Produced by District of Columbia Cancer Registry Bureau of
Cancer and Chronic Diseases Community Health Administration

BURDEN OF CANCER IN THE DISTRICT OF COLUMBIA

April 2014

GOVERNMENT OF THE DISTRICT OF COLUMBIA
DOH
DEPARTMENT OF HEALTH
Promote. Prevent. Protect.

Acknowledgments

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Citation

The DOH website includes additional resources, such as individual figures from the publication and an archive of previous editions: (www.doh.dc.gov/service/cancer-registry-0).

The development of this publication over the years has benefited considerably from the comments and suggestions of readers. The DC Cancer Registry Advisory Committee appreciates and welcomes such comments. To be notified about next year's publication or to offer ideas on how the publication can be improved, please complete the evaluation form or e-mail dccancer.chronic@dc.gov

About this Publication

The aim of this annual publication is to provide detailed information regarding incidence, mortality and other measures of cancer burden for the most common types of cancer in the District of Columbia. By law, the District of Columbia Cancer Registry (DCCR) collects, analyzes, and disseminates information on cancers diagnosed and treated in the District. Data are presented by sex, race, age, stage and District ward by year of diagnosis. They also show trends over time. This publication is designed to help health professionals, policy-makers and researchers identify and make decisions about new areas for investigation and allocation of resources. Media, educators and members of the public with an interest in cancer will also find this publication valuable.

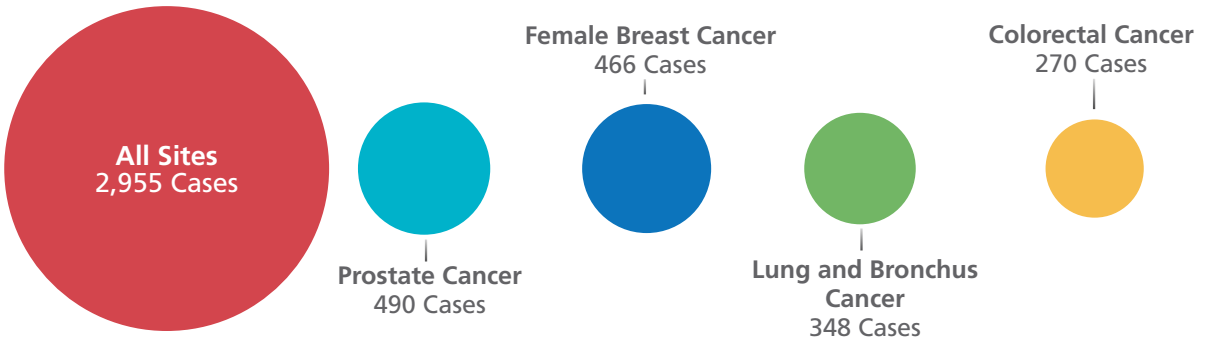
Introduction

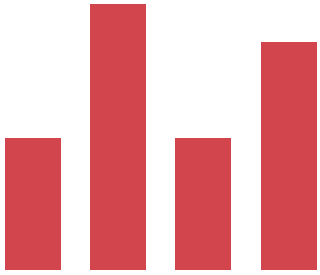
The District of Columbia Central Cancer Registry (DCCR) and the Comprehensive Cancer Control Program (CCCP) are pleased to present the annual Cancer Report for the District of Columbia, monograph series, documenting cancer incidence and mortality in the District for 2010.

The examination of cancer incidence trends can lead to the reduction of certain behavioral risk-factors, enhance early detection and decrease cancer mortality. By analyzing cancer trends in this publication allows for an insight in how the data is collected, how to interpret the data, and what can be addressed in the future to keep the cancer incidence and mortality trend at a decline.

Cancer Incidence* 2010

* Only invasive cases are considered.





Chapter 1:
A Note on Data Generation

What is the Cancer Registry?

Cancer is a reportable disease in every state and territory in the United States (U.S.). The District of Columbia Cancer Registry (DCCR) collects, maintains, and reports cancer incidence on all cancers diagnosed and/or treated in the District of Columbia (DC). DCCR track all malignant, and certain benign tumors, and publishes annual reports on the incidence and mortality of cancer in DC.

DCCR gathers relevant data from hospitals, laboratories, and other agencies with legislatively mandated reporting under existing law. The Department of Health has also entered into reciprocal exchange agreements for cancer information with its neighboring states (Maryland, Virginia, Pennsylvania, West Virginia, Delaware), in order to capture all occurrences of cancer among DC residents.

Protocols such as completeness, accuracy, and timeliness are imperative when gathering data for the registry. Since 1996, the District's cancer data has been closely reviewed by the North American Association of Central Cancer Registries (NAACCR), and the National Program of Cancer Registries (NPCR). Academic medical centers, researchers, public health agencies, advocacy groups and interested lay persons rely heavily on the reports generated by the DCCR. Mortality occurrences are collected by the District of Columbia Center for Policy, Planning and Evaluation, Office of Vital Records.

What is the Cancer Registry used for?

Local, state and national agencies use registry data to make important public health decisions that maximize the effectiveness of limited public health funds, such as the placement of screening programs. Cancer registry data is also used to:

- Evaluate patient outcomes
- Provide follow-up information for surveillance
- Calculate survival rates by various data items
- Analyze referral patterns
- Allocate resources
- Develop educational programs
- Report cancer incidence and cancer mortality
- Evaluate efficacy of treatment modalities
- Perform linkages with Project WISH (Breast & Cervical Early Detection Program), HIV/AIDS Registry and Social Security Death Index.

What does the Cancer Registry do to protect privacy?

All information reported to the DCCR is confidential and strict procedures are in place to protect patients' privacy. For example, access to the Registry is restricted and all employees are trained in handling confidential information. District law limits use of confidential cancer data to research. All research studies involving data with patient identifiers must be reviewed by the Health Department's Institutional Review Board, to ensure privacy and informed consent.

What if information is collected about patients with Cancer?

When the Cancer Registry first started collecting data, only a minimal amount of information about patients and tumors were collected. Over the years, the volume of cancer cases has increased and the amount of data collected for each case has expanded. The Cancer Registry collects data on the anatomic tumor sites, stages at diagnosis, cancer histology and treatment information. When a person is diagnosed with more than one type of cancer, information is collected for each separate tumor. The Cancer Registry also collects socio-demographic information (age, gender, ethnicity, race, residence, place of birth, etc.) on each individual diagnosed with cancer. Information about the date and cause of death of persons diagnosed with cancer is also stored in the database. In total, more than 365 different data variables are abstracted on each tumor contained in the Registry database.

The Cancer Registry includes reports of all malignant cancers, and certain benign tumors, except basal cell and squamous cell cancers of the skin that are exempt from reporting. Malignant cancers include those with both in situ and invasive stages. In situ cancers are generally identified early and are less likely to spread, while invasive cancers have more potential to spread. The Cancer Registry also collects data on brain and central nervous system tumors classified as benign or which have an uncertain behavior. Benign tumors are growths that do not have the potential to metastasize beyond the tissue where they originated.

Where do reports of cancer cases come from?

Each time a person is diagnosed with a tumor, the hospital(s) where that person is diagnosed and/or treated reports information about the person and tumor to the Cancer Registry. Reporting is not voluntary. The law specifies that reports will be submitted within six months of diagnosis. Although the law requires that all cancer cases be reported to the Cancer Registry regardless of where they are diagnosed, in practice, cancer reports are mainly received from hospitals. Other types of reporting facilities, such as pathology laboratories, and ambulatory care centers also report cases. Although Veterans' Affairs Medical Centers and military hospitals are exempt from the reporting requirements, many voluntarily report cancer cases to the Cancer Registry. Death certificates and autopsy reports are also reported to the Registry.

Comprehensive Cancer Control

Comprehensive cancer control (CCC) is a process through which communities and partner organizations pool resources to reduce the burden of cancer. These combined efforts help to:

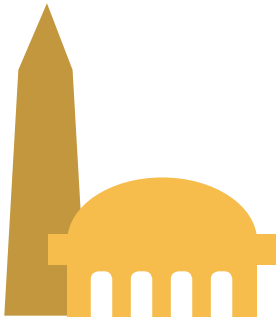
- Encourage people to live a healthy lifestyle
- Promote cancer screening tests
- Increase access to good cancer care, and
- Improve the quality of life for people who survive cancer.

To guide this work, the CCC program utilizes the framework set out in the District's Cancer Control Plan. The plan establishes goals and objectives for early detection, access to care, treatment and survivorship. The District of Columbia CCC Program works with various community partners, stakeholders, policy makers, and activists to address the goals and objectives of the District's Cancer Control Plan.

The Centers for Disease Control and Prevention (CDC) started the National Comprehensive Cancer Control Program (NCCCP) to help states, tribes, U.S. Affiliated Pacific Islands, and territories form or support existing coalitions to fight cancer. These coalitions use data to determine the greatest cancer-related needs in their area, and develop and carry out cancer plans to meet those needs.

There are several building blocks to inform the development and implementation or establish plans for strategy initiatives of Comprehensive Cancer Control at the state level. These include:

- **Enhancing infrastructure** necessary to manage and support CCC efforts.
- **Mobilizing support** by improving the use of existing resources for cancer programming and increasing the level of support available.
- **Performing research** to guide decision making and determine priorities.
- **Building partnerships** to increase awareness and involvement across different disciplines and sectors including health/medical providers, public health, non-profit organizations, insurance companies, businesses, cancer survivors, government agencies, academic institutions, and advocates.
- **Assessing and addressing the cancer burden** to reduce illness and death from cancer and disparities among population groups.
- **Evaluating** outcomes associated with CCC planning and implementation.



Chapter 2:
District of Columbia Background

The District is home to an abundance of medical care facilities and providers, but equal access to cancer care services is significantly undermined by the physical location of those providers. Access to cancer screening, treatment, and follow-up care is, in some measure, influenced by where a District resident lives. Geographically, the District is divided into four quadrants: northwest, northeast, southwest, and southeast. Politically, it is divided into eight wards (see Figure 1). Wards 1, 3, and 4 are in the northwest quadrant; Ward 2 straddles northwest and southwest; Ward 5 is mainly in the northeast (and a small portion of northwest; Ward 6 is in northeast, southwest, and southeast; Ward 7 is in both northeast and southeast; and Ward 8 is in the southwest and southeast quadrants.

Many cancer-related health care facilities are located in northwest Washington (in Wards 1, 2, 3, 4, and parts of Ward 5) (See Figure 1). There is one full-service hospital located east of the Anacostia River (Wards 7 and 8), serving 20% of the District's population.

For those dependent on public transportation, especially those weakened by cancer, it can be difficult and exhausting to reach a hospital in another part of the city. Of the District's eleven hospitals; Providence Hospital, is located in northeast, and United Medical Center is located in southeast. The other nine hospitals—Children's National Medical Center, George Washington University Hospital, Georgetown University Medical Center, Howard University Hospital, Sibley Memorial Hospital, Veterans' Affairs Medical Center, and the Washington Hospital Center—are all in northwest. All four cancer centers—Georgetown University Hospital, George Washington University Hospital, Howard University Hospital and Washington Hospital Center—are also located in northwest. The inequitable distribution of infrastructure for cancer care in the District may impact the city's cancer incidence and mortality rates.

Disparities in access to care and in the quality of care are seen in every aspect of cancer control: screening, early detection, incidence, treatment, quality of care, and survival. Addressing the District's cancer disparities remains a central theme in the city's comprehensive cancer control planning and is addressed in nearly every chapter of the Cancer Plan.

District of Columbia Hospitals

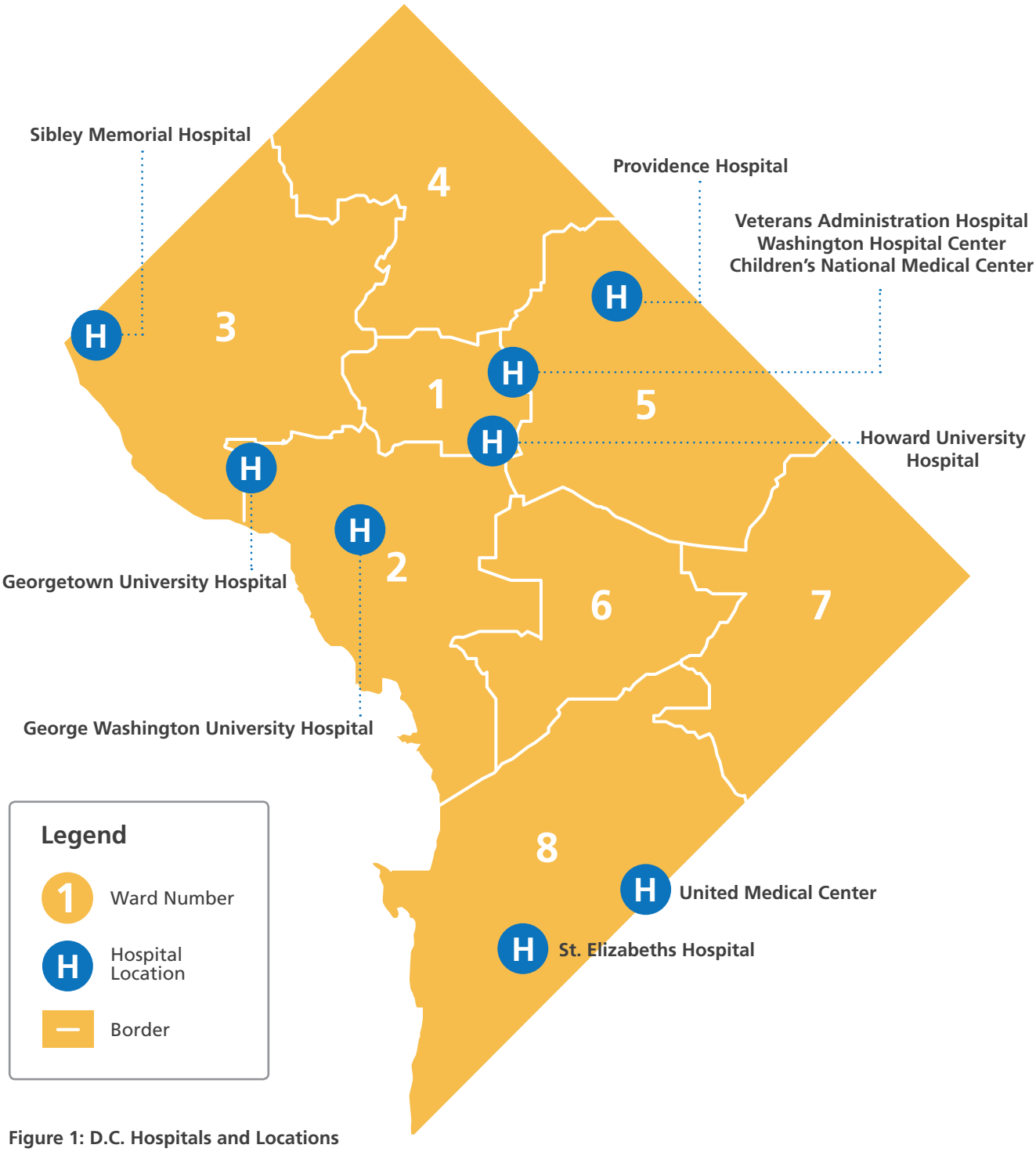
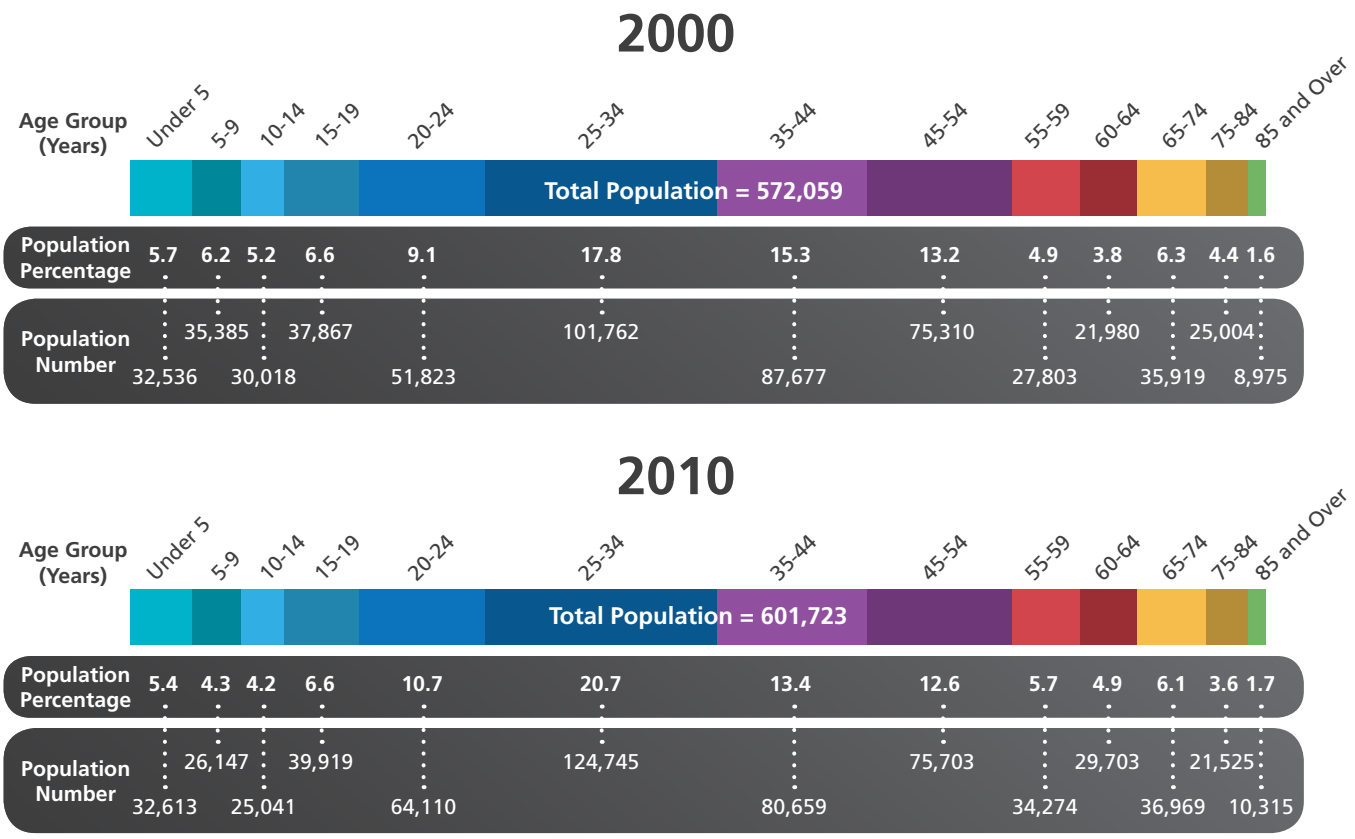
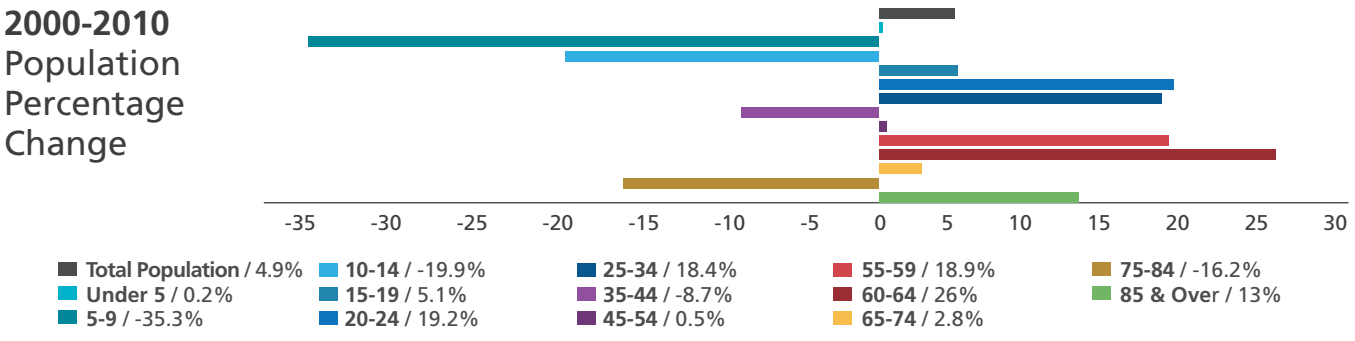


