CANCER
IN
NORTH DENVER
1998-2000

Prepared by the
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The publication of *Cancer in North Denver: 1998-2000* is a continuation of a series of Colorado regional reports on cancer. This report may be useful to policy makers, health care professionals, and community groups to assist in developing and evaluating prevention and intervention strategies, identifying high risk populations, and prioritizing resource allocations for cancer-related services.

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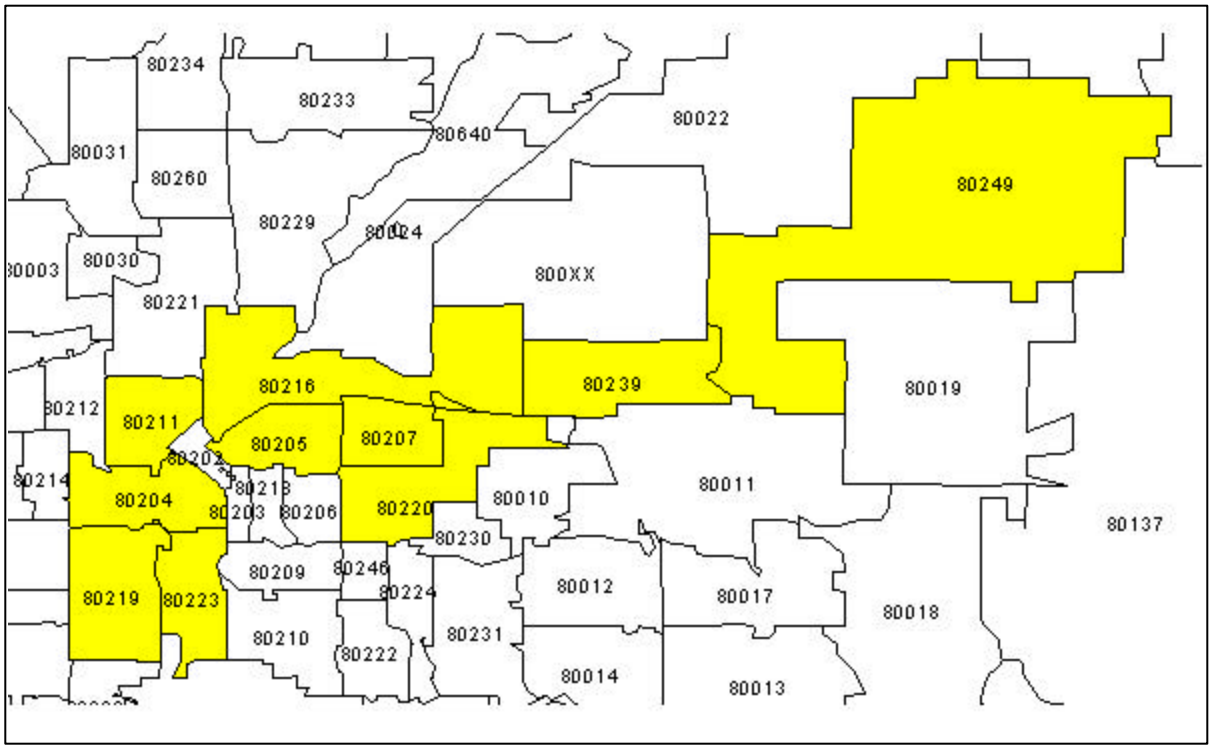
NORTH DENVER REGION



EXECUTIVE SUMMARY

This report, *Cancer in North Denver: 1998-2000,* was written by the Colorado Comprehensive Cancer Prevention and Control Program to assist with the development and evaluation of cancer prevention and intervention strategies in North Denver. It is the fourth in a series of five reports covering different regions of Colorado that utilizes region-specific data. The five regional reports are:

- *Cancer in Eastern Colorado: 1995-1997,* published in 1999;
- *Cancer in Western Colorado: 1996-1998,* published in 2000;
- *Cancer in Central Colorado: 1997-1999,* published in 2001;
- *Cancer in North Denver: 1998-2000,* published in 2002, and;
- *Cancer in El Paso and Pueblo Counties: 1998-2000,* published in 2002.

All five reports are available on the Internet: www.cdphe.state.co.us/pp/ccpc/ccpchom.asp. *Cancer in North Denver: 1998-2000* incorporates data from three sources within the Colorado Department of Public Health and Environment: cancer-related behavior data both from the 2000 Colorado Behavioral Risk Factor Surveillance System (BFRSS) survey and from special data collected between August 2000 and September 2001 in North Denver using BRFSS questions and methodology; cancer incidence and stage data from the Colorado Central Cancer Registry; and cancer mortality data from the Health Statistics Section.

It is widely held that most kinds of cancer can be prevented and/or detected at an early stage. Studies suggest that 75 to 80 percent of cancer deaths are attributable to health behaviors, including smoking, diet, obesity, physical inactivity, excessive alcohol intake, and reproductive and sexual history. A change to healthy behaviors and/or a cancer-related check-up is recommended to reduce the chance of getting cancer. Detailed risk factors and prevention information for each cancer are described in the report. The following is a summary of the major findings of the report.

Behavioral Risk Factor Surveillance System survey findings:

- North Denver had a significantly higher proportion of current smokers compared to Colorado.
- More than half of adults in North Denver are overweight or obese.
- Women age 40 and over in North Denver were slightly less likely to have had a mammogram in the past 2 years than women in Colorado.

- Residents in North Denver were less likely to have been screened for colorectal cancer with a blood stool test in the past year than people statewide. Residents in North Denver also had a lower proportion of ever having had a sigmoidoscopy or colonoscopy for colorectal cancer screening than people in Colorado.
- People in North Denver use sunscreen significantly less often than people statewide, but regularly use shade for sun protection significantly more often than people statewide.

Cancer data comparisons between North Denver and the remainder of Denver Metro area by selected cancer sites:

- **All cancers combined:** Incidence rates for all cancers combined for non-Hispanic white males and females were significantly higher in North Denver compared to the other Metro area. Within North Denver, rates for Hispanic and black females were significantly lower than the rate for non-Hispanic white females. The Hispanic male cancer incidence rate in North Denver was significantly lower than the North Denver rate for non-Hispanic white males.
- **Colon and rectal cancer:** The white non-Hispanic colorectal cancer incidence rate for males was significantly higher in North Denver than in the other Metro area. Comparisons within all other race groups between North Denver and the other Metro area were similar. Black and Hispanic incidence rates within the North Denver area were similar to the rates for non-Hispanic whites. Colorectal cancer mortality rates in North Denver males and Hispanic females were significantly higher than the other Metro area rates.
- **Lung cancer:** The lung cancer incidence rates for North Denver non-Hispanic white males and non-Hispanic white females were significantly higher than the corresponding rates in the other Metro area. Within the North Denver region, rates for Hispanic males and females were significantly lower than the rates for white non-Hispanic males and females. The lung cancer mortality rate for non-Hispanic white females was significantly higher in North Denver than in the other Metro area. Within the North Denver region, rates for male and female Hispanics were significantly lower than rates for non-Hispanic whites.
- **Melanoma:** Melanoma incidence rates in North Denver were significantly lower than rates in the other Metro area for both males and females; however, early detection percentages were lower in North Denver compared to the other Metro area.
- **Female breast cancer:** The breast cancer incidence rate in North Denver for all races combined was significantly lower than the rate in the other Metro area. Within

North Denver, rates for Hispanic and black women were both significantly lower than the non-Hispanic white rate. Early detection percentages were lower in the North Denver region than in the other Metro area. Breast cancer mortality rates were similar for all races combined between North Denver and the other Metro area; however, the mortality rate for black women in North Denver was significantly lower than the rate for black women in the other Metro area. Hispanic women in North Denver had a significantly lower mortality rate than white non-Hispanic women in North Denver.

- **Invasive cervical cancer:** The invasive cervical cancer incidence rate in North Denver for all races combined was significantly higher than the rate in the other Metro area. In North Denver, Hispanic women had a significantly higher cervical cancer incidence rate than white non-Hispanic women. The mortality rate for North Denver women of all races combined was significantly higher than the rate for the other Metro area. Early detection percentages were much lower for women in North Denver than in the other Metro area.
- **Prostate cancer:** Prostate cancer incidence rates were similar between North Denver and the other Metro area for all races combined and for specific race/ethnic groups. Within North Denver, the incidence rate for Hispanic men was 37 percent lower than the rate for white non-Hispanic men. This difference was statistically significant. The early detection percentage in North Denver was similar to the other Metro area. The prostate cancer mortality rate in North Denver was significantly higher than in the other Metro area. Within the North Denver region, the prostate cancer mortality rate for black non-Hispanic men was significantly higher than the rate for white non-Hispanic men.

There were several areas of this analysis that showed significant differences in cancer rates and cancer-related behaviors between North Denver, the remainder of the Metro area, and the state. Differences in cancer rates included increased prostate cancer mortality rates for North Denver black men, lower early detection for cervical cancer in North Denver women, and higher lung cancer incidence rates in North Denver. Cancer-related behavioral differences included higher proportions of North Denver residents being overweight and being current smokers, decreased likelihood for cancer screening such as blood stool tests and sigmoidoscopy, and mammography. A healthy lifestyle is the primary key to a healthy life.

Section I

Introduction

Introduction

Cancer is the second leading cause of death in Colorado, according to the *1999 Annual Report of Vital Statistics Colorado* summary data published by the Health Statistics Section of the Colorado Department of Public Health and Environment. During the period from 1940 to 1990, Colorado saw a substantial increase in cancer mortality rates. However, since 1990, some progress has been made in reducing cancer mortality rates, and Colorado mortality rates rank among the lowest in the United States.

Although cancer cells can be lethal, most types of cancer can be prevented or detected at an early stage by:

- Adopting healthy behaviors, such as stopping smoking, improving dietary habits, and increasing physical activity;
- Using early detection methods, such as mammography, Pap tests, prostate-specific-antigen (PSA) tests, and sigmoidoscopy;
- Implementing comprehensive health education programs.

A number of public agencies and private organizations have made great efforts to reduce cancer incidence and mortality throughout Colorado. The Colorado Comprehensive Cancer Prevention and Control Program is a project funded by the Centers for Disease Control and Prevention (CDC) to coordinate this effort. The goal of this program is to improve preventive behaviors by collaborating with public and private agencies to set priorities for interventions, conducting public awareness campaigns, establishing cancer prevention and control policies, and supporting community-based projects.

One of the program's activities is to produce a series of reports on specific regional cancer data. This report, *Cancer in North Denver: 1998-2000,* is the fourth of this series. There are now five reports: *Cancer in Eastern Colorado: 1995-1997*, was published in September 1999; *Cancer in Western Colorado: 1996-1998* was published in September 2000; *Cancer in Central Colorado: 1997-1999* was published in September 2001; and *Cancer in El Paso and Pueblo Counties: 1998-2000* was published in September 2002. All five reports are available on the internet at: www.cdphe.state.co.us/pp/ccpc/ccpchom.asp. Ten zip codes in the Denver Metro area comprise the North Denver region in this report: 80204, 80205, 80207, 80211, 80216, 80219, 80220, 80223, 80239, and 80249 (see map on page ix).

This report is organized into five sections. Section I is this introduction. Section II describes data and data sources and defines terminology used in this report. Section III summarizes the findings of the special 2000-2001 survey in North Denver that utilized Behavioral Risk Factor Surveillance System (BRFSS) questions and methodologies In this section comparisons are made to statewide BRFSS data from 2000. Section IV discusses and compares cancer incidence and mortality rates in North Denver and the remainder of Metro Denver. Section V, the Appendix, displays detailed region and race/ethnicity-specific incidence, staging, and mortality data.

Section II

Data and Definitions

Data and Definitions

Data Sources

Data used for this report came from several sources in the Colorado Department of Public Health and Environment (CDPHE). The cancer incidence and staging data were provided by the Colorado Central Cancer Registry (CCCR), which collects data on all cancers diagnosed in Colorado. The cancer mortality data were provided by the CDPHE Health Statistics Section, which compiles and analyzes data from birth and death records. The BRFSS data and the North Denver special study data were provided by the CDPHE Survey Research Unit, which conducts health-related surveys.

