COMMUNITY HEALTH INDICATORS FOR THE WASHINGTON METROPOLITAN REGION

A Regional Report from the
Metropolitan Washington Public Health Assessment Center

June 2001

About The Metropolitan Washington Public Health Assessment Center

The Metropolitan Washington Public Health Assessment Center (MWPHAC) was established in 1999 to provide a base for regional development and analysis of public health data. The Assessment Center operates in partnership with the Metropolitan Washington Council of Governments and its Health Officers Committee, the Metropolitan Washington Public Health Association, the District of Columbia Department of Health, the Maryland Department of Health and Mental Hygiene, the Virginia Department of Health, and the George Washington University School of Public Health and Health Services.

Preparation of this report was guided by a technical advisory committee of representatives from area health departments and from MWPHAC. The Advisory Committee and the Assessment Center are grateful to colleagues at the National Center for Health Statistics, the D.C. Department of Health, the Maryland Department of Health and Mental Hygiene, the Virginia Department of Health, the Washington-area health departments, the Metropolitan Washington Council of Governments and its technical committees, and the George Washington University School of Public Health and Health Services for comments on proposed indicators and assistance in obtaining data.

Support for this project was provided by the National Center for Health Statistics through the Association of Schools of Public Health under a cooperative agreement with the Centers for Disease Control and Prevention, U.S. Department of Health and Human Services; the Kaiser Foundation Health Plan of the Mid-Atlantic States, Inc.; the Consumer Health Foundation; and ESRI.

The discussion of the health significance of the indicators in this report is based on *Healthy People 2010* (U.S. Department of Health and Human Services, 2 vols., Washington, D.C.: U.S. Government Printing Office, November 2000). Readers seeking additional information, including references to key research reports, can view *Healthy People 2010* at *www.health.gov/healthypeople/Document/tableofcontents.htm*.

Executive Summary

Good health for individuals and communities depends not only on health care for the sick but on opportunities to prevent health problems and improve basic health and well-being. To assess the "health" of the Washington area from a health promotion and disease prevention perspective, the Metropolitan Washington Public Health Assessment Center has worked with the state and local health departments in the District of Columbia, Maryland, and Virginia; the Metropolitan Washington Council of Governments; and the National Center for Health Statistics of the U.S. Centers for Disease Control and Prevention to assemble data on 29 indicators for nine jurisdictions in the region. Organized using the Leading Health Indicators from *Healthy People 2010*, the national health promotion and disease prevention agenda, these indicators cover 10 key public health concerns.

Overall, the adult population of the Washington metropolitan area is healthier than the nation as a whole. For 19 of 27 indicators, the Washington region is doing as well or better than the national average. In two areas—coronary heart disease deaths and mammography rates—our region has already more than met the national targets for 2010. In addition, the estimated rate of adult obesity in the region is almost at the national target. On some measures, however, the region is doing less well. Rates of binge drinking, firearm-related deaths, chlamydia in young women, tuberculosis, infant mortality, and low birth weight are all somewhat higher than the national rates. And the higher incidence of sexually transmitted infections stands out. The incidence of gonorrhea in the region is about 40 percent higher than the national rate, and the incidence of AIDS is more than twice the national rate.

But the region is diverse, with every jurisdiction showing some strengths and some weaknesses. Jurisdictions with higher average incomes and other markers of better socioeconomic status tend to have better results, but they still face challenges in promoting health and preventing disease in pockets of poverty and among growing immigrant communities with varied cultural and linguistic characteristics. A limited analysis on a regional level examined differences based on race, education, and income. Rates for whites were better than the national average for 17 of 19 indicators analyzed, but better for blacks for only 5 indicators (smoking, suicide, motor vehicle deaths, den-

tal care, and mammography). The data available for 10 indicators also confirm that people with more education and higher household incomes tend to have more healthful behaviors.

Several key regional data needs were identified. First, the region will be losing data from Virginia on behavioral risk factors for adults, because of changes in the size and design of Virginia's Behavioral Risk Factor Surveillance System survey. Second, the region lacks access to data comparable across jurisdictions on behavioral risk factors for adolescents and has limited data on risk factors for younger children. Third, data on the use of hospital and emergency department services, such as visits for asthma, injury, or mental health care, are not routinely compiled in ways that would permit regional or jurisdiction-based analysis. Fourth, some data are inadequate for their intended purpose. Specifically, blood-alcohol level is tested for only a small percentage of drivers involved in fatal crashes, making a meaningful assessment of the role of alcohol in those crashes almost impossible. Finally, future analyses of health data for the Washington area require access to more detailed data on race and ethnicity than were available for this report, so that better assessments can be made of the health status and health needs of all of the region's residents.

This report highlights some health problems in the Washington area and may point to opportunities for jurisdictions in the region to collaborate on common concerns or to learn from the work of neighbors. We hope that the report will spur further analysis and action to advance health promotion and disease prevention in the Washington area.

Introduction

The Washington area is home to more than 4 million people living in the District of Columbia and surrounding counties and cities in Maryland and Virginia. All of us hope that we and our families and others in our communities can *be* healthy and *stay* healthy throughout life. But working toward that ideal can be challenging. When thinking about health, people often think first about health care, the services of doctors and hospitals and others who provide clinical care, usually to people who are already sick. But even more important than these services, which are an essential part of any strategy for protecting health, are opportunities to *prevent* health problems and *improve* basic health and well-being. Individuals can, for example, reduce their use of tobacco or improve their diets. Health care providers can help keep children and adults up to date on immunizations and other kinds of preventive care. And government and business can contribute as well, with actions to improve air quality, for example, or, perhaps, to increase opportunities for exercise by adding or improving parks and trails.

How "healthy" is the Washington area from a health promotion and disease prevention perspective? This report presents data, for nine individual jurisdictions* and for the region as a whole, to create a regional snapshot so that area health officials, policy makers, community groups, and the public can start to answer that question. The 29 indicators chosen for this report are intended to touch on a broad range of leading public health concerns, but they do not cover all of the issues of importance in the region. We hope the report will provide a useful picture of the area's current situation as well as encourage a continuing and evolving review of regional needs and opportunities in health promotion and disease prevention. The other major goal of this report is to draw attention to some crucial gaps in health data for individual communities and the region in order to encourage efforts to collect some of those data so that important health concerns can be assessed and monitored more effectively.

The report begins with a brief description of the origins of the project, the process for selecting indicators, and sources of the data presented. The main body of the report, which is divided into ten topic areas, presents the data for each indicator along with a short discussion of the significance of related health issues and data gaps.

Origins of the Project

Local Jurisdictions

District of Columbia

Maryland Counties:
Frederick
Montgomery
Prince George's

Virginia Health Districts:
Alexandria
Arlington
Fairfax
Loudoun
Prince William

The origins of this report can be traced back to previous work led by the Metropolitan Washington Public Health Association (MWPHA). In 1995, *Advancing Prevention for Better Health in the Washington Metropolitan Area: Fixing a Baseline*[1] was intended to provide data on prevention indicators for six area jurisdictions to aid them in program planning and implementation. The experience with that report helped

* The Fairfax Health District includes Fairfax County and the independent cities of Fairfax and Falls Church. The Prince William Health District includes Prince William County and the independent cities of Manassas and Manassas Park.

demonstrate to area health officials the need for additional and more consistent local public health data. It also generated interest in having a more permanent mechanism for developing and analyzing public health data for the region, a role that the Metropolitan Washington Public Health Assessment Center (MWPHAC) is intended to play.

As a starting point for the current effort, we turned to *Healthy People 2010*,[2] a detailed national agenda for promoting health and preventing disease, disability, and premature mortality (see *www.health.gov/healthypeople/*). The Healthy People agenda is based on two overarching goals: (1) to increase the quality and number of years of healthy life and (2) to eliminate health disparities. The details are spelled out in more than 450 objectives. Ten Leading Health Indicators, represented by 21 specific objectives, highlight key public health concerns. Three essential features of the Healthy People program are establishing baseline measurements, setting quantitative targets for the objectives, and tracking changes over the decade.

States are developing Healthy People 2010 plans too. The District of Columbia has published its plan,[3] and Maryland and Virginia have draft documents available for review (see *mdpublichealth.org/ohp/html/proj2010.html* and *www.vdh.state.va.us/hv2010/index.html*). What we find in the Washington area, though, is that these three separate "state" Healthy People plans do not really offer a "local" perspective on our health concerns and do not reflect a common approach that could be the basis for a regional collaboration focused on health promotion and disease prevention.

Another part of the backdrop for our work was the Community Health Status Indicators (CHSI) project (see *www.communityhealth.hrsa.gov*),[4] initiated in response to a growing interest in health data for local areas. In July 2000, the CHSI project team published a standardized report for each of the nation's counties, more than 3,000 reports in all. For each county, these reports provide consistent data for a common set of indicators and offer health status comparisons with a set of "peer" counties, identified on the basis of population size, composition, and density. But with its national scope, the CHSI project did not offer counties an opportunity to choose indicators of specific local interest.

Selecting the Indicators

To offer a manageable and comprehensible overview of health promotion and disease prevention issues in the Washington region, a set of 29 indicators was selected after several rounds of review. The process began with the *Healthy People 2010* Leading Health Indicators as an organizing framework and a long list of possible measures, including the tracking objectives for the Leading Health Indicators, *Healthy People 2010* objectives corresponding to the indicators used in 1995 in *Advancing Prevention for Better Health*, and other measures reflecting the prevention and health promotion priorities of area jurisdictions.

***Healthy People 2010* Leading Health Indicators**

1. Physical Activity
2. Overweight and Obesity
3. Tobacco Use
4. Substance Abuse
5. Responsible Sexual Behavior
6. Mental Health
7. Injury and Violence
8. Environmental Quality
9. Immunization
10. Access to Health Care

At the end of the selection process, each of the Leading Health Indicator categories was represented by at least two indicators. We also maintained a link with *Advancing Prevention for Better Health* with the inclusion of 13 indicators similar to ones used

in 1995.[5] Our data are comparable for 5 of the 1995 indicators—AIDS, gonorrhea, tuberculosis, infant mortality, and low birth weight—and the changes from the early 1990s are noted in the later discussion of each of those indicators.

In choosing the final set of indicators, we were guided by several considerations. We wanted to present a mix of health outcome measures, like death rates, as well as measures of preventable health risks, like smoking. We also wanted to focus on health concerns for which effective preventive interventions are available. For example, we included an indicator on influenza vaccination but not on Alzheimer's disease, an important cause of serious, debilitating illness in the elderly. Evidence clearly shows that flu shots can help prevent serious illness, but we do not currently have ways to prevent or cure Alzheimer's.

The availability of data was considered only at the end of the selection process to ensure that important issues were not neglected simply because data were not available. In fact, though, lack of data often makes direct assessments of health-related behavior and other risk factors impossible at the local level. The usual, and less satisfactory, alternative is to turn to data on health outcomes, which focuses attention on the endpoint of a health process—often death—when prevention can no longer help. Of the 21 measures selected at the national level to track the Healthy People Leading Health Indicators, we had access to local data for only 8 of the measures, of which we chose to use 6: adult physical activity levels, adult obesity, adult smoking, adult binge drinking, motor vehicle crash deaths, and influenza vaccination for older adults.[6]

Table 1. Community Health Indicators for the Washington Metropolitan Region

1. Physical Activity
- Percentage of adults aged 18 and older who report engaging in physical activity for at least 30 minutes, five or more times per week (similar to *Healthy People 2010* Objective 22-2)
- Coronary heart disease deaths per 100,000 population (Objective 12-1)

2. Overweight and Obesity
- Percentage of adults aged 20 and older who are obese (body mass index of 30.0 or higher) (Objective 19-2)
- Percentage of adults aged 18 and older who report consuming five or more servings of fruits and vegetables per day
- Diabetes-related deaths per 100,000 population (Objective 5-5)

3. Tobacco Use
- Percentage of adults aged 18 and older who have smoked at least 100 cigarettes in their lifetimes and who now report smoking cigarettes every day or some days (Objective 27-1a)
- Lung cancer deaths per 100,000 population (Objective 3-2)

4. Substance Abuse
- Percentage of adults aged 18 and older who report having five or more drinks on an occasion during the past month (Objective 26-11c)
- Drug-induced deaths per 100,000 population (Objective 26-3)

5. Sexual Behavior
- Births per 1,000 girls aged 15–17
- Newly reported AIDS cases per 100,000 population (similar to Objective 13-1)
- Newly reported chlamydia cases per 100,000 girls and women aged 15–24
- Newly reported gonorrhea cases per 100,000 population (Objective 25-2)

6. Mental Health
- Suicides per 100,000 population (Objective 18-1)
- Percentage of adults, aged 18 and older, who reported that for 8 or more days out of the past 30 days their mental health was not good because of such problems as stress, depression, or anxiety

7. Injury and Violence
- Motor vehicle crash deaths per 100,000 population (Objective 15-15a)
- Firearm-related deaths per 100,000 population (Objective 15-3)
- Reports to police of rape or attempted rape per 100,000 females (similar to Objective 15-35)

8. Environmental Quality
- Number of days per year on which the 1-hour National Ambient Air Quality Standard for ozone was exceeded in the Washington Metropolitan Region
- Reported cases of foodborne illness caused by *Salmonella* per 100,000 population (Objective 10-1d)

9. Immunization and Infectious Diseases
- Percentage of children who, by 24 months of age, had received the following vaccines: 4 doses of diphtheria and tetanus toxoids and pertussis vaccine (DTP), 3 doses of poliovirus vaccine, 1 dose of measles-containing vaccine (4:3:1 series)
- Percentage of adults aged 65 and older and living in the community who report having received an influenza vaccination during the past 12 months (Objective 14-29a)
- Newly reported tuberculosis cases per 100,000 population (Objective 14-11)

10. Access to Health Care
- Infant mortality rate (infant deaths per 1,000 live births) (Objective 16-1c)
- Percentage of live births with a birth weight of less than 2500 grams (Objective 16-10a)
- Cervical cancer deaths per 100,000 females (Objective 3-4)
- Percentage of adults aged 18 and older who report having their teeth cleaned by a dentist or dental hygienist within the past year
- Percentage of adults aged 50 and older who report having a fecal occult blood test within the past 2 years (Objective 3-12a)
- Percentage of women aged 40 and older who report having a mammogram within the past 2 years (Objective 3-13)

Assembling the Data

One of the great challenges in trying to measure health promotion and disease prevention needs at the community level is obtaining valid and reliable data. We used data from several sources, including the National Center for Health Statistics (NCHS) of the Centers for Disease Control and Prevention (CDC) of the U.S. Department of Health and Human Services; CDC's disease surveillance systems and Behavioral Risk Factor Surveillance System (BRFSS); and the D.C. Department of Health, the Maryland Department of Health and Mental Hygiene, and the Virginia Department of Health. We also drew on data assembled by the Metropolitan Washington Council of Governments. Because we were seeking data that are comparable across jurisdictions, we generally used state or national data sources, but in a few cases, we turned to individual jurisdictions. Key features of these data are described briefly here, and more detailed information is available from MWPHAC.

Most of the data are presented as 3-year averages, since the number of events occurring in a single year in an individual jurisdiction can be small and subject to substantial year-to-year variations that are not statistically significant. The reference period is 1997-1999 for most indicators, but is 1996-1998 for death rates. For most of the indicators, we have also included a national reference point in the form of equivalent data for the United States as a whole. The U.S. data are generally for the midpoint of the 3-year period covered by our local data. For the indicators included in *Healthy People 2010*, we also show the national target.

The BRFSS (see *www.cdc.gov/nccdphp/brfss/*) is based on telephone surveys conducted annually by each state and the District of Columbia, using both standard questions developed by CDC and questions of special interest to a state. We present data from standard questions used during the 1997-1999 period. When data were available for multiple years, the annual estimates were combined to help reduce the effect of year-to-year sampling variation. For each of three of the indicators based on BRFSS data, we made a single estimate for the Virginia health districts. This step was necessary because age or sex specifications (e.g., only persons aged 65 and older, only women) substantially reduced the number of respondents in individual health districts. For the BRFSS estimates, we also calculated 95-percent confidence intervals, which allowed us to assess the statistical significance of the differences between jurisdictions or socioeconomic groups for a given indicator. We did not calculate confidence intervals or test the significance of differences for data from other sources.

Death rates have been age adjusted to account for differences among the jurisdictions in the age distributions of their populations. Without age adjustment, death rates in one jurisdiction can appear higher than those in another simply because a greater proportion of the first jurisdiction's population is elderly, not necessarily because that population is less healthy. Age adjustment applies the age-specific death rates in each jurisdiction to a standard population, and we used a year 2000 standard. Most of the death rates were obtained through the CDC WONDER system (see *wonder.cdc.gov*), which provides on-line access to county-level data that have been compiled by NCHS from reports from state health departments.

Essential for our analysis of data for individual jurisdictions is a presumption

that individual cases—births, deaths, cases of reportable diseases—have been assigned to the correct locality. In the Virginia data, there is a small but known problem of occasional misassignment of cases from Fairfax County to Alexandria City in two county zip-code areas that have an Alexandria mailing address. Because of the small number of cases involved, any errors are unlikely to seriously affect the rates that we present.

Data Gaps

Lack of suitable community-level data prevented us from using more than half of the measures proposed in *Healthy People 2010* for tracking the Leading Health Indicators, as well as other measures that would have reflected health promotion and disease prevention priorities of area jurisdictions. We hope that this report will help demonstrate the need for such data and encourage exploration of ways to produce the data.

One striking gap is lack of consistent data regarding health risks for adolescents, such as overweight, risky sexual behavior, and use of tobacco, alcohol, and other drugs. The District of Columbia regularly conducts the school-based surveys of the Youth Risk Behavior Surveillance System (YRBSS), while the Maryland Department of Education conducts an adolescent survey that focuses specifically on use of tobacco, alcohol, and other drugs. Virginia, however, does not have a statewide survey of adolescents. Some individual jurisdictions in Northern Virginia have conducted, or have plans to conduct, surveys of their adolescents, but the results of these independent efforts are unlikely to be comparable across jurisdictions in Virginia or with the YRBSS or Maryland surveys.

We also want to point out an impending gap in the region's risk factor data for adults. For 1997-1999, the Virginia BRFSS survey was designed to produce estimates for individual health districts. It was this sample design that allowed us to present local estimates of important health risk factors, such as the prevalence of smoking and obesity, and the use of preventive services, such as influenza vaccination and mammography. But cost considerations have led Virginia to discontinue use of this sample design beginning in 2000. In Maryland, although the BRFSS survey is not specifically designed to produce county-level estimates, the number of respondents in each county is large enough to provide reasonable assurance that the estimates are meaningful.

It also proved impractical to use hospital discharge data or data on emergency room visits to construct indicators on asthma, injury, or other conditions. Area residents often use hospitals that are located in a state where they do not live—a Maryland resident may use a hospital in the District or Virginia, for example—but no system exists to share discharge data for nonresidents with the appropriate state. Even less accessible are data on emergency department visits, which also might be useful for indicators on asthma or injuries.

Other concerns regarding data for health indicators are discussed throughout the report.

The Region's Demographic and Socioeconomic Characteristics

Health is strongly influenced by such factors as age and economic status. Generally, people who are younger or who have more education or a higher income have fewer health problems and more healthful lifestyles. Thus it is important to

take demographic and socioeconomic characteristics into account when examining health indicators for communities. In the Washington area, the population is, on average, prosperous and well educated (see Table 2). But these benefits are not distributed uniformly throughout the region, and some jurisdictions show signs of being less well-off than others.[7]

The nine jurisdictions discussed in this report also differ substantially in size and residential features, ranging from the small and densely populated inner areas of Alexandria, Arlington, and the District to the physically larger outlying areas of Frederick and Loudoun Counties, which remain much more rural despite rapid population growth.

The racial diversity of Washington-area jurisdictions is pronounced and well recognized. In addition, some jurisdictions have substantial immigrant communities, reflected to some extent by the size of their Asian or Hispanic populations.[8] Although differences in health status are often linked to race and ethnicity, it can be difficult to disentangle the overlapping effects of differences in education and income. The region's racial, cultural, and linguistic diversity means that if health messages and health services are to be effective, they must be designed to meet the needs of their intended audiences.

Health Disparities

In addition to presenting data for individual jurisdictions, we explore some aspects of health disparities with data for the region as a whole. Our data allowed us to perform this regional analysis for those indicators that use death rates or BRFSS data. For death rates, we were only able to compare results for blacks, whites, and an "other races" category that combines people who are Asian or Pacific Islander or American Indian or Alaska Native. We focused on the black-white differences because of the small numbers of deaths among the population of other races and the frequent misclassification of those deaths as white. The data available to us did not allow for a separate analysis of death rates for the population of Hispanic ethnicity. For the indicators that use BRFSS data, we were able to supplement the analysis based on race with other analyses based on ethnicity, education, and household income. We note that in our discussions of racial differences in the region, we generally use the term "black" rather than "African American." In most cases, this reflects the terminology used by those who originally collected or published the data.

Given the growing diversity of the Washington area, future analyses that examine all the racial and ethnic groups represented in the area's population will be important. For some indicators—death rates, for example—this will mean gaining access to more detailed tabulations of data that are already being collected. But for other indicators, such as those based on disease incidence, information on race and ethnicity may be missing from many reports to health departments, making it necessary to explore other ways to obtain such data. In addition to analyses based on race and ethnicity, it may also prove valuable to learn more about the health of the area's foreign-born population, and to invest in collecting the additional data that will be needed for such analyses.

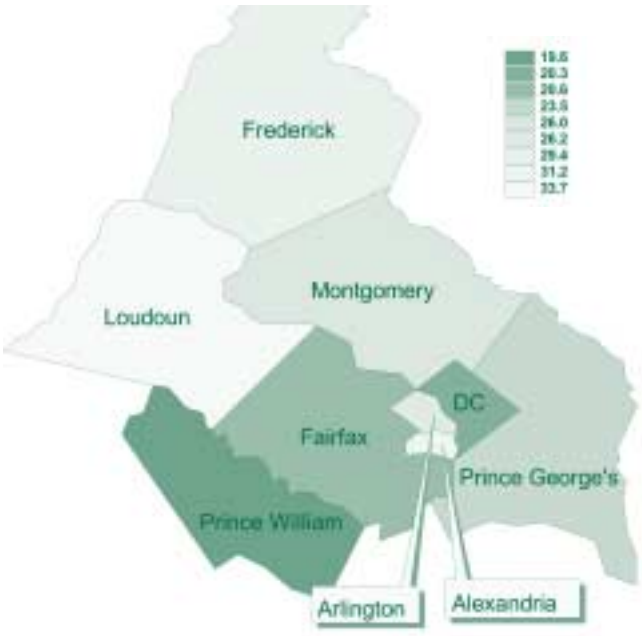
Table 2. Demographic and Socioeconomic Characteristics of the Washington Region and Area Jurisdictions

	US	Washington Region	DC	Maryland Counties			Virginia Health Districts				
				Frederick	Montgomery	Prince George's	Alexandria	Arlington	Fairfax[a]	Loudoun	Prince William[b]
Area (sq miles)	3,537,441	3,020	61	663	496	485	15	26	403	520	350
Persons per square mile, 2000	79.6	1,409.6	9,378.0	294.5	1,760.8	1,652.6	8,552.2	7,286.7	2,483.3	326.2	931.6
Population, 2000	281,421,906	4,256,389	572,059	195,277	873,341	801,515	128,283	189,453	1,001,624	168,599	326,238
% White (single race)	75.1%	56.6%	30.8%	89.3%	64.8%	27.0%	59.8%	68.9%	70.1%	82.8%	69.4%
% Black (single race)	12.3%	28.0%	60.0%	6.4%	15.1%	62.7%	22.5%	9.3%	8.4%	6.9%	17.9%
% Asian (single race)	3.6%	7.6%	2.7%	1.7%	11.3%	3.9%	5.7%	8.6%	12.9%	5.3%	3.8%
% Other single race	6.5%	4.7%	4.2%	1.1%	5.3%	3.8%	7.8%	8.7%	4.9%	2.6%	5.4%
% Two or more races	2.4%	3.1%	2.4%	1.5%	3.4%	2.6%	4.3%	4.3%	3.6%	2.4%	3.6%
% Hispanic (any race)	12.5%	9.8%	7.9%	2.4%	11.5%	7.1%	14.7%	18.6%	11.1%	5.9%	10.5%
% Under 18 years old (1999)	25.7%	23.8%	18.4%	27.5%	24.3%	25.5%	15.9%	16.6%	24.0%	26.9%	30.0%
% 65 years old or older (1999)	12.7%	9.5%	13.9%	9.4%	11.7%	8.0%	13.1%	10.4%	8.1%	5.8%	4.8%
Educational Attainment, 1990											
For population 25 years old and older:											
% With less than high school diploma	24.8%	14.5%	26.9%	19.6%	9.4%	16.8%	13.1%	12.5%	8.7%	13.4%	12.6%
% With high school diploma	30.0%	21.2%	21.2%	34.0%	16.8%	29.2%	15.6%	14.8%	17.0%	24.3%	27.7%
% With some college	24.9%	24.7%	18.6%	24.4%	23.9%	28.5%	22.7%	20.5%	25.4%	29.6%	32.3%
% With Bachelor's degree or higher	20.3%	39.6%	33.3%	22.0%	49.9%	25.5%	48.5%	52.3%	48.9%	32.7%	27.4%
Income											
Per capita personal income, 1998	$27,203	$37,634	$36,415	$30,021	$42,393	$27,996	$46,290	$46,677	$44,303	$34,495	$27,759
Median household money income, 1997 estimate	$37,005	–	$34,980	$53,415	$62,130	$47,882	$51,052	$57,244	$71,057[c]	$67,455	$59,080[g]
Percentage of children (<18) in poverty, 1997 estimate	19.9	–	33.7	8.6	8.8	15.1	21.6	15.9	8.0[e]	5.5	9.6[i]
Unemployment rate, 2000											
Annual Average		2.3%[h]	5.8%	2.0%	1.6%	3.4%	1.7%	1.2%	1.3%	1.1%	1.7%

– Estimate for the region not available.
[a]Includes Fairfax County (96.8% of the Health District population), Fairfax City (2.1%), and Falls Church City (1.0%). (Does not total 100% because of rounding.)
[b]Includes Prince William County (86.1% of Health District population), Manassas (10.8%), and Manassas Park (3.2%). (Does not total 100% because of rounding.)
[c]Fairfax County only; Fairfax City = $61,099; Falls Church = $64,420.
[d]Prince William County only; Manassas = $54,608; Manassas Park = $44,835.
[e]Fairfax County only; Fairfax City = 7.4%; Falls Church = 4.4%
[f]Prince William County only; Manassas = 10.4%; Manassas Park = 16.5%
[g]Includes Calvert County (2.3%), Charles County (2.3%), and Stafford County (1.4%).

SOURCE: Population density: U.S. Census Bureau, 2000 Census of Population and Housing; Population distribution by race and ethnicity: U.S. Census Bureau, 2000 Census of Population and Housing; Population distribution by age: U.S. Census Bureau, 1999 population estimates; Educational attainment: U.S. Census Bureau, 1990 Census of Population and Housing; Per capita income: U.S. Bureau of Economic Analysis, Dept of Commerce; Median household income: U.S. Census Bureau, Small area income and poverty estimates; Percentage of children in poverty: U.S. Census Bureau, Small area income and poverty estimates, 1997; Unemployment rate: U.S. Bureau of Labor Statistics, as reported by the Greater Washington Research Center

Health Indicators for the Washington Metropolitan Region



1. PHYSICAL ACTIVITY

Regular physical activity, even at moderate levels, is important for good health and well-being for people of all ages. There are the familiar benefits of stronger muscles and bones and reduced body fat and improved weight control. Physical activity also appears to enhance psychological well-being. In addition to promoting and improving good day-to-day health and functioning, physical activity also contributes in important ways to preventing disease and disability. It helps reduce the risk of death from heart disease, it lowers the risk of developing diabetes, and it is even associated with a decreased risk of colon cancer. Physical activity also helps prevent high blood pressure, or reduce it when it is already too high.

At younger ages, weight-bearing exercise is needed for normal skeletal development and to achieve and maintain peak bone mass. Physical activity also contributes to the development of good cardiovascular and respiratory function. For older adults, improving and maintaining strength and agility with regular physical activity can reduce the risk of falling and thereby help preserve the ability to live independently. Regular physical activity also increases the ability of people with certain chronic, disabling conditions to perform routine activities of daily life.

Percentage of adults aged 18 and older who report engaging in physical activity for at least 30 minutes, five or more times per week

(Similar to Healthy People 2010 Objective 22-2)

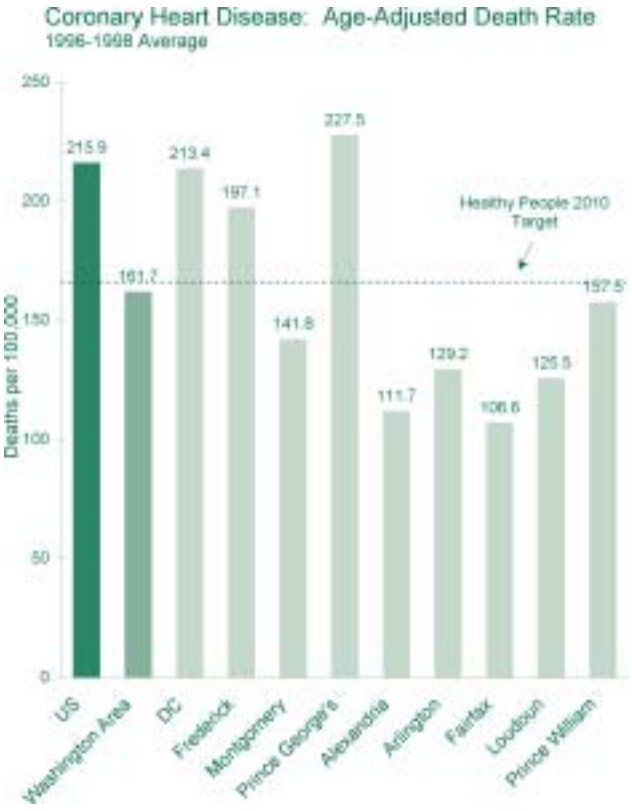
Data from the 1998 BRFSS surveys in each state, the District of Columbia, and

Puerto Rico show a median value of 20.4 percent of adults reporting that they engage some physical activity (outside of work) for at least 30 minutes, five or more times per week. The most closely related *Healthy People 2010* objective specifically refers to light or moderate activity, with a national average of 15 percent of adults reporting such activity levels and a target level of 30 percent by 2010. BRFSS data for the Washington area show that in most jurisdictions the proportion of active adults in 1998 was higher than the BRFSS national median, and already approaching the Healthy People target level in some areas. Activity levels are significantly higher in Frederick County and Alexandria than for the region as a whole, and significantly lower in the Prince William Health District. The data also show that for the region as a whole the proportion of active adults is significantly higher among those with a college degree or a household income of $50,000 or more compared with those with the least education or lowest incomes. A greater proportion of whites are active than blacks or persons of other races. Barriers to increased physical activity can include lack of time, lack of access to convenient facilities, and lack of safe environments in which to be active.

Coronary heart disease deaths per 100,000 population

(Healthy People 2010 Objective 12-1)

Despite a steady decline over the past 35 years, coronary heart disease (CHD) remains one of the nation's leading causes of death and a major contributor to disability and health care costs. It is an appropriate indicator in connection with physical activity because physically inactive people are almost twice as likely to develop CHD as people who are active. In



the United States in 1997, the age-adjusted CHD death rate was 215.9 per 100,000 population. For the Washington area, the average rate for 1996-1998 was 161.7, and in most area jurisdictions, the CHD death rate had already fallen below the *Healthy People 2010* target of 166 deaths per 100,000 population. In Prince George's County, the District, and Frederick County, however, rates are noticeably higher than for the region. Blacks in the Washington area, with an age-adjusted death rate of 226.9, are much more likely to die from CHD than whites, for whom the age-adjusted death rate was 146.2, a level below the *Healthy People 2010* target.

PHYSICAL ACTIVITY INDICATORS	% of adults engaging in 30+ minutes of physical activity, 5+ times per week	Coronary heart disease death rate (per 100,000)
United States	20.4	215.9
Healthy People 2010 target	30	166
Washington area	23.6	161.7
District of Columbia	20.3	213.4
Maryland Counties		
Frederick	29.4*	197.1
Montgomery	26.0	141.8
Prince George's	23.5	227.5
Virginia Health Districts		
Alexandria	31.2*	111.7
Arlington	26.2	129.2
Fairfax	20.8	108.6
Loudoun	33.7	125.5
Prince William	19.6*	157.5
Washington area		
Race		
Black	16.9*	226.9
White	27.4	146.2
Other races	16.7	72.9
Ethnicity		
Hispanic	16.7	
Not Hispanic	24.0	
Educational Attainment		
Less than high school diploma	9.1*	
High school diploma	22.3	
Some college	19.1	
College degree	29.0	
Household Income		
Less than $15,000	14.8*	
$15,000 – $24,999	14.5*	
$25,000 – $49,999	23.2	
$50,000 or more	27.8	

NOTES AND SOURCES

*Estimate differs significantly ($p < .05$) from the estimate for the Washington area (BRFSS data).

Percentage of adults aged 18 and older who report engaging in physical activity for at least 30 minutes, five or more times per week
Similar to Healthy People 2010 Objective 22-2 (light to moderate physical activity)
US data: 1998; median value from the results of individual surveys conducted in each state, the District of Columbia, and Puerto Rico. Behavioral Risk Factor Surveillance System Online Prevalence Data, 1995–1998. U.S. Centers for Disease Control and Prevention. Healthy People target refers specifically to moderate physical activity. Washington-area and jurisdictional data: 1998; calculated by MWPHAC from Behavioral Risk Factor Surveillance System data files, U.S. Centers for Disease Control and Prevention.

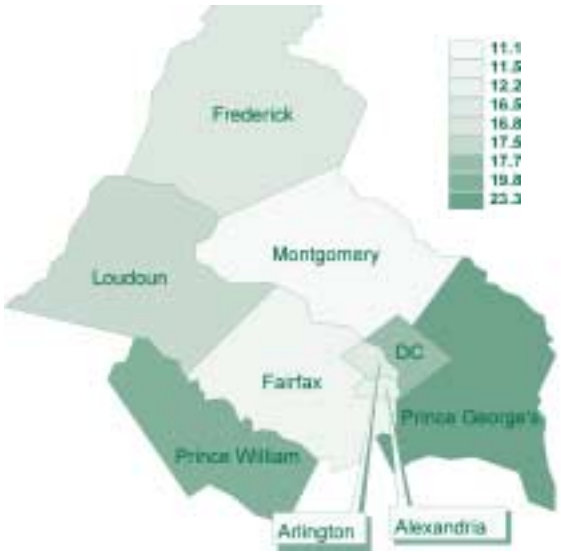
Coronary heart disease death rate: deaths per 100,000 population (ICD-9 codes 402, 410–414, 429.2), age adjusted to a year 2000 standard population
Healthy People 2010 Objective 12-1
US data: 1997; National Vital Statistics System, produced using CDC WONDER, U.S. Centers for Disease Control and Prevention. Washington-area and jurisdictional data: 1995–1998 average; National Vital Statistics System, produced using CDC WONDER, U.S. Centers for Disease Control and Prevention.

Where Data Are Needed

Because of the value of regular physical activity for children and adolescents—and because activity levels at younger ages tend to predict lifelong habits of physical activity—*Healthy People 2010* includes in the Leading Health Indicators a measure of the proportion of adolescents who engage in vigorous physical activity at least 3 days per week (Objective 22-7). The Washington area, though, has no readily available source for such data. For data on adolescents, the District could use the YRBSS survey, which is generally conducted every other year, and some other jurisdictions might be able to obtain data on physical activity from current or planned surveys of high school students. Other indicators that might be useful, but for which data are not readily available, include some measure of access to or use of public recreational facilities and the availability of exercise programs for older people.

2. OVERWEIGHT AND OBESITY

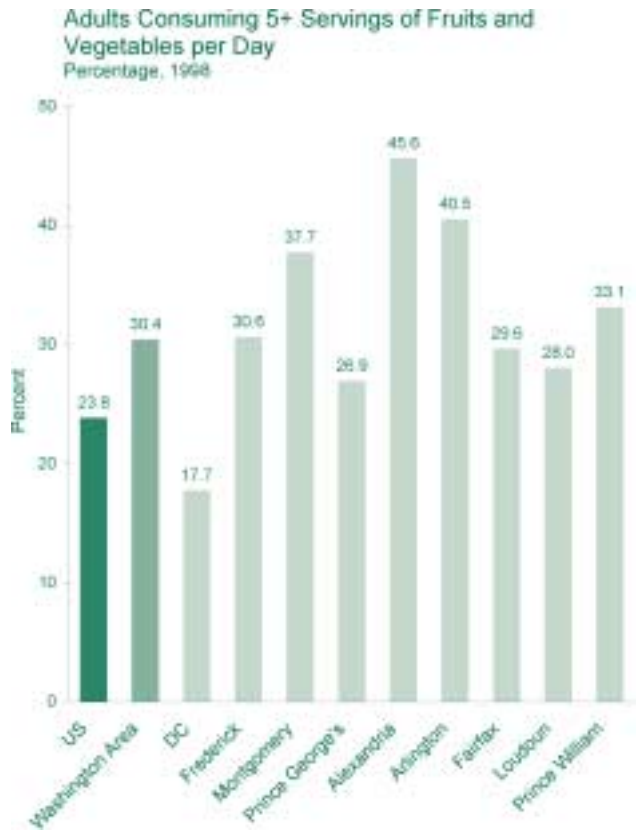
Overweight and obesity are associated with higher death rates and with a greater risk of illness from high blood pressure, high cholesterol, Type 2 diabetes, heart disease and stroke, gallbladder disease, arthritis, sleep disturbances and problems breathing, and certain types of cancers. Excess weight, especially at levels defined as obesity, can also have social and psychological consequences such as discrimination or lowered self-esteem. Although overeating and lack of exercise are often important contributors to excess weight, a complex mix of social, behavioral, cultural, environmental, physiological, and genetic factors affect weight for many people. Efforts to maintain a healthy weight should start early in childhood and continue throughout adulthood, since it can be difficult to lose weight and maintain weight loss, and repeated cycles of losing and gaining weight may be unhealthy.

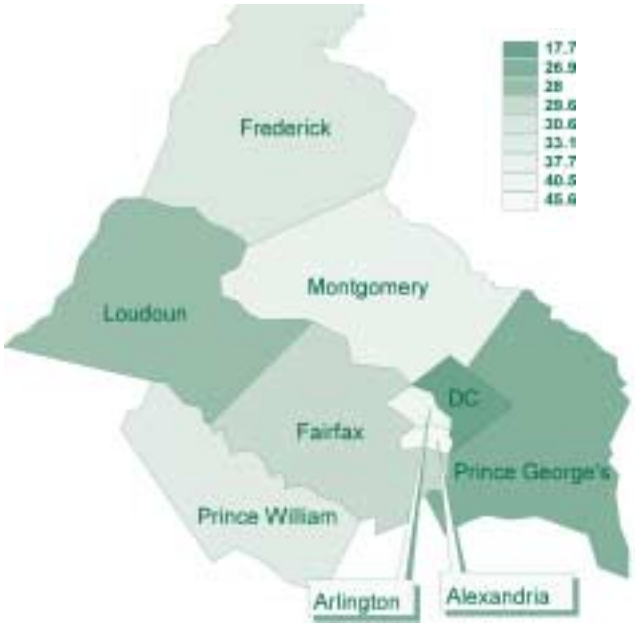


Percentage of adults aged 20 and older who are obese (body mass index of 30.0 or higher)

(Healthy People Objective 19-2)

Data from the National Health and Nutrition Examination Survey, for the period 1988-1994, produced an estimate that 23 percent of adults aged 20 years and older were not just overweight but obese, as measured by a body mass index (BMI) of 30.0 or more. BMI is a ratio of weight (measured in kilograms) to height (measured in meters, squared). BRFSS data show that the prevalence of obesity is below the national average in the Washington area, and close to the 2010 target of 15 percent. Only for Montgomery County is the level of obesity significantly lower than the regional average. In Prince George's County, the level is similar to the national level but not significantly higher than the regional average. For the region as a whole, obesity is more common among blacks than whites, and among people in lower income households. But the most striking difference is





based on education: 27.3 percent of those with less than a high school diploma are obese compared with 8.9 percent of college graduates. Obesity is also significantly higher among people with a high school diploma than among college graduates. But because the BRFSS data depend on self-reported estimates of weight and height, the survey results may understate true levels of obesity in the region.

Percentage of adults aged 18 and older who report consuming five or more servings of fruits and vegetables per day

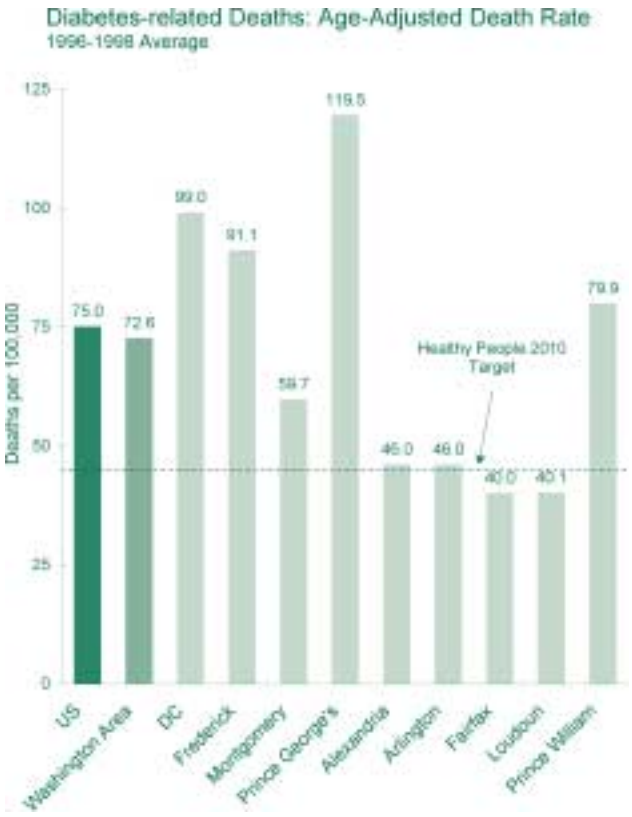
Data from the 1998 BRFSS surveys in each state and the District of Columbia and Puerto Rico show a median value of 23.8 percent of adults reporting daily consumption of 5 or more servings of fruits and vegetables. For the Washington region, about 30 percent of adults reported daily fruit and vegetable consumption at this level, and the estimates for most jurisdictions are similar. The lowest level is seen in the District, about 18 percent, a level significantly lower than that for the region. Other jurisdictions did not differ significantly from the overall regional level. Although the data suggest that fruit and vegetable consumption are highest among people of other races, college graduates, and people with a household income of $50,000 or more, the differences are generally not significant. These results are based on a single year of BRFSS data and are subject to considerable sampling error.

Healthy People 2010 does not include a directly comparable objective so it is not possible to compare the Washington area to a national target value for 2010.

Diabetes-related deaths per 100,000 population (diabetes as an underlying or contributing cause of death)

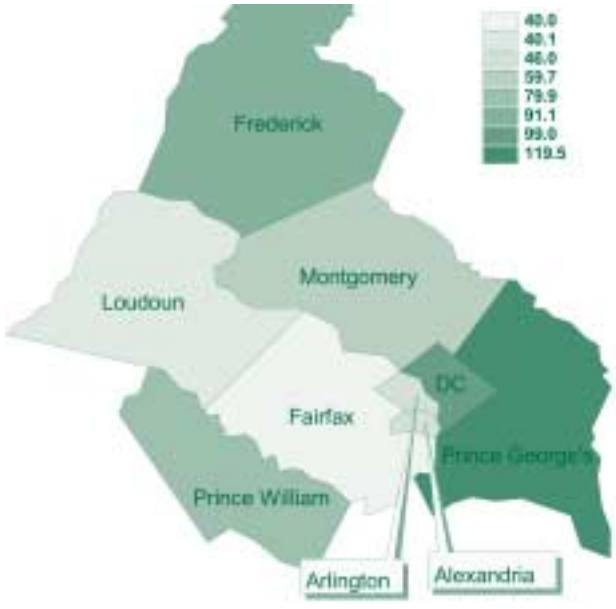
(Healthy People Objective 5-5)

Diabetes is a leading cause of death and often a contributing factor in deaths from other causes. If not adequately controlled, diabetes can lead to chronic health problems, including blindness, kidney failure, and circulatory impairments so severe that foot or lower limb amputation may be required. Nationally, the 1997 age-adjusted death rate for diabetes, as either an underlying or contributing cause, was 75 per 100,000 population. The target rate for 2010 is 45 per 100,000. The average regional death rate of 72.6 for the 1996-1998 period is similar to the national rate, but there are substantial differences among area jurisdictions. Rates in Fairfax and Loudoun are nearly 50 percent lower than the regional average, while the rate in Prince George's County is more than 50 percent higher. A separate analysis of only those deaths for which diabetes was reported as the underlying cause showed that the death rate for blacks (48.7) was almost three times higher than the rate for whites (16.9).



Where Data Are Needed

The Washington area has no readily identifiable sources of data on overweight and obesity in children. For data on adolescents, the District could use the YRBSS survey, which is generally conducted every other year, and other jurisdictions might be able to obtain weight and height data from current or planned surveys of high school students.



Overweight and Obesity Indicators	% of adults who are obese	% of adults eating 5+ servings of fruits and vegetables per day	Diabetes-related death rate (per 100,000)	*Diabetes death rate (per 100,000)*
United States	23	23.8	75	23.9
Healthy People 2010 Target	15	—	45	
Washington Area	15.6	30.4	72.6	24.1
District of Columbia	17.7	17.7*	99.0	
Maryland Counties				
Frederick	16.8	30.6	91.1	
Montgomery	11.1*	37.7	59.7	
Prince George's	23.3	26.9	119.5	
Virginia Health Districts				
Alexandria	12.2	45.6	46.0	
Arlington	16.5	40.5	46.0	
Fairfax	11.5	29.6	40.0	
Loudoun	17.5	28.0	40.1	
Prince William	19.8	33.1	79.9	
Washington Area				
Race				
Black	22.6*	23.2		48.7
White	14.3	32.1		16.9
Other races	4.6*	38.6		18.0
Ethnicity				
Hispanic	11.5	31.9		
Not Hispanic	15.7	30.4		
Educational Attainment				
Less than high school diploma	27.3*	23.4		
High school diploma	21.4*	24.6		
Some college	18.8	25.5		
College degree	8.9*	37.0		
Household Income				
Less than $15,000	21.6	29.1		
$15,000 – $24,999	21.9*	22.9		
$25,000 – $49,999	15.1	26.3		
$50,000 or more	14.6	33.7		

Notes and Sources

*Estimate differs significantly ($p < .05$) from the estimate for the Washington area (BRFSS data).
– No equivalent *Healthy People 2010* target available

Percentage of adults aged 20 and older who are obese (body mass index of 30.0 or higher)
Healthy People 2010 Objective 19-2
US data: 1988-1994; National Health and Nutrition Examination Survey, as reported in *Healthy People 2010*; age adjusted to a year 2000 standard population;. *Washington-area and jurisdictional data:* 1997-1999 average; calculated by MWPHAC from Behavioral Risk Factor Surveillance System data files, U.S. Centers for Disease Control and Prevention.

Percentage of adults aged 18 and older who report consuming five or more servings of fruits and vegetables per day
No equivalent *Healthy People 2010* objective, but see related objectives 19-5 and 19-6
US data: 1998; median value from the results of individual surveys conducted in each state, the District of Columbia, and Puerto Rico; Behavioral Risk Factor Surveillance System Online Prevalence Data, 1995-1999, U.S. Centers for Disease Control and Prevention. *Washington-area and jurisdictional data:* 1998; calculated by MWPHAC from Behavioral Risk Factor Surveillance System data files, U.S. Centers for Disease Control and Prevention.

Diabetes-related death rate: deaths per 100,000 population (ICD-9 code 250; as an underlying or contributing cause of death), age adjusted to a year 2000 standard population
Healthy People 2010 Objective 5-5
US data: 1997; National Vital Statistics System, as reported in *Healthy People 2010*. *Washington-area and jurisdictional data:* 1996–1998 average; National Vital Statistics System, calculated by MWPHAC from special tabulations by the National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

Diabetes death rate: deaths per 100,000 population (ICD-9 code 250; as an underlying cause of death), age adjusted to a year 2000 standard population
No equivalent *Healthy People 2010* objective.
US data: 1997; National Vital Statistics System, produced using CDC WONDER, U.S. Centers for Disease Control and Prevention. *Washington-area and jurisdictional data:* 1996–1998 average; National Vital Statistics System, produced using CDC WONDER, U.S. Centers for Disease Control and Prevention.

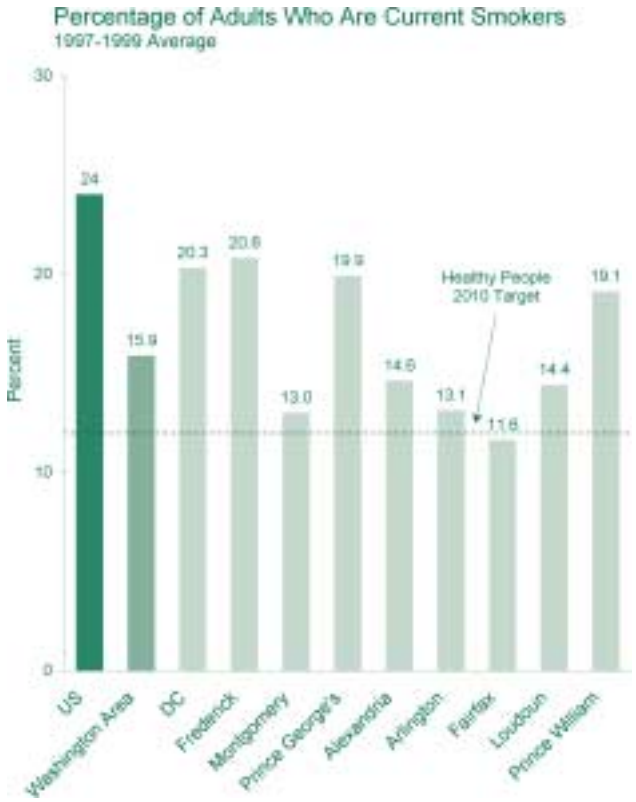
3. TOBACCO USE

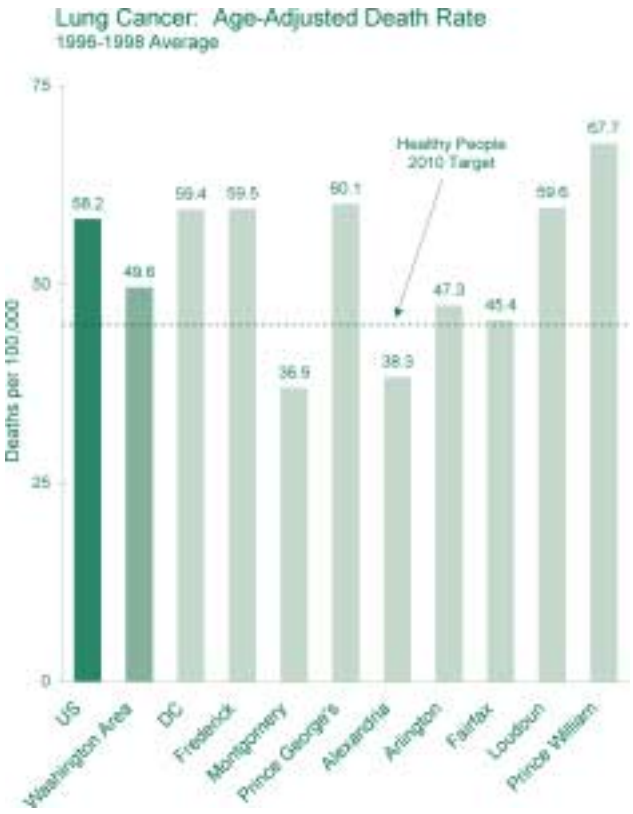
Tobacco use, especially cigarette smoking, is the single most preventable cause of disease and premature death in the United States. Smoking is a major risk factor for lung cancer, chronic lung diseases, heart disease, and stroke—all among the leading causes of death. Smoking during pregnancy can result in miscarriages, premature delivery, and low birth weight, and smoking by mothers is linked to sudden infant death syndrome. Smoking also contributes to deaths, injuries, and environmental damage from fires. Even nonsmokers who are exposed to environmental tobacco smoke (ETS) are at increased risk of heart disease, lung cancer, and other significant lung conditions, especially asthma and bronchitis in children.

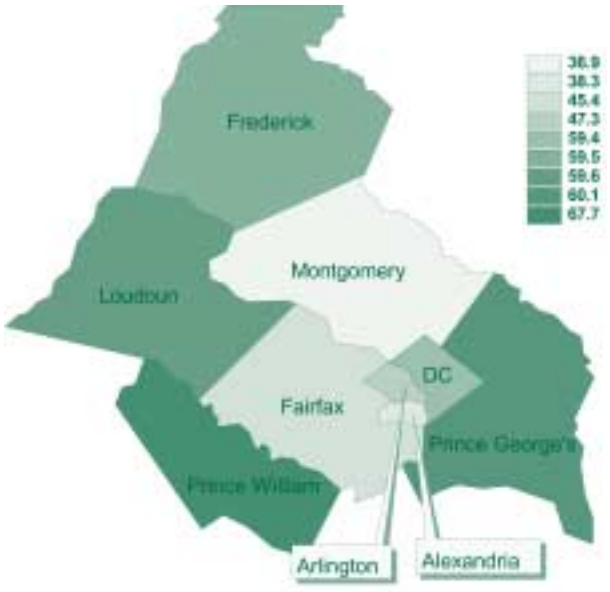
Percentage of adults aged 18 and older who have smoked at least 100 cigarettes in their lifetimes and who now report smoking cigarettes every day or some days

(Healthy People 2010 Objective 27-1a)

In 1998, 24 percent of adults in the United States were current cigarette smokers. The target for 2010 is to reduce that level to 12 percent. In the Washington area, the percentage of current smokers, estimated from BRFSS data for 1997–1999, is 15.9 percent overall, and lower than the national average in every jurisdiction. The lowest levels were measured in Montgomery County and the Fairfax Health District; they are at about the level of the national target but are not significantly lower than the regional average. Although smoking appears more prevalent in Prince George's County and Prince William, only in the District and Frederick County are the rates significantly higher than the regional average. The differences between whites and blacks are small and not statistically significant, but a significantly smaller percentage of people of other races are current smokers. The BRFSS data also show a significantly smaller percentage of smokers among college graduates and people with a household income of $50,000 or more compared with people with less education or a lower income.







Lung cancer deaths per 100,000 population

(Healthy People 2010 Objective 3-2)

Lung cancer is the most common cause of cancer deaths. Nationally, the age-adjusted death rate was 58.2 per 100,000 population in 1997, and the target rate for 2010 is 44.9. Although the overall lung cancer death rate of 49.6 for the Washington area for 1996-1998 was lower than the national level, the rates in five jurisdictions were higher than the national level. In Montgomery County and Alexandria, however, lung cancer death rates were below 40 per 100,000. The death rate for whites, at 46.2, was only slightly below the regional average, but the death rate for blacks was almost 50 percent higher, at 66.2 per 100,000 population. Among people of other races, however, the lung cancer death rate was only half the rate for whites.

Where Data Are Needed

Because most tobacco use begins in adolescence and tobacco's addictive properties can make it difficult to quit smoking, keeping adolescents from beginning to smoke is especially important. Unfortunately, we lack comparable data on youth smoking for most Washington-area jurisdictions, although various independent survey programs can provide some data. The District collects data on adolescent tobacco use in the YRBSS survey, generally conducted every other year. For Maryland jurisdictions, the Maryland Adolescent Survey, also conducted every other year, covers tobacco use, but response rates from individual jurisdictions are not always adequate for local estimates. In Virginia, current or planned surveys of high school students in some jurisdictions may provide data on adolescent tobacco use.

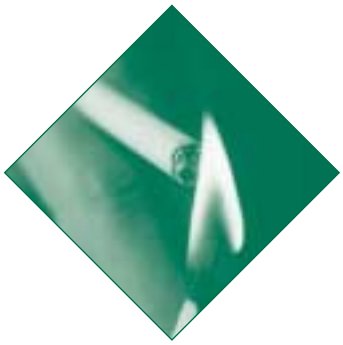
Tobacco Use Indicators	% of adults who are current smokers	Lung cancer death rate (per 100,000)
United States	24	58.2
Healthy People 2010 Target	12	44.9
Washington Area	15.9	49.6
District of Columbia	20.3*	59.4
Maryland Counties		
Frederick	20.8*	59.5
Montgomery	13.0	36.9
Prince George's	19.9	60.1
Virginia Health Districts		
Alexandria	14.6	38.3
Arlington	13.1	47.3
Fairfax	11.6	45.4
Loudoun	14.4	59.6
Prince William	19.1	67.7
Washington Area		
Race		
Black	19.0	66.2
White	15.9	46.2
Other races	11.2*	23.0
Ethnicity		
Hispanic	16.7	
Not Hispanic	16.0	
Educational Attainment		
Less than high school diploma	30.9*	
High school diploma	25.8*	
Some college	16.2	
College degree	8.4*	
Household Income		
Less than $15,000	25.4*	
$15,000 – $24,999	21.4*	
$25,000 – $49,999	18.8	
$50,000 or more	11.7*	

Notes and Sources

*Estimate differs significantly ($p < .05$) from the estimate for the Washington area (BRFSS data).

Percentage of adults aged 18 and older who have smoked at least 100 cigarettes in their lifetimes and who now report smoking cigarettes every day or some days.
Healthy People 2010 Objective 27-1a
GS data: 1998, National Health Interview Survey, as reported in Healthy People 2010, age adjusted to a year 2000 standard population. Washington area and jurisdictional data: 1997–1999 average; calculated by MWPHAC from Behavioral Risk Factor Surveillance System data files, U.S. Centers for Disease Control and Prevention.

Lung cancer death rate: deaths per 100,000 population (ICD-9 code 162); age adjusted to a year 2000 standard population.
Healthy People 2010 Objective 3-3
GS data: 1997, National Vital Statistics System, produced using CDC WONDER, U.S. Centers for Disease Control and Prevention. Washington-area and jurisdictional data: 1994–1998 average, National Vital Statistics System, produced using CDC WONDER, U.S. Centers for Disease Control and Prevention.



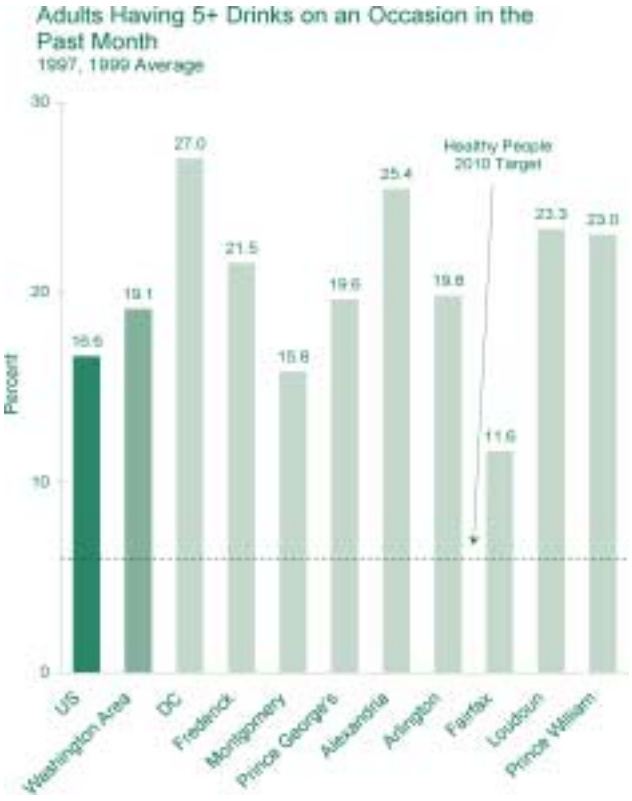
4. SUBSTANCE ABUSE

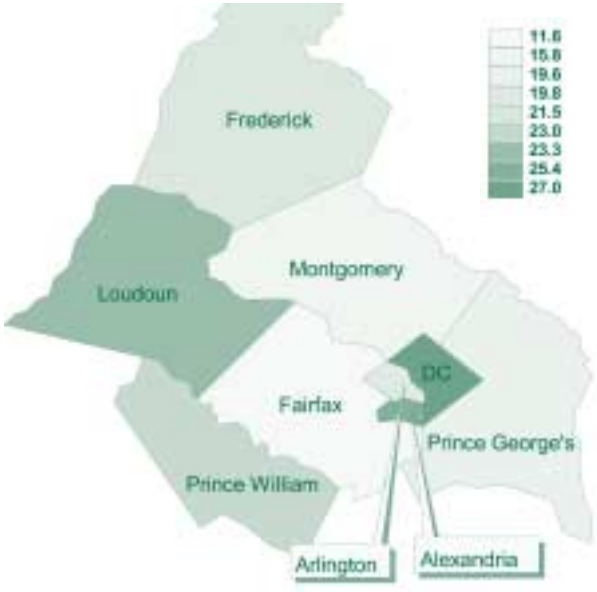
Abuse of alcohol and illicit use of other drugs are associated with serious health and social problems and annual costs of more than $200 billion.[9] Alcohol use has been linked with a substantial proportion of injuries and deaths from motor vehicle crashes, falls, fires, and drowning, as well as intentional violence, including homicide, suicide, and domestic violence. It has also been associated with high-risk sexual behavior that can result in exposure to HIV and other sexually transmitted diseases and unintended pregnancies. Long-term heavy drinking increases risk for high blood pressure, heart disease, stroke, certain forms of cancer, and liver disorders, and in pregnant women may result in fetal alcohol syndrome. Drug abuse carries many similar health risks, as well as added risks associated with illegal activities. The long-term consequences of alcohol and drug abuse may also include cognitive and psychological problems.

Percentage of adults aged 18 and older who report having five or more drinks on an occasion during the past month

(Healthy People 2010 Objective 26-11c)

Binge drinking, having five or more drinks on one occasion, exposes drinkers to the acute effects of excess alcohol consumption, including impaired judgment and reflexes and the possibility of potentially fatal poisoning. National data for 1998 indicate that 16.6 percent of adults engaged in binge drinking at least once in the previous month. But levels of binge drinking appear to be higher in the Washington area, with BRFSS data suggesting that 19.1 percent of adults had at least one episode of binge drinking. Although the rates appear to be lower in





some jurisdictions, the differences are not statistically significant. There are, however, significantly higher levels of binge drinking among people with a high school education or less and those with the lowest income levels.

Drug-induced deaths per 100,000 population

(Healthy People 2010 Objective 26-3)

This indicator reflects the combined effects of long-term abuse of alcohol and illicit drugs as well as the acute effects of unintentional overdoses. In addition, it captures drug-related deaths from suicide and unintentionally fatal doses or interactions of medications. Nationally, the age-adjusted death rate for 1997 was 5.6 per 100,000, with a target rate of 1.0 for 2010. The rate for the Washington area for 1996-1998 was 4.2 deaths per 100,000, below the national average but still well above the target level. Among the individual jurisdictions, only the District exceeds the national average. When we analyzed the rates in terms of race, we found that the death rate for blacks (7.0) was about twice as high as the rate for whites (3.5), while the reported rate for people of other races was very low, at 0.7 deaths per 100,000.

Where Data Are Needed

As with tobacco use, better data are needed in the region on adolescents' use of alcohol and illicit drugs. The YRBSS provides data for the District, and the Maryland Adolescent Survey provides data for most Maryland jurisdictions. Current or planned surveys of high school students in some Virginia jurisdictions may also provide data. With several separate survey programs, however, it may not be possible to obtain comparable results for all of the Washington-area jurisdictions.

We also lack data on use of illicit drugs by adults. The National Household Survey of Drug Abuse, conducted by the Substance Abuse and Mental Health Services Administration (SAMHSA) of the U.S. Department of Health and Human Services, was recently revised to

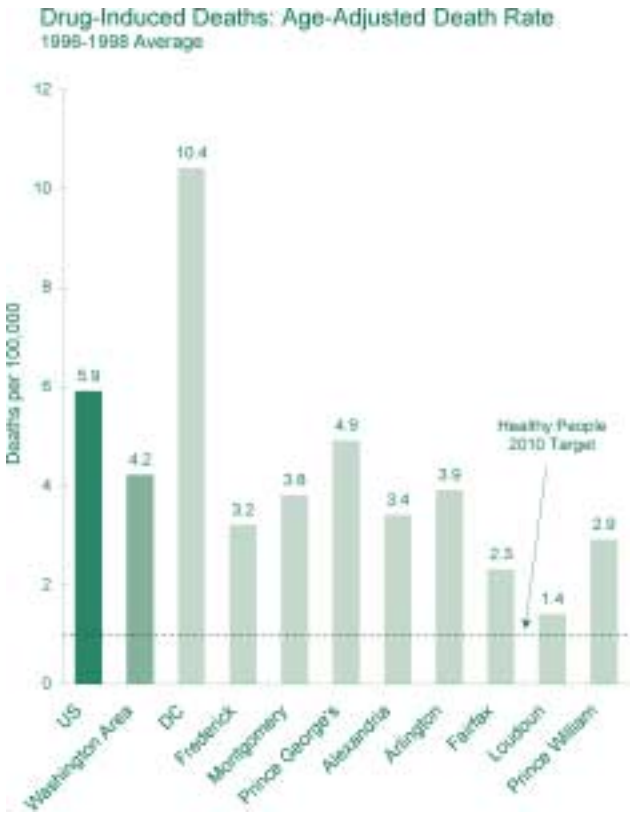
Substance Abuse Indicators	% of adults who report binge drinking	Drug-induced death rate (per 100,000)
United States	16.6	5.9
Healthy People 2010 Target	6	1.0
Washington Area	19.1	4.2
District of Columbia	27.0*	10.4
Maryland Counties		
Frederick	21.5*	3.2
Montgomery	15.8	3.8
Prince George's	19.6	4.9
Virginia Health Districts		
Alexandria	25.4	3.4
Arlington	19.8	3.9
Fairfax	11.6	2.3
Loudoun	23.3	1.4
Prince William	23.0	2.9
Washington Area		
Race		
Black	24.3	7.0
White	18.1	3.5
Other races	16.6	0.7
Ethnicity		
Hispanic	16.8	
Not Hispanic	19.0	
Educational Attainment		
Less than high school diploma	31.4*	
High school diploma	30.6*	
Some college	17.1	
College degree	14.4	
Household Income		
Less than $15,000	41.7*	
$15,000 – $24,999	23.6	
$25,000 – $49,999	20.8	
$50,000 or more	15.5	

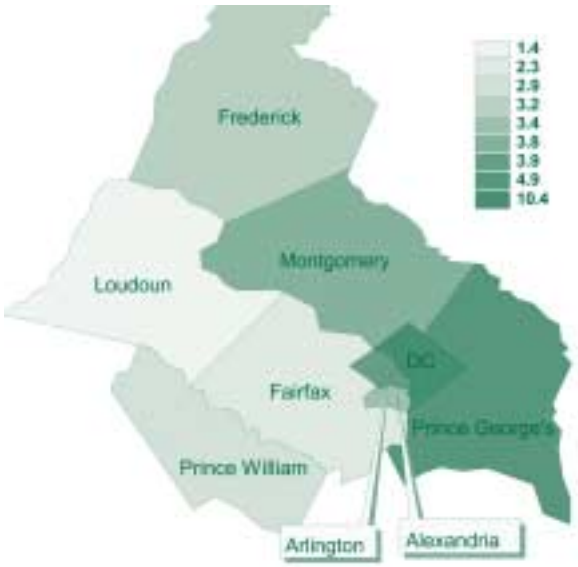
Notes and Sources

*Estimate differs significantly (p < .05) from the estimate for the Washington area (BRFSS data).

Percentage of adults aged 18 and older who report having five or more drinks on an occasion during the past month.
Healthy People 2010 Objective 26-11c
US data: 1998; National Household Survey on Drug Abuse, as reported in *Healthy People 2010*.
Washington area and jurisdictional data: 1997, 1998 average; calculated by MWPHAC from Behavioral Risk Factor Surveillance System data files, U.S. Centers for Disease Control and Prevention.

Drug-induced death rate: deaths per 100,000 population (ICD-9 codes 292, 304, 305.2–305.9, E850–E858, E950.0–E950.5, E962.0, E980.0–E980.5); age adjusted to a year 2000 standard population.
Healthy People 2010 Objective 26-3
US data: 1997; National Vital Statistics System, produced using CDC WONDER, U.S. Centers for Disease Control and Prevention. *Washington area and jurisdictional data:* 1996–1998 average; National Vital Statistics System, produced using CDC WONDER, U.S. Centers for Disease Control and Prevention.



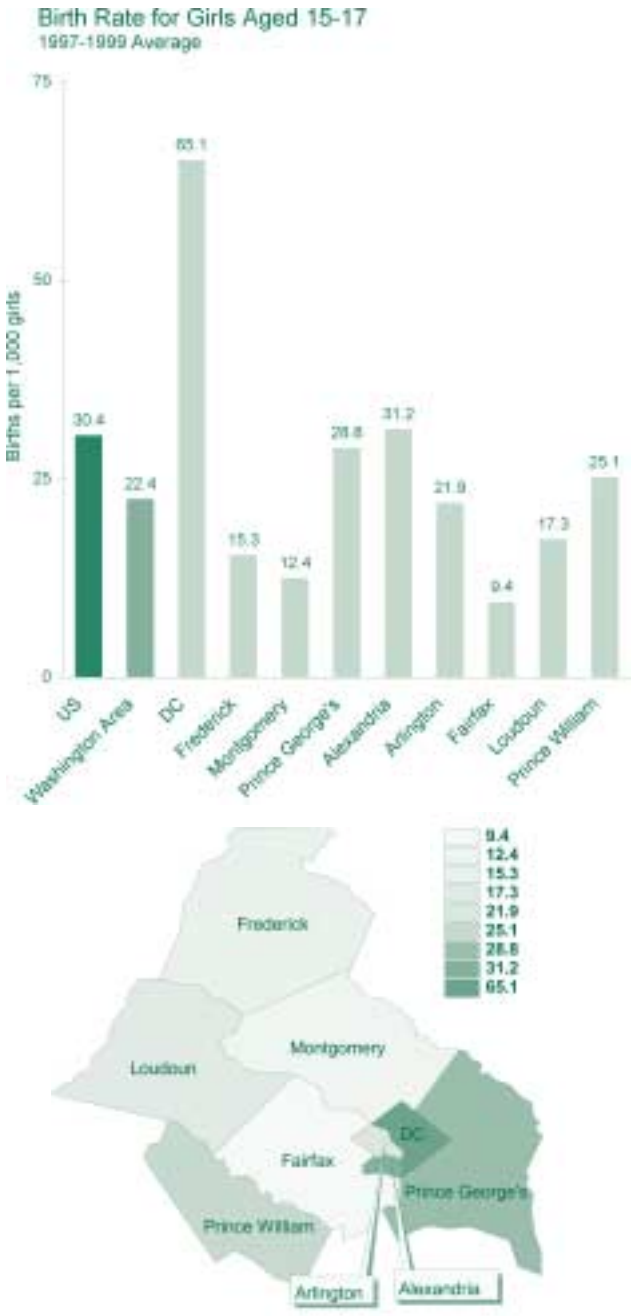


produce estimates for states, but the survey will not provide estimates for local jurisdictions.

Given the evidence for higher than average levels of binge drinking in the region, data on alcohol-related traffic fatalities or injuries could also be a valuable indicator. Although local data are available from the National Highway Traffic Safety Administration (NHTSA) of the U.S. Department of Transportation, they proved to be inadequate. The Metropolitan Washington Council of Governments reported that the 1999 NHTSA data showed that blood-alcohol tests were performed for only 39 percent of drivers involved in fatal crashes and that test results were known for only 15 percent of drivers in those crashes.[10] With such low levels of testing and incomplete reporting of test results, the available data do not provide a reliable indication of the contribution of alcohol to traffic fatalities.

5. RESPONSIBLE SEXUAL BEHAVIOR

This Leading Health Indicator category reflects concerns about preventing both unintended pregnancies and sexually transmitted diseases (STDs), including human immunodeficiency virus (HIV) infection. Half of all pregnancies in the United States are unintended; that is, the pregnancy was not planned or not wanted at the time of conception. Unintended pregnancy can increase risks for infant and maternal illness, child abuse and neglect, and economic hardship. STDs are of concern because of their potential long-term health consequences as well as their acute effects. In fact, diseases like chlamydia and gonorrhea may produce few acute symptoms, especially in men. But untreated STD infections can increase susceptibility to HIV infection and can lead to later health problems, especially for women, including pelvic inflammatory disease, infertility, and cervical cancer. In pregnant women, STDs can adversely affect the health of the unborn children. Although new therapies for HIV infection and AIDS have improved survival, HIV infection remains a serious health threat and continues to be spread by sexual contact.



The full extent of STD infections is not known because many cases are undetected and untreated, and other cases are treated but not reported to state health departments. Thus, the data presented here give a conservative picture of the incidence of chlamydia and gonorrhea in the region. The *Healthy People 2010* objectives selected for monitoring this Leading Health Indicator category at the national level focus on the use of condoms among the sexually active population and on abstinence among adolescents. These actions are highly effective means of reducing the risk of unintended pregnancy and STDs, including HIV, but data are not available at the local level to monitor these behaviors.

Births per 1,000 adolescent girls aged 15–17

Births to adolescent girls are a concern because these girls are likely to end up with less education and more limited eco-

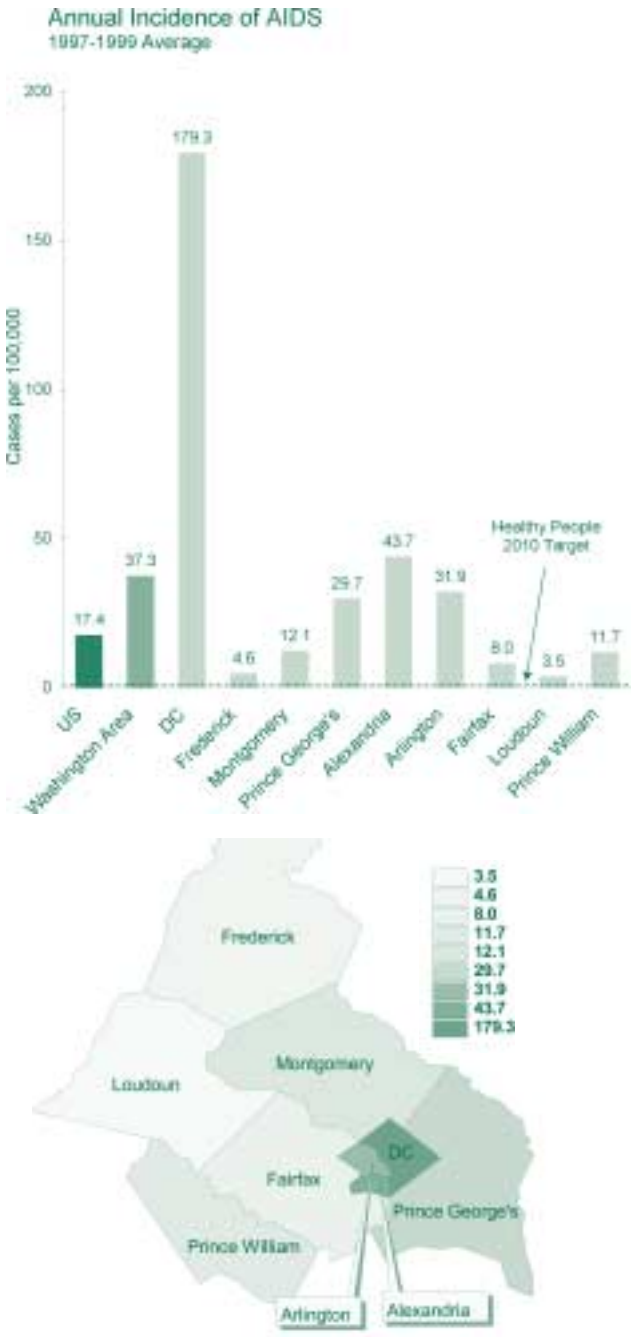
nomic resources with which to support themselves and their children, factors that may contribute to greater health and social risks for both the teen mothers and their children. Nationally, the birth rate among adolescent girls aged 15-17 was 30.4 in 1998. For the Washington area for 1997-1999, the average rate was 22.4, with the rates in most jurisdictions comparable to or well below the national average. The closest comparable *Healthy People 2010* objective was framed in terms of pregnancies among adolescent girls, a measure that requires data not only on births but also on miscarriages and abortions. These additional data were not available for all jurisdictions in the Washington area.

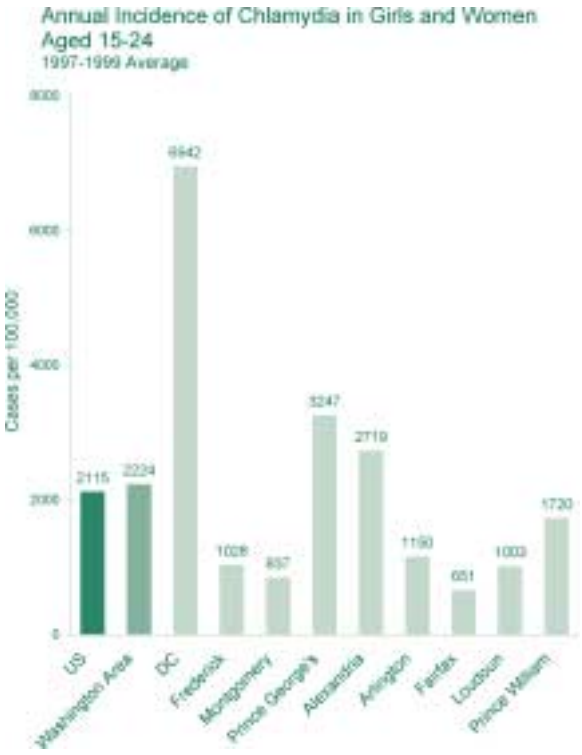
Newly reported AIDS cases per 100,000 population

(Similar to Healthy People Objective 13-1)

AIDS remains a serious, usually fatal illness that results from HIV infection. The national data on new AIDS cases show an incidence rate for 1998 of 17.4 cases per 100,000 population. The *Healthy People 2010* target, a rate of 1.0, applies specifically to the population aged 13 and older, who account for most cases. The rate in the Washington area (for all ages) is more than twice the national average, driven primarily by the high incidence of AIDS in the District. But the rates exceed the national average in three other jurisdictions as well. A look back to the 1995 MWPHA report shows that the rates have declined since the early 1990s in five of the six jurisdictions included in the earlier report.

With new therapies for HIV infection helping to reduce the incidence of AIDS, there is growing interest in monitoring the incidence of HIV infection, instead of new AIDS cases, as a better reflection of the disease burden. Currently, however, systems for AIDS surveillance are more effective and more comprehensive than the newer systems for HIV surveillance, which are not yet universal. In the Washington area, for example, HIV surveillance began in the District only in 2001. But even when HIV surveillance is better established, it will still provide an incomplete picture because it will capture data only for people who choose to be tested.





Newly reported chlamydia cases per 100,000 girls and women aged 15–24

Chlamydia infections are especially common among adolescents and young adults, but they are often undetected, allowing infected individuals to continue to spread the infection and leaving them at increased risk for HIV infection and for longer-term complications. Most cases are reported through testing done by STD and family planning clinics, and women are more likely to be tested than men. People seen by private physicians may be treated without formal testing. Although chlamydia infections are underreported, we selected this indicator because it provides some indication of the extent of unprotected sex among girls and young women and therefore some sense of the risk for unintended pregnancies and for HIV and other STD infections among this population.

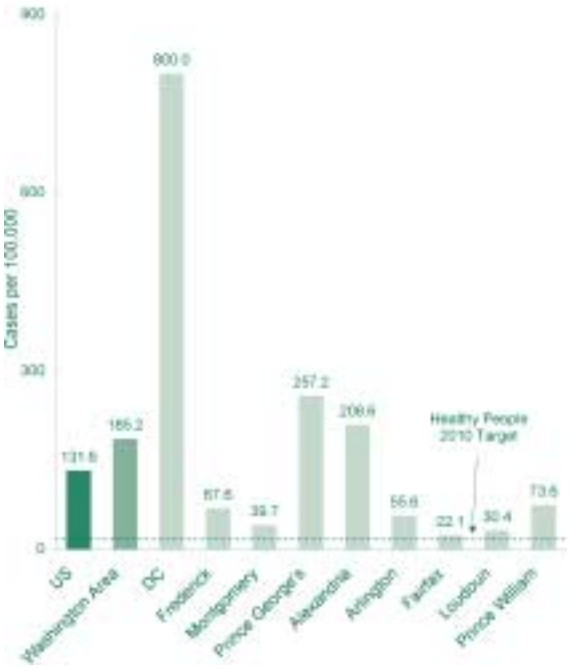
Nationally, the 1998 incidence of chlamydia was 2,115 cases per 100,000 girls and women aged 15-24. The average rate in the Washington area for 1997-1999 was slightly higher, at 2,224 cases per 100,000. The rates in the District, Prince George's, and Alexandria are higher than this regional average. Comparisons among the area jurisdictions must be made cautiously because the differences in the reported rates may reflect not only differences in disease levels but also differences in the use of public clinics for treatment and differences in the proportion of cases tested.

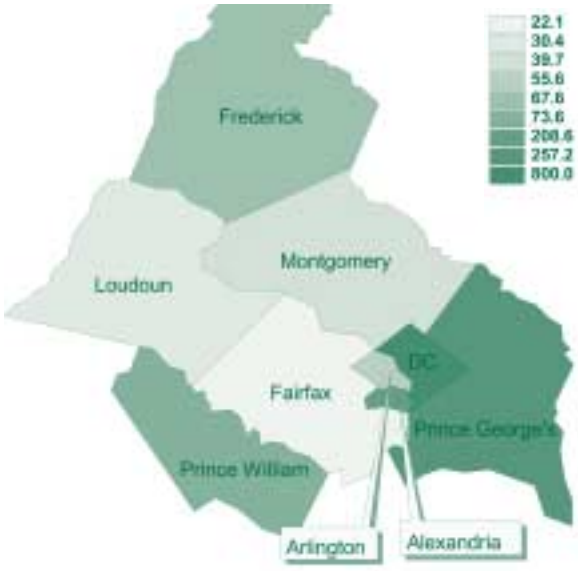
Newly reported gonorrhea cases per 100,000 population

(Healthy People Objective 25-2)

Gonorrhea is another serious but treatable STD. Untreated infections increase the risk of transmitting or acquiring HIV infection. The national rate was 131.6 cases per 100,000 in 1998, with a H*ealthy People 2010* target rate set ambitiously at 19.0. In the Washington area, the average rate for the 1997-1999 period was 185.2. The pattern of differences among the area jurisdictions is similar to that for chlamydia. Although the current regional rate is high, we found that rates had declined since the early 1990s for all six jurisdictions included in the 1995 MWPHA report.

Annual Incidence of Gonorrhea
1997-1999 Average





Responsible Sexual Behavior Indicators	Birth rate, girls aged 15–17 (per 1,000)	Incidence of AIDS (per 100,000)	Incidence of chlamydia, females aged 15-24 (per 100,000)	Incidence of gonorrhea (per 100,000)
United States	30.4	17.4	2115	131.6
Healthy People 2010 Target	—	1.0	—	19
Washington Area	22.4	37.3	2223.7	185.2
District of Columbia	65.1	179.3	6942.0	800.0
Maryland Counties				
Frederick	15.3	4.6	1028.2	67.6
Montgomery	12.4	12.1	837.4	39.7
Prince George's	28.8	29.7	3247.1	257.2
Virginia Health Districts				
Alexandria	31.2	43.7	2719.3	208.6
Arlington	21.9	31.9	1149.7	55.6
Fairfax	9.4	8.0	651.3	22.1
Loudoun	17.3	3.5	1003.4	30.4
Prince William	25.1	11.7	1720.0	73.6

Notes and Sources

– No equivalent *Healthy People 2010* target available

Births per 1,000 adolescent girls aged 15–17
No equivalent *Healthy People 2010* objective, but see related objective 9-7
US data: 1998; Ventura SJ, Curtin SC, Mathews TJ. Variations in teenage birth rates, 1991-98: National and State trends. *National Vital Statistics Reports* 48(6). National Center for Health Statistics. 2000. *Washington-area and jurisdictional data:* 1997-1999 average. Rates calculated by MWPHAC. Case data: District of Columbia Department of Health, Maryland Department of Health and Mental Hygiene, Virginia Department of Health.

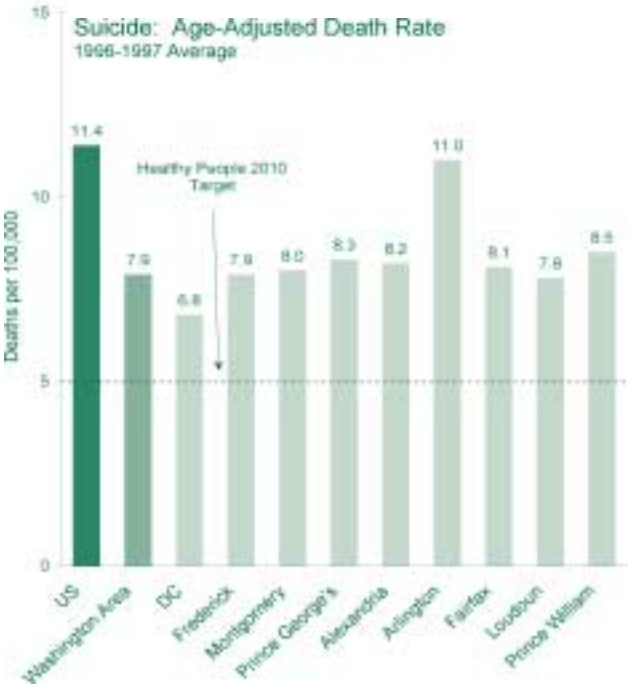
Newly reported AIDS cases per 100,000 population
Similar to *Healthy People 2010* Objective 13-1 (incidence among population aged 13 and older)
US data: 1998; U.S. Centers for Disease Control and Prevention. *HIV/AIDS Surveillance Report, 1999.* 11(2). *Washington-area and jurisdictional data:* 1997-1999 average. Rates calculated by MWPHAC. Case data: U.S. Centers for Disease Control and Prevention. *HIV/AIDS Surveillance Report, 1999.* 11(2); U.S. Centers for Disease Control and Prevention. Summary of Notifiable Diseases, United States, 1997. *MMWR* 46(54); Maryland Department of Health and Mental Hygiene; Virginia Department of Health.

Newly reported chlamydia cases per 100,000 girls and women aged 15–24
No equivalent *Healthy People 2010* objective, but see related objective 25-1
US data: 1998; Division of STD Prevention. *Sexually Transmitted Disease Surveillance, 1999.* U.S. Centers for Disease Control, 2000. *Washington-area and jurisdictional data:* 1997–1999 average; Rates calculated by MWPHAC. Case data: District of Columbia Department of Health; Maryland Department of Health and Mental Hygiene; Virginia Department of Health.

Newly reported gonorrhea cases per 100,000 population
Healthy People 2010 Objective 25-2
US data: 1998; Division of STD Prevention. *Sexually Transmitted Disease Surveillance, 1999.* U.S. Centers for Disease Control, 2000. *Washington-area and jurisdictional data:* 1997–1999 average; Rates calculated by MWPHAC. Case data: Division of STD Prevention. *Sexually Transmitted Disease Surveillance, 1999.* U.S. Centers for Disease Control, 2000; Maryland Department of Health and Mental Hygiene; Virginia Department of Health.

6. MENTAL HEALTH

Good mental health, which is more than the absence of mental illness, is indispensable to personal well-being, successful family and interpersonal relationships, and effective functioning in society. But during a given year, mental illness affects up to 30 percent of adults[11] and touches people of all ages, races, and socioeconomic situations. The most serious mental disorders—such as schizophrenia, major depression, bipolar illness—can be enormously disabling. *Healthy People 2010* reports that the total estimated direct and indirect cost of mental illness in the United States was $150 billion in 1996.



Depression is the most common mental disorder. It is a leading cause of disability and is the cause of more than two-thirds of the suicides each year. Depression is associated with other medical conditions, such as heart disease, cancer, and diabetes as well as anxiety and eating disorders. Depression may also occur along with alcohol and illicit drug abuse. Treatment with medications and various forms of psychotherapy can help many people with depression and reduce the probability of future episodes of depression, but in 1997, only 23 percent of adults diagnosed with depression received treatment.

Suicides per 100,000 population

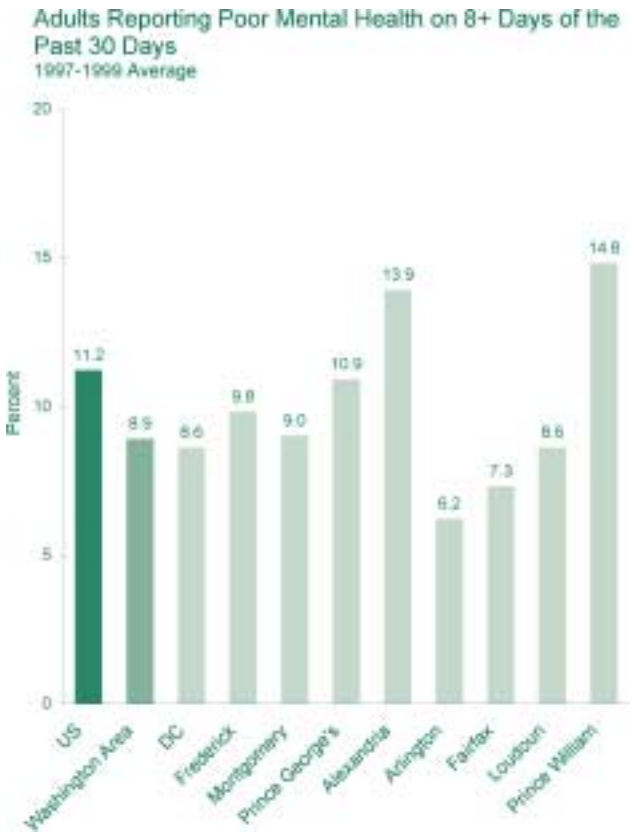
(Healthy People 2010 Objective 18-1)

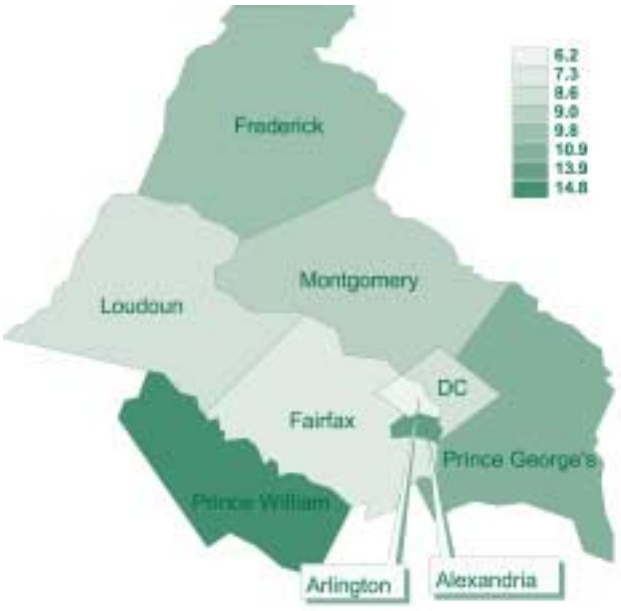
Suicide is among the ten leading causes of death in the United States. Risk factors include mental disorders and substance abuse problems, prior suicide attempts, stressful life events, and access to lethal suicide methods. In many cases, early recognition and treatment of mental disorders can reduce the risk of suicide.

The national age-adjusted suicide rate was 11.4 deaths per 100,000 population in 1997, and *Healthy People 2010* set a target of reducing the rate to 5.0. In the Washington area, the average rate for 1996-1998 was 7.9, below the national level but still higher than the target. Compared with many of our other indicators, there is considerable similarity across the region in the rates for individual jurisdictions. When the data are analyzed in terms of race, we see that rates are highest for whites, at 8.9 deaths per 100,000, and that rates for blacks and people of other races are less than 6 per 100,000.

Percentage of adults aged 18 and older who reported that for 8 or more days out of the past 30 days their mental health was not good because of such problems as stress, depression, or anxiety

The BRFSS offers one of the few sources of data on the prevalence of mental health concerns in the general population. Looking at the percentage of adults who report that their mental health was not good for at least 8 out of the past 30 days helps focus attention on those people with more frequent or persistent problems. Data from the 1998 BRFSS surveys in each state and the District of Columbia and Puerto Rico show a median value of 11.2 percent of adults reporting mental health problems for at least 8 days during the previous month. Our estimate for the Washington area for the 1997-1999 period is that 8.9 percent of the adult population had such problems. The level is highest in the Prince William Health District, but the difference from the regional average is not statistically significant. In none of the jurisdictions are the rates significantly lower than the regional level. The differences between whites and blacks are not significant, but at 4.5 percent, the level for people of other races is significantly lower. People with the least education and the lowest household income were significantly more likely to report that their mental health was not good on 8 or more days in the past month.





Mental Health Indicators	Suicide rate (per 100,000)	% of adults reporting that their mental health was not good for 8+ days during the past 30 days
United States	11.4	11.2
Healthy People 2010 Target	5.0	–
Washington Area	7.9	8.9
District of Columbia	6.8	8.6
Maryland Counties		
Frederick	7.9	9.8
Montgomery	8.0	9.0
Prince George's	8.3	10.9
Virginia Health Districts		
Alexandria	8.2	13.9
Arlington	11.0	6.2
Fairfax	8.1	7.3
Loudoun	7.8	8.6
Prince William	8.5	14.8
Washington Area		
Race		
Black	5.9	10.8
White	8.9	8.9
Other races	5.6	4.5*
Ethnicity		
Hispanic		6.8
Not Hispanic		8.8
Educational Attainment		
Less than high school diploma		13.9*
High school diploma		10.2
Some college		9.8
College degree		7.5
Household Income		
Less than $15,000		15.5*
$15,000 – $24,999		10.7
$25,000 – $49,999		9.1
$50,000 or more		8.7

Notes and Sources

*Estimate differs significantly ($p < .05$) from the estimate for the Washington area (BRFSS data).
– No equivalent Healthy People 2010 target available

Suicide rate: deaths per 100,000 population (ICD-9 code E950), age adjusted to a year 2000 standard population
Healthy People 2010 Objective 18-1
US data: 1997, National Vital Statistics System, produced using CDC WONDER, U.S. Centers for Disease Control and Prevention. Washington area and jurisdictional data: 1996–1998 average, National Vital Statistics System, produced using CDC WONDER, U.S. Centers for Disease Control and Prevention.

Percentage of adults aged 18 and older who report that for 8 or more days out of the past 30 days their mental health was not good because of such problems as stress, depression, or anxiety
No equivalent Healthy People 2010 objective
US data: 1998, median value from the results of individual surveys conducted in each state, the District of Columbia, and Puerto Rico; Behavioral Risk Factor Surveillance System Online Prevalence Data, 1995–1998, U.S. Centers for Disease Control and Prevention. Washington-area and jurisdictional data: 1997–1999 average; calculated by MWCOG from Behavioral Risk Factor Surveillance System data files, U.S. Centers for Disease Control and Prevention.

Where Data Are Needed

Fortunately suicide is a relatively rare outcome of mental illness, but we must often rely on it as an indicator because other data on mental illness and mental health are so scarce. For data on adolescents, the YRBSS, currently conducted in the District, includes questions on symptoms of depression and thoughts of suicide. Current or planned surveys of high school students in Maryland and Virginia might provide an opportunity to collect similar data. *Healthy People 2010* proposes tracking the percentage of adults with recognized depression who receive treatment, but such data are not currently collected for Washington area jurisdictions. Better access to hospital discharge data might provide a basis for assessing the extent of the most serious mental illnesses (e.g., schizophrenia, major depression, bipolar disorder), but hospitalization is much less common in treating most other forms of mental illness. An area in which it might be useful to develop data is the availability of mental health services for juveniles and adults who are arrested or convicted of crimes and the proportion of those populations who are judged to need mental health services.

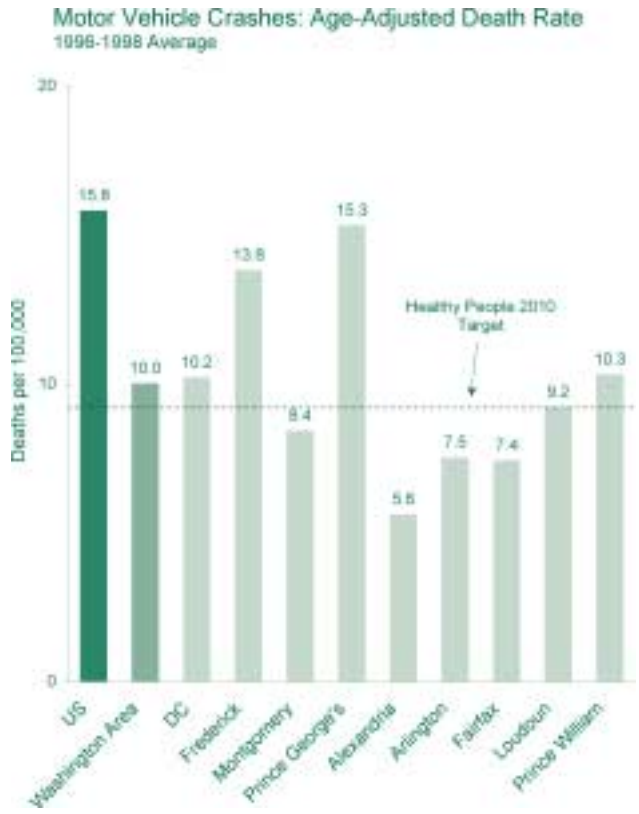
7. INJURY AND VIOLENCE

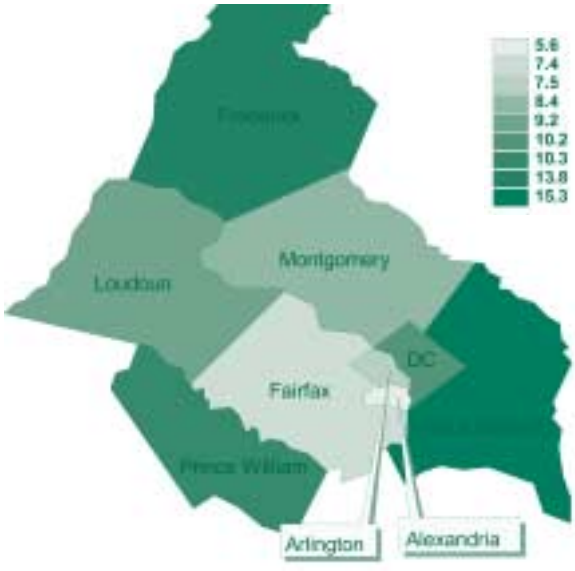
This Leading Health Indicator category covers both unintentional injury and injury intentionally inflicted, usually on others. (Suicide, discussed under Mental Health, is classified as a form of intentional injury.) Nationally, motor vehicle crashes are the most common cause of serious injury. *Healthy People 2010* reported that the total societal cost of motor vehicle crashes exceeds $150 billion annually. The youngest and oldest drivers are most likely to be injured or die in motor vehicle crashes, and such factors as excess speed, driving under the influence of alcohol or other drugs, and lack of seatbelt use contribute to crashes and crash-related injuries. Violence is a serious threat to the physical health of some segments of the population and can threaten the psychological well-being of others who never suffer physical injury.

Motor vehicle crash deaths per 100,000 population

(Healthy People Objective 15-15a)

Although residents of the Washington area face substantial traffic congestion and often commute long distances between home and work, the age-adjusted death rate from motor vehicle crashes, at 10.0 deaths per 100,000 population for the 1996-1998 period, is lower than the 1997 national rate of 15.8. The Healthy People 2010 target is a rate of 9.2 deaths per 100,000. The rates in all of the area jurisdictions are below the national average, and in some jurisdictions are lower than the target. We note that these rates are based on where people lived, not where fatal crashes occurred. Data on the location of fatal crashes are needed to assess whether interventions such as reduced speed limits or changes in road design could help reduce crash deaths. Analyzing the data by race showed that death rates were 14.0 per 100,000 for blacks, 9.5 for persons of other races, and 8.5 for whites.

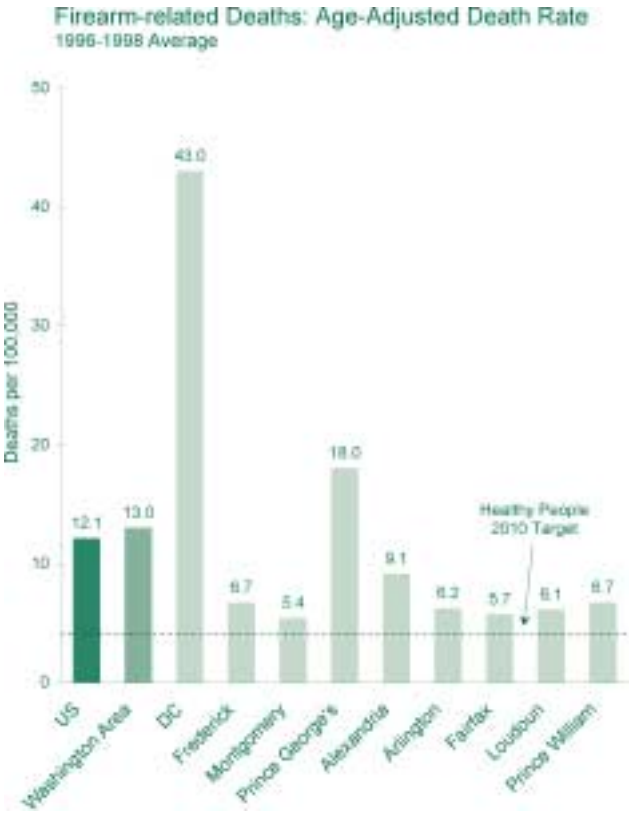


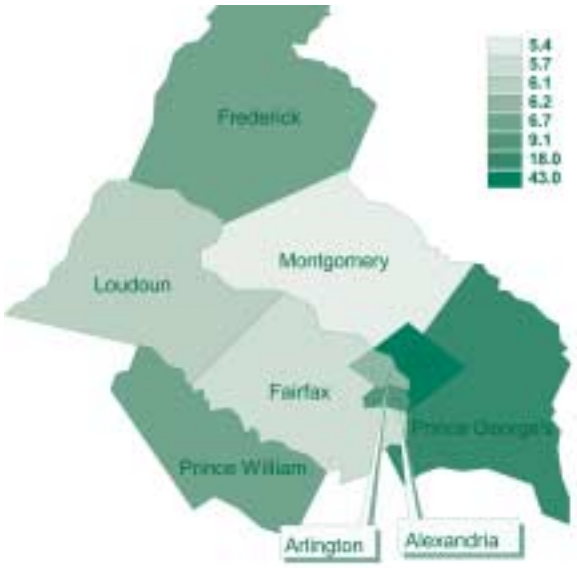


Firearm-related deaths per 100,000 population

(Healthy People Objective 15-3)

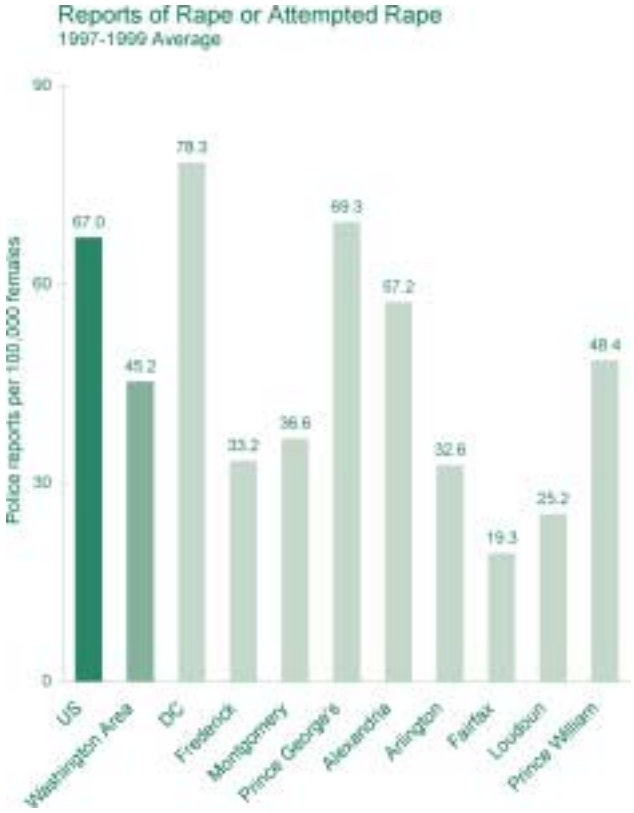
This indicator focuses on firearms as a cause of either intentional or unintentional fatal injuries. Although homicides are usually the primary concern, it is worth noting that use of a firearm increases the likelihood that a suicide attempt will be successful. Nationally, the age-adjusted death rate for 1997 was 12.1 per 100,000 population, with a Healthy People 2010 target rate of 4.1 per 100,000. The rate for the Washington area of 13.0 is strongly influenced by the District's rate of 43.0 per 100,000. Except for Prince George's County, the rates in other jurisdictions are below the national average. The rate for blacks is 32.3 per 100,000, more than five times higher than the rate of 5.6 for whites and more than seven times the rate of 4.2 for people of other races. But among people aged 65 and older, firearm death rates are 8.9 per 100,000 for whites and 5.5 for blacks.

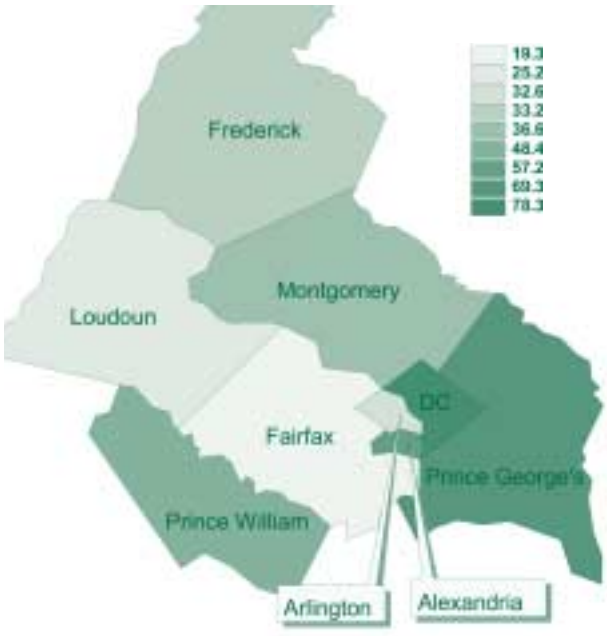




Reports to police of rape or attempted rape per 100,000 females

Death rates measure only the most serious cases of injury and violence, but many more people suffer nonfatal injuries from intentional and unintentional causes. We selected rape as an indicator of personal violence with potentially serious health consequences. National data show that in 1998 there were 67 reports to police of rape or attempted rape per 100,000 women and girls, more than five times the rate of firearm deaths in the general population. In the Washington area, the average annual rate for the period 1997-1999 was 45.2 per 100,000, with considerable variation among the individual jurisdictions. The Washington-area data, which come from reports to police and include only female victims, are not directly comparable with the related *Healthy People 2010* objective and target, which are based on data from a national survey and include male and female victims.





Injury and Violence Indicators	Motor vehicle crash death rate (per 100,000)	Firearm-related death rate (per 100,000)	Reports of rape or attempted rape (per 100,000 females)
United States	15.8	12.1	67
Healthy People 2010 Target	9.2	4.1	-
Washington Area	10.0	13.0	45.2
District of Columbia	10.2	43.0	78.3
Maryland Counties			
Frederick	13.8	6.7	33.2
Montgomery	8.4	5.4	36.6
Prince George's	15.3	18.0	69.3
Virginia Health Districts			
Alexandria	5.6	9.1	57.2
Arlington	7.5	6.2	32.6
Fairfax	7.4	5.7	19.3
Loudoun	9.2	6.1	25.2
Prince William	10.3	6.7	48.4*
Washington Area Race			
Black	14.0	32.3	
White	8.5	5.6	
Other races	9.5	4.2	

Notes and Sources

*Estimate differs significantly ($p < .05$) from the estimate for the Washington area (BRFSS data).
– No equivalent Healthy People 2010 target available.
Prince William County only; excludes the cities of Manassas and Manassas Park.

Motor vehicle crash deaths per 100,000 population (ICD-9 codes E810–E819) age adjusted to a year 2000 standard population:
Healthy People 2010 Objective 15-15a.
US data: 1997; National Vital Statistics System, produced using CDC WONDER, U.S. Centers for Disease Control and Prevention. Washington-area and jurisdictional data: 1996–1998 average; National Vital Statistics System, produced using CDC WONDER, U.S. Centers for Disease Control and Prevention.

Firearm-related deaths per 100,000 population (ICD-9 codes E922, E955.0–E955.4, E965.0–E965.4, E970, E985.0–E985.4), age adjusted to a year 2000 standard population:
Healthy People 2010 Objective 15-4.
US data: 1997; National Vital Statistics System, produced using CDC WONDER, U.S. Centers for Disease Control and Prevention. Washington-area and jurisdictional data: 1996–1998 average; National Vital Statistics System, produced using CDC WONDER, U.S. Centers for Disease Control and Prevention.

Reports to police of rape or attempted rape per 100,000 females:
No equivalent Healthy People 2010 objective, but see related objective 15-35.
US data: 1998; U.S. Federal Bureau of Investigation. *Crime in the United States, 1998*. Uniform Crime Reports. Washington-area and jurisdictional data: 1997–1999 average; rates calculated by MWPHAC from Uniform Crime Report data, as reported by the Metropolitan Washington Council of Governments in: *Report on Crime and Crime Control in the COG Region in 1999*. Washington, D.C. September 2000; *Report on Crime and Crime Control in the COG Region in 1998*. Washington, D.C. June 1999; *Report on Crime and Crime Control in the COG Region in 1997*. Washington, D.C. June 1998.

Where Data Are Needed

Better access to hospitalization data and data from emergency departments might make it possible to shift from indicators based on deaths to ones that reflect the more extensive impact of nonfatal injuries.

8. ENVIRONMENTAL QUALITY

One aspect of health promotion and disease prevention is concern about broader environmental health threats that cannot be controlled by individuals acting alone. Traditionally, these concerns include air and water quality and food safety. Poor air quality contributes to respiratory illness, cardiovascular disease, and cancer. Despite major improvements in air quality in the United States since 1970, about 120 million people lived in areas that in 1997 did not meet established standards for one or more common air pollutants. *Healthy People 2010* reports estimates that air pollution is associated with 50,000 premature deaths and with $40 billion to $50 billion in health-related costs annually in the United States. Contamination of water from chemical or biological pollutants can threaten drinking water supplies and the use of lakes, rivers, and streams for commercial fishing and recreational activities. With increased consumption of prepared foods and of foods grown and processed far from where they are consumed, the safety of the food supply depends on proper handling of foodstuffs not only by consumers in their homes but by many other people in many places, including other countries. Although many cases of foodborne illness are never formally diagnosed, it is estimated that there are as many as 76 million acute cases each year, with 325,000 hospitalizations, and 5,000 deaths.[12]

Number of days per year on which the 1-hour National Ambient Air Quality Standard for ozone was exceeded in the Washington Metropolitan Region

This indicator was selected because the jurisdictions covered by this report are part of a larger Washington metropolitan region that has been designated as a "nonattainment" area for the national air quality standards on ozone. Ozone is generated when nitrogen oxides and volatile organic compounds react in the presence of strong sunlight, typically during the hottest periods of the summer. Some of these ozone precursors are generated locally from fuel burned by automobiles, power plants, and factories and from evaporation from substances such as gasoline and paints. In addition, ozone and precursor pollutants can be carried into the region from other areas. The Metropolitan Washington Council of Governments tracks ozone levels measured at various locations throughout the region to determine when the standard of 0.12 parts per million has been exceeded. In 1997 and 1998, there were 6 days each year on which the standard was exceeded, and in 1999, there were 7 days on which the standard was exceeded. In 2000, when the summer was relatively mild, there were only 2 days when the standard was exceeded.

Reported cases of foodborne illness caused by *Samonella* per 100,000 population

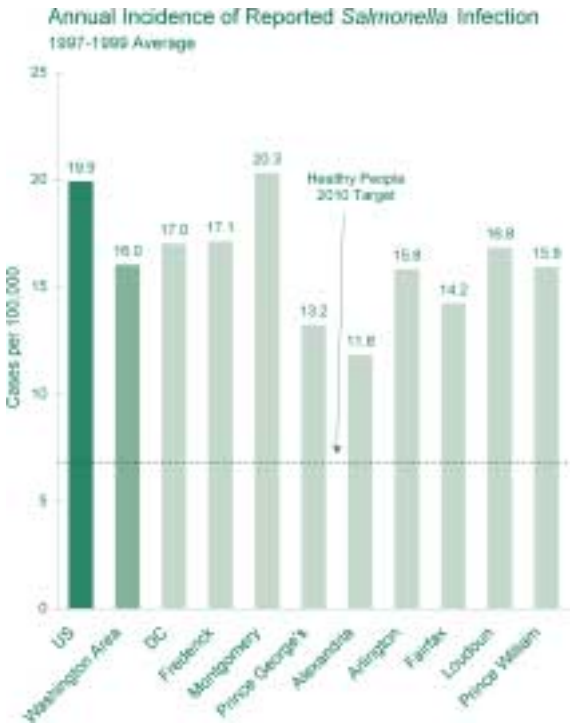
(Healthy People 2010 Objective 10-1d)

Salmonella is one of the leading bacterial pathogens causing foodborne illnesses. National reportable disease data show that there were 19.9 cases per 100,000 population in the United States in 1998. The *Healthy People 2010* target is 6.8 cases per 100,000. In the Washington area, the annual average reported incidence of *Salmonella* infection during the 1997-1999 period was 16.0 cases per 100,000. Rates were roughly similar in all the jurisdictions. But with people consuming food

purchased at stores and restaurants throughout the Washington area, rates based on place of residence can provide only a partial picture of food safety in the region. We also note that although diagnosed cases are reportable to state health departments, many people do not seek medical care or if treated, are not tested so that a specific diagnosis can be made. This means that reported cases are probably a substantial underestimate of the true level of Salmonella infection in the region.

Where Data Are Needed

Asthma, affecting children and adults, can be exacerbated by indoor and outdoor air pollutants, but we lack access to data to track the prevalence of the condition in the population or to monitor visits to emergency departments for urgent asthma care.



Environmental Quality Indicators	Days per year with ozone levels exceeding 1-hour standard	Incidence of *Salmonella* infection (per 100,000)
United States		19.9
Healthy People 2010 Target	–	6.8
Washington Area		16.0
District of Columbia		17.0
Maryland Counties		
Frederick		17.1
Montgomery		20.3
Prince George's		13.2
Virginia Health Districts		
Alexandria		11.8
Arlington		15.8
Fairfax		14.2
Loudoun		16.8
Prince William		15.9
Washington Area		
1997	6	
1998	6	
1999	7	
2000	2	

Notes and Sources

– No equivalent *Healthy People 2010* target available

Number of days per year on which the 1-hour National Ambient Air Quality Standard (NAAQS) for ozone (0.12 parts per million) was exceeded in the Washington Metropolitan Region

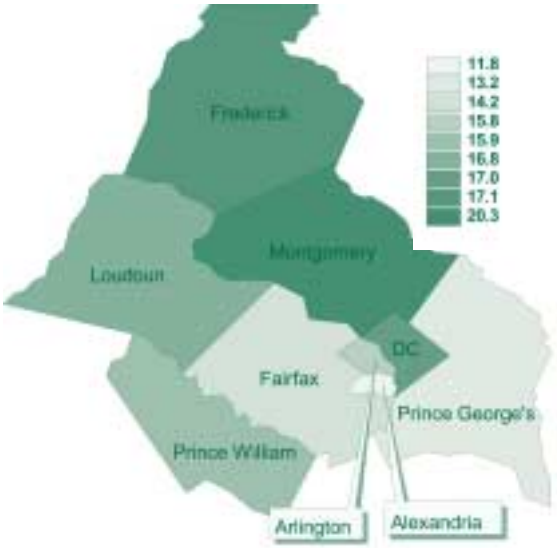
No equivalent Healthy People 2010 objective, but see related objective 8-1a

US data: Not measured on a national basis. *Washington-area data:* 1997–2000, reported by the Metropolitan Washington Council of Governments (www.mwcog.org); monitoring region also includes Calvert County, Maryland, Charles County, Maryland, and Stafford County, Virginia.

Reported cases of foodborne illness caused by *Salmonella* per 100,000 population

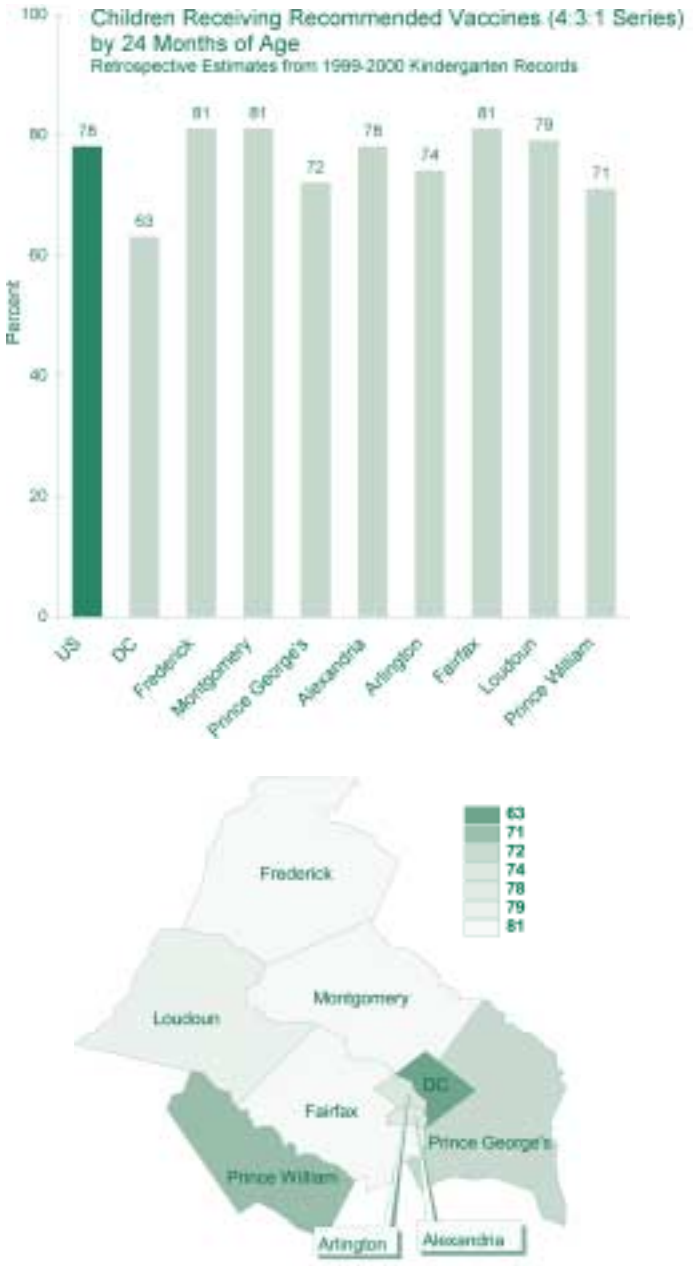
Healthy People 2010 Objective 10-1d

US data: 1998, U.S. Centers for Disease Control and Prevention, Summary of Notifiable Diseases, United States, 1998. *MMWR* 47(53). *Washington-area and jurisdictional data:* 1997-1999 average. Rates calculated by MWPHAC. Case data: U.S. Centers for Disease Control and Prevention. Summary of Notifiable Diseases, United States, 1997. *MMWR* 46(54); U.S. Centers for Disease Control and Prevention. Summary of Notifiable Diseases, United States, 1998. *MMWR* 47(53); U.S. Centers for Disease Control and Prevention. *MMWR* 48(51, 52); Maryland Department of Health and Mental Hygiene; Virginia Department of Health.



9. IMMUNIZATION AND INFECTIOUS DISEASE

Through the use of vaccines, it has been possible to control and even eliminate many serious infectious diseases. Smallpox has been eradicated, poliomyelitis has been eliminated from the Western Hemisphere, and measles cases in the United States are at record low levels. But a major resurgence of measles in 1989-1991 helped demonstrate the continuing importance of ensuring that very young children receive recommended vaccines and of maintaining high levels of immunization to help control the spread of infections within communities. For older adults and other vulnerable groups, such as people with chronic illnesses, immunizations against influenza and pneumococcal disease can help reduce the burden of serious illness and death from these diseases. But vaccines are not available to control other important infectious diseases, such as tuberculosis. These diseases must be treated promptly and effectively to cure infected individuals and to prevent the spread of the disease to others in the community.



Percentage of children who, by 24 months of age, had received the following vaccines: 4 doses of diphtheria and tetanus toxoids and pertussis vaccine (DTP), 3 doses of poliovirus vaccine, and 1 dose of measles-containing vaccine (4:3:1 series)

By 2 years of age, most children should have received an extensive series of recommended vaccinations. The National Immunization Survey (NIS) provides data for states, including the District, and the nation on the percentage of children who have received those vaccinations. But for the individual jurisdictions in Virginia and Maryland, immunization data for 2-year-olds are currently available only from retrospective reviews of the records of a sample of children entering kindergarten each year. Retrospective immunization rates calculated in the District are based on a review of the records of all kindergarten students. The data from kindergarten records measure immunization rates at a

point roughly 3 to 4 years earlier and so cannot provide an up-to-date picture of the immunization status of 2-year-olds in the community.

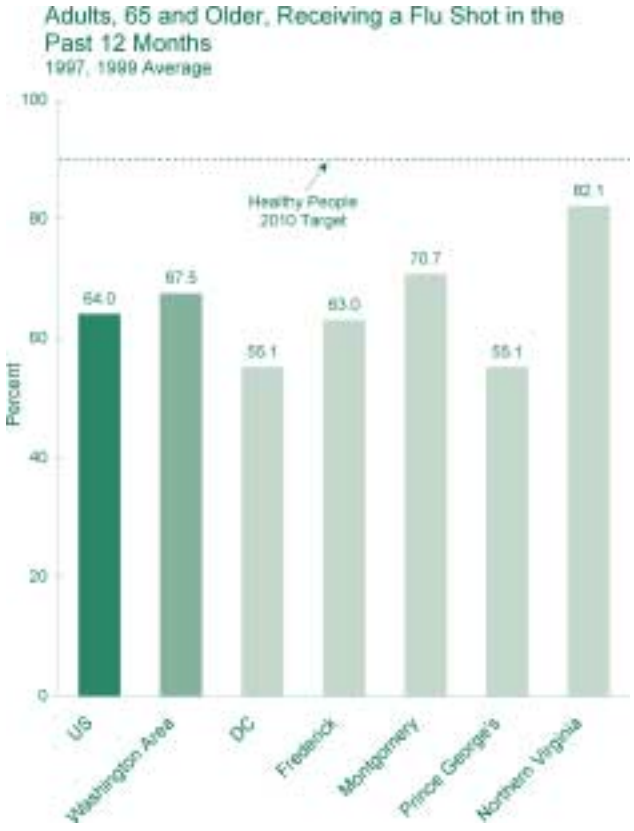
For the Washington-area jurisdictions, we are presenting retrospective rates based on kindergarten records for the 1999-2000 school year. We chose NIS results for 1997 as the closest national reference point. We did not attempt to calculate a regional average from the retrospective rates for individual jurisdictions. For the 4:3:1 immunization series, the national rate was 78 percent in 1997. The rates in most of the area jurisdictions are similar, but the District rate, at 63 percent, is distinctly lower. Data on individual vaccines indicate that many of the children in the District who had not completed the 4:3:1 series had not received the fourth dose of DTP: 87 percent had received 3 doses of DTP but only 68 percent had received 4 doses. For the other vaccines in the series, 83 percent of District children had received the recommended 3 doses of poliovirus vaccine, and 79 percent had received 1 dose of measles-mumps-rubella vaccine. In the 1997 NIS, the District showed a completion rate of 76 percent for the 4:3:1 series.

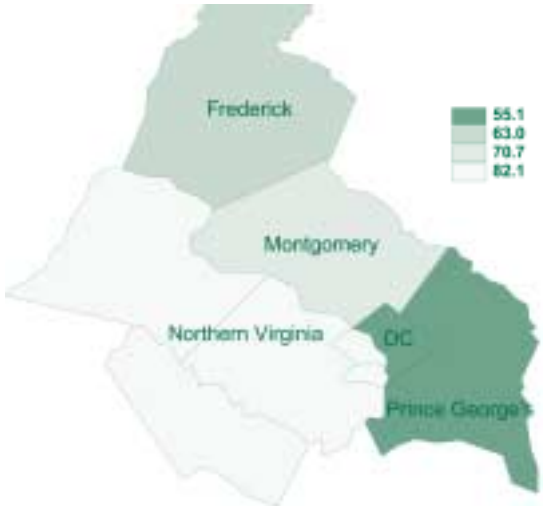
We have not included a *Healthy People 2010* target because the objective on childhood immunization refers to completion of a more extensive set of immunizations, including 3 doses of *Haemophilus influenzae* type b (Hib) vaccine and 3 doses hepatitis B vaccine, in addition to the vaccine doses that make up the 4:3:1 series.

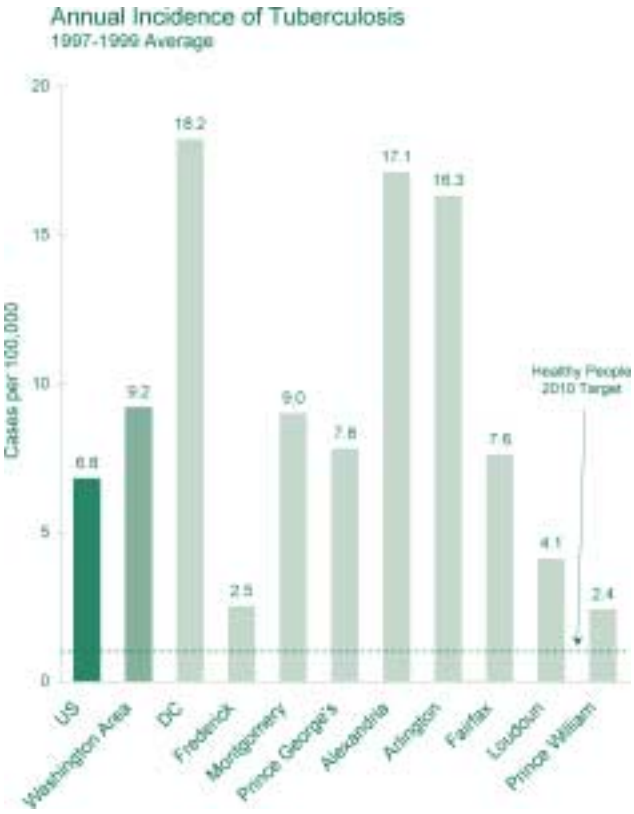
Percentage of adults aged 65 and older who report having received an influenza vaccination during the past 12 months

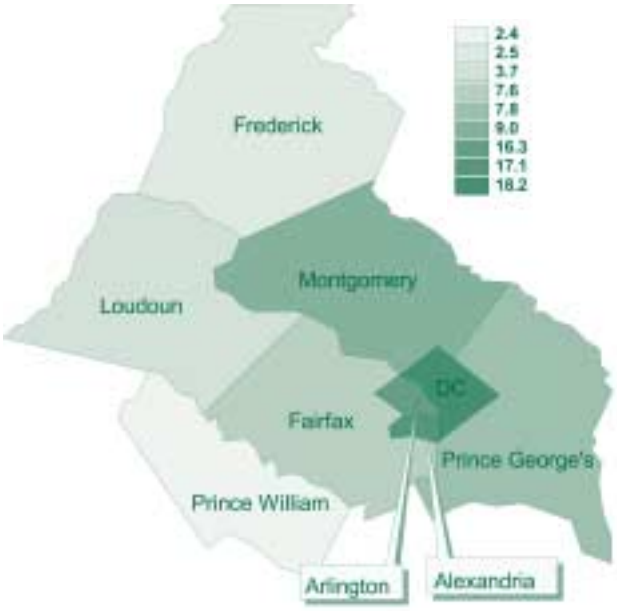
(Healthy People 2010 Objective 14-29)

Influenza is a serious health threat for older adults. Vaccination can prevent or reduce the severity of the illness, but annual doses are necessary because the vaccine changes each year. National estimates for 1998 are that 64 percent of adults aged 65 or older and living in the community (e.g., excluding nursing home residents) had received a flu shot during the past year. The *Healthy People 2010* tar-









get is vaccination of 90 percent of this population each year. The average rate for the Washington area for 1997 and 1999 is 67.5 percent. The Northern Virginia jurisdictions have a combined rate of 82.1 percent, which is significantly higher than the regional average. But the estimated rate in the District, at 55.1 percent, is significantly lower. Although the estimate for Prince George's County is also 55.1 percent, that estimate does not differ in a statistically significant way from the regional average. Immunization levels for blacks are significantly lower than those for whites, and levels are also significantly lower for people with the least education compared with those for people with at least some college education. With generally lower income levels among people of retirement age than for the general population, the significant difference is between the lower rates for people with household incomes of $15,000-$24,999 and the higher rates for people with incomes at the $25,000-$49,999 level.

Newly reported tuberculosis cases per 100,000 population

(Healthy People 2010 Objective 14-11)

Tuberculosis reemerged as a serious community health concern in the late 1980s because of infections among the increasing numbers of people with AIDS and the presence of multidrug-resistant (MDR) varieties of tuberculosis. With better treatments for HIV infection and special efforts to detect and control MDR tuberculosis, more attention is being focused on cases occurring among immigrants from regions where tuberculosis remains prevalent. In the United States in 1998, there were 6.8 cases of TB per 100,000 population, and Healthy People 2010 sets a target rate of 1.0 per 100,000.

At 9.2 cases per 100,000, the average annual incidence in the Washington area for 1997-1999 was higher than the national rate. Rates were almost twice as high as the regional average in the District, Alexandria, and Arlington, the region's most densely populated jurisdictions and home to sizeable immigrant populations. But a comparison with the 1995 MWPHA report showed that the incidence of tuberculosis had declined from the early 1990s in five of the six jurisdictions included in the earlier report.

Where Data Are Needed

Successful control of tuberculosis requires completion of an appropriate course of treatment by each person diagnosed with the disease. Prescribed treatment must be completed both to ensure that infected individuals are cured and to prevent the development and spread of drug-resistant tuberculosis. We considered including as one of our indicators the percentage of people diagnosed with tuberculosis who completed treatment within 12 months of their diagnosis, but we found that the data available to us were not comparable. People who moved during treatment were counted differently in different jurisdictions. Because of the concern about tuberculosis control throughout the region, it might be valuable to explore whether a common basis for measuring completion of tuberculosis treatment can be established.

Immunization and Infectious Disease Indicators	Immunization rate for 2-year-olds (4:3:1 series)	% of adults, aged 65+, receiving a flu shot in the past year	Incidence of tuberculosis (per 100,000)
United States	78	64	6.8
Healthy People 2010 Target	–	90	1.0
Washington Area	†	67.5	9.2
District of Columbia	63[1]	55.1*	18.2
Maryland Counties			
Frederick	81	63.0	2.5
Montgomery	81	70.7	9.0
Prince George's	72	55.1	7.8
Virginia Health Districts			
Alexandria	78		17.1
Arlington	74		16.3
Fairfax	81	82.1*	7.6
Loudoun	79		3.7
Prince William	71		2.4
Washington Area			
Race			
Black		46.2*	
White		75.5	
Other races		53.4	
Ethnicity			
Hispanic		80.2	
Not Hispanic		67.7	
Educational Attainment			
Less than high school diploma		45.1*	
High school diploma		62.1	
Some college		75.1	
College degree		78.0	
Household Income			
Less than $15,000		58.3	
$15,000 – $24,999		56.9	
$25,000 – $49,999		80.1*	
$50,000 or more		73.6	

Notes and Sources

*Estimate differs significantly ($p < .05$) from the estimate for the Washington area (overall data).
– No equivalent *Healthy People 2010* target available.
† Washington-area average not calculated.
[1] Results for the District are based on a comprehensive review of records of all kindergarten students; results in other jurisdictions are based on reviews of a sample of records and therefore subject to sampling error. The retrospective estimates for the 1998-2000 school year roughly reflect the immunization status of children who reached their second birthday in 1998. The National Immunization Survey (NIS) provides more current estimates of immunization levels for 2-year-olds for the District but not for the Maryland or Virginia jurisdictions included in this report. The NIS estimates of immunization rates for the District for the 4:3:1 series are 75.0% in 1997, 73.1% in 1998, and 73.1% in 1999.

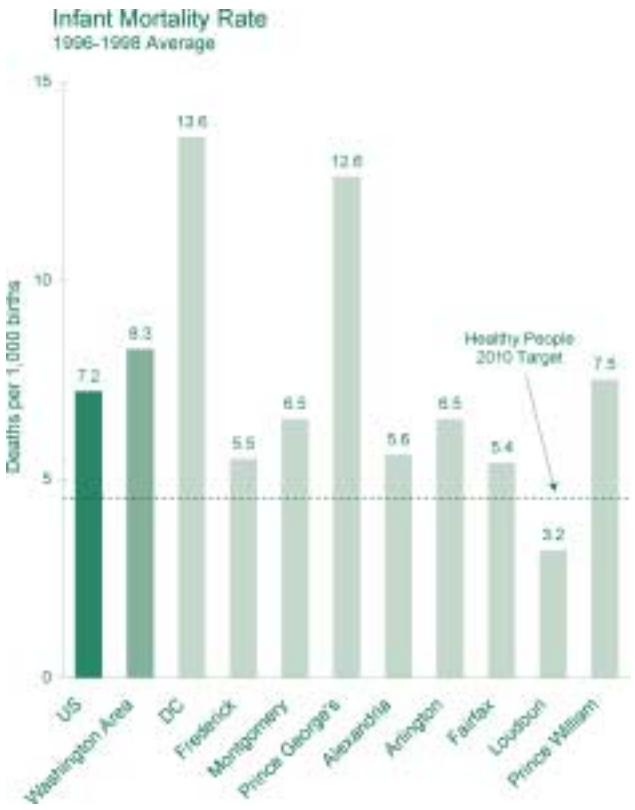
Percentage of children who, by 24 months of age, had received the following vaccines: 4 doses of diphtheria and tetanus toxoids and pertussis vaccine (DTP), 3 doses of poliovirus vaccine, 1 dose of measles-containing vaccine (4:3:1 series)
No equivalent *Healthy People 2010* objective, but see related objectives 14-22 and 14-26a
US data: 1997, National Immunization Survey; U.S. Centers for Disease Control and Prevention. National, state, and urban area vaccination coverage levels among children aged 19–35 months—United States, 1997. *MMWR* 47(26): 547–554.
Washington-area and jurisdictional data: Retrospective estimates from reviews of kindergarten records for the 1999-2000 school year. District of Columbia Department of Health; Maryland Department of Health and Mental Hygiene; Alexandria Health Department; Arlington County Department of Human Services; Fairfax County Health Department; Loudoun Department of Public Health; Prince William Health District.

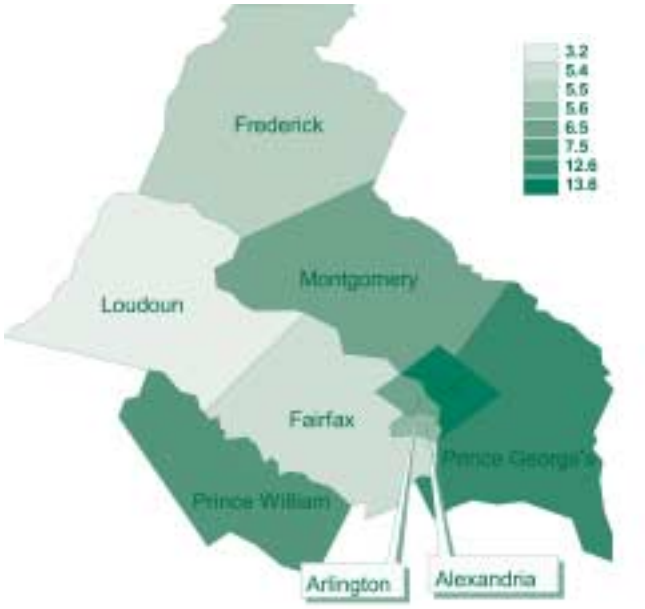
Percentage of adults aged 65 and older who report having received an influenza vaccination during the past 12 months
Healthy People 2010 Objective 14-29a
US data: 1998, National Health Interview Survey, as reported in *Healthy People 2010*, age adjusted to a year 2000 standard population. *Washington-area and jurisdictional data:* 1997, 1999 average, calculated by MWPHAC from Behavioral Risk Factor Surveillance System data files, U.S. Centers for Disease Control and Prevention. A single estimate was made for the Virginia health districts because of the reduction in the number of respondents in individual health districts from age restrictions for this indicator.

Newly reported tuberculosis cases per 100,000 population
Healthy People 2010 Objective 14-11
US data: 1998, National TB Surveillance System, as reported in *Healthy People 2010*. *Washington-area and jurisdictional data:* 1997–1999 average. Rates calculated by MWPHAC. Case data: U.S. Centers for Disease Control and Prevention. *Reported Tuberculosis in the United States, 1998.* Atlanta, Ga. August 1999; U.S. Centers for Disease Control and Prevention. *Reported Tuberculosis in the United States, 1999.* Atlanta, Ga. August 2000; Maryland Department of Health and Mental Hygiene; Virginia Department of Health.

10. ACCESS TO HEALTH CARE

The delivery of many important health promotion and disease prevention services depends on access to high-quality clinical health care. Access to care can be limited by financial barriers, such as lack of health insurance or inadequate coverage, and by other, more general problems, such as inadequate transportation or childcare. Lack of appropriate health care professionals or health care facilities in the community also can limit access to care. In addition, cultural and language differences between patients and health care providers or concerns about confidentiality or discrimination can prevent people from using otherwise available and affordable services. In selecting indicators related to access to care, we chose to focus on health outcomes that can be improved by good access to care and on use of prevention-oriented services, such as cancer screening, that require access to clinical care.





Infant mortality rate

(Healthy People Objective 16-1c)

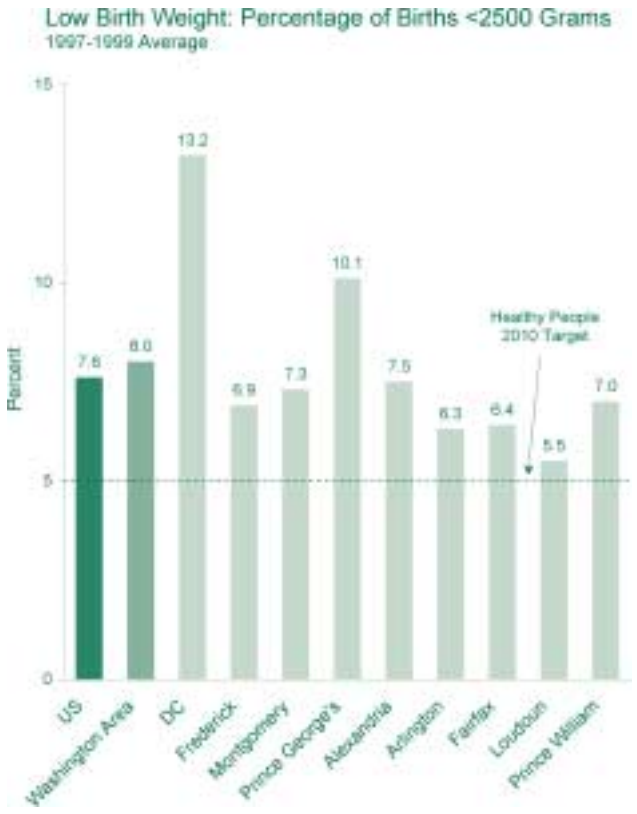
The infant mortality rate is a traditional indicator of the quality of health and health care in a community. The rate for the United States in 1997 was 7.2 deaths of infants less than 1 year old per 1,000 live births. The Healthy People 2010 target rate is set at 4.5. The average rate for the Washington region for 1996-1998 was 8.3 deaths per 1,000 births. Among the individual jurisdictions, the highest rates are found in the District and Prince George's County. In those two jurisdictions, which are predominantly black, the rates are consistent with the overall rate of 15.1 for blacks throughout the region. At 5.1 deaths per 1,000 births, the white infant mortality rate in the region was markedly lower but not yet at the Healthy

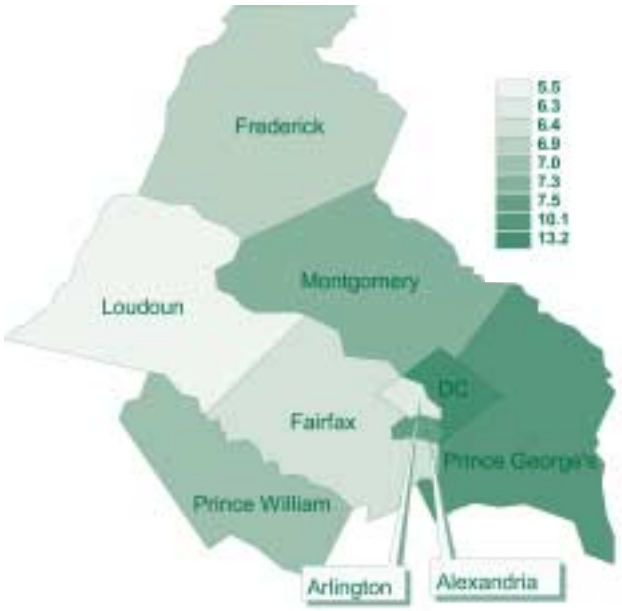
People 2010 target level. For all six jurisdictions included in the 1995 MWPHA report, the infant mortality rate has improved since the early 1990s.

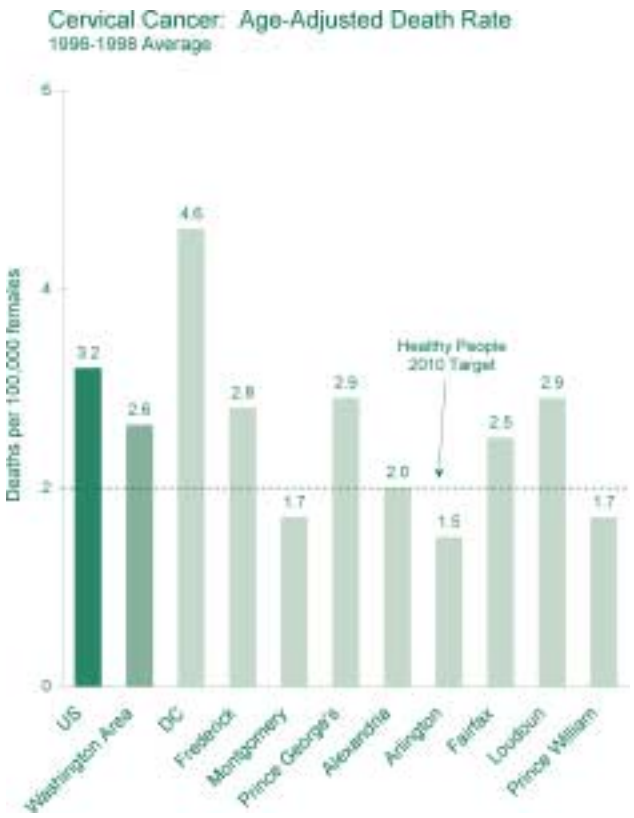
Percentage of live births with a birth weight of less than 2,500 grams

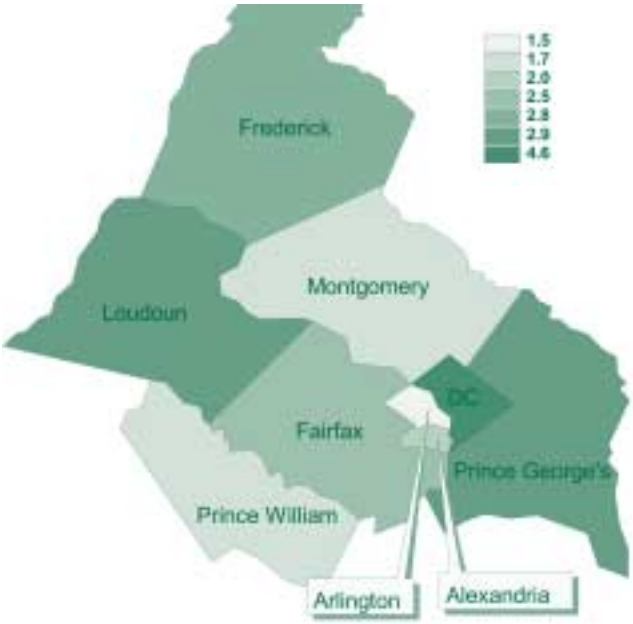
(Healthy People Objective 16-10a)

Low birth weight is associated with an increased risk of death or long-term disabilities such as cerebral palsy or mental retardation. Appropriate postnatal care for low-birth-weight infants can help ensure the best possible long-term health outcomes, and good prenatal care can help reduce the risk of low birth weight by encouraging pregnant women to maintain healthy diets and avoid smoking and alcohol consumption. But multiple births, of twins or triplets, for example, also increase the likelihood of low birth weight. In 1998, 7.6 percent of infants born in the United States weighed less than 2,500 grams (about 5.5 pounds), with a target set for 2010 of 5 percent of births. In the Washington area, an average of 8.0 percent of infants born in 1997-1999 had a low birth weight. Compared with the early 1990s, the incidence of low birth weight has decreased in the District but has increased in the five other jurisdictions included in the 1995 MWPHA report.









Cervical cancer deaths per 100,000 women

(Healthy People Objective 3-4)

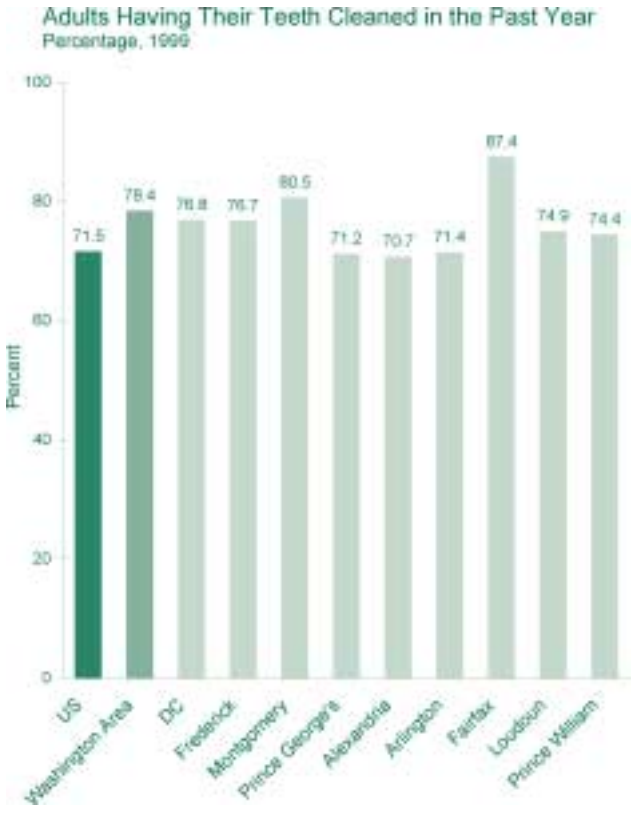
With appropriate screening using periodic Pap testing, most cases of cervical cancer could be detected at an early stage. And with early detection, almost all cases can be cured with appropriate treatment and follow-up. Most cervical cancer deaths, therefore, can be seen as the result of inadequate access to care. In the United States in 1997, the age-adjusted death rate from cervical cancer was 3.2 per 100,000 women. The target rate in Healthy People 2010 is 2.0. At 2.6 per 100,000 women, the average death rate in the Washington area for 1996-1998 was lower than the national average. Among area jurisdictions, only the District's rate of 4.6 exceeded the national rate. Because so few deaths are involved, the differences among the other jurisdictions may not be consistent over time. We found that the death rate for black women was 5.0 per 100,000, more than twice the rate of 2.4 for women of other races and closer to three times the rate of 1.8 for white women.

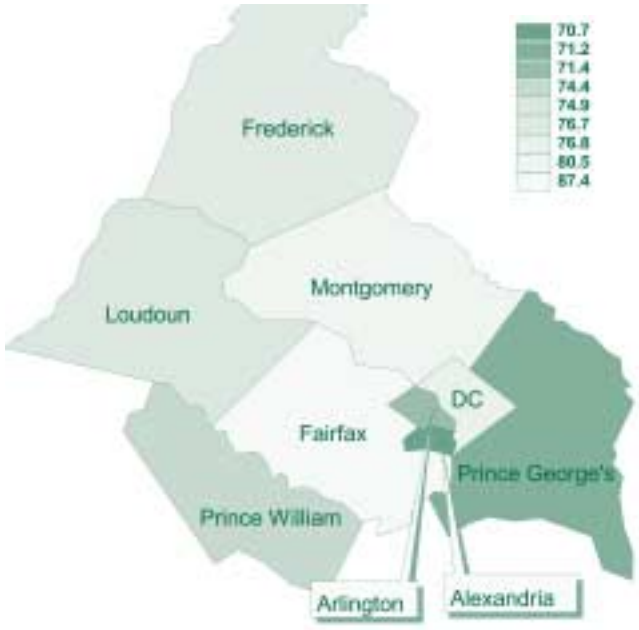
Percentage of adults aged 18 and older who report having their teeth cleaned by a dentist or dental hygienist within the past year

A growing appreciation of the importance of oral health is reflected in the recent report by the U.S. Surgeon General.[13] Oral health problems include not only cavities and gum disease but cancers, infections, and birth defects, like cleft palate. These conditions can be painful and sometimes disfiguring and can contribute to poor nutrition and systemic illness. In addition, other health problems such as diabetes and cancer may make

people susceptible to oral complications. Regular dental examinations promote good oral hygiene that can prevent some problems, like tooth loss, and they contribute to early detection and treatment of other potentially serious conditions.

The median estimate from the 1999 BRFSS surveys conducted in each state and the District of Columbia and Puerto Rico indicates that 71.5 percent of adults had their teeth cleaned in the previous year. Healthy People 2010 does not include a comparable measure, so no national target has been established. The 1999 BRFSS data for the Washington area show that 78.4 percent of adults reported having their teeth cleaned. In individual jurisdictions, estimates are comparable to or better than national estimate, with no significant differences from the regional average. But significant differences did emerge in the analyses based on race, education, and income. A significantly higher percentage of whites, 82 percent, than blacks, 72.3 percent, reported having their teeth cleaned in the past year; however, neither group differs significantly from the regional average. The estimates for people with a high school diploma or less were significantly lower than those for people with more education or for the region. The greatest differences were related to income: only 30.1 percent of people with a household income of less than $15,000 reported having their teeth cleaned compared with 85.3 percent of people with a household income of $50,000 or more.





Percentage of adults aged 50 and older who report having a fecal occult blood test within the past 2 years

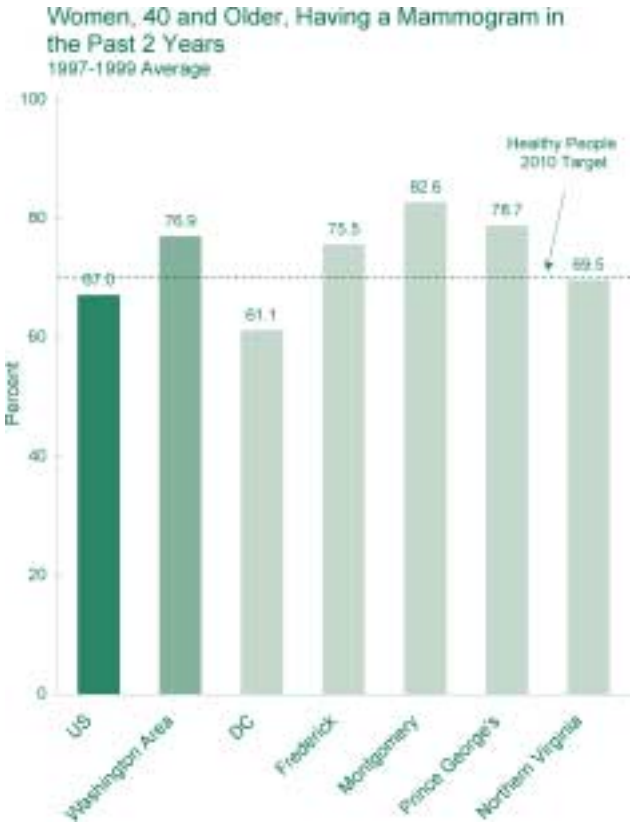
(Healthy People Objective 3-12a)

Colorectal cancer is the second leading cause of cancer-related deaths in the United States. Regular screening, especially at older ages, can help detect the disease and its precursors at earlier, more treatable stages. Fecal occult blood tests are noninvasive and relatively inexpensive, making them more accessible and acceptable than colorectal cancer screening using sigmoidoscopy or colonoscopy. In 1998, an estimated 35 percent of U.S. adults aged 50 and older reported having had a fecal occult blood test within the past 2 years. A target rate of 50 percent has been set for the year 2010. BRFSS data for 1997 and 1999 for the Washington area show that the average screening rate is essentially the same as the national average. The estimates suggest that rates are a little higher in the District and Montgomery County, but no jurisdiction differs significantly from the regional average. Our analyses in terms of race, education, and household income showed expectable patterns—higher rates of testing among whites and people with more education and higher incomes—but none of the differences reach levels of statistical significance.

Percentage of women aged 40 and older who report having a mammogram within the past 2 years

(Healthy People Objective 3-13)

Breast cancer is the most common form of cancer in women, and early detection is important for improving long-term survival. Periodic mammograms are an important tool for detecting breast cancer at an early stage. Current guidelines call for regular screening of women beginning at age 40. The national estimates for 1998 are that 67 percent of women aged 40 and older had had a mammogram within the past 2 years, with a Healthy People 2010 target of an increase to 70 percent. Estimates from BRFSS data for 1997-1999 show that our regional average of 76.9 percent already exceeds the target for 2010. Estimated screening rates in the District, at 61.1 percent, were, however, significantly lower than the regional average. By contrast, we found that screening rates for black women throughout the region are higher than those for white women. Predictably, estimated screening rates were higher among women with more education and higher household incomes, but the differences do not meet standards of statistical significance.



Where Data Are Needed

Because of the economic and ethnic diversity of the Washington area, health policy officials and analysts in the region should consider what measures could be used to assess the availability of culturally appropriate health services and how to obtain data for those measures. Elements of culturally appropriate services might include the availability of printed materials and broadcast health messages in multiple languages, of appropriately trained translators at health care facilities, and of health care providers representative of the communities they serve.

Access to Care Indicators	Infant mortality rate (per 1,000 births)	Low birth weight (% of births)	Cervical cancer death rate (per 100,000 females)	% of adults having their teeth cleaned in the past year	% of adults, aged 50+, having a fecal occult blood test in the past 2 years	% of women, aged 40+, having a mammogram in the past 2 years
United States	7.2	7.6	3.2	71.5	35	67
Healthy People 2010 Target	4.5	5.0	2.0	–	50	70
Washington Area	8.3	8.0	2.6	78.4	35.4	76.9
District of Columbia	13.6	13.2	4.6	76.8	40.5	61.1*
Maryland Counties						
Frederick	5.5	6.9	2.8	76.7	34.3	75.5
Montgomery	6.5	7.3	1.7	80.5	42.3	82.6
Prince George's	12.6	10.1	2.9	71.2	28.9	78.7
Virginia Health Districts						
Alexandria	5.6	7.5	2.0	70.7		
Arlington	6.5	6.3	1.5	71.4		
Fairfax	5.4	6.4	2.5	87.4	31.4	69.5
Loudoun	3.2	5.5	2.9	74.9		
Prince William	7.5	7.0	1.7	74.4		
Washington Area						
Race						
Black	15.1		5.0	72.3	32.1	82.3
White	5.1		1.8	82.0	36.6	75.8
Other races	4.1		2.4	70.6	23.9	74.1
Ethnicity						
Hispanic				74.6	37.9	80.7
Not Hispanic				78.4	35.6	77.4
Educational Attainment						
Less than high school diploma				57.5*	30.8	70.4
High school diploma				68.4*	31.5	74.2
Some college				80.6	40.2	79.6
College degree				82.6	35.2	81.1
Household Income						
Less than $15,000				30.1*	23.2	69.6
$15,000 – $24,999				53.7*	28.1	73.1
$25,000 – $49,999				75.7	33.8	76.1
$50,000 or more				85.3	38.4	81.1

Notes and Sources

*Estimate differs significantly ($p < .05$) from the estimate for the Washington area (BRFSS data).
– No equivalent *Healthy People 2010* target available

Infant mortality rate: deaths of infants less than 1 year old per 1,000 live births
Healthy People 2010 Objective 16-1c
US data: 1997, National Vital Statistics System, produced using CDC WONDER, U.S. Centers for Disease Control and Prevention. *Washington-area and jurisdictional data:* 1996–1998 average, National Vital Statistics System, produced using CDC WONDER, U.S. Centers for Disease Control and Prevention.

Percentage of live births with a birth weight of less than 2,500 grams
Healthy People 2010 Objective 16-1a
US data: 1998, Ventura SJ, Martin JA, Curtin SC, Matthews TJ, Park MM. Births: Final data for 1998. *National Vital Statistics Reports* 48(3). National Center for Health Statistics. 2000. *Washington-area and jurisdictional data:* 1997–1999 average, Ventura SJ, Martin JA, Curtin SC, Matthews TJ. Births: Final data for 1997. *National Vital Statistics Reports* 47(18). National Center for Health Statistics. 1999; Ventura SJ, Martin JA, Curtin SC, Matthews TJ, Park MM. Births: Final data for 1998. *National Vital Statistics Reports* 48(3). National Center for Health Statistics. 2000; District of Columbia Department of Health; Maryland Department of Health and Mental Hygiene; Virginia Department of Health.

Cervical cancer death rate: deaths per 100,000 women (ICD-9 code 180), age adjusted to a year 2000 standard population
Healthy People 2010 Objective 3-4
US data: 1997, National Vital Statistics System, produced using CDC WONDER, U.S. Centers for Disease Control and Prevention. *Washington-area and jurisdictional data:* 1996–1998 average, National Vital Statistics System, produced using CDC WONDER, U.S. Centers for Disease Control and Prevention.

Percentage of adults, aged 18 and older, who report having their teeth cleaned by a dentist or dental hygienist within the past year
No equivalent *Healthy People 2010* objectives, but see related objective 21-10
US data: 1999, median value from the results of individual surveys conducted in each state, the District of Columbia, and Puerto Rico; Behavioral Risk Factor Surveillance System Online Prevalence Data, 1985-1999, U.S. Centers for Disease Control and Prevention. *Washington area and jurisdictional data:* 1999; calculated by MWPHAC from Behavioral Risk Factor Surveillance System data files, U.S. Centers for Disease Control and Prevention.

Percentage of adults aged 50 and older who report having a fecal occult blood test within the past 2 years
Healthy People 2010 Objective 3-12a
US data: 1998, National Health Interview Survey, as reported in *Healthy People 2010*, age adjusted to a year 2000 standard population. *Washington-area and jurisdictional data:* 1997, 1999 average, calculated by MWPHAC from Behavioral Risk Factor Surveillance System data files, U.S. Centers for Disease Control and Prevention. A single estimate was made for the Virginia health districts because of the reduction in the number of respondents in individual health districts from age restrictions for this indicator.

Percentage of women aged 40 and older who report having a mammogram within the past 2 years
Healthy People 2010 Objective 3-13
US data: 1998, National Health Interview Survey, as reported in *Healthy People 2010*, age adjusted to a year 2000 standard population. *Washington-area and jurisdictional data:* 1997–1999 average, calculated by MWPHAC from Behavioral Risk Factor Surveillance System data files, U.S. Centers for Disease Control and Prevention. A single estimate was made for the Virginia health districts because of the reduction in the number of respondents in individual health districts from age and sex restrictions for this indicator.

Conclusions

Overall, our indicators suggest that the adult population of the Washington metropolitan area is healthier than the nation as a whole. For 19 of the 27 indicators for which we have national data and a regional average, the Washington region is doing as well or better than the national average. In two areas—coronary heart disease deaths and mammography rates—our region has already more than met the national targets for 2010. In addition, the estimated rate of adult obesity in the Washington area, 15.6 percent, is almost at the national target of 15 percent.

On some measures, however, the region is doing less well. Binge drinking, reported by an estimated 19 percent of Washington-area adults, is modestly higher than the national estimate of 16 percent. Firearm-related deaths are occurring at a higher rate in the Washington area than they are nationally (13 per 100,000 versus 12 per 100,000), as is tuberculosis (9 cases per 100,000 versus 7 per 100,000). The regional infant mortality rate, 8.3 deaths per 1,000 births, and the rate of low birth weight, 8 percent of births, are also somewhat higher than the national rates of 7.2 for infant mortality and 7.6 percent for low birth weight. But the higher incidence of sexually transmitted infections in the region stands out. Chlamydia in young women is high but only somewhat higher than the national average. For gonorrhea, however, the regional incidence in the total population is about 40 percent higher than the national rate. And the incidence of AIDS, at 37.3 per 100,000 population, is more than twice the national rate of 17.4 per 100,000.

For individual jurisdictions, the picture is much more diverse, with substantial variation from jurisdiction to jurisdiction and often from indicator to indicator. Every jurisdiction shows some strengths and some weaknesses. Jurisdictions with higher average incomes and other markers of better socioeconomic status for their residents also tend to have better results for the health indicators reported here, but they still face health challenges such as those posed by pockets of poverty or by substantial numbers of immigrants who may face cultural and linguistic barriers to the use of preventive health services.

A more limited analysis of regional data examined differences based on race, education, and income. Rates for whites were better than the national average for 17 of 19 indicators analyzed, but better for blacks for only 5 of those indicators (smoking, suicide, motor vehicle deaths, dental care, and mammography). The data available for 10 of these indicators also confirm that people with more education and higher incomes tend to have more healthful behavior.

The process of selecting indicators and preparing the report pointed to some key data needs in the region. Most of the behavioral data in this report were available because, from 1997 to 1999, Maryland, Virginia, and the District of Columbia each conducted annual Behavioral Risk Factor Surveillance System surveys with sufficient sample sizes to allow for estimates for each of the jurisdictions in the region. Changes in the size and design of the Virginia survey beginning in 2000 mean that it will no longer be possible to produce estimates like those in our report for each of the Northern

Virginia health districts. We also found that the region lacks access to comparable behavioral risk factor data for adolescents and has limited data on risk factors for younger children. In addition, data on the use of hospital and emergency department services, such as visits for asthma, injury, or mental health care, are not routinely compiled in ways that would permit regional or jurisdiction-based analysis. We also saw indications that some data are inadequate for their intended purpose. Specifically, blood-alcohol level is tested for only a small percentage of drivers involved in fatal crashes, making a meaningful assessment of the role of alcohol in those crashes almost impossible. Finally, future analyses of health data for the Washington area require access to more detailed data on race and ethnicity than were available for this report, so that better assessments can be made of the health status and health needs of all the region's residents.

This report is intended to inform the region about health promotion and disease prevention issues through a representative set of indicators linked, for the most part, to the national Healthy People 2010 effort. The data that we present here do not tell us what causes good or poor health or what should be done in the region or in individual jurisdictions to fix problems or continue successes. That requires a more detailed analysis than we could undertake and decisions by policy makers and service providers that we could not make. But these data do highlight some health problems that need attention and may point to opportunities for jurisdictions in the region to collaborate on common concerns or to learn from the work of neighbors. We hope that the report will spur the analysis and action needed to advance health promotion and disease prevention in the Washington area.

Notes

1. Metropolitan Washington Public Health Association. *Advancing Prevention for Better Health in the Washington Metropolitan Area: Fixing a Baseline*. Washington, D.C. October 1995.
2. U.S. Department of Health and Human Services. *Healthy People 2010: Understanding and Improving Health*. 2nd ed. Washington, D.C.: U.S. Government Printing Office, November 2000. For detailed information about the measures used in *Healthy People 2010* and sources of national and state data, see *Tracking Healthy People 2010* (U.S. Department of Health and Human Services, November 2000).
3. District of Columbia Department of Health. *Healthy People 2010 Plan: A Strategy for Better Health*. Washington, D.C. September 2000.
4. The Community Health Status Indicators project was a collaborative effort funded by the federal Health Services and Resources Administration and carried out by the Association of State and Territorial Health Officials, the National Association of County and City Health Officials, and the Public Health Foundation.
5. The following indicators used in this report are similar to ones used previously in *Advancing Prevention for Better Health*: lung cancer death rate, drug-related death rate, suicide rate, firearm-related death rate, cervical cancer death rate, infant mortality rate, incidence of AIDS, incidence of gonorrhea, incidence of *Salmonella* infection, incidence of tuberculosis, incidence of rape, incidence of low birth weight, and prevalence of smoking among adults.
6. We chose not to use the Healthy People Leading Health Indicators tracking measures on homicide and prenatal care in the first trimester. We modified the measure on ozone exposure from the proportion of the population exposed to ozone levels exceeding the national air quality standard to the number of days per year on which ozone levels exceeded the standard. We also modified the measure on immunization rates for 2-year-olds to exclude consideration of *Haemophilus influenzae* type b (Hib) and hepatitis B vaccination. Local-level data were unavailable for the following tracking measures: physical activity levels among adolescents, overweight and obesity among children and adolescents, smoking among adolescents, use of alcohol and illicit drugs by adolescents, use of illicit drugs by adults, sexual abstinence or condom use by sexually active adolescents, condom use by sexually active adults, treatment for adults with diagnosed depression, exposure to environmental tobacco smoke, health insurance coverage, and having a source of ongoing health care.
7. *A Region Divided: The State of Growth in Greater Washington, D.C.* (The Brookings Institution, 1999) offers a detailed examination of the socioeconomic diversity in the Washington area.
8. For an analysis of settlement patterns of immigrants to the Washington area, see Singer A, Friedman S, Cheung I, and Price M. *The World in a Zip Code: Greater Washington, D.C. as a New Region of Immigration*. Survey Series. Brookings Greater Washington Research Program. Washington, D.C.: The Brookings Institution. April 2001.
9. Harwood H; Fountain D; and Livermore G. *The Economic Costs of Alcohol and Drug Abuse in the United States*, 1992. NIH Pub. No. 98-4327. Rockville, Md.: National Institutes of Health (NIH), 1998.
10. Metropolitan Washington Council of Governments. *How Safe Are Our Roads? A Data Report on the Impact of Drunk and Drugged Driving on Highway Safety in the Washington Metropolitan Region*. Washington, D.C. December 2000.
11. Kessler RC, McGonagle KA, Zhao S, et al. Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States: Results from the National Comorbidity Survey. *Archives of General Psychiatry* 51: 8-19, 1994.
12. Mead PS, Slutsker L, Dietz V, et al. Food-related illness and death in the United States. *Emerging Infectious Diseases* 5(5): 607–625, 1999.
13. U.S. Department of Health and Human Services (HHS). *Oral Health in America: A Report of the Surgeon General*. Rockville, Md.: HHS, National Institutes of Health, National Institute of Dental and Craniofacial Research, 2000.

MWPHAC Policy and Management Committee

Sam Seeman, *Chair*
Metropolitan Washington Public Health Association

Susan Allan, MD, JD, MPH
Health Director
Arlington County

Ayman El-Mohandes, MD, MPH
Assistant Dean for Research
The George Washington University School of Public Health and Health Services

Charles Konigsberg, MD, MPH, *Vice Chair*
Representative, COG Health Officers Committee, and
Director, City of Alexandria Health Department

Martin E. Levy, MD, MPH
Chief of Epidemiology
District of Columbia Department of Health

David Robertson
Director, Human Services, Planning, and Public Safety
Metropolitan Washington Council of Governments

Michael Stoto, PhD
Professor of Epidemiology and Biostatistics
The George Washington University School of Public Health and Health Services

Robert Stroube, MD, MPH
State Epidemiologist, Virginia Department of Health

Gail Wowk
Special Assistant, Deputy Secretariat for Public Health Services
Maryland Department of Health and Mental Hygiene

Health Indicators Technical Advisory Committee

Chair
Susan Allan, MD, JD, MPH
Health Director, Arlington County

Area Health Departments
Gloria Collins, RN
Loudoun Department of Public Health

John J. Park, PhD
Montgomery County Department of Health and Human Services

David M. Portesi, MPH
Prince George's County Health Department

Margo Smith, BS
Frederick County Health Department

Judith H. Southard, RN, MSN
Alexandria Health Department

Jan Tenerowicz, BSN
Arlington County Department of Human Services

Patricia Theiss, MS
District of Columbia Department of Health

Patricia C. Trahan, RN, BSN, MSA
Fairfax County Health Department

State Health Department Liaisons
Jeanette Jenkins, MHS
Maryland Department of Health and Mental Hygiene

Denise C. Sockwell, MSPH
Virginia Department of Health

MWPHAC
Sean Cleary, PhD
George Washington University School of Public Health and Health Services

Alexandra Gabriel
Metropolitan Washington Council of Governments

Sam Seeman
Metropolitan Washington Public Health Association

Michael Stoto, PhD
George Washington University School of Public Health and Health Services

Other Participants
Jacqueline Watson, DO, MBA
Health Concepts International
(formerly District of Columbia Department of Health)

Evy Duff, BSN, MA
Fairfax County Health Department

Aimee Ferraro, MPH
R.O.W. Sciences
(formerly MPH candidate, George Washington University School of Public Health and Health Services)

Ilana Molkner, MPH
Metropolitan Washington Council of Governments

Fran Preneta, MPH
Prince George's County Health Department

Project Staff

Jane S. Durch, MA
MWPHAC

Jennifer Ross
MPH Candidate, George Washington University School of Public Health and Health Services

Kay Eilbert, MPH
Doctoral Candidate, George Washington University School of Public Health and Health Services

Wenyu Sun, MD
MPH Candidate, George Washington University School of Public Health and Health Services

The Metropolitan Washington Public Health Assessment Center
at The George Washington University
School of Public Health and Health Services
Washington, DC
www.mwphac.org