 50 and older doubled from 32% to 65% in Black people and increased from 40% to 68% in White adults.[263, 264]
- In 2018, 57% of Black adults ages 45 years and older were up to date with CRC screening, similar to prevalence in White adults (58%, Table 8).
- Despite similar self-reported CRC screening prevalence, Black people are more likely to receive a lower-quality colonoscopy.[265]
- Recent research suggests that the Black-White screening disparity has increased in recent years as rates continue to improve in White people (by 1% per year from 2008 to 2016) but have stabilized in Black people.[90]

Lung Cancer Screening

Clinical trial data have shown that annual lung cancer screening with low-dose computed tomography (LDCT) reduces lung cancer mortality among people with a high risk because of their smoking history.[266, 267] As a result of strengthened evidence in recent years for broader eligibility, in 2021 the US Preventive Services Task Force (USPSTF) lowered the recommended age to begin screening from 55 to 50 years of age and the pack-year threshold from 30 to 20 years.[268] This change is intended to expand the number of Black individuals eligible to be screened because Black people develop lung cancer at younger ages and with lower smoking intensity.[269] The American Cancer Society is currently updating their lung cancer screening guideline, but in the interim recommends following the guidance of the USPSTF. (See more specific screening recommendations on page 49).

- In 2020, approximately 7% of eligible adults received LDCT in the past year according to registry data, although self-reported rates are markedly higher.[270]
- According to self-reported data, the prevalence of LDCT in White and Black people ages 55-80 years was similar, although most Black people screened for lung cancer were older, suggesting that disparities in lung cancer screening may exist in younger populations.[271]

Prostate Cancer Screening

The American Cancer Society recommends that asymptomatic men ages 50 years and older have an opportunity to make an informed decision with their health care provider about whether to be screened for prostate cancer using the prostate-specific antigen (PSA) test. For Black men and men at high risk of prostate cancer, the American Cancer Society recommends that these discussions begin at age 45. In 2018, the USPSTF recommended shared decision-making for PSA testing among men ages 55-69 years after recommending against routine screening in 2012.[272]

- Among men ages 55-69 years, PSA testing declined from 48% to 37% (11% decline) between 2010-2018 among Black men and from 50% to 40% (10% decline) among White men.[273]
- In 2018, 33% of Black men ages 50 years and older received a PSA test in the past year compared to 37% of White men (Table 8).

How the American Cancer Society Helps Reduce Cancer Disparities

Eliminating disparities in cancer is an overarching goal of the American Cancer Society. As we lead the fight for a world without cancer, we believe all people should have a fair and just opportunity to live a longer, healthier life free from cancer regardless of how much money they make, the color of their skin, their sexual orientation, gender identity, their disability status, or where they live.

Cancer Prevention and Early Detection

One of the ways we are leading the fight is by encouraging evidence-based cancer screening for early detection. We also work to promote healthy lifestyles by bringing attention to the effects of obesity, diet and physical activity, sun exposure, and tobacco and alcohol use on cancer risk. Aside from avoiding tobacco, maintaining a healthy weight and staying active throughout life, following a healthy eating pattern and avoiding or limiting alcohol consumption are among the most effective strategies for reducing cancer risk.

The American Cancer Society's 2020 diet and physical activity guideline (see page 25) for cancer prevention provides recommendations to help individuals adopt healthy behaviors. Community action strategies are also included in the guideline because of the strong environmental influence on individual food and activity choices.

Furthermore, in addition to detecting cancer early, regular screening can prevent cervical and colorectal cancers by identifying and treating removable precancerous lesions. Despite the promise of cancer screening and the associated reductions in mortality, not all population groups have benefited equally.

The Community Health Advocates implementing Nationwide Grants for Empowerment and Equity (CHANGE) Program awards community grants to promote health equity within communities with limited income and/or insurance coverage and communities of color. Since 2011, over 600 CHANGE grants have been awarded, reaching individuals through more than 3.2 million outreach and education interactions, contributing more than 1 million breast, cervical, and colorectal cancer screenings at low or no cost, and implanting sustainable policy and system changes.

In addition, we are collaborating with various partners to improve cancer outcomes among Black people through cancer prevention and early detection education and sharing of resources for people with cancer and their caregivers. These partnerships are critical in leveraging our mutual commitments to saving lives and reducing cancer disparities.

- The American Cancer Society is partnering with The Links, Inc., to develop the Health Equity Ambassador Links (HEAL) program. We have trained almost 2,000 Links members as health equity ambassadors who deliver information in communities. With help from an Anthem Foundation grant, in 2021, The Links, Inc., has committed to having another 500 ambassadors trained, which is expected to reach over 100,000 individuals in the next two years.
- The National Black Justice Coalition collaborates with the American Cancer Society and our advocacy affiliate, the American Cancer Society Cancer Action Network℠ (ACS CAN) to reach Black LGBTQ+ communities and other constituents with important messages relating to cancer prevention and early detection.
- The American Cancer Society is contributing to ongoing dialogue and collaboration around health equity issues with Black-led social, civic, and faith organizations, including the African Methodist Episcopal Church; Alpha Kappa Alpha (AKA) Sorority, Inc.; Delta Sigma Theta Sorority, Inc.; Phi Beta Sigma Fraternity, Inc.; and Zeta Phi Beta Sorority, Inc.
- The American Cancer Society Partnering For Life initiative works to spread awareness about cancer risk, prevention, and early detection in the Black community. More information can be found at https://www.cancer.org/about-us/what-we-do/multicultural/partnering-for-life.html.

Support for Quitting Tobacco

The American Cancer Society continues our long history of work to reduce tobacco use through research, education, and advocacy. Our tobacco control efforts focus on the adoption and implementation of smoke- and tobacco-free policies in all workplaces, public places, and other important venues such as multiunit residential settings. Our website, cancer.org, and 24/7 helpline provide information about the health benefits of quitting tobacco

and resources for people who want to quit smoking or help someone else quit. In addition, we're taking steps to reduce tobacco-related health disparities, including among the disproportionately high percentage of smokers who also have mental health or substance use disorders. See page 38 for specific examples of successful efforts in furthering tobacco control within the Black community.

Patient and Caregiver Services

The American Cancer Society provides people with cancer and their caregivers with resources that can help improve – and even save – lives, including information about cancer, transportation to treatment, lodging during treatment, and a whole host of other supportive services.

Cancer Information

Trained American Cancer Society staff connect people to answers about a cancer diagnosis, treatment, side effects, health insurance, our programs and services, and referrals to other services at our 24/7 helpline at 1-800-227-2345. Our website, cancer.org, offers easy-to-understand, evidence-based, and accurate cancer information. People with cancer and their caregivers can find detailed and reliable information about 70+ types of cancer, available treatments, managing side effects, and living as a cancer survivor. Some of our cancer information is available in easy-reading formats and 12 different languages.

Program and Services

Survivorship: The American Cancer Society survivorship work aims to help people adjusting to, living with, and moving beyond cancer from diagnosis through long-term survivorship to the end of life. Efforts focus on helping survivors manage their ongoing physical, psychosocial, functional, and socioeconomic problems and engage in healthy behaviors to optimize their wellness. Our posttreatment survivorship care guidelines are designed to promote survivor health and quality of life by facilitating the delivery of high-quality, comprehensive, coordinated clinical follow-up care. Our survivorship research efforts focus on understanding the impact of cancer on survivors' lives and on developing and testing interventions to help survivors actively engage in their health care and improve their health and well-being through and beyond treatment. Through the National Cancer Survivorship Resource Center, a collaboration between the American Cancer Society and the George Washington University Cancer Institute funded by the Centers for Disease Control and Prevention, we created the Cancer Survivorship E-Learning Series for Primary Care Providers. This free e-learning program continues to teach clinicians how to care for survivors of adult-onset cancers.

Support for caregivers: Cancer not only affects the individual diagnosed, but also impacts an entire family unit and network of close friends who often must provide care for their loved one throughout diagnosis and treatment. One of the informational tools we offer is our Caregiver Resource Guide (https://www.cancer.org/treatment/caregivers/caregiver-resource-guide.html), which helps caregivers learn to care for themselves as they provide care for a loved one; better understand what their loved one is going through; develop skills for coping and caring; and take steps to help protect their own health and well-being. Another helpful resource is our Caregiver Support Video Series (cancer.org/caregivervideos), which provides educational support to caregivers as they assist with everyday needs of loved ones, as well as self-care techniques to improve their quality of life.

Transportation to treatment: When transportation to treatment is a concern, the American Cancer Society may be able to help provide rides. Thanks to volunteer drivers, our Road To Recovery® program offers free rides to people who would otherwise have difficulty getting to their cancer-related appointments.

Lodging during treatment: The American Cancer Society Hope Lodge® program provides a free home away from home for people facing cancer and their caregivers. More than just a roof over their heads, it's a nurturing community that helps people access the care they need.

Breast Cancer Support: The American Cancer Society Reach To Recovery® program connects people facing breast cancer – from diagnosis through survivorship – with trained volunteers who are breast cancer survivors. Volunteers provide one-on-one support to help those facing

breast cancer cope with their diagnosis, treatments, side effects, and more. Through our website (reach.cancer.org) and app, people facing breast cancer can create an online profile and match with a volunteer who has experienced a similar type of breast cancer, stage, and treatment.

Finding hope and inspiration: The American Cancer Society Cancer Survivors Network® provides a safe online community where cancer survivors and caregivers share their stories, ask questions, and get support from each other. At csn.cancer.org, members can participate on discussion boards or join chat rooms and build their own support network from among the members.

Research

Research is at the heart of the American Cancer Society's mission. We have invested more than $5 billion in research since 1946, all to find the causes of cancer, ways to detect the disease earlier, more effective treatments, and ways to help people thrive during and after treatment. ACS is unique among nongovernmental, nonprofit organizations in having both intramural and extramural research programs, both of which will turn 76 years old in 2022. The top-tier research we fund and conduct covers everything from cell biology and immunology to nutrition to genetics to environmental and behavioral factors to inequalities in cancer occurrence and outcomes.