Data Limitations

It is important to note that rates for a limited time period are not always reflective of true incidence or mortality rates. This effect can be even more pronounced when rates are calculated based on small numbers of cases, as one number can change the rate considerably.

Since the *all cancers combined* incidence and mortality rates were much higher than individual cancer incidence and mortality rates, the *all cancers combined* rates were displayed graphically on a larger scale in the bar chart than the scale used for individual cancer rates. Individual cancer incidence and mortality rates were displayed on different scales. It is important to note the differences in scales when comparing rates of different cancer sites.

In the preparation of cancer incidence and mortality rates for this report, population counts by gender, race/ethnicity, and age for 1998-2000 for the North Denver area and the remainder of the Denver Metro area were determined by interpolation from the 1990 U.S. Census and the 2000 U.S. Census. For the 1990 Census data, population counts by gender, race/ethnicity, and age for the area covered by the ten North Denver zip codes were estimated by summing population data from the 65 census tract areas that comprised the same area, because zip code population data for 1990 did not contain the gender, race/ethnicity, and age detail needed. For the 2000 Census data, population counts by gender, race/ethnicity, and age were obtained directly for the ten zip codes making up North Denver. The Denver Metro area was defined as Adams, Arapahoe, Boulder, Denver, Douglas, and Jefferson counties. Populations for the remainder of the Denver Metro area were calculated by subtracting North Denver populations from the Denver Metro populations.

To assure the confidentiality of individuals, this report does not present data with fewer than three events in each category. However, in some tables when a small number could be inferred by subtraction, additional suppression was required to protect confidentiality.

Definitions

The Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing statewide telephone survey designed to monitor the prevalence of health behaviors and preventive health practices associated with the leading causes of death in Colorado. While the Colorado BRFSS provides reliable estimates of cancer-related risk factors and behaviors for the state as a whole, estimates are not routinely available for racial/ethnic minority populations. In order to better understand the health behaviors of racial/ethnic minorities, a special point-in-time survey was conducted in North Denver from August 2000 through September 2001 using BRFSS questions and methodologies.

Cancer Incidence Rates are a measure of the number of new cancer cases diagnosed over a defined time period divided by a specified population. Age-adjusted incidence rates were used in this report in order to compare rates of different populations. Any observed differences in age-adjusted rates will not be due to different ages of the populations being compared. The incidence rates in this report were adjusted to the 2000 U.S. standard population.

Cancer Mortality Rates are a measure of the number of deaths due to cancer over a defined period divided by a specified population. The mortality rates in this report were age-adjusted to the 2000 U.S. standard population.

Cumulative Risk is an estimate of the chances of an individual being diagnosed with cancer by a certain age based on age-specific rates within a certain time period. This risk can be expressed as a percentage or probability, i.e., for men the cumulative risk to age 85 for all cancers combined is about 51 percent, or 1 in 2.

Stage of Cancer is typically defined by size and containment, or spread, of the tumor. Initially, the cancerous cells do not invade surrounding tissues. This very early condition is called the in-situ stage. Next, the cancer cells infiltrate the organ where they originated. This is the localized stage. The regional stage is when cancer cells have spread to adjacent tissues or to nearby lymph nodes. Eventually, cancer cells may become disseminated throughout the body, usually by invasion of the circulatory system. This level of cancer spread is called the distant stage.

The stage of cancer at the time of diagnosis is a very important factor in determining the potential effectiveness of treatment and its potential for cure. At the in-situ stage, cancer is

usually highly curable. Some cancer cells, such as lung and melanoma, spread more rapidly than others do, and the potential to be life-threatening is greater. For these cancers, the best prevention is to avoid risk factors that may cause the disease.

Early Detection of Cancer is defined in this report as the percent of cases diagnosed at in-situ and localized stages, excluding unknown staged cases. Mathematically, the early detection percentage is the number of in-situ cases plus the number of localized cases divided by the total number of staged cancer cases, multiplied by 100.

Statistical Significance in this report was evaluated using a Z-test (alpha = 0.05) for testing differences between the North Denver incidence and mortality rates and the other Metro area incidence and mortality rates. Only rates based on six or more cases were tested. A statistically significant result means that there is likely a real difference in rates between the two populations, a difference that cannot be explained by chance alone. All statistically significant results are discussed in this report. Some higher or lower region rates, though not statistically significant, may be discussed if they are more than 20 percent different from the state rate.

Survey data for the North Denver region were compared to statewide BRFSS data. Ninety-five percent confidence intervals were used to determine statistical significance for the risk factor prevalence differences.

Section III

Cancer-Related Behaviors

Cancer-Related Behaviors

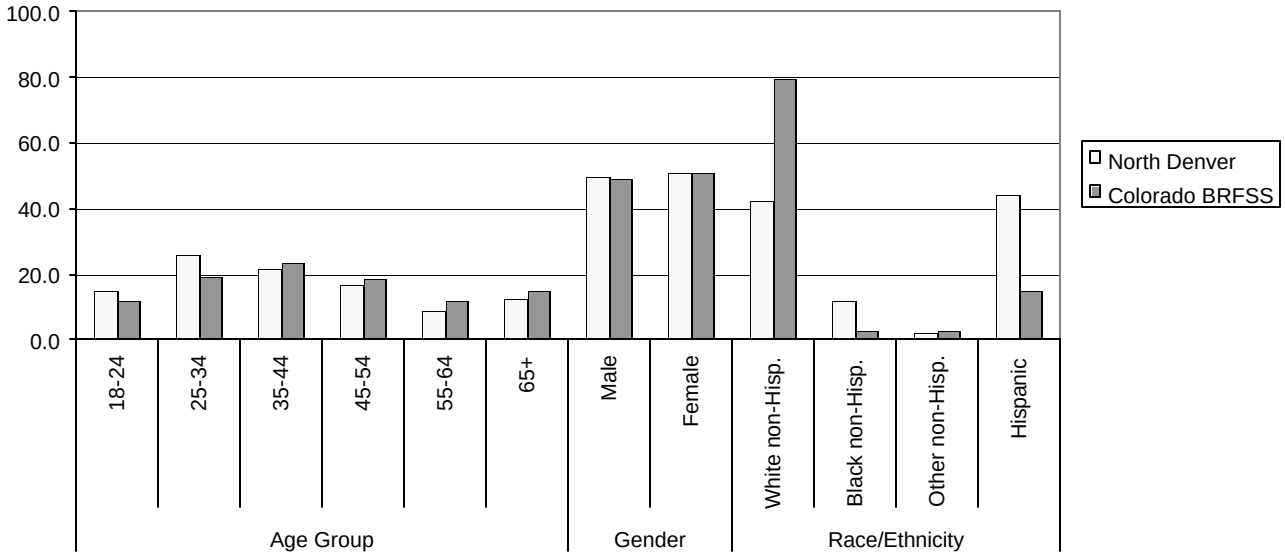
Ten zip codes in the Denver Metro area comprise the North Denver region described in this report: 80204, 80205, 80207, 80211, 80216, 80219, 80220, 80223, 80239, and 80249. The behavioral data presented in this section were derived from a special Behavioral Risk Factor Surveillance System (BRFSS) survey that was conducted in North Denver from August 2000 through September 2001. All data presented in this section are taken directly from a brief prepared by the Health Statistics Section, Colorado Department of Public Health and Environment. See the References Section for the full citation.

Population Demographics

The demographic characteristics of North Denver and Colorado were similar for age and sex, but differed significantly by race/ethnicity (see Figure 3.1 and Table 3.1).

Figure 3. 1 Demographic Characteristics by Area

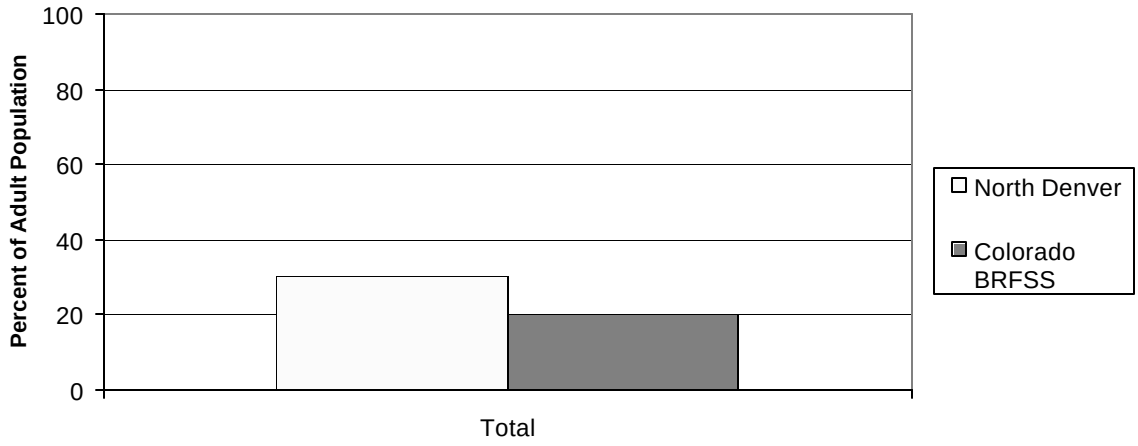
North Denver, 2000-2001 and Colorado BRFSS, 2000



Current Smoker

Cigarette smoking increases risk for both heart disease and lung cancer, and has been linked as well to oral, esophageal, pancreatic, cervical, kidney, colon, and bladder cancer. Current smokers were identified as those respondents who had smoked at least 100 cigarettes in their lives and were currently smoking at the time of the survey. As seen in Figure 3.2, the 2000-2001 BRFSS survey found that the prevalence of current smoking among people in North Denver was higher than the state prevalence overall. Thirty percent of North Denver adults smoked, compared with 20 percent in Colorado. The higher smoking prevalence in North Denver was statistically significant.

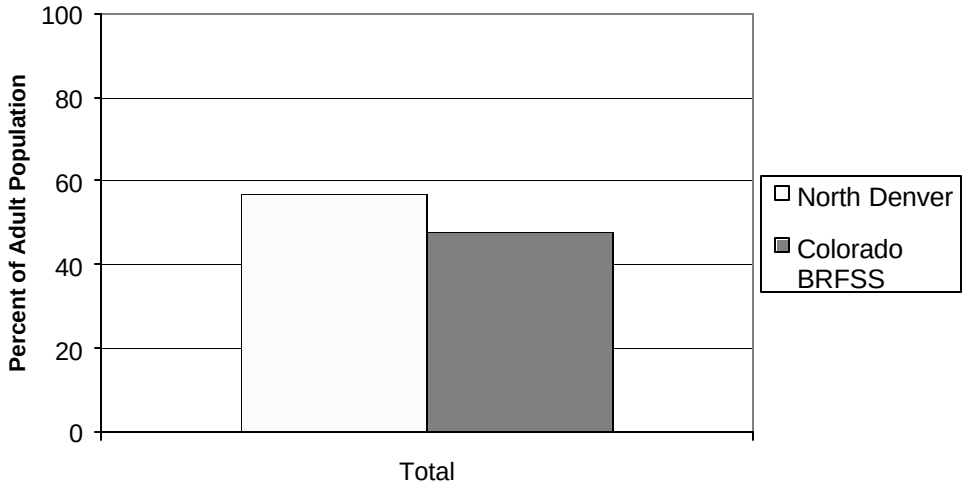
Figure 3. 2 Percent Current Smoker By Region, 2000-2001



Overweight

Being overweight is considered a risk factor for heart disease, diabetes, and some cancers, such as breast, endometrium, colon, and kidney. Overweight is defined as a body mass index (BMI) of greater than or equal to 25.0. The formula for calculating BMI is $\frac{(weight\ in\ kilograms)}{(height\ in\ meters)^2}$. Figure 3.3 depicts the percentages of overweight or obese people in North Denver and statewide. The proportion of overweight adults in North Denver, about 57 percent, is statistically significantly higher than the statewide proportion of 48 percent (see Table 3.2).

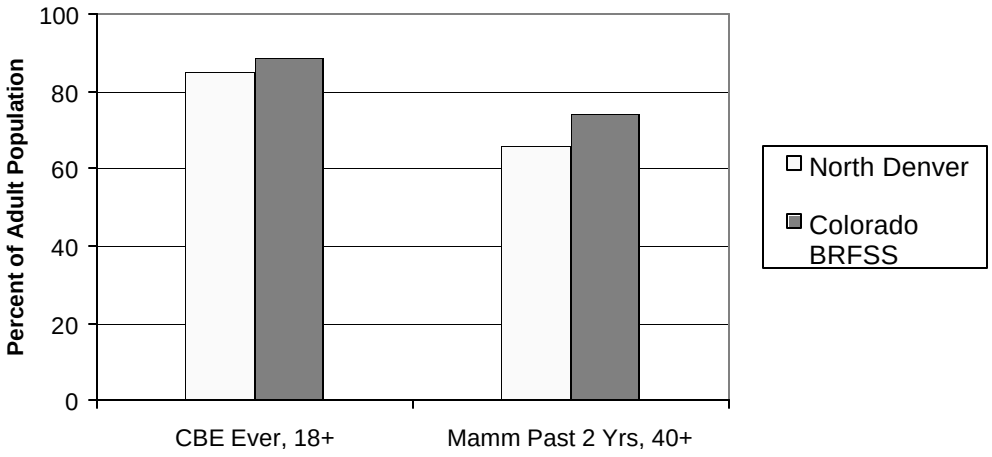
Figure 3. 3 Percent Overweight or Obese (BMI >=25.0) By Region, 2000-2001



Breast Cancer Screening

Regular cancer screening is recommended as the major prevention method for breast cancers. As shown in Figure 3.3, the BRFSS survey found that women aged 18 and over were as likely to have ever had a clinical breast exam as women statewide. However, women aged 40 and over in North Denver were less likely than women statewide to have had a mammogram in the past two years. Hispanic women in North Denver were substantially less likely to have had a mammogram in the past 2 years compared to the state. Women statewide exceeded the Year 2010 Health Objective for mammography screening of 70 percent or greater (see Table 3.2).

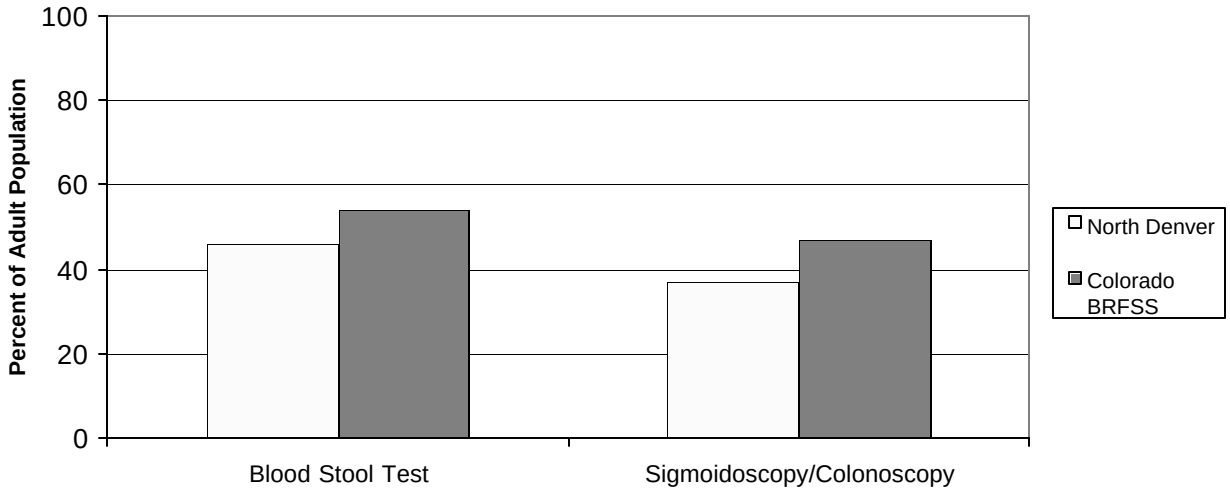
Figure 3. 4 Percent of Women Having Mammograms or CBE's By Region, 2000-2001



Colorectal Cancer Screening

The American Cancer Society recommends that individuals aged 50 and over have a yearly fecal occult blood test (FOBT) and a sigmoidoscopy every 5 years. Figure 3.5 shows that for both blood stool tests and sigmoidoscopies or colonoscopies, adults in North Denver aged 50 and over were less likely than people statewide to have had these screening tests, although the differences were within expected statistical variation (see Table 3.2).

Figure 3. 5 Percent Having Colorectal Cancer Screening By Region, 2000-2001



Sun Protection

The principal cause of skin cancer is overexposure to sunlight, especially overexposure that results in sunburn and blistering. Melanoma is the most serious type of skin cancer, and in Colorado, the melanoma incidence rate is increasing more rapidly than for any other major cancer. The American Cancer Society and the Centers for Disease Control and Prevention both recommend that when outdoors, individuals use a sunscreen SPF 15 or higher and wear protective clothing such as a wide-brimmed hat, a long-sleeved shirt, and long pants.

Figures 3.6 and 3.7 depict sun protection behavior data. The 2000-2001 North Denver survey showed that approximately 28 percent of people in North Denver reported that they regularly use sunscreen when being out for more than an hour on a sunny summer day. This was significantly lower than the statewide estimate of 37 percent. Within the North Denver region, men were significantly less likely to use sunscreen than women were, but for those individuals who used sunscreen, the vast majority, about 92 percent, used SPF 15 or greater (see Table 3.2).

Figure 3. 6 Percent Using Sunscreen By Region and Gender, 2000-2001

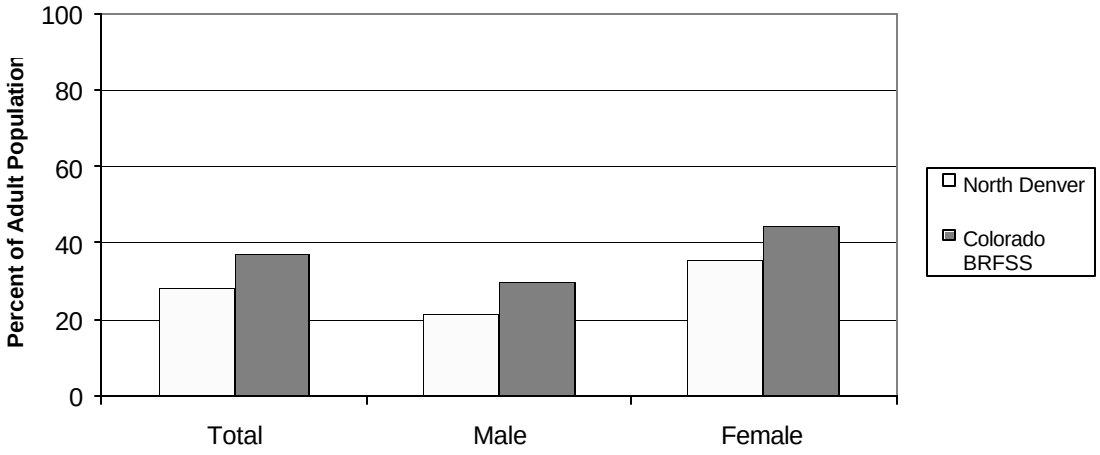


Figure 3. 7 Percent Using Shade or Protective Clothing By Region and Gender, 2000-2001

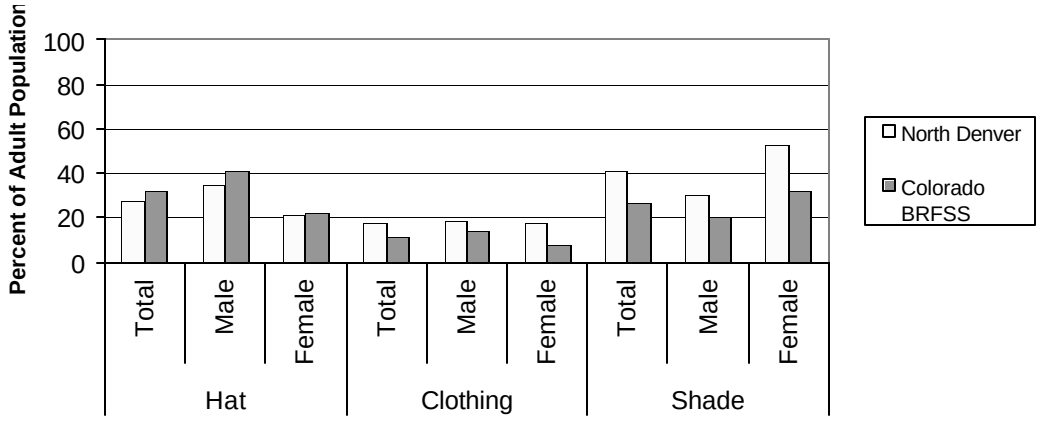


Table 3. 1 Percent of Adult Population by Age Group, Gender, and Region: North Denver, 2000-2001 and Colorado BRFSS, 2000

	18-24	25-34	35-44	45-54	55-64	65+	Male	Female
North Denver	15.1	25.9	21.4	16.4	9.0	12.2	49.4	50.6
Colorado BRFSS	12.0	19.3	23.5	18.8	11.7	14.7	49.0	51.0

Race/Ethnicity				
	White non-Hispanic	Black non-Hispanic	Other non-Hispanic	Hispanic
North Denver	42.3	11.8	2.1	43.9
Colorado BRFSS	79.5	2.7	2.9	14.9

Table 3. 2 Cancer-Related Behaviors by Region and Gender: North Denver 2000-2001 and Colorado BRFSS 2000

	Total	Male	Female
Percent overweight or obese (BMI >= 25.0)†			
North Denver	57.2	–	–
Colorado BRFSS	48.0	–	–
Percent current smoker†			
North Denver	30.3	–	–
Colorado BRFSS	20.0	–	–
Percent of women ever having a clinical breast exam, 18 and older			
North Denver	84.9	–	–
Colorado BRFSS	88.7	–	–
Percent of women having mammogram in past 2 years, 40 and older			
North Denver	65.9	–	–
Colorado BRFSS	74.3	–	–
Percent ever having blood stool test, 50 and older			
North Denver	45.8	–	–
Colorado BRFSS	54.2	–	–
Percent ever having sigmoidoscopy/colonoscopy, 50 and older			
North Denver	37.0	–	–
Colorado BRFSS	46.5	–	–

† = difference between North Denver and Colorado is statistically significant
– = unable to estimate due to small number of respondents or data not available from North Denver Brief

Table 3.2 continued

	Total	Male	Female
Percent always/nearly always using sun block when out for more than an hour on a sunny summer day			
North Denver‡	28.4	21.2	35.5
Colorado BRFSS	37.2	29.9	44.2
Use sun block of SPF 15 or higher			
North Denver	91.6	89.7	93.1
Colorado BRFSS	91.0	90.6	91.3
Percent always/nearly always wearing a wide-brimmed hat when out for more than an hour on a sunny summer day			
North Denver‡	27.7	34.6	21.0
Colorado BRFSS	31.5	41.3	22.1
Percent always/nearly always wearing protective clothing when out for more than an hour on a sunny summer day			
North Denver	17.6	18.2	17.1
Colorado BRFSS	11.1	14.2	8.0
Percent always/nearly always using shade when out for more than an hour on a sunny summer day			
North Denver‡	41.4	30.0	52.4
Colorado BRFSS	26.1	19.9	32.1

† = difference between North Denver and Colorado is statistically significant
‡= difference between males and females is statistically significant
– = unable to estimate due to small number of respondents or data not available from North Denver Brief

Section IV

Selected Findings by Cancer Site

Selected Findings by Cancer Site

All Cancers Combined

According to the Cancer Registry annual report, the cumulative risk of being diagnosed with cancer before age 85 in Colorado is 1 in 2 for men, and 1 in 3 for women.