Figure 1: D.C. Hospitals and Locations

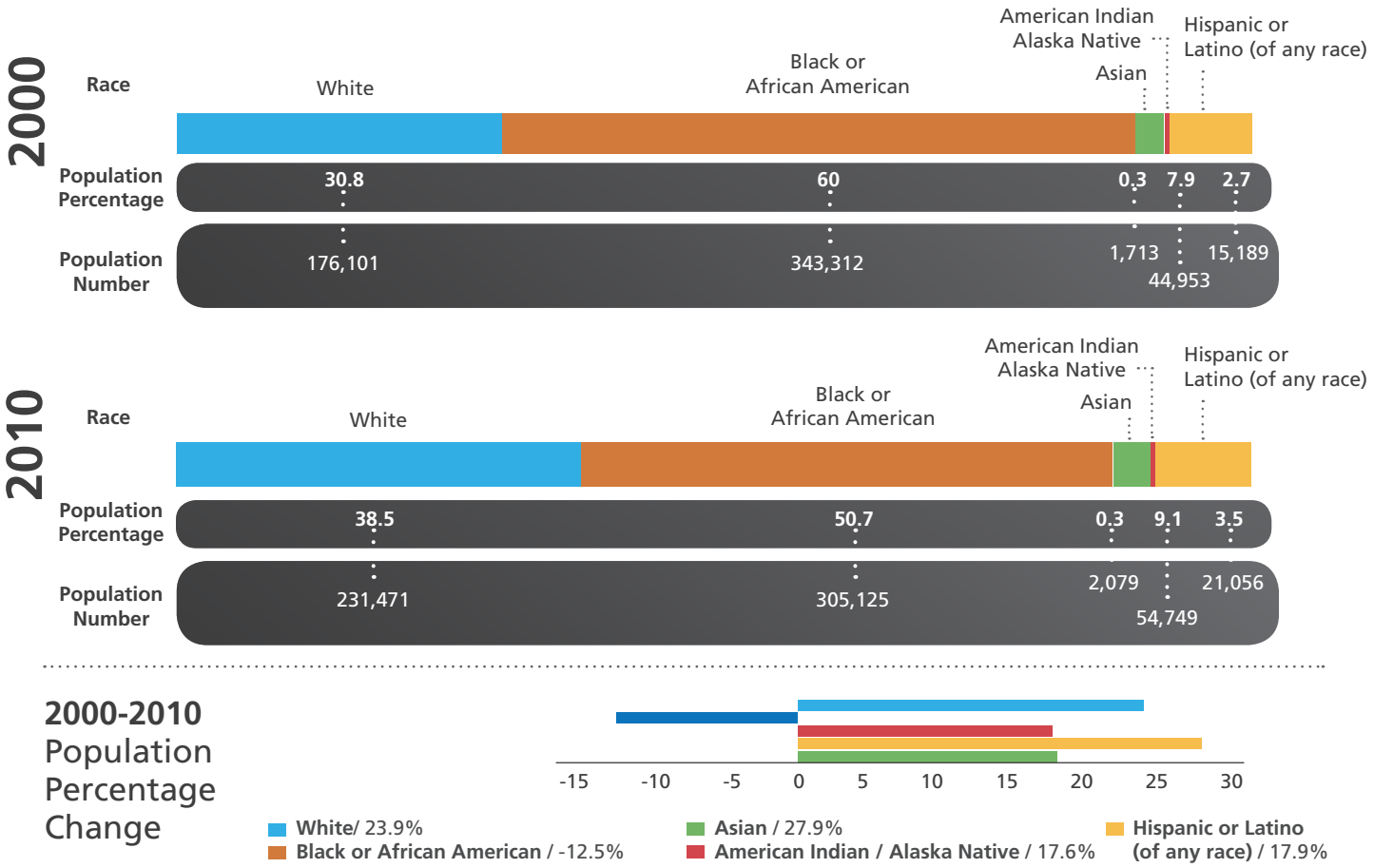
District of Columbia
Population Demographic Profile by Age, 2000 and 2010





Source: Census Bureau: Census 2000 & 2010

District of Columbia
Population Demographic Profile by Race, 2000 and 2010



2000-2010 Population Percentage Change

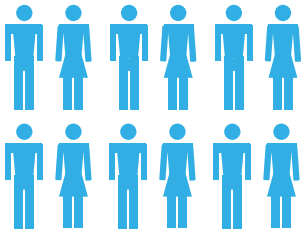
Source: Census Bureau: Census 2000 & 2010

Race and Ethnicity — As of 2010, DC's population was 50.7% Black, 38.5% White, and 3% Asian. Another 2% of residents describe themselves as "two races or other." Approximately 10% of the population is Hispanic (some self-identifying as White, some as Black). The Hispanic population, the fastest growing segment in the city, is located mainly in Wards 1 and 4.

Income — Although the city's population is distributed equally among the eight wards, income distribution is unequal. A significant number (roughly 147,000 or 26%) of residents have household incomes below $20,000 a year. The high cost of living in DC places households earning less than $20,000 in extreme poverty. Average per capita income is highest in Ward 3 ($68,477) and lowest in Ward 8 ($14,137). Similarly, average household income is highest in Ward 3 ($134,506) and lowest in Ward 8 ($38,754).

Education — Almost 300,000 Washingtonians — 22% of those older than 25 years — do not have a high school diploma. The highest number of people with college degrees is reported in Ward 3 (79%), and the lowest in Ward 8 (8%).

In all following graphics, these indicators are used to differentiate the study. Incidence and Mortality



Chapter 3:
Incidence: How Many People in DC Get Cancer?

The probability of developing a specific type of cancer depends on many factors, including the population characteristics (e.g. demographics), prevalence of risk factors (i.e., smoking, obesity), and life expectancy. This probability reflects the average experience of people in United States of America and does not take into account individual behaviors and risk factors.

In the U.S., 1 in 2.2 males and 1 in 2.6 females (approximately 2 in 5 Americans) are expected to develop cancer in their lifetime.

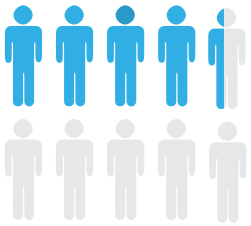
Cancer Incidence and Mortality trend over time

This chapter includes incidence data on more than 3,000 cases of invasive cancer, including approximately 30 cases among children younger than 20 years, diagnosed in each of the individual years in the District of Columbia.

National mortality comparison with the District is also included. Individual years from 2000 through 2010 for cancer deaths occurring at major anatomic sites has been charted.

Lifetime Probability of Developing Cancer USA, 2010

Males | 43.92% (1 in 2.2)



Females | 38.00% (1 in 2.6)

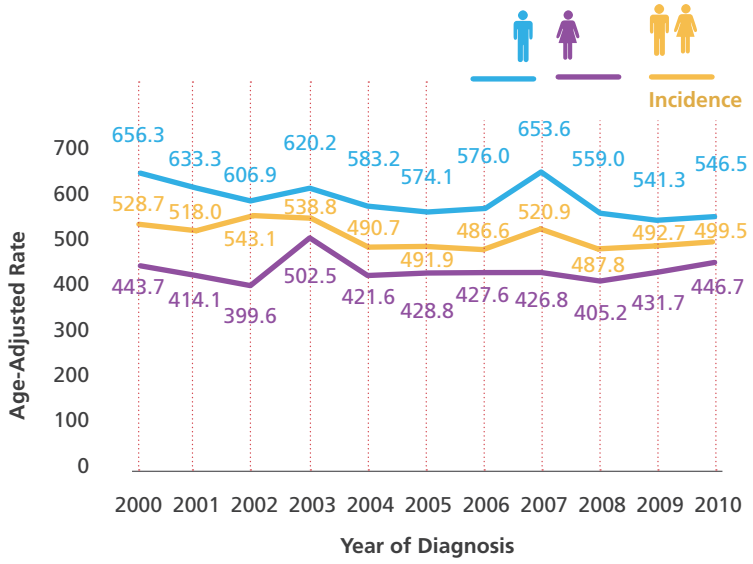
Figure 2: Lifetime Cancer Probability

Data source: United States Cancer Statistics: 1999-2010 Incidence, WONDER Online Database. United States Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; 2013

Between 2000 and 2010, the cancer incidence rates in the District of Columbia decreased from 528.7 to 499.5 new cases per 100k. However, age adjusted incidence rates (Age-Adjusted Rate) were mostly stable for males and females.

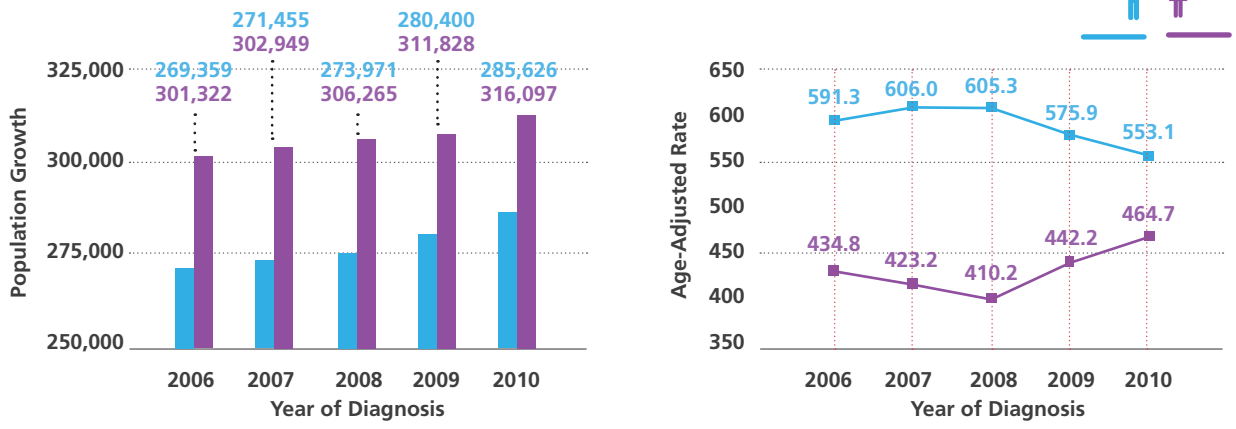
- In males, a peak in the cancer incidence rate in 2007 reflects the underlying trend in the prostate cancer incidence, the leading type of cancer in District men.
- Among females, the increasing incidence rate primarily reflects the steady rise in colorectal and breast cancer incidence rates.

Age-Adjusted Incidence Rates for All Cancers Combined, by Sex, District of Columbia, 2000-2010



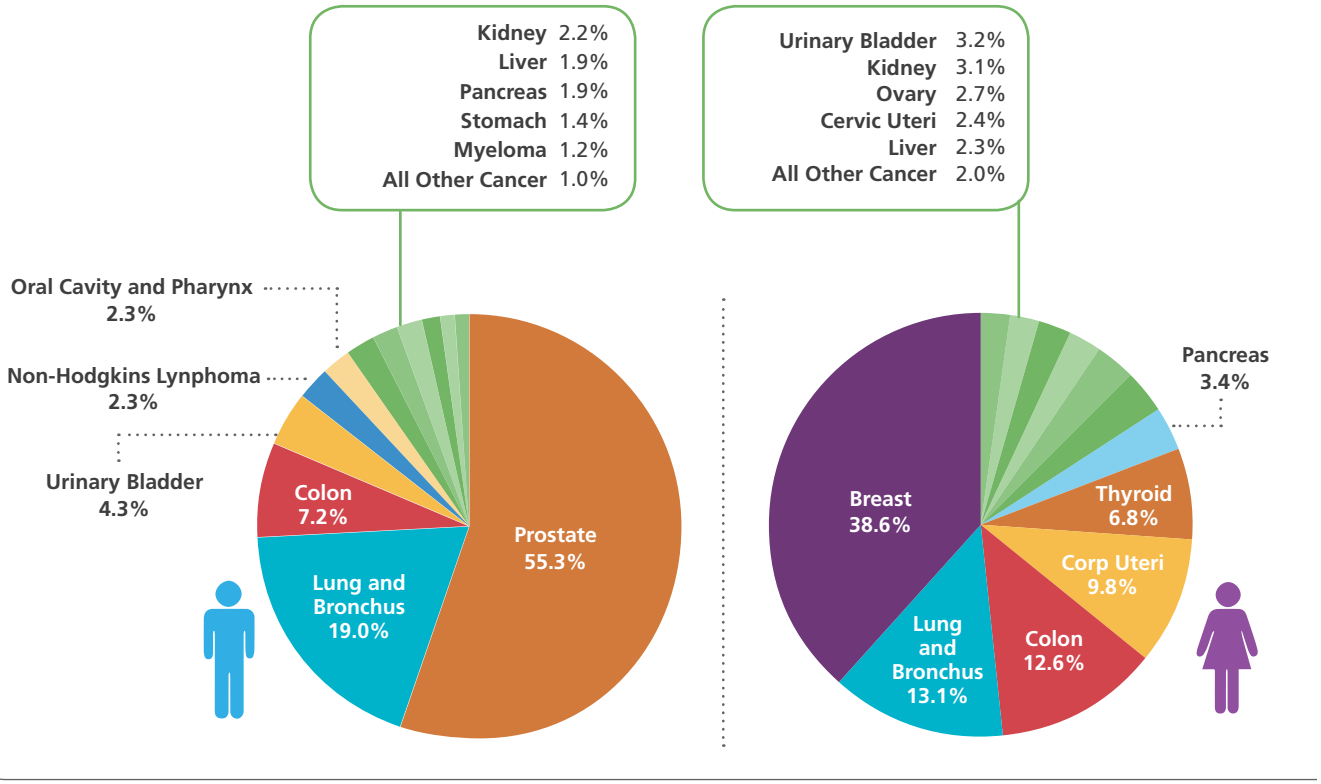
Data source: District of Columbia Cancer Registry, 2013
Rates are per 100,000 persons and are age-adjusted to the 2000 U.S. standard.