Some examples of the American Cancer Society's current research include:

- Examining how social inequalities, including factors such as socioeconomic status and racial discrimination, contribute to racial/ethnic differences in cancer occurrence
- Utilizing our large and diverse population study, Cancer Prevention Study-3, to better understand how factors such as housing discrimination contribute to inequities in cancer prevention behaviors and cancer risk
- Developing a genetically based predictive tool for prostate cancer in order to make it easier for doctors to find and treat aggressive tumors within the prostate gland, particularly in Black men
- Exploring how women make decisions about ovarian cancer treatment in order to increase receipt of guideline-concordant treatment, particularly in Black women and those who do not have health insurance
- Monitoring progress in reducing racial and socioeconomic disparities in the cancer burden, including differences in prevention, early detection, treatment, survival, and mortality
- Examining the effectiveness of insurance coverage expansions under the Affordable Care Act in reducing disparities in receipt of cancer screening and treatment
- Partnering with Pfizer Global Medical Grants to reduce racial disparities in breast and prostate cancer specifically, as well as in the delivery of care for all Black people facing cancer

Advocacy

The American Cancer Society and the American Cancer Society Cancer Action Network℠ (ACS CAN), the American Cancer Society's nonprofit, nonpartisan advocacy affiliate, are committed to ensuring that everyone has a fair and just opportunity to prevent, find, treat, and survive cancer. No one should be disadvantaged in their fight against the disease because of how much money they make, the color of their skin, or where they live. ACS CAN advocates for public policies to reduce disparities and improve health outcomes at all levels of government, some examples of which are listed below.

Much of ACS CAN's work involves the protection of the health care law known as the Affordable Care Act (ACA), which has improved access to care for people facing cancer and their families by:

- Ending discrimination against people with cancer and other life-threatening diseases
- Expanding access to care for people with cancer or at risk for cancer
- Refocusing the health care system on disease prevention

ACS CAN advocates for all states to expand Medicaid coverage up to income levels specified in the Affordable Care Act. Expansion of this coverage has been shown to narrow racial disparities in health coverage and health outcomes. Most recently, ACS CAN joined with partners to expand eligibility for Medicaid in Oklahoma and Missouri through the ballot initiative process and will work to make sure the new laws are fully implemented. ACS CAN will continue to advocate for Medicaid expansion in the 12 states that have yet to expand, which cover about 41% of the Black population, and to advocate for a federal solution.

Clinical Trial Participation

ACS CAN is committed to increasing diversity in clinical trial participation. Communities of color and other medically underserved groups have higher cancer rates and are underrepresented in clinical trials. State Medicaid plans were some of the last major forms of insurance in the US that did not cover routine medical costs for people enrolled in clinical trials, effectively preventing many Medicaid enrollees from participation. ACS CAN led successful efforts in several states to ensure Medicaid covered these costs, and also advocated for federal legislation that ultimately became law and will take effect in 2022 for all Medicaid programs across the country.

In addition, ACS CAN drafted and successfully advocated for passage of the Henrietta Lacks Enhancing Cancer Research Act, which was signed into law in early January 2021. This bipartisan legislation will help remove barriers to participation in federally sponsored cancer clinical trials among communities that are traditionally underrepresented and ensure that people have more equitable access to cutting-edge treatment. ACS CAN is also strongly urging passage of the DIVERSE Trials Act, which would increase racial, socioeconomic, and geographic diversity in clinical trials and make it easier for all people facing cancer to participate by allowing trial sponsors to reimburse patients for ancillary costs, such as travel or lodging.

Increasing Funding for Research and Cancer Control

Each year, ACS CAN works hard to ensure that the agencies overseeing cancer research and prevention programs receive needed funding, and continues to lead the fight to maintain and increase investment in biomedical and cancer research and cancer programs at the National Institutes of Health (NIH), the National Cancer Institute (NCI), and the Centers for Disease Control and Prevention (CDC). This investment includes increased funding for cancer research at the National Institute on Minority Health and Health Disparities, which the American Cancer Society was instrumental in helping to establish.

Protecting state and federal funding for the CDC's National Breast and Cervical Cancer Early Detection Program (NBCCEDP), which provides community-based breast and cervical cancer screening, diagnosis, and treatment to low-income, under- and uninsured women, is a high priority for ACS CAN. Ensuring adequate funding for the NBCCEDP will preserve a critical safety net for those who continue to lack access to lifesaving screening and diagnostic and treatment services for breast and cervical cancers. Current funding only serves 1 in 10 eligible women nationwide.

Colorectal Screening

Colorectal cancer screening by colonoscopy can uniquely prevent cancer, as well as detect disease early. ACS CAN led the fight in the passage of the Removing Barriers to Colorectal Cancer Screening Act of 2019, which closed a loophole in the Medicare program that could cost patients as much as $350 if polyps were removed during a screening colonoscopy. This loophole will be phased out beginning in 2022 and removed entirely by 2030 to ensure that Medicare beneficiaries have access to colorectal cancer screening without surprise out-of-pocket costs. Additionally, in 2022, the federal government clarified that a colonoscopy after a positive stool-based test should be provided at no cost for those patients covered by private insurance or Medicaid

expansion plans. ACS CAN is working at the state (for state-regulated plans) and federal (for Medicare and traditional Medicaid) levels to ensure complete insurance coverage without cost sharing for colorectal cancer screening for all individuals.

Tobacco Cessation

ACS CAN was also a leading partner in the passage of the Family Smoking Prevention and Tobacco Control Act, which gives the Food and Drug Administration (FDA) the authority to regulate all tobacco products. The tobacco industry has intentionally and aggressively targeted communities of color with menthol in cigarettes, which increases smoking initiation, decreases successful quitting, and leads to greater addiction. Black people consistently report the highest prevalence of menthol cigarette use. ACS CAN has advocated for the FDA, Congress, and state and local authorities to prohibit the sale of flavored tobacco products, including menthol cigarettes. ACS CAN also advocates for smoking cessation treatment that is comprehensive, barrier-free, and widely promoted for Medicaid enrollees and is working to increase funding for prevention and cessation services at the state and federal levels.

Additional Resources

Center to Reduce Cancer Health Disparities (CRCHD)
The CRCHD is central to the National Cancer Institute's efforts to reduce the unequal burden of cancer in our society and train the next generation of competitive researchers in cancer health disparities research. The CRCHD initiates, integrates, and engages in collaborative research studies to promote research and training in cancer health disparities and to identify new and innovative scientific opportunities to improve cancer outcomes in communities experiencing an excess burden of cancer. Visit crchd.cancer.gov for additional information.

Cancer Prevention and Control Research Network (CPCRN)
The CPCRN is a national network of academic, public health, and community partners who work together to reduce the burden of cancer, especially among underserved communities. Its members conduct community-based participatory cancer research across its eight network centers, crossing academic affiliations and geographic boundaries. Visit cpcrn.org for additional information.

Intercultural Cancer Council (ICC)
The ICC promotes policies, programs, partnerships, and research to eliminate the unequal burden of cancer among racial and ethnic minorities and medically underserved populations in the US and its associated territories. Visit iccnetwork.org for additional information.

National Medical Association (NMA)
The largest and oldest national organization representing physicians and patients of African descent in the US, the NMA is committed to improving the quality of health among socioeconomically disadvantaged individuals and individuals of African descent through its membership, professional development, community health education, advocacy, research, and partnerships with federal and private agencies. The American Cancer Society and the NMA have collaborated to develop and distribute culturally relevant consumer and professional materials that focus on the prevention, early detection, and treatment of breast, prostate, and colorectal cancers, as well as nutrition and physical activity. Visit nmanet.org for additional information.

African American Collaborative Obesity Research Network (AACORN)
The AACORN is a collaboration of academic scholars, emerging scholars, and community research partners dedicated to developing strategies to support healthy eating, physical activity, and healthy weights in Black communities. Visit aacorn.org for additional information.

Sources of Statistics

Estimated new cancer cases. The estimated number of new cancer cases diagnosed among non-Hispanic Black people in the US in 2022 was projected using a spatiotemporal model and time series projection based on incidence during 2004-2018 from 50 states and the District of Columbia that provided consent and met the North American Association of Central Cancer Registries' (NAACCR) high-quality standards. The method for estimating incidence prior to projection considers geographic variations in sociodemographic and lifestyle factors, medical settings, and cancer screening behaviors, and also accounts for expected delays in case reporting. The number of new cases is then projected four years ahead using a temporal projection method.

Incidence rates. Incidence rates are calculated by dividing the number of people who are diagnosed with cancer by the number of people at risk for the disease in the population during a given time period. In this publication, incidence rates are reported as the average number of cases diagnosed per 100,000 people per year and are age adjusted to the 2000 US standard population. State-specific incidence rates were previously published in NAACCR's publication Cancer Incidence in North America, 2014-2018. Incidence data for this publication were collected by registries participating in the Surveillance, Epidemiology, and End Results (SEER) program and the National Program of Cancer Registries as reported by NAACCR. Colorectal cancer incidence rates presented herein exclude appendix. All contemporary rates (2014-2018) presented herein exclude people of Hispanic ethnicity.

The most recent 5- and 10-year cancer incidence trends were based on delay-adjusted rates from the 21 SEER registries exclusive of Hispanic ethnicity. Delay adjustment accounts for delays and error corrections that occur in the reporting of cancer cases, which is substantial for some sites. These trends were previously published within the SEER*Explorer tool available on the SEER website or were calculated using SEER*Stat software (i.e., colorectal cancer trends exclude appendix).

Estimated cancer deaths. The estimated number of US cancer deaths among Black people was calculated by fitting the numbers of cancer deaths from 2005 through 2019 to a statistical model that forecasts the number of deaths expected to occur in 2022. Data on the number of reported cancer deaths were obtained from the National Center for Health Statistics (NCHS) at the CDC.

Mortality rates. Similar to incidence rates, mortality rates, or death rates, are defined as the number of people who die from cancer divided by the number of people at risk in the population during a given time period including those without cancer. Mortality rates herein are based on counts of cancer deaths compiled by the NCHS and population data from the US Census Bureau and are presented per 100,000 people and are age adjusted to the 2000 US standard population. Historic mortality data (prior to 1990) are inclusive of Hispanic ethnicity, whereas contemporary rates are confined to non-Hispanic Black and White populations.

Survival. This report describes survival in terms of 5-year relative survival rates, which adjusts for normal life expectancy by comparing survival among cancer patients to survival in people of the same age, race/ethnicity, and sex without cancer. Historical 5-year survival rates are based on data from the oldest 9 SEER registries, which go back to 1975 and include people of Hispanic ethnicity, while contemporary 5-year relative survival rates (2011-2017) are exclusive of Hispanic ethnicity based on data from 18 SEER registries. Some 5-year relative survival statistics presented in this publication were originally published on SEER*Explorer available at seer.cancer.gov.[274]

Stage distribution. Stage at diagnosis (2014-2018) is based on SEER combined summary stages for local, regional, distant, and unstaged, which includes unknown or blank-stage data. Stage distribution is calculated as a percentage of total cases reported by NAACCR for Black and White people, exclusive of Hispanic ethnicity.

Probability of developing or dying of cancer. Probabilities of developing or dying of cancer were calculated using the National Cancer Institute's DevCan 6.7.9, which utilizes SEER 21 incidence and total US mortality data. These probabilities reflect the average experience of people in the US and do not take into account individual behaviors and risk factors. For example, the estimate of 1 Black man in 15 developing lung cancer in a lifetime underestimates the risk for people who smoke and overestimates the risk for people who have never smoked.

