



Colorado Department  
of Public Health  
and Environment

# Colorado Chronic Disease Indicators Report

## ACKNOWLEDGEMENTS

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## Colorado Chronic Disease Indicators Report

### Background

Monitoring health status in a state or community is one of the 10 essential public health services. Understanding patterns of disease and risk factors can assist in planning programs and services, distributing resources and evaluating progress toward goals for a healthy citizenry.

In 2001, the National Association of Chronic Disease Directors, Council of State and Territorial Epidemiologists and the Centers for Disease Control and Prevention began a process to promote monitoring of diseases and disease risk factors at the state level using common definitions and measures. The result was a list of 92 indicators relevant to chronic disease for which data were regularly available for the majority of states. A report on the indicators was published as *Indicators for Chronic Disease Surveillance in 2004*<sup>1</sup> and is available at [www.cdc.gov/mmwr/preview/mmwrhtml/rr5311a1.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5311a1.htm).

Given the significance of chronic disease to health care and public health in Colorado, the Colorado Department of Public Health and Environment has replicated this report for the state. Many of the indicators align with *Healthy People 2010* objectives, which serve as primary outcome measures for most CDPHE chronic disease programs.

### Understanding the Focus on Chronic Disease

Many factors determine the health status of a state. The availability and quality of health care services are critical. The ability of public and private sources to support programs to prevent health problems and reduce their burden is equally important. The willingness of individuals to take responsibility for their own health and well-being also plays a key role in building a healthy state.

As Colorado rises to the task of improving health and health care, the focus necessarily falls on chronic disease. With increased longevity, the biggest threats to health and wellness are those diseases and conditions that persist over an extended period of time, leaving individuals vulnerable to a lifetime of progressive disability. Heart disease, diabetes, cancer, lung disease and other chronic conditions affect nearly half of all Americans<sup>2</sup> and far outnumber all other causes of death combined.

In addition to the impact on individuals, chronic disease burdens the health care system with the need for ongoing medical monitoring, intervention and hospitalization. Employers and workers struggle to support the cost of chronic disease care, and productivity suffers as these conditions create activity limitations among the state's workforce.

Reversing these trends in health and health care spending in Colorado can seem as daunting as moving our mountains.

But with sufficient focus and investment, this picture of chronic disease can change. Chronic diseases are among the most preventable of all health problems. Most chronic diseases share a set of primary risk factors: obesity, poor nutrition, lack of physical activity and tobacco use. Reducing or eliminating these behaviors among Coloradans can lead to significant improvements in rates of cardiovascular disease, diabetes, lung disease and some cancers. In addition, screening techniques, such as checking blood lipid levels, mammograms and Pap tests, can detect chronic diseases at early stages when they are more amenable to control or treatment. Cost savings from prevention and screening can bring needed relief to the state's health care system.

A great challenge of chronic disease prevention is that reducing primary risk factors often requires difficult lifestyle changes for individuals. Epidemic increases in obesity, slowing progress on reducing smoking rates and negligible levels of fruit and vegetable consumption provide humbling evidence of the task ahead. Individual efforts are often hindered by policies and environments that fail to support healthy choices. Looking deeper into health statistics uncovers yet further challenges. Rates of chronic diseases and related risk factors are significantly higher among particular groups in the population. New analyses illustrate the strong influence of parents, families and the environment on the developing health behaviors of children.

In spite of these difficulties, there can be no more important strategy for improving the health of Coloradans and preserving state health care spending than investing in chronic disease prevention. Over the past decade, the state of Colorado has begun to develop chronic disease programming, initially funded through federal grant dollars. With voters' approval of an increased tobacco excise tax in 2004, Colorado legislators have been able to direct state funding toward efforts to reduce cardiovascular disease, cancer, lung disease, tobacco use and related health disparities. Working in partnership with

the private sector and nonprofit organizations has leveraged additional resources toward this effort. These investments hold promise for better health outcomes for all Colorado residents and reduced costs for Colorado's health care system.

A further discussion of chronic disease in Colorado, the state's role in chronic disease prevention and control and recommendations for future action can be found in a companion document, *Moving Mountains: Reversing Trends in Colorado's Health And Health Care Spending Through Investment In Chronic Disease Prevention*, available at [www.cdphe.state.co.us/pp/chronicdisease/](http://www.cdphe.state.co.us/pp/chronicdisease/).

<sup>1</sup> Centers for Disease Control and Prevention, *Indicators for Chronic Disease Surveillance*, MMWR, 2004, 53 (No. RR-11): [1-114].

<sup>2</sup> Partnership for Solutions, *Chronic Conditions: Making the Case for Ongoing Care*, Johns Hopkins University, 2002.

## In this Report

The report begins with the list of indicators identified by the national workgroup as being relevant to public health efforts to prevent and control chronic disease and for which surveillance data were available at the state level. This is followed by a description of the methods and data sources used by the state health department to replicate the national report on these indicators. Instances in which the Colorado methodology deviated from the national

report are noted in this section. The bulk of the report details state-level information for each indicator. Data through the most recent year available are included and trends over time are illustrated. Accompanying each indicator is a discussion of the importance of the indicator to overall health and highlights of the most recent year's data.

## List of Chronic Disease Indicators by Group

No.	Group	Title	Age (yrs) or Grade	Sex	Data source*
Physical activity and nutrition					
1		Fruit and vegetable consumption, adults	≥ 18	Both	BRFSS
2		Fruit and vegetable consumption, youth	Grades 9–12	Both	YRBS
3		Overweight and obesity, adults	≥ 18	Both	BRFSS
4		Obesity, adults	≥ 18	Both	BRFSS
5		Overweight, youth	Grades 9–12	Both	YRBS
6		Recommended physical activity, adults	≥ 18	Both	BRFSS
7		Vigorous physical activity, youth	Grades 9–12	Both	YRBS
8		Television viewing, youth	Grades 9–12	Both	YRBS
Tobacco and alcohol use					
9		Binge drinking, adults	≥ 18	Both	BRFSS
10		Binge drinking, women of childbearing age	18–44	Female	BRFSS
11		Binge drinking, youth	Grades 9–12	Both	YRBS
12		Alcohol use, youth	Grades 9–12	Both	YRBS
13		Heavy drinking, adult males	≥ 18	Male	BRFSS
14		Heavy drinking, adult females	≥ 18	Female	BRFSS
15		Mortality from chronic liver disease	All	Both	Vital statistics
16		Cigarette smoking, adults	≥ 18	Both	BRFSS
17		Cigarette smoking, youth	Grades 9–12	Both	YRBS/ YTS
18		Smokeless tobacco use, youth	Grades 9–12	Both	YRBS/ YTS
19		Sales of cigarette packs	All	Both	STATE/ Revenue agency
Cancer					
20		Incidence of invasive cancer (all sites combined)	All	Both	Cancer registry
21		Mortality from cancer (all sites combined)	All	Both	Vital statistics
22		Incidence of cancer of the lung and bronchus	All	Both	Cancer registry
23		Mortality from cancer of the lung and bronchus	All	Both	Vital statistics
24		Incidence of cancer of the colon and rectum	All	Both	Cancer registry
25		Mortality from cancer of the colon and rectum	All	Both	Vital statistics
26		Incidence of invasive cancer of the female breast	All	Female	Cancer registry
27		Mortality from cancer of the female breast	All	Female	Vital statistics
28		Incidence of invasive cancer of the prostate	All	Male	Cancer registry
29		Mortality from cancer of the prostate	All	Male	Vital statistics
30		Incidence of invasive cancer of the cervix	All	Female	Cancer registry
31		Mortality from cancer of the cervix	All	Female	Vital statistics
32		Incidence of cancer of the bladder (in situ and invasive)	All	Both	Cancer registry

No.	Group	Title	Age (yrs) or Grade	Sex	Data source*
	<b>Cancer - continued</b>				
33		Mortality from cancer of the bladder	All	Both	Vital statistics
34		Incidence of invasive melanoma	All	Both	Cancer registry
35		Mortality from melanoma	All	Both	Vital statistics
36		Incidence of invasive cancer of the oral cavity and pharynx	All	Both	Cancer registry
37		Mortality from cancer of the oral cavity and pharynx	All	Both	Vital statistics
38		Mammography use among women	≥ 40	Female	BRFSS
39		Clinical breast examination among women	≥ 40	Female	BRFSS
40		Papanicolaou smear use among women	≥ 18	Female	BRFSS
41		Fecal occult blood test or sigmoidoscopy/colonoscopy, adults	≥ 50	Both	BRFSS
42		Fecal occult blood test, adults	≥ 50	Both	BRFSS
43		Sigmoidoscopy/colonoscopy, adults	≥ 50	Both	BRFSS
	<b>Cardiovascular Disease</b>				
44		Mortality from major cardiovascular diseases	All	Both	Vital statistics
45		Mortality from diseases of the heart	All	Both	Vital statistics
46		Mortality from coronary heart disease	All	Both	Vital statistics
47		Mortality from congestive heart failure	All	Both	Vital statistics
48		Mortality from cerebrovascular disease (stroke)	All	Both	Vital statistics
49		Hospitalization for acute myocardial infarction	All	Both	Hospital discharge
50		Hospitalization for congestive heart failure	All	Both	Hospital discharge
51		Hospitalization for congestive heart failure, Medicare-eligible adults	≥ 65	Both	Hospital discharge
52		Medicare-eligible adults hospitalized for congestive heart failure (unduplicated)	≥ 65	Both	Hospital discharge
53		Hospitalization for cerebrovascular accident or stroke	All	Both	Hospital discharge
54		Hospitalization for cerebrovascular accident or stroke, Medicare-eligible adults	≥ 65	Both	Hospital discharge
55		Medicare-eligible adults hospitalized for cerebrovascular accident or stroke (unduplicated)	≥ 65	Both	Hospital discharge
56		Cholesterol screening, adults	≥ 18	Both	BRFSS
57		Prevalence of high blood pressure awareness, adults	≥ 18	Both	BRFSS
58		Taking medicine for high blood pressure control, adults	≥ 18	Both	BRFSS
	<b>Overarching conditions</b>				
59		Poverty	All	Both	CPS
60		High school completion, adults	18–24	Both	CPS
61		Premature mortality, adults	45–64	Both	Vital statistics
62		Life expectancy at age 65 years	≥ 65	Both	Vital statistics

No.	Group	Title	Age (yrs) or Grade	Sex	Data source*
	<b>Overarching conditions - continued</b>				
63		Life expectancy at birth	All	Both	Vital statistics
64		Current lack of health insurance, adults	18–64	Both	BRFSS
65		Self-assessed health status, adults	≥ 18	Both	BRFSS
66		Recent physical health, adults	≥ 18	Both	BRFSS
67		Recent mental health, adults	≥ 18	Both	BRFSS
68		Recent activity limitation, adults	≥ 18	Both	BRFSS
	<b>Other diseases and risk factors</b>				
69		Mortality with diabetes	All	Both	Vital statistics
70		Mortality with diabetic ketoacidosis	All	Both	Vital statistics
71		Diabetes prevalence, adults	≥ 18	Both	BRFSS
72		Amputation of a lower extremity attributable to diabetes	All	Both	Hospital discharge
73		Influenza vaccination, adults with diabetes	≥ 18	Both	BRFSS
74		Pneumonia vaccination, adults with diabetes	≥ 18	Both	BRFSS
75		Foot examination, adults with diabetes	≥ 18	Both	BRFSS
76		Self blood-glucose monitoring, adults with diabetes	≥ 18	Both	BRFSS
77		Dilated eye exam, adults with diabetes	≥ 18	Both	BRFSS
78		Hospitalization with diabetes	All	Both	Hospital discharge
79		Mortality from end-stage renal disease as underlying cause	All	Both	Vital statistics
80		Mortality with end-stage renal disease	All	Both	Vital statistics
81		Incidence of treated end-stage renal disease	All	Both	USRDS
82		Incidence of treated end-stage renal disease attributed to diabetes	All	Both	USRDS
83		Mortality with chronic obstructive pulmonary disease, adults	≥ 45	Both	Vital statistics
84		Pneumococcal vaccination, adults	≥ 65	Both	BRFSS
85		Influenza vaccination, adults	≥ 50	Both	BRFSS
86		Hospitalization with asthma	All	Both	Hospital discharge
87		Mortality from asthma	All	Both	Vital statistics
88		Hospitalization for hip fracture, Medicare-eligible adults	≥ 65	Both	Hospital discharge
89		Hospitalization for vertebral fractures, Medicare-eligible adults	≥ 65	Both	Hospital discharge
90		Visits to dentist or dental clinic, adults	≥ 18	Both	BRFSS
91		Teeth cleaning, adults	≥ 18	Both	BRFSS
92		All teeth lost, adults	≥ 65	Both	BRFSS
*BRFSS=Behavioral Risk Factor Surveillance System; YRBS=Youth Risk Behavior Survey; YTS=Youth Tobacco Survey; STATE=State Tobacco Activities Tracking and Evaluation System; CPS=Current Population Survey; USRDS=United States Renal Data System					

SOURCE: Centers for Disease Control and Prevention, "Indicators for Chronic Disease Surveillance," *Morbidity and Mortality Weekly Review*, 53 (RR-11). 1-114, 2004.