Risk Factors

Factors contributing to cancer can be classified into three major groups: genetic, environmental, and behavioral (Colorado Cancer Prevention and Control Plan Advisory Committee, 1996). This report focuses mainly on behavioral factors. Studies suggest that 75-80 percent of cancer deaths are attributable to health behaviors, including diet, smoking, excessive alcohol intake, and reproductive and sexual history (National Cancer Advisory Board, 1994). Behaviors that contribute to late diagnosis of cancer, and thus a poorer prognosis, include delay in seeking medical care when cancer signs are present, and not participating in recommended screening protocols.

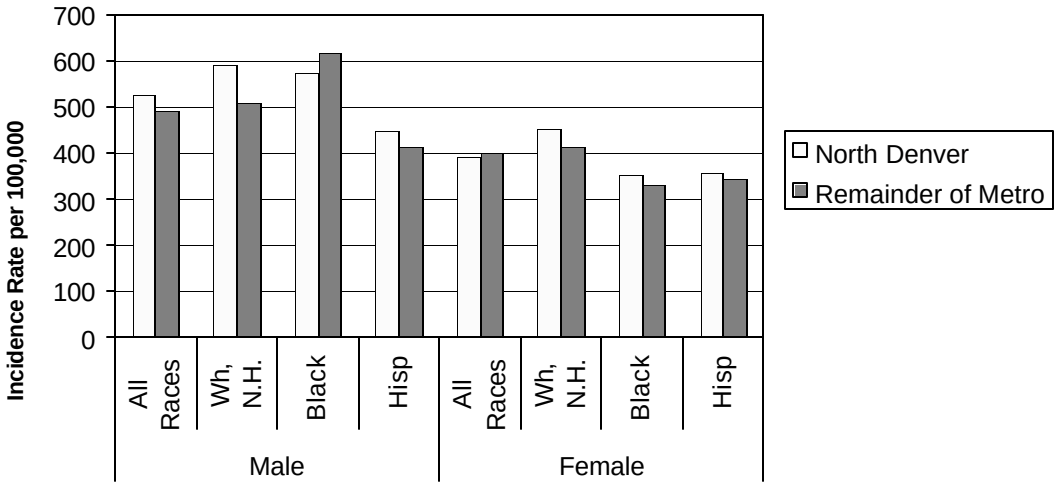
Prevention

The American Cancer Society (ACS) recommends a cancer-related checkup every three years for people aged 20-40 and every year for people aged 40 and over. Regular screening examinations can detect many cancers at earlier stages, improving the chances of treatment success. Adopting healthy behaviors, such as quitting smoking, eating healthier foods, and increasing physical activity may reduce one's chance of getting cancer. The ACS estimates that in 2002, approximately 170,000 cancer deaths will be due to tobacco use, and about one-third of the 555,500 cancer deaths expected in 2002 will be related to nutrition, physical activity, and other lifestyle factors.

Incidence

During 1998-2000, 12,260 male and 12,730 female cancer cases were diagnosed in the Denver Metro area. Of those, 1454 male cases and 1410 female cases were in North Denver residents. The female cancer incidence rates for all races combined were similar between North Denver and the remainder of the Metro area, but the male cancer incidence rate for all races combined in North Denver was statistically significantly higher than the remainder of the Metro area (see Figure 4.1).

Figure 4. 1 All Cancers Combined – Average Annual Age-Adjusted Incidence Rate per 100,000 by Region, Sex, and Race/Ethnicity 1998-2000



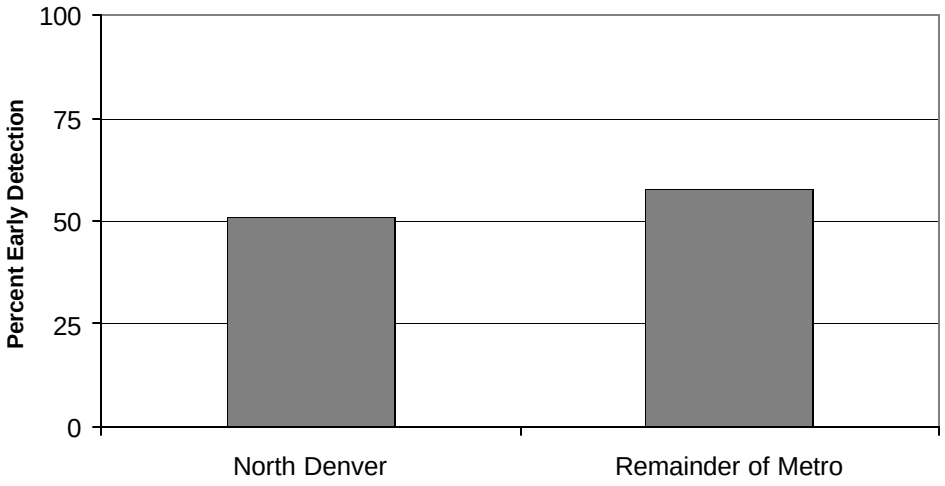
Rates for blacks and Hispanics were mostly similar between North Denver and the remainder of the Metro area, however, for white non-Hispanic males and females, North Denver residents had a statistically significantly higher incidence rate for all cancers combined (see Table 5.1).

Within the North Denver area, incidence rates for black and Hispanic women were statistically significantly lower than the rate for white non-Hispanic women; the rate for North Denver Hispanic men was also statistically lower than the rate for white non-Hispanic men.

Early Detection

Early cancer detection leads to better survival. In the remainder of the Denver Metro area, during the 1998-2000 time period, 57.7 percent of cancer cases were detected early. As shown in Figure 4.2, the early detection percentage for North Denver was slightly lower at 51.2 percent (see Table 5.2).

Figure 4. 2 All Cancers Combined – Percent "Early" Detection By Region, 1998-2000



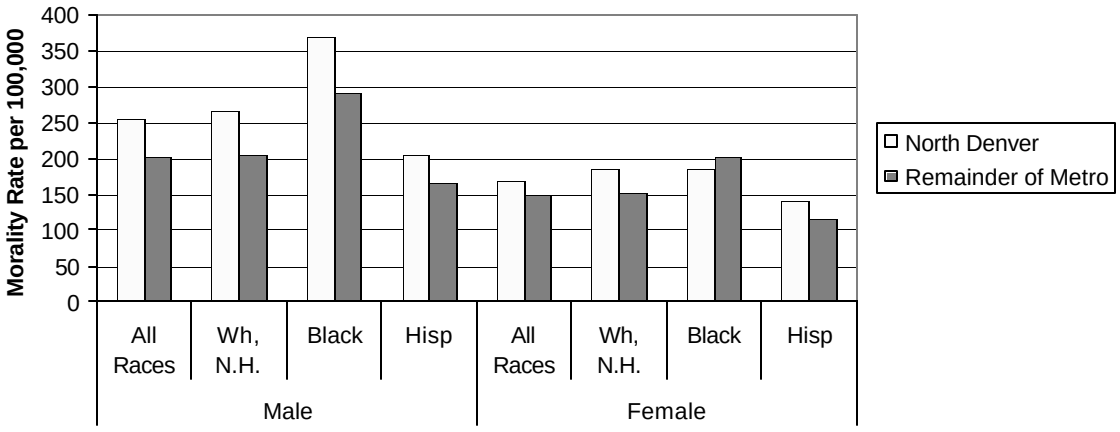
Mortality

During the 1998-2000 period there were 4,010 male cancer deaths and 4,036 female cancer deaths in the remainder of the Metro area, and 657 male cancer deaths and 598 female cancer deaths in North Denver. The cancer mortality rates for males and females in North Denver were significantly higher than rates for the remainder of the Metro area (see Figure 4.3).

The race-specific cancer mortality rates in North Denver were significantly higher than the other Metro area rates for white non-Hispanics, both males and females. The rates for Hispanic males and black males in North Denver were 24 and 27 percent higher, respectively, than the comparable rates in the remainder of the Metro area. The cancer mortality rate for Hispanic females in North Denver was 23 percent higher than in the remainder of the Metro area.

Although these rates were substantially higher, they were within expected statistical variation (see Table 5.3).

Figure 4. 3 All Cancers Combined – Average Annual Age-Adjusted Mortality Rate per 100,000 by Region, Sex, and Race/Ethnicity 1998-2000



Colon and Rectal Cancer

The cumulative risk for Colorado men to be diagnosed with colon and rectal cancer before age 85 is 1 in 13, and the risk for Colorado women is 1 in 17. Colon and rectal cancer ranked third among the most commonly diagnosed cancers in Colorado men during the 1996-2000 time period, and second among Colorado women.

Risk Factors

Risk factors for colorectal cancer include a personal or family history of cancer or adenomas (a type of polyp) of the colon or rectum, a personal history of endometrial, ovarian, or breast cancer, and a personal history of longstanding ulcerative colitis. Additionally, smoking and characteristics of the average American diet (high fat and/or low fruit and vegetable consumption) are also associated with increased risk (Guide to Clinical Preventive Services).

Prevention

The American Cancer Society recommends that individuals over 50 years old have a yearly fecal occult blood test (FOBT), plus flexible sigmoidoscopy and digital rectal examination

every five years, or colonoscopy and digital rectal examination every 10 years, or double-contrast barium enema and digital rectal examination every five to 10 years. The U.S. Preventive Services Task Force recommends screening for all persons aged 50 and older with annual FOBT and/or flexible sigmoidoscopy (time interval between exams unspecified). The Colorado Clinical Guidelines Collaborative suggests that persons with a higher than average risk for colorectal cancer, based on a family history, should have more intensive screening. Consumption of a diet low in meat, combined with a high fruit and vegetable diet, may decrease the risk of developing colorectal cancer. Some studies suggest that regular exercise can also decrease one's risk for developing colorectal cancer (Pate RR, et al.).

Incidence

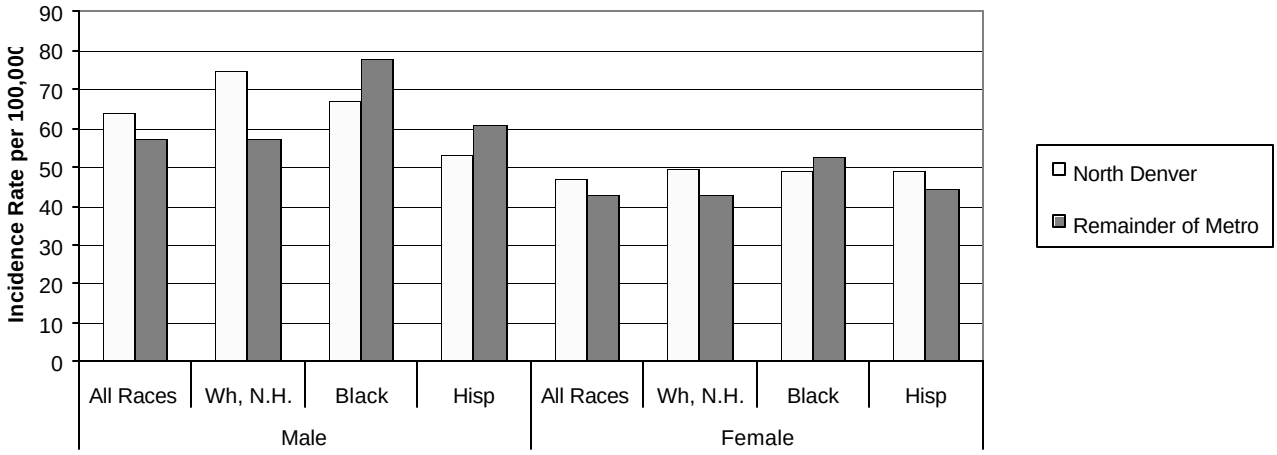
During the period of 1998-2000, 1,186 males and 1,159 females in the remainder of the Metro area were diagnosed with colon and rectal cancer. Comparable statistics for North Denver were 167 males and 168 females in the same time period. The colorectal cancer incidence rates for both males and females were similar between North Denver and the remainder of the Metro area. The rates within specific race/ethnicity and sex groups were lower in North Denver for black males, Hispanic males, and black females, but all were within expected statistical variation. The colorectal cancer incidence rate for white non-Hispanic males was 31 percent higher in North Denver than in the remainder of the Metro area. This difference was statistically significant.