Risk Factors. The methods for the collection of population-based national survey data collected by the Centers for Disease Control and Prevention used to examine the prevalence of selected cancer risk factors and screening prevalence herein are described in further detail via the links below:

- National Health and Nutrition Examination Survey (NHANES): cdc.gov/nchs/nhanes.htm for more information.
- National Health Interview Survey (NHIS): cdc.gov/nchs/nhis/index.htm for more information.
- National Immunization Survey-Teen (NIS-Teen): https://www.cdc.gov/vaccines/imz-managers/nis/about.html#nis-teen for more information.
- National Youth Tobacco Survey (NYTS): cdc.gov/TOBACCO/data_statistics/surveys/NYTS/ for more information.

References

1. US Census Bureau. Redistricting Supplementary Table 4. Hispanic or Latino Origin by Race: 2010 and 2020, 2021.

2. US Census Bureau. Redistricting Supplementary Table 1. Population by Race: 2010 and 2020, 2021.

3. US Census Bureau. Table S0501. Selected characteritics of the native and foreign-born populations. American Community Survey 2019: ACS 5-year estimates subject tables. data.census.gov. June 09 2021.

4. Pinheiro PS, Medina H, Callahan KE, et al. Cancer mortality among US blacks: Variability between African Americans, Afro-Caribbeans, and Africans. *Cancer Epidemiology*. 2020;66: 101709.

5. Islami F, Goding Sauer A, Miller KD, et al. Proportion and number of cancer cases and deaths attributable to potentially modifiable risk factors in the United States. *CA Cancer J Clin*. 2018;68: 31-54.

6. Williams DR, Lawrence JA, Davis BA. Racism and health: evidence and needed research. *Annu Rev Public Health*. 2019;40: 105-125.

7. Bailey ZD, Krieger N, Agénor M, Graves J, Linos N, Bassett MT. Structural racism and health inequities in the USA: evidence and interventions. *The Lancet*. 2017;389: 1453-1463.

8. Nardone A, Chiang J, Corburn J. Historic redlining and urban health today in US cities. *Environ Justice*. 2020;13: 109-119.

9. Krieger N, Wright E, Chen JT, Waterman PD, Huntley ER, Arcaya M. Cancer Stage at Diagnosis, Historical Redlining, and Current Neighborhood Characteristics: Breast, Cervical, Lung, and Colorectal Cancers, Massachusetts, 2001–2015. *Am. J. Epidemiol*. 2020;189: 1065-1075.

10. Collin LJ, Gaglioti AH, Beyer KM, et al. Neighborhood-Level Redlining and Lending Bias Are Associated with Breast Cancer Mortality in a Large and Diverse Metropolitan Area. *Cancer Epidemiol Biomarkers Prev*. 2021;30: 53-60.

11. Ashing KT, Jones V, Bedell F, Phillips T, Erhunmwunsee L. Calling Attention to the Role of Race-Driven Societal Determinants of Health on Aggressive Tumor Biology: A Focus on Black Americans: Wolters Kluwer Health, 2021.

12. Fong AJ, Lafaro K, Ituarte PHG, Fong Y. Association of Living in Urban Food Deserts with Mortality from Breast and Colorectal Cancer. *Ann Surg Oncol*. 2021;28: 1311-1319.

13. Shonkoff JP, Boyce WT, McEwen BS. Neuroscience, molecular biology, and the childhood roots of health disparities: building a new framework for health promotion and disease prevention. *JAMA*. 2009;301: 2252-2259.

14. Beaulac J, Kristjansson E, Cummins S. Peer reviewed: A systematic review of food deserts, 1966-2007. *Prev. Chronic Dis*. 2009;6.

15. US Census Bureau. Table B-1.People in povery by selected characteristics: 2018 and 2019, Current Population Survey (CPS) Annual Social and Economic (ASEC) Supplement 2020., 2020.

16. US Census Bureau. Table 3. Detailed Years of School Completed by People 25 Years and Over by Sex, Age Groups, Race and Hispanic Origin: 2020, Current Population Survey (CPS), 2020 Annual Social and Economic Supplement (ASEC). Educational Attainment in the United States: 2020, 2021.

17. Siegel RL, Jemal A, Wender RC, Gansler T, Ma J, Brawley OW. An assessment of progress in cancer control. *CA Cancer J Clin*. 2018;68: 329-339.

18. Singh GK, Jemal A. Socioeconomic and Racial/Ethnic Disparities in Cancer Mortality, Incidence, and Survival in the United States, 1950-2014: Over Six Decades of Changing Patterns and Widening Inequalities. *J Environ Public Health*. 2017;2017: 2819372.

19. Garfield R, Young K. How Does Gaining Coverage Affect People's Lives? Access, Utilization, and Financial Security among Newly Insured Adults: The Henry J. Kaiser Family Foundation, 2015.

20. Ward E, Halpern M, Schrag N, et al. Association of insurance with cancer care utilization and outcomes. *CA Cancer J Clin*. 2008;58: 9-31.

21. Niu X, Roche LM, Pawlish KS, Henry KA. Cancer survival disparities by health insurance status. *Cancer Med*. 2013;2: 403-411.

22. Pan HY, Walker GV, Grant SR, et al. Insurance Status and Racial Disparities in Cancer-Specific Mortality in the United States: A Population-Based Analysis. *Cancer Epidemiol Biomark Prev*. 2017;26: 869-875.

23. American Cancer Society. *Cancer Treament & Survivorship Facts & Figures 2019-2021*. Atlanta: American Cancer Society, 2019.

24. Riviere P, Luterstein E, Kumar A, et al. Survival of African American and non-Hispanic white men with prostate cancer in an equal-access health care system. *Cancer*. 2020;126: 1683-1690.

25. Albain KS, Unger JM, Crowley JJ, Coltman CA, Jr., Hershman DL. Racial disparities in cancer survival among randomized clinical trials patients of the Southwest Oncology Group. *J Natl Cancer Inst*. 2009;101: 984-992.

26. Kish JK, Yu M, Percy-Laurry A, Altekruse SF. Racial and ethnic disparities in cancer survival by neighborhood socioeconomic status in Surveillance, Epidemiology, and End Results (SEER) Registries. *J Natl Cancer Inst Monogr*. 2014;2014: 236-243.

27. Buchmueller TC, Levy HG. The ACA's Impact On Racial And Ethnic Disparities In Health Insurance Coverage And Access To Care: An examination of how the insurance coverage expansions of the Affordable Care Act have affected disparities related to race and ethnicity. *Health Affairs*. 2020;39: 395-402.

28. US Census Bureau. Table 8. People without health insurance coverage by selected characteristics: 2009 and 2010. Current Population Survey, 2010 and 2011 Annual Social and Economic Supplements, 2011.

29. Finegold K, Conmy A, Chu RC, Bosworth A, Sommers BD. *Trends in the US Uninsured Population, 2010-2020*. (Issue Brief No. HP-2021-02). Washington, DC: Office of the Assistant Secretary for Planning and Evaluation, US Department of Health and Human Services. February 11, 2021.

30. Tammemagi CM, Nerenz D, Neslund-Dudas C, Feldkamp C, Nathanson D. Comorbidity and survival disparities among black and white patients with breast cancer. *JAMA*. 2005;294: 1765-1772.

31. Lam C, Cronin K, Ballard R, Mariotto A. Differences in cancer survival among white and black cancer patients by presence of diabetes mellitus: Estimations based on SEER-Medicare-linked data resource. *Cancer Med*. 2018.

32. Shlomai G, Neel B, LeRoith D, Gallagher EJ. Type 2 Diabetes Mellitus and Cancer: The Role of Pharmacotherapy. *J Clin Oncol*. 2016;34: 4261-4269.

33. Millett GA, Jones AT, Benkeser D, et al. Assessing differential impacts of COVID-19 on black communities. *Ann Epidemiol*. 2020;47: 37-44.

34. Hooper MW, Nápoles AM, Pérez-Stable EJ. COVID-19 and racial/ethnic disparities. *JAMA*. 2020;323: 2466-2467.

35. Wadhera RK, Wadhera P, Gaba P, et al. Variation in COVID-19 hospitalizations and deaths across New York City boroughs. *JAMA*. 2020;323: 2192-2195.

36. Mackey K, Ayers C, Kondo K, et al. Racial and Ethnic Disparities in COVID-19–Related Infections, Hospitalizations, and Deaths: A Systemic Review. *Ann Intern Med*. 2021;174: 362-373.

37. Rubin-Miller L, Alban C, Artiga S, Sullivan S. COVID-19 racial disparities in testing, infection, hospitalization, and death: analysis of Epic data: Kaiser Family Foundation, 2020.

38. Smith S, Edwards R, Duong H. Unemployment rises in 2020, as the country battles the COVID-19 pandemic. Monthly Labor Review. US Bureau of Labor Statistics, 2021.

39. Fedewa SA, Cotter MM, Wehling KA, Wysocki K, Killewald R, Makaroff L. Changes in breast cancer screening rates among 32 community health centers during the COVID-19 pandemic. *Cancer*. 2021;127(23):4512-4515. doi:10.1002/cncr.33859.

40. Corbie-Smith G, Thomas SB, St George DM. Distrust, race, and research. *Arch Intern Med*. 2002;162: 2458-2463.

41. Scharff DP, Mathews KJ, Jackson P, Hoffsuemmer J, Martin E, Edwards D. More than Tuskegee: understanding mistrust about research participation. *J Health Care Poor Underserved*. 2010;21: 879-897.

42. Adams LB, Richmond J, Corbie-Smith G, Powell W. Medical Mistrust and Colorectal Cancer Screening Among African Americans. *J Community Health*. 2017;42: 1044-1061.

43. Sutton AL, He J, Edmonds MC, Sheppard VB. Medical Mistrust in Black Breast Cancer Patients: Acknowledging the Roles of the Trustor and the Trustee. *J Cancer Educ*. 2019;34: 600-607.

44. Glover LM, Sims M, Winters K. Perceived Discrimination and Reported Trust and Satisfaction with Providers in African Americans: The Jackson Heart Study. *Ethn Dis*. 2017;27: 209-216.

45. Armstrong K, Putt M, Halbert CH, et al. Prior experiences of racial discrimination and racial differences in health care system distrust. *Med Care*. 2013;51: 144-150.

46. Hoffman KM, Trawalter S, Axt JR, Oliver MN. Racial bias in pain assessment and treatment recommendations, and false beliefs about biological differences between blacks and whites. *Proc Natl Acad Sci U S A*. 2016;113: 4296-4301.

47. Engel-Rebitzer E, Dolan AR, Aronowitz SV, et al. Patient Preference and Risk Assessment in Opioid Prescribing Disparities: A Secondary Analysis of a Randomized Clinical Trial. *JAMA Network Open*. 2021;4: e2118801-e2118801.

48. Kinlock BL, Parker LJ, Bowie JV, Howard DL, LaVeist TA, Thorpe Jr RJ. High levels of medical mistrust are associated with low quality of life among black and white men with prostate cancer: SAGE Publications Sage CA: Los Angeles, CA, 2017.

49. Fisher JA, Kalbaugh CA. Challenging assumptions about minority participation in US clinical research. *Am J Public Health*. 2011;101: 2217-2222.

50. Chen MS, Jr., Lara PN, Dang JH, Paterniti DA, Kelly K. Twenty years post-NIH Revitalization Act: enhancing minority participation in clinical trials (EMPaCT): laying the groundwork for improving minority clinical trial accrual: renewing the case for enhancing minority participation in cancer clinical trials. *Cancer*. 2014;120 Suppl 7: 1091-1096.

51. Wallace TA, Martin DN, Ambs S. Interactions among genes, tumor biology and the environment in cancer health disparities: examining the evidence on a national and global scale. *Carcinogenesis*. 2011;32: 1107-1121.

52. Nazha B, Mishra M, Pentz R, Owonikoko TK. Enrollment of racial minorities in clinical trials: old problem assumes new urgency in the age of immunotherapy. *Am Soc Clin Oncol Educ Book*. 2019;39: 3-10.

53. Grant SR, Lin TA, Miller AB, et al. Racial and Ethnic Disparities Among Participants in US-Based Phase 3 Randomized Cancer Clinical Trials. *JNCI Cancer Spectrum*. 2020;4.

54. Al Hadidi S, Mims M, Miller-Chism CN, Kamble R. Participation of African American Persons in Clinical Trials Supporting U.S. Food and Drug Administration Approval of Cancer Drugs. *Ann Intern Med*. 2020;173: 320-322.

55. Vuong I, Wright J, Nolan MB, et al. Overcoming barriers: evidence-based strategies to increase enrollment of underrepresented populations in cancer therapeutic clinical trials – a narrative review. *J Cancer Educ*. 2019: 1-9.

56. Awidi M, Hadidi SA. Participation of Black Americans in Cancer Clinical Trials: Current Challenges and Proposed Solutions. *J Oncol Pract*. 2021;17: 265-271.

57. Freedman RA, Ruddy KJ. Who Are the Patients in Our Clinical Trials for Cancer? Journal of Clinical Oncology. 2019;37: 1519-1523.

58. Henrietta Lacks Enhancing Cancer Research Act of 2019. In: H.R. 1966, editor, 2020.

59. Surveillance Epidemiology and End Results (SEER) Program (www.seer.cancer.gov). Prevalence database: "US Estimated Complete Prevalence Counts on 1/1/2018". National Cancer Institute, DCCPS, Surveillance Research Program, Data Modeling Branch, released April 2021, based on the November 2020 SEER data submission.

60. Zavala VA, Bracci PM, Carethers JM, et al. Cancer health disparities in racial/ethnic minorities in the United States. *Br J Cancer*. 2021;124: 315-332.

61. Ellis L, Canchola AJ, Spiegel D, Ladabaum U, Haile R, Gomez SL. Racial and Ethnic Disparities in Cancer Survival: The Contribution of Tumor, Sociodemographic, Institutional, and Neighborhood Characteristics. *J Clin Oncol*. 2018;36: 25-33.

62. Hendrick RE, Monticciolo DL, Biggs KW, Malak SF. Age distributions of breast cancer diagnosis and mortality by race and ethnicity in US Women. *Cancer*. 2021.

63. Howlader N NA, Krapcho M, Miller D, Brest A, Yu M, Ruhl J, Tatalovich Z, Mariotto A, Lewis DR, Chen HS, Feuer EJ, Cronin KA (eds). SEER Cancer Statistics Review, 1975-2018. https://seer.cancer.gov/csr/1975_2018/, based on November 2020 SEER data submission, posted to the SEER web site, April 2021. Bethesda, MD: National Cancer Institute, 2021.

64. DeSantis CE, Ma J, Gaudet MM, et al. Breast cancer statistics, 2019. *CA Cancer J Clin*. 2019;69: 438-451.

65. Cho B, Han Y, Lian M, et al. Evaluation of Racial/Ethnic Differences in Treatment and Mortality Among Women With Triple-Negative Breast Cancer. *JAMA Oncol*. 2021;7: 1016-1023.

66. Sung H, Hyun N, Leach CR, Yabroff KR, Jemal A. Association of First Primary Cancer With Risk of Subsequent Primary Cancer Among Survivors of Adult-Onset Cancers in the United States. *JAMA*. 2020;324: 2521-2535.

67. Sung H, DeSantis C, Jemal A. Subtype-Specific Breast Cancer Incidence Rates in Black versus White Men in the United States. *JNCI Cancer Spectrum*. 2019;4.

68. Abraham HG, Xia Y, Mukherjee B, Merajver SD. Incidence and survival of inflammatory breast cancer between 1973 and 2015 in the SEER database. *Breast Cancer Res Treat*. 2021;185: 229-238.

69. Domchek SM, Yao S, Chen F, et al. Comparison of the Prevalence of Pathogenic Variants in Cancer Susceptibility Genes in Black Women and Non-Hispanic White Women With Breast Cancer in the United States. *JAMA Oncol*. 2021;7: 1045-1050.

70. Daly B, Olopade OI. A perfect storm: How tumor biology, genomics, and health care delivery patterns collide to create a racial survival disparity in breast cancer and proposed interventions for change. *CA Cancer J Clin*. 2015;65: 221-238.

71. Wheeler SB, Spencer J, Pinheiro LC, et al. Endocrine Therapy Nonadherence and Discontinuation in Black and White Women. *J Natl Cancer Inst*. 2019;111: 498-508.

72. Farias AJ, Du XL. Association Between Out-Of-Pocket Costs, Race/Ethnicity, and Adjuvant Endocrine Therapy Adherence Among Medicare Patients With Breast Cancer. *J Clin Oncol*. 2017;35: 86-95.

73. Jemal A, Robbins AS, Lin CC, et al. Factors That Contributed to Black-White Disparities in Survival Among Nonelderly Women With Breast Cancer Between 2004 and 2013. *J Clin Oncol*. 2018;36: 14-24.

74. Huo D, Hu H, Rhie SK, et al. Comparison of Breast Cancer Molecular Features and Survival by African and European Ancestry in The Cancer Genome Atlas. *JAMA Oncol*. 2017.

75. World Cancer Research Fund International/American Institute for Cancer Research. Continuous Update Project: Diet, Nutrition, Physical Activity and Breast Cancer, 2018.

76. Farvid MS, Chen WY, Rosner BA, Tamimi RM, Willett WC, Eliassen AH. Fruit and vegetable consumption and breast cancer incidence: Repeated measures over 30 years of follow-up. *Int J Cancer*. 2019;144: 1496-1510.

77. Alsheik N, Blount L, Qiong Q, et al. Outcomes by Race in Breast Cancer Screening With Digital Breast Tomosynthesis Versus Digital Mammography. *J Am Coll Radiol*. 2021.

78. Emerson MA, Golightly YM, Aiello AE, et al. Breast cancer treatment delays by socioeconomic and health care access latent classes in Black and White women. *Cancer*. 2020;126: 4957-4966.

79. Molina Y, Silva A, Rauscher GH. Racial/Ethnic Disparities in Time to a Breast Cancer Diagnosis: The Mediating Effects of Health Care Facility Factors. *Med Care*. 2015;53: 872-878.

80. Kim S, Molina Y, Glassgow AE, Berrios N, Guadamuz J, Calhoun E. The effects of navigation and types of neighborhoods on timely follow-up of abnormal mammogram among black women. *Med Res Arch*. 2015;2015.

81. Ko NY, Hong S, Winn RA, Calip GS. Association of Insurance Status and Racial Disparities With the Detection of Early-Stage Breast Cancer. *JAMA Oncol*. 2020;6: 385-392.

82. Warnecke RB, Campbell RT, Vijayasiri G, Barrett RE, Rauscher GH. Multilevel Examination of Health Disparity: The Role of Policy Implementation in Neighborhood Context, in Patient Resources, and in Healthcare Facilities on Later Stage of Breast Cancer Diagnosis. *Cancer Epidemiol Biomarkers Prev*. 2019;28: 59-66.

83. Newman LA, Kaljee LM. Health Disparities and Triple-Negative Breast Cancer in African American Women: A Review. *JAMA Surg*. 2017;152: 485-493.

84. Siddharth S, Sharma D. Racial Disparity and Triple-Negative Breast Cancer in African-American Women: A Multifaceted Affair between Obesity, Biology, and Socioeconomic Determinants. *Cancers*. 2018;10.

85. Siegel RL, Miller KD, Goding Sauer A, et al. Colorectal cancer statistics, 2020. *CA Cancer J Clin*. 2020;70: 145-164.

86. Kyrgiou M, Kalliala I, Markozannes G, et al. Adiposity and cancer at major anatomical sites: umbrella review of the literature. *Br Med J*. 2017;356.

87. Irby K, Anderson WF, Henson DE, Devesa SS. Emerging and widening colorectal carcinoma disparities between Blacks and Whites in the United States (1975-2002). *Cancer Epidemiol Biomarkers Prev*. 2006;15: 792-797.

88. Doubeni CA, Major JM, Laiyemo AO, et al. Contribution of behavioral risk factors and obesity to socioeconomic differences in colorectal cancer incidence. *J Natl Cancer Inst*. 2012;104: 1353-1362.

89. Lansdorp-Vogelaar I, Kuntz KM, Knudsen AB, van Ballegooijen M, Zauber AG, Jemal A. Contribution of screening and survival differences to racial disparities in colorectal cancer rates. *Cancer Epidemiol Biomarkers Prev*. 2012;21: 728-736.

90. May FP, Yang L, Corona E, Glenn BA, Bastani R. Disparities in colorectal cancer screening in the United States before and after implementation of the Affordable Care Act. *Clin Gastroenterol Hepatol*. 2020;18: 1796-1804. e1792.

91. World Cancer Research Fund International/American Institute for Cancer Research. Continuous Update Project: Diet, Nutrition, Physical Activity and Colorectal Cancer, 2018.

92. He J, Stram DO, Kolonel LN, Henderson BE, Le Marchand L, Haiman CA. The association of diabetes with colorectal cancer risk: the Multiethnic Cohort. *Br J Cancer*. 2010;103: 120-126.

93. Harris SS. Vitamin D and African Americans. *J Nutr*. 2006;136: 1126-1129.

94. McCullough ML, Zoltick ES, Weinstein SJ, et al. Circulating Vitamin D and Colorectal Cancer Risk: An International Pooling Project of 17 Cohorts. *J Natl Cancer Inst*. 2018;111: 158-169.

95. Barber LE, Bertrand KA, Petrick JL, et al. Predicted vitamin D status and colorectal cancer incidence in the Black Women's Health Study. *Cancer Epidemiol Biomarkers Prev*. 2021.

96. May FP, Glenn BA, Crespi CM, Ponce N, Spiegel BMR, Bastani R. Decreasing Black-White Disparities in Colorectal Cancer Incidence and Stage at Presentation in the United States. *Cancer Epidemiol Biomark Prev*. 2017;26: 762-768.

97. Silber JH, Rosenbaum PR, Ross RN, et al. Racial disparities in colon cancer survival: a matched cohort study. *Ann Intern Med*. 2014;161: 845-854.

98. Carethers JM, Doubeni CA. Causes of Socioeconomic Disparities in Colorectal Cancer and Intervention Framework and Strategies. *Gastroenterology*. 2020;158: 354-367.

99. Eaglehouse YL, Georg MW, Shriver CD, Zhu K. Racial Comparisons in Timeliness of Colon Cancer Treatment in an Equal-Access Health System. *J Natl Cancer Inst*. 2019;112: 410-417.

100. Sineshaw HM, Ng K, Flanders WD, Brawley OW, Jemal A. Factors That Contribute to Differences in Survival of Black vs White Patients With Colorectal Cancer. *Gastroenterology*. 2018;154: 906-915.e907.

101. Lai Y, Wang C, Civan JM, et al. Effects of Cancer Stage and Treatment Differences on Racial Disparities in Survival From Colon Cancer: A United States Population-Based Study. *Gastroenterology*. 2016;150: 1135-1146.

102. Tramontano AC, Chen Y, Watson TR, Eckel A, Hur C, Kong CY. Racial/ethnic disparities in colorectal cancer treatment utilization and phase-specific costs, 2000-2014. *PloS one*. 2020;15: e0231599.

103. Bui A, Yang L, Myint A, May FP. Race, Ethnicity, and Socioeconomic Status Are Associated With Prolonged Time to Treatment After a Diagnosis of Colorectal Cancer: A Large Population-Based Study. *Gastroenterology*. 2021;160: 1394-1396.e1393.

104. Tadros M, Mago S, Miller D, Ungemack JA, Anderson JC, Swede H. The rise of proximal colorectal cancer: a trend analysis of subsite specific primary colorectal cancer in the SEER database. *Ann Gastroenterol*. 2021;34: 559-567.

105. Holford TR, Levy DT, Meza R. Comparison of Smoking History Patterns Among African American and White Cohorts in the United States Born 1890 to 1990. *Nicotine Tob Res*. 2016;18 Suppl 1: S16-29.

106. Johnston LD, O'Malley PM, Miech RA, Bachman JG, Schulenberg JE. Demographic subgroup trends among adolescents in the use of various licit and illicit drugs, 1975-2016 (monitoring the future occasional paper no. 88): Institute for Social Research, The University of Michigan, 2017.

107. Jemal A, Miller KD, Sauer AG, et al. Changes in Black-White Difference in Lung Cancer Incidence among Young Adults. *JNCI Cancer Spectrum*. 2020;4.

108. Gentzke AS, Wang TW, Jamal A, et al. Tobacco Product Use Among Middle and High School Students – United States, 2020. *MMWR Morb Mortal Wkly Rep*. 2020;69: 1881-1888.

109. Nelson DE, Mowery P, Asman K, et al. Long-term trends in adolescent and young adult smoking in the United States: metapatterns and implications. *Am J Public Health*. 2008;98: 905-915.

110. Aberle DR, Adams AM, Berg CD, et al. Reduced lung-cancer mortality with low-dose computed tomographic screening. *N Engl J Med*. 2011;365: 395-409.

111. Pastorino U, Sverzellati N, Sestini S, et al. Ten-year results of the Multicentric Italian Lung Detection trial demonstrate the safety and efficacy of biennial lung cancer screening. *Eur J Cancer*. 2019;118: 142-148.

112. Blom EF, Ten Haaf K, Arenberg DA, de Koning HJ. Disparities in Receiving Guideline-Concordant Treatment for Lung Cancer in the United States. *Ann Am Thorac Soc*. 2020;17: 186-194.

113. Hardy D, Liu CC, Xia R, et al. Racial disparities and treatment trends in a large cohort of elderly black and white patients with nonsmall cell lung cancer. *Cancer*. 2009;115: 2199-2211.

114. Check DK, Albers KB, Uppal KM, et al. Examining the role of access to care: Racial/ethnic differences in receipt of resection for early-stage non-small cell lung cancer among integrated system members and non-members. *Lung Cancer*. 2018;125: 51-56.

115. Coughlin SS, Matthews-Juarez P, Juarez PD, Melton CE, King M. Opportunities to address lung cancer disparities among African Americans. *Cancer Med*. 2014;3: 1467-1476.

116. Lathan CS. Lung cancer care: the impact of facilities and area measures. *Transl Lung Cancer Res*. 2015;4: 385-391.

117. Soneji S, Tanner NT, Silvestri GA, Lathan CS, Black W. Racial and Ethnic Disparities in Early-Stage Lung Cancer Survival. *Chest*. 2017;152: 587-597.

118. Williams CD, Alpert N, Redding TS, et al. Racial Differences in Treatment and Survival among Veterans and Non-Veterans with Stage I NSCLC: An Evaluation of Veterans Affairs and SEER-Medicare Populations. *Cancer Epidemiol Biomark Prev*. 2020;29: 112-118.

119. Kumar SK, Dispenzieri A, Lacy MQ, et al. Continued improvement in survival in multiple myeloma: changes in early mortality and outcomes in older patients. *Leukemia*. 2014;28: 1122-1128.

120. Sonneveld P, De Wit E, Moreau P. How have evolutions in strategies for the treatment of relapsed/refractory multiple myeloma translated into improved outcomes for patients? *Crit Rev Oncol Hematol*. 2017;112: 153-170.

121. Lauby-Secretan B, Scoccianti C, Loomis D, Grosse Y, Bianchini F, Straif K. Body Fatness and Cancer – Viewpoint of the IARC Working Group. *N Engl J Med*. 2016;375: 794-798.

122. Sonderman JS, Bethea TN, Kitahara CM, et al. Multiple Myeloma Mortality in Relation to Obesity Among African Americans. *J Natl Cancer Inst*. 2016;108.

123. Kyle RA, Therneau TM, Rajkumar SV, et al. A long-term study of prognosis in monoclonal gammopathy of undetermined significance. *N Engl J Med*. 2002;346: 564-569.

124. Landgren O, Graubard BI, Kumar S, et al. Prevalence of myeloma precursor state monoclonal gammopathy of undetermined significance in 12372 individuals 10-49 years old: a population-based study from the National Health and Nutrition Examination Survey. *Blood Cancer J*. 2017;7: e618.

125. Marinac CR, Ghobrial IM, Birmann BM, Soiffer J, Rebbeck TR. Dissecting racial disparities in multiple myeloma. *Blood Cancer J*. 2020;10: 1-8.

126. Schinasi LH, Brown EE, Camp NJ, et al. Multiple myeloma and family history of lymphohaematopoietic cancers: Results from the International Multiple Myeloma Consortium. *Br J Haematol*. 2016.

127. Kazandjian D, Hill E, Hultcrantz M, et al. Molecular underpinnings of clinical disparity patterns in African American vs. Caucasian American multiple myeloma patients. *Blood Cancer J*. 2019;9: 1-8.

128. Baughn LB, Pearce K, Larson D, et al. Differences in genomic abnormalities among African individuals with monoclonal gammopathies using calculated ancestry. *Blood Cancer J*. 2018;8: 1-10.

129. Marinac CR, Ghobrial IM, Birmann BM, Soiffer J, Rebbeck TR. Dissecting racial disparities in multiple myeloma. *Blood Cancer J*. 2020;10: 19-19.

130. Jayakrishnan TT, Bakalov V, Chahine Z, Lister J, Wegner RE, Sadashiv S. Disparities in the enrollment to systemic therapy and survival for patients with multiple myeloma. *Hematol Oncol Stem Cell Ther*. 2020: S1658-3876(1620)30152-30157.

131. Shoag JE, Nyame YA, Gulati R, Etzioni R, Hu JC. Reconsidering the Trade-offs of Prostate Cancer Screening. *N Engl J Med*. 2020;382: 2465-2468.

132. Miller EA, Pinsky PF, Black A, Andriole GL, Pierre-Victor D. Secondary prostate cancer screening outcomes by race in the Prostate, Lung, Colorectal, and Ovarian (PLCO) Screening Trial. *Prostate*. 2018;78: 830-838.

133. Tsodikov A, Gulati R, de Carvalho TM, et al. Is prostate cancer different in black men? Answers from 3 natural history models. *Cancer*. 2017;123: 2312-2319.

134. Cole AP, Herzog P, Iyer HS, et al. Racial differences in the treatment and outcomes for prostate cancer in Massachusetts. *Cancer*. 2021;127(15):2714-2723. doi:10.1002/cncr.33564.

135. Dess RT, Hartman HE, Mahal BA, et al. Association of Black Race With Prostate Cancer–Specific and Other-Cause Mortality. *JAMA Oncol*. 2019;5: 975-983.

136. Brawley OW, Ankerst DP, Thompson IM. Screening for prostate cancer. *CA Cancer J Clin*. 2009;59: 264-273.

137. Chu KC, Tarone RE, Freeman HP. Trends in prostate cancer mortality among black men and white men in the United States. *Cancer*. 2003;97: 1507-1516.

138. Cooperberg MR, Grossfeld GD, Lubeck DP, Carroll PR. National practice patterns and time trends in androgen ablation for localized prostate cancer. *J Natl Cancer Inst*. 2003;95: 981-989.

139. Hankey BF, Feuer EJ, Clegg LX, et al. Cancer surveillance series: interpreting trends in prostate cancer--part I: Evidence of the effects of screening in recent prostate cancer incidence, mortality, and survival rates. *J Natl Cancer Inst*. 1999;91: 1017-1024.

140. Risdon EN, Chau CH, Price DK, Sartor O, Figg WD. PARP Inhibitors and Prostate Cancer: To Infinity and Beyond BRCA. *The Oncol*. 2021;26: e115-e129.

141. McGinley KF, Tay KJ, Moul JW. Prostate cancer in men of African origin. *Nat Rev Urol*. 2016;13: 99-107.

142. Lee DJ, Barocas DA, Zhao Z, et al. Contemporary prostate cancer radiation therapy in the United States: Patterns of care and compliance with quality measures. *Pract Radiat Oncol*. 2018;8: 307-316.

143. Spencer BA, Miller DC, Litwin MS, et al. Variations in quality of care for men with early-stage prostate cancer. *J Clin Oncol*. 2008;26: 3735-3742.

144. Beebe-Dimmer JL, Ruterbusch JJ, Cooney KA, et al. Racial differences in patterns of treatment among men diagnosed with de novo advanced prostate cancer: A SEER-Medicare investigation. *Cancer Med*. 2019;8: 3325-3335.

145. Conti DV, Darst BF, Moss LC, et al. Trans-ancestry genome-wide association meta-analysis of prostate cancer identifies new susceptibility loci and informs genetic risk prediction. *Nat Genet*. 2021;53: 65-75.

146. Watkins Bruner D, Moore D, Parlanti A, Dorgan J, Engstrom P. Relative risk of prostate cancer for men with affected relatives: systematic review and meta-analysis. *Intl J Cancer*. 2003;107: 797-803.

147. Oh M, Alkhushaym N, Fallatah S, et al. The association of BRCA1 and BRCA2 mutations with prostate cancer risk, frequency, and mortality: A meta-analysis. *Prostate*. 2019;79: 880-895.

148. World Cancer Research Fund International/American Institute for Cancer Research. Continuous Update Project: Diet, Nutrition, Physical Activity and Prostate Cancer, 2018.

149. Vidal AC, Freedland SJ. Obesity and Prostate Cancer: A Focused Update on Active Surveillance, Race, and Molecular Subtyping. *Eur Urol*. 2017;72: 78-83.

150. Gansler T, Shah R, Wang Y, et al. Smoking and Prostate Cancer-Specific Mortality after Diagnosis in a Large Prospective Cohort. *Cancer Epidemiol Biomarkers Prev*. 2018;27: 665-672.

151. Barrington WE, Schenk JM, Etzioni R, et al. Difference in Association of Obesity With Prostate Cancer Risk Between US African American and Non-Hispanic White Men in the Selenium and Vitamin E Cancer Prevention Trial (SELECT). *JAMA oncology*. 2015;1: 342-349.

152. Murphy AB, Akereyeni F, Nyame YA, et al. Smoking and prostate cancer in a multi-ethnic cohort. *Prostate*. 2013;73: 1518-1528.

153. Nyame YA, Gulati R, Heijnsdijk EAM, et al. The Impact of Intensifying Prostate Cancer Screening in Black Men: A Model-Based Analysis. *J Natl Cancer Inst*. 2021.

154. Gupta S, Tao L, Murphy JD, et al. Race/Ethnicity-, Socioeconomic Status-, and Anatomic Subsite-specific Risks for Gastric Cancer. *Gastroenterology*. 2018.

155. Varga MG, Butt J, Blot WJ, et al. Racial Differences in Helicobacter pylori CagA Sero-prevalence in a Consortium of Adult Cohorts in the United States. *Cancer Epidemiol Biomark Prev*. 2020;29: 2084-2092.

156. Yusefi AR, Bagheri Lankarani K, Bastani P, Radinmanesh M, Kavosi Z. Risk Factors for Gastric Cancer: A Systematic Review. *Asian Pac J Cancer Prev*. 2018;19: 591-603.

157. World Cancer Research Fund and American Institute for Cancer Research. Continuous Update Project: Diet, nutrition, physical activity and stomach cancer, 2018.

158. Bliton JN, Parides M, Muscarella P, Papalezova KT, In H. Understanding racial disparities in gastrointestinal cancer outcomes: lack of surgery contributes to lower survival in African American patients. *Cancer Epidemiol Biomark Prev*. 2021;30: 529-538.

159. Beavis AL, Gravitt PE, Rositch AF. Hysterectomy-corrected cervical cancer mortality rates reveal a larger racial disparity in the United States. *Cancer*. 2017;123: 1044-1050.

160. Islami F, Fedewa SA, Jemal A. Trends in cervical cancer incidence rates by age, race/ethnicity, histological subtype, and stage at diagnosis in the United States. *Prev Med*. 2019;123: 316-323.

161. Benard VB, Watson M, Saraiya M, et al. Cervical cancer survival in the United States by race and stage (2001-2009): Findings from the CONCORD-2 study. *Cancer*. 2017;123 Suppl 24: 5119-5137.

162. Churilla T, Egleston B, Dong Y, et al. Disparities in the management and outcome of cervical cancer in the United States according to health insurance status. *Gynecol Oncol*. 2016;141: 516-523.

163. Simard EP, Fedewa S, Ma J, Siegel R, Jemal A. Widening socioeconomic disparities in cervical cancer mortality among women in 26 states, 1993-2007. *Cancer*. 2012;118: 5110-5116.

164. Brookfield KF, Cheung MC, Lucci J, Fleming LE, Koniaris LG. Disparities in survival among women with invasive cervical cancer: a problem of access to care. *Cancer*. 2009;115: 166-178.

165. Watson M, Benard V, King J, Crawford A, Saraiya M. National assessment of HPV and Pap tests: Changes in cervical cancer screening, National Health Interview Survey. *Prev Med*. 2017;100: 243-247.

166. Markt SC, Tang T, Cronin AM, et al. Insurance status and cancer treatment mediate the association between race/ethnicity and cervical cancer survival. *PloS one*. 2018;13: e0193047.

167. Bruce SF, Joshi TV, Chervoneva I, et al. Disparities Among Cervical Cancer Patients Receiving Brachytherapy. *Obstet Gynecol*. 2019;134: 559-569.

168. Clarke MA, Devesa SS, Harvey SV, Wentzensen N. Hysterectomy-Corrected Uterine Corpus Cancer Incidence Trends and Differences in Relative Survival Reveal Racial Disparities and Rising Rates of Nonendometrioid Cancers. *J Clin Oncol*. 2019;37: 1895-1908.

169. Sud S, Holmes J, Eblan M, Chen R, Jones E. Clinical characteristics associated with racial disparities in endometrial cancer outcomes: A surveillance, epidemiology and end results analysis. *Gynecol Onocl*. 2018;148: 349-356.

170. Baskovic M, Lichtensztajn DY, Nguyen T, Karam A, English DP. Racial disparities in outcomes for high-grade uterine cancer: A California cancer registry study. *Cancer Med*. 2018;7: 4485-4495.

171. Simard EP, Naishadham D, Saslow D, Jemal A. Age-specific trends in black-white disparities in cervical cancer incidence in the United States: 1975-2009. *Gynecol Oncol*. 2012;127: 611-615.

172. Dubil EA, Tian C, Wang G, et al. Racial disparities in molecular subtypes of endometrial cancer. *Gynecol Oncol*. 2018;149: 106-116.

173. US Department of Health and Human Services. *The Health Consequences of Smoking-50 Years of Progress. A Report from the Surgeon General*. Atlanta, GA; USA: Department of Health and Human Services. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 2014.

174. Secretan B, Straif K, Baan R, et al. A review of human carcinogens--Part E: tobacco, areca nut, alcohol, coal smoke, and salted fish. *Lancet Oncol*. 2009;10: 1033-1034.

175. Mills SD, Henriksen L, Golden SD, et al. Disparities in retail marketing for menthol cigarettes in the United States, 2015. *Health Place*. 2018;53: 62-70.

176. Henley SJ, Thomas CC, Sharapova SR, et al. Vital Signs: Disparities in Tobacco-Related Cancer Incidence and Mortality – United States, 2004-2013. *MMWR Morb Mortal Wkly Rep*. 2016;65: 1212-1218.

177. National Center for Health Statistics. Health, United States, 2016: With Chartbook on Long-term Trends in Health. Hyattsville, MD, 2017.

178. Bandi P, Minihan AK, Siegel RL, et al. Updated Review of Major Cancer Risk Factors and Screening Test Use in the United States in 2018 and 2019, with a Focus on Smoking Cessation. *Cancer Epidemiol Biomarkers Prev*. 2021;30: 1287-1299.

179. U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality. National Survey on Drug Use and Health, 2019. Available from URL: https://datafiles.samhsa.gov/ [accessed August 10, 2021].

180. Villanti AC, Johnson AL, Halenar M, et al. Menthol and mint cigarettes and cigars: Initiation and progression in youth, young adults and adults in Waves 1-4 of the PATH Study, 2013-2017. *Nicotine Tob Res*. 2020.

181. Hoffman AC, Simmons D. Menthol cigarette smoking and nicotine dependence. *Tob Induc Dis*. 2011;9 Suppl 1: S5.

182. Hoffman AC, Miceli D. Menthol cigarettes and smoking cessation behavior. *Tob Induc Dis*. 2011;9 Suppl 1: S6.

183. Baker F, Ainsworth SR, Dye JT, et al. Health risks associated with cigar smoking. *JAMA*. 2000;284: 735-740.

184. Shanks TG, Burns DM. Disease consequences of cigar smoking. National Cancer Institute, Smoking and Tobacco Control, Monograph 9: Cigars – Health Effects and Trends. Washington, DC: National Institutes of Health, 1998.

185. Shapiro JA, Jacobs EJ, Thun MJ. Cigar smoking in men and risk of death from tobacco-related cancers. *J Natl Cancer Inst*. 2000;92: 333-337.

186. Ribisl KM, D'Angelo H, Feld AL, et al. Disparities in tobacco marketing and product availability at the point of sale: Results of a national study. *Prev Med*. 2017;105: 381-388.

187. Waziry R, Jawad M, Ballout RA, Al Akel M, Akl EA. The effects of waterpipe tobacco smoking on health outcomes: an updated systematic review and meta-analysis. *Int J Epidemiol*. 2017;46: 32-43.

188. Montazeri Z, Nyiraneza C, El-Katerji H, Little J. Waterpipe smoking and cancer: systematic review and meta-analysis. *Tob Control*. 2017;26: 92-97.

189. Haddad L, Kelly DL, Weglicki LS, Barnett TE, Ferrell AV, Ghadban R. A Systematic Review of Effects of Waterpipe Smoking on Cardiovascular and Respiratory Health Outcomes. *Tobacco Use Insights*. 2016;9: 13-28.

190. National Center for Health Statistics. National Health Interview Survey, 2010-2019. Public-use data file and documentation. Available from URL: https://www.cdc.gov/nchs/nhis/data-questionnaires-documentation.htm [accessed September 23, 2020].

191. Gentzke AS, Wang TW, Jamal A, et al. Tobacco Product Use Among Middle and High School Students – United States, 2020. *MMWR Morb Mortal Wkly Rep*. 2020;69: 1881-1888.

192. National Academy of Sciences E, and Medicine. Public Health Consequences of E-Cigarettes. Washington, DC: The National Academies Press, 2018.

193. Layden JE, Ghinai I, Pray I, et al. Pulmonary Illness Related to E-Cigarette Use in Illinois and Wisconsin – Final Report. *N Engl J Med*. 2020;382: 903-916.

194. Biondi-Zoccai G, Sciarretta S, Bullen C, et al. Acute Effects of Heat-Not-Burn, Electronic Vaping, and Traditional Tobacco Combustion Cigarettes: The Sapienza University of Rome-Vascular Assessment of Proatherosclerotic Effects of Smoking (SUR - VAPES) 2 Randomized Trial. *J Am Heart Assoc*. 2019;8: e010455.

195. Dinakar C, O'Connor GT. The Health Effects of Electronic Cigarettes. *N Engl J Med*. 2016;375: 1372-1381.

196. Soneji S, Barrington-Trimis JL, Wills TA, et al. Association Between Initial Use of e-Cigarettes and Subsequent Cigarette Smoking Among Adolescents and Young Adults: A Systematic Review and Meta-analysis. *JAMA pediatrics*. 2017;171: 788-797.

197. Leventhal AM, Strong DR, Kirkpatrick MG, et al. Association of Electronic Cigarette Use With Initiation of Combustible Tobacco Product Smoking in Early Adolescence. *JAMA*. 2015;314: 700-707.

198. QuickStats: Trends in Secondhand Smoke Exposure* Among Nonsmoking Adults, by Race(dagger) and Hispanic Origin – National Health and Nutrition Examination Survey, United States, 2009-2018. *MMWR Morb Mortal Wkly Rep*. 2021;70: 224.

199. Tsai J, Homa D, Neff LJ, Sosnoff MA, Wang L, Blount BC, Melstrom PC, King BA,. Trends in Secondhand Smoke Exposure, 2011–2018: Impact and Implications of Expanding Serum Cotinine Range. *Am J Prev Med*. 2021;61: e109–e117.

200. Rock CL, Thomson C, Gansler T, et al. American Cancer Society guideline for diet and physical activity for cancer prevention. *CA Cancer J Clin*. 2020;70: 245-271.

201. Kabat GC, Matthews CE, Kamensky V, Hollenbeck AR, Rohan TE. Adherence to cancer prevention guidelines and cancer incidence, cancer mortality, and total mortality: a prospective cohort study. *Am J Clin Nutr*. 2015;101: 558-569.

202. Rock CL, Doyle C, Demark-Wahnefried W, et al. Nutrition and physical activity guidelines for cancer survivors. *CA Cancer J Clin*. 2012;62: 243-274.

203. World Cancer Research Fund and American Institute for Cancer Research. Continuous Update Project Available from URL: https://www.wcrf.org/dietandcancer/contents [accessed July 24, 2021].

204. Lee JM, Pilli S, Gebremariam A, et al. Getting heavier, younger: trajectories of obesity over the life course. *Int J Obes* (Lond). 2010;34: 614-623.

205. Song M, Willett WC, Hu FB, et al. Trajectory of body shape across the lifespan and cancer risk. *Int J Cancer*. 2016;138: 2383-2395.

206. Freedman DS, Khan LK, Serdula MK, Dietz WH, Srinivasan SR, Berenson GS. Racial differences in the tracking of childhood BMI to adulthood. *Obes Res*. 2005;13: 928-935.

207. Sharifi M, Sequist TD, Rifas-Shiman SL, et al. The role of neighborhood characteristics and the built environment in understanding racial/ethnic disparities in childhood obesity. *Prev Med*. 2016;91: 103-109.

208. Wang Y, Jia P, Cheng X, Xue H. Improvement in food environments may help prevent childhood obesity: Evidence from a 9-year cohort study. *Pediatr Obes*. 2019;14: e12536.

209. Jia P, Xue H, Cheng X, Wang Y, Wang Y. Association of neighborhood built environments with childhood obesity: Evidence from a 9-year longitudinal, nationally representative survey in the US. *Environ Int*. 2019;128: 158-164.

210. Rhone A, Ver Ploeg M, Dicken C, Wiliams R, Breneman V. Low-Income and Low-Supermarket-Access Census Tracts, 2010-2015. Available from URL: https://www.ers.usda.gov/webdocs/publications/82101/eib-165.pdf?v=8590.7 [accessed October 27, 2020].

211. Rigolona A, Browninga M, Jennings V. Inequities in the quality of urban park systems: An environmental justice investigation of cities in the United States. *Landsc Urban Plan*. 2018;178: 156-169.

212. Ogden CL, Fryar CD, Martin CB, et al. Trends in Obesity Prevalence by Race and Hispanic Origin-1999-2000 to 2017-2018. *JAMA*. 2020;324: 1208-1210.

213. Fryar CD, Carroll MD, Ogden CL. Prevalence of Overweight, Obesity, and Severe Obesity Among Children and Adolescents Aged 2-19 Years: United States, 1963-1965 Through 2017-2018. National Center for Health Statistics Health E-Stats. 2020.

214. Chen WY, Rosner B, Hankinson SE, Colditz GA, Willett WC. Moderate alcohol consumption during adult life, drinking patterns, and breast cancer risk. *JAMA*. 2011;306: 1884-1890.

215. International Agency for Research on Cancer. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Alcohol Consumption and Ethyl Carbamate. Lyon, France: International Agency for Research on Cancer, 2010.

216. Grosso G, Bella F, Godos J, et al. Possible role of diet in cancer: systematic review and multiple meta-analyses of dietary patterns, lifestyle factors, and cancer risk. *Nutr Rev*. 2017;75: 405-419.

217. Morze J, Danielewicz A, Przybylowicz K, Zeng H, Hoffmann G, Schwingshackl L. An updated systematic review and meta-analysis on adherence to mediterranean diet and risk of cancer. *Eur J Nutr*. 2021;60: 1561-1586.

218. Morze J, Danielewicz A, Hoffmann G, Schwingshackl L. Diet Quality as Assessed by the Healthy Eating Index, Alternate Healthy Eating Index, Dietary Approaches to Stop Hypertension Score, and Health Outcomes: A Second Update of a Systematic Review and Meta-Analysis of Cohort Studies. *J Acad Nutr Diet*. 2020;120: 1998-2031 e1915.

219. Shan Z, Rehm CD, Rogers G, et al. Trends in Dietary Carbohydrate, Protein, and Fat Intake and Diet Quality Among US Adults, 1999-2016. *JAMA*. 2019;322: 1178-1187.

220. Wang L, Martinez Steele E, Du M, et al. Trends in Consumption of Ultraprocessed Foods Among US Youths Aged 2-19 Years, 1999-2018. *JAMA*. 2021;326: 519-530.

221. Fryar CD, Hughes JP, Herrick KA, Ahluwalia N. Fast Food Consumption Among Adults in the United States, 2013-2016. *NCHS Data Brief*. 2018: 1-8.

222. Dai J, Soto MJ, Dunn CG, Bleich SN. Trends and patterns in sugar-sweetened beverage consumption among children and adults by race and/or ethnicity, 2003-2018. *Public Health Nutr*. 2021;24: 2405-2410.

223. Martin CB, Wambogo EA, Ahluwalia N, Ogden CL. Nonalcoholic Beverage Consumption Among Adults: United States, 2015-2018. *NCHS Data Brief*. 2020;376.

224. World Cancer Research Fund/American Institute for Cancer Research. Continuous Update Project Expert Report 2018. Physical activity and the risk of cancer. London, UK: World Cancer Research Fund/American Institute for Cancer Research, 2018.

225. 2018 Physical Activity Guidelines Advisory Committee. 2018 Physical Activity Guidelines Advisory Committee Scientific Report. Washington, DC: U.S. Department of Health and Human Services, 2018.

226. Patel AV, Friedenreich CM, Moore SC, et al. American College of Sports Medicine Roundtable Report on Physical Activity, Sedentary Behavior, and Cancer Prevention and Control. *Med Sci Sports Exerc*. 2019;51: 2391-2402.

227. Cormie P, Zopf EM, Zhang X, Schmitz KH. The Impact of Exercise on Cancer Mortality, Recurrence, and Treatment-Related Adverse Effects. *Epidemiol Rev*. 2017;39: 71-92.

228. Patel AV, Maliniak ML, Rees-Punia E, Matthews CE, Gapstur SM. Prolonged Leisure-Time Spent Sitting in Relation to Cause-specific Mortality in a Large U.S. Cohort. *Am J Epidemiol*. 2018.

229. Rees-Punia E, Evans EM, Schmidt MD, et al. Mortality Risk Reductions for Replacing Sedentary Time With Physical Activities. *Am J Prev Med*. 2019;56: 736-741.

230. Center for Disease Control and Prevention. Adult Physical Inactivity Prevalence Maps by Race/Ethnicity. Available from URL: https://www.cdc.gov/physicalactivity/data/inactivity-prevalence-maps/index.html [accessed August 19, 2021].

231. Giovannucci E, Harlan DM, Archer MC, et al. Diabetes and cancer: a consensus report. *CA Cancer J Clin*. 2010;60: 207-221.

232. Bao C, Yang X, Xu W, et al. Diabetes mellitus and incidence and mortality of kidney cancer: a meta-analysis. *J Diabetes Complicat*. 2013;27: 357-364.

233. Wang L, Wang L, Zhang J, Wang B, Liu HD. Association between diabetes mellitus and subsequent ovarian cancer in women: A systematic review and meta-analysis of cohort studies. *Medicine*. 2017;96: e6396.

234. Centers for Disease Control and Prevention. National Diabetes Statistics Report 2020. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Dept of Human and Health Services, 2020.

235. Zhu Y, Sidell MA, Arterburn D, et al. Racial/ethnic disparities in the prevalence of diabetes and prediabetes by BMI: Patient Outcomes Research To Advance Learning (PORTAL) multisite cohort of adults in the US. *Diabetes Care*. 2019;42: 2211-2219.

236. Centers for Disease Control and Prevention. Genital HPV Infection – Fact Sheet. Division of STD Prevention, National Center for HIV, Viral Hepatitis, STD, and TB Prevention. Reviewed January 19, 2021.

237. Saraiya M, Unger ER, Thompson TD, et al. US assessment of HPV types in cancers: implications for current and 9-valent HPV vaccines. *J Natl Cancer Inst*. 2015;107: djv086.

238. World Health Organization. Human Papillomavirus (HPV) and Cervical Cancer. https://www.who.int/news-room/fact-sheets/detail/human-papillomavirus-(hpv)-and-cervical-cancer, 2020.

239. Saslow D, Andrews KS, Manassaram-Baptiste D, Smith RA, Fontham ETH, the American Cancer Society Guideline Development Group. Human papillomavirus vaccination 2020 guideline update: American Cancer Society guideline adaptation. *CA Cancer J Clin*. 2020;70: 274-280.

240. Vidal AC, Smith JS, Valea F, et al. HPV genotypes and cervical intraepithelial neoplasia in a multiethnic cohort in the southeastern USA. *Cancer Causes Control*. 2014;25: 1055-1062.

241. Brown LM. Helicobacter pylori: epidemiology and routes of transmission. *Epidemiol Rev*. 2000;22: 283-297.

242. Epplein M, Signorello LB, Zheng W, et al. Race, African Ancestry, and Helicobacter pylori Infection in a Low-Income United States Population. *Cancer Epidemiol Biomark Prev*. 2011;20: 826-834.

243. Grad YH, Lipsitch M, Aiello AE. Secular trends in Helicobacter pylori seroprevalence in adults in the United States: evidence for sustained race/ethnic disparities. *Am J Epidemiol*. 2012;175: 54-59.

244. International Agency for Research on Cancer. IARC Monograph on Biological Agents: A Review of Human Carcinogens, 2012.

245. Engels EA, Cho ER, Jee SH. Hepatitis B virus infection and risk of non-Hodgkin lymphoma in South Korea: a cohort study. *Lancet Oncol*. 2010;11: 827-834.

246. de Sanjose S, Benavente Y, Vajdic CM, et al. Hepatitis C and non-Hodgkin lymphoma among 4784 cases and 6269 controls from the International Lymphoma Epidemiology Consortium. *Clin Gastroenterol Hepatol*. 2008;6: 451-458.

247. Schillie S, Vellozzi C, Reingold A, et al. Prevention of Hepatitis B Virus Infection in the United States: Recommendations of the Advisory Committee on Immunization Practices. *MMWR Recomm Rep*. 2018;67: 1-31.

248. Krist AH, Davidson KW, Mangione CM, et al. Screening for Hepatitis B Virus Infection in Adolescents and Adults: US Preventive Services Task Force Recommendation Statement.

249. Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System Survey Data, 2019. Available from URL: https://www.cdc.gov/brfss/data_documentation/index.htm [accessed September 6, 2020].

250. Owens DK, Davidson KW, Krist AH, et al. Screening for Hepatitis C Virus Infection in Adolescents and Adults: US Preventive Services Task Force Recommendation Statement2020.

251. Moyer VA, US Preventive Services Task Force. Screening for hepatitis C virus infection in adults: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med*. 2013;159: 349-357.

252. Hofmeister MG, Rosenthal EM, Barker LK, et al. Estimating Prevalence of Hepatitis C Virus Infection in the United States, 2013-2016.

253. Bradley H, Hall EW, Rosenthal EM, Sullivan PS, Ryerson AB, Rosenberg ES. Hepatitis C Virus Prevalence in 50 U.S. States and D.C. by Sex, Birth Cohort, and Race: 2013-2016. *Hepatol Commun*. 2020;4: 355-370.

254. National Center for Health Statistics. National health Interview Survey, 2017. Public-use data file and documentation.

255. Simard EP, Pfeiffer RM, Engels EA. Spectrum of cancer risk late after AIDS onset in the United States. *Arch Intern Med*. 2010;170: 1337-1345.

256. Park MS, Yang YM, Kim JS, Choi EJ. Comparative study of antiretroviral drug regimens and drug-drug interactions between younger and older HIV-infected patients at a tertiary care teaching hospital in South Korea. *Ther Clin Risk Manag*. 2018;14: 2229-2241.

257. Centers for Disease Control and Prevention. HIV Surveillance Report, 2019. Available from URL: https://www.cdc.gov/hiv/library/reports/hiv-surveillance.html [accessed January 27, 2021].

258. Rauscher GH, Johnson TP, Cho YI, Walk JA. Accuracy of self-reported cancer-screening histories: a meta-analysis. *Cancer Epidemiol Biomark Prev*. 2008;17: 748-757.

259. Allgood KL, Rauscher GH, Whitman S, Vasquez-Jones G, Shah AM. Validating self-reported mammography use in vulnerable communities: findings and recommendations. *Cancer Epidemiol Biomarkers Prev*. 2014;23: 1649-1658.

260. Lee JM, Ichikawa LE, Wernli KJ, et al. Digital Mammography and Breast Tomosynthesis Performance in Women with a Personal History of Breast Cancer, 2007-2016. *Radiology*. 2021;300: 290-300.

261. Fontham ETH, Wolf AMD, Church TR, et al. Cervical cancer screening for individuals at average risk: 2020 guideline update from the American Cancer Society. *CA Cancer J Clin*. 2020;70: 321-346.

262. Ford S, Tarraf W, Williams KP, Roman LA, Leach R. Differences in cervical cancer screening and follow-up for black and white women in the United States. *Gynecol Oncol*. 2021;160: 369-374.

263. National Center for Health Statistics. National Health Interview Survey, 2015. Public-use data file and documentation. Available from URL: http://www.cdc.gov/nchs/nhis/quest_data_related_1997_forward.htm [accessed July 16, 2016].

264. Statistics NCfH. National Health Interview Survey, 2000, 2013, and 2014. Public-use data file and documentation. Available from URL: www.cdc.gov/nchs/nhis.htm.

265. Fedewa SA, Flanders WD, Ward KC, et al. Racial and Ethnic Disparities in Interval Colorectal Cancer Incidence: A Population-Based Cohort Study. *Ann Intern Med*. 2017;166: 857-866.

266. National Lung Screening Trial Research Team. Reduced lung-cancer mortality with low-dose computed tomographic screening. *N Engl J Med*. 2011;365: 395-409.

267. Pastorino U, Silva M, Sestini S, et al. Prolonged lung cancer screening reduced 10-year mortality in the MILD trial: new confirmation of lung cancer screening efficacy. *Ann Oncol*. 2019;30: 1672-1672.

268. Krist AH, Davidson KW, Mangione CM, et al. Screening for Lung Cancer: US Preventive Services Task Force Recommendation Statement. *JAMA*. 2021;325: 962-970.

269. Reese TJ, Schlechter CR, Potter LN, et al. Evaluation of Revised US Preventive Services Task Force Lung Cancer Screening Guideline Among Women and Racial/Ethnic Minority Populations. *JAMA Network Open*. 2021;4: e2033769-e2033769.

270. Fedewa SA, Kazerooni EA, Studts JL, et al. State Variation in Low-Dose Computed Tomography Scanning for Lung Cancer Screening in the United States. *J Natl Cancer Inst*. 2020;113: 1044-1052.

271. Lozier JW, Fedewa SA, Smith RA, Silvestri GA. Lung Cancer Screening Eligibility and Screening Patterns Among Black and White Adults in the United States. *JAMA Network Open*. 2021;4: e2130350-e2130350.

272. US Preventive Services Task Force. Screening for prostate cancer: US Preventive Services Task Force recommendation statement. *JAMA*. 2018;319: 1901-1913.

273. *Cancer Trends Progress Report*. National Cancer Institute, NIH, DHHS, Bethesda, MD, July 2021, https://progressreport.cancer.gov.

274. SEER*Explorer: An interactive website for SEER cancer statistics [Internet]. Available from URL: https://seer.cancer.gov/explorer/ [accessed May 11, 2021].

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American Cancer Society Recommendations for the Early Detection of Cancer in Average-risk Asymptomatic People*

Cancer Site	Population	Test or Procedure	Recommendation
Breast	Women, ages 40-54	Mammography	Women should have the opportunity to begin annual screening between the ages of 40 and 44. Women should undergo regular screening mammography starting at age 45. Women ages 45 to 54 should be screened annually.
	Women, ages 55+		Transition to biennial screening, or have the opportunity to continue annual screening. Continue screening as long as overall health is good and life expectancy is 10+ years.
Cervix	Women, ages 25-65	HPV DNA test, **OR** Pap test & HPV DNA test	**Preferred:** Primary HPV test alone every 5 years with an FDA-approved test for primary HPV screening. **Acceptable:** Co-testing (HPV test and Pap test) every 5 years or Pap test alone every 3 years.
	Women, ages >65		Discontinue screening if results from regular screening in the past 10 years were negative, with the most recent test within the past 5 years.
	Women who have been vaccinated against HPV		Follow age-specific screening recommendations (same as unvaccinated individuals).
	Women who have had a total hysterectomy		Individuals without a cervix and without a history of cervical cancer or a history of CIN2 or a more severe diagnosis in the past 25 years should not be screened.
Colorectal†	Men and women, ages 45+	Guaiac-based fecal occult blood test (gFOBT) with at least 50% sensitivity or fecal immunochemical test (FIT) with at least 50% sensitivity, **OR**	Annual testing of spontaneously passed stool specimens. Single stool testing during a clinician office visit is not recommended, nor are "throw in the toilet bowl" tests. In comparison with guaiac-based tests for the detection of occult blood, immunochemical tests are more patient-friendly and are likely to be equal or better in sensitivity and specificity. There is no justification for repeating FOBT in response to an initial positive finding.
		Multi-target stool DNA test, **OR**	Every 3 years
		Flexible sigmoidoscopy (FSIG), **OR**	Every 5 years alone, or consideration can be given to combining FSIG performed every 5 years with a highly sensitive gFOBT or FIT performed annually
		Colonoscopy, **OR**	Every 10 years
		CT Colonography	Every 5 years
Endometrial	Women at menopause		Women should be informed about risks and symptoms of endometrial cancer and encouraged to report unexpected bleeding to a physician.
Lung	Current or former smokers ages 50-80 in fairly good health with 20+ pack-year history	Low-dose helical CT (LDCT)	The American Cancer Society is currently reviewing the new scientific evidence for lung cancer screening. In the interim we recommend following the updated guidelines from the US Preventive Services Task Force (uspreventiveservicestaskforce.org/uspstf/recommendation/lung-cancer-screening), which recommends annual LDCT screening in adults ages 50-80 who have a 20-pack year smoking history and currently smoke or have quit within the past 15 years.
Prostate	Men, ages 50+	Prostate-specific antigen test with or without digital rectal examination	Men who have at least a 10-year life expectancy should have an opportunity to make an informed decision with their health care provider about whether to be screened for prostate cancer, after receiving information about the potential benefits, risks, and uncertainties associated with prostate cancer screening. Prostate cancer screening should not occur without an informed decision-making process. African American men should have this conversation with their provider beginning at age 45.

CT-Computed tomography. *All individuals should become familiar with the potential benefits, limitations, and harms associated with cancer screening.
†All positive tests (other than colonoscopy) should be followed up with colonoscopy.

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is to **save lives, celebrate lives,**
and **lead the fight** for a world without cancer.

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