## State Data Sources

Data Provider	Name of Dataset	Description	Contents	Limitations
Chronic Disease Section, Colorado Department of Public Health and Environment	Behavioral Risk Factor Surveillance System (BRFSS)	Annual phone survey of adults 18 years and older to monitor lifestyles and behaviors related to the leading causes of mortality and morbidity.	Demographics, asthma, alcohol consumption, diabetes, exercise, tobacco use, cancer screening, fruit and vegetable consumption, hypertension, cholesterol, oral health, etc.	Non-sampling error due to persons living in residences where there are no phones, non-response (including no answer or refusals) and measurement error due to inaccurate answers.
Health Statistics Section, Colorado Department of Public Health and Environment	Youth Risk Behavior Survey (YRBS)	A school-based, self-administered, anonymous survey given to students in grades 9-12.	Measures behaviors that fall into six categories: Behaviors that result in unintentional injuries and violence, tobacco use, alcohol and other drug use, sexual behaviors, dietary behaviors and physical activity.	Not representative of all persons in this age group because the data only applies to those who attend school. Also, the YRBS only addresses behaviors that contribute to the leading causes of morbidity and mortality among youth.
Health Statistics Section, Colorado Department of Public Health and Environment	Vital Statistics	According to Colorado state statute, reportable events are provided to the Colorado Department of Public Health and Environment via standardized forms, such as birth certificates and death certificates.	Births, deaths, spontaneous fetal deaths (miscarriages), induced terminations of pregnancy (abortions), marriages and marriage dissolutions (divorces or annulments).	Death records do not give adequate information on factors that contribute to the death, such as health status of the individual prior to death.
Colorado Health and Hospital Association	Colorado Hospital Discharge Data	Hospital data consisting of medical record information from all patients discharged from Colorado hospitals and patients who have hospital-based outpatient surgery.	Demographics, diagnosis and procedures, duration of stay and admission/discharge status, total charge and charge components.	The amount the hospital is actually paid is not available. The reported charges do not include physicians' fees.
Colorado Department of Public Health and Environment	Colorado Central Cancer Registry (CCCR)	The CCCR is the statewide cancer surveillance program reporting on incidence, treatment, survival and deaths due to cancer.	Incidence, stage of detection, survival and mortality by county, cancer site, sex and race/ethnicity.	Timely and accurate release of new data is subject to a reporting delay. There is an inherent delay between the end of the diagnosis year and the time the cancers are first reported to the registry.
Colorado Foundation for Medical Care	Medicare Beneficiary Claims Data (MBCD)	Hospital data consisting of claims information from all Medicare patients hospitalized in a Colorado hospital.	Demographics, diagnosis and procedures, duration of stay, total charge and charge components.	
State Demography Office, Colorado Department of Local Affairs	Current Population Survey (CPS)	Provides estimates and forecasts of Colorado's population by state, county and region.	Past, present and future population, components of change (births and death), households, housing and economic and social characteristics of the population.	Intercensal population data are model-based estimates.

## National Data Sources

Data Provider	Name of Dataset	Data Provider	Name of Dataset
Centers for Disease Control and Prevention	Behavioral Risk Factor Surveillance System (BRFSS)	The North American Association of Central Cancer Registries (NAACCR)	All central cancer registries in the United States and Canada
National Center for Health Statistics, CDC	National Vital Statistics System (NVSS)	U.S. Census Bureau	Current Population Survey
National Center for Health Statistics, CDC	National Hospital Discharge Survey (NHDS)	National Institutes of Health	United States Renal Disease System (USRDS)

## METHODS

Data for the indicators were analyzed using the demographic groups, numerators and denominators specified in the *Indicators for Chronic Disease Surveillance* report. The specified numerators and denominators were used to calculate and report on chronic disease prevalence, incidence and mortality rates.

Some of the indicators represent all residents in Colorado while others are reported by demographic subgroups, including residents by age (such as 18–24 years, 45–64 years, 18 years and older and students in grades 9–12). Additionally, some indicators are reported by gender as well as by age (such as all females 40 years and older).

Estimates were not reported for those categories in which there were fewer than 50 respondents.

Data for this report followed the national report whenever possible. For some indicators, however, deviations from the CDC report were necessary. These indicators are listed here.

### LIST OF REVISED INDICATORS

#### **Indicator 61: Premature Mortality Among Adults Aged 45–64 Years**

Years of potential life lost was used rather than number of deaths and mortality rates.

#### **Indicator 70: Mortality with Diabetic Ketoacidosis**

In 2006, the Council of State and Territorial Epidemiologist, Chronic Disease Directors, and Centers for Disease Control and Prevention revised the chronic disease indicators and removed Diabetic Ketoacidosis as an indicator for chronic disease surveillance.

#### **Indicator 72: Amputation of Lower Extremity Attributable to Diabetes**

The national methodology suggests the denominator be all persons in the population. For this report, the denominator is all adults with diabetes in Colorado. Diabetes prevalence for adults is based upon the Behavioral Risk Factor Surveillance System.

#### **Indicator 83: Mortality with chronic obstructive pulmonary disease among adults aged 45 years and older**

The national methodology suggests the numerator should include all deaths with ICD-10 code J40–47. For this report, deaths with ICD-10 code J45–J46 (asthma) were excluded, as they would overlap with the asthma mortality indicator. The COPD indicator in this report includes deaths with ICD-10 code J40–44 and J47 (ICD-9 codes 490–492, and 494–496) as the underlying cause of death among Colorado residents aged ≥ 45 years.

#### **Indicator 86: Hospitalization with asthma**

The national methodology suggests the numerator be all hospitalizations with a principal or contributing diagnosis of asthma (ICD-9-CM code 493). For this report, only hospitalizations for which asthma was the principal diagnosis were included, to be consistent with *Healthy People 2010* objectives.

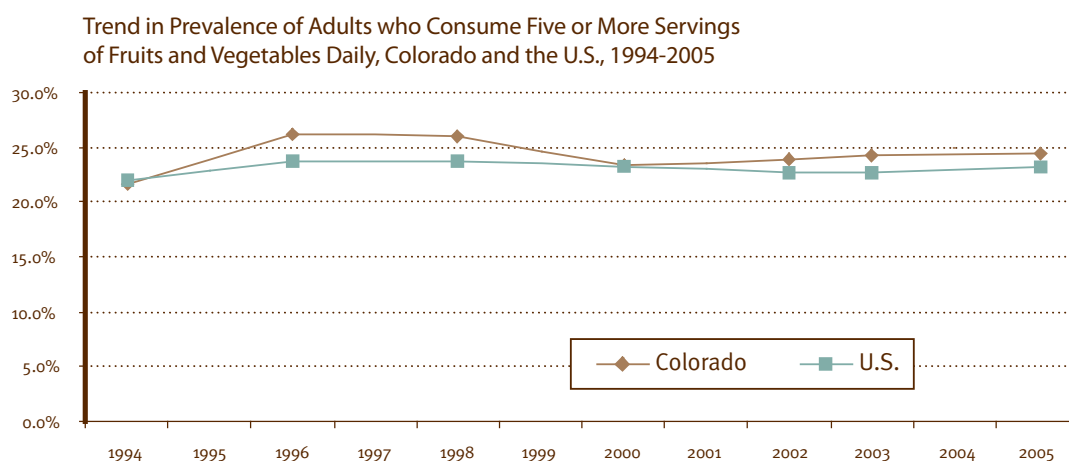
#### **Indicator 88: Hospitalization for hip fracture among Medicare-eligible persons aged 65 years and older**

The national methodology suggests the numerator be all hospitalizations with a principal or contributing diagnosis of hip fracture (ICD-9-CM code 820). In this report, only hospitalizations where hip fracture was the principal diagnosis were included, to be consistent with *Healthy People 2010* objectives. In addition, the denominator in this report is all Colorado residents aged 65 years and older, not only those who are Medicare eligible.

## INDICATOR 1

### Fruit and Vegetable Consumption Among Adults Aged 18 Years and Older

Approximately 400,000 deaths each year in the United States are attributable to physical inactivity and poor nutrition. A diet of five or more servings of fruits and vegetables/day is associated with reduced risk of coronary heart disease and certain types of cancer, including cancer of the colon, rectum, oral cavity, pharynx, stomach and esophagus. Between 1994 and 2005, approximately 1 in 4 adults in Colorado and in the U.S. consumed five or more servings of fruit and vegetables daily.



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. Behavioral Risk Factor Surveillance System, CDC. No data were collected in 1995, 1997, 1999, 2001, and 2004. Artificial estimates were created to facilitate graphing.

#### 2005 DATA HIGHLIGHTS

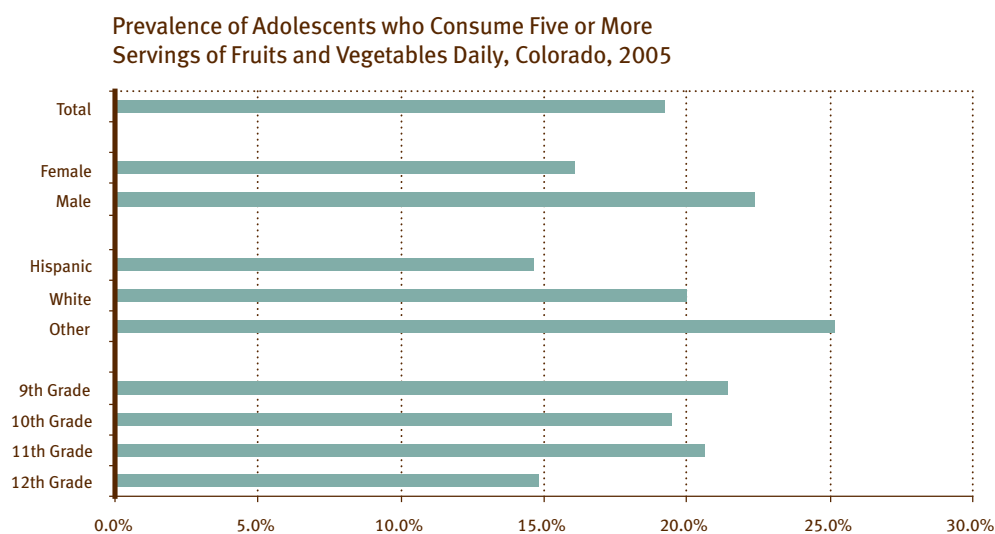
- In Colorado, 24.5 percent of adults consumed five or more servings of fruits and vegetables daily.
- A statistically higher proportion of women (30 percent) consumed five or more servings of fruits and vegetables daily than men (18.9 percent).
- 30.8 percent of adults aged 55 and older consumed five or more servings of fruits and vegetables daily, whereas only 22.2 percent of adults who were less than 55 years of age did so. The difference between these rates was statistically significant.
- A statistically lower proportion of Hispanics (19.6 percent) consumed five or more servings of fruits and vegetables daily than non-Hispanic Whites (25.7 percent). Fruit and vegetable consumption was lowest among African-Americans (17.9 percent), though there were no statistical differences between this rate and those of Hispanics or non-Hispanic Whites.
- 29.4 percent of college graduates consumed five or more servings of fruits and vegetables daily. A statistically lower percentage (21.4) of adults without a college degree consumed five or more servings of fruits and vegetables daily.
- A statistically higher proportion of adults earning \$25,000 or more per year (25.3 percent) consumed five or more servings of fruits and vegetables daily than adults earning less than \$25,000 per year (19.3 percent).

## INDICATOR 2

### Fruit and Vegetable Consumption Among Youth

Approximately 400,000 deaths each year in the United States are attributable to physical inactivity and poor nutrition. A diet of five or more servings of fruits and vegetables/day is associated with reduced risk of coronary heart disease and certain types of cancer, including cancer of the colon, rectum, oral cavity, pharynx, stomach and esophagus. Dietary habits established during youth might extend into adulthood and affect future chronic disease risk.

In 2005, less than 1 in 5 Colorado adolescents ate five or more servings of fruits and vegetables per day.



DATA SOURCE: Youth Risk Behavior Surveillance System, CDPHE.

#### 2005 DATA HIGHLIGHTS

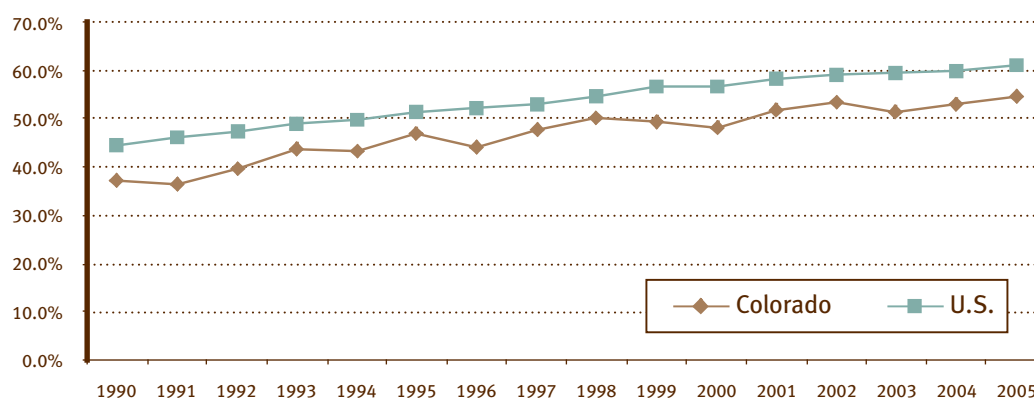
- In Colorado, 19.2 percent of adolescents consumed five or more servings of fruits and vegetables daily.
- A higher proportion of males (22.4 percent) consumed five or more servings of fruits and vegetables daily than females (16.1 percent).
- A higher proportion of adolescents of 'Other' (e.g., American Indian, African-American, Asian, Pacific Islander) race/ethnicity (25.1 percent) consumed five or more servings of fruits and vegetables per day than Hispanics (14.6 percent) or non-Hispanic Whites (20 percent).
- The proportion of adolescents who consumed five or more servings of fruits and vegetables daily declined from 21.4 percent among 9th grade students to 14.8 percent among 12th grade students.