Within North Denver, the colorectal cancer incidence rate for Hispanic males was 29 percent lower than the rate for white non-Hispanic males. This difference was within expected statistical variation. The rates for Hispanic women and black women were similar to the rate for white non-Hispanic women.

Early Detection

During the 1998-2000 period, 42.2 percent of colorectal cancers in North Denver and 42.4 percent in the remainder of the Metro area were detected at an early stage (see Table 5.5).

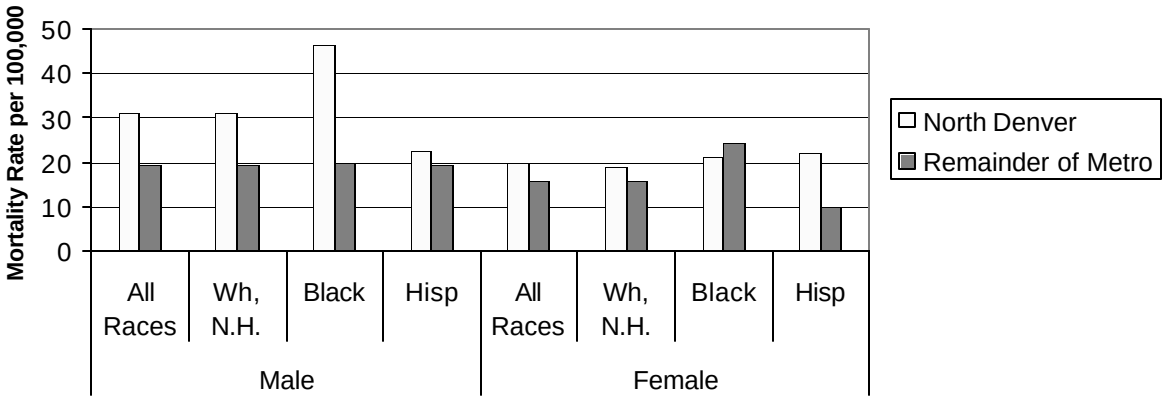
Figure 4. 4 Colon and Rectal Cancer Average Annual Age-Adjusted Incidence Rate per 100,000 by Region, Sex, and Race/Ethnicity, 1998-2000



Mortality

During the 1998-2000 period, the remainder of the Metro area had 382 male and 416 female deaths from colorectal cancer. North Denver had 79 male and 70 female colorectal cancer deaths in the same period. The North Denver colorectal cancer mortality rate for males, all races combined, was 31.2 compared with 19.3 in the remainder of the Metro area. This higher rate was statistically significant. Rates for North Denver white, non-Hispanic and black men were also statistically significantly higher than rates in the other Metro area. The mortality rate for North Denver females, all races combined, was 27 percent higher than in the remainder of the Metro area, but this difference was within expected statistical variation. The colorectal mortality rate for Hispanic women in North Denver was statistically significantly higher than the rate in the remainder of the Metro area (see Table 5.6).

Figure 4. 5 Colon and Rectal Cancer – Average Annual Age-Adjusted Mortality Rate per 100,000 by Region, Sex, and Race/Ethnicity, 1998-2000



Lung Cancer

The cumulative risk of Colorado men being diagnosed with lung cancer before age 85 is 1 in 10, and the risk for Colorado women is 1 in 17. Lung cancer ranked second among the most commonly diagnosed cancers in Colorado men during the 1996-2000 time period, and third among Colorado women.

Risk Factors

The Colorado Cancer Prevention and Control Plan states that cigarette smoking is the predominant risk factor for lung cancer. Approximately 90 percent of lung cancer cases in men and 80 percent of cases in women are attributable to cigarette smoking. Individuals who smoke more than two packs a day have lung cancer mortality rates 15 to 25 times greater than do those individuals who have never smoked. Passive exposure to cigarette smoke increases the risk for nonsmokers. Other risk factors thought to be important in the development of lung cancer include exposure to industrial substances such as arsenic, certain organic chemicals, asbestos (especially for persons who smoke), and radiation exposure from occupational, medical, and environmental sources. Residential radon exposure may increase risk, especially in cigarette smokers.

Prevention

Lung cancer is largely preventable. An estimated 85 percent of all lung cancers in Colorado could be prevented if cigarette smoking were eliminated (Colorado Cancer Prevention and Control Plan Advisory Committee). Precancerous cellular changes in bronchial tissues often return to normal in smokers who stop smoking. Early detection of lung cancer is difficult because symptoms often do not appear until the disease is in advanced stages. Chest x-rays, analysis of cell types in sputum, and fiber-optic examination of the bronchial passages assist diagnosis, but have not been shown to be useful as widespread screening procedures to detect early stage disease.

Incidence

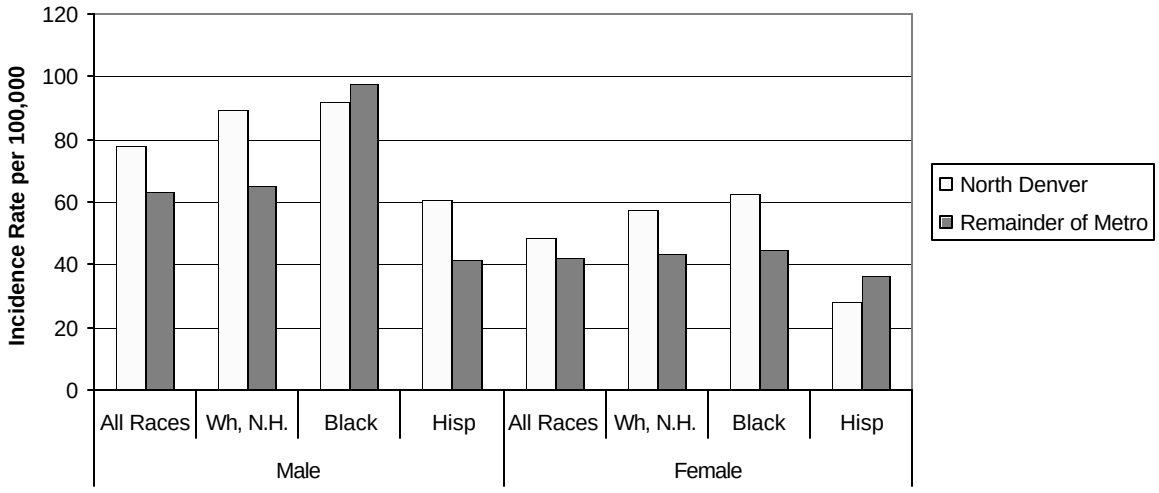
During 1998-2000 in the remainder of the Metro area, 1,293 men and 1,131 women were diagnosed with lung cancer; in North Denver, 207 men and 170 women were diagnosed with lung cancer. The male lung cancer incidence rate for North Denver was 22 percent higher than the remainder of the Metro area rate, which is a statistically significant difference. Female lung cancer incidence rates were similar in the two areas. In white non-Hispanic males and females in North Denver, the lung cancer incidence rates were statistically significantly higher than in the other Metro area.

Within North Denver, the lung cancer incidence rates for Hispanic males and females were statistically significantly lower than the rates for white non-Hispanics. The rates for black non-Hispanic men and women were similar to the rates for white non-Hispanics (see Table 5.7).

Early Detection

Because symptoms often do not appear until the disease is in an advanced stage, early detection of lung cancer is very difficult. In 1998-2000, only 21.0 percent of cases in North Denver were detected early, compared to 20.9 percent in the remainder of the Metro area (see Table 5.8).

Figure 4. 6 Lung Cancer – Average Annual Age-Adjusted Incidence Rate per 100,000 by Region, Sex, and Race/Ethnicity, 1998-2000

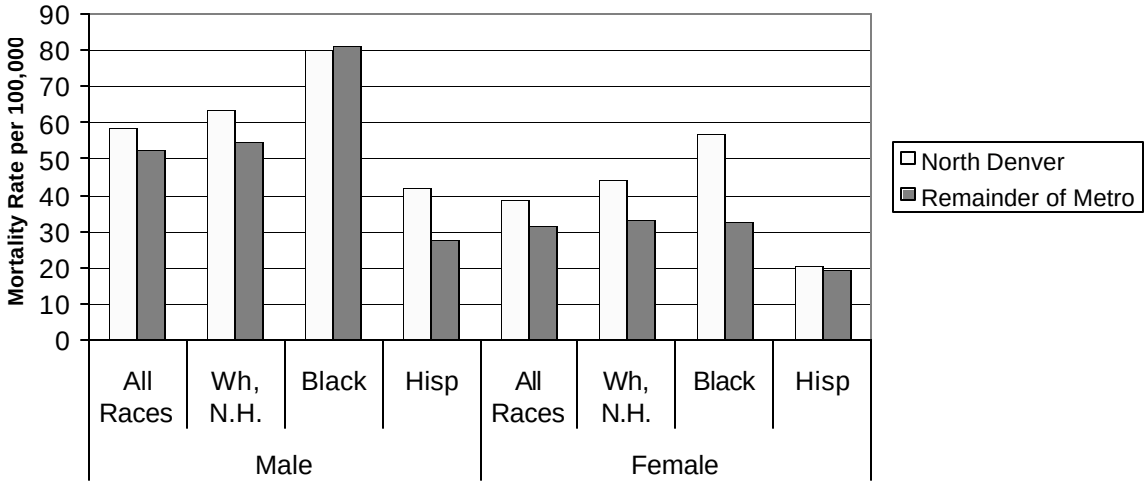


Mortality

Lung cancer is the leading cause of cancer death in Colorado for both men and women. During the 1998-2000 time period, 1,040 men and 835 women died of lung cancer in the remainder of the Metro area, and 150 men and 136 women died of lung cancer in North Denver. Figure 4.7 shows that the lung cancer mortality rates in North Denver women were higher than rates in the remainder of the Metro area in all race/ethnicity groups; the differences were statistically significant for all races combined, and white non-Hispanics. For males, lung cancer mortality rates in North Denver were higher than other Metro area rates for all races combined, white non-Hispanics, and Hispanics, but all were within expected statistical variation (see Table 5.9).

Within the North Denver region, Hispanic males and females had lung cancer mortality rates that were statistically significantly lower than rates for white non-Hispanics. Although the rate for black males was 26 percent higher than the rate for white non-Hispanic males, the difference was within expected statistical variation.

Figure 4. 7 Lung Cancer – Average Annual Age-Adjusted Mortality Rate per 100,000 by Region, Sex, and Race/Ethnicity, 1998-2000



Melanoma

Melanoma is the most deadly type of skin cancer. Other more common types of skin cancer, the basal and squamous cell cancers, are highly curable. Although representing only less than 5 percent of all skin cancers, melanoma accounts for the majority of deaths caused by skin cancer. The melanoma incidence rate in Colorado is increasing faster than most other major cancers. The cumulative risk of being diagnosed with melanoma before age 85 is 1 in 35 for men and 1 in 61 for women. Melanoma ranked fifth among the most commonly diagnosed cancers in Colorado men and women combined during the 1996-2000 time period.

Risk Factors

Excessive exposure to ultraviolet radiation (including natural sunlight and tanning booths) is the major risk factor for all skin cancers (U.S. Preventive Services Task Force, American Academy of Dermatology, Colorado Cancer Prevention and Control Plan Advisory Committee). Severe sunburn in childhood, fair complexion, and occupational exposure to coal tar, pitch, creosote, arsenic compounds, or radium are also considered risk factors for skin cancer.

Prevention

The U.S. Preventive Services Task Force recommends that the primary prevention of skin cancer involve limiting sun exposure especially during midday, avoiding tanning booths and facilities, wearing protective clothing, and applying sunscreen preparations. The American Cancer Society recommends a monthly skin self-examination for all adults and a skin examination by a physician every three years in persons 20-39 years old, and annually in persons 40 years and older.

Early detection of melanoma is critical. Over 90 percent of melanomas that arise in the skin can be recognized with the naked eye. Melanomas often start as small, mole-like growths that increase in size, change color, become ulcerated, and bleed easily. Skin changes described in the "ABCD" rule require further diagnostic evaluation:

- A is for Asymmetry – one half of the mole does not match the other.
- B is for Border - the edges are ragged, notched, or blurred.
- C is for Color - the pigmentation is not uniform.
- D is for Diameter - greater than 6 millimeters, about the size of a pencil eraser.

Any sudden or progressive increase in the size of a mole is also a cause for concern.

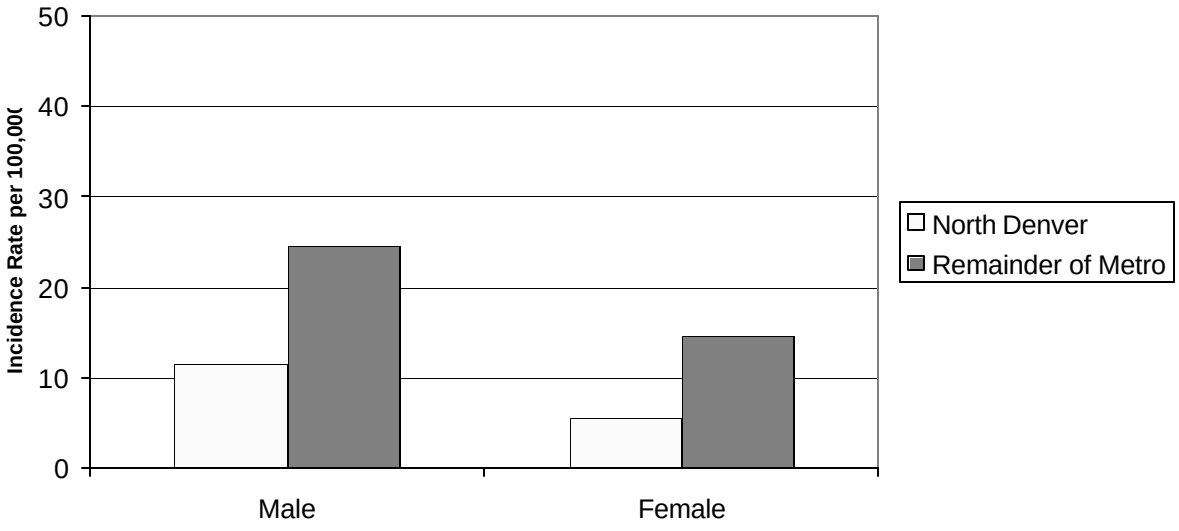
Incidence

During the 1998-2000 time period, 600 men and 444 women in the remainder of the Metro area were diagnosed with melanoma. The comparable statistics for North Denver were 33 men and 21 women. The melanoma incidence rates in North Denver were substantially lower than the rates in the remainder of the Metro area. These lower rates were statistically significant (see Figure 4.8 and Table 5.10).

Early Detection

During the 1998-2000 time period, 87.1 percent of melanomas in North Denver were detected early, which was somewhat lower than the 94.0 early detection percentage in the remainder of the Metro area (see Table 5.11).

Figure 4. 8 Melanoma – Average Annual Age-Adjusted Incidence Rate per 100,000 by Region and Sex, 1998-2000



Mortality

Mortality rate comparisons between North Denver and the remainder of the Metro area revealed very similar rates for both males and females (see Table 5.12).

Female Breast Cancer

The cumulative risk for Colorado women being diagnosed with breast cancer before age 85 is 1 in 7. Breast cancer ranked first among the most commonly diagnosed cancers in Colorado women during the 1996-2000 time period.

Risk Factors

Breast cancer risk increases with age. A personal or family history of breast cancer is the most established risk factor. Increased risk for breast cancer has been associated with first full-term pregnancy after age 30, and also with early menarche and late menopause (the Colorado Cancer Prevention and Control Plan Advisory Committee, U.S. Preventive Service Task Force, the American Cancer Society). Obesity, heavy alcohol use, high-fat diets, and estrogen replacement therapy have been suggested as possible risk factors for breast cancer (Clinical Oncology). Despite the large number of known and potential risk factors, few are strongly

associated with the development of breast cancer, and no single factor or combination of factors can predict the occurrence of breast cancer in any one individual. The key to reducing breast cancer mortality is early detection through screening (the American Cancer Society).

Prevention

The American College of Radiology, the American Medical Association, and the American College of Obstetricians and Gynecologists recommend that women aged 40 and over have a screening mammogram every one to two years, and an annual clinical breast exam. The American Cancer Society recommends that women aged 20-39 do a breast self-exam each month and have a clinical breast exam by a health care professional every three years; and that women aged 40 and over do a breast self-exam each month and have a mammogram and a clinical breast exam every year.

Incidence

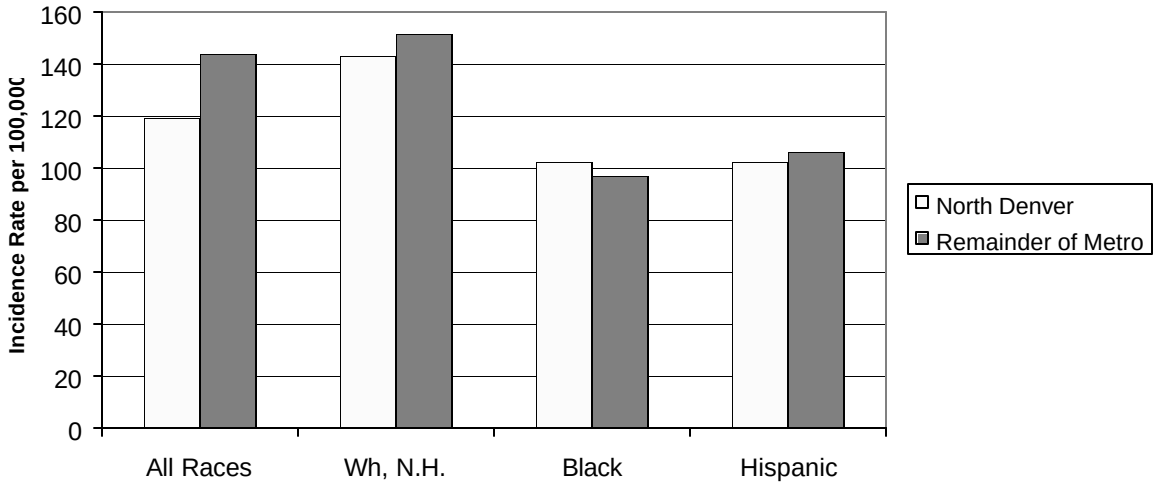
In the remainder of the Metro area during the 1998-2000 time period, 4,164 new female breast cancers were diagnosed; 427 were diagnosed in North Denver women. The female breast cancer incidence rate for North Denver was significantly lower than the rate in the remainder of the Metro area for all races combined. In race-specific groups, the rates were similar between the two regions (see Figure 4.9).

Within North Denver, the rates for both black women and Hispanic women were statistically significantly lower than the rate for white non-Hispanic women, each about 29 percent lower (see Table 5.13).

Early Detection

In the remainder of the Metro area during the 1998-2000 time period, 73.8 percent of female breast cancers were detected early. In North Denver, 69.2 percent of female breast cancer cases were detected early (see Table 5.14).

Figure 4. 9 Female Breast Cancer – Average Annual Age-Adjusted Incidence Rate Per 100,000 by Region and Race/Ethnicity, 1998-2000

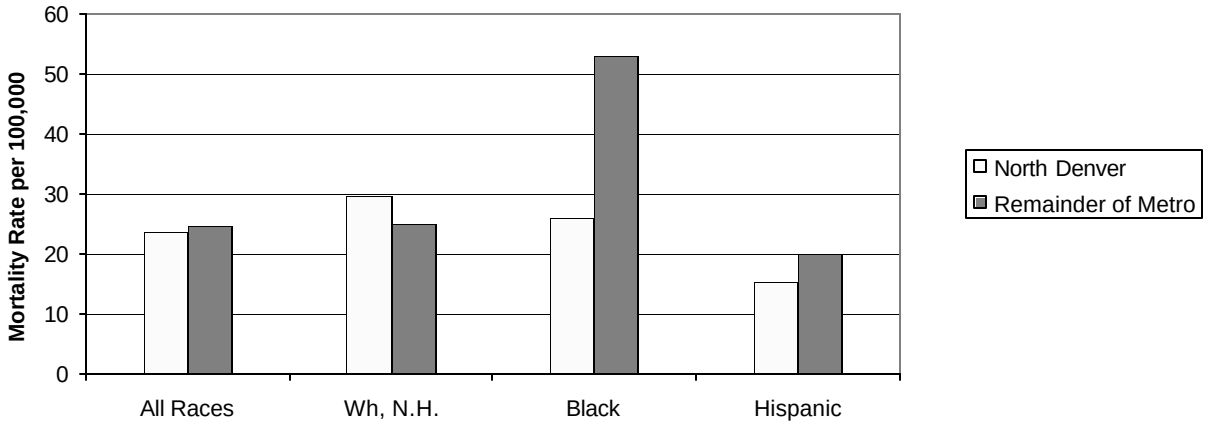


Mortality

During the 1998-2000 time period, 692 women in the remainder of Metro area died of breast cancer while 84 North Denver women died of breast cancer in the same time period. The female breast cancer mortality rate in North Denver was similar to the remainder of the Metro area rate for all races combined (see Figure 4.10). For Hispanic and black women, the mortality rates were lower in North Denver than in the remainder of the Metro area, a statistically significant difference for black women.

Within North Denver, the mortality rate for Hispanic women was significantly lower than the rate for white non-Hispanic women. The rate for black women was 13 percent lower than the white non-Hispanic rate, but was within expected statistical variation (see Table 5.15).

Figure 4. 10 Female Breast Cancer – Average Annual Age-Adjusted Mortality Rate per 100,000 by Region, 1998-2000



Invasive Cervical Cancer

The cumulative risk of Colorado women being diagnosed with invasive cervical cancer before age 85 is 1 in 140. Invasive cervical cancer ranked thirteenth among the most commonly diagnosed cancers in Colorado women during the 1996-2000 time period.

Risk Factors

Multiple sex partners, younger age at first intercourse, a higher number of pregnancies, sexually transmitted infections with certain types of human papilloma virus, and maternal use of diethylstilbestrol (DES) during pregnancy raise the risk for cervical cancer. Smoking and long-term use of oral contraceptives may also increase risk (Colorado Cancer Prevention and Control Plan Advisory Committee).

Prevention

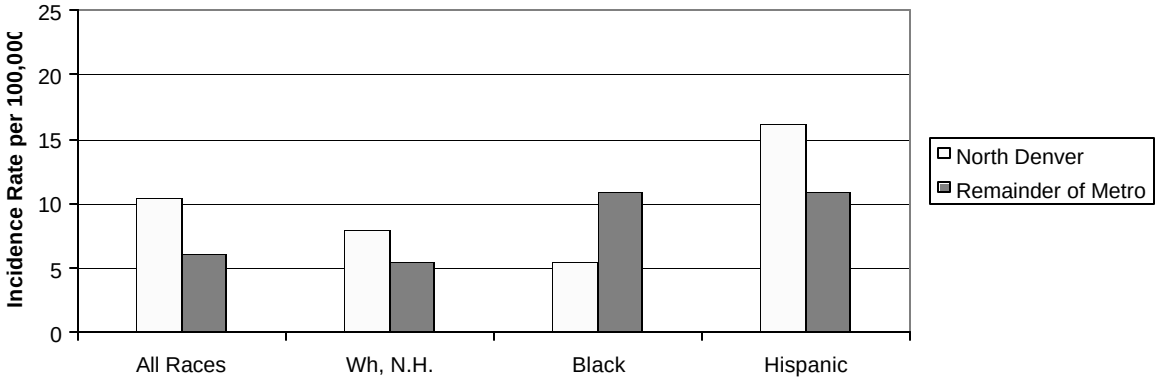
The American Cancer Society and the National Cancer Institute recommend pelvic exams every one to three years for women aged 18 to 40 and for sexually active women younger than age 18. Annual exams are recommended for women after age 40. Women should have Papanicolaou tests (Pap) at least every one to three years after three negative annual tests. The U.S. Preventive Services Task Force recommends that Pap tests should begin with the onset of sexual activity and should be repeated every one to three years at the physician's discretion. Because cervical cancer has been linked to sexually transmitted infections, use of barrier

methods of contraception and involvement with fewer sex partners may decrease the risk of developing cervical cancer.

Incidence

In the remainder of the Metro area there were 196 invasive cervical cases diagnosed during the 1998-2000 time period; 41 cases were diagnosed in North Denver. The North Denver all races combined cervical cancer incidence rate was substantially higher than the rate in the remainder of the Metro area and the difference was statistically significant (see Figure 4.11). Within the North Denver region, Hispanic women had a statistically significantly higher cervical cancer incidence rate than white non-Hispanic women (see Table 5.16).

Figure 4. 11 Invasive Cervical Cancer – Average Annual Age-Adjusted Incidence Rate per 100,000 by Region and Race/Ethnicity, 1998-2000



Early Detection

Early detection percentages were not calculated for cervical cancer because in-situ cervical cancer is not reportable to the Colorado Central Cancer Registry. However, invasive cervical cancers in North Denver women were detected later than in the other Metro area. Localized stage accounted for almost 62 percent of invasive cases in the remainder of the Metro area, and only 51 percent in North Denver, while distant stage disease accounted for 7 percent of invasive cases in the other Metro area compared to 17 percent in North Denver.

Mortality

During the 1998-2000 time period, 44 women in the remainder of Metro area died of cervical cancer while 14 North Denver women died of cervical cancer in the same time period.

The cervical cancer mortality rate for all races combined in North Denver was substantially higher than the rate for the remainder of the Metro area. In white non-Hispanic women, the North Denver rate was also significantly higher than the rate for the other Metro area. There were too few deaths among Hispanic and black women to make rate comparisons.

Prostate Cancer

The cumulative risk of Colorado men being diagnosed with prostate cancer before age 85 is 1 in 5. Prostate cancer ranked first among the most commonly diagnosed cancers in Colorado men during the 1996-2000 time period.

Risk Factors

Incidence of prostate cancer increases with age (especially after age 60). Both familial and environmental factors may contribute to increased risk for prostate cancer. Studies suggest that a family history of prostate cancer in a first-degree relative doubles one's risk. Suspected environmental risk factors include occupational exposure to cadmium, work in rubber manufacturing, and farming. Epidemiologic evidence also suggests that a diet high in fat, particularly animal or saturated fat, increases the risk of prostate cancer (American Cancer Society).

Prevention

The American Cancer Society recommends that men age 50 and older that have at least a 10-year life expectancy should talk with their health care professional about having a digital rectal exam of the prostate gland and a prostate-specific antigen (PSA) blood test every year. Men who are at high risk for prostate cancer (black men or men who have a history of prostate cancer in close family members) should consider beginning these tests at an earlier age. The PSA test measures the blood levels of prostate specific antigen, a protein secreted by prostate cells. In conjunction with a digital rectal exam, the PSA test is a valuable tool for detecting prostate cancer at a very early stage.

Incidence

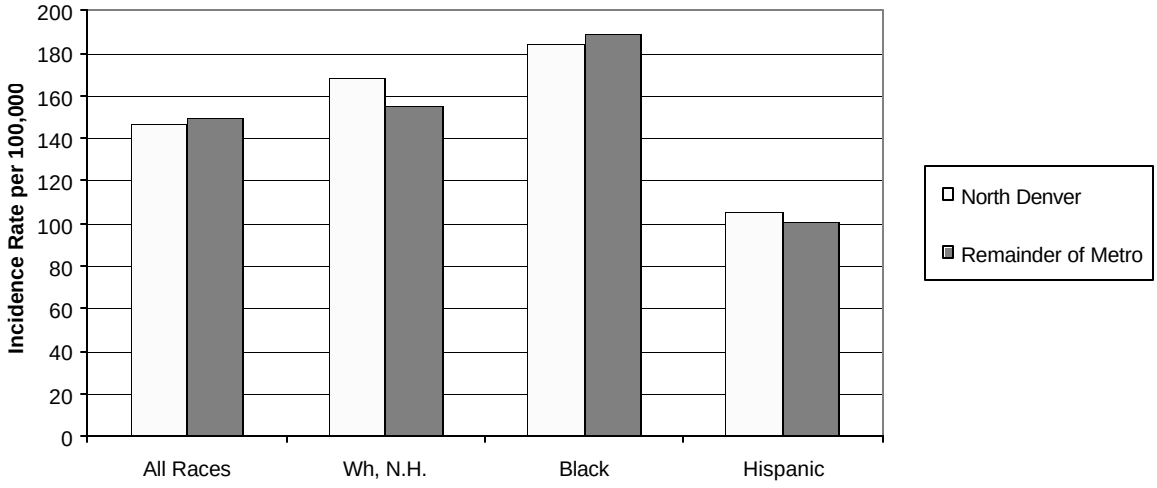
According to the Cancer Registry annual report, prostate cancer incidence rose sharply in Colorado from the late 1980's to 1992, with a similarly sharp drop in rates from 1992 to 1998. This phenomenon has been attributed to changes in PSA screening rates. As the PSA test was

widely adopted in the late 1980's, more prostate cancer cases were diagnosed at an earlier stage than they otherwise would have been. Once this pool of cases was detected, the incidence rate decreased to its earlier level.

During the 1998-2000 time period, 3,206 new cases were detected in the remainder of the Metro area with 386 cases diagnosed in North Denver. The prostate cancer incidence rate in North Denver was similar to the rate in the remainder of the Metro area for all races combined and for each of the race/ethnicity groups (see Figure 4.12 and Table 5.19).

Within the North Denver region, the black prostate cancer incidence rate was 10 percent higher than the rate for white non-Hispanic men. The rate for Hispanic men was 37 percent lower than the rate for white non-Hispanic men, which was a statistically significant difference.

Figure 4. 12 Prostate Cancer – Average Annual Age-Adjusted Incidence Rate Per 100,000 by Region and Race/Ethnicity, 1998-2000



Early Detection

In the remainder of the Metro area during the 1998-2000 time period, 83.4 percent of prostate cancers were detected at early stages, and 81.6 percent of the cancers were detected early in North Denver.

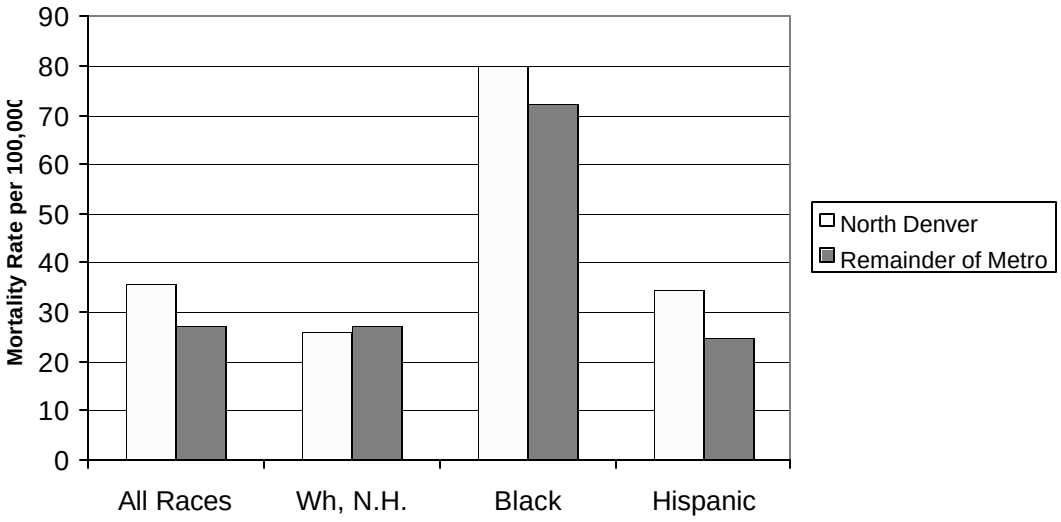
Mortality

Figure 4.12 shows that the North Denver prostate cancer mortality rate for all races combined was 32 percent higher than the remainder of the Metro area rate for 1998-2000. This

difference was statistically significant. The mortality rate for Hispanic men in North Denver was 39 percent higher than in the remainder of the Metro area, but this difference was within expected statistical variation (see Table 5.21).

Within the North Denver region, the mortality rate for black men was three times higher than the rate for white non-Hispanic men. This difference was statistically significant. Although the mortality rate for Hispanic men was 32 percent higher than the rate for white non-Hispanic men, this difference was within expected statistical variation.

Figure 4. 13 Prostate Cancer – Average Annual Age-Adjusted Mortality Rate per 100,000 by Region and Race/Ethnicity, 1998-2000



Section V

Appendix

Incidence, Staging, and Mortality Data by County

Appendix

Table 5. 1 All Cancers Combined – Incidence Rates

Number of Diagnosed Cancers and Average Annual Age-Adjusted Incidence Rates per 100,000 by Sex, Race/Ethnicity, and Place, 1998-2000				
Race/Ethnicity	**Male**		**Female**	
Place	**N**	**Rate**	**N**	**Rate**
All Races Combined				
Remainder of Metro	10806	493.3	11320	399.6
North Denver	1454	525.5†	1410	392.0
White, Non-Hispanic				
Remainder of Metro	9763	508.1	10212	414.2
North Denver	754	593.3†	769	453.9†
Black, Non-Hispanic				
Remainder of Metro	271	617.1	205	330.7
North Denver	298	575.3	242	355.2‡
Hispanic				
Remainder of Metro	614	411.6	688	344.2
North Denver	377	447.1‡	377	356.3‡

† = difference between regions is statistically significant at $p < 0.05$

‡ = difference between race/ethnicity group and white non-Hispanic in North Denver is statistically significant at $p < 0.05$

Table 5. 2 All Cancers Combined – Stage at Diagnosis

Stage of Disease at Diagnosis and Early Detection by Place, 1998-2000							
	In-Situ %	Local %	Regional %	Distant %	Unknown %	Cases N	% "Early" Detection
Remainder of Metro	8.0	40.9	18.0	17.8	15.3	49038	57.7
North Denver	6.7	35.8	18.5	21.9	17.0	6278	51.2

Table 5. 3 All Cancers Combined – Mortality Rates

Number of Deaths and Average Annual Age-Adjusted Mortality Rates per 100,000 by Sex, Race/Ethnicity, and Place, 1998-2000				
Race/Ethnicity	**Male**		**Female**	
Place	**N**	**Rate**	**N**	**Rate**
All Races Combined				
Remainder of Metro	4010	202.3	4036	148.8
North Denver	657	255.7†	598	167.6†
White, Non-Hispanic				
Remainder of Metro	3642	206.6	3682	152.6
North Denver	334	264.7†	329	185.4†
Black, Non-Hispanic				
Remainder of Metro	105	290.3	101	201.1
North Denver	167	368.7‡	125	185.3
Hispanic				
Remainder of Metro	191	164.0	193	115.4
North Denver	144	203.6‡	133	142.3‡

† = difference between regions is statistically significant at $p < 0.05$

‡ = difference between race/ethnicity group and white non-Hispanic in North Denver is statistically significant at $p < 0.05$

Table 5. 4 Colon and Rectal Cancer – Incidence Rates

Number of Diagnosed Cancers and Average Annual Age-Adjusted Incidence Rates per 100,000 by Sex, Race/Ethnicity, and Place, 1998-2000				
Race/Ethnicity	**Male**		**Female**	
Place	**N**	**Rate**	**N**	**Rate**
All Races Combined				
Remainder of Metro	1186	57.2	1159	42.8
North Denver	167	64.2	168	47.1
White, Non-Hispanic				
Remainder of Metro	1050	57.3	1029	42.8
North Denver	93	75.0†	91	49.7
Black, Non-Hispanic				
Remainder of Metro	36	77.8	30	52.6
North Denver	35	66.9	32	49.0
Hispanic				
Remainder of Metro	79	60.7	75	44.5
North Denver	39	53.3	43	49.1

† = difference between regions is statistically significant at $p < 0.05$

‡ = difference between race/ethnicity group and white non-Hispanic in North Denver is statistically significant at $p < 0.05$

Table 5. 5 Colon and Rectal Cancer – Stage at Diagnosis

Stage of Disease at Diagnosis and Early Detection by Place, 1998-2000							
	In-Situ %	Local %	Regional %	Distant %	Unknown %	Cases N	% "Early" Detection
Remainder of Metro	5.2	34.2	35.8	17.9	6.7	4954	42.4
North Denver	6.7	32.6	32.9	20.9	7	718	42.2

Table 5. 6 Colon and Rectal Cancer – Mortality Rates

Number of Deaths and Average Annual Age-Adjusted Mortality Rates per 100,000 by Sex, Race/Ethnicity, and Place, 1998-2000				
Race/Ethnicity	**Male**		**Female**	
Place	**N**	**Rate**	**N**	**Rate**
All Races Combined				
Remainder of Metro	382	19.3	416	15.6
North Denver	79	31.2†	70	19.8
White, Non-Hispanic				
Remainder of Metro	342	19.4	383	16.0
North Denver	39	30.9†	35	18.8
Black, Non-Hispanic				
Remainder of Metro	8	19.8	10	24.4
North Denver	23	46.3†	15	21.2
Hispanic				
Remainder of Metro	21	19.4	17	10.0
North Denver	15	22.8	19	22.4†

† = difference between regions is statistically significant at $p < 0.05$

‡ = difference between race/ethnicity group and white non-Hispanic in North Denver is statistically significant at $p < 0.05$

Table 5. 7 Lung Cancer – Incidence Rates

Number of Diagnosed Cancers and Average Annual Age-Adjusted Incidence Rates per 100,000 by Sex, Race/Ethnicity, and Place, 1998-2000				
Race/Ethnicity	**Male**		**Female**	
Place	**N**	**Rate**	**N**	**Rate**
All Races Combined				
Remainder of Metro	1293	63.5	1131	42.4
North Denver	207	77.6†	170	48.6
White, Non-Hispanic				
Remainder of Metro	1179	65.0	1032	43.5
North Denver	112	89.1†	98	57.3†
Black, Non-Hispanic				
Remainder of Metro	35	97.4	22	44.5
North Denver	46	91.8	43	62.4
Hispanic				
Remainder of Metro	49	41.8	58	36.7
North Denver	45	60.5‡	27	28.2‡

† = difference between regions is statistically significant at $p < 0.05$

‡ = difference between race/ethnicity group and white non-Hispanic in North Denver is statistically significant at $p < 0.05$

Table 5. 8 Lung Cancer – Stage at Diagnosis

Stage of Disease at Diagnosis and Early Detection by Place, 1998-2000							
	In-Situ %	Local %	Regional %	Distant %	Unknown %	Cases N	% "Early" Detection
Remainder of Metro	0.2	17.7	19.2	48.6	14.2	4858	20.9
North Denver	0.0	18.0	18.0	49.9	14.1	754	21.0

Table 5. 9 Lung Cancer – Mortality Rates

Number of Deaths and Average Annual Age-Adjusted Mortality Rates per 100,000 by Sex, Race/Ethnicity, and Place, 1998-2000				
Race/Ethnicity	**Male**		**Female**	
Place	**N**	**Rate**	**N**	**Rate**
All Races Combined				
Remainder of Metro	1040	52.7	835	31.5
North Denver	150	58.3	136	38.8†
White, Non-Hispanic				
Remainder of Metro	964	54.6	783	33.0
North Denver	80	63.5	76	44.2†
Black, Non-Hispanic				
Remainder of Metro	28	80.9	15	32.7
North Denver	38	80.3	39	57.0
Hispanic				
Remainder of Metro	29	27.4	28	19.2
North Denver	30	41.8‡	19	20.5‡

† = difference between regions is statistically significant at $p < 0.05$

‡ = difference between race/ethnicity group and white non-Hispanic in North Denver is statistically significant at $p < 0.05$

Table 5. 10 Melanoma – Incidence Rates

Number of Diagnosed Cancers and Average Annual Age-Adjusted Incidence Rates per 100,000 by Sex, Race/Ethnicity, and Place, 1998-2000				
Race/Ethnicity	**Male**		**Female**	
Place	**N**	**Rate**	**N**	**Rate**
All Races Combined				
Remainder of Metro	600	24.5	444	14.7
North Denver	33	11.4†	21	5.4†
White, Non-Hispanic				
Remainder of Metro	588	27.8	428	16.8
North Denver	29	21.5	16	10.2†
Black, Non-Hispanic				
Remainder of Metro	*	*	*	*
North Denver	*	*	*	*
Hispanic				
Remainder of Metro	*	*	*	*
North Denver	*	*	*	*

† = difference between regions is statistically significant at $p < 0.05$

‡ = difference between race/ethnicity group and white non-Hispanic in North Denver is statistically significant at $p < 0.05$

* = data could not be displayed due to small case counts

Table 5. 11 Melanoma – Stage at Diagnosis

Stage of Disease at Diagnosis and Early Detection by Place, 1998-2000							
	In-Situ %	Local %	Regional %	Distant %	Unknown %	Cases N	% "Early" Detection
Remainder of Metro	25.3	61.3	3.1	2.4	7.8	2804	94.0
North Denver	39.3	43.8	5.6	6.7	4.5	178	87.1

Table 5. 12 Melanoma – Mortality Rates

Number of Deaths and Average Annual Age-Adjusted Mortality Rates per 100,000 by Sex, Race/Ethnicity, and Place, 1998-2000				
Race/Ethnicity	**Male**		**Female**	
Place	**N**	**Rate**	**N**	**Rate**
All Races Combined				
Remainder of Metro	112	5.0	55	1.9
North Denver	10	3.8	7	1.9
White, Non-Hispanic				
Remainder of Metro	111	5.6	54	2.2
North Denver	9	7.0	5	2.8
Black, Non-Hispanic				
Remainder of Metro	*	*	*	*
North Denver	*	*	*	*
Hispanic				
Remainder of Metro	*	*	*	*
North Denver	*	*	*	*

* = data could not be displayed due to small case counts

Table 5. 13 Female Breast Cancer – Incidence Rates

Number of Diagnosed Cancers and Average Annual Age-Adjusted Incidence Rates per 100,000 by Race/Ethnicity and Place, 1998-2000		
Race/Ethnicity	**Female**	
Place	**N**	**Rate**
All Races Combined		
Remainder of Metro	4164	144.2
North Denver	427	119.8†
White, Non-Hispanic		
Remainder of Metro	3810	152.1
North Denver	235	143.6
Black, Non-Hispanic		
Remainder of Metro	65	97.2
North Denver	70	102.4‡
Hispanic		
Remainder of Metro	227	106.4
North Denver	111	102.6‡

† = difference between regions is statistically significant at $p < 0.05$

‡ = difference between race/ethnicity group and white non-Hispanic in North Denver is statistically significant at $p < 0.05$

Table 5. 14 Female Breast Cancer – Stage at Diagnosis

Stage of Disease at Diagnosis and Early Detection by Place, 1998-2000							
	In-Situ %	Local %	Regional %	Distant %	Unknown %	Cases N	% "Early" Detection
Remainder of Metro	18.2	51.8	22.4	2.4	5.1	10188	73.8
North Denver	17.9	48	25.5	3.8	4.8	1042	69.2

Table 5. 15 Female Breast Cancer – Mortality Rates

Number of Deaths and Average Annual Age-Adjusted Mortality Rates per 100,000 by Race/Ethnicity and Place, 1998-2000		
Race/Ethnicity	**Female**	
Place	**N**	**Rate**
All Races Combined		
Remainder of Metro	692	24.6
North Denver	84	23.8
White, Non-Hispanic		
Remainder of Metro	618	25.0
North Denver	50	29.6
Black, Non-Hispanic		
Remainder of Metro	27	53.0
North Denver	17	25.9 †
Hispanic		
Remainder of Metro	40	20.2
North Denver	16	15.5 ‡

† = difference between regions is statistically significant at $p < 0.05$

‡ = difference between race/ethnicity group and white non-Hispanic in North Denver is statistically significant at $p < 0.05$

Table 5. 16 Invasive Cervical Cancer – Incidence Rates

Number of Diagnosed Cancers and Average Annual Age-Adjusted Incidence Rates per 100,000 by Race/Ethnicity and Place, 1998-2000		
Race/Ethnicity	**Female**	
Place	**N**	**Rate**
All Races Combined		
Remainder of Metro	196	6.1
North Denver	41	10.5†
White, Non-Hispanic		
Remainder of Metro	144	5.4
North Denver	13	8.0
Black, Non-Hispanic		
Remainder of Metro	10	10.9
North Denver	4	5.5
Hispanic		
Remainder of Metro	33	10.9
North Denver	24	16.1‡

† = difference between regions is statistically significant at $p < 0.05$

‡ = difference between race/ethnicity group and white non-Hispanic in North Denver is statistically significant at $p < 0.05$

Table 5. 17 Invasive Cervical Cancer – Stage at Diagnosis

Stage of Disease at Diagnosis and Early Detection by Place, 1998-2000					
	Local %	Regional %	Distant %	Unknown %	Cases N
Remainder of Metro	61.7	26.0	7.1	5.1	392
North Denver	51.2	29.3	17.1	2.4	82

Table 5. 18 Invasive Cervical Cancer – Mortality Rates

Number of Deaths and Average Annual Age-Adjusted Mortality Rates per 100,000 by Race/Ethnicity and Place, 1998-2000		
Race/Ethnicity	**Female**	
Place	**N**	**Rate**
All Races Combined		
Remainder of Metro	44	1.4
North Denver	14	3.9†
White, Non-Hispanic		
Remainder of Metro	34	1.3
North Denver	8	5.0†
Black, Non-Hispanic		
Remainder of Metro	*	*
North Denver	*	*
Hispanic		
Remainder of Metro	*	*
North Denver	*	*

† = difference between regions is statistically significant at $p < 0.05$

‡ = difference between race/ethnicity group and white non-Hispanic in North Denver is statistically significant at $p < 0.05$

* = data could not be displayed due to small case counts

Table 5. 19 Prostate Cancer – Incidence Rates

Number of Diagnosed Cancers and Average Annual Age-Adjusted Incidence Rates per 100,000 by Race/Ethnicity and Place, 1998-2000		
Race/Ethnicity	**Male**	
Place	**N**	**Rate**
All Races Combined		
Remainder of Metro	3206	149.2
North Denver	386	147.1
White, Non-Hispanic		
Remainder of Metro	2962	155.6
North Denver	208	168.0
Black, Non-Hispanic		
Remainder of Metro	86	188.9
North Denver	97	184.8
Hispanic		
Remainder of Metro	132	101.1
North Denver	74	105.5‡

† = difference between regions is statistically significant at $p < 0.05$

‡ = difference between race/ethnicity group and white non-Hispanic in North Denver is statistically significant at $p < 0.05$

Table 5. 20 Prostate Cancer – Stage at Diagnosis

Stage of Disease at Diagnosis and Early Detection by Place, 1998-2000							
	In-Situ %	Local %	Regional %	Distant %	Unknown %	Cases N	% "Early" Detection
Remainder of Metro	0.0	66.6	9.5	3.7	20.1	6412	83.4
North Denver	0.0	61.9	7.0	7.0	23.8	772	81.6

Table 5. 21 Prostate Cancer – Mortality Rates

Number of Deaths and Average Annual Age-Adjusted Mortality Rates per 100,000 by Race/Ethnicity and Place, 1998-2000		
Race/Ethnicity	**Male**	
Place	**N**	**Rate**
All Races Combined		
Remainder of Metro	455	27.0
North Denver	81	35.7†
White, Non-Hispanic		
Remainder of Metro	412	27.0
North Denver	32	26.1
Black, Non-Hispanic		
Remainder of Metro	18	72.2
North Denver	30	80.0‡
Hispanic		
Remainder of Metro	21	24.8
North Denver	19	34.4

† = difference between regions is statistically significant at $p < 0.05$

‡ = difference between race/ethnicity group and white non-Hispanic is statistically significant at $p < 0.05$

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