

# **2007 MORTALITY REPORT**

**Department of Health  
Center for Policy, Planning, and Epidemiology  
State Center for Health Statistics**

**Government of the District of Columbia**

**Adrian M. Fenty, Mayor**

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Final**



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## EXECUTIVE SUMMARY

In 2007, there were 5,168 deaths to residents of the District of Columbia. This represented a crude death rate of 887.6 per 100,000 population and an age-adjusted death rate of 865.2 per 100,000 U.S. 2000 standard population. The District's crude and age-adjusted death rates are higher than the national rate but declining since 1994.

In 2007, of the 5,168 resident deaths, 2,579 were males and 2,589 were females.

Of the 5,168 DC resident deaths, 3,936 were blacks/African Americans and 1,159 were whites.

In the District of Columbia, the 2007 crude death rate for males (927.0 per 100,000 population) was considerably higher than for females (834.7 per 100,000 population) (Table 5) and the crude death rate for blacks/African Americans (1,154.3 per 100,000 population) was significantly higher than for whites (658.1 per 100,000 population) (Table 6).

A disproportionate number of deaths occurred among blacks/African Americans (76.2 percent on average) in comparison to their share of the total population (approximately 60 percent). The top two leading causes of deaths for black/African American and white residents in 2007 were heart disease and cancer (Table 6). Heart disease was the leading cause of death for men (245.6 per 100,000 population) and women (220.5 per 100,000 population).

The average age among the leading causes of death reveals that decedents whose death was due to Alzheimer's Disease were the oldest and died at the median age of 89.2 years while decedents who died as a result of Homicide (Assault) were the youngest at age 32.0 years (Table 4).

White Americans lived more than 10 years of age (75.0 years) than blacks/African Americans (64.4 years). White females lived the longest, on average, with 78.5 years while black/African American males had the shortest life expectancy of age 61.9 years at the time of death (Table 4).

Among District residents in 2007, heart disease had the highest crude mortality rate (234.8 per 100,000 population) and age-adjusted mortality rate (228.6 per 100,000 population) killing 1,367 people or 26.5 percent of all resident deaths (Figure 2 and Table 7). Heart disease is the leading cause of death both for men (245.6 per 100,000 population) and women (220.5 per 100,000 population). The crude death rate for heart disease was the highest for Ward 5 (344.4 per 100,000 population), followed by Ward 4 (321.3 per 100,000 population), and the lowest crude death rate was in Ward 1 (146.6 per 100,000 population).

In 2007, Cancer was the second-ranked leading cause of death in both the United States and the District of Columbia. Of the 5,168 District resident deaths in 2007, 1,159 (22.4 percent) or a little more than one in five died from cancer with a crude death rate of 199.1 per 100,000 population and an age-adjusted rate of 197.0 per 100,000 population (Tables 3 and 7). Cancer affects residents in every ward, but Ward 5 (255.0 per 100,000 population) had the highest rate of deaths, followed by Ward 4 (253.2 per 100,000 population), Ward 7 (233.2 per 100,000 population), and Ward 6 (199.9 per 100,000 population).

Cerebrovascular diseases (age-adjusted rate of 33.2 per 100,000 population), which causes stroke, was the third leading cause of death in 2007 and also ranked third (preliminary age-adjusted rate of 41.6 per 100,000 population) in the United States in 2007 (Table 3). Ward 5 (57.2 per 100,000 population), Ward 4 (54.0 per 100,000 population), and Ward 7 (34.3 per 100,000 population) had the highest rates (Figure 9 and Table 7) while Ward 1 had the lowest rate (21.7 per 100,000 population).

In 2007, the age-adjusted rate for people dying in accidents was 33.1 per 100,000 population. In the District of Columbia deaths due to accidents ranked fourth. Males were more likely to die from accidents (41.7 per 100,000 population) as compared to females (27.1 per 100,000 population) (Table 5). Ward 4 (51.4 per 100,000 per population) had the highest mortality due to accidents in the city, followed by Ward 6 (43.7 per 100,000 population) and Ward 3 (36.7 per 100,000 population).

Human Immunodeficiency Virus (HIV) ranked fifth leading cause of death in the District for 2007 with an age-adjusted death rate of 31.8 per 100,000 population. About 65 percent of decedents who died from HIV/AIDS were between the ages of 35 and 64 (Figure 12). The crude death rates in Ward 7 (45.8 per 100,000 population), Ward 6 (45.3 per 100,000 population), and Ward 8 (45.0 per 100,000 population), were the highest. Ward 3 (5.1 per 100,000 population) recorded the lowest rates (Figure 13)

Diabetes (age-adjusted rate of 25.6 per 100,000 population) ranked as the sixth leading cause of death in the District of Columbia in 2007. In the District of Columbia, the crude death rate due to Diabetes for blacks/African Americans was 39.0 per 100,000 population which was almost four times the rate for Whites, 10.8 per 100,000 population (Table 6). Most of the deaths due to diabetes occurred to decedents 55 years or older (Figure 14). Ward 5 (45.4 per 100,000) and Ward 4 (42.4) had the highest crude death rates while Ward 3 had the lowest mortality rate (8.9 per 100,000) in this category.

Homicide was the seventh leading cause of death in the District of Columbia in 2007. The age-adjusted death rate in the District was 25.2 per 100,000 population. Most of the deaths due to homicide were among the young (68.1 percent) who were between the ages of 15 and 34; 65 percent of them were African Americans (Figure 16). Ward 8 (60.1 per 100,000) population and Ward 7 (48.6 per 100,000) had the highest crude death rate of homicide while Ward 3 had only one death due to this cause. (Figure 17 and Table 7).

Chronic Lower Respiratory Diseases (CLRD) was ranked the eighth leading cause of death in the District of Columbia in 2007 (21.1 per 100,000 population age-adjusted death rate). The highest numbers of deaths were in the age group 75-84 (Figure 18). Ward 4 had the highest rate of 27.0 per 100,000 population while Ward 1 had the lowest mortality rate of 10.2 per 100,000 population (Figure 19 and Table 7).

Alzheimer's disease ranked the ninth leading cause in the District of Columbia in 2007 with an age-adjusted rate of 19.1 per 100,000 population. Ward 3 had the highest mortality rate of 55.7 per 100,000 population compared to Ward 1 (8.9 per 100,000 population), which had the lowest mortality rate (Figure 21 and Table 7). As expected, the deaths due to Alzheimer's were the highest in the decedents aged 85 years or older (Figure 20).

In 2007, Influenza and Pneumonia was the 10<sup>th</sup> leading cause of death with an age-adjusted mortality rate of 19.1 per 100,000 population in the District of Columbia. Decedents who were 85 years or older outnumbered all other groups by a large margin for deaths due to Influenza and Pneumonia. (Figure 22). Ward 5 had the highest rate (30.8 per 100,000 population) whereas Ward 8 had the lowest rate (12.0 per 100,000 population) (Figure 23 and Table 7).





# INTRODUCTION

Maintaining good health and wellness for individuals and communities depends not only on health care for the sick but also on providing opportunities to prevent health problems and improve the basic health and well-being of residents. A measure of the relative health of the total population of a community is its health profile or health status. Together with demographic and socioeconomic data, health status indicators provide the basic information for defining the community's health needs and assessing the manner in which the health care system can meet those needs.

At the same time as the federal *Healthy People 2010 Plan* was released in the year 2002, the United States Department of Health and Human Services' Office of Disease Prevention and Health Promotion released a list of 10 leading health indicators selected for nationwide tracking "based on their ability to motivate action, the availability of data to measure their progress, and their relevance as broad public health issues." The 10 leading health indicators are physical activity, overweight and obesity, tobacco use, substance abuse, responsible sexual behavior, mental health, injury and violence, environmental quality, immunization, and access to health care. All of these indicators are of concern to the Department of Health (DOH), but its selection of health priority areas is governed by the health demands of District of Columbia residents and known or proposed resources to meet those demands.

## **Population by Ward**

Despite their original intent as political subdivisions for the purpose of voting and representation, the eight wards of the District now provide a useful mechanism for analyzing and comparing sub-populations and for analyzing trends in the changing health status of residents. The average number of residents per Ward in 2000 was 71,507, down 5.7 percent from the 1990 average of 75,861. The largest number of residents (74,937) resided in Ward 4 and the smallest number (68,037) lived in Ward 6 in 2000 (Table 1). The wards are geographically, economically and ethnically diverse and care should be taken to understand the similarities and differences when comparisons are made. The city is also divided into Census tracts drawn by the U.S. Bureau of the Census and updated after each decennial census to represent approximately 3,200 people. In 1980 the city had 182 census tracts; the number grew to 192 in 1990 and fell to 188 in 2000.

The 2006 estimated population by ward shows that the largest number of residents lived in Ward 3 (78,944) an increase of 5,577 or 7.6 percent residents from 2000 census; the fewest number of residents resided in Ward 6, which represented a decrease of 3,892 residents or 5.7 percent from 2000 census (Appendix 1).

There is significant variation in the race distribution of the population by Ward in the District of Columbia. In 2000 Ward 7 had the largest proportion of Blacks/African Americans (97 percent) and the lowest proportion of Whites (1.4 percent). By contrast Ward 3 had the lowest proportion of Blacks/African Americans (6.3 percent) and the largest proportion of Whites (83.6 percent). Ward 2 had the highest proportion of Asians and Pacific Islanders (7.0 percent) and Ward 1 had the highest proportion of Hispanic/Latino residents (23.4 percent). These differences are important when assessing the incidence and rates of certain health indicators that are known to vary significantly by race and ethnicity. Table 1 presents a more complete picture of the distribution of race by Ward for 2000.

**Table 1. Distribution of District of Columbia Population by Single Race and Hispanic Origin\* by Ward in 2000 (number and percent)**

Ward	Total Population	Single Race						Two or more races	Hispanic/Latino
		White	Black	American Indian/Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some Other Race		
City	572,059	176,101	343,321	1,713	15,189	348	21,950	13,446	44,953
	100.0%	30.8%	60.0%	0.3%	2.7%	0.1%	3.8%	2.4%	7.9%
1	80,014	28,138	34,581	401	2,875	54	10,450	3,515	18,750
	100.0%	35.2%	43.2%	0.5%	3.6%	0.1%	13.1%	4.4%	23.4%
2	82,845	46,570	25,206	285	5,730	109	2,672	2,273	7,155
	100.0%	56.2%	30.4%	0.3%	6.9%	0.1%	3.2%	2.7%	8.6%
3	79,566	66,537	5,049	148	4,214	42	1,561	2,015	5,138
	100.0%	83.6%	6.3%	0.2%	5.3%	0.1%	2.0%	2.5%	6.5%
4	71,393	7,332	55,628	235	612	29	5,368	2,189	9,158
	100.0%	10.3%	77.9%	0.3%	0.9%	0.0%	7.5%	3.1%	12.8%
5	66,548	5,268	58,706	205	539	16	769	1,049	1,666
	100.0%	7.9%	88.2%	0.3%	0.8%	0.0%	1.2%	1.6%	2.5%
6	65,457	17,776	44,992	157	821	39	529	1,080	1,585
	100.0%	27.2%	68.7%	0.2%	1.3%	0.1%	0.9%	1.6%	2.4%
7	64,704	902	62,677	146	118	16	219	626	589
	100.0%	1.4%	96.9%	0.2%	0.2%	0.0%	0.3%	1.0%	0.9%
8	61,532	3,578	56,477	136	280	43	319	699	912
	100.0%	5.8%	91.8%	0.2%	0.5%	0.1%	0.5%	1.1%	1.5%

\*Persons of Hispanic origin may be of any race. Each race category contains persons of both Hispanic and non-Hispanic origin.

Prepared by D.C. Office of Planning/State Data Center

Source of Data: U.S. Census Bureau

### Health Insurance Coverage

According to data from the Kaiser Family Foundation, the majority of adult District residents in 2005 received health insurance coverage through their employer (Table 2). Among females, the second-largest proportion (17.0%) received health insurance coverage through Medicaid; however, among males, the second-largest proportion (21.0%) was uninsured. This highlights a disparity between the proportion of males (21.0%) and females (12.0%) in the District who had no health insurance. In 2005, according to the federal Centers for Medicare and Medicaid Services, 28.0% of District residents were covered by Medicaid and 13% were covered by Medicare. Also, in 2005, the District Government spent approximately \$1.3 billion dollars on Medicaid and \$93 million on the Healthcare Alliance. A total of \$569 million in federal dollars were spent on Medicare for the District in 2005.<sup>1</sup>

<sup>1</sup> <http://www.cms.hhs.gov/home/rsds.asp>

**Table 2. Health Insurance Coverage of DC Adult Residents (19 to 64 years of age), 2005**

Source of Insurance	Males		Females %		Total	
	No.	%	No.	%	No.	%
<b>Employer</b>	99,292	58.0	117,328	62.0	216,620	60.0
<b>Individual Plan</b>	11,684	7.0	14,225	8.0	25,908	7.0
<b>Medicaid</b>	19,789	12.0	32,633	17.0	52,422	15.0
<b>Other public provider</b>	3,581	2.0	2,408	1.0	5,989	3.0
<b>None/uninsured*</b>	36,669	21.0	22,253	12.0	58,922	16.0
<b>Source: Kaiser Family Foundation</b>						
<b>Note: Percentages may not add to 100.0% because of rounding.</b>						
<b>* Persons enrolled in DC Healthcare Alliance are included in this category.</b>						

Note: At the publication date of this report, the most current information reflected in Table 2 is for the year 2005. Updated information for DC Medicaid and Alliance is available from the DC Department of Health Care Finance for year ending December 2007 but is not included in this report.

## HEART/CARDIOVASCULAR DISEASE

Cardiovascular disease (CVD) refers to a group of diseases and conditions that affect the heart and blood vessels. Heart attack, cerebrovascular diseases (which may lead to stroke), atherosclerosis, and heart failure are examples of CVD. The District of Columbia bears a heavy burden of cardiovascular disease, as evidenced by an average CVD Hospital Discharge rate of 1,540 per 10,000 each year (D.C. Hospital Discharge Data, 1996-2006), one third (36.3%) of the deaths in the District due to CVD, and yields a financial burden in excess of \$1 billion annually. Although certain risk factors, such as genetic makeup, cannot be modified, some major risks arise from smoking, diet and exercise and much CVD can be delayed or prevented. The Cardiovascular Health Program of the DC DOH was developed to address the epidemic of CVD. Strategies of the Program include raising awareness of CVD, increasing services and creating policies supportive of health.

### Addressing the Cardiovascular Disease Epidemic

The District of Columbia Cardiovascular Health Program (CHP) has made substantial progress in responding to the CVD epidemic.

#### ACCESS & OUTREACH:

- The Cardiovascular Health Program (CHP) has published two key fact sheets, which provide summary data of the District of Columbia with regard to cardiovascular disease and cerebrovascular diseases. Translations are available in Spanish, Chinese and Vietnamese. Additionally, the CHP will publish the “District of Columbia Cardiovascular Health Program Surveillance Report” in fall of 2009.
- Prevention and control document produced entitled, “*Working Together Toward a Healthier Community: The District of Columbia Plan to Prevent and Control Cardiovascular Diseases, Diabetes and Kidney Diseases 2008 – 2013*,” provides the vision for reducing cardiovascular disease, diabetes, and kidney failure for the next five years.

#### COLLABORATION:

- The *Power to End Stroke Program* utilizes community based organizations to promote the awareness of high blood pressure and the prevention of cerebrovascular diseases. In 2008, the *START Program* was established to recruit District businesses into becoming fit-friendly companies. The DC DOH has maintained “Fit Friendly Company - Gold” designation status since May of 2008.
- The CHP will establish a DC Stroke Collaborative, which will unite District hospitals with the American Heart Association’s “*Get With the Guidelines*” stroke module in order to enhance the quality of stroke care among District residents. The “*Get With the Guidelines*” software program provides hospitals with information regarding gold standards of care for treating patients with heart failure, cerebrovascular diseases and coronary artery disease.

#### INNOVATION & EDUCATION:

- The ASPIRE (Acute Cerebrovascular Diseases Program of Interventions Addressing Racial and Ethnic Disparities) program works in conjunction with 5 District hospitals to move care to optimal pattern for early stroke. The ASPIRE program seeks to address the following aims:
  - to investigate whether implementation of a multilevel intervention can significantly increase the number of ischemic stroke patients appropriately treated with intravenous tissue plasminogen activator (IV tPA) in a predominantly underserved community;
  - to investigate whether there are racial/ethnic differences in the clinical presentation of stroke patients; and
  - to perform process evaluation of the methods used in the intervention to determine which efforts are the most effective.
  
- LIOBmedia is in the process of producing a training video and mobile pocket guide for District first responders to recognize and treat acute cerebrovascular diseases victims prior to hospitalization.

## COMPREHENSIVE CANCER CONTROL

Cancer is one of the leading causes of death in the District among those 85 years and younger. DC has the seventh highest cancer mortality rate among the states. The cancer mortality rate for DC men is 270 per 100,000 population (all rates age-adjusted and 2002-2006) and is much higher than the U.S. average of 230 per 100,000 population. The cancer mortality rate for DC women is 164 per 100,000 population and is higher than the U.S. average 158 per 100,000 population. According to DC Cancer Registry in 2006 about 2,775 individuals were diagnosed with cancer in the District and 1,115 died of the disease.<sup>2</sup> African Americans in DC have higher cancer mortality rates (234 per 100,000 population) than whites (158 per 100,000 population).

DC ranks second highest amongst all states in the US for breast cancer mortality (2002-2006). The DC breast cancer mortality rate is 29 per 100,000 population (all rates age-adjusted), while the national average is 25 per 100,000 population (2002-2006). The DC rate for breast cancer incidence is closer to the national average, with DC's rate of 126 per 100,000 population for invasive cancers and the US rate is 123 per 100,000 population (2001-2005). The District of Columbia cervical cancer mortality rate (3.4 per 100,000 population) is also higher than other states and the US rate (in the five years 2002-2006) being 2.5 per 100,000 population. The DC cervical cancer incidence rate is 12 per 100,000 population, compared to the US rate (2001-2005) of 8.5 per 100,000 population.

### **Addressing the high cancer incidence and mortality rates**

The DC DOH Comprehensive Cancer Control Program focuses on the inequitable distribution of cancer screening and treatment which is believed to play a major role in the District's high mortality rates. The racial/ethnic disparities in access to cancer prevention and screening and early detection, treatment, survivorship, palliative and end-of-life care are substantial.

#### **ACCESS & OUTREACH:**

- The District of Columbia is a participant in the Centers for Disease Control and Prevention's Breast and Cervical Cancer Early Detection Program. In DC, the program, Project WISH, seeks to increase the delivery of breast and cervical cancer screening and early detection services, by creating a demand for, providing enhanced access to, and providing quality culturally relevant services for all eligible women in the District of Columbia.
  - The program provides free clinical breast exams, mammograms, Pap tests to eligible women.
  - Follow up tests and case management if results are abnormal.
  - Transportation to and from exams.
  - Translation services provided upon request.
  - Annual and rescreening reminders sent when due for a mammogram.

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<sup>2</sup> DC Cancer Registry's last data submission was for 2006, in January 2009, as requested by the CDC.

Other activities of the Comprehensive Cancer Control Program aim to:

- Increase public awareness of the importance of early detection and healthy lifestyle behaviors that reduce cancer risk.
- Increase cancer screening and rescreening rates; especially for colorectal cancer.
- Educate health care providers about current trends and best practices in the detection and treatment of cancer.
- Educate survivors and caregivers about available resources to improve survivorship including survivorship planning, palliative care, psychological support and clinical trials.

#### COLLABORATION:

- Partnership with the DC Cancer Consortium (DCCC); an organization composed of over 50 stakeholders, to implement the DC Cancer Control Plan 2005-2010, and ease the cancer burden among the uninsured, underinsured, and/or low income District residents.
- The DC Cancer Registry, Project WISH, the Comprehensive Cancer Control Program and the DC Tobacco Control Program share resources and information to reduce the incidence and mortality of cancer.
- Maintain collaborations with and support of the cancer centers and organizations within the District, including community and faith-based organizations and hospitals that provide cancer education, screenings, treatment and referral/resource services to the District's culturally diverse underserved populations.
- Partner with the American Cancer Society's Faith Based Partnerships Project.
- Partnership with the Community Court to assure that eligible women having an encounter with the Court information receive information about Project WISH services.
- Partnership with a court diversion program for women charged with prostitution. This has special significance for the cervical screening component of Project WISH.
- Partnership with the Mautner Program to reach lesbian, bisexual, transgender women and their families.

#### INNOVATION:

- The first cancer plan for the District of Columbia, "*Facing the Challenge, DC Cancer Control Plan 2005-2010,*" was launched and implemented. This serves as a "*blueprint to reduce the number of new cases of cancer, the number of cancer-caused deaths and to improve the quality of life for cancer survivors in the Nation's Capitol.*"
- Through the DC Budget Support Act, the first prostate cancer screening van program was introduced to the City and operated at Howard University Cancer Center. A three year funding beginning in 2006.
- The *Community Access to Health Care Omnibus Act of 2006* authorized and granted a \$20 million dollar/five year *Health Care Improvement Grant* to the DCCC for the implementation of a comprehensive cancer prevention program monitored by DOH.



- Efforts in progress to have the Project WISH brochure translated to other languages being spoken in the District.
- Efforts to partner with area hotels and other employers that provide employment to working poor females.
- Direct mail to DC voters about screening.

## HIV/AIDS

HIV/AIDS is the second leading cause of premature death among District residents. Although significant strides in the diagnosis, treatment and survival of those living with HIV and AIDS have occurred locally, the District remains a city with the highest burden of the disease in the United States. The District has a modern epidemic – modern because of its sheer size and complexity. Overall, 3 percent of all District residents or 15,120 persons are currently known to be living with HIV/AIDS. However, based on recent targeted studies of behavior, the number may be considerably higher as between one-third and one-half of residents may be unaware of their infection. The impact of the epidemic crosses all population groups. The highest rates are among residents aged 40 to 49 and African-American men with 7 percent of their respective adult populations already diagnosed and living with HIV/AIDS. With only a few exceptions, nearly all ages, race/ethnicity and gender have percentages in excess of 1 percent, which defines a severe epidemic. The severity holds also for geography as nearly every ward has rates higher than 1 percent. There are promising indicators that the District's efforts to implement routine HIV testing are resulting in earlier diagnoses. The average first CD4 count increased by 50 percent to 332 in 2007 from 220 in 2005. The District continues to implement a comprehensive response to the epidemic by building on its national leadership of promoting routine testing to full implementation in all medical settings, retooling prevention strategies up to scale to reduce risky behavior and infections, eliminating mother-to-child HIV transmission through new collaborations among maternal health providers, strengthening partnerships with community providers to help young people make healthy choices, growing capacity of small and faith-based organizations to mainstream HIV into their activities, and increasing the access and quality of care and treatment services.

### **Addressing HIV/AIDS/STD Epidemics**

The District of Columbia HIV/AIDS Administration (HAA) has made substantial progress in responding to the HIV/AIDS/STD epidemics.

#### **ACCESS & OUTREACH:**

- The District was one of three jurisdictions in the country with the highest number of publicly supported HIV tests matching much larger New York City and the entire state of Florida. The District found the highest proportion of HIV positives.
- Expanding routine rapid HIV testing in labor and delivery suites at hospitals and birthing centers to help eliminate mother-to-child transmission. In 2005, there were 10 children born with HIV in the District. In 2007, there was only one child born with HIV.
- Expanding Routine HIV Screening to an opt-out strategy and will focus on various medical settings, including 6 emergency departments, 7 labor and delivery sites, and primary care providers.
- Increased by 50 percent the number of persons receiving free HIV medications in 2008.
- Increased access to comprehensive substance abuse and HIV prevention services, specifically through harm reduction and needle exchange services. For 2009, the District is on track to remove 250,000 needles from city streets and enroll hundreds of new clients in the program.
- Expand the utilization of quality care and treatment services through increased linkages to care, care providers participating in recapture activities, and the recapturing previously positive person into care.

#### COLLABORATION:

- Partnerships with hospitals (Howard University, George Washington University Hospital) and primary care centers (Unity Health Care, Family & Medical Counseling Service) to start routine testing in medical settings.
- HAA is implementing voluntary school-based STD screening in all public high schools in 2009, one of only two jurisdictions in the country. HAA will be collaborating with DC Public Schools and community partners on expanding condom availability.

#### INNOVATION & EDUCATION:

- Launched the first-ever, citywide initiative to implement routine testing, now moving to full implementation of routine HIV testing in all medical settings.
- Expanded Effi Barry Capacity Building Program to provide skills and competency in HIV/AIDS and organization development, including new support for community collaborations and integrated service models.
- First jurisdiction to offer voluntary STD and HIV testing for young people participating in the Summer Youth Employment Program – over two years more than 4,000 young people were screened for STDs.
- Developed and implementing comprehensive youth and HIV prevention plan with goals to increase HIV testing and reduce transmission rates with community partnerships. The plan has been implemented to add new community level prevention interventions, an expanded social marketing program (including text messaging) and capacity building to mainstream HIV among youth organizations.
- In 2009, launched new social marketing program DC Takes On HIV with a first phase on HIV testing called “Ask for the Test,” comprised of outreach to consumers and medical providers. The marketing program also includes new media of text messaging to locate HIV testing sites and free condoms and a web site [www.DCTakesOnHIV.com](http://www.DCTakesOnHIV.com).
- National model partnership with DC Jail of voluntary, automatic testing of more than 30,000 individuals entering the correction facility, followed by treatment for positives and discharge planning for reentry into communities.

# DIABETES

The burden of diabetes mellitus, often referred to as diabetes, on District residents is large and growing at an alarming rate. Diabetes is the sixth leading cause of death in the District of Columbia, and it contributes to kidney failure, amputations, heart disease, and weakened resistance to infections. The total number of diabetes cases in the city is estimated to be 45,000 or about one in every dozen residents (BRFSS, 2007). Each year, diabetes and its related conditions cost District taxpayers and businesses more than \$2.5 billion in direct medical costs (D.C. Hospital Discharge Data, 1995-2004). The District's response to the epidemic is to equip the city's health system and broader community with the tools and resources needed to prevent new cases as well as complications of diabetes.

## Addressing the Diabetes Epidemic

The District of Columbia Diabetes Prevention and Control Program (DPCP) has made substantial progress in responding to the diabetes epidemic.

### ACCESS & OUTREACH:

- Sponsored a training to increase the number of individuals certified to implement Stanford University's Chronic Disease Self-Management Program (CDSMP). Provided 5 mini-grants to support organizations in the implementation and evaluation of the Chronic Disease Self-Management Program
- The Diabetes Prevention and Control Program (DPCP) partnered with Howard University Hospital to build a state of the art diabetes treatment center in 2007. Utilizing the Chronic Care Model as a guide, the Center provides access to high quality diabetes care for low-income, minority populations.
- The DPCP partnered with the National Kidney Foundation of the National Capitol Area to provide community-based diabetes, cardiovascular and kidney disease screenings. Since 2006, the National Kidney Foundation has screened more than 1,500 residents. Finds from the community screenings indicate the large numbers of residents may be at risk for kidney disease due to poor diabetes and blood pressure control.

### COLLABORATION:

- The Diabetes for Life Learning Center (DFLLC) is a collaborative effort between the Department of Health, the Washington Hospital Center and the District of Columbia Public Library System. The Learning Center is the first library based initiative that focuses on diabetes self-management and support in the District of Columbia. The project (DFLLC) was awarded the public health award by Metropolitan Washington Public Health Association (MWPHA) in 2007
- The DPCP, in collaboration with partners, developed a comprehensive and integrated plan in 2007 entitled, "Working Together Toward a Healthier Community: The District of Columbia Plan to Prevent and Control Cardiovascular Diseases, Diabetes and Kidney Diseases 2008-2013". The plan serves as a tool to foster collaborative and coordinated CDK prevention and control efforts.

#### INNOVATION:

- The DPCP partnered with the George Washington University School of Public Health to define and geographically map “Hot Zones”. Hot Zones represent geographic areas of the city where cardiovascular and diabetes hospital admissions overlap with high prevalence rates of diabetes and cardiovascular diseases. The Hot Zones are used as a focal point for planning and resource distribution.
- DPCP and community partners assisted the Upper Cardozo community clinic with establishing a diabetes electronic tracking system and quality improvement initiative.

## ASTHMA

Asthma is a chronic disease of the lung's bronchi (airways) characterized by airway hyper-responsiveness to stimuli resulting in airflow limitation and inflammation. Respiratory symptoms include: breathlessness, wheezing, coughing, and chest tightness. Symptoms can vary in severity from mild and intermittent to severe and persistent. All levels of severity can be life threatening. According to the 2007 Behavioral Risk Factor Surveillance System (BRFSS) survey data, approximately 9 percent of adult residents (40,000 adults) and 11 percent of children (13,000 children) currently have asthma, and about 15 percent of adults have been diagnosed with asthma at some point in their life. Overall, the prevalence of current asthma in the District of Columbia has been consistently higher than the national rate for the past seven years. In addition, the District's asthma prevalence was on an upward trend from 2000 to 2004 but seemed to stabilize at slightly above 15 percent from 2004 to 2007. Vital Records data for asthma-related mortality indicate an overall decreased rate from 1999-2005.

The District of Columbia Department of Health (DOH) Asthma Control Program launched the "DC Control Asthma Now (DC CAN) Program" in 2001 in order to address the national Healthy People 2010 asthma objectives, and to improve the quality of life for District residents who suffer from asthma. Its mission is to develop and implement a viable, comprehensive, community-based, and consumer centered approach to asthma diagnosis and management.

### ADDRESSING ASTHMA

The DC Department of Health Community Health Administration's DC Control Asthma Now (DC CAN) program and community partners have made substantial progress in responding to the asthma epidemics.

#### ACCESS & OUTREACH:

- Assisted in developing draft legislation that has become the Student Access to Treatment Act of 2007 which enables children who suffer from asthma or anaphylaxis to carry and self-administer their asthma or anaphylaxis medication
- Increased the number of school-based asthma education programs
- Increased the number of asthma self-management programs for senior citizens
- Increased the number of child care providers trained in asthma management
- Developed and distributed standardized asthma and anaphylaxis medication plans to school nurses and healthcare providers

#### COLLABORATION:

- Revised the 2003 Strategic Plan with community partners and published the *2009-20013 Strategic Plan for Addressing Asthma in the District of Columbia*
- Partnered with the former National Capital Asthma Coalition to develop policies, legislation and appropriate forms to implement the Student Access to Treatment Act 2007
- Partnered with National Capital Asthma Coalition to develop Managing Asthma and Allergies in DC Schools and provided education sessions on the manual to approximately 200 school personnel
- Partnered with Children's National Medical Center Improving Pediatric Asthma Care in the District of Columbia (IMPACT DC) to collect emergency department data

- Partnered with George Washington University to conduct a study on the reporting of work related asthma
- Partnered with Children Environmental Health Network to conduct environmental assessments and educational programs for childcare centers.

INNOVATION:

- Developed a series of educational videos “Asthma in the Elderly” “Asthma in Children” and “Asma en nuestra Comunidad” (Asthma in Our Community) Spanish video. Videos are still airing on Public Access Television and are featured on the Centers for Disease Control and Prevention’s asthma website
- In FY 2009, initiated an unprecedented Asthma Quality Improvement initiative which may become a national model for asthma management led by Children’s National Medical Center

## METHODS FOR MORTALITY REPORT

This report represents the release of final District of Columbia resident mortality statistics for 2007 and presents death and death rates according to a number of demographic and medical characteristics. Data from this report are based on information from all resident death certificates filed in the District of Columbia (D.C.) and in other states (e.g., information from a death certificate for a D.C. resident who died in the state of Maryland is included in this report). Cause-of-death statistics presented in this report are classified in accordance with the *International Classification of Diseases Tenth Revision (ICD-10)* (World Health Organization. *International Statistical Classification of Diseases and Related Health Problems, Tenth Revision*. Geneva: World Health Organization. 1992.)

Measures of mortality in this report include life expectancy; the number of deaths; crude, age-specific, and age-adjusted death rates. The populations used to calculate death rates for 2007 shown in this report were produced under a collaborative arrangement with the D.C. Office of Planning, State Data Center and the U.S. Census Bureau and are based on counts for the 2000 census and 2007 estimated population. Reflecting the new guidelines issued in 1997 by the Office of Management and Budget (OMB), the 2000 census included an option for individuals to report more than one race as appropriate for themselves and household members (Office of Management and Budget. Revisions to the standards for the classification of Federal data on race and ethnicity. Federal Register 62FR58782-58790. October 30, 1997. Available at: <http://www.whitehouse.gov/omb/fedreg/ombdir15.html>.)

Mortality data in this report can be used to monitor and evaluate the health status of the District of Columbia in terms of current mortality levels and long-term mortality trends, as well as to identify segments of the D.C. population at greatest risk of death from specific diseases and injuries. Differences in death rates among demographic groups, including racial and ethnic groups, may reflect group differences in factors such as socioeconomic status, access to medical care, and the prevalence of risks specific to a particular group.



## MORTALITY

This section presents information on mortality from the District of Columbia vital records system. Data are presented on total number of deaths, leading causes of death (Table 3 and Figure 2) by age, gender (Table 5), race (Table 6), and ward (Table 7), premature mortality (Table 8), including infant mortality and mortality among the elderly (Table 9).

In 2007, there were 5,168 deaths to residents of the District of Columbia. This represented a crude death rate of 887.6 per 100,000 population and an age-adjusted death rate of 865.2 per 100,000 U.S. 2000 standard population. The age-adjusted death rate eliminates the effects of the aging of the population per 100,000 U.S. standard population. The District's crude and age-adjusted death rates are higher than the national rate but declining since 1994. The preliminary crude death rate for the United States in 2007 was 803.7 per 100,000 population and the preliminary age-adjusted death rate was 760.3 per 100,000 population. In the District of Columbia, the 2007 crude death rate for males (927.0 per 100,000) was considerably higher than for females (834.7 per 100,000) (Table 5) and the 2007 rate for blacks/African Americans (1,154.3 per 100,000) was significantly higher than for whites (658.1 per 100,000) (Table 6).

**Table 3. Age-Adjusted Death Rates by  
Ten Leading Causes of Death:  
District of Columbia, 2007 and Preliminary United States, 2007**

District of Columbia		United States	
Cause of Death <sup>1</sup>	Rate*	Cause of Death <sup>1</sup>	Rate*
1. Heart Disease	228.6	1. Heart Disease	190.7
2. Malignant Neoplasms (Cancer)	197.0	2. Malignant Neoplasms (Cancer)	177.5
3. Cerebrovascular Diseases	33.2	3. Cerebrovascular Diseases	41.6
4. Accidents	33.1	4. Chronic Lower Respiratory Diseases	41.2
5. HIV/AIDS	31.8	5. Accidents	37.8
6. Diabetes	25.6	6. Alzheimer's Disease	22.8
7. Homicide/Assault	25.2	7. Diabetes	22.4
8. Chronic Lower Respiratory Diseases	21.1	8. Influenza/Pneumonia	16.3
9. Alzheimer's Disease	19.1	9. Nephritis, Nephrotic Syndrome & Nephrosis	14.4
10. Influenza & Pneumonia	19.1	10. Septicemia	11.0

\*Age-Adjusted rates per 100,000 U.S. standard population based on 2007 population estimates.

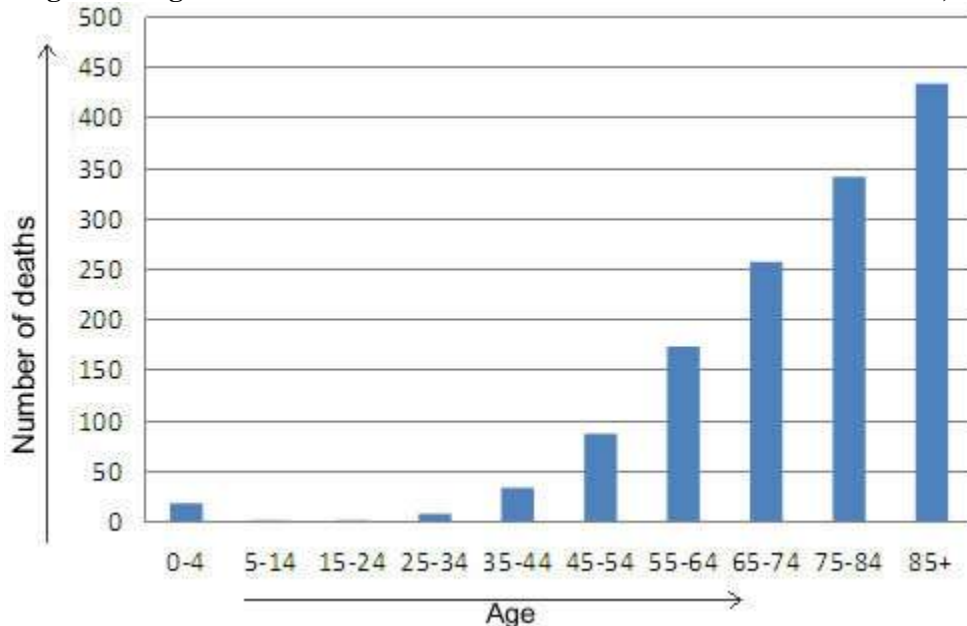
<sup>1</sup>Rank based on number of deaths from the list of 113 Selected Causes of Death.

Sources: (1) DC Department of Health, Center for Policy, Planning, and Epidemiology, State Center for Health Statistics, 2009.

(2) Population Division, U.S. Census Bureau, 2007

The age distribution of the deaths in District of Columbia shows that except the infant deaths included in age group 0-4, the death rate rises with age and peaks at age 85 and older. Figure 1 shows that death occurrence is predominately a function of age.

**Figure 1. Age Distribution of Resident Deaths in the District of Columbia, 2007**



Source: DC Department of Health, Center for Policy, Planning, and Epidemiology, State Center for Health Statistics, 2009

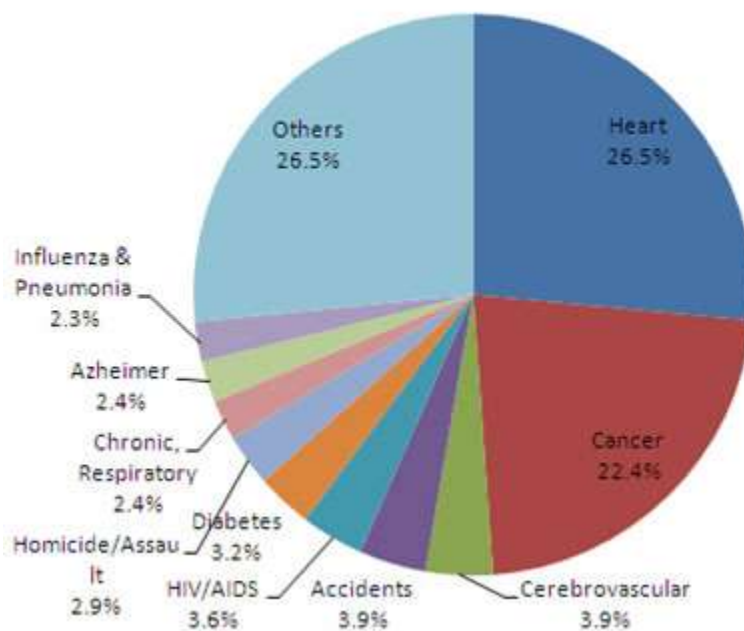
The 10 leading causes of death in the District of Columbia in 2007 ranked in order were heart disease, cancer, cerebrovascular diseases, accidents, HIV/AIDS, diabetes, assault (homicide), chronic lower respiratory diseases, Alzheimer' disease, and Influenza/Pneumonia (Figure 2 and Table 3). These 10 leading causes accounted for 73.5 percent of all District resident deaths in 2007.

## LEADING CAUSES OF DEATH

In the 20<sup>th</sup> century, chronic diseases, including heart disease, cerebrovascular disease, cancer, and diabetes have replaced infectious disease as the leading causes of death and disability in industrial countries. Heart disease and cancer are two leading causes of premature death among District residents as well as Americans aged 45 to 69 years (Table 8). Nationally, blacks/African Americans are at greater risk of mortality from these chronic diseases than any other group in this age range. The differences in the death rates from chronic diseases account for most of the disparity in the chance of survival to age 65 between blacks/African Americans and whites (Council of Economic Advisors, 1998). However, in this section, the 10 leading causes of death will be discussed. The six leading causes accounted for 63.2 percent of all deaths to District residents in 2007.

A disproportionate number of deaths occurred among blacks/African Americans (76.2 percent on average) in comparison to their share of the total population (approximately 60 percent). The top two leading causes of deaths for black/African American and white residents in 2007 were heart disease and cancer (Table 6). Heart disease was the leading cause of death for men (245.6 per 100,-000) and women (220.5 per 100,000 population).

**Figure 2. Ten Leading Causes of Death in the District of Columbia, 2007**



Source: DC Department of Health, Center for Policy, Planning, and Epidemiology, State Center for Health Statistics, 2009

The mean age among the leading causes of death reveals that decedents whose death was due to Alzheimer's Disease were the oldest, on average, and died at the age of 89.2 while decedents who died as a result of Homicide (Assault) were the youngest at age 32.0 years (Table 4). There was a huge gap between the mean ages of blacks/African Americans and whites at the time of death. Whites lived more than 10 years of age (75.0) than blacks/African Americans (64.4). White females lived the longest, on average, with 78.5 years while black/African American males had the shortest life expectancy of age 61.9 years at the time of death. Even white males lived longer with a mean age of 71.7 years than black/African American females with an average age of 70.9 (Table 4).

**Table 4. Leading Causes of Death by Average Age:  
District of Columbia Residents, 2007**

Cause of Death <sup>1</sup>	Number	Average Age (in years)	Youngest Decedent	Oldest Decedent
1. Heart	1,367	75.7	5.0	102.0
2. Cancer	1,159	69.6	2.0	106.0
3. Cerebrovascular Diseases	200	73.5	38.0	104.0
4. Accidents	200	58.6	2.0	104.0
5. HIV/AIDS	188	45.9	15.0	80.0
6. Diabetes	154	74.5	29.0	102.0
7. Homicide/ Assault	166	32.0	1.0	95.0
8. Chronic Lower Respiratory	122	73.4	8.0	96.0
9. Alzheimer' Disease	122	80.2	8.0	104.0
10. Influenza & Pneumonia	119	89.2	70.0	105.0

<sup>1</sup>Rank based on number of deaths from the list of 113 Selected Causes of Death.

Source: DC Department of Health, Center for Policy, Planning, and Epidemiology, State Center for Health Statistics, 2009

The following section provides more detailed information on the ten leading causes of death (Tables 5, 6, and 7 and Figure 3).

**Table 5. Ten Leading Causes of Death and Death Rates\* by Gender:  
District of Columbia Residents, 2007**

Causes of Death <sup>1</sup>	Male	Rate*	Causes of Death <sup>1</sup>	Female	Rate*
Total	2,578	927.0	Total	2,589	834.7
Heart	683	245.6	Heart	684	220.5
Cancer	558	200.6	Cancer	601	193.8
Homicide/Assault	143	51.4	Cerebrovascular	121	39.0
Accidents	116	41.7	Alzheimer's Disease	91	29.3
HIV/AIDS	114	41.0	Diabetes	87	28.0
Cerebrovascular	79	28.4	Accidents	84	27.1
Diabetes	67	24.1	Influenza & Pneumonia	75	24.2
Chronic, Lower Respiratory	65	23.4	HIV/AIDS	74	23.9
Essen. Hypertension	49	17.6	Essen. Hypertension	63	20.3
Influenza & Pneumonia	44	15.8	Septicemia	63	20.3
All Other Causes	660	237.3	All Other Causes	646	208.3

\*Crude death rates are per 100,000 population based on 2007 population estimates.

<sup>1</sup>Rank based on number of deaths from the list of 113 Selected Causes of Death.

Source: DC Department of Health, Center for Policy, Planning, and Epidemiology, State Center for Health Statistics, 2009.

**Table 6. Ten Leading Causes of Death and Death Rates\* by Race:  
District of Columbia Residents, 2007**

<b>Causes of Death<sup>1</sup></b>	<b>Black</b>	<b>Rate*</b>	<b>Causes of Death<sup>1</sup></b>	<b>White</b>	<b>Rate*</b>
Total	3,936	1154.3	Total	1,159	658.1
Heart	1,043	303.8	Heart	312	177.2
Cancer	871	253.7	Cancer	268	152.2
HIV/AIDS	177	51.6	Accidents	58	32.9
Cerebrovascular	159	46.3	Alzheimer's Disease	48	27.3
Homicide/Assault	153	44.6	Chronic, Respiratory	43	24.4
Accidents	136	39.6	Cerebrovascular	43	24.4
Diabetes	134	39.0	Influenza & Pneumonia	39	22.1
Septicemia	93	27.1	Esen. Hypertension	35	19.9
Essen. Hypertension	82	23.9	Influenza & Pneumonia	26	14.8
Influenza & Pneumonia	82	23.9	Diabetes	19	10.8
All Other Causes	1033	300.9	All Other Causes	268	152.2

\*Crude death rates per 100,000 based on 2000 Census population.

<sup>1</sup>Rank based on number of deaths from the list of 113 Selected Causes of Death.

Source: DC Department of Health, Center for Policy, Planning, and Epidemiology, State Center for Health Statistics, 2009.

**Table 7. Number and Crude Rate of Deaths by Ward:  
District of Columbia Residents, 2007 <sup>1,2</sup>**

Causes of Death	All Causes	Ward 1	Ward 2	Ward 3	Ward 4	Ward 5	Ward 6	Ward 7	Ward 8
Total Deaths <sup>3</sup>	5,168	449	583	584	876	847	544	724	552
Rate per 100,000 pop.	887.6	572.5	744.4	739.8	1,126.0	1,241.2	849.5	1,035.8	828.9
1. Heart Disease	1367	115	164	163	250	235	124	185	130
Rate per 100,000 pop.	234.8	146.6	209.4	206.5	321.3	334.4	193.6	264.7	195.2
2. Cancer	1,159	104	131	142	197	174	128	163	119
Rate per 100,000 pop.	199.1	132.6	167.3	179.9	253.2	255.0	199.9	233.2	178.7
3. Cerebrovascular Diseases	200	17	21	22	42	39	19	24	15
Rate per 100,000 pop.	34.3	21.7	26.8	27.9	54.0	57.2	29.7	34.3	22.5
3. Accidents	200	21	21	29	40	24	28	21	14
Rate per 100,000 pop.	34.3	26.8	26.8	36.7	51.4	35.2	43.7	30.0	21.0
5. HIV/AIDS	188	21	23	4	21	27	29	32	30
Rate per 100,000 pop.	32.3	26.8	29.4	5.1	27.0	39.6	45.3	45.8	45.0
6. Homicide/Assault	166	12	16	1	12	28	22	34	40
Rate per 100,000 pop.	28.5	15.3	20.4	1.3	15.4	41.0	34.4	48.6	60.1
7. Diabetes	154	15	13	7	33	31	22	22	11
Rate per 100,000 pop.	26.4	19.1	16.6	8.9	42.4	45.4	34.4	31.5	16.5
8. Chronic Lower Respiratory	122	8	14	19	21	15	11	17	17
Rate per 100,000 pop.	21.0	10.2	17.9	24.1	27.0	22.0	17.2	24.3	25.5
8. Alzheimer's Disease	122	7	13	44	13	16	8	13	8
Rate per 100,000 pop.	21.0	8.9	16.6	55.7	16.7	23.4	12.5	18.6	12.0
10. Influenza & Pneumonia	119	13	14	18	19	21	14	12	8
Rate per 100,000 pop.	20.4	16.6	17.9	22.8	24.4	30.8	21.9	17.2	12.0
All Other Causes	1,371	116	153	135	228	237	139	201	160

Notes: (1) Total will not add to 5,168 deaths due to unreported wards.

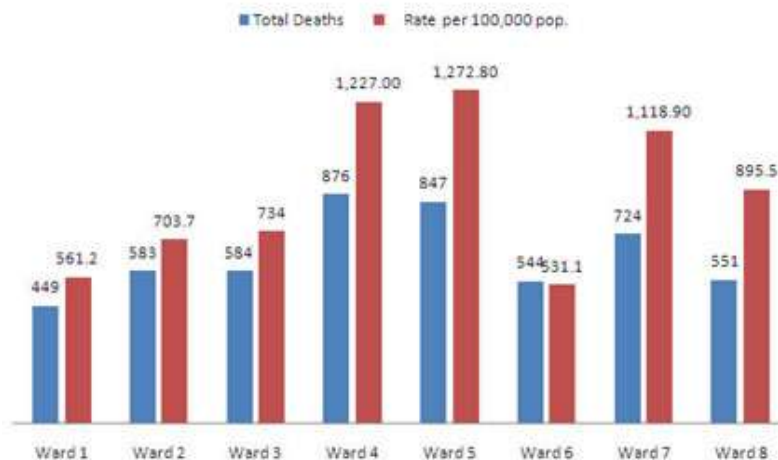
(2) Crude death rates are per 100,000 population based on 2006 population estimate by ward (Appendix 1).

(3) Rank based on number of deaths from the list of 113 Selected Causes of Death.

(4) Green shaded areas show the highest death rates and yellow areas show the lowest death rates by ward and disease.

Source: DC Department of Health, Center for Policy, Planning, and Epidemiology, State Center for Health Statistics, 2009.

**Figure 3. Number and Crude Rate of Deaths by Ward: District of Columbia Residents, 2007**



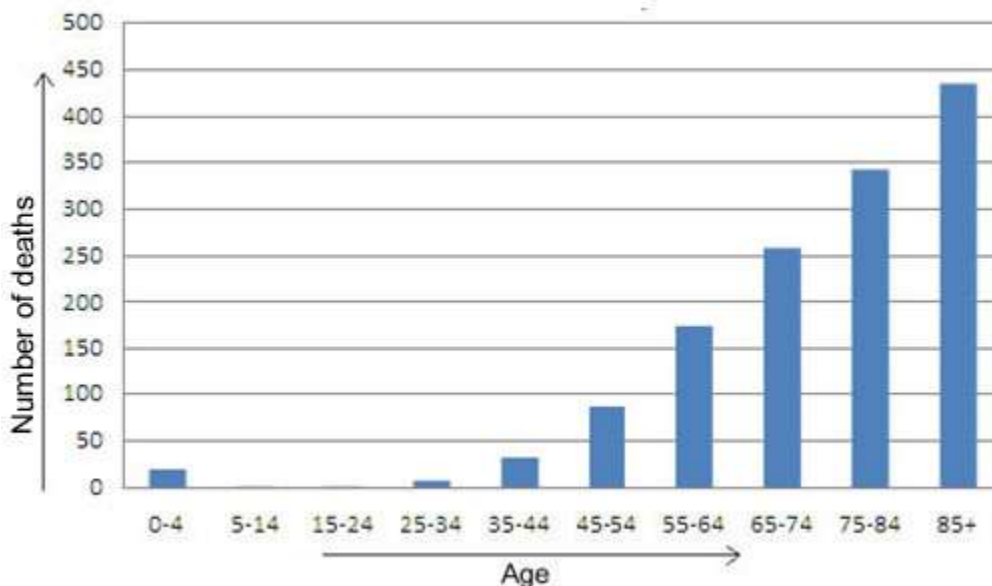
Source: DC Department of Health, Center for Policy, Planning, and Epidemiology, State Center for Health Statistics, 2009.

## 1. Heart Disease

(DC Healthy People 2010 Chapter 15, Objectives 15-1 through 15-8; Healthy People 2010 Chapter 12, Objectives 12-1 through 12-6)

In 2007, heart disease was the leading cause of death both in the District of Columbia and in the United States. Deaths due to heart disease have declined nationally by nearly one-third since 1980. This is most likely due to life style changes and improved medical technology. However, heart disease still kills almost as many people as do all the diseases combined (American Heart Association, 2006). Among District residents in 2007, heart disease had the highest crude mortality rate (234.8 per 100,000 population) and age-adjusted mortality rate (228.6 per 100,000 population) killing 1,367 people or 26.5 percent of all resident deaths (Figure 2 and Table 7). Heart disease is the leading cause of death both for men (245.6 per 100,000) and women (220.5 per 100,000). The highest mortality rate was for blacks/African Americans (303.8 per 100,000), followed by whites (177.2) (Table 6). Most of the deaths due to heart disease were in the higher age groups with decedents aged 55 years and older accounting for 88.4 percent; and decedents aged 75 and older accounting for 75.7 percent (Figure 4).

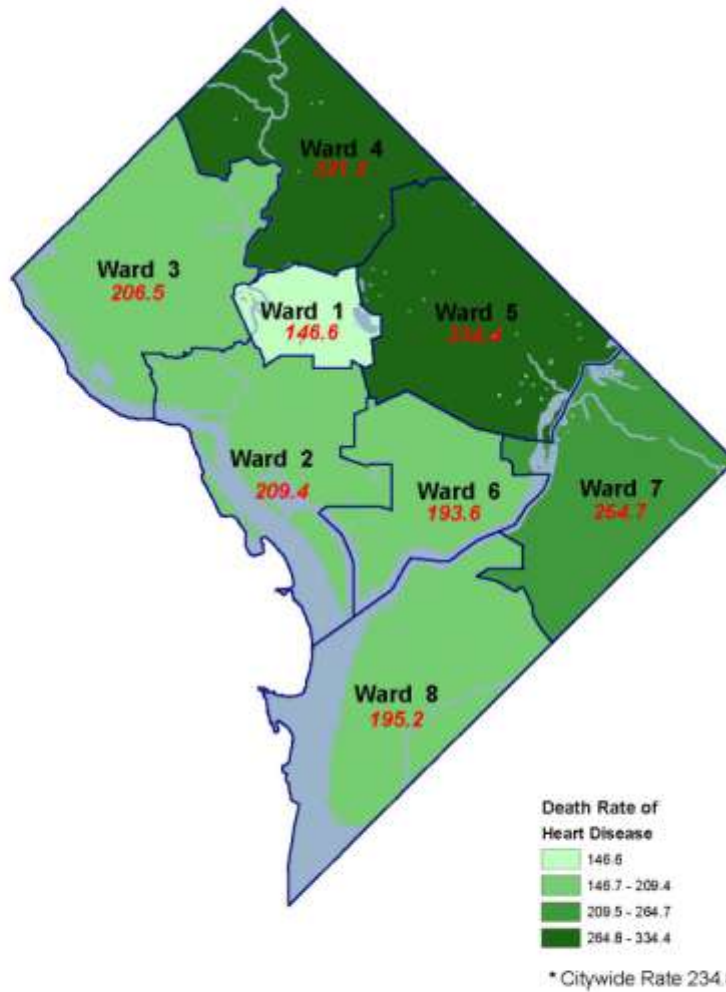
**Figure 4. Age Distribution of Deaths Due to Heart Disease in the District of Columbia, 2007**



Source: DC Department of Health, Center for Policy, Planning, and Epidemiology, State Center for Health Statistics, 2009.

The crude death rate for heart disease was the highest for Ward 5 (344.4 per 100,000), followed by Ward 4 (321.3 per 100,000), and the lowest crude death rate was in Ward 1 (146.6 per 100,000). This difference may also be attributable to the fact that Wards 4 and 5 have older populations, while Ward 1 has a younger population (Figure 5 and Table 7). Better lifestyle habits can help reduce risk of heart attacks. Weight management through diet and exercise, smoking cessation and management of hypertension are examples suggested by the American Heart Association.

Figure 5. Death Rate of Heart Disease by Ward:  
District of Columbia Residents, 2007



Source: D.C. Department of Health  
Center for Policy, Planning and Epidemiology  
State Center for Health Statistics, 2009

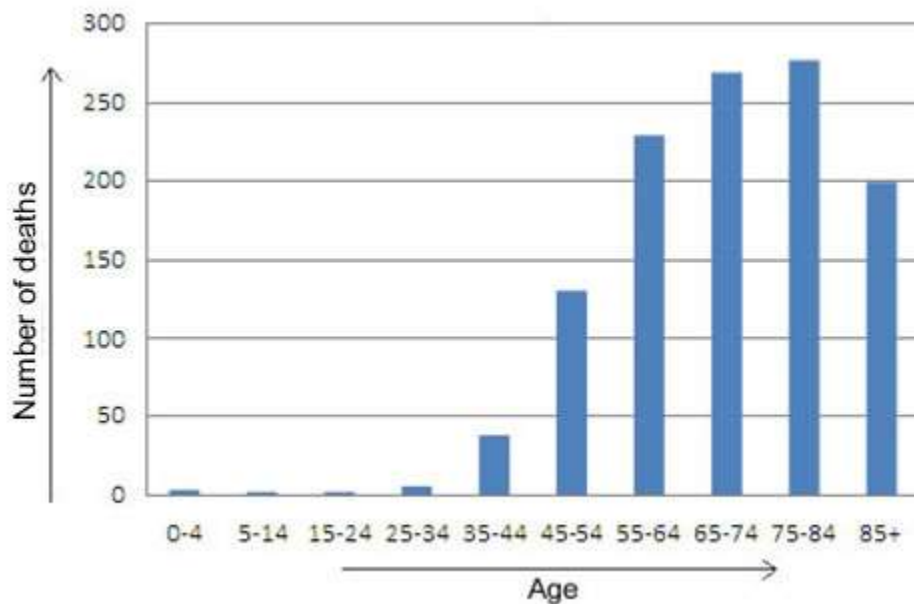


## 2. Cancer

(DC Healthy People 2010 Chapter 12 Objectives 12:1-4; Healthy People 2010 Chapter 3. Objectives 3:2-5, 3-7)

Cancer was the second-ranked leading cause of death in both the United States and the District of Columbia in 2007. Of the 5,168 District resident deaths in 2007, 1,159 (22.4 percent) or a little more than one in five died from cancer with a crude death rate of 199.1 per 100,000 population and an age-adjusted rate of 197.0 per 100,000 population (Tables 3 and 7). Incidence and mortality rates are highest for blacks/African Americans who account for a majority of the District's residents. Blacks/African Americans had a mortality rate of 253.7 per 100,000 population, which was significantly higher than that of whites (152.2 per 100,000 population, Table 6). Similarly, the mortality rates for males (200.6 per 100,000 population) were higher than the female rate (193.8 per 100,000 population). Like heart disease, cancer deaths were also concentrated in older age groups where 62.2 percent who died of this condition were of age 55 and older (Figure 6).

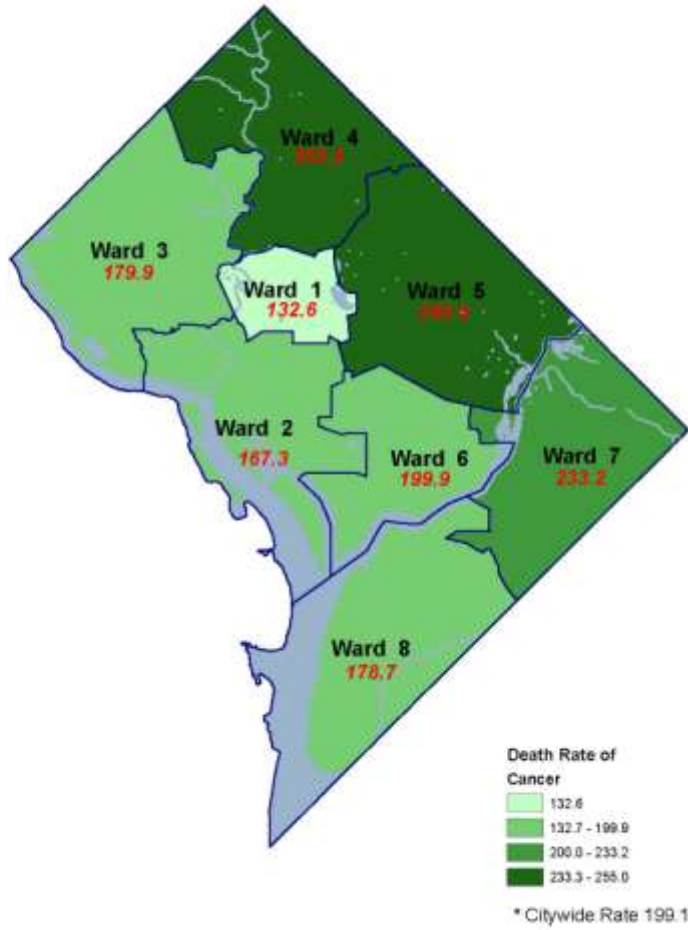
**Figure 6. Age Distribution of Deaths Due to Cancer in the District of Columbia, 2007**



Source: DC Department of Health, Center for Policy, Planning, and Epidemiology, State Center for Health Statistics, 2009.

Cancer affects residents in every ward, but Ward 5 (255.0 per 100,000 population) had the highest rate of deaths, followed by Ward 4 (253.2 per 100,000 population), Ward 7 (233.2 per 100,000 population), and Ward 6 (199.9 per 100,000 population). Ward 1 had the lowest cancer mortality rate of 132.6 per 100,000 population, again likely a reflection of the young age of the population in this ward (Figure 7 and Table 7). The American Cancer Society says that what you eat and drink, how active you are, and other lifestyle behaviors all can affect your risk for cancer. Diet and exercise play a major role as well as environmental factors. Environmental factors can include smoking, air pollution, diet, sun exposure, and infectious diseases, as well as chemicals and radiation in our homes and workplaces.

Figure 7. Death Rate of Cancer by Ward:  
District of Columbia Residents, 2007



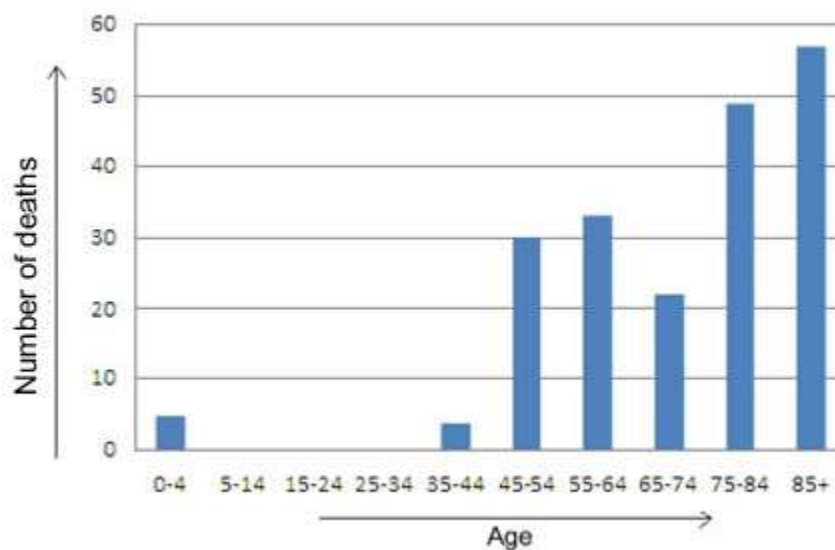
Source: D.C. Department of Health  
Center for Policy, Planning and Epidemiology  
State Center for Health Statistics, 2009

### 3. Cerebrovascular Diseases

(DC Healthy People 2010 Chapter 15; Healthy People 2010 Chapter 12. Objectives 12-7 through 12-8)

Cerebrovascular diseases (age-adjusted rate of 33.2 per 100,000 population), which causes stroke, was the third leading cause of death in 2007 in the District of Columbia and also ranked third (preliminary age-adjusted rate of 41.6 per 100,000 population) in the United States (Table 3). Cerebrovascular diseases were also the number one cause of disability. Blacks/African Americans were almost twice as likely to die from cerebrovascular diseases (46.3 per 100,000 population) compared to their white counterparts (24.4 per 100,000 population). The mortality rate was much higher for females (39.0 per 100,000 population) as compared with males (28.4 per 100,000 population). It is noteworthy that more women (121 in 2007) died due to cerebrovascular diseases than from breast cancer (103 in 2007). The age group 75 or older accounted for 53 percent of deaths due to cerebrovascular diseases (Figure 8).

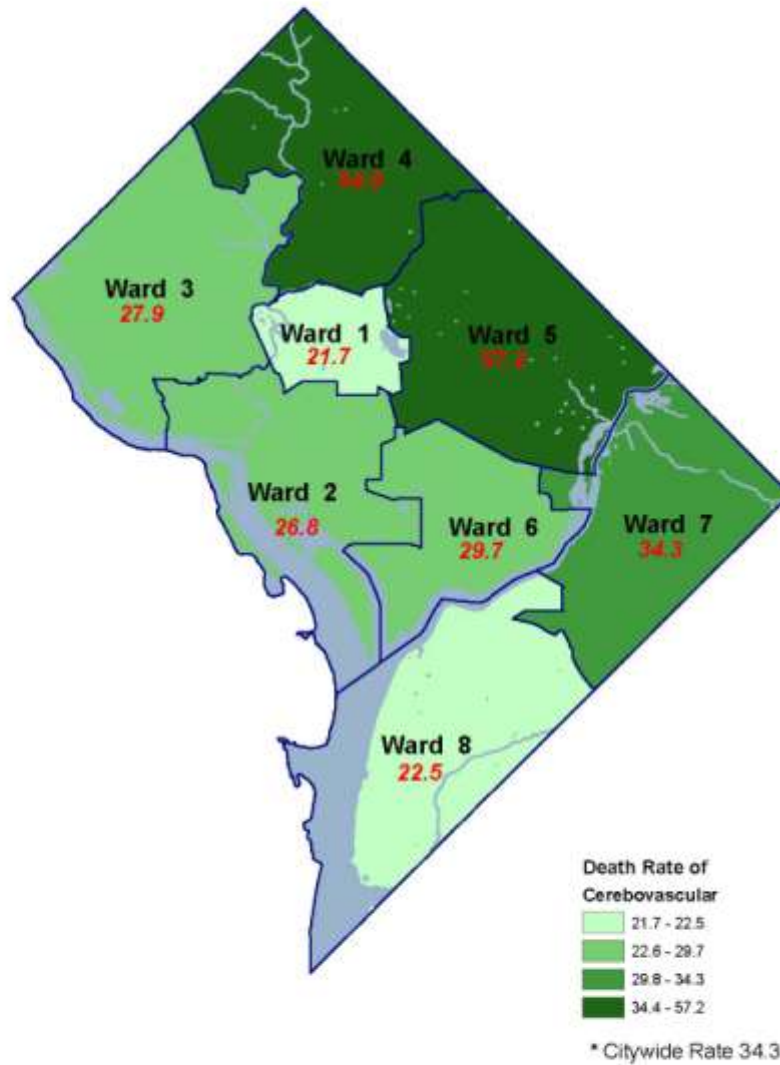
**Figure 8. Age Distribution of Deaths Due to Cerebrovascular Diseases in the District of Columbia, 2007**



Source: DC Department of Health, Center for Policy, Planning, and Epidemiology, State Center for Health Statistics, 2009.

In 2007, the crude death rate for cerebrovascular diseases by ward showed that Wards 5 (57.2 per 100,000 population), 4 (54.0 per 100,000 population), and 7 (34.3 per 100,000 population) had the highest rates (Figure 9 and Table 7) while Ward 1 had the lowest rate (21.7 per 100,000 population). According to the National Institute of Neurological Disorders and Cerebrovascular Diseases (2001), the majority of cerebrovascular diseases can be prevented by managing hypertension, heart disease, and diabetes, and by proper nutrition and smoking cessation. Transient ischemic attacks (TIAs), commonly referred to as “mini-strokes”, are events lasting only a few minutes or hours and are warning signs of major cerebrovascular diseases and should not be ignored. Timely diagnosis of TIAs and other risk factors is needed to prevent cerebrovascular accidents (or stroke), and immediate treatment can minimize the long-term disabling effects of a cerebrovascular accident such as paralysis and speech deficits. The mortality data suggest that District residents in general and black/African American residents in particular, often lack access to or under-utilize available life-saving interventions.

Figure 9. Death Rate of Cerebrovascular Diseases by Ward:  
District of Columbia Residents, 2007

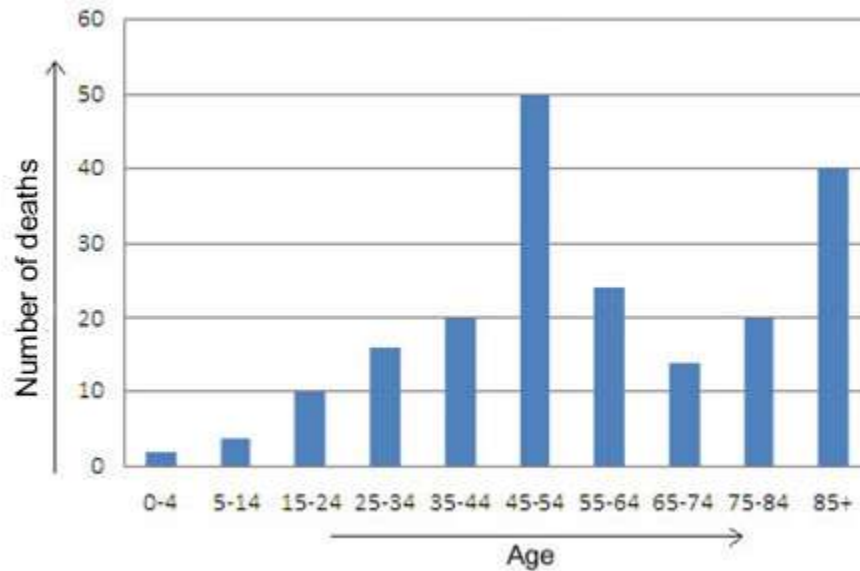


Source: D.C. Department of Health  
Center for Policy, Planning and Epidemiology  
State Center for Health Statistics, 2009

## 4. Accidents

In 2007, the age-adjusted rate for people dying in accidents was 33.1 per 100,000 population. In the United States, deaths due to accidents ranked fifth while in the District of Columbia it ranked fourth in 2007. Males were more likely to die from accidents (41.7 per 100,000 population) as compared to females (27.1 per 100,000 population) (Table 5). The difference in the crude death rate between blacks/African Americans (39.6 per 100,000 population) and whites (32.9 per 100,000 population) was narrower than the male and female difference (Table 6). The highest number of decedents, 50 out of 200, was between the ages of 45-54 years while 40 out of 200 were 85 years or older (Figure 10).

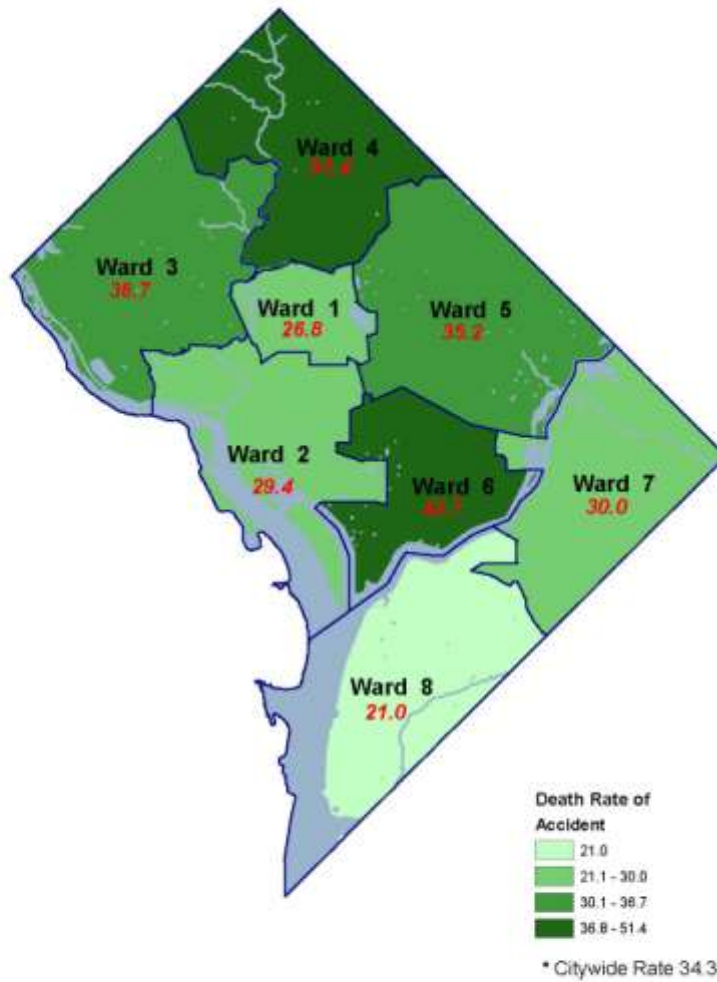
**Figure 10. Age Distribution of Deaths Due to Accidents in the District of Columbia, 2007**



Source: DC Department of Health, Center for Policy, Planning, and Epidemiology, State Center for Health Statistics, 2009.

Ward 4 (51.4 per 100,000 per population), followed by Ward 6 (43.7 per 100,000 population) and Ward 3 (36.7 per 100,000 population) had the highest mortality due to accidents in the city. Ward 8 (21.0 per 100,000 per population) had the lowest mortality rate (Figure 11 and Table 7). A local law firm suggests 10 tips to avoid motor vehicle accidents are: (1) Avoid drinking and driving. (2) Minimize distractions such as reading newspapers or talking on the cell phone when driving. (3) Properly maintain vehicles. (4) Do not encourage aggressive drivers. (5) Leave a safe distance between your cars and others. (6) Maintain a constant speed. (7) Adjust mirrors properly and check the side and rear-view mirrors every 15 seconds. (8) Take defensive driving classes to improve your ability to drive and be better prepared for the unpredictable behavior of other motorists. (9) Proceed with great caution through intersections. (10) Be sufficiently aware of road conditions and be more visible.

Figure 11. Death Rate of Accidents by Ward:  
District of Columbia Residents, 2007



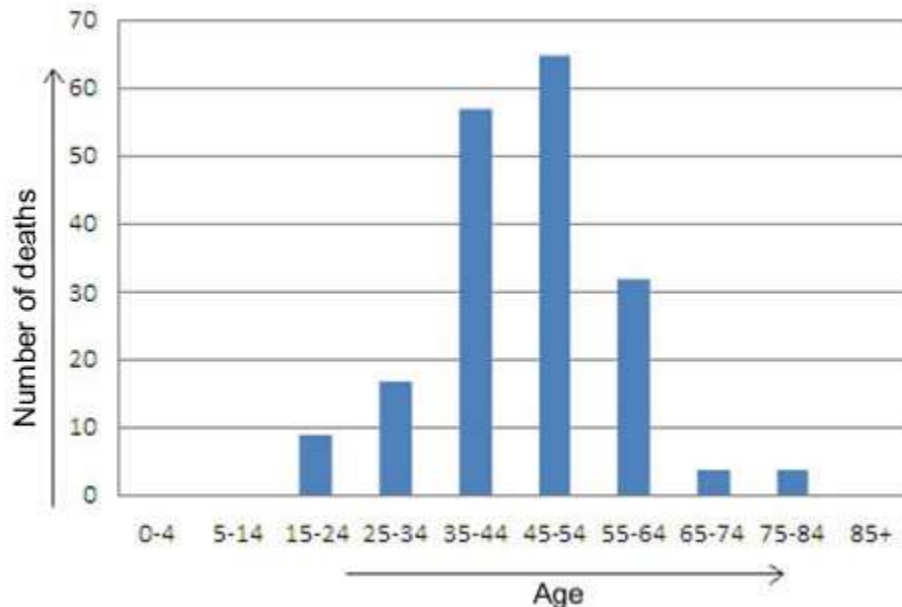
Source: D.C. Department of Health  
Center for Policy, Planning and Epidemiology  
State Center for Health Statistics, 2009

## 5. HIV/AIDS

(DC Healthy People 2010 Chapter 16 16-1 through 16-7; Healthy People 2010 Chapter 13, Objectives 13-1, 13-8, 13-10, 13-13 through 113-16)

Acquired immune deficiency syndrome (AIDS) is caused by the human immunodeficiency virus (HIV) and ranked as the fifth leading cause of death in the District for 2007 with an age-adjusted death rate of 31.8 per 100,000 population. Nationally, HIV/AIDS (age-adjusted rate 4.2 per 100,000 population in 2006) has not been on the list of 15 leading causes of death since 1997 (NCHS, vol. 50 no. 15, 2002). The crude death rate for the District in 2007 was 32.3 per 100,000 population (Table 7). Mortality rates for HIV/AIDS in the District are higher in blacks/African Americans than in any other race or ethnic group. In 2007, the crude death rate for blacks/African Americans was 51.6 per 100,000 compared to the white population crude death rate of 5.1 per 100,000 population (Table 6). The crude death rate is much higher in males who continue to be infected at considerably higher rates (41.0) than females (23.9) (Table 5); however, it is noteworthy that the number of infected females is rapidly rising. About 65 percent of decedents who died from HIV/AIDS were between the ages of 35 and 64 (Figure 12).

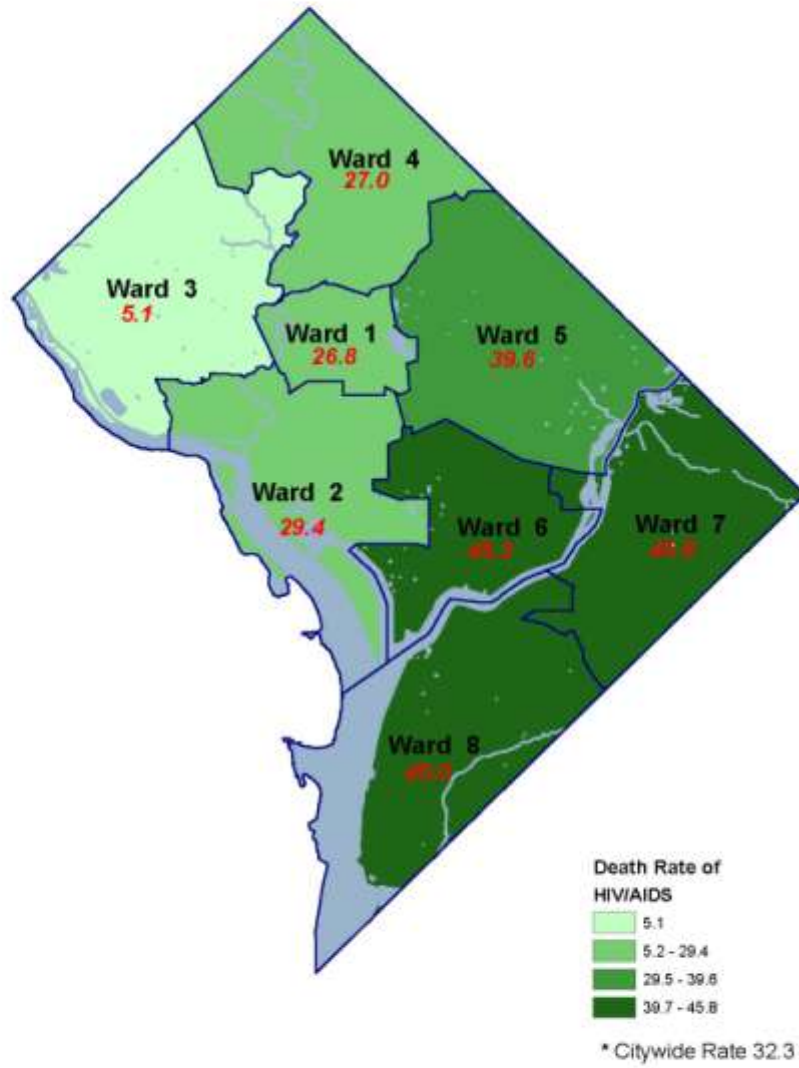
**Figure 12. Age Distribution of Deaths Due to HIV/AIDS in the District of Columbia, 2007**



Source: DC Department of Health, Center for Policy, Planning, and Epidemiology, State Center for Health Statistics, 2009.

Consistent with the United States, deaths among people with HIV/AIDS continue to decline in the District. The rates in Ward 7 (45.8 per 100,000 population), Ward 6 (45.3 per 100,000 population), and Ward 8 (45.0 per 100,000 population), were the highest. Ward 3 (5.1 per 100,000 population) recorded the lowest rates (Figure 13). In the U.S. In 2003, it was estimated that over one million people in the U.S. had HIV/AIDS and the CDC estimates that about 40,000 people get infected with HIV each year. HIV testing is important as those who do not know they are infected can infect others unknowingly and are unable to take advantage of the multitude of drugs available to keep them healthy and extend their lives (BRFSS, 2007).

Figure 13. Death Rate of HIV/AIDS by Ward:  
District of Columbia Residents, 2007



Source: D.C. Department of Health  
Center for Policy, Planning and Epidemiology  
State Center for Health Statistics, 2009

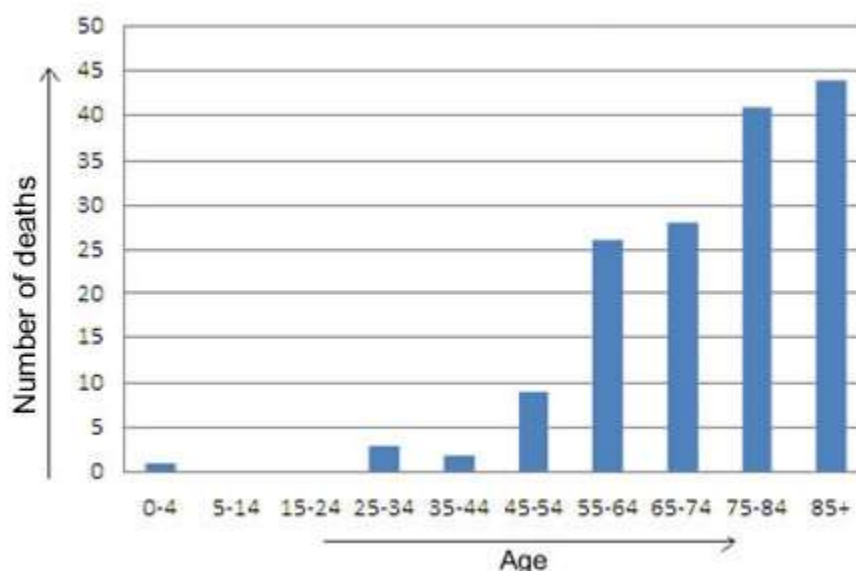


## 6. Diabetes

(DC Healthy People 2010 Chapter 13, Objectives 13-1 through 13-11; Healthy People 2010 Chapter 5, Objectives 5-1 through 5-3, 5-5, 5-9, 5-12, 5-13, 5-17)

Diabetes (age-adjusted rate of 25.6 per 100,000 population) ranked as the sixth leading cause of death in the District of Columbia in 2007 but ranked seventh (preliminary age-adjusted rate of 24.2) in the United States in 2007 (Table 3). Diabetes is a chronic disease known to disproportionately afflict minorities, particularly American Indians, Mexican Americans, and other Hispanics, as well as African Americans. After adjusting for population age differences, the 2004-2006 *National Health Interview Survey* data for adults aged 20 years or older indicate that non-Hispanic blacks/African Americans are 1.8 times more likely to have diabetes as compared to non-Hispanic Whites, while Mexican Americans and other Latinos are 1.4 times more likely to have the disease; data from the 2005 the *Indian Health Service* database indicate that American Indians and Alaskan Natives aged 20 years or older are 2.3 times more likely than non-Hispanic whites to have been diagnosed with diabetes (CDC Diabetes Fact sheet, 2007). The crude death rate for diabetes in 2007 was 26.4 per 100,000 population. In the District of Columbia, the crude death rate due to Diabetes for blacks/African Americans was 39.0 per 100,000 population which was almost four times the rate for Whites, 10.8 per 100,000 population (Table 6). Most of the deaths due to diabetes occurred to decedents 55 years or older (Figure 14).

**Figure 14. Age Distribution of Deaths Due to Diabetes in the District of Columbia, 2007**

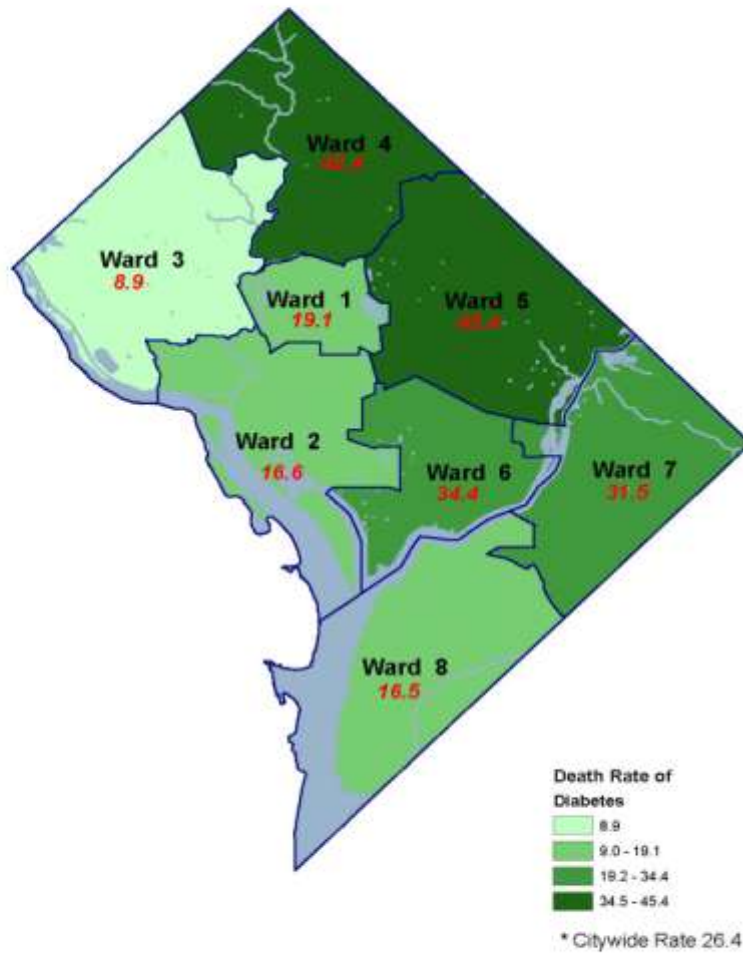


Source: DC Department of Health, Center for Policy, Planning, and Epidemiology, State Center for Health Statistics, 2009.

Ward 5 (45.4 per 100,000) and Ward 4 (42.4) had the highest crude death rates while Ward 3 had the lowest mortality rate (8.9 per 100,000) in this category. (Figure 15 and Table 7). Lack of timely, appropriate medical care may contribute to the complications of diabetes, such as lower extremity amputations, end stage renal disease, heart disease, cerebrovascular diseases, high blood pressure, and blindness. It also contributes to the number of premature deaths in the United States and the District. As many diabetics actually die from complications of diabetes, rather than the disease itself, diabetes deaths alone understate the extent to which diabetes contributes to mortality. According to the American Diabetes Association, a recently completed Diabetes Prevention Program (DPP) study conclusively showed that people with pre-diabetes can prevent the development of type 2 diabetes by making changes in their diet and increasing their level of physical activity. They may even be able to return their blood glucose levels to the normal range. While the DPP also showed that some medications may delay the development of diabetes, diet and exercise worked better. Moderate physical exercise of about 30

minutes a day, coupled with a 5-10 percent reduction in body weight, produced a 58 percent reduction in diabetes.

Figure 15. Death Rate of Diabetes by Ward:  
District of Columbia Residents, 2007



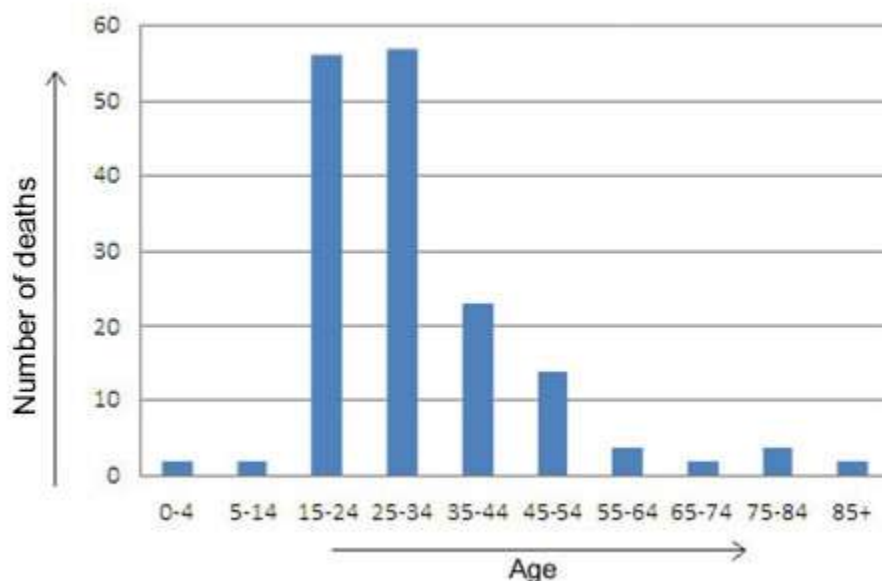
Source: D.C. Department of Health  
Center for Policy, Planning and Epidemiology  
State Center for Health Statistics, 2009

## 7. Homicide (Assault)

(Healthy People 2010 Chapter 4, Objectives 4-2)

Homicide was the seventh leading cause of death in the District of Columbia in 2007. The age-adjusted death rate in the District was 25.2 per 100,000 population compared to the preliminary age-adjusted death rate of 5.8 nationally in 2007 (Table 3). For men, homicide was the third leading cause of death (51.4 per 100,000 population) while it was not in the top 10 leading causes of death for women (Table 5). Homicide was the fifth cause of death for blacks/African Americans (44.6 per 100,000 population) but was not in the top 10 causes of death for whites (Table 6). Most of the deaths due to homicide were among the young (68.1 percent) who were between the ages of 15 and 34; 65 percent of them were African Americans (Figure 16).

**Figure 16. Age Distribution of Deaths Due to Homicide in the District of Columbia, 2007**



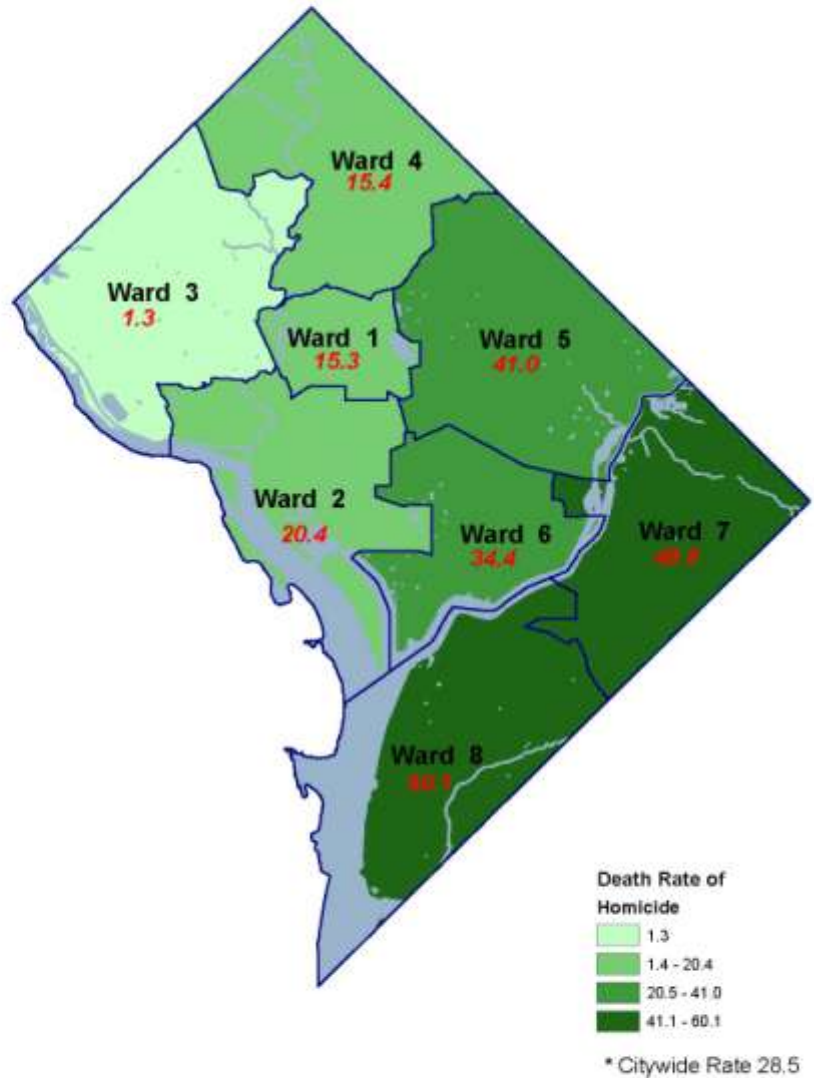
Source: DC Department of Health, Center for Policy, Planning, and Epidemiology, State Center for Health Statistics, 2009.

Ward 8 (60.1 per 100,000) and Ward 7 (48.6 per 100,000) had the highest crude death rate of homicide while Ward 3 had only one death due to this cause. (Figure 17 and Table 7). According to the CDC, violence is a serious public health problem in the United States. From infants to the elderly, it affects people in all stages of life. In 2006, more than 18,000 people were victims of homicide and more than 33,000 took their own life. The number of violent deaths tells only part of the story. Many more survive violence and are left with permanent physical and emotional scars. Violence also erodes communities by reducing productivity, decreasing property values, and disrupting social services.

The CDC's Division of Violence Prevention is committed to stopping violence before it begins and has been working to develop strategic directions that guide our research and programmatic activities. A strategic direction is defined as a focused and compelling strategy for reducing rates of the various forms of violence (e.g., child maltreatment, intimate partner violence, sexual violence, suicidal behavior, and youth violence). The identified strategies are organized around multiple areas of public health research and practice and link back to the broader goals of the agency and the field of violence prevention. The CDC's key strategy in preventing child maltreatment is the promotion of safe, stable, and nurturing relationships between children and caregivers. Their key strategy in preventing intimate partner violence is the promotion of respectful, nonviolent intimate partner relationships through individual, community,

and societal level change. And the CDC'S key strategy in preventing fatal and nonfatal suicidal behavior is promoting individual, family, and community connectedness.

Figure 17. Death Rate of Homicide by Ward:  
District of Columbia Residents, 2007



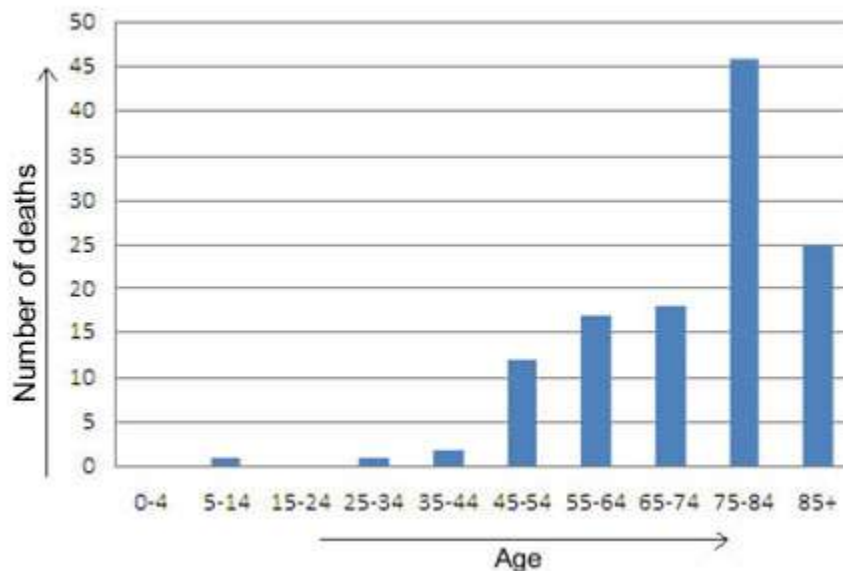
Source: D.C. Department of Health  
Center for Policy, Planning and Epidemiology  
State Center for Health Statistics, 2009

## 8. Chronic Lower Respiratory Diseases

(Healthy People 2010 Chapter 24, Objectives 24-10)

Chronic Lower Respiratory Diseases (CLRD) such as chronic obstructive pulmonary disease (COPD) was ranked the eighth leading cause of death in the District of Columbia in 2007. The age-adjusted death rate was 21.1 per 100,000 population compared to the fourth leading cause of death (preliminary age-adjusted mortality rate of 41.2 per 100,000 population) nationally in 2007 (Table 3). CLRD was the fifth cause of death for whites (24.4 per 100,000 population) but was not in the top 10 causes of death for blacks/African Americans (Table 6). Men had a higher crude death rate (23.4 per 100,000 population) and CLRD was not in the top 10 causes of death for women (Table 5). The highest numbers of death were in the age group 75-84 years (Figure 18).

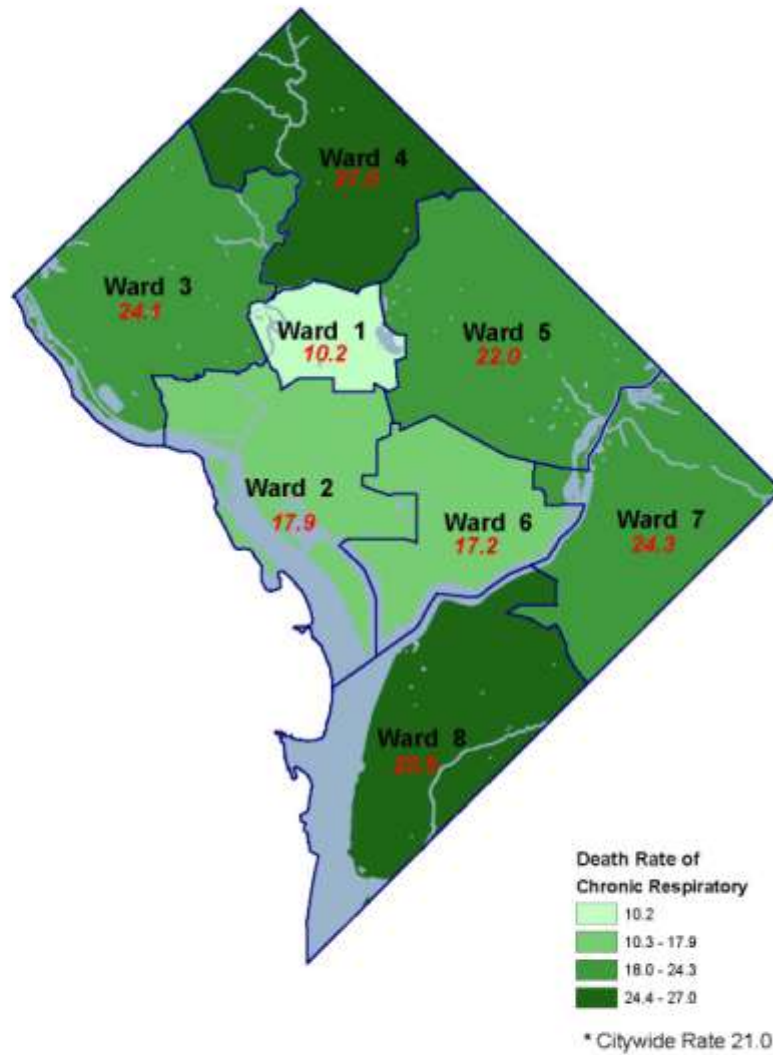
**Figure 18. Age Distribution of Deaths Due to Chronic Lower Respiratory in the District of Columbia, 2007**



Source: DC Department of Health, Center for Policy, Planning, and Epidemiology, State Center for Health Statistics, 2009.

Ward 4 had the highest rate of 27.0 per 100,000 population while Ward 1 had the lowest mortality rate of 10.2 per 100,000 population (Figure 19 and Table 7). According to the American Lung Association (2008), smoking is the leading risk factor for CLPD. Other risk factors include exposure to air pollution and second-hand smoke, occupational dust, chemicals, a history of childhood respiratory infections and heredity.

Figure 19. Death Rate of Chronic Respiratory Diseases by Ward:  
District of Columbia Residents, 2007

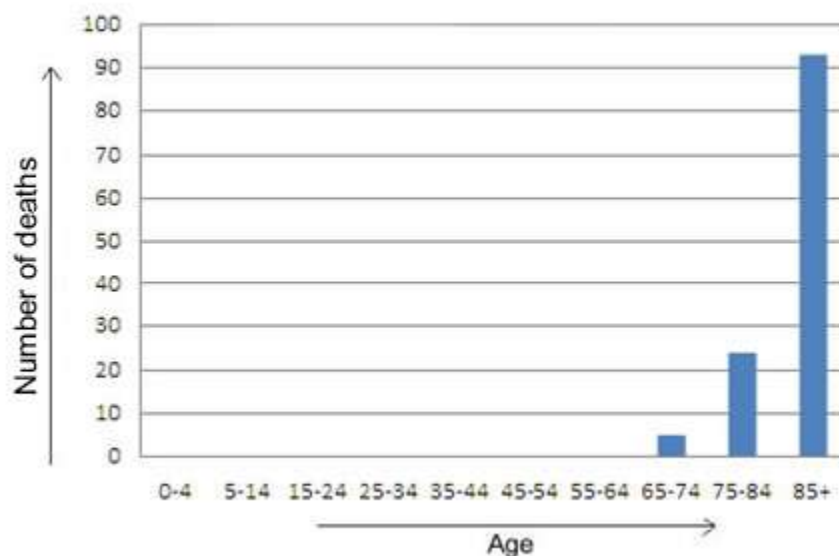


Source: D.C. Department of Health  
Center for Policy, Planning and Epidemiology  
State Center for Health Statistics, 2009

## 9. Alzheimer's Disease

Alzheimer's disease was ranked the ninth leading cause in the District of Columbia in 2007 with an age-adjusted rate of 19.1 per 100,000 population. In contrast, Alzheimer's ranked sixth nationally with a preliminary age-adjusted rate of 22.8 per 100,000 population (Table 3). Table 6 shows that Alzheimer's disease was the 4<sup>th</sup> leading cause among whites but was not in the top 10 causes of death for blacks. The crude Alzheimer death rate for whites (27.3 per 100,000 population) was higher than for blacks/African Americans (22.7 per 100,000 population). As expected, the deaths due to Alzheimer's were the highest in the decedents aged 85 or older (Figure 20).

**Figure 20. Age Distribution of Deaths Due to Alzheimer's Disease in the District of Columbia, 2007**

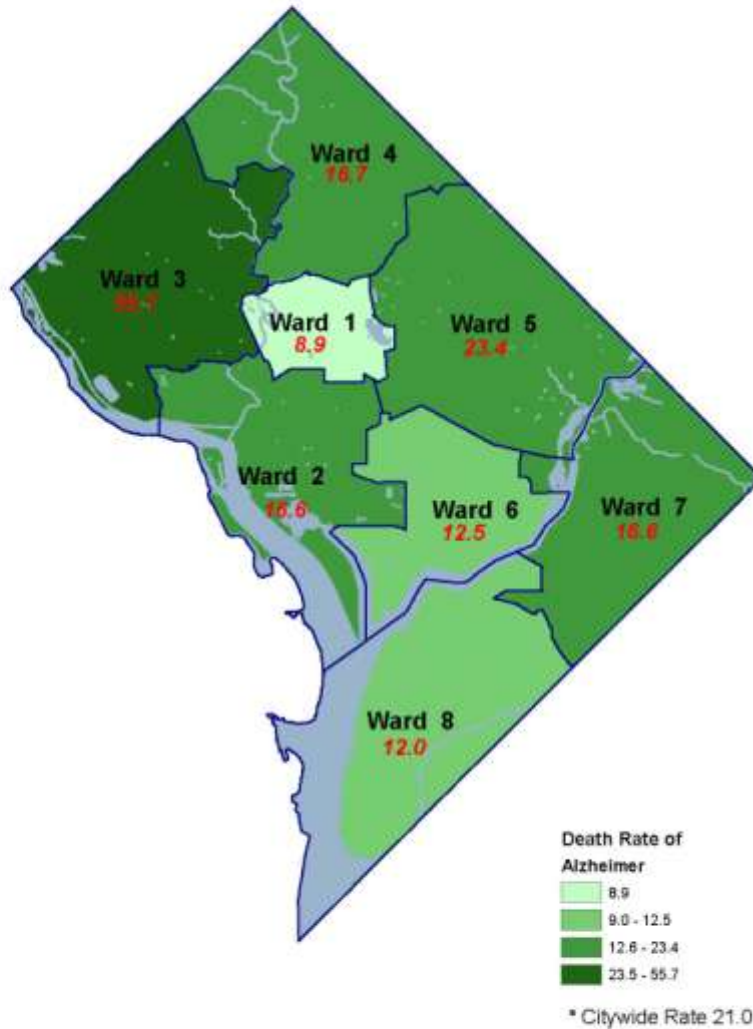


Source: DC Department of Health, Center for Policy, Planning, and Epidemiology, State Center for Health Statistics, 2009.

Ward 3 had the highest mortality rate of 55.7 per 100,000 compared to Ward 1 (8.9 per 100,000), which had the lowest mortality rate (Figure 21 and Table 7). According to the National Center for Health Statistics (NCHS, 2008), the mortality trend for Alzheimer's disease is one of rapid increase. From 1979 to 1998, the rate for Alzheimer's disease increased dramatically because of factors such as improvements in diagnosis and awareness of the condition within the medical community. The transition from ICD-9 to ICD-10 brought substantial changes to the coding and selection rules for this condition, which created a major disruption in the time series trend for Alzheimer's disease between 1998 and 1999. The large increase in the Alzheimer's disease mortality between 1998 and 1999 is partly due to the ICD transition (NCHS, 2001).

Although there are no magic solutions, new evidence suggests it *may* be possible to prevent or delay the onset of Alzheimer's disease through a combination of healthful habits. Scientists now suggest you can stimulate your mind, improve your mood, sharpen your memory, and reduce your Alzheimer's risks (HelpGuide, 2009). Although you cannot change your inherited genes, ethnicity, gender, or age, conditions and behaviors that leave you more likely to develop Alzheimer's disease such as diabetes, hypertension, high blood cholesterol, heart disease, obesity, chronic stress, poor quality or insufficient sleep, sedentary lifestyle, liver and kidney disease, smoking, alcohol and drug use, head injury, and toxic insults *have* been identified.

Figure 21. Death Rate of Alzheimer's Disease by Ward:  
District of Columbia Residents, 2007



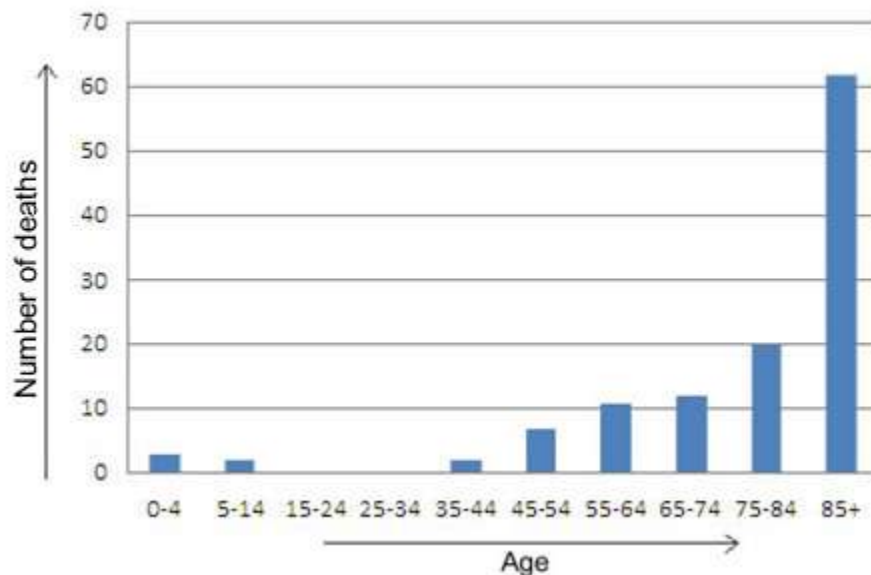
Source: D.C. Department of Health  
Center for Policy, Planning and Epidemiology  
State Center for Health Statistics, 2009



## 10. Influenza and Pneumonia

In 2007, Influenza and Pneumonia was the 10<sup>th</sup> leading cause of death with an age-adjusted mortality rate of 19.1 per 100,000 population in the District of Columbia. The national preliminary age-adjusted mortality rate was 16.3 per 100,000 population, which ranked as the 8<sup>th</sup> leading cause of death (Table 3). Influenza and Pneumonia was higher among women (24.2 per 100,000 population) than men (15.8 per 100,000 population) (Table 5). Blacks/African Americans rate (23.9 per 100,000 population) was also higher than White (14.8 per 100,000 population) counterparts in the District of Columbia (Table 6). Decedents who were 85 or older outnumbered all other groups by a large margin for deaths due to Influenza and Pneumonia. (Figure 22).

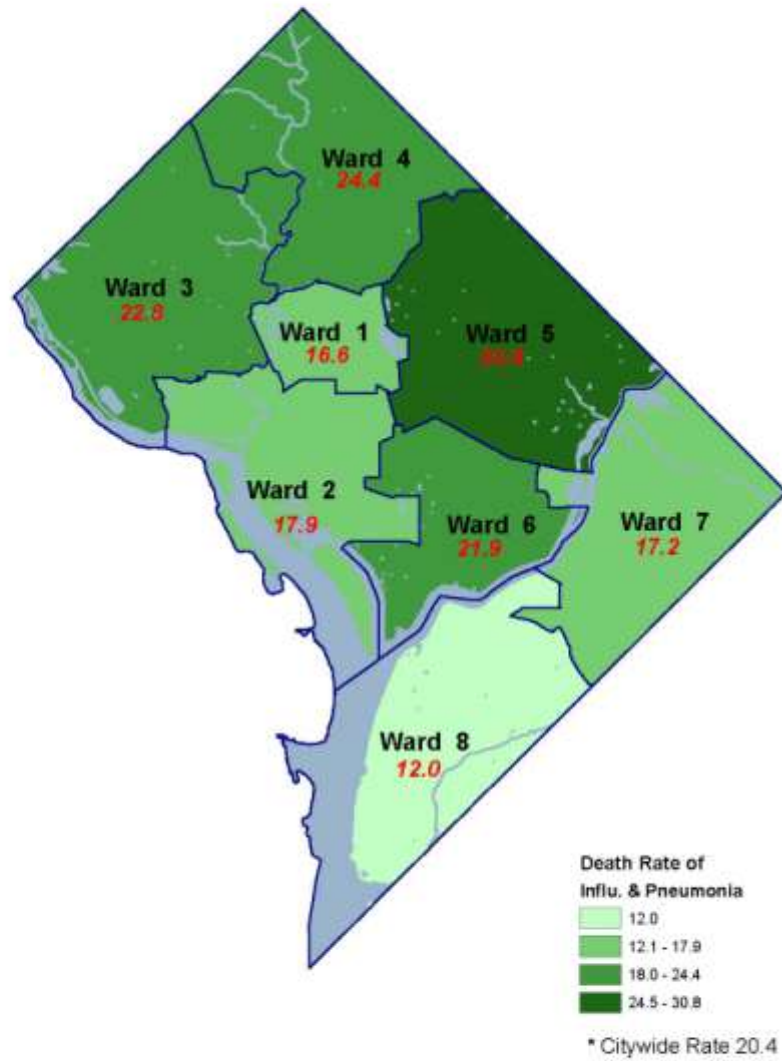
**Figure 22. Age Distribution of Deaths Due to Influenza and Pneumonia in the District of Columbia, 2007**



Source: DC Department of Health, Center for Policy, Planning, and Epidemiology, State Center for Health Statistics, 2009.

Ward 5 had the highest rate (30.8 per 100,000 population) whereas Ward 8 had the lowest rate (12.0 per 100,000 population) (Figure 23 and Table 7). Symptoms of influenza include fever, headache, cough, chills, sore throat, nasal congestion, muscle aches, loss of appetite and a general achy and lousy feeling. Influenza can be complicated by pneumonia, which is a serious infection or inflammation of the lungs. Symptoms of pneumonia include fever, wheezing, cough, chills, rapid breathing, chest pains, loss of appetite and malaise, or a general feeling of weakness or ill health. People most at risk from these infections and their complications are those whose defenses against disease are not operating well. They include the very young, the very old, those with chronic disease and those whose immune systems have been affected by birth defects, medications (including some drugs used to treat cancer) or AIDS (American Lung Association, 2008). Immunization against both influenza and pneumonia to prevent transmission is recommended to these susceptible groups. According to the Centers for Disease Control and Prevention, frequent hand washing and mouth covering during coughing and sneezing helps to prevent transmission of the influenza virus.

Figure 23. Death Rate of Influenza & Pneumonia by Ward:  
District of Columbia Residents, 2007



Source: D.C. Department of Health  
Center for Policy, Planning and Epidemiology  
State Center for Health Statistics, 2009

## PREMATURE DEATHS

Chronic diseases, including heart disease, cerebrovascular disease, cancer, and diabetes, account for 55.7 percent of all deaths in the District of Columbia in 2007. Today, influenza, pneumonia, and HIV/AIDS are the only remaining infectious diseases accounting for a significant percentage of deaths in the District. In an analysis of the death certificate data in 2007, 46 percent of all deaths of District residents occurred before the age of 70 years. In 2006, the average life expectancy at birth for the United States was 77.7 years; therefore, any death occurring before the age of 70 can be considered premature.

**Table 8. Leading Causes of Premature Deaths Under Age 70 Years  
District of Columbia Residents, 2007**

Cause and Rank	Number	Percent*		Cause and Rank	Number	Percent*
<b>All Causes &lt;70 Years</b>				<b>20-24 Years</b>		
All Causes	2,379	100.0		All causes	57	100.0
1. Cancer	569	23.9		1. Homicide	34	60.8
2. Heart Disease	446	18.7		2. Accidents	6	8.9
3. HIV/AIDS	182	7.7		3. HIV/AIDS	4	7.2
4. Homicide/Assault	159	6.7		3. Heart Disease	3	5.5
5. Accidents	129	5.4		Other causes	10	17.6
Others causes	894	37.6				
				<b>25-44 Years</b>		
<b>Infants &lt; 1 Year</b>				All Causes	406	100.0
All causes	116	100.0		1. Homicide/Assault	80	19.7
1. Complications, Cord & Membrane	22	19.0		2. HIV/AIDS	74	18.2
2. Congenital abnormalities	19	16.4		3. Cancer	46	11.3
3. Short Gestation & Low Birth Weight	15	12.9		4. Heart	43	10.6
4. Maternal Complications of Pregnancy	14	12.1		5. Accidents	36	8.9
Other causes	46	39.7		Other causes	127	31.3
<b>1-14 Years</b>				<b>45-64 Years</b>		
All causes	22	100.0		All causes	1,303	100.0
1. Accidents	10	45.5		1. Cancer	369	28.3
2. Homicide/Assault	4	18.2		2. Heart Disease	263	20.2
3. Cancer	2	9.1		3. HIV/AIDS	97	7.4
Other causes	6	27.2		4. Accidents	74	5.7
				5. Cerebrovascular	63	4.8
<b>15-19 Years</b>				Other causes	437	33.5
All causes	37	100.0				
1. Homicide/Assault	22	59.5		<b>65-69 Years</b>		
2. HIV/AIDS	5	13.5		All causes	438	100.0
3. Accidents	4	10.8		1. Cancer	156	35.6
4. Cancer	1	2.7		2. Heart Disease	135	30.8
Other causes	5	13.5		3. Septicemia	11	2.5
				4. Diabetes	10	2.3
				5. Essen. Hypertension	10	2.3
				Other causes	116	26.5

\*Does not add to 100 due to rounding.

Source: Planning and Epidemiology DC Department of Health, State Center for Health Statistics, Center for Policy, 2009

The average life expectancy, however, for D.C. residents for 1997-2001 was 72.0 years (Metropolitan Washington Council of Government and the Washington Regional Association of Grantmakers' Health Working Group, 2009). In 2007, a total of 2,379 or 46.0 percent of all resident deaths occurred before age 70 years. Cardiovascular Diseases (i.e., heart disease and diseases of the arteries) and Cancer accounted for 43.5 percent of premature deaths in 2007. These two major causes combined with HIV/AIDS, accidents, homicide, cerebrovascular, and diabetes account for 63.3 percent of all premature deaths.

The leading causes of premature mortality (Table 8) in the District of Columbia follow a slightly different pattern from the leading causes of death for all ages (Table 7). In 2007, cancer was the leading cause of premature mortality, followed by heart disease, HIV/AIDS, homicide/assault, and accidents. These five leading causes accounted for 62.4 percent of all premature deaths.

## ADULT MORTALITY: ELDERLY (65 Years and Older)

The 2000 U.S. census indicated that the District was home to 69,898 elderly persons, who accounted for 12.2 percent of the total population (572,059). In 2007, the U. S. Census estimated 69,741 elderly persons resided in the District of Columbia, who also accounted for 11.9 percent of the total estimated population (588,292). As the population continues to live longer as predicted by the increasing life expectancy nationally, the need for health care among the elderly will increase. Three-quarters of all deaths in the United States occur among persons 65 years of age and older (Health United States, 2002). A total of 3,227 (62.4 percent) District residents who died in 2007 were 65 years of age and older. Chronic diseases have caused most of the deaths among the elderly (Tables 8 and 9). The leading cause of death among the elderly aged 65 years and older was heart disease, accounting for 32.7 percent of all deaths in this age range. The second leading cause of death for this age range was cancer (23.2 percent). The third leading cause of death for the elderly was cerebrovascular diseases, followed by Alzheimer’s disease, diabetes, Influenza and Pneumonia and chronic lower respiratory diseases, respectively.

<b>Table 9. Ten Leading Causes of Death to Residents Aged 65 and Older: District of Columbia, 2007</b>		
<b>Cause and Rank</b>	<b>Number</b>	<b>Percent*</b>
All Causes	3,227	100.0
1. Heart Disease	1,056	32.7
2. Cancer	749	23.2
3. Cerebrovascular Diseases	133	4.1
4. Alzheimer’s Disease	122	3.8
5. Diabetes	114	3.5
6. Influenza/Pneumonia	97	3.0
7. Chronic Lower Respiratory	89	2.8
8. Essen. Hypertension	87	2.7
9. Septicemia	84	2.6
10. Accidents	75	2.3
Other causes	621	19.2

\*Percent does not add to 100 due to rounding.

Source: State Center for Health Statistics, Center for Policy, Planning and Epidemiology, DC Department of Health, 2009

## DISCUSSION

This report presents the 10 leading causes of death in the District of Columbia and the Department of Health program areas related to these causes of death. Cause-of-death ranking is a popular method of presenting mortality statistics and is a useful tool for illustrating the relative burden of cause-specific mortality, but it must be used cautiously with a clear understanding of the limitations underlying the method.

When comparing rankings across groups or over time, it is important to be aware of the age distribution of the populations being compared. Leading causes of death for populations with younger age distributions will tend to show higher ranking for causes of death that are prevalent among the young, such as homicide, unintentional injuries, and HIV infection. Leading causes for older populations will tend to show higher rankings for causes that are more prevalent among the elderly, such as Alzheimer's disease, heart disease, cancer, and cerebrovascular diseases.

Consideration should also be given to the effects of random variation on cause-of-death rankings. When the number of events is small (perhaps fewer than 100 deaths), estimates of mortality risk are subject to random fluctuations (see technical notes). Especially when comparing rankings based on small numbers of deaths between groups or over time, it is important to be aware that differences in relative rankings may be attributable to random variability.

Leading causes of death reveals that life expectancy of various races and gender groups, economic background and geographical locations have some correlation with particular causes of death. For example, females have the highest life expectancy and in our data the white females' mean age (78.5 years) is about 7 years higher than white males on the average (71.7 years) and 8 years more than for black females (79.9 years) but it is about 17 years more than black males (61.9 years). Black females live nine years longer than their male counterparts.

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## APPENDIX 1

### District of Columbia Population by Ward: Census 2000 Population and Estimated Population for 2006

	2000 Population	2006 Population Estimate	Change 2000 to 2006
<b>Total</b>	<b>572,059</b>	<b>582,254</b>	<b>10,195</b>
<b>Ward 1</b>	<b>73,189</b>	<b>78,423</b>	<b>5,234</b>
<b>Ward 2</b>	<b>69,249</b>	<b>78,320</b>	<b>9,071</b>
<b>Ward 3</b>	<b>73,367</b>	<b>78,944</b>	<b>5,577</b>
<b>Ward 4</b>	<b>75,205</b>	<b>77,797</b>	<b>2,592</b>
<b>Ward 5</b>	<b>71,669</b>	<b>68,241</b>	<b>-3,428</b>
<b>Ward 6</b>	<b>67,926</b>	<b>64,034</b>	<b>-3,892</b>
<b>Ward 7</b>	<b>70,537</b>	<b>69,899</b>	<b>-638</b>
<b>Ward 8</b>	<b>70,917</b>	<b>66,595</b>	<b>-4,322</b>

Source: DC Office of Planning/State Data Center using block group data provided by Caliper Corporation to derive ward data.



## TECHNICAL NOTES

### **Nature and sources of data**

Data shown in this report for 2007 are based on 100 percent of the resident death certificates filed in the District of Columbia (DC) and DC resident deaths that occurred in other states through the inter-state exchange agreement. Data for DC were collected and reported using the 1989 revision until March 2005, when they began using the 2003 revision.

Mortality statistics are based on information coded by the states and provided to NCHS through the Vital Statistics Cooperative Program and from copies of the original certificates received by NCHS from the state registration offices.

The total DC resident death data were obtained from the State Center for Health Statistics. Vital statistics data for the United States were obtained from the National Vital Statistics Reports, Deaths: Final Data for 2005, Vol. 56, No. 10, April 24, 2008 (U.S. DHHS, CDC, NCHS).

### **Cause-of-death classification**

The mortality statistics presented in this report were compiled in accordance with World Health Organization (WHO) regulations, which specify that member nations classify and code causes of death in accordance with the current revision of the International Classification of Diseases (ICD). The ICD provides the basic guidelines used in virtually all countries to code and classify causes of death. Effective with deaths occurring in 1999, the United States began using the Tenth Revision of this classification (ICD-10).

In this report, tabulations of cause-of-death statistics are based solely on the underlying cause of death. The underlying cause is defined by WHO as “the disease or injury which initiated the train of events leading directly to death, or the circumstances of the accident of violence which produced the fatal injury.” The underlying cause is selected from the conditions entered by the physician in the cause-of-death section of the death certificate. When more than one cause or condition is entered by the physician, the underlying cause is determined by the sequence of conditions on the certificate, provisions of the ICD, and associated selection rules and modifications. Generally, more medical information is reported on death certificates than is directly reflected in the underlying cause of death. This is captured in NCHS multiple cause-of-death statistics.

### **Tabulation lists and cause-of-death ranking**

For this report, the tabulation List of 113 Selected Causes of Death used for deaths of all ages. This list is also used to rank leading causes of death.

### **Race and Hispanic origin**

The 1989 revision of the U.S. Standard Certificate of Death allows the reporting of race and Hispanic origin separately on the death certificates. Race of decedent is reported in nine categories on the death certificates: white, black, American Indian, Chinese, Japanese, Hawaiian, Filipino, “other” Asian or Pacific Islander, and “other” race. Hispanic origin of decedent is reported as the country of origin. The 2003 revision of the U.S. Standard Certificate of Death allows the reporting of more than one race (multiple races). This change was implemented to reflect the increasing diversity of the population of the United States and to be consistent with the decennial census. The race and ethnicity items on the revised certificate are compliant with the 1997 “Revision of the Race and Ethnic Standards for Federal Statistics and Administrative Reporting.” These were issued by the Office of Management and Budget (OMB) and have replaced the previous standards that were issued in 1997.

### **Age of decedent**

Age of decedent is computed in most cases from the decedent's date of birth and date of death as reported on the death certificate.

## Population bases for computing rates

Populations used for computing death rates shown in this report represent the population residing in DC, enumerated as of April 1 for census 2000 year and estimated as of July 1 for 2006 and 2007. Population estimates used to compute death rates for DC for 2007 are shown for 10 year age groups. Death rates shown in this report for 2007 are based on populations that are consistent with the 2000 census levels. Death rates shown in this report for 2007 by ward are based on 2000 census population.

## Computing rates

Rates in this report are on an annual basis per 100,000 population residing in the District of Columbia. Crude death rates are presented per 100,000 estimated population for 2006 and 2007 and per 100,000 enumerated population for census 2000 in a specified group. Population estimates represent the population at risk of dying in a specified group.

Age-specific death rates are per 100,000 population in a specified age group, such as 1-4 years or 5-9 years for 2007.

Age-adjusted rates ( $R'$ ) are used to compare relative mortality risks among groups and overtime. However, they should be viewed as relative indexes rather than as actual measures of mortality risks. They were computed by the direct method, that is, by applying age-specific death rates ( $RI$ ) to the U.S. standard million population age distribution. All age-adjusted rates shown in this report are based on the year 2000 standard million population.

### EXAMPLE CALCULATION OF AGE-SPECIFIC, CRUDE AND ADJUSTED MORTALITY RATES

#### CALCULATION OF AGE-SPECIFIC, CRUDE, AND AGE-ADJUSTED MORTALITY RATES

All Deaths Due to Heart Disease: District of Columbia, 2005						
Age	pop	deaths	age-specific death rates per 100,000	standard pop based on U.S. population 2000	number of expected deaths in standard pop	Rounding Expected deaths
0-4	32536	1	3.073518564	69135	2.124877059	2
5-14	65403	0	0	145565	0	0
15-24	89690	5	5.574757498	138646	7.729178281	8
25-34	101762	10	9.826850887	135573	13.32255655	13
35-44	87677	44	50.18419882	162613	81.60603123	82
45-54	75310	127	168.6363033	134834	227.3790732	227
55-64	49783	181	363.5779282	87247	317.210835	317
65-74	35919	251	698.7945099	66037	461.4629305	461
75-84	25004	425	1699.728044	44842	762.1920493	762
85+	8975	473	5270.194986	15508	817.3018384	817
Total	572059	1517		1000000	2690.32937	2690

Age-adjusted Rate= Total number of expected deaths / total standard population \*100,000

Age-adjusted Rate = 269.0

Notes:

1. 2000 U.S. population
2. For the purpose of this example, numbers in this column were rounded to the nearest whole number.

## Random variation

The number of vital events in this report represents complete counts for the District of Columbia and the U.S. Therefore, they are not subject to sampling error, although they are subject to errors in the registration process such as misreporting. Mortality data, even based on complete counts, may be affected by random variation. That is, the number of deaths that actually occurred may be considered as one of a large series of possible results that could have arisen under the same circumstances. When the number of deaths is small (perhaps fewer than 100), random variation tends to be relatively large. Therefore, considerable caution must be observed in interpreting statistics based on small numbers of deaths. The District of Columbia rates are particularly subject to such variations due to small size of the population. Therefore, caution should be exercised when making comparison between The District of Columbia rates and rates from other populations.

## Availability of mortality data

Mortality data are available in publications, unpublished tables, and electronic products as described on the Department of Health, Center for Policy, Planning, and Epidemiology website at the following address: <http://doh.dc.gov/doh/cwp/view,a.1374,q.602045.asp> detailed analysis than provided in this report is possible by using the mortality public-use data set issued each data year.

## Definition of terms

Crude death rate	Total deaths per 10,000 population for a specified period. The crude death rate represents the average chance of dying during a specified period for persons in the entire population.
Age-specific death rate	Deaths per 100,000 population in a specified age group, such as 1-4 years or 5-9 years for a specified period.
Age-adjusted death rate	The death rate used to make comparisons of relative mortality risks across groups and over time. This rate should be viewed as a construct or an index rather than as a direct or actual measure of mortality risk. Statistically, it is a weighted average of the age-specific death rates, where the weights represent the fixed population proportions by age.

## Abbreviations and Acronyms

CLRD	Chronic Lower Respiratory Diseases
ICD	International Classification of Diseases
ICD-10	International Classification of Diseases, Tenth Revision of this classification
NCHS	National Center for Health Statistics
TIA	Transient ischemic attacks