### INDICATOR 3

## Overweight Among Adults Aged 18 Years and Older

Approximately 400,000 deaths each year in the United States are attributable to physical inactivity and poor nutrition. Being overweight or obese increases the risk for multiple chronic diseases, including heart disease, stroke, hypertension, type 2 diabetes, osteoarthritis and certain cancers. An appropriate amount, intensity and duration of regular physical activity and decreased caloric intake, especially fat, might reduce a person's body mass index (BMI). Between 1990 and 2005, the proportion of adults who are overweight (BMI  $\geq 25$  kg/m<sup>2</sup>) increased to more than 60 percent nationally and to more than 50 percent in Colorado.

**Trend in Prevalence of Adults who are Overweight,  
Colorado and the U.S., 1990-2005**



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. Behavioral Risk Factor Surveillance System, CDC.

#### 2005 DATA HIGHLIGHTS

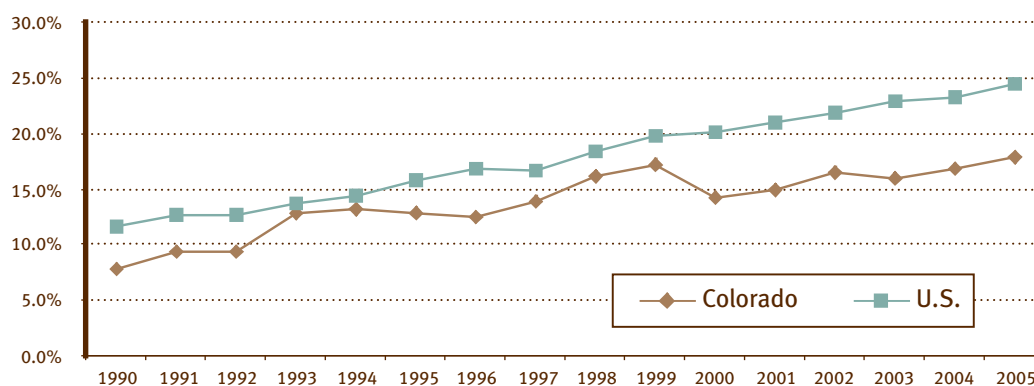
- In Colorado, 54.5 percent of all adults were considered overweight.
- A statistically higher proportion of men (62.4 percent) were overweight than women (46.2 percent).
- Overweight increased uniformly with age until age 65, from 35.9 percent among adults aged 18–24 to 64.1 percent among adults aged 55–64. Prevalence of overweight declined to 47.1 percent among adults aged 75 years or older. Estimates reported are statistically different from each other.
- Prevalence of overweight was statistically higher among Hispanics (61.3 percent) than among non-Hispanic Whites (53.5 percent). Overweight among African-Americans was 60.1 percent, though this rate was not statistically different from that of non-Hispanic Whites.
- Prevalence of overweight was statistically higher among adults without a college degree (57 percent) than among adults with a college degree (50.7 percent).
- Half (50.8 percent) of adults with annual income less than \$15,000 were overweight; 56.3 percent of adults with income between \$15,000 and \$24,999 were overweight; 57.2 percent of adults with income between \$25,000 and \$34,999 were overweight; 57.2 percent of adults with income between \$35,000 and \$49,999 were overweight; 55.8 percent of adults with income between \$50,000 and \$74,999 were overweight; and 56.5 percent of adults with income of \$75,000 or more annually were overweight.

## INDICATOR 4

### Obesity Among Adults Aged 18 Years and Older

Approximately 400,000 deaths each year in the United States are attributable to physical inactivity and poor nutrition. Between 1990 and 2005, the proportion of U.S. adults who are obese doubled. In 2005, nearly one in four U.S. adults were considered obese. Obesity, defined as a body mass index (BMI)  $\geq 30$  kg/m<sup>2</sup>, increases the risk for the development of many health conditions, including heart disease, stroke, hypertension, type 2 diabetes, dyslipidemia, osteoarthritis, gall bladder disease and some cancers. An appropriate amount, intensity and duration of regular physical activity and decreased caloric intake, especially fat, might reduce a person's BMI.

**Trend in Prevalence of Obesity among Adults, Colorado and the U.S., 1990-2005**



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. Behavioral Risk Factor Surveillance System, CDC.

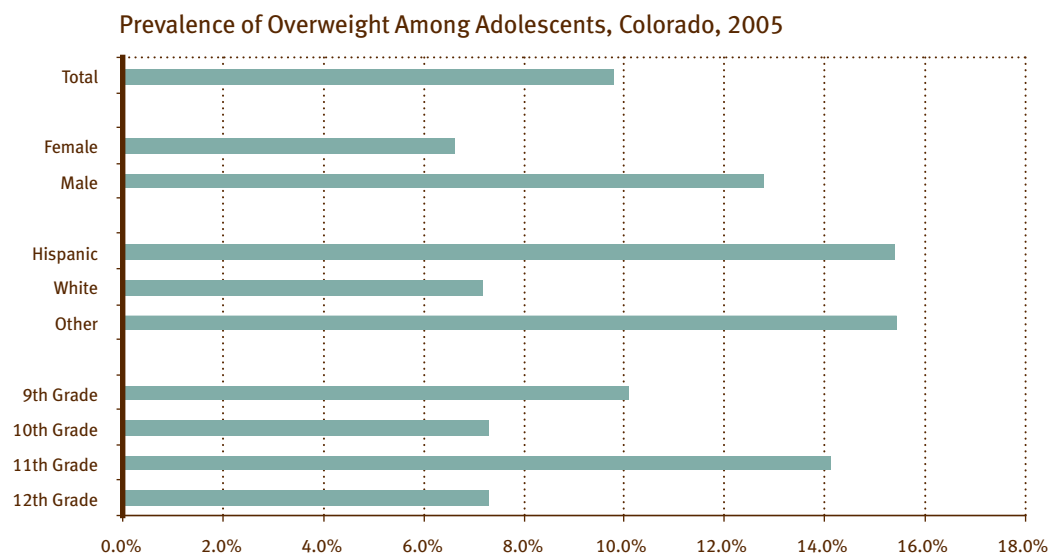
#### 2005 DATA HIGHLIGHTS

- In Colorado, 17.8 percent of adults were considered obese.
- Approximately the same proportion of men (17.7 percent) and women (18.0 percent) were obese.
- Obesity increased uniformly with age until age 65, from 12.9 percent among adults aged 18–24 to 22.1 percent among adults aged 55–64. Prevalence of obesity declined to 10.7 percent among adults aged 75 years of age or older.
- Prevalence of obesity was statistically higher among Hispanics (25.8 percent) than among non-Hispanic Whites (16.4 percent). Prevalence among African-Americans was 20.4 percent.
- Prevalence of obesity was statistically higher among adults without a college degree (20.6 percent) than among adults who graduated from college (13.5 percent).
- Prevalence of obesity generally (but not uniformly) decreased as income increased. Twenty-one percent of adults with annual income less than \$15,000 were obese; 21.8 percent of adults with income between \$15,000 and \$24,999 were obese; 19.2 percent of adults with income between \$25,000 and \$34,999 were obese; 18.3 percent of adults with income between \$35,000 and \$49,999 were obese; 16.9 percent of adults with income between \$50,000 and \$74,999 were obese; and 16.1 percent of adults with income of \$75,000 or more annually were obese.

## INDICATOR 5

### Overweight Prevalence Among Youth

Approximately 400,000 deaths each year in the United States are attributable to physical inactivity and poor nutrition. Between 1980 and 2004, the prevalence of being overweight among adolescents in the U.S. more than tripled. Overweight youth are more likely than normal-weight youth to become obese as adults, and will be more susceptible to numerous associated chronic diseases. In addition to these risks, overweight adolescents are at higher risk for high cholesterol, high blood pressure, bone and joint problems, sleep apnea and social and psychological problems. An appropriate amount, intensity and duration of regular physical activity and decreased caloric intake, especially fat, might reduce a person's BMI.



DATA SOURCE: *Youth Risk Behavior Surveillance System, CDPHE.*

#### 2005 DATA HIGHLIGHTS

- In Colorado, 9.8 percent of adolescents were overweight.
- Prevalence of overweight was twice as high among males (12.8 percent) than among females (6.6 percent).
- Non-Hispanic White adolescents had lower prevalence of overweight (7.2 percent) than adolescents of 'Other' (e.g., American Indian, African-American, Asian, Pacific Islander) race/ethnicity (15.4 percent) and Hispanic adolescents (15.4 percent).
- Adolescents in grades 10 and 12 had a lower prevalence of being overweight (7.3 percent) than adolescents in grades 9 and 11 (10.1 percent and 14.1 percent, respectively).

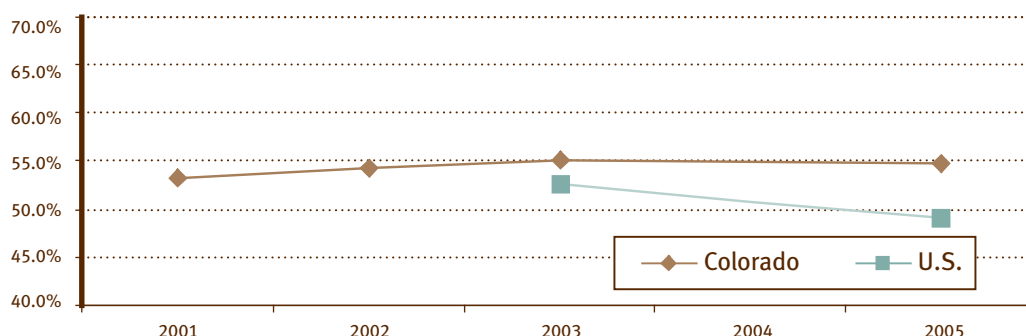


## INDICATOR 6

### Recommended Physical Activity Among Adults Aged 18 Years and Older

Approximately 400,000 deaths each year in the United States are attributable to physical inactivity and poor nutrition. Physical activity is a proven protective factor against many chronic diseases, including heart attack, diabetes and high blood pressure. Additionally, physical activity helps in the maintenance of healthy weight, contributes to healthy muscles and bones and can reduce the impact of arthritis and depression. Thirty minutes of moderate physical activity five days per week, or twenty minutes of vigorous physical activity three days per week, have both been shown to have beneficial effects. In 2005, fewer than half of adults in the U.S. met one or the other of these physical activity recommendations.

**Trend in Prevalence of Adults who meet the recommendations for Moderate or Vigorous Physical Activity, Colorado and the U.S., 2001 - 2005**



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. Behavioral Risk Factor Surveillance System, CDC. 2004 estimates are averages of the prior and subsequent year. No data was collected in 2004. Artificial estimates were created to facilitate graphing.

#### 2005 DATA HIGHLIGHTS

- In Colorado, 54.5 percent of adults attained the recommended levels of physical activity.
- Approximately the same proportion of men (55.3 percent) and women (53.6 percent) met the recommendations for physical activity.
- Regular physical activity declined with age, with 60.5 percent of adults aged 18–24, 56.7 percent of adults aged 25–44, 52.4 percent of adults aged 45–74 and 38.8 percent of adults aged 75 years or older having met the recommendations.
- Fewer than half (46.4 percent) of Hispanics met the recommendations, while 55.9 percent of non-Hispanic Whites and 58.3 percent of African-Americans met the recommendations.

The percentage of Hispanics meeting the recommendations was statistically lower than the percentage of non-Hispanic Whites who met the recommendations.

- Prevalence of regular physical activity increased statistically with increasing education, from 40.4 percent among adults with less than a high school education to 60.2 percent among adults with a college degree.
- Prevalence of regular physical activity increased statistically with increasing income, from 44.6 percent among adults earning less than \$15,000 per year to 61.1 percent among adults earning \$75,000 or more per year.

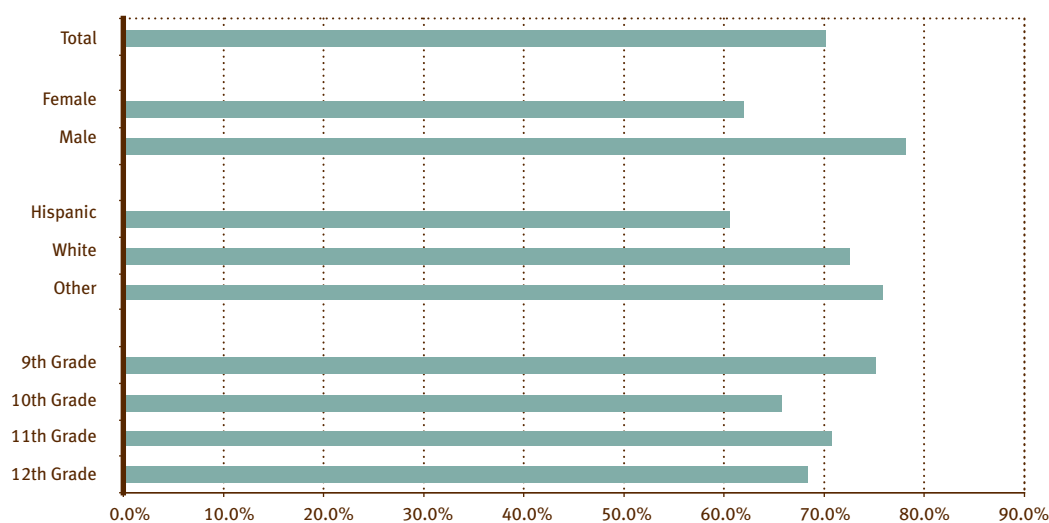


## INDICATOR 7

### Vigorous Physical Activity Among Youth

Approximately 400,000 deaths each year in the United States are attributable to physical inactivity and poor nutrition. Physical activity reduces the risk for many chronic diseases, including heart disease, colon cancer, stroke, type 2 diabetes, overweight and osteoporosis. Establishing a consistent pattern of physical activity in adolescence may provide an increased likelihood of becoming a physically active adult. National data from 2003 indicate that 62.6 percent of adolescents in the U.S. participated in physical activities that made them sweat or breathe hard (i.e., vigorous physical activity) for 20 or more minutes on three or more days per week. In Colorado, 2005 data indicate that 70.1 percent of adolescents participated in vigorous physical activity three or more days per week for 20 or more minutes each day.