New Cancer Cases and Age-Adjusted Incidence Rates for All Combined Cancer, District of Columbia, 2006-2010



Data source: District of Columbia Cancer Registry, 2013
Rates are per 100,000 persons and are age-adjusted to the 2000 U.S. standard.

Percent Distribution of Estimated New Cancer Cases, by Sex, District of Columbia, 2010

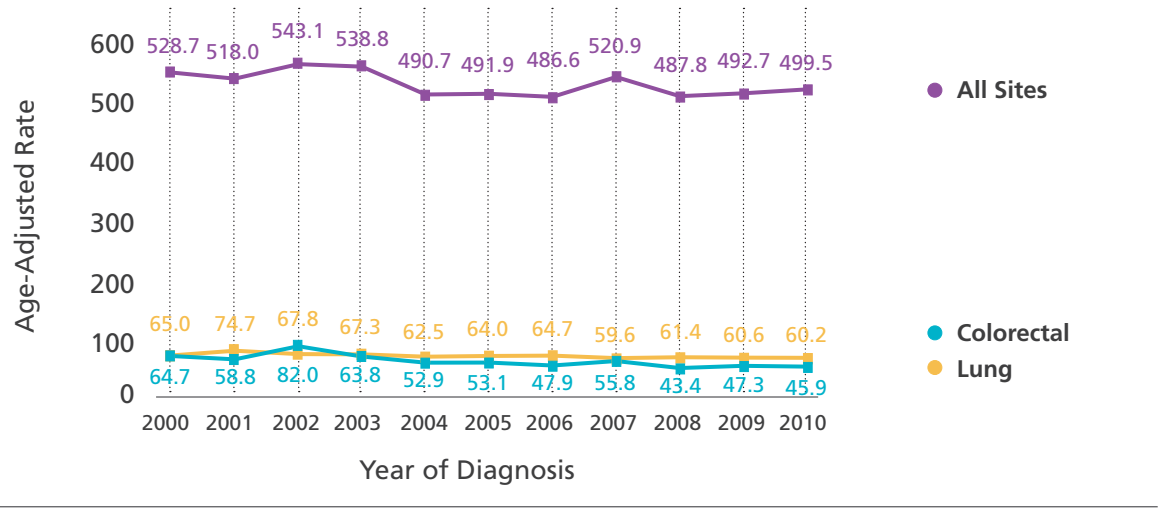


Data source: United States Cancer Statistics: 1999-2010 Incidence, WONDER Online Database. United States Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; 2013

Due to behavioral risks and other factors, women and men experience various cancers at different rates. For example, the distribution of lung and bronchus cancer among men is 19.0%, compared to 13.1% among women. This may be linked to the high proportion of District men who report tobacco use compared with (lower rates of use among) women (Garner, Kassaye & Lewis, 2010). Additionally, new cases of colon cancer are almost twice as high in women (12.6%) than men (7.2%). Women's distribution for kidney cancer is 3.1%, compared to men's distribution at 2.2%.

Chapter 4:
Incidence Trend for Selected Cancers in the District of Columbia

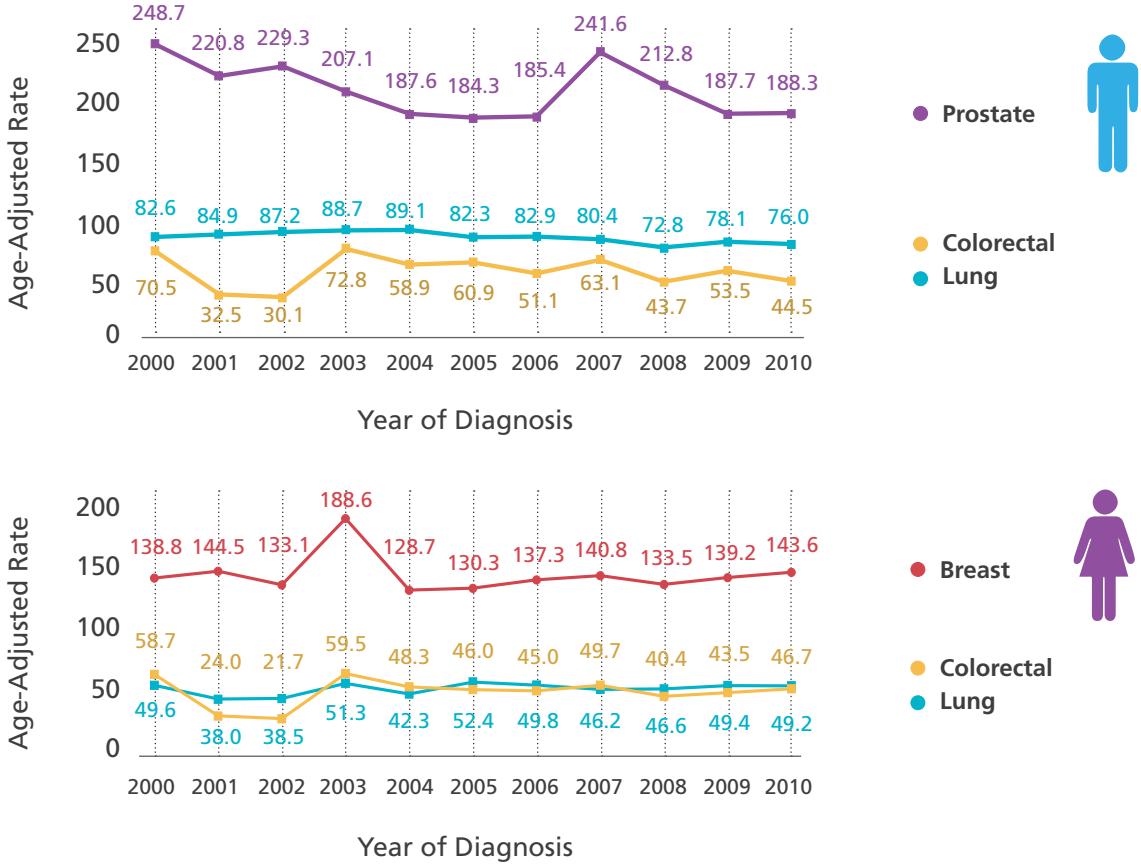
Age-Adjusted incidence Rate for All Cancers Combined and Selected Cancers, District of Columbia, 2000-2010



Data source: District of Columbia Cancer Registry, 2013.
Rates are per 100,000 persons and are age-adjusted to the 2000 U.S. standard.

The incidence trend depicted in this table portrays cancer incidence declining for several years, and then rising again nearing the year 2010. Breast cancer in females had a sharp increase in incidence during 2003, then declined and remained stable for the remainder of the reporting period.

Age-Adjusted incidence Rate for Selected Cancers by sex, District of Columbia, 2000-2010

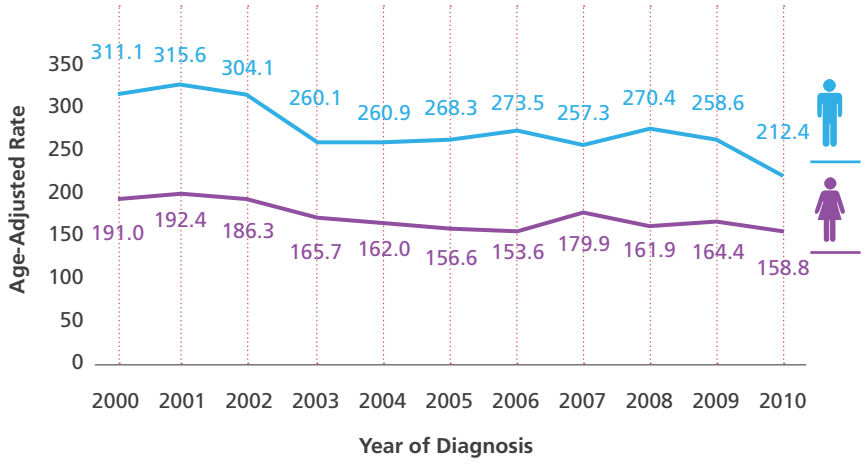


Data source: District of Columbia Cancer Registry, 2013
Rates are per 100,000 persons and are age-adjusted to the 2000 U.S. standard.

Chapter 5:
Cancer Mortality Trends Over Time

Cancer mortality has declined in the District over the last decade. However, cancer remains the number two cause of death among District residents following heart disease. This chapter describes District cancer mortality trends over ten years.

Age-Adjusted Mortality Rates for All Cancers Combined, by Sex, District of Columbia, 2000-2010



Data source: District of Columbia Cancer Registry, 2013.
Rates are per 100,000 persons and are age-adjusted to the 2000 U.S. standard.

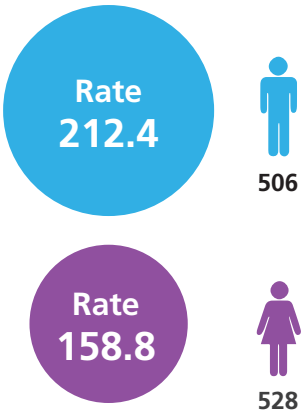
Age-Adjusted Death Rates by Three Top Leading Causes of Death: District of Columbia, 2010 and United States, 2010

District of Columbia			United States		
Rank	Cause of Death	Rate	Rank	Cause of Death	Rate
1	Heart Disease	239.7	1	Heart Disease	178.5
2	Malignant Neoplasms (Cancer)	177.9	2	Malignant Neoplasms (Cancer)	172.5
3	Accidents	36.9	3	Accidents	42.1

Data source: District of Columbia Cancer Registry, 2013

Cancer Death Rates District of Columbia Residents, 2010

Sex (Male/Female)

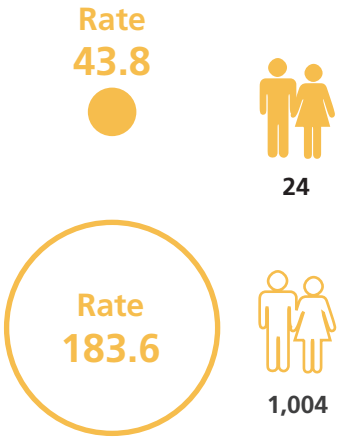


Data source: District of Columbia Cancer Registry, 2013

Race (Black/White)

Data source: District of Columbia Cancer Registry, 2013

Ethnicity (Hispanic/ Non-Hispanic)



Data source: United States Cancer Statistics: 1999-2010 Incidence, WONDER Online Database. United States Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; 2013.

Rates are per 100,000 persons and are age-adjusted to the 2000 U.S. standard.

Chapter 6:
Site-Specific Trends in Cancer Incidence and Mortality by Sex, Race, Age, Stage, and Ward

This section presents trends in incidence (new cases) and mortality in the District of Columbia from 2000 through 2010 for cancers occurring at major anatomic sites. For each cancer site, a brief description of its risk factors is presented, followed by the main findings from the trend analysis of the District's approximately 600,000 residents.

For each cancer site, incidence rates represent invasive cancers diagnosed for District of Columbia residents. Trends for four types of cancer (female breast, colorectal, prostate, and lung and bronchus) are presented, along with stage at diagnosis, age and ward distribution.

Incidence information is included for each cancer site by:

- Trend
- Sex
- Race
- Age
- Stage
- Ward

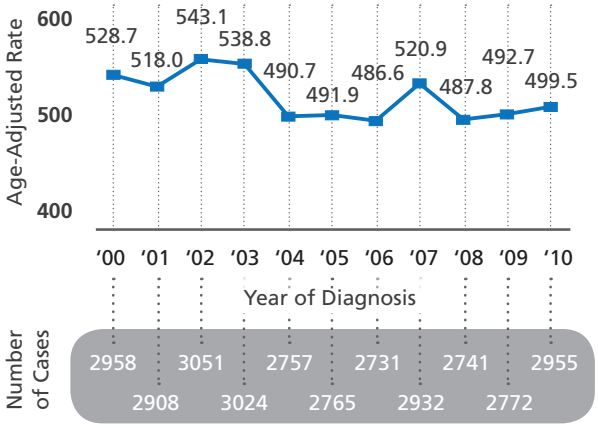
Similar information (trends, sex, race, age and wards) is included for mortality.

Maps for each cancer site are included; for incidence based in the number of new cancer cases and mortality based on the number of cancer deaths.

Cancer Incidence for All Sites Combined (Invasive)

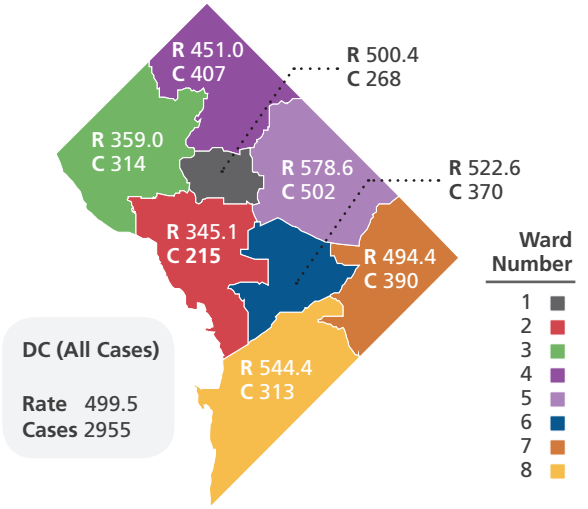
District of Columbia

Ten Year Incidence and Trend Data Comparison

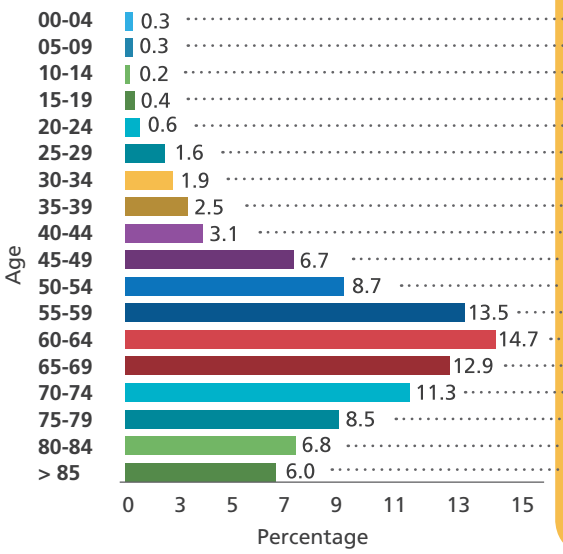


Gender

Ward Comparison

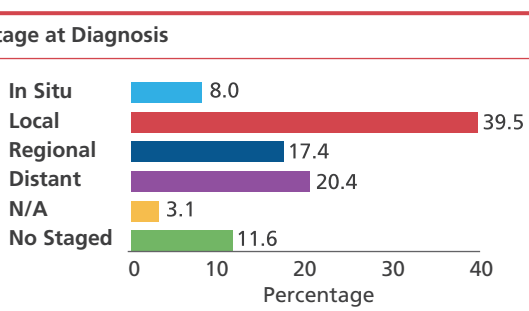


Age



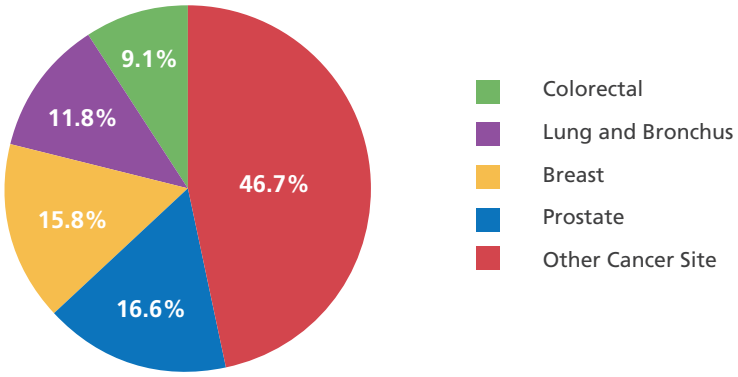
Race

Stage at Diagnosis



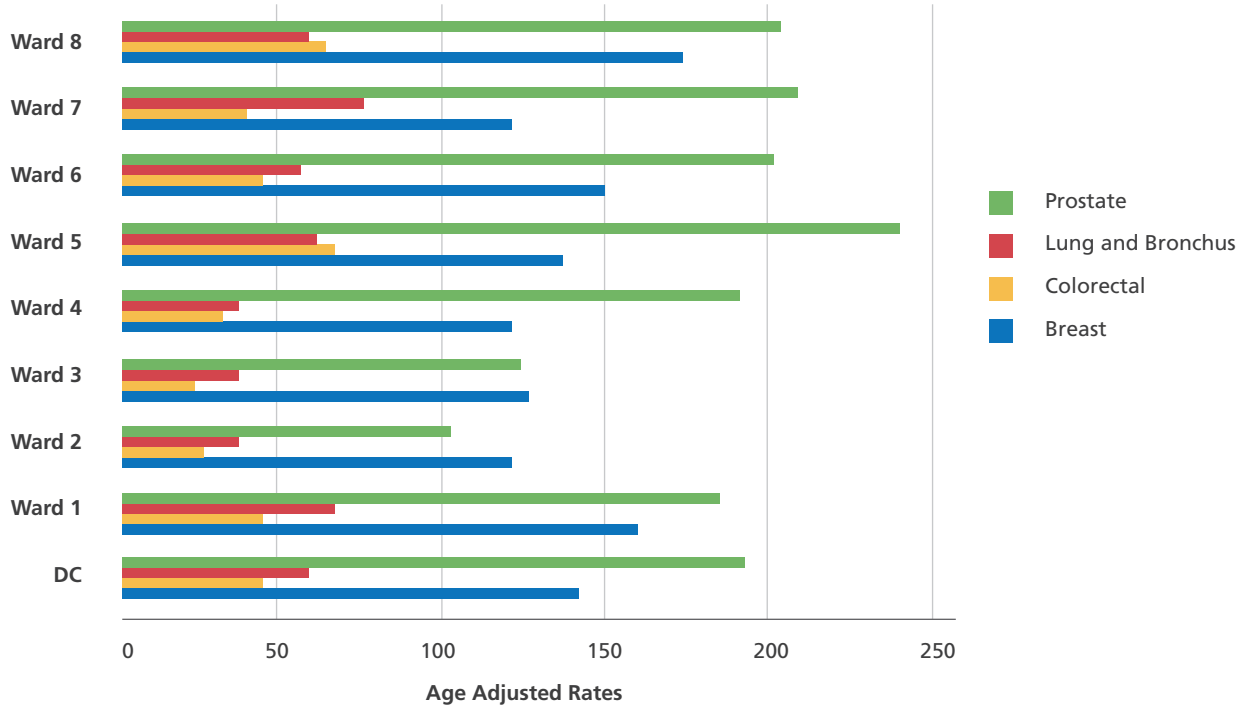
Data source: District of Columbia Cancer Registry, 2013.
Rates are per 100,000 persons and are age-adjusted to the 2000 U.S. standard.
Note: ~ Data are suppressed if fewer than 16 cases are reported in the specific category.

Distribution of the Most Frequent Cancer Cases Incidence, 2010 Percentages

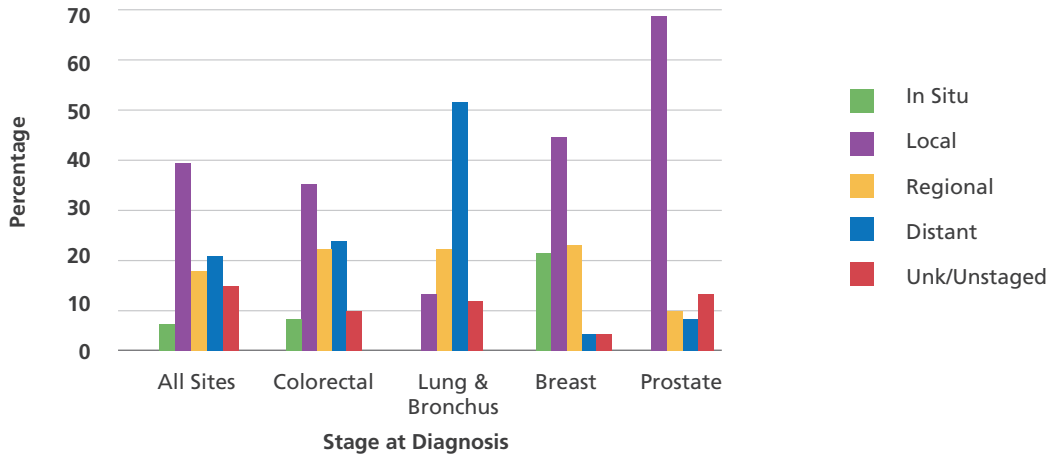


The most frequent cancer sites represent **53%** of all cancer cases

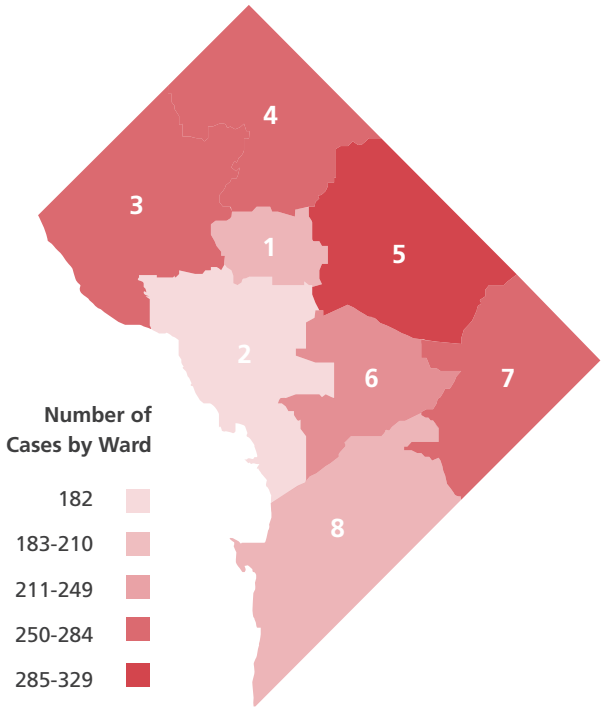
District of Columbia Cancer Incidence by Ward Selected Sites, 2010



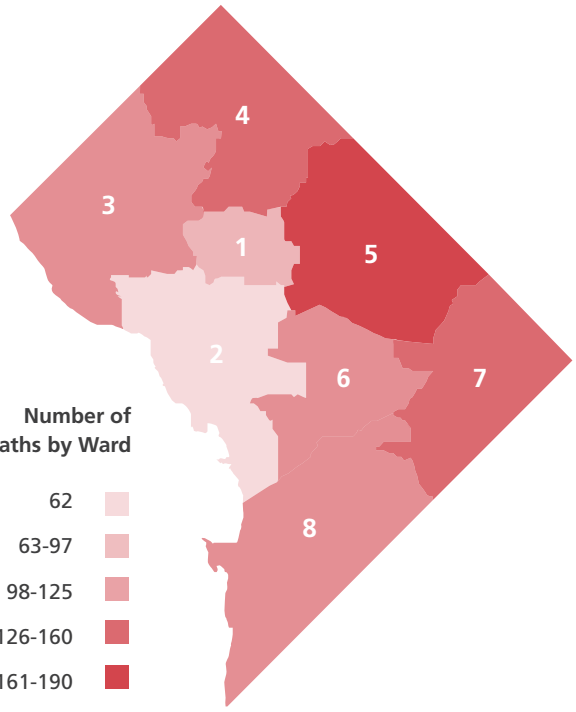
District of Columbia Cancer Stage at Diagnosis, 2010
Percent of Total Cases by Site



Incidence for All Cancer Sites Combined by Wards, 2010



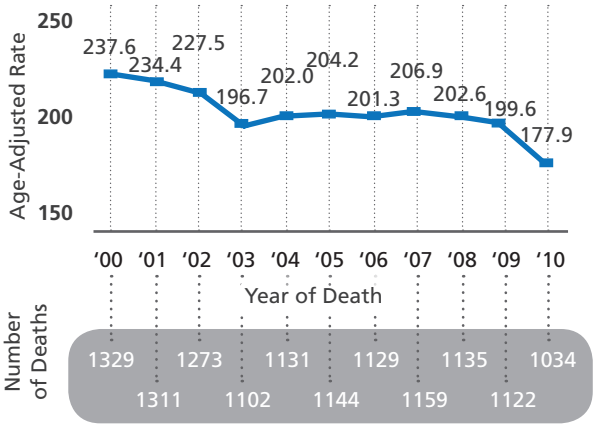
Mortality for All Cancer Sites Combined by Wards, 2010



Cancer Mortality for All Sites Combined

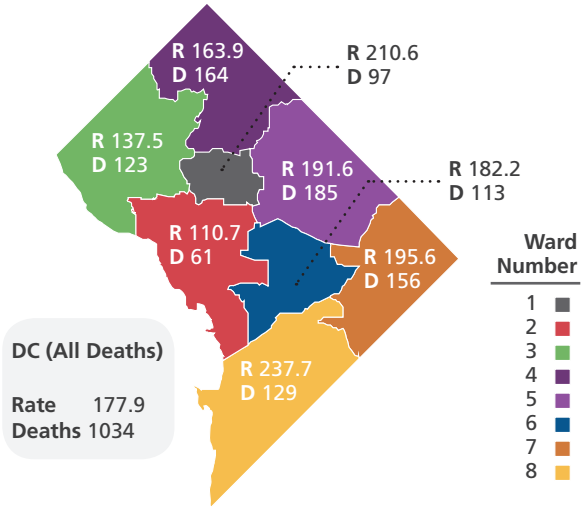
District of Columbia

Ten Year Mortality and Trend Data Comparison

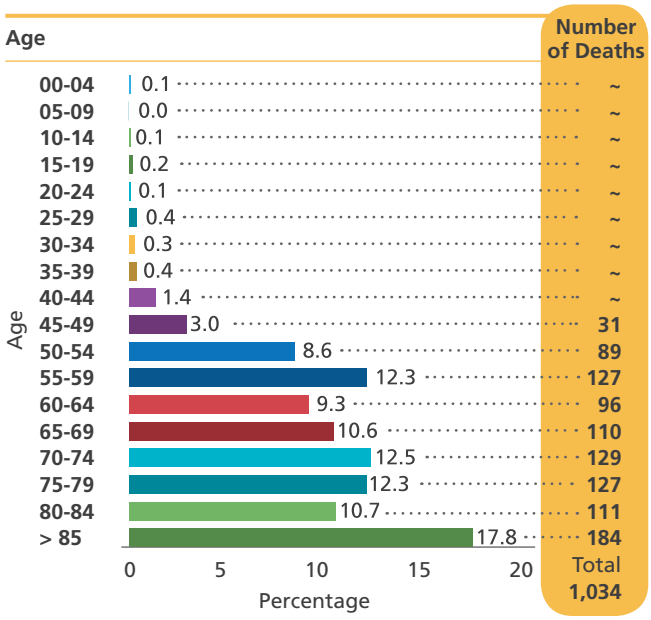


Gender

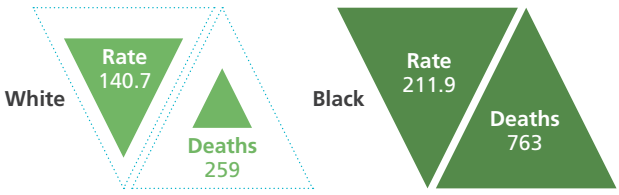
Ward Comparison



Age



Race

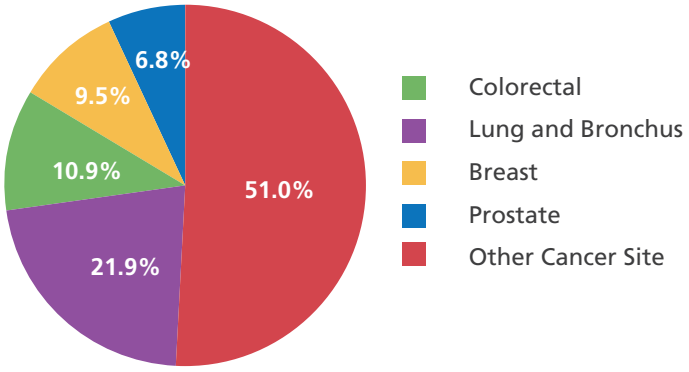


Data source: District of Columbia Vital Records, 2013.

Rates are per 100,000 persons and are age-adjusted to the 2000 U.S. standard.

Note: ~ Data are suppressed if fewer than 16 cases are reported in the specific category.

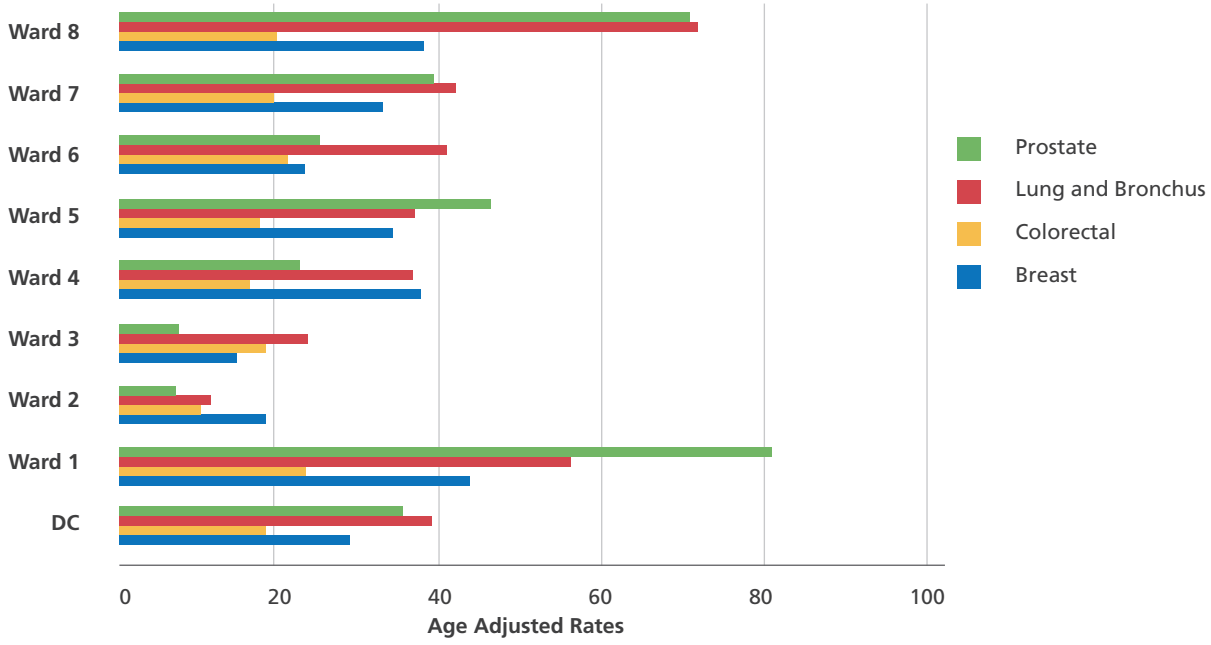
Distribution of the Most Frequent Cancer Deaths Mortality, 2010 Percentages



The most frequent cancer sites represent **49%** of all cancers deaths

Data source: District of Columbia Cancer Registry, 2013

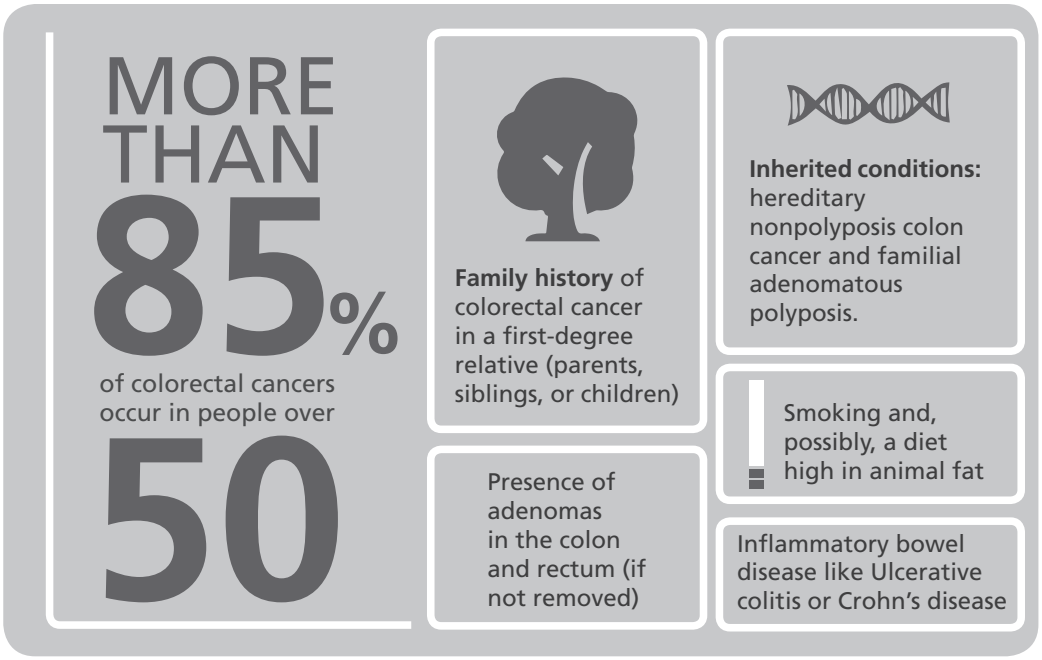
District of Columbia Cancer Mortality by Ward Selected Sites, 2010



Data source: District of Columbia Cancer Registry, 2013

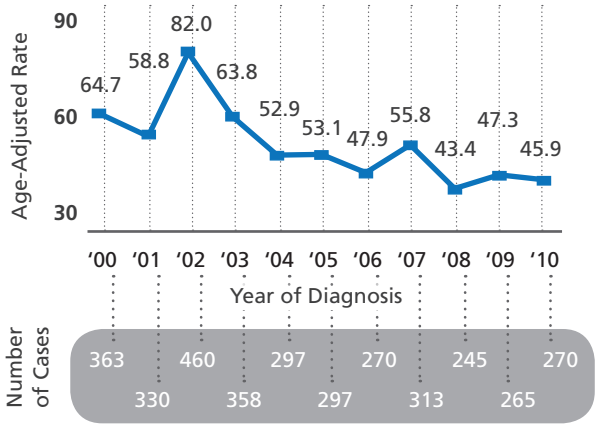
Colorectal Cancer

Cancer of the colon and rectum is the third most common cancer diagnosed in the District, and the third most common cause of cancer death. An average of 315 District residents are diagnosed annually with colorectal cancer, and 121 die each year from the disease. Rates of invasive colorectal cancer are highest among Blacks, followed by Whites. Tumors often begin as adenomas, noncancerous growths, or polyps that may develop on the inner wall of the colon and rectum as people get older. Colorectal cancer can often be prevented through regular screening, which can identify and remove precancerous growths. Routine colorectal screening can also lead to improved prognosis by detecting cancers at earlier stages. The cause of colorectal cancer is not known, but there are factors that may increase risk (see graphic below).



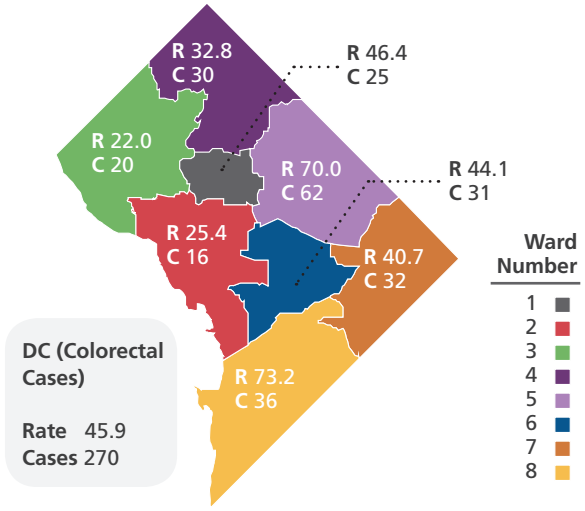
Colorectal Cancer Incidence for (Invasive)
District of Columbia

Ten Year Incidence and Trend Data Comparison

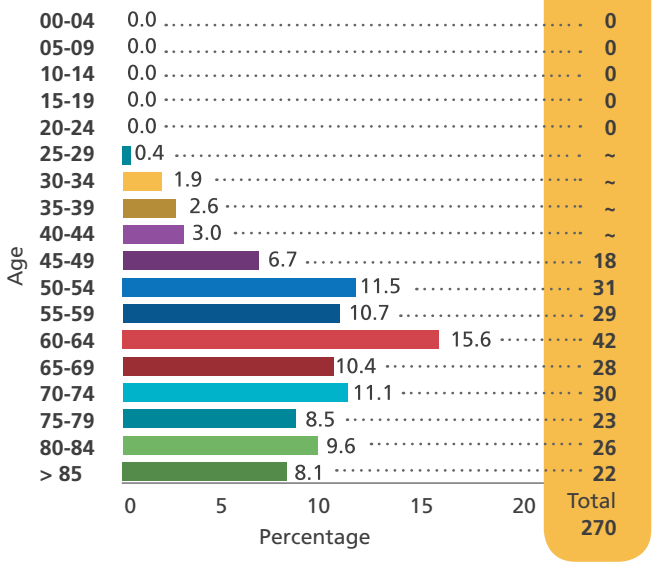


Gender

Ward Comparison

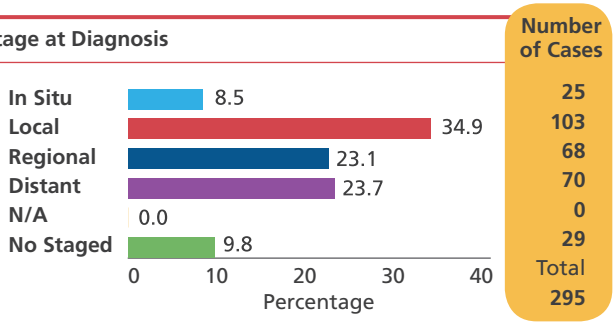


Age



Race

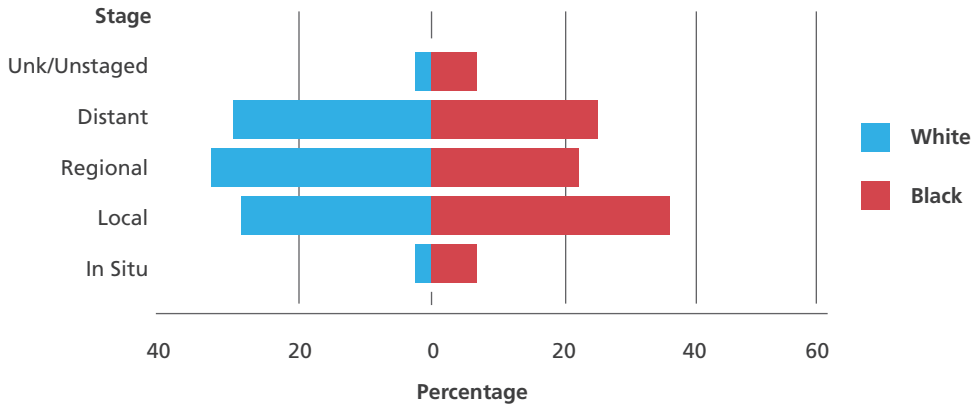
Stage at Diagnosis



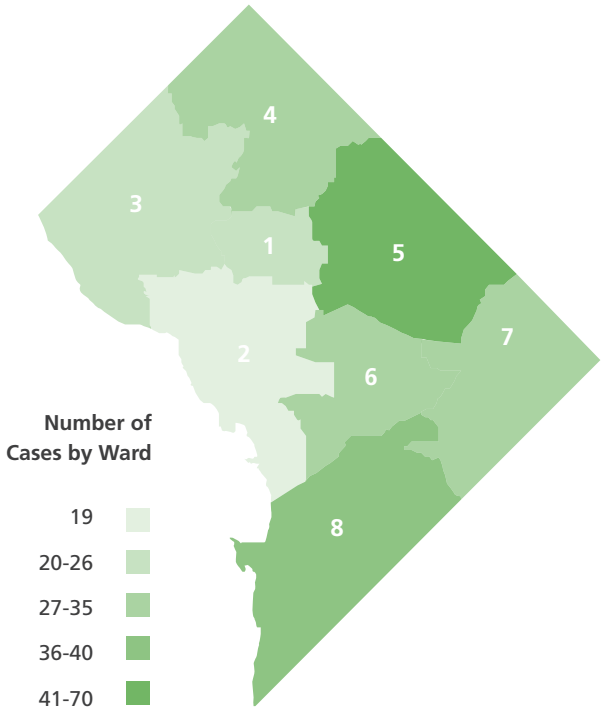
Data source: District of Columbia Cancer Registry, 2013.
Rates are per 100,000 persons and are age-adjusted to the 2000 U.S. standard.
Note: ~ Data are suppressed if fewer than 16 cases are reported in the specific category.

Stage Distribution for Colorectal Cancer by Race, 2010

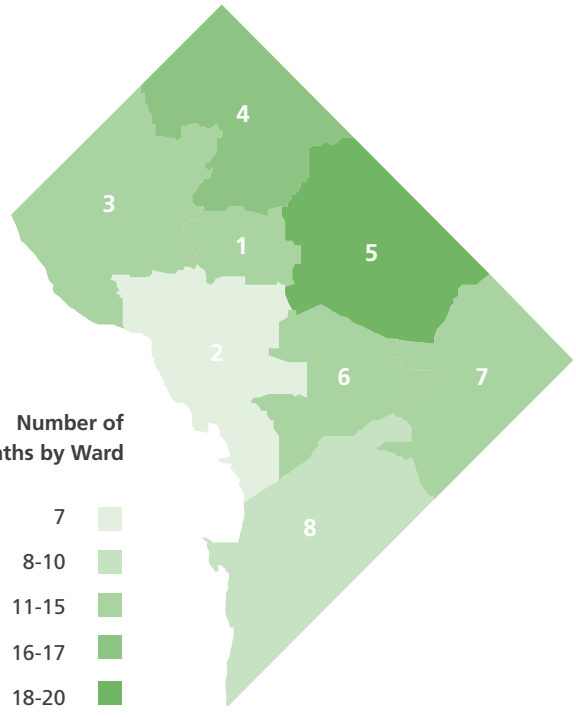
58% of colorectal cancers are diagnosed at the local and regional stage



Incidence for Colorectal Cancer by Wards, 2010

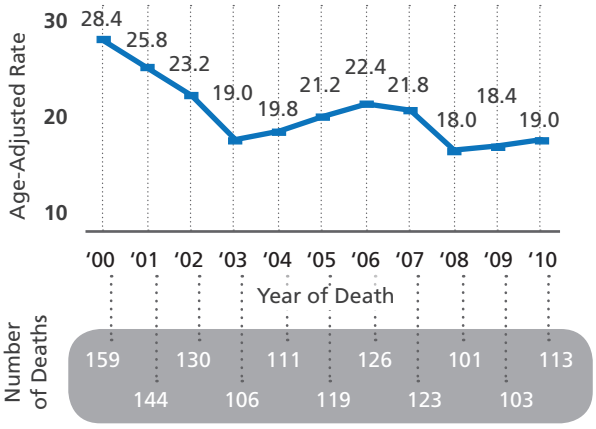


Mortality for Colorectal Cancer by Wards, 2010



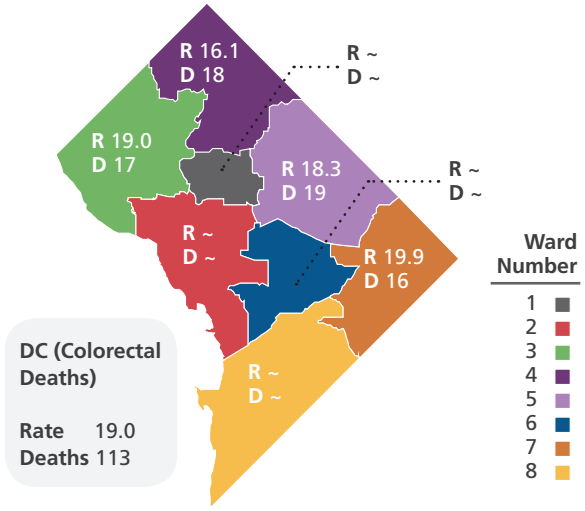
Cancer Mortality for Colorectal
District of Columbia

Ten Year Mortality and Trend Data Comparison

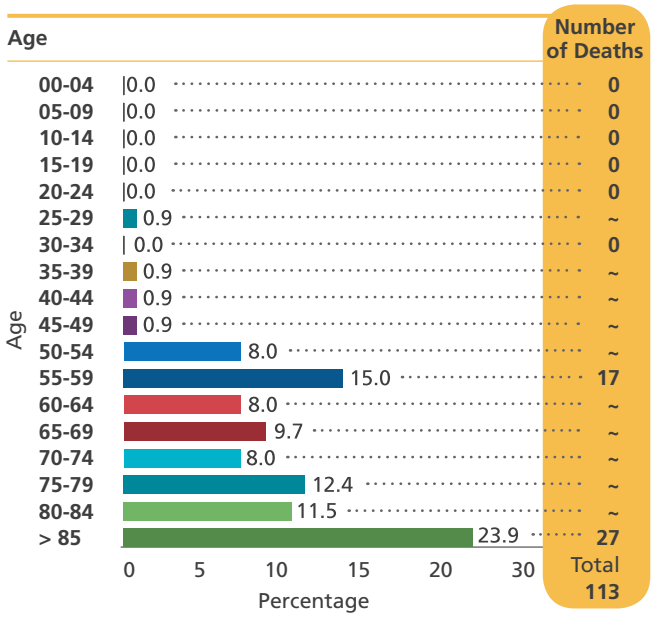


Gender

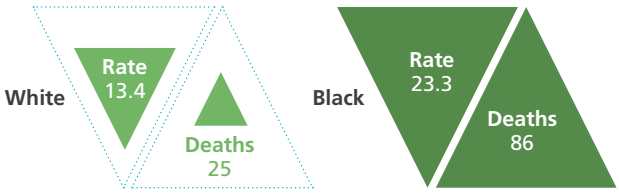
Ward Comparison



Age



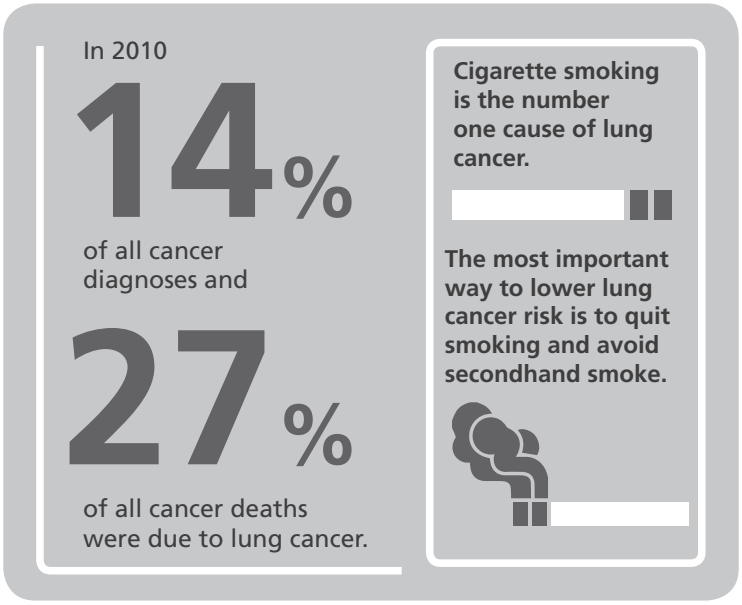
Race



Data source: District of Columbia Vital Records, 2013.
Rates are per 100,000 persons and are age-adjusted to the 2000 U.S. standard.
Note: ~ Data are suppressed if fewer than 16 cases are reported in the specific category.

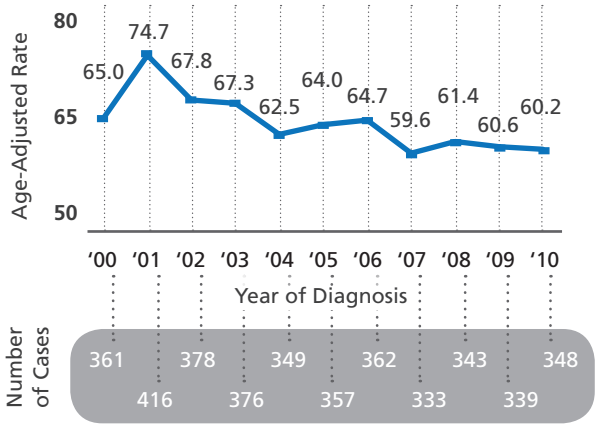
Lung and Bronchus Cancer

Lung cancer is the leading cause of cancer deaths in both men and women. An average of 360 District residents are diagnosed with lung cancer each year and 284 die each year from the disease. Smoking is the predominant cause of lung cancer and most lung cancers occur in people who smoke. Tobacco smoke further increases the chance of developing the disease. Other substances that can cause lung cancer, even among people who have never smoked, include asbestos, radon, arsenic, chromium, nickel, tar, and soot. The impact of these chemicals on the incidence of lung cancer is small compared to smoking.



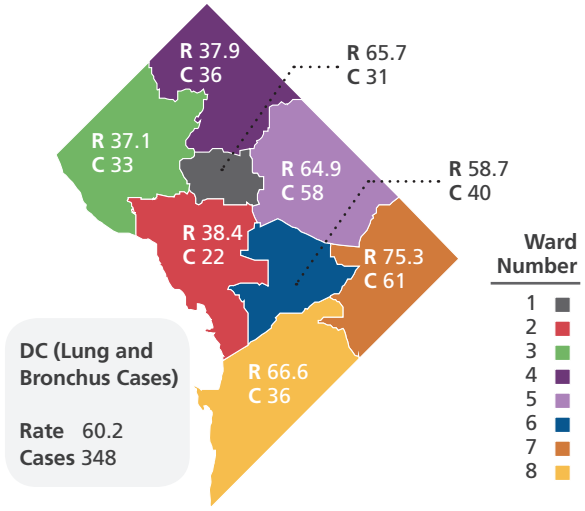
Cancer Incidence for Lung and Bronchus (Invasive)
District of Columbia

Ten Year Incidence and Trend Data Comparison

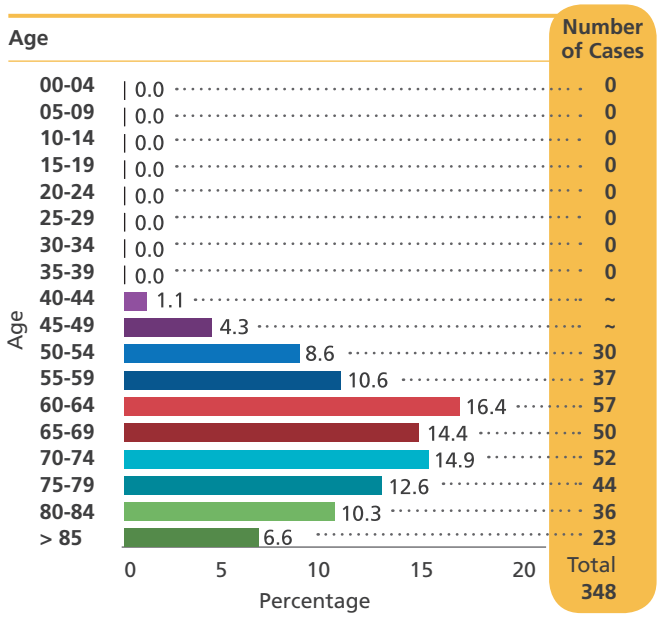


Gender

Ward Comparison

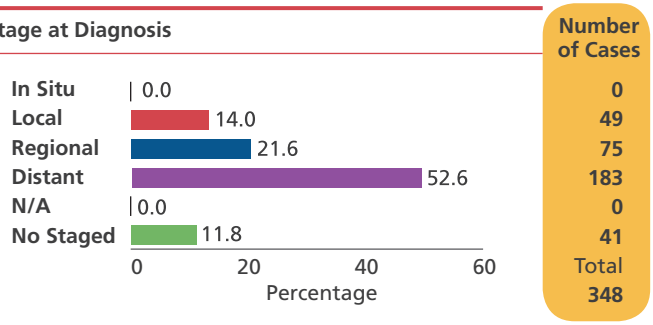


Age



Race

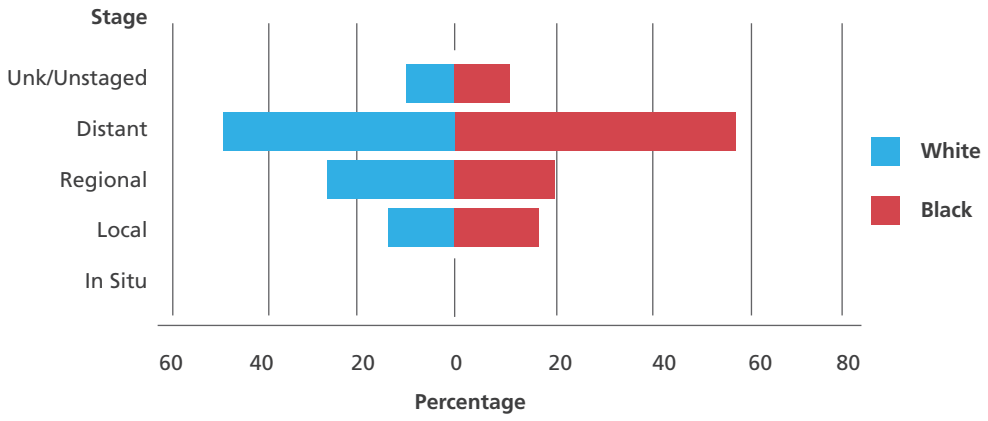
Stage at Diagnosis



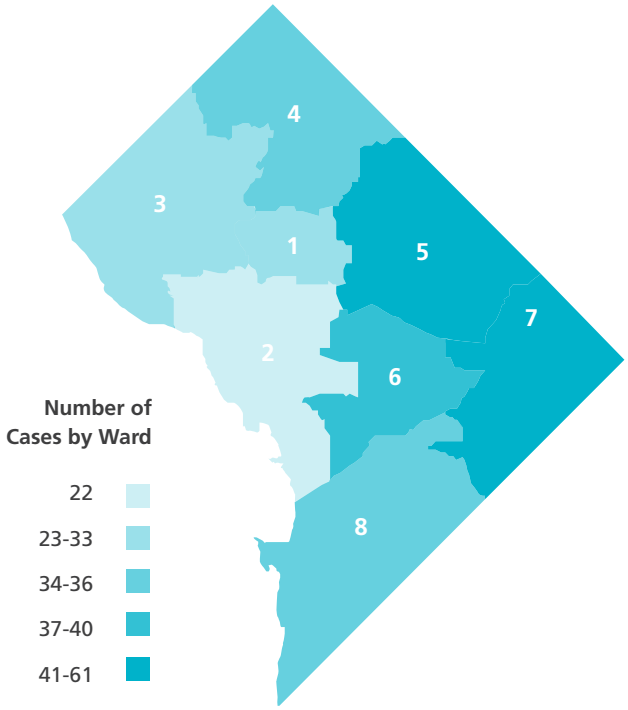
Data source: District of Columbia Cancer Registry, 2013.
Rates are per 100,000 persons and are age-adjusted to the 2000 U.S. standard.
Note: ~ Data are suppressed if fewer than 16 cases are reported in the specific category.

Stage Distribution for Lung and Bronchus Cancer by Race, 2010

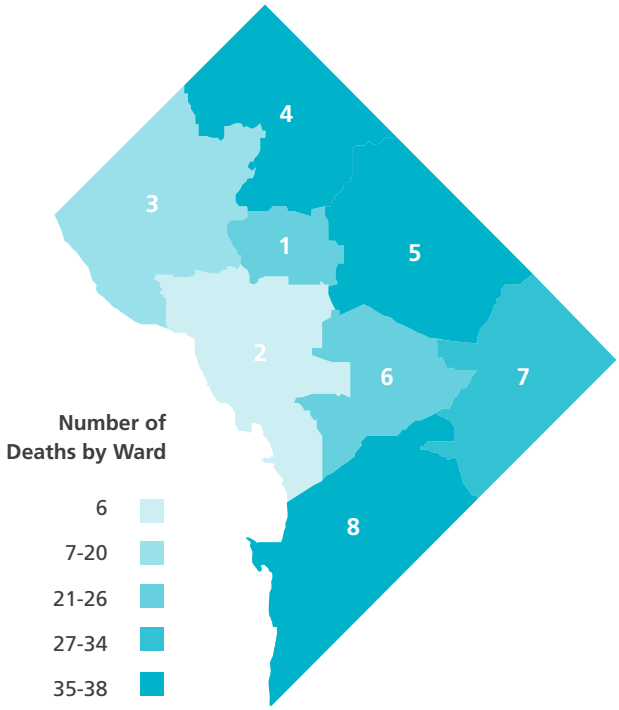
52.6% of lung and bronchus cancer are diagnosed at distant stage



Incidence for Lung and Bronchus Cancer by Wards, 2010

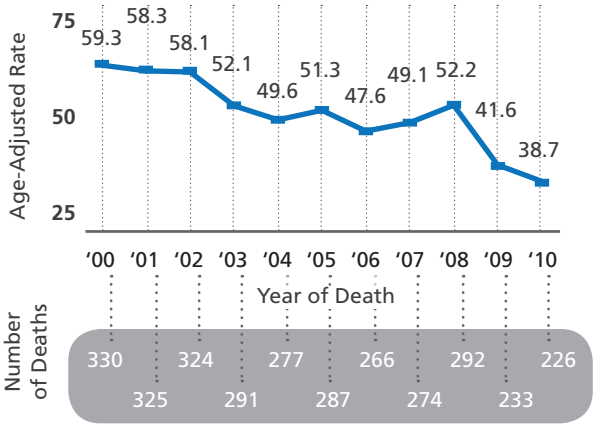


Mortality for Lung and Bronchus by Wards, 2010



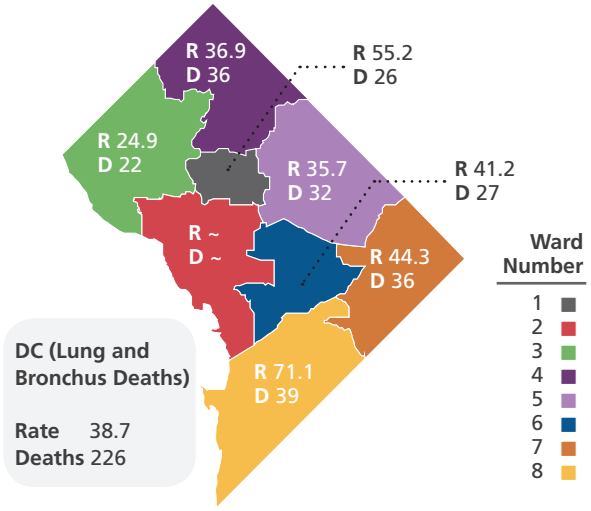
Cancer Mortality for Lung and Bronchus
District of Columbia

Ten Year Mortality and Trend Data Comparison

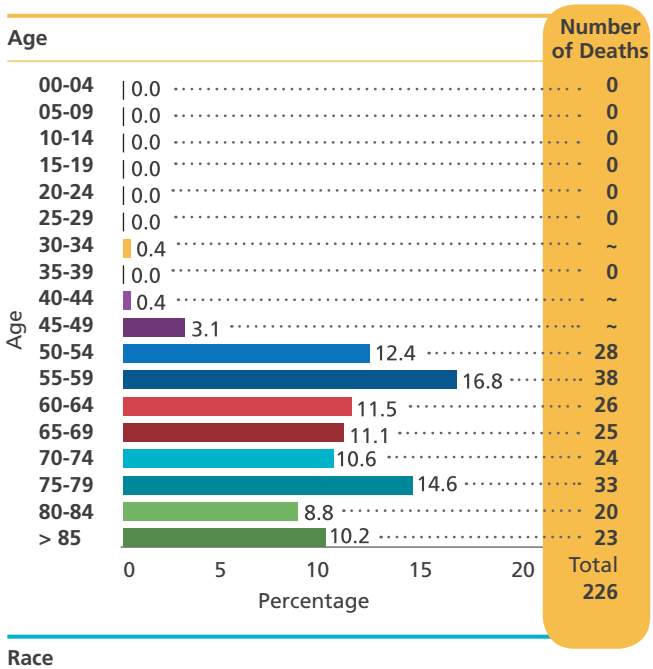


Gender

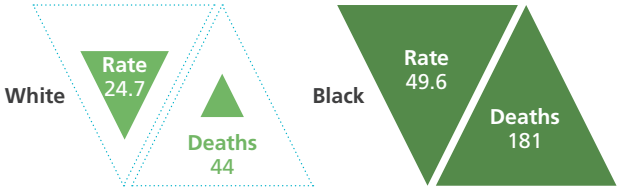
Ward Comparison



Age



Race



Data source: District of Columbia Vital Records, 2013.
Rates are per 100,000 persons and are age-adjusted to the 2000 U.S. standard.
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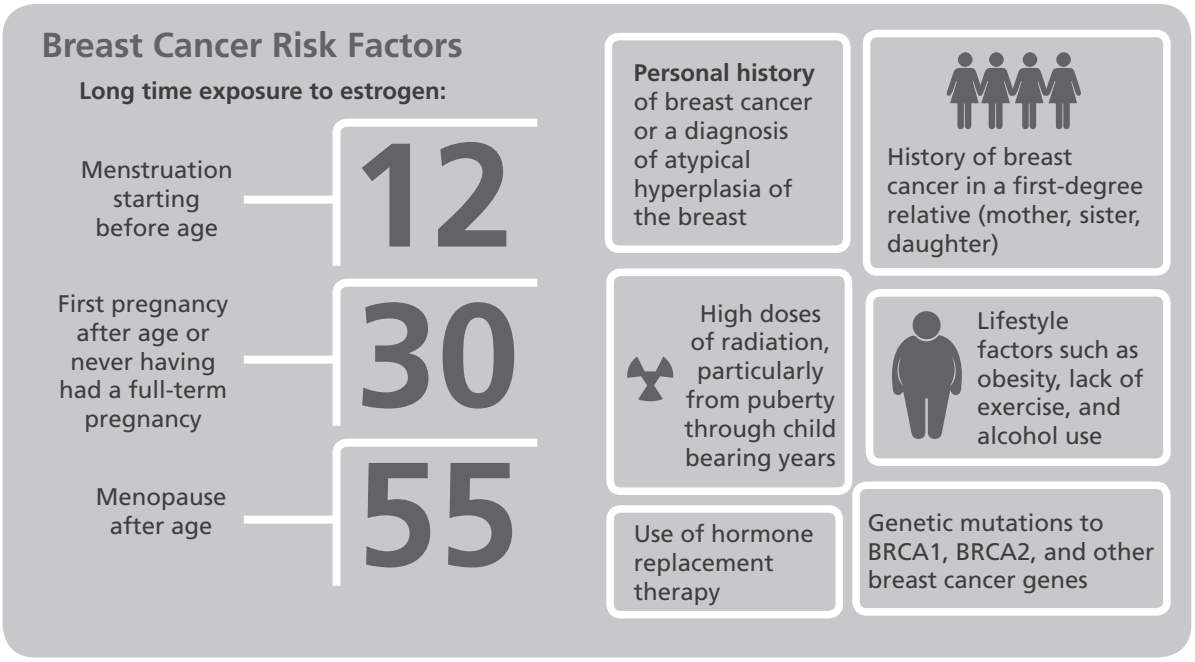
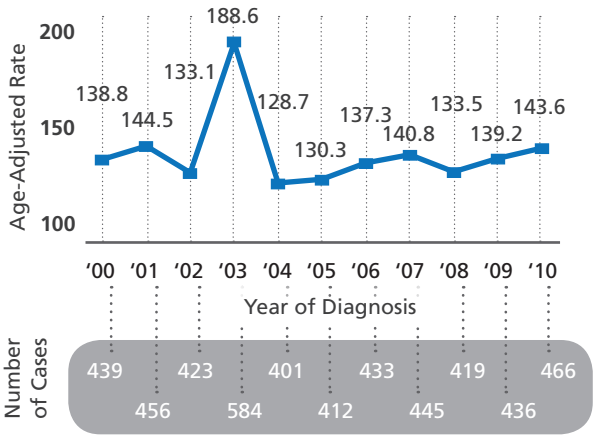
Female Breast Cancer

Breast cancer is the most common cancer among women in the District and in the U.S. An average of 446 District women are diagnosed each year with breast cancer and 97 die annually from the disease. The risk of developing breast cancer increases with age, with most cases developing in women after menopause. Breast cancer rates vary by race/ethnicity: white women are more likely to develop breast cancer, but African-American women are more likely to die from the disease. The cause of breast cancer is still unknown and it is likely that multiple risk factors influence the development of the disease (although many cases of breast cancer occur in women with no obvious risk factors). Risk factors for breast cancer are in the graphic below:

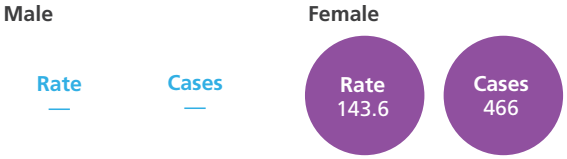


Female Breast Cancer Incidence (Invasive)
District of Columbia

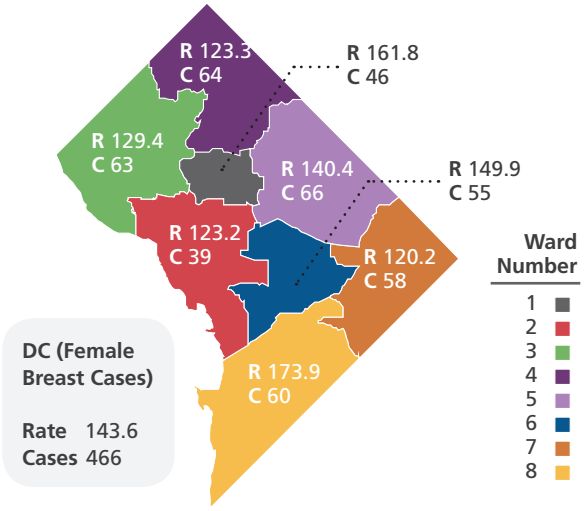
Ten Year Incidence and Trend Data Comparison



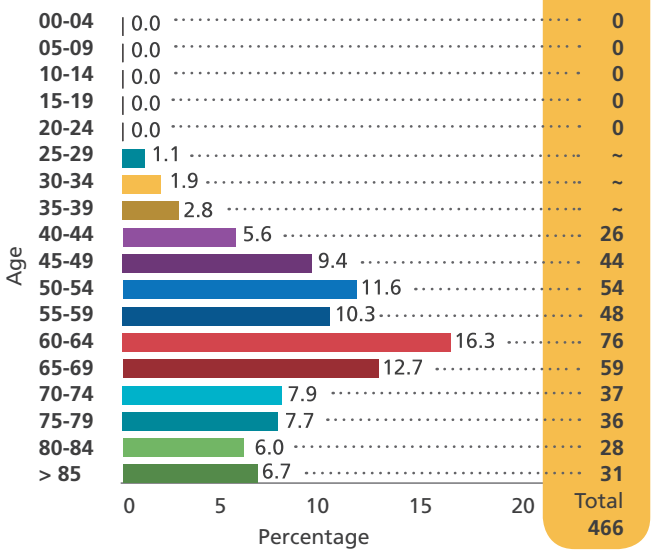
Gender



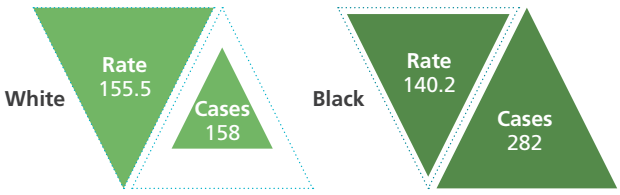
Ward Comparison



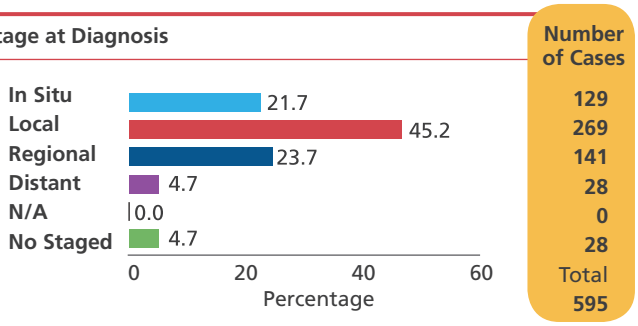
Age



Race



Stage at Diagnosis



Data source: District of Columbia Cancer Registry, 2013.
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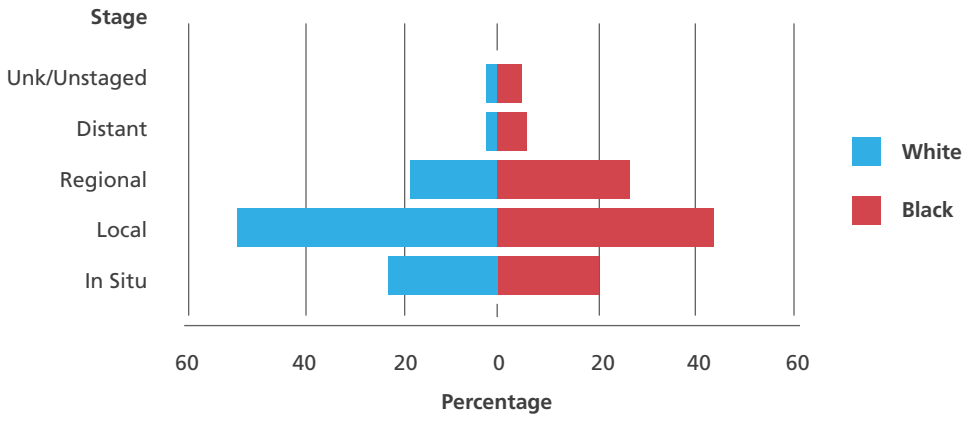
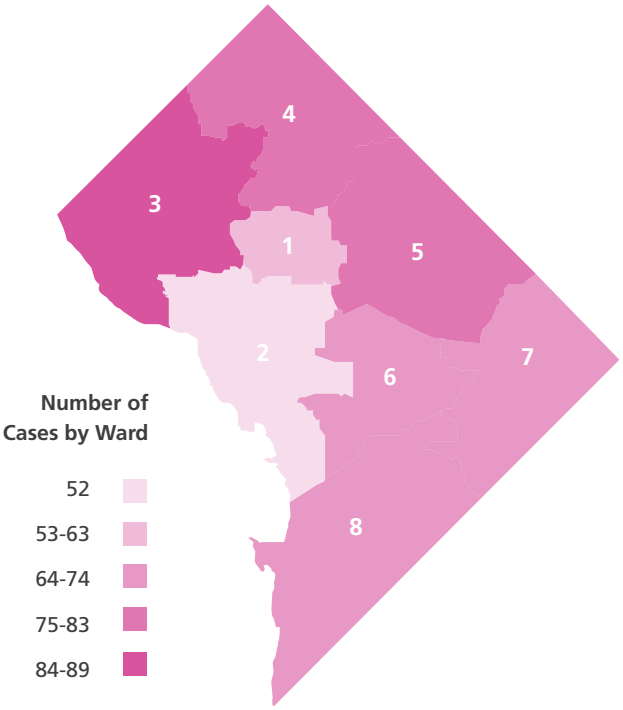
Note: ~ Data are suppressed if fewer than 16 cases are reported in the specific category.

Stage Distribution for Breast Cancer by Race, 2010

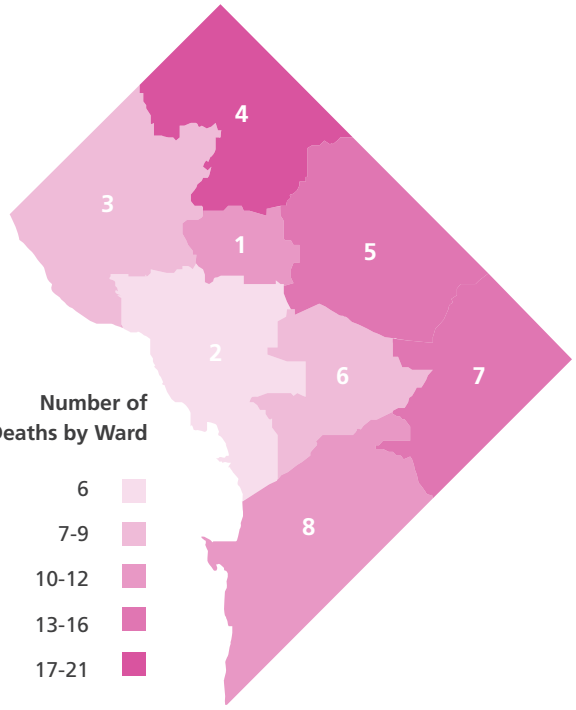
68.9% of breast cancers are diagnosed at the local and regional stage



Incidence for Breast Cancer by Wards, 2010

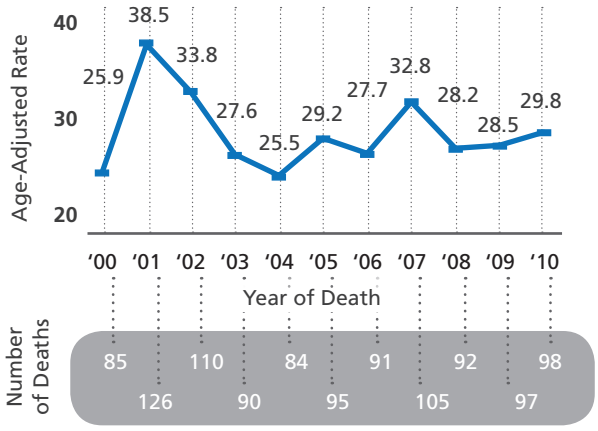


Mortality for Breast Cancer by Wards, 2010

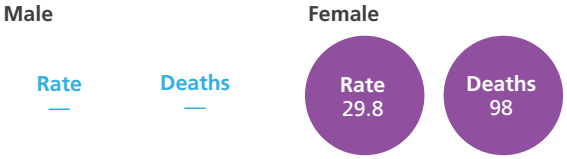


Female Breast Cancer Mortality
District of Columbia

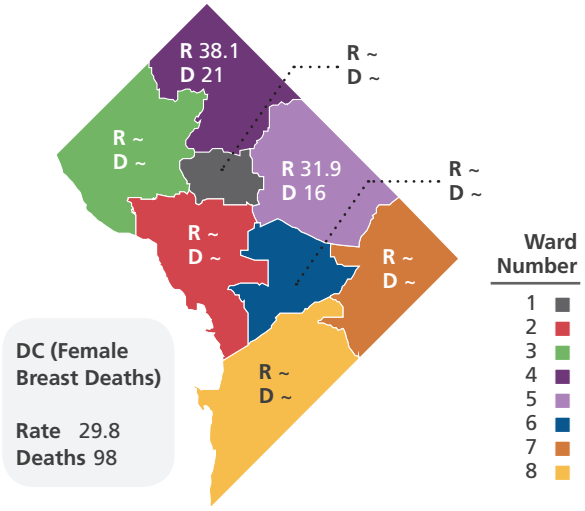
Ten Year Mortality and Trend Data Comparison



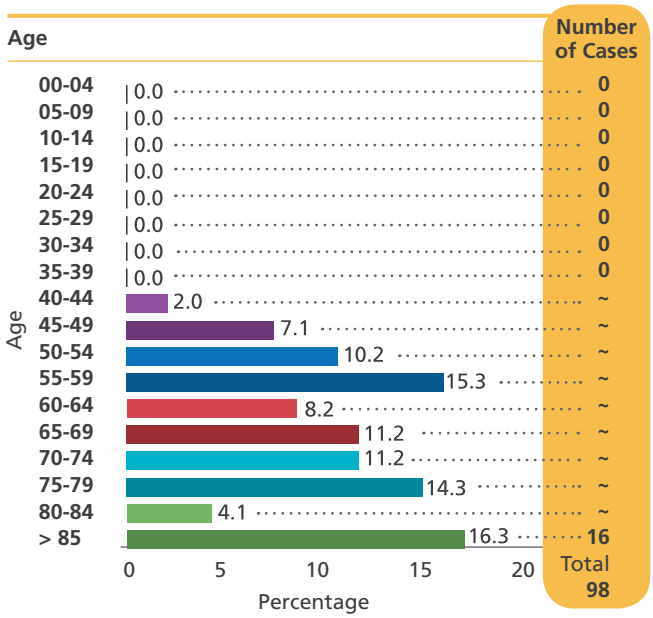
Gender



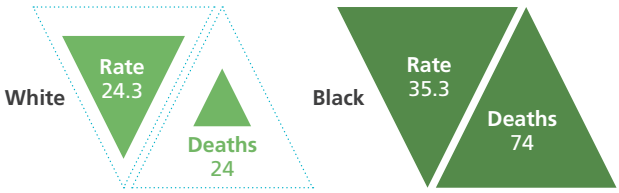
Ward Comparison



Age



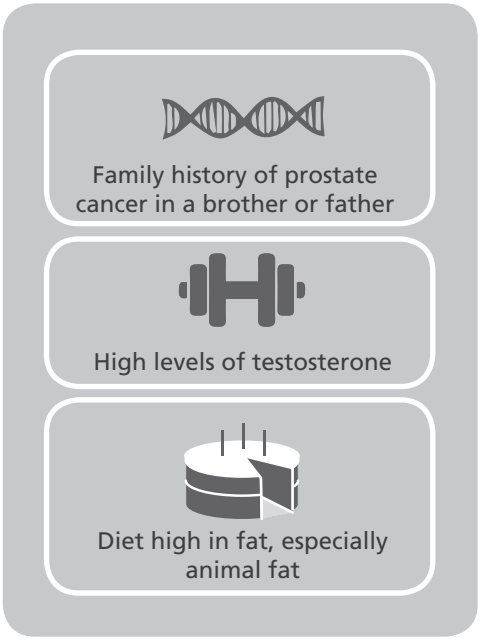
Race



Data source: District of Columbia Vital Records, 2013.
Rates are per 100,000 persons and are age-adjusted to the 2000 U.S. standard.
Note: ~ Data are suppressed if fewer than 16 cases are reported in the specific category.

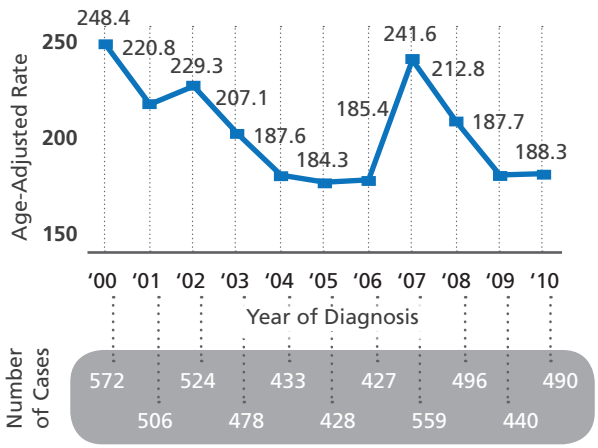
Prostate Cancer

Prostate cancer is the most commonly diagnosed non-skin cancer among men in the District and nationwide. Each year, an average of 486 District residents are diagnosed with prostate cancer, and 84 die from the disease. The incidence of prostate cancer in DC is highest among African Americans, followed by non-Latino whites. Age is a strong risk factor, as the incidence of prostate cancer increases with age. The exact cause of prostate cancer is still unknown, but there are factors that may increase the risk (see graphic below).



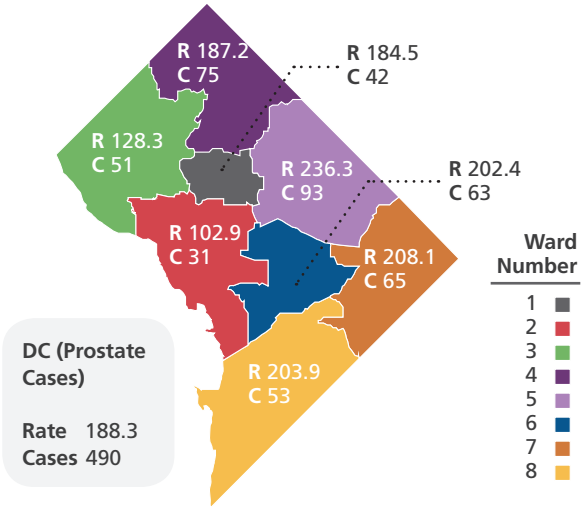
Cancer Incidence for Prostate (Invasive)
District of Columbia

Ten Year Incidence and Trend Data Comparison

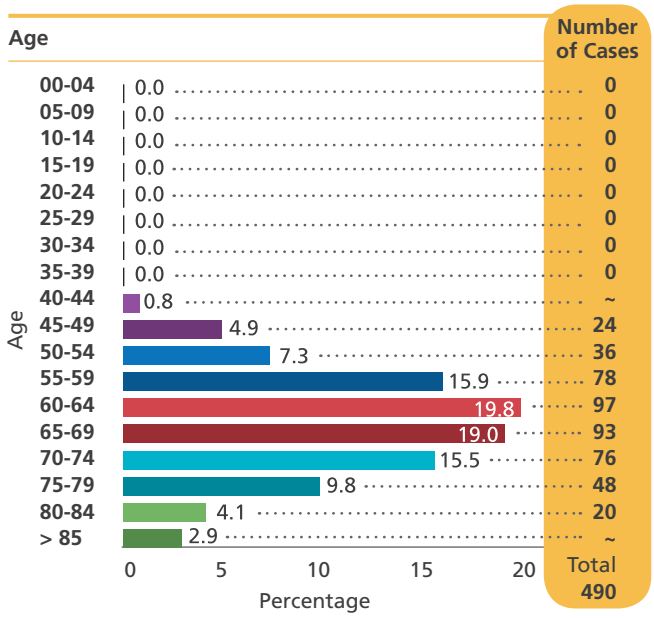


Gender

Ward Comparison

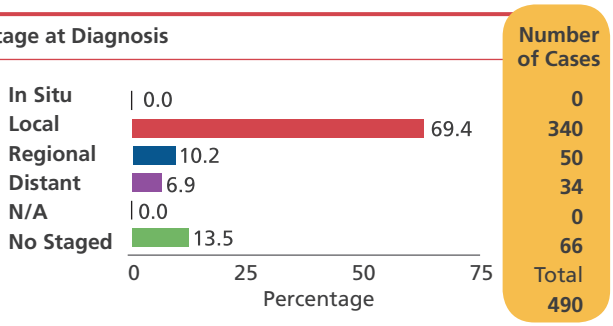


Age



Race

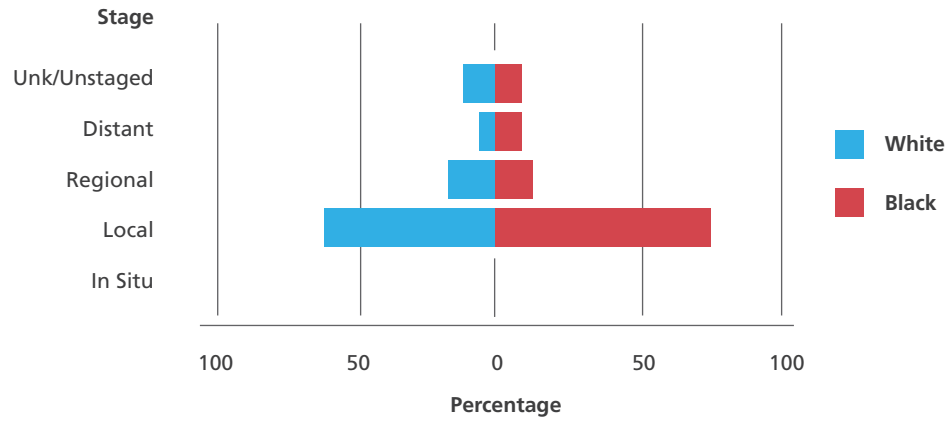
Stage at Diagnosis



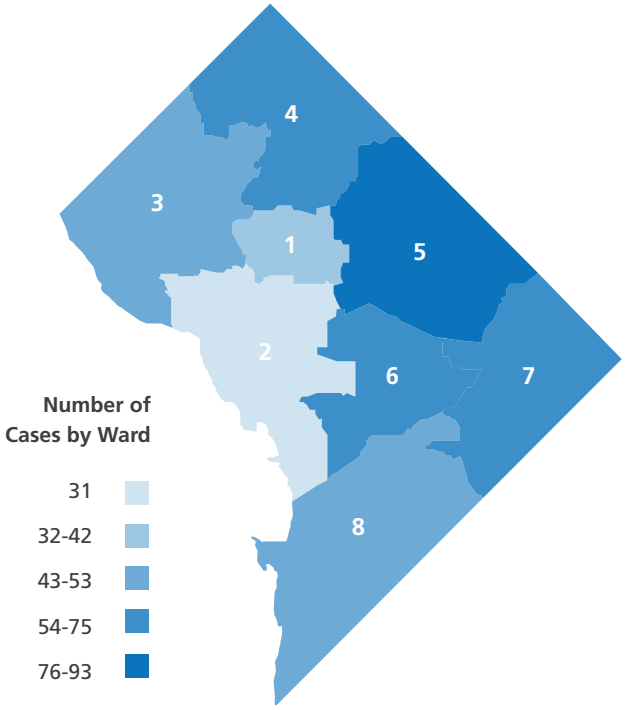
Data source: District of Columbia Cancer Registry, 2013.
Rates are per 100,000 persons and are age-adjusted to the 2000 U.S. standard.
Note: ~ Data are suppressed if fewer than 16 cases are reported in the specific category.

Stage Distribution for Prostate Cancer by Race, 2010

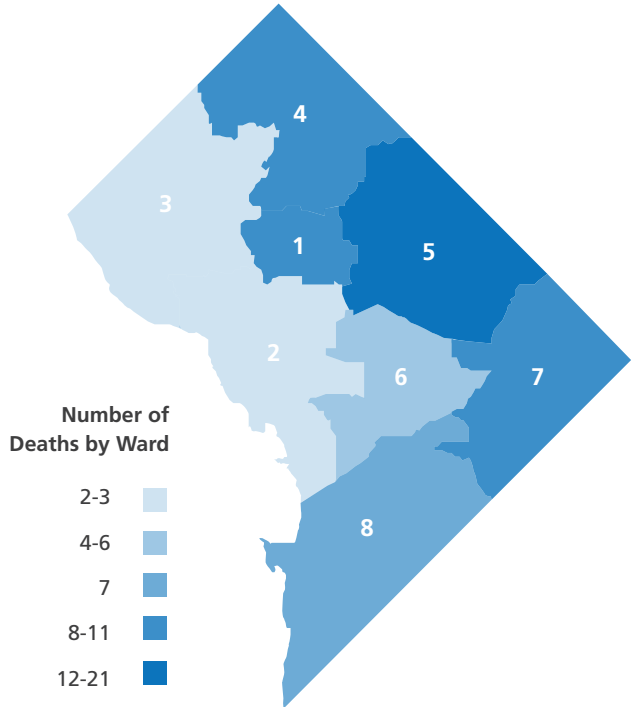
69.4% of prostate cancer are diagnose at local stage



Incidence for Prostate Cancer by Wards, 2010

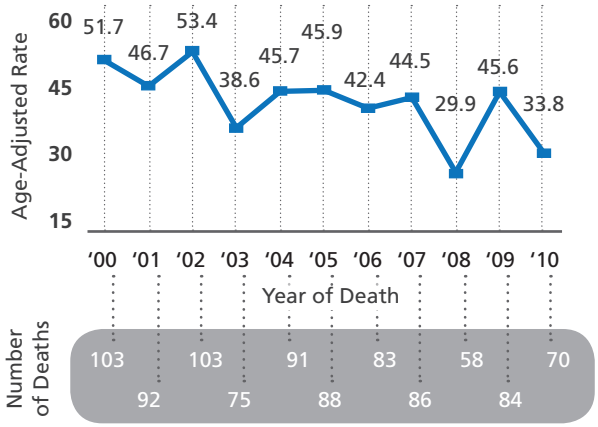


Mortality for Prostate Cancer by Wards, 2010



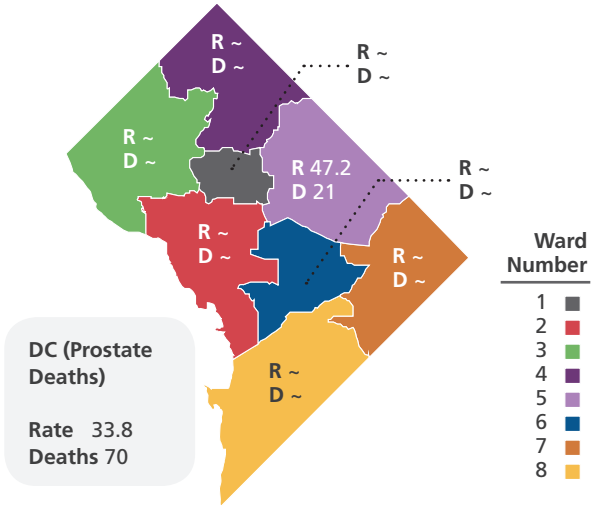
Cancer Mortality For Prostate
District of Columbia

Ten Year Mortality and Trend Data Comparison

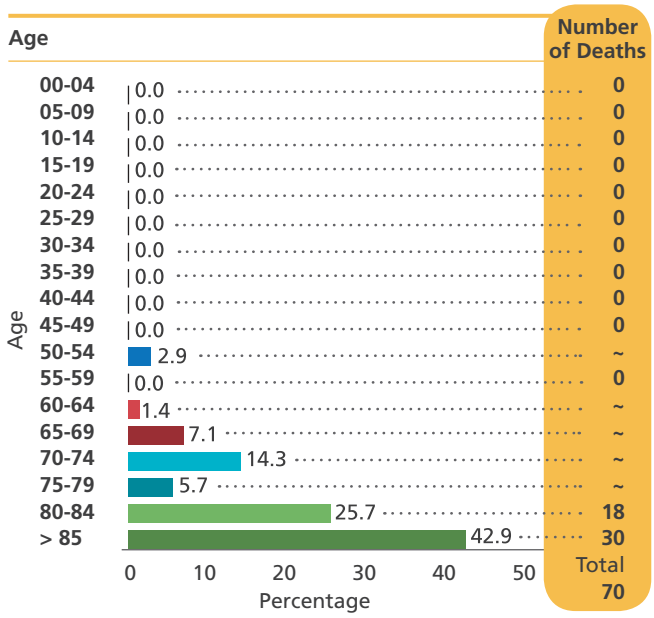


Gender

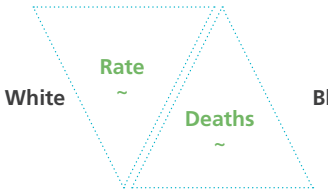
Ward Comparison

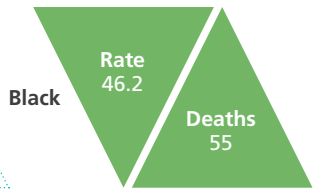


Age



Race





Data source: District of Columbia Vital Records, 2013.
Rates are per 100,000 persons and are age-adjusted to the 2000 U.S. standard.
Note: ~ Data are suppressed if fewer than 16 cases are reported in the specific category.

Cancer Incidence Age Adjusted Rates, 2010 DC and National Comparison (Per 100,000 People)

		Both Genders			Male			Female		
		All Races	White	Black	All Races	White	Black	All Races	White	Black
All Sites	DC	499.5	378.7	545.6	553.1	358.8	646.1	464.7	408.1	478.2
	National	457.5	465.4	479.7	519.3	521.4	597.5	413.3	425.8	398.5
Colorectal	DC	45.9	22.1	59.1	44.5	17.7	62.2	46.7	25.3	57.2
	National	40.6	39.2	48.6	46.6	45.1	56.1	35.7	34.3	43.6
Lung Bronchus	DC	60.2	44.7	68.9	76.0	45.8	96.8	49.2	43.4	51.1
	National	56.7	57.8	65.4	66.8	66.6	84.0	49.2	51.2	53.2
Breast	DC							143.6	155.5	140.2
	National							126.0	129.8	120.6
Prostate	DC				188.3	99.7	230.7			
	National				145.1	138.7	222.3			

Source: DC Cancer Registry, *National SEER9* Incidence.
All rates are age adjusted per 100,000 men and women (only women in Breast and only men in Prostate) and include invasive cases only.
* Includes White, Black and other races.
All ages included.

Cancer Mortality Age Adjusted Rates, 2010 DC and National Comparison (Per 100,000 People)

		Both Genders			Male			Female		
		All Races	White	Black	All Races	White	Black	All Races	White	Black
All Sites	DC	177.9	140.7	211.9	212.4	140.7	277.7	158.8	143.8	177.5
	National	171.8	171.4	202.9	208.8	207.1	264.4	145.8	145.9	166.3
Colorectal	DC	19.0	13.4	23.3	21.3	8.9	31.9	17.7	17.2	18.8
	National	15.5	15.0	21.5	18.8	18.2	27.5	12.9	12.6	17.6
Lung Bronchus	DC	38.7	24.7	49.6	50.4	25.9	71.4	30.5	23.4	36.2
	National	47.4	48.1	51.2	60.1	59.9	73.6	37.9	39.2	36.3
Breast	DC							29.8	24.3	35.3
	National							21.9	21.3	30.2
Prostate	DC				33.8	17.5	46.2			
	National				21.8	20.1	48.2			

Source: DC Cancer Registry, *National SEER9* Incidence.
All rates are age adjusted per 100,000 men and women (only women in Breast and only men in Prostate) and include invasive cases only.
* Includes White, Black and other races.
All ages included.

Chapter 7:
Other Cancer Incidence Sites

Cancer Incidence by Sex, Race, and Stage at Diagnosis for the Most Common Cancer Sites for DC Residents, 2010, Number of Cases

Site	Percent	Total	Sex		Race			Stage at Diagnosis				
			Male	Female	White	Black	Other	In Situ	Local	Regional	Distant	Unknown
Breast	18.8	602	7	595	207	353	30	129	269	141	28	28
Prostate	15.3	490	490	0	100	343	21	0	340	50	34	66
Lung	10.9	348	189	159	80	248	18	0	49	75	183	41
Colon	6.9	295	127	167	46	225	16	25	103	68	70	29
Blood Sys	3.8	122	60	62	20	79	18	0	1	0	112	9
Skin	3.7	119	67	52	55	17	3	46	36	1	2	34
Corp Uteri	3.7	118	0	118	32	81	5	0	78	24	9	7
Thyroid	3.5	111	30	81	52	46	12	0	81	23	5	2
Bladder	3.1	99	61	38	32	56	5	40	38	10	5	6
Kidney	2.5	79	49	30	15	56	8	0	58	8	9	4
Liver	2.4	76	49	27	12	56	7	0	29	14	14	19
Pancreas	2.3	75	35	40	9	57	8	0	5	24	33	13

What do these statistics mean?

The incidence rate for DC males for all cancers combined has been decreasing over the past decade. In contrast, the incidence rate for all cancers combined in females has continued to steadily increase.

Given that much of the increase in cancer incidence over the past 30 years is due to an aging population, an upward trend can be expected to continue as the population continues to age. With the rising incidence of cancer, there will be a commensurate increase in the need for diagnostic, treatment and support services in the healthcare system. It will also be important to develop upstream strategies to address the cancers that are now showing significant increases in incidence. As cancer rates rise, so does the need for patients to have routine assessments and come to their primary medical provider. Providers must thoroughly assess patients for risks, and offer appropriate screenings and interventions. These precautions may lead to earlier diagnosis of cancers and consequential mortality rate.

Primary prevention efforts should be improved to reduce the impact of risk factors, such as tobacco use and obesity. A sustained focus on screening for breast, and colorectal will help catch and effectively treat these cancers earlier in their course.

Chapter 8:
Definitions and Technical Notes

The following definitions are taken from NCI/SEER website

Morbidity Relative incidence of disease.

Rate Number of cases divided by the population.

Incidence Number of new cases of disease that occur in a specific time period within a specific population.

Incidence Rate Number of new cases of disease that occur in a specific time period within a specific population, divided by the size of the population. Usually expressed per 100,000 population.

Mortality Number of deaths that occur in a specific time period within a specific population.

Mortality Rate Number of deaths that occur in a specific time period within a specific population, divided by the size of the population. Usually expressed per 100,000 population.

Percentage of Change Change in a rate or count between two calendar years (ignoring years in between)

$$\text{Percentage of Change} = \frac{\text{End Rate - Initial Rate}}{\text{Initial Rate}} \times 100$$

Cancer Incidence Rate Number of new cancers of a specific site/type occurring in a specified population during a year, usually expressed as the number of cancers per 100,000 population at risk.

$$\text{Incidence Rate} = \frac{\text{New Cancers Cases}}{\text{Population}} \times 100{,}000$$

Cancer Mortality Rate Number of deaths, with cancer as the underlying cause of death, occurring in a specified population during a year. Cancer mortality is usually express ed as the number of deaths due to cancer per 100,000 population.

$$\text{Mortality Rate} = \frac{\text{Cancer Deaths}}{\text{Population}} \times 100{,}000$$

Statistics by Race/Ethnicity

Measure of the cancer burden in racial/ethnic minorities and medically underserved populations.

Age-adjusted Rate

Age-adjustment is a technique used to eliminate the effect of the age distribution of the population on incidence or mortality rates. Since the frequency of case or death varies with age, a measure free of the influences of population composition is needed to make comparisons between areas or over time.

Age-specific Rate

Rate of incidence or mortality of a specific age group, calculated per 100,000 people.

Crude Rate

Ratio of the number of people in which the event of interest happens in a specified time period to the size of the population who may experience this event during the same time period. There are no adjustments made when a crude rate is given.

$$\text{Crude Rate} = \frac{\text{Count}}{\text{Population}} \times 100{,}000$$

Stage

Stage of diagnosis summarizes how far a cancer has spread when it is first discovered.

Stage Distribution

Stage provides a measure of disease progression, detailing the degree to which the cancer has advanced. Two methods commonly used to determine stage are American Joint Committee on Cancer (AJCC) and Surveillance Epidemiology and End Results (SEER) historic. The AJCC method is more commonly used in the clinical settings, while SEER has standardized and simplified staging to ensure consistent definitions over time.

SEER

Describes Cancers in five stages

- **In situ** cancer is early cancer that is present only in the layer of cells in which it began.
- **Localized** cancer is cancer that is limited to the organ in which it began, without evidence of spread.
- **Regional** cancer is cancer that has spread beyond the original (primary) site to nearby lymph nodes or organs and tissues.
- **Distant** cancer is cancer that has spread from the primary site to distant organs or distant lymph nodes.
- **Unstaged** cancer is cancer for which there is not enough information to indicate a stage.

Invasive Cancer

Cancer that has spread beyond the layer of tissue in which it developed and is growing into surrounding, healthy tissues -- generally, the stage is either “localized”, “regional”, or “distant”.

Primary Tumor

An original tumor. A tumor that did not initially arise in another site.

Primary Cancer Site

The organ of origin within the body where a given cancer occurs in an individual.

Case Counts

Case counts are counts of reportable cancers, *not patients*. A patient may have more than one reported tumor.

Technical Notes for DC Cancer Registry

- All Counts and Rates are for DC residents only.
- Rates are per 100,000 persons and are age-adjusted to the 2000 U.S. standard.
- Incidence Age-adjusted rates calculated on invasive cancers only.
- Only Black and White races are presented, due to the small number of cases or deaths in other races, same criterion applies to Hispanic.
- All races includes White, Black and other races.
- Information not shown for small number of cases or deaths.
- Statistic (rates) not calculated for small number of cases or deaths.
- Census tracts and Wards not include unknown, incomplete, incorrect addresses and PO Boxes for cancer cases or cancer deaths.
- Deaths - Cancer deaths are based on information from all death certificates in the District of Columbia and neighboring states, and processed by the National Vital Statistics System (NVSS) at the National Center for Health Statistics (NCHS).
- Source for Incidence: District of Columbia Cancer Registry.
- Source for Mortality: State Center for Health Statistics, Vital Records.

Wards

Political subdivisions of the District of Columbia, created for the purpose of voting and representation. Ward boundaries were first established in 1801 and are updated every ten years, based on population changes reported by the U.S. Census Bureau.

Age-Adjusted Rates

DC Cancer Registry (DCCR) utilizes age-adjustment technique for incidence and mortality rates' calculation. Age-adjusted rates allow DCCR to compare its rates with populations of different age distribution or compare its rates through time.

U.S. population utilized by DCCR in this process is U.S. 2000 Standard. Only rates adjusted to the same standard population can be compared.

DC population utilized by DCCR in this process is produced by DC Government Office of Planning and it is produced by sex, race and ethnicity; ethnicity could be any race.

DC does not have counties instead DC is divided into Wards; Ward population is produced by DC Government Office of Planning, but after Census 2010 is completed the U.S. Census Bureau will produce DC Ward population through the Office of American Community Survey.

DC Ward population is not estimated every year.

For sex-specific cancer sites, the population was limited to the population of the appropriate sex.

DC utilized 19 groups of age to produce age adjusted rates, to be able to compare with national data.

Age-adjusted rates based on small numbers of cases or deaths will exhibit a large amount of random variation. A very rough guideline is that there should be at least 16 total cases or deaths over all age groups. When fewer than 16 health events occurred over a time period, it may be considered combining years, or using indirect age-adjustment.

DC population is considered to be small and when producing age-adjusted rates for cases or deaths by Ward, sex, and race and by selected sites, generates very small sub populations, creating unstable rates, it may be considered combining years. If the population of the specific category (area, sex, race, ethnicity) is less than 50,000 rates are suppressed and not ranked.

For reasons of confidentiality we cannot show cases or deaths with small numbers.

District of Columbia
Department of Health

District of Columbia Cancer Registry
Bureau of Cancer and Chronic Disease
Community Health Administration
Department of Health
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Washington DC, 20002