**Vigorous Physical Activity among Adolescents, Colorado, 2005**



DATA SOURCE: Youth Risk Behavior Surveillance System, CDPHE.

#### 2005 DATA HIGHLIGHTS

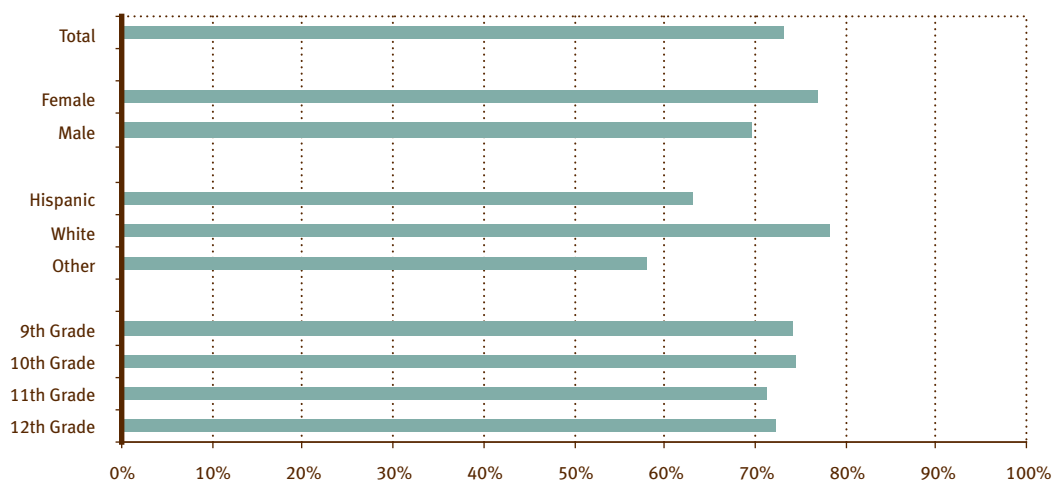
- In Colorado, 70.1 percent of adolescents participated in vigorous physical activity three or more days per week for 20 or more minutes each day.
- A statistically higher proportion of males (78.2 percent) than females (62.0 percent) participated in vigorous physical activity three or more days per week for 20 or more minutes each day.
- Hispanic adolescents had lower prevalence of participation in vigorous physical activity (60.6 percent) than Non-Hispanic White adolescents (72.6 percent) or adolescents of 'Other' (e.g., American Indian, African-American, Asian, Pacific Islander) race/ethnicity (75.9 percent).
- Prevalence of participation in vigorous physical activity ranged from 65.7 percent among adolescents in 10<sup>th</sup> grade to 68.3 percent among adolescents in 12<sup>th</sup> grade, 70.7 percent among adolescents in 11<sup>th</sup> grade and 75.2 percent among adolescents in 9<sup>th</sup> grade.

## INDICATOR 8

### Television Viewing Among Youth

Excessive television watching is associated with being overweight, physical inactivity, poor fitness and increased likelihood of smoking among children. Certain children are less physically active than recommended, and physical activity declines during adolescence. Physical activity reduces the risk for heart disease, cancer, stroke, osteoporosis and type 2 diabetes. National data from 2003 indicate that 61.8 percent of adolescents in the U.S. watched two or fewer hours of television on an average school day. In Colorado, 2005 data indicate that 73.2 percent of adolescents watched two or fewer hours of television on an average school day.

**Two or Fewer Hours of Daily TV Viewing Among Adolescents, Colorado, 2005**



DATA SOURCE: *Youth Risk Behavior Surveillance System, CDPHE.*

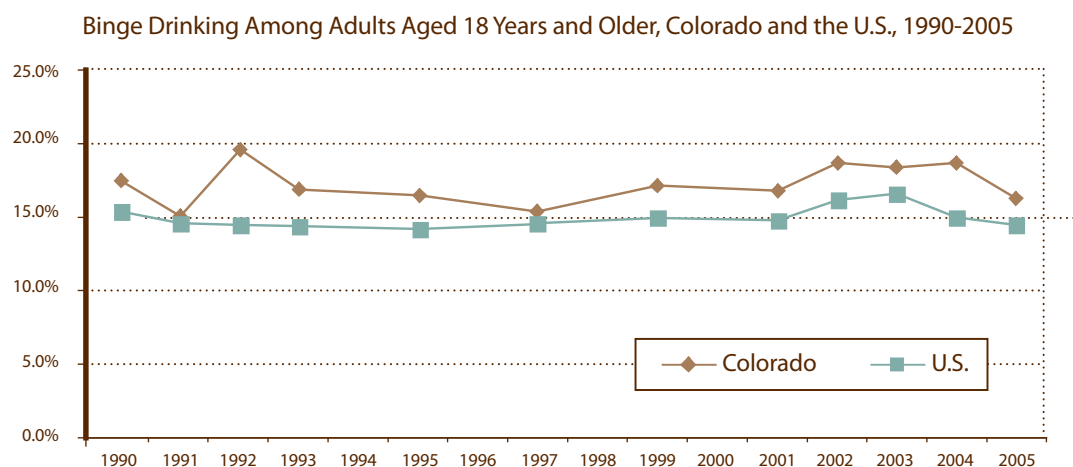
#### 2005 DATA HIGHLIGHTS

- In Colorado, 73.2 percent of adolescents watched two or fewer hours of television on an average school day.
- A higher proportion of females (76.9 percent) than males (69.6 percent) watched two or fewer hours of television on an average school day.
- The prevalence of adolescents who watched two or fewer hours of television on an average school day was highest among non-Hispanic White adolescents (78.3 percent), followed by Hispanic adolescents (67.8 percent) and adolescents of 'Other' (e.g., American Indian, African-American, Asian, Pacific Islander) race/ethnicity (58 percent).
- The prevalence of adolescents who watched two or fewer hours of television on an average school day was 74.3 percent among 9th graders, 74.5 percent among 10th graders, 71.2 percent among 11th graders and 72.3 percent among 12th graders.

## INDICATOR 9

### Binge Drinking Among Adults Aged 18 Years and Older

Approximately 85,000 deaths each year in the United States are attributed to alcohol abuse. Alcohol abuse is strongly associated with injuries, violence, fetal alcohol syndrome, chronic liver disease and risk of other acute and chronic health effects. Binge drinking is defined as having five or more drinks on at least one occasion during the preceding month.



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. Behavioral Risk Factor Surveillance System, CDC.

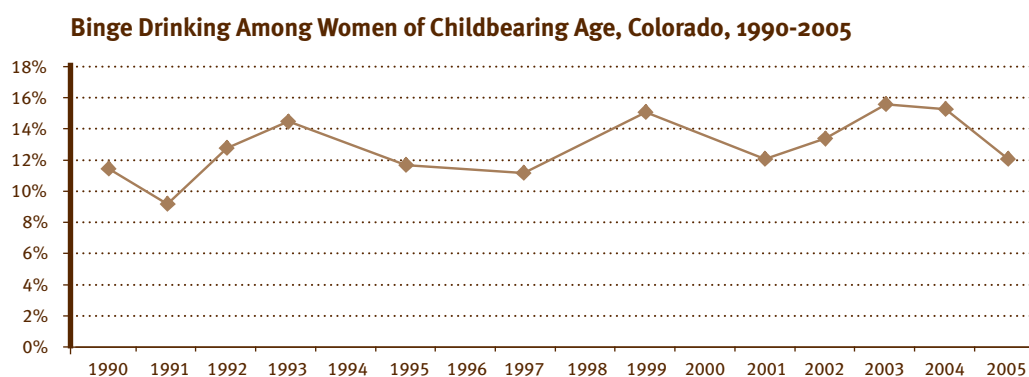
#### 2005 DATA HIGHLIGHTS

- In Colorado, the prevalence of binge drinking (having five or more drinks on one occasion) among adults was 16.2 percent.
- The Colorado prevalence among adult males (24.5 percent) was statistically higher than females (7.8 percent).
- Young adults reported higher levels of binge drinking (27.3 percent for ages 18–24; 24.1 percent for ages 25–34) than older adults (17 percent for ages 35–44; 11.9 percent for ages 45–54; 7.1 percent for ages 55–64; 1.9 percent for ages 65 and older).
- The prevalence among single adults (29.5 percent) was statistically higher than adults who were divorced, separated or widowed (13.7 percent) and adults who were married or a member of an unmarried couple (13.4 percent).
- Prevalence of binge drinking was generally similar for all race/ethnic groups: 15.6 percent for non-Hispanic Whites, 16.9 percent for African-Americans and 19.7 percent for Hispanics.
- Prevalence of binge drinking among adults who have less than a high school education was 21.2 percent. Fourteen percent of high school graduates were binge drinkers; 17.2 percent of adults with some post-high school education were binge drinkers; and 15.4 percent of college graduates were binge drinkers.
- Prevalence of binge drinking among adults with annual income less than \$25,000 was 17.6 percent; 16.9 percent of adults with annual income between \$25,000 and \$49,999 were binge drinkers; and 16.4 percent of adults with annual income of \$50,000 or more were binge drinkers.

## INDICATOR 10

### Binge Drinking Among Women of Childbearing Age

Approximately 85,000 deaths each year in the United States are attributed to alcohol abuse. Alcohol use by pregnant women causes fetal alcohol syndrome. Approximately 5,000 infants are born each year with fetal alcohol syndrome, which is irreversible and the leading known cause of mental retardation. Alcohol abuse is strongly associated with injuries, violence, chronic liver disease and risk of other acute and chronic health effects. Binge drinking is defined as having five or more drinks on at least one occasion during the preceding month.



DATA SOURCE: *Behavioral Risk Factor Surveillance System, CDPHE.*

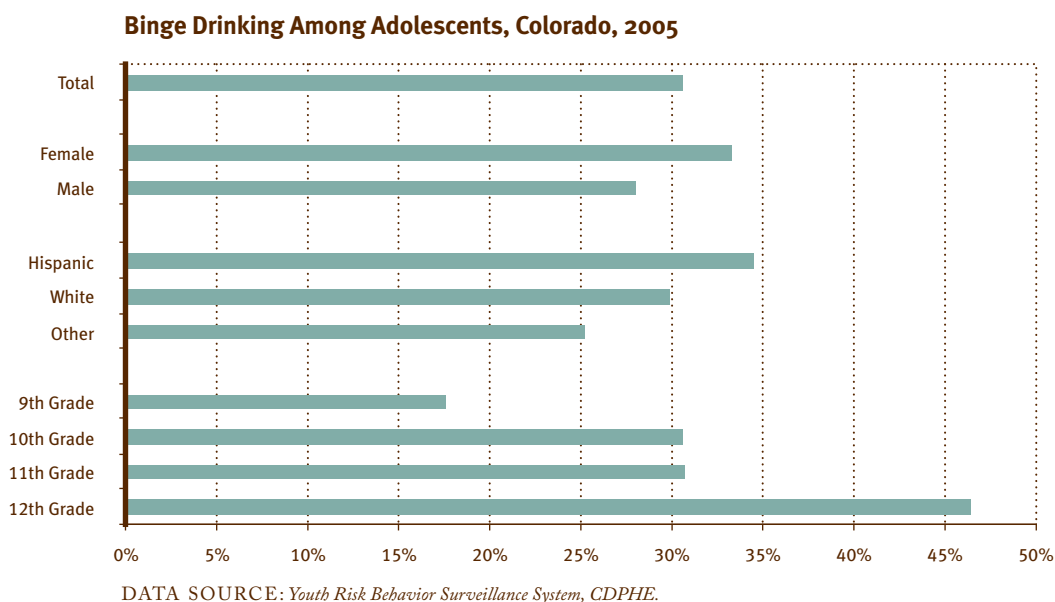
#### 2005 DATA HIGHLIGHTS

- In 2005, 12 percent of women of childbearing age (18–44 years of age) reported binge drinking on at least one occasion during the last month.
- Younger women reported higher levels of binge drinking (17.6 percent for ages 18–24) than older women (9.7 percent for ages 25–34; 10.6 percent for ages 35–44) of childbearing age.
- The prevalence among single adult women of childbearing age (21 percent) was statistically higher than adults who were married or a member of an unmarried couple (8.6 percent) and slightly higher than divorced, widowed or separated women (14.4 percent).
- Prevalence of binge drinking among childbearing-aged women was slightly higher for non-Hispanic Whites (13.1 percent) compared to African-Americans (9.8 percent) and Hispanics (9.4 percent).
- Prevalence of binge drinking among childbearing-aged women who have less than a high school education was 14.5 percent; 10.8 percent were high school graduates; 11.8 percent had some post-high school education; and 15.4 percent were college graduates.
- Prevalence of binge drinking among childbearing-aged women with annual income less than \$25,000 was 15.6 percent; 11.4 percent of childbearing-aged women with annual income between \$25,000 and \$49,999 were binge drinkers; and 11.8 percent of childbearing-aged women with annual income of \$50,000 or more were binge drinkers.

## INDICATOR 11

### Binge Drinking Among Youth

Approximately 85,000 deaths each year in the United States are attributed to alcohol abuse. Studies have determined that a delay in drinking until age 21 substantially reduces the risk of experiencing alcohol-related problems. Binge drinking is operationally defined as consuming five or more drinks within a couple of hours one or more times in a 30-day period. Such abuse of alcohol by adolescents is associated with increased injury and violence, and places adolescents at greater risk for both acute and chronic health problems. National data from 2003 indicate that over the span of 30 days, 28.3 percent of adolescents in the U.S. binged on alcohol. In Colorado, 2005 data indicate that 30.6 percent of adolescents consumed five or more drinks within a couple of hours one or more times over a 30-day period.



#### 2005 DATA HIGHLIGHTS

- In Colorado, 30.6 percent of adolescents consumed five or more drinks within a couple of hours one or more times during the previous 30 days.
- A higher proportion of females (33.4 percent) than males (28 percent) consumed five or more drinks within a couple of hours during the previous 30 days.
- Prevalence of binge drinking was highest among Hispanic adolescents (34.4 percent) and lowest among adolescents of 'Other' (e.g., American

Indian, African-American, Asian, Pacific Islander) race/ethnicity (25.2 percent). Rates for non-Hispanic White adolescents were 29.8 percent.

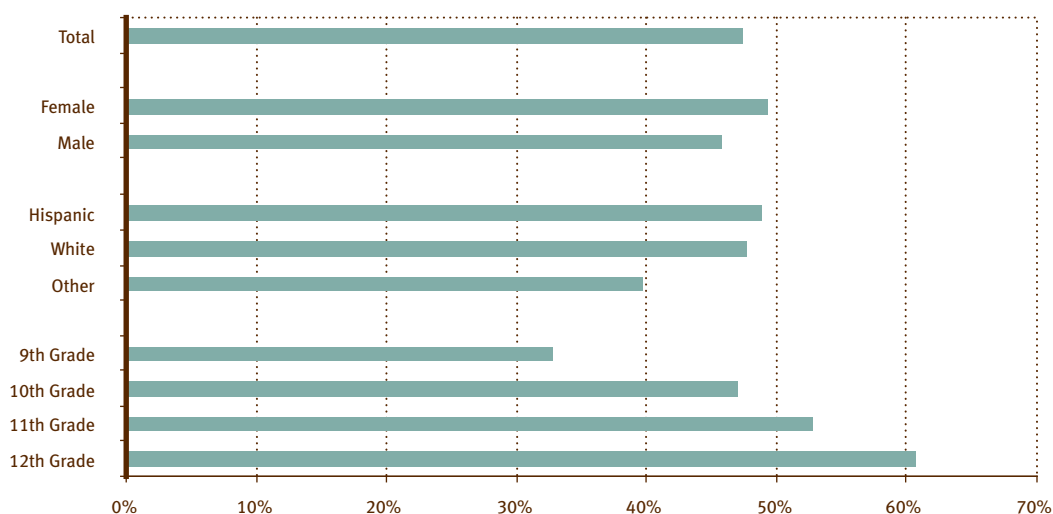
- Binge drinking increased with grade level, from a low of 17.6 percent among 9th graders, compared to 30.7 percent of 10th graders, 30.8 percent of 11th graders and 46.5 percent of 12th graders. Prevalence rates were statistically different for 9th and 12th grade students.

## INDICATOR 12

### Alcohol Use Among Youth

Approximately 85,000 deaths each year in the United States are attributed to alcohol abuse. Studies have determined that a delay in drinking until age 21 substantially reduces the risk of experiencing alcohol-related problems. Alcohol abuse among youth is strongly associated with injuries, violence, fetal alcohol syndrome and risk of other acute and chronic health effects. Current alcohol use is defined as having consumed alcohol on one or more of the previous 30 days. National data from 2003 indicate that over the previous 30 days, nearly half (44.9 percent) of adolescents had consumed alcohol on one or more days. In Colorado, 2005 data indicate that 47.4 percent of adolescents consumed alcohol one or more times over the previous 30 days.

**Alcohol Use Among Adolescents, Colorado, 2005**



DATA SOURCE: *Youth Risk Behavior Surveillance System, CDPHE.*

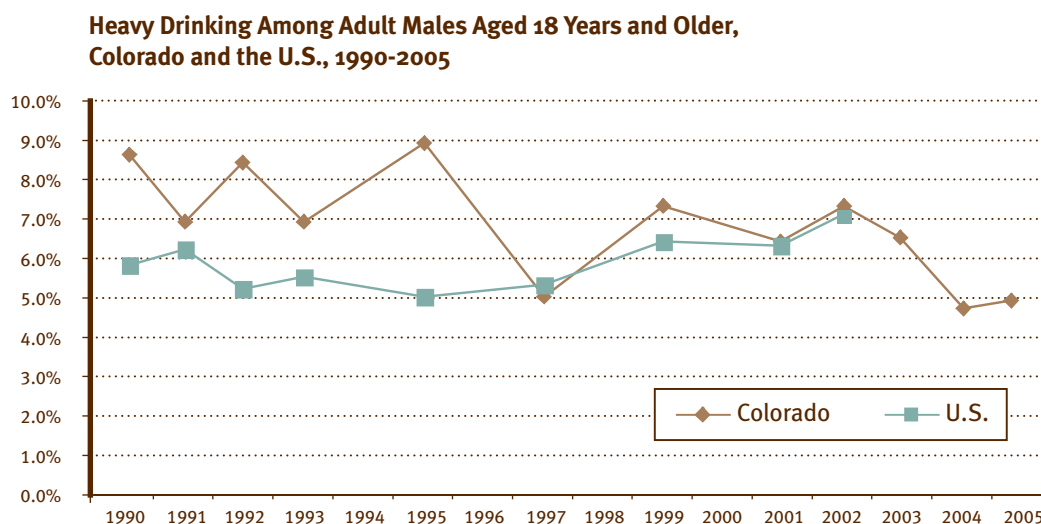
#### 2005 DATA HIGHLIGHTS

- In Colorado, 47.4 percent of adolescents consumed alcohol on one or more of the previous 30 days.
- A higher proportion of females (49.4 percent) than males (45.8 percent) consumed alcohol on one or more days during the previous 30 days.
- Adolescents of 'Other' (e.g., American Indian, African-American, Asian, Pacific Islander) race/ethnicity had the lowest prevalence of current alcohol use (39.7 percent) as compared to non-Hispanic White adolescents (47.7 percent) and Hispanic adolescents (48.8 percent).
- Current alcohol use increased with grade level. Thirty-three (32.8) percent of 9th graders used alcohol during the previous 30 days, compared with 47 percent of 10th grade students, 52.8 percent of 11th grade students and 60.7 percent 12th grade students. Current alcohol use among 9th grade students was statistically lower than students in all other grade levels.

## INDICATOR 13

### Heavy Drinking Among Adult Males Aged 18 Years and Older

Approximately 85,000 deaths each year in the United States are attributed to alcohol abuse. Alcohol abuse is strongly associated with injuries, violence, chronic liver disease and risk of other acute and chronic health effects. Heavy drinking for an adult male is defined as consuming more than two alcoholic drinks per day.



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. Behavioral Risk Factor Surveillance System, CDC.

#### 2005 DATA HIGHLIGHTS

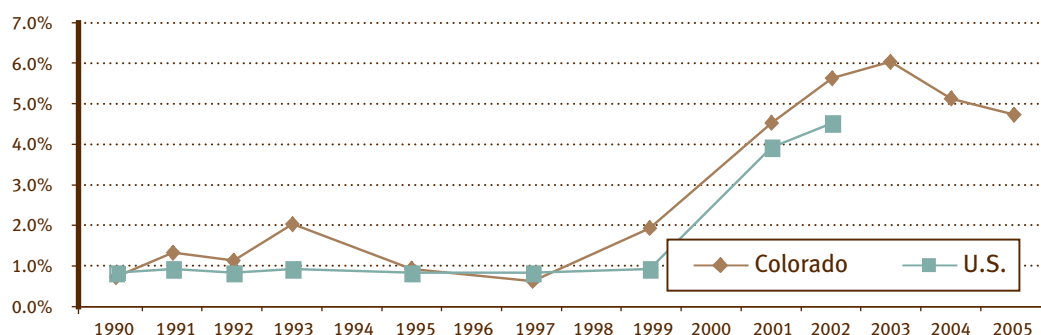
- In Colorado, the prevalence of heavy drinking among adult males was 4.9 percent.
- Prevalence of consuming more than two alcoholic drinks per day decreased with age. Prevalence of heavy drinking was highest in men aged 18–24 (9.7 percent) and lowest among men aged 65 and older (2.3 percent).
- Prevalence of heavy drinking was higher among African-American men (11.1 percent) than among non-Hispanic White men (5.9 percent) and Hispanic men (2.6 percent).
- Men with a college education were more likely (5.3 percent) and men with only a high school education were least likely (3.5 percent) to drink heavily.
- Men with annual income of less than \$25,000 were more likely (8.1 percent) and men earning \$50,000 or more annually were least likely (4.5 percent) to drink heavily.

## INDICATOR 14

### Heavy Drinking Among Adult Females Aged 18 Years and Older

Approximately 85,000 deaths each year in the United States are attributed to alcohol abuse. Alcohol use by pregnant women is the cause of fetal alcohol syndrome. Approximately 5,000 infants are born each year with fetal alcohol syndrome, which is irreversible and the leading known cause of mental retardation. Alcohol abuse is strongly associated with injuries, violence, chronic liver disease and risk of other acute and chronic health effects. Heavy drinking for an adult female is defined as consuming more than one alcoholic drink per day.

**Heavy Drinking Among Adult Females Aged 18 Years and Older, Colorado and the U.S., 1990-2005**



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. Behavioral Risk Factor Surveillance System, CDC.

#### 2005 DATA HIGHLIGHTS

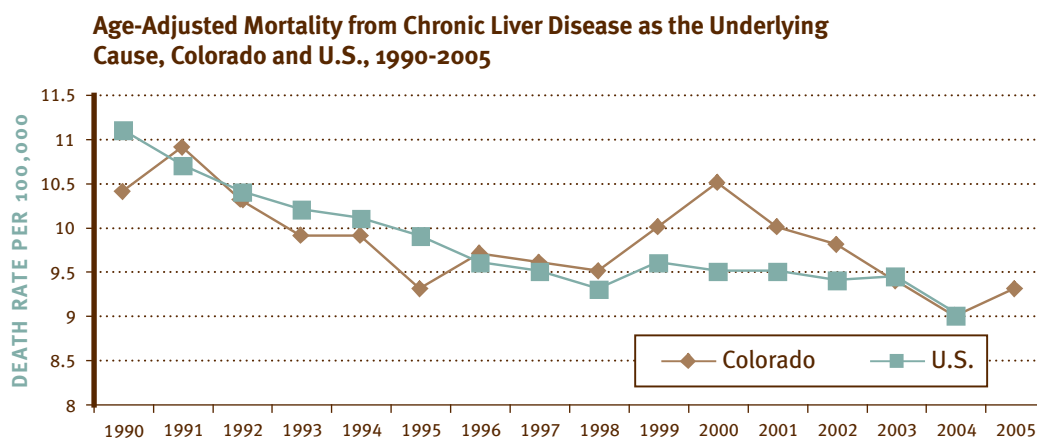
- In Colorado, the prevalence of heavy drinking among adult females was 4.7 percent.
- Women aged 45–54 were most likely (6.7 percent) and women aged 25–34 were least likely (2.9 percent) to drink heavily.
- Non-Hispanic White women were most likely (5.4 percent) and Hispanic women were least likely (1.8 percent) to drink heavily.
- Women with a high school education were more likely (6.4 percent) and women with less than a high school education were least likely (3.5 percent) to drink heavily.
- Prevalence of heavy drinking among women was generally similar between income groups. Four (3.7) percent of women with an annual income of less than \$15,000 were heavy drinkers; 5.6 percent of women with annual income between \$15,000 and \$24,999 were heavy drinkers; 1.9 percent of women with annual income between \$25,000 and \$49,999 were heavy drinkers; and 5.1 percent of women with annual income of \$50,000 or more were heavy drinkers.



## INDICATOR 15

### Mortality from Chronic Liver Disease

Approximately 85,000 deaths each year in the United States are attributed to alcohol abuse. Sustained alcohol consumption is the leading cause of liver cirrhosis, one of the 12 leading causes of death. The risk of chronic liver disease and cirrhosis is directly related to heavy and long-term consumption of alcohol.



DATA SOURCE: *Vital Statistics, Health Statistics Section, CDPHE. National Vital Statistics System, National Center for Health Statistics, CDC.*

#### 2005 DATA HIGHLIGHTS

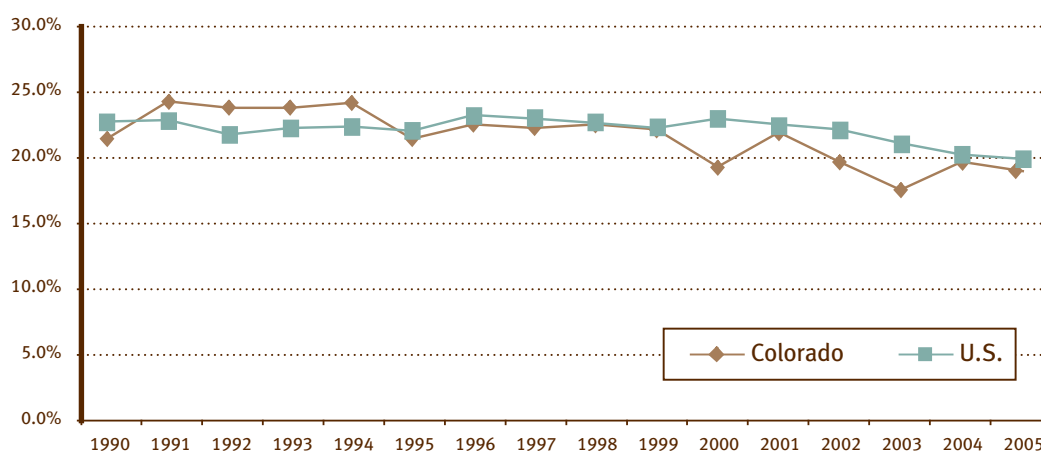
- In 2005, the age-adjusted Colorado mortality rate for chronic liver disease as the underlying cause was 9.3 per 100,000 persons. The U.S. rate in 2004 was 9.0 per 100,000. Colorado and U.S. rates have been declined since the early 1990s.
- The rate of death among males (12.2 per 100,000) was greater than the rate among females (6.1 per 100,000).
- Chronic liver disease mortality rises with age. The 2005 mortality rate was 21.4 per 100,000 for ages 45–54, 23.1 for ages 55–64, 26 for ages 65–74 and 30.2 for ages 75–84.
- Chronic liver disease mortality varies by race/ethnicity. In 2005, the mortality rate was 15.2 per 100,000 for Hispanics, 8.1 for non-Hispanic Whites and 5.4 for African-Americans.

## INDICATOR 16

### Cigarette Smoking Among Adults Aged 18 Years and Older

Smoking increases the risk of heart disease, cancer, stroke and chronic lung disease. Environmental tobacco smoke has been demonstrated to increase the risk of heart disease and cancer among nonsmokers. Cessation of smoking by current smokers reduces their risk of heart disease, cancer, stroke and respiratory disease. Cigarette smoking is the single most preventable cause of disease and death in the United States, resulting in more deaths each year in the United States than AIDS, alcohol, cocaine and heroin use, homicide, suicide, motor vehicle crashes and fires combined. Tobacco-related deaths number more than 440,000 per year among U.S. adults, with more than 4,600 deaths per year in Colorado alone. Direct medical costs attributable to smoking total at least \$50 billion per year across the U.S. For Colorado, the annual health care costs directly related to smoking are more than \$1 billion.

**Cigarette Smoking Among Adults, Aged 18 Years and Older, Colorado and the U.S., 1990-2005**



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. Behavioral Risk Factor Surveillance System, CDC.

#### 2005 DATA HIGHLIGHTS

- In Colorado, 19.8 percent of adults were cigarette smokers.
- A statistically higher proportion of men (21.6 percent) were smokers than women (18.0 percent).
- Cigarette smoking decreased uniformly with age, from 26 percent among adults aged 18–24; to 24.2 percent among 25–34; to 20.8 percent among 35–44; to 19.6 percent among 45–54; to 17.5 percent among 55–64; and 7.9 percent among adults aged 65 and older.
- The prevalence of smoking among African-Americans was 21.1 percent. Prevalence among non-Hispanic Whites (19.5 percent) and Hispanics (19.4 percent) was very similar.
- A statistically higher percentage of smoking was reported among adults with less than a high school education (31.4 percent) and with high school education (25.5 percent) compared to adults with a college degree (10.8 percent).
- A statistically higher percentage of smoking was reported among adults with an annual income below \$15,000 (30.3 percent) compared to adults earning \$50,000 or more per year (14.2 percent).

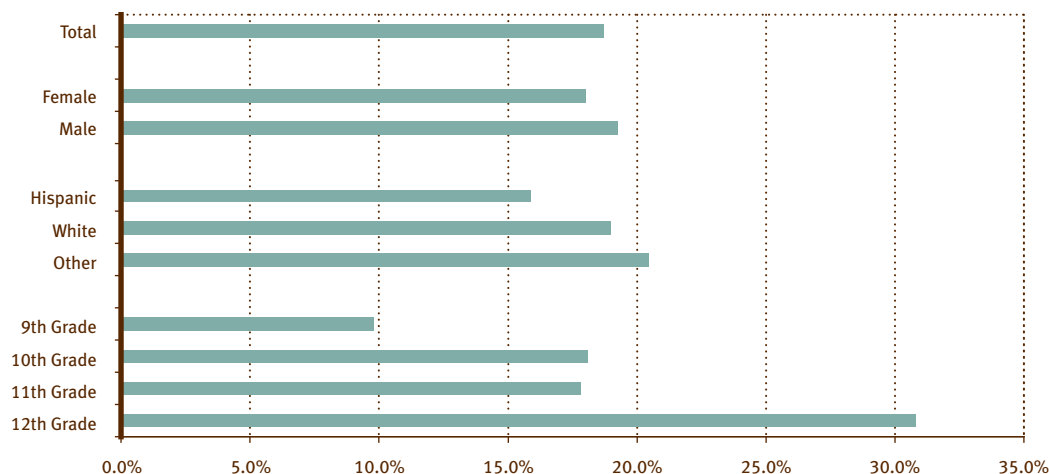
## INDICATOR 17

### Cigarette Smoking Among Youth

While it is illegal for youth under age 18 to purchase tobacco, an estimated 8,000 Colorado youth under age 18 start smoking each year. More than 90 percent of all adult smokers begin while in their teens, or earlier, and more than half become regular, daily smokers before they reach the age of 19. Approximately 440,000 deaths each year are attributed to cigarette smoking, making it the leading preventable cause of death in the United States. Smoking increases the risk of heart disease, cancer, stroke and chronic lung disease. Environmental tobacco smoke has been demonstrated to increase the risk for heart disease and lung cancer among nonsmokers.

Among adolescents, the prevalence of current cigarette smoking is defined as having smoked one or more cigarettes during the past 30 days.

**Prevalence of Current Cigarette Smoking Among Adolescents, Colorado, 2005**



DATA SOURCE: *Youth Risk Behavior Surveillance System, CDPHE.*

#### 2005 DATA HIGHLIGHTS

- In Colorado, prevalence of current cigarette smoking among adolescents was 18.7 percent.
- Approximately the same proportion of males (19.3 percent) and females (18 percent) were current cigarette smokers.
- Adolescents of 'Other' (e.g., American Indian, African-American, Asian, Pacific Islander) race/ethnicity had the highest current smoking

prevalence rate (20.5 percent) compared to non-Hispanic White (19 percent) and Hispanic (15.9 percent) adolescents.

- Prevalence of current smoking increased by grade level, from 9.8 percent among ninth graders to 18.1 and 17.8 percent among 10th and 11th graders, to 30.8 percent among 12th graders. Prevalence rates among ninth and 12th graders were statistically different.

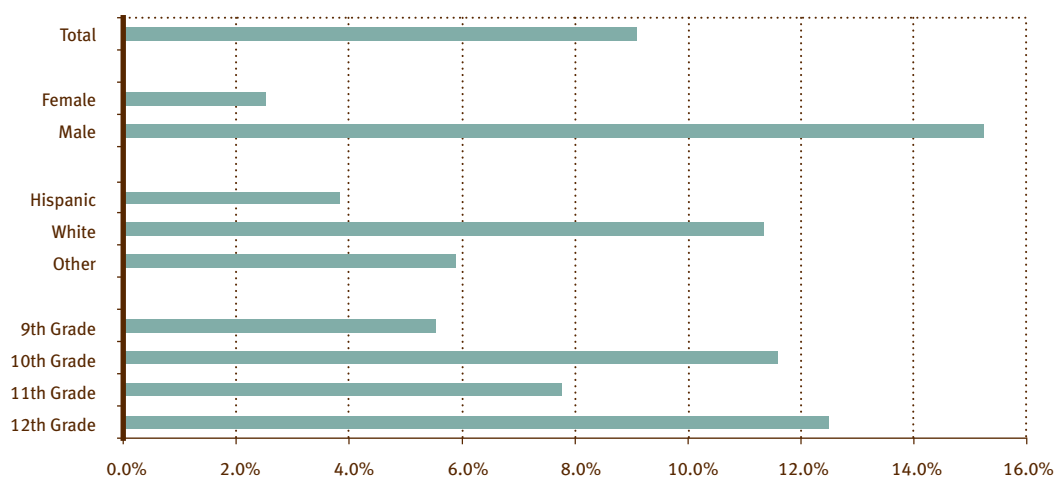
## INDICATOR 18

### Smokeless Tobacco Use Among Youth

Smokeless tobacco use is a cause of oral cancer and oral leukoplakia. Also, studies have determined it to be a risk factor for coronary heart disease, hypertension and stomach cancer. Smokeless tobacco use established during adolescence might extend into adulthood and affect risk for chronic disease. In each of the 50 states and the District of Columbia, purchasing tobacco products is illegal for youth under 18 years of age.

Among adolescents, the prevalence of current smokeless (spit) tobacco use is defined as using smokeless tobacco at least once during the past 30 days.

**Prevalence of Current Smokeless Tobacco Use Among Adolescents, Colorado, 2005**



DATA SOURCE: *Youth Risk Behavior Surveillance System, CDPHE.*

#### 2005 DATA HIGHLIGHTS

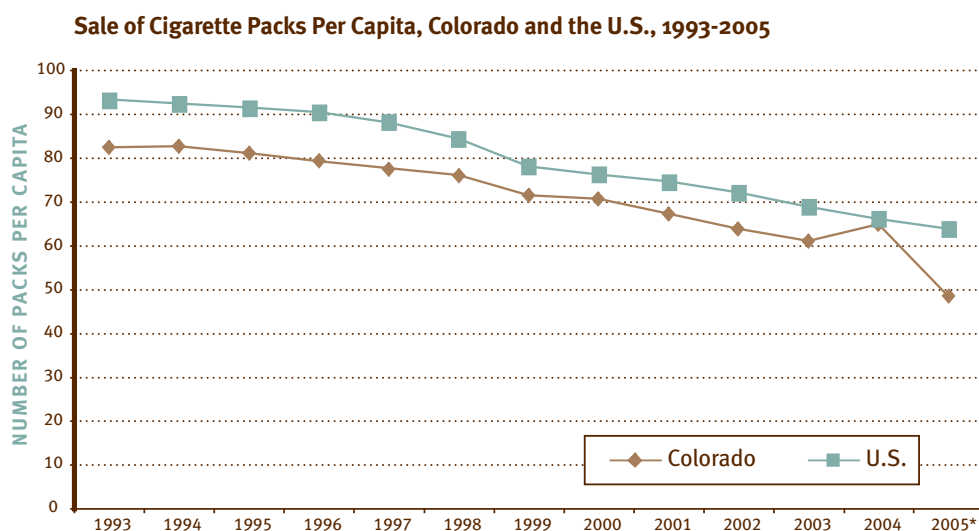
- In Colorado, prevalence of current smokeless tobacco use among adolescents was 9.1 percent.
- Males (15.2 percent) had a statistically higher prevalence rate than females (2.8 percent).
- Non-Hispanic White adolescents had the highest prevalence rate at 11.3 percent, followed by adolescents of 'Other' (e.g., American Indian, African-American, Asian, Pacific Islander) race/ethnicity at 5.9 percent and Hispanic adolescents at 3.8 percent.
- 10th and 12th grade students had higher prevalence rates of current smokeless tobacco use (11.5 and 12.5 percent, respectively) than 9th (5.5 percent) and 11th grade students (7.7 percent).

## INDICATOR 19

### Sales of Cigarette Packs

Approximately 440,000 deaths each year are attributed to cigarette smoking, making it the leading preventable cause of death in the United States and in Colorado. Smoking increases the risk of heart disease, cancer, stroke and chronic lung disease. Environmental tobacco smoke has been demonstrated to increase the risk for heart disease and cancer among nonsmokers. Sale of packs of cigarettes measures the total population's consumption of cigarettes. Decreases in the per capita sale of cigarette packs result from less people smoking or from smokers cutting down on the number of cigarettes they smoke.

The sale of cigarette packs is measured by the amount of cigarette excise tax paid to the Colorado Department of Revenue by licensed tobacco wholesalers. Mid-year population estimates for the total number of Colorado residents is used as the denominator.



DATA SOURCE: Colorado Department of Revenue; Colorado State Demography Office; Economic Research Service, USDA; US Census; \* 2005 U.S. data is preliminary.

#### 2005 DATA HIGHLIGHTS

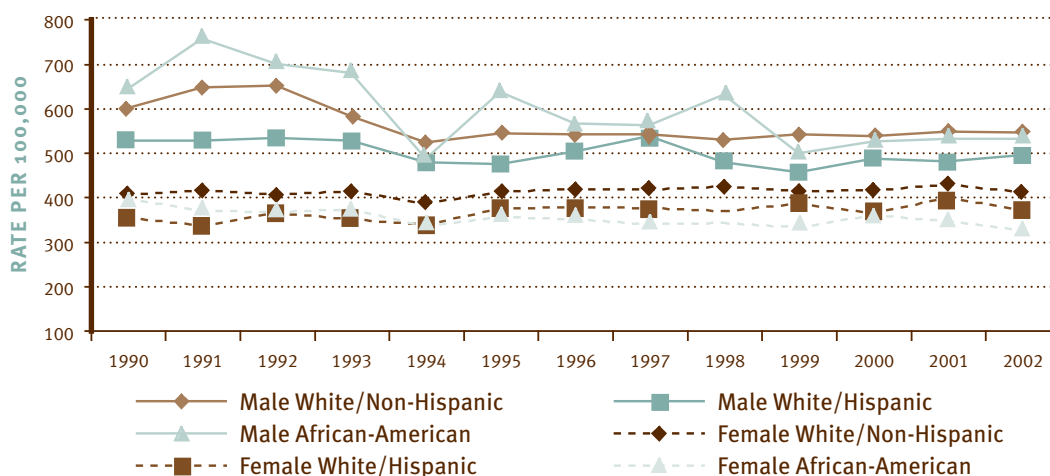
- Per capita sales have trended downward faster in Colorado than in the U.S. since 1993.
- Colorado increased the excise tax on cigarettes from 20¢ per pack to 84¢ per pack on January 1, 2005. Research has shown that increasing the tax decreased sales.
- For 2005, 48.3 packs of cigarette per capita were sold in Colorado, compared to 63.8 packs per capita in the U.S.
- In Colorado, this marks a significant drop from prior years: 64.8 packs per capita for 2004 and an average of 65.5 packs per capita for the five years before the tax increase.

## INDICATOR 20

### Incidence of Invasive Cancer (all sites combined)

Information on cancer of all sites combined provides a measure of, and means of tracking, the substantial burden imposed by cancer. Morbidity from cancers of the lung, oral cavity and pharynx, colon, female breast, cervix and multiple other cancers can be reduced through known interventions. Obesity is a risk factor for cancers of the colon, kidney, uterus and postmenopausal breast. Evidence shows that physical activity reduces the risk of breast and colon cancers, and several studies have found reduced risk of prostate, lung and uterine cancers as well. Additionally, populations consuming diets high in fruits and vegetables tend to have lower overall cancer risk, with evidence of protection shown for cancers of the lung, colon and rectum, breast, oral cavity, esophagus, stomach, pancreas, uterine, cervix and ovary.

**All Cancers Combined: Age-Adjusted Incidence Rates per 100,000 by Sex, Race/Ethnicity and Year, Colorado 1990-2002**



DATA SOURCE: Colorado Central Cancer Registry, CDPHE.

#### DATA HIGHLIGHTS

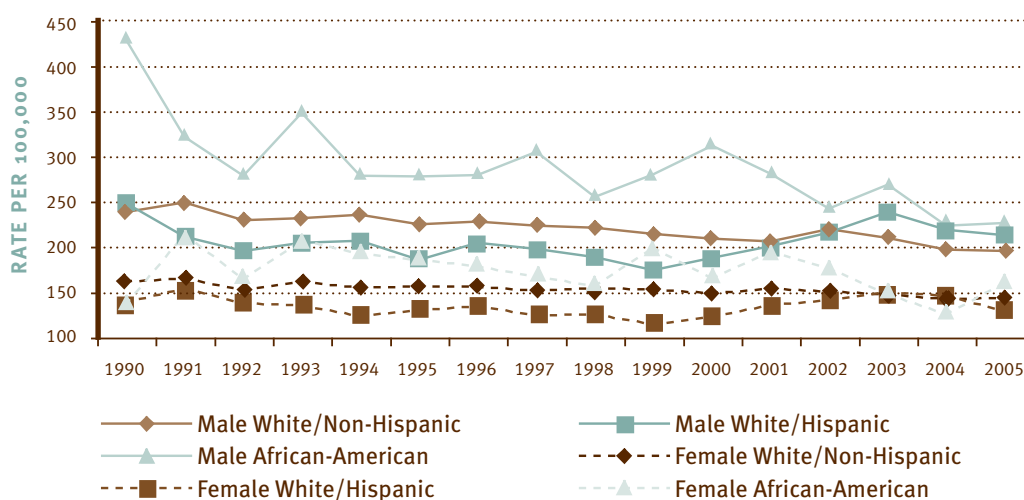
- In Colorado, the cumulative lifetime risk of cancer is 1 in 2 for males and 2 in 5 for females.
- The poorest areas of the state have higher rates of colorectal, lung and cervical cancers and lower rates of melanoma, breast cancer and prostate cancer.
- From 1997 to 2001, Colorado cancer incidence rates were statistically lower (4 to 7 percent) than U.S. rates mostly due to lower rates of lung and colorectal cancer.
- Between 1992 and 2002, males in every race/ethnicity group had a drop in incidence rates of 1 to 2 percent per year mainly due to decreases in colorectal, lung and prostate cancer.

## INDICATOR 21

### Mortality from Cancer (all sites combined)

Morbidity or mortality from cancers of the lung, oral cavity and pharynx, colon and rectum, female breast, cervix and multiple other cancers can be reduced through known interventions. Information on cancer at all sites combined provides a measure of, and means of tracking, the substantial burden imposed by cancer.

**All Cancers Combined: Age-Adjusted Mortality Rates per 100,000 by Sex, Race/Ethnicity and Year, Colorado 1990-2005**



DATA SOURCE: Colorado Central Cancer Registry and Health Statistics Section, CDPHE.

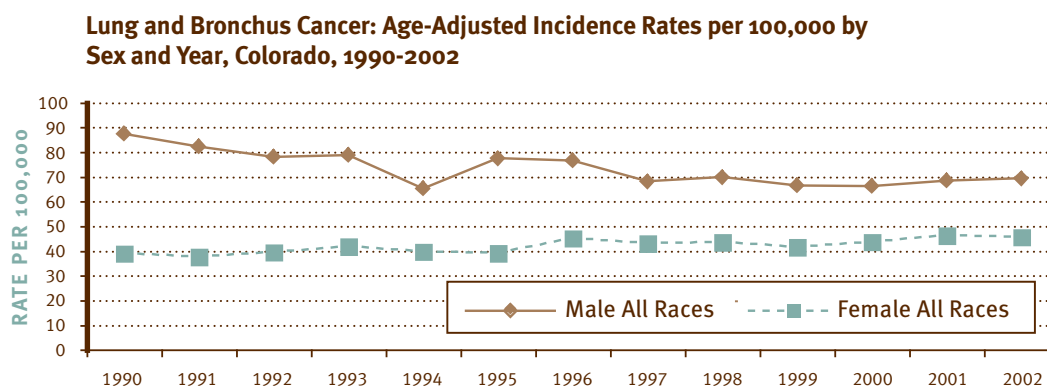
#### DATA HIGHLIGHTS

- Between 1997 and 2001, Colorado cancer mortality rates for African-Americans were statistically higher (17 to 34 percent) than rates for non-Hispanic Whites.
- Colorado cancer mortality rates from 1997 to 2001 were statistically lower (10 to 17 percent) than U.S. rates and changed little from 1997–2001 to 2002.
- Between 1992 and 2002, statistical decreases in cancer death rates were seen for non-Hispanic White males (down 1 percent per year) and non-Hispanic White females (down less than 1 percent per year).
- Tobacco use and obesity are both higher among poorer Coloradans. Poorer areas of the state have higher incidence rates of cervical, colorectal and lung cancers, with lower rates of breast, melanoma and prostate cancers. The poorer the area, the worse the early detection and the lower the survival rates. These disparities are seen regardless of race/ethnicity, sex or age.

## INDICATOR 22

### Incidence of Invasive Cancer of the Lung and Bronchus

Cigarette smoking accounts for 80 to 90 percent of lung cancer. Lung cancer is also associated with environmental tobacco smoke and certain workplace exposures. The single most important risk factor for the development of lung cancer is smoking, and exposure to secondhand or “passive” tobacco smoke increases the risk of lung cancer in non-smokers. Avoiding tobacco smoke is the best way to prevent lung cancer. A healthy diet might reduce risk.



DATA SOURCE: *Colorado Central Cancer Registry, CDPHE.*

#### DATA HIGHLIGHTS

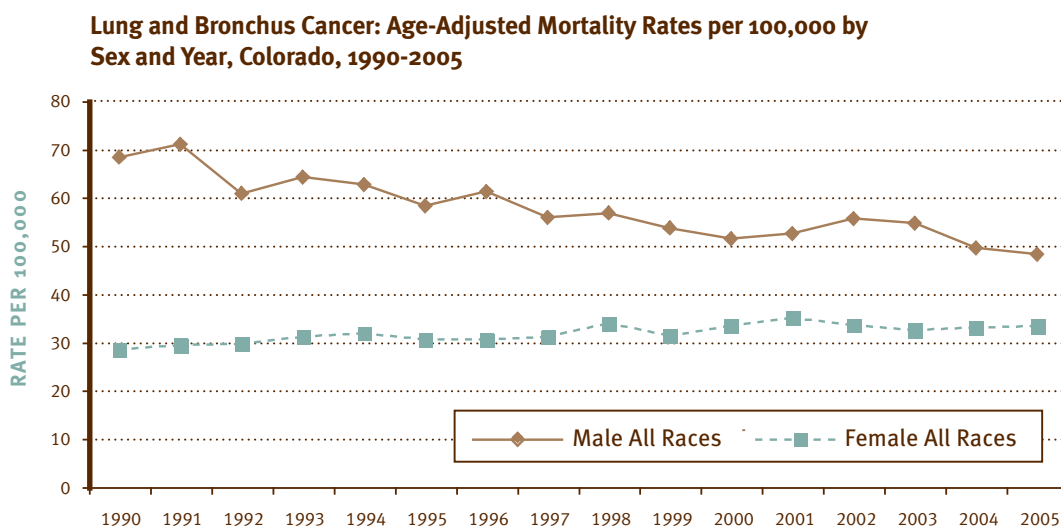
- In Colorado, the cumulative lifetime risk of lung cancer is 1 in 10 for males and 1 in 16 for females.
- Between 1997 and 2001, Colorado lung cancer incidence rates were generally statistically lower (18 to 25 percent) than U.S. rates, varying by race/ethnicity and sex.
- Lung cancer incidence rates changed little for Colorado men from 1997–2001 to 2002, but incidence rates for women generally increased.
- Between 1992 and 2002, Colorado lung cancer incidence rates for non-Hispanic White men decreased 2 percent per year, while rates for women increased 1 to 3 percent per year.
- The 1997–2001 Colorado lung cancer incidence rates for African-American men were statistically higher (26 percent) than rates for non-Hispanic White men.
- The incidence rate in Colorado from 1998 to 2002 was 53.6 cases per 100,000. For the wealthier areas of the state, the rate was 50.0, while the rates for the middle poverty areas (60.8) and the poorest areas (61.4) were statistically higher.



## INDICATOR 23

### Mortality from Cancer of the Lung and Bronchus

Approximately 80 to 90 percent of lung cancer mortality is attributable to cigarette smoking. Lung cancer mortality is also associated with environmental tobacco smoke and certain workplace exposures. A healthy diet might reduce risk.



DATA SOURCE: Colorado Central Cancer Registry and Health Statistics Section, CDPHE.

#### DATA HIGHLIGHTS

- Lung cancer mortality rates changed little in Colorado men from 1997–2001 to 2002, but the mortality rate among Hispanic women climbed 38 percent.
- Between 1992 and 2002 in Colorado, lung cancer mortality rates for men decreased 2 percent per year, yet rates increased 1 to 2 percent per year for females.
- Tobacco smoking is higher among poorer Coloradans, and the poorer the area of the state, the higher the incidence rate of lung cancer. The proportion of lung cancers diagnosed early,

as well as those surviving at least five years after diagnosis, is very small regardless of poverty, age, sex or race/ethnicity.

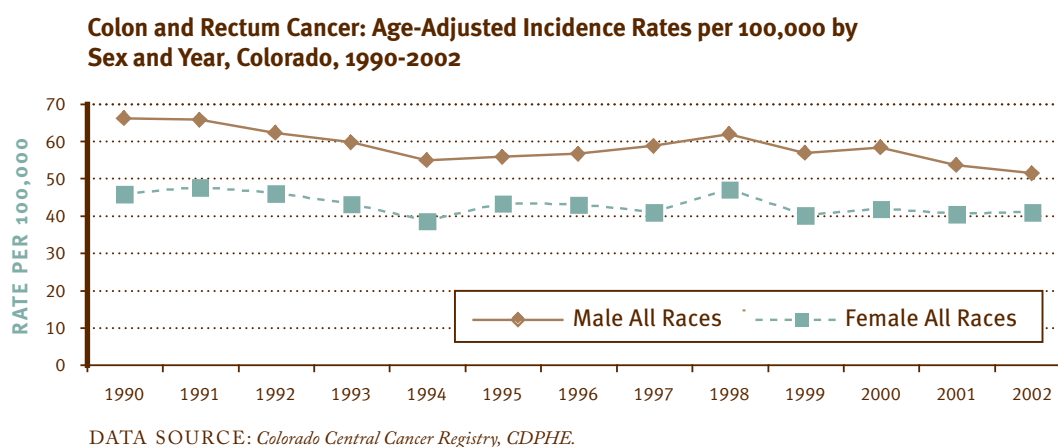
- Colorado lung cancer mortality rates between 1997 and 2001 were 3 to 31 percent lower than the U.S. rates for all sex and race/ethnicity groups except for African-American females, whose rate was 5 percent higher than the U.S. rate for African-American females, and Hispanic females, whose rate was statistically higher (29 percent) than the U.S. rate for Hispanic females.

## INDICATOR 24

### Incidence of Invasive Cancer of the Colon and Rectum

Early detection with fecal occult blood testing and sigmoidoscopy/colonoscopy, treatment of precancerous lesions and treatment in the early stages of cancer decrease mortality from colon and rectum cancer. Comparison of rates by stage at diagnosis can be used to measure the effectiveness and coverage of screening programs. Physical activity, healthy diet and avoidance of overweight might reduce risk.

The most important risk factor for colorectal cancer is age, as more than 90 percent of colorectal cancers occur in persons aged 50 years and older. Other risk factors include family history of colorectal cancer, personal history of colon polyps or inflammatory bowel disease, smoking, obesity, physical inactivity and low consumption of fruits and vegetables.



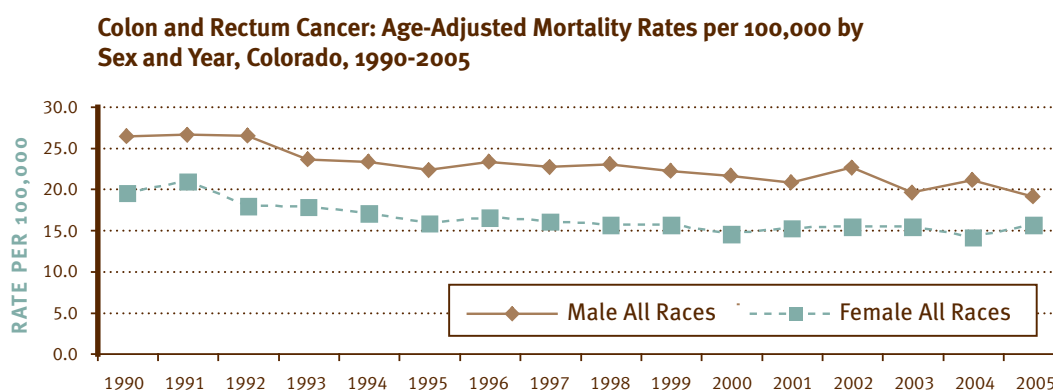
#### DATA HIGHLIGHTS

- In Colorado, the cumulative lifetime risk of colon and rectal cancer is 1 in 13 for males and 1 in 17 for females.
- Between 1997 and 2001, colon and rectal cancer incidence rates were statistically lower (4 to 25 percent) in Colorado than U.S. rates.
- Most race/ethnicity groups in Colorado had decreases in incidence rates of colon and rectal cancer between 1997–2001 and 2002.
- From 1997 to 2001, Hispanic males and African-American females in Colorado had statistically higher (17 to 25 percent) incidence rates of colon and rectal cancer than their non-Hispanic White counterparts.
- The incidence rate of colorectal cancer in Colorado for 1998–2002 was 47.6 cases per 100,000 persons. The wealthier areas of the state had a rate of 46.6, the middle poverty level areas had a rate of 48.0 and the poorest areas had a statistically higher rate of 51.2.

## INDICATOR 25

### Mortality from Cancer of the Colon and Rectum

Early detection with fecal occult blood testing and sigmoidoscopy/colonoscopy, treatment of precancerous lesions and treatment in the early stages of cancer decrease mortality from colon and rectum cancer. Physical activity, healthy diet and avoidance of overweight might reduce risk.



DATA SOURCE: Colorado Central Cancer Registry and Health Statistics Section, CDPHE.

#### DATA HIGHLIGHTS

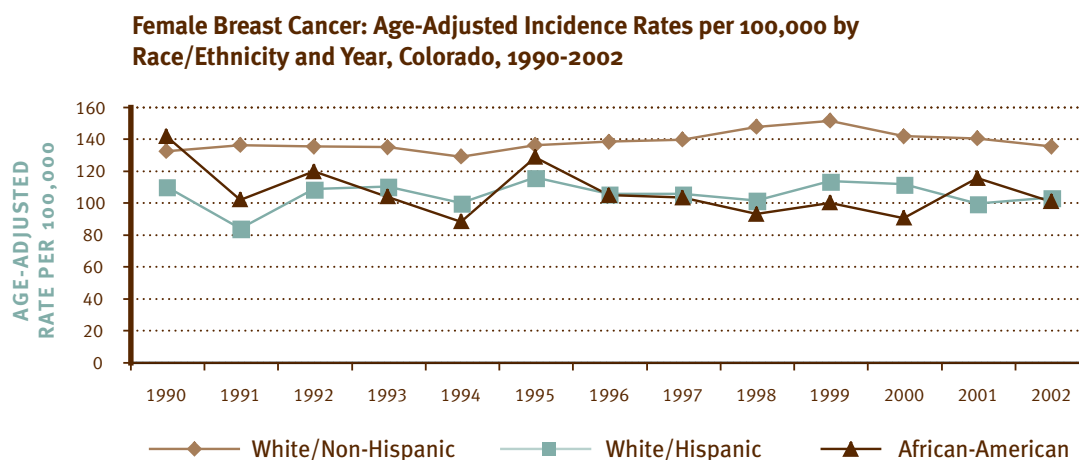
- From 1997 to 2001, Colorado colon and rectal cancer mortality rates were 3 to 19 percent below U.S. rates, varying by sex and race/ethnicity.
- Between 1992 and 2002 in Colorado, mortality decreased by 1 to 3 percent per year for most race/ethnicity groups.

- Colorectal screening is less common among lower income Coloradans, and poorer areas have a higher incidence rate of colorectal cancer. Among Coloradans aged 65 and younger, a lower proportion of colorectal cancers are diagnosed early in poorer areas of the state. These areas in the state also show lower survival rates.

## INDICATORS 26

### Incidence of Invasive Cancer of the Female Breast

Comparison of rates by stage at diagnosis can be used to measure the effectiveness and coverage of screening programs. Age is an important risk factor for developing breast cancer. Individual factors other than age that increase a woman's risk for developing breast cancer include a family or personal history of breast cancer, biopsy-confirmed atypical hyperplasia (a type of non-cancerous breast condition), having a first child after age 30, obesity, physical inactivity, drinking one or more alcoholic drinks per day, and taking hormone supplements after menopause. Physical activity, healthy diet and avoidance of overweight might reduce risk.



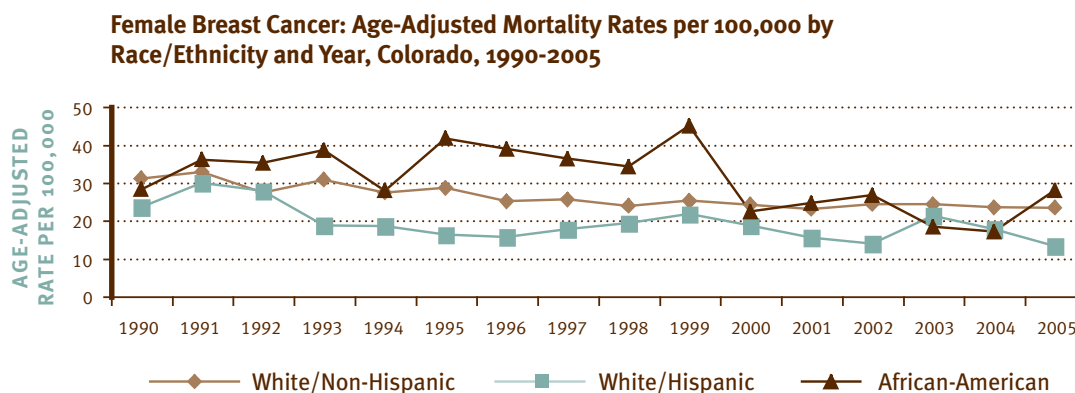
#### DATA HIGHLIGHTS

- In Colorado, the cumulative lifetime risk of breast cancer in women is 1 in 7.
- From 1997 to 2001, the breast cancer incidence rate in Colorado was statistically higher (3 percent) than the U.S. rate.
- Breast cancer incidence rates in Colorado decreased 3 to 6 percent between 1997–2001 and 2002 for non-Hispanic Whites and Hispanics.
- Colorado Hispanic and African-American women had statistically lower (24 to 30 percent) breast cancer incidence rates than non-Hispanic Whites during 1997–2001 and 2002.
- Between 1997–2001 and 2002, early detection of breast cancer in Colorado improved for each of the major race/ethnicity groups, especially Hispanics, with an increase of 5 percentage points.
- The female breast cancer incidence rate in Colorado from 1998 to 2002 was 135.2 cancers per 100,000 women. The rate was 138.5 for the wealthier areas of the state. The rates for the middle poverty level (128.9) and the poorest area (110.1) were both statistically lower.

## INDICATOR 27

### Mortality from Cancer of the Female Breast

Mammography screening with or without clinical breast examination can reduce breast cancer deaths by 16 percent among women aged 40 years and older, and the risk reduction is greater among older women. Although limited scientific controversy remains regarding the benefits versus the risks of screening women in their 40s, mammography and clinical breast examination are recommended for women aged 50–69 years.



DATA SOURCE: Colorado Central Cancer Registry and Health Statistics Section, CDPHE.

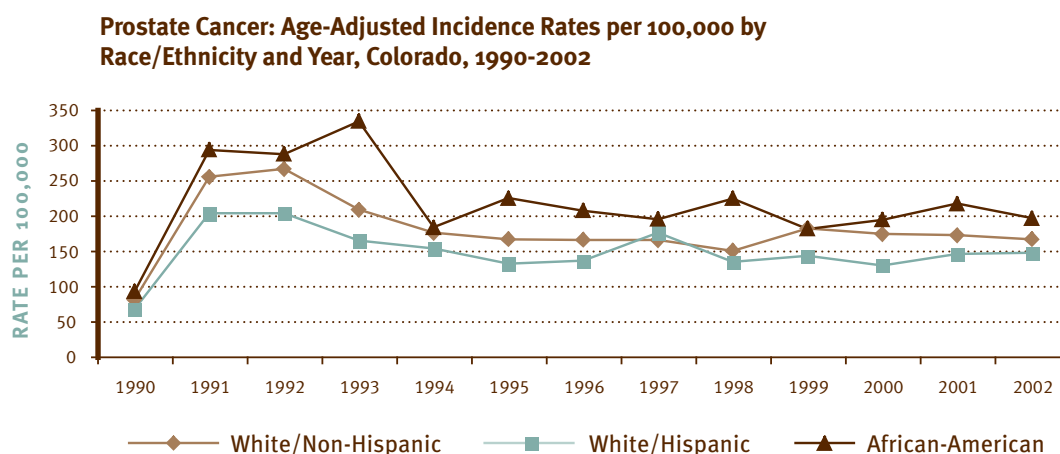
#### DATA HIGHLIGHTS

- From 1997 to 2001, the breast cancer mortality rate in Colorado was statistically lower (13 percent) than the U.S. rate.
- Between 1992 and 2002, breast cancer mortality rates for Hispanics declined 3 percent per year, while rates for non-Hispanic Whites declined 2 percent per year.
- Mammogram usage is lower among poorer Colorado women, although poorer areas of the state have lower rates of breast cancer. Among non-Hispanic White women, the stage at detection is very similar across poverty levels, but survival for those diagnosed at the regional stage declines significantly as poverty worsens. There is no significant relationship between survival rate and poverty level among Hispanic and African-American women.

## INDICATOR 28

### Incidence of Invasive Cancer of the Prostate

Although screening and treatment procedures are controversial, the practice of screening for prostate cancer has increased the number of new cases diagnosed and the percentage of new cases diagnosed at an early stage. The most important risk factor for prostate cancer is age. Also, being African-American or having a family history of prostate cancer, where history of prostate cancer is in one first-degree relative, may double the risk. Eating a high fat diet may also increase risk. Certain studies indicate that a healthy diet might reduce risk.



DATA SOURCE: Colorado Central Cancer Registry, CDPHE.

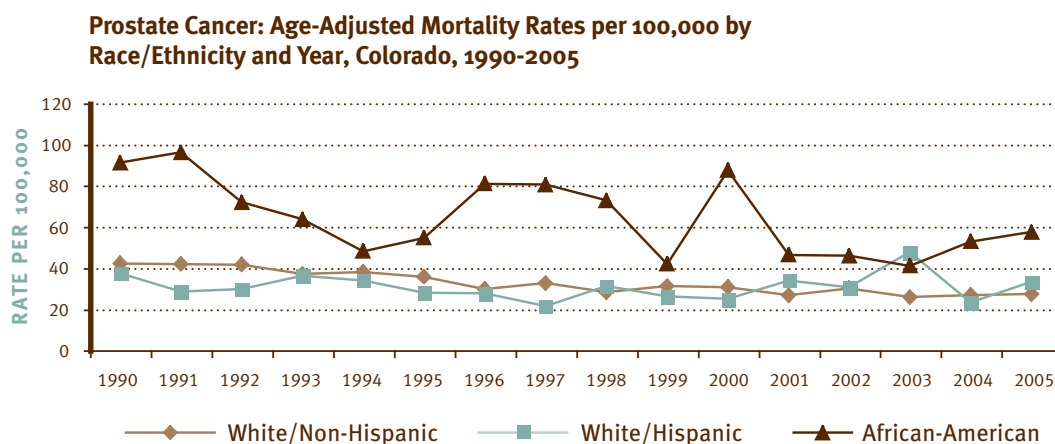
#### DATA HIGHLIGHTS

- In Colorado, the cumulative lifetime risk of prostate cancer is 1 in 5.
- From 1997 to 2001, the prostate cancer incidence rate in Colorado for non-Hispanic Whites was statistically higher (7 percent) than the U.S. rate for Whites (which includes Hispanics, whose rate is lower). The rate for African-Americans was statistically lower (19 percent) than the U.S. rate for African-Americans.
- Between 1992 and 2002 in Colorado, each race/ethnicity group had an average decrease in incidence rates of 2 to 3 percent per year.
- From 1997 to 2001, the prostate cancer incidence rate for African-Americans in Colorado was statistically higher (20 percent) than the rate for non-Hispanic Whites.
- The incidence rate from 1998 to 2002 was 159.7 cases per 100,000 men. For the wealthier areas of the state, the rate was 161.3. The rates for the middle poverty areas (152.3) and the poorest areas (129.3) were both statistically lower.

## INDICATOR 29

### Mortality from Cancer of the Prostate

Substantial evidence exists that prostate-specific antigen (PSA) screening can detect early-stage prostate cancer, but evidence is mixed and inconclusive regarding the ability of early detection to improve health outcomes, including mortality. Screening is associated with critical harms, including frequent false-positive results, unnecessary anxiety, biopsies and potential complications of treatment of certain cancers that might never have affected a patient's health. Evidence is insufficient to determine whether the benefits outweigh the harms for a screened population.



DATA SOURCE: Colorado Central Cancer Registry and Health Statistics Section, CDPHE.

#### DATA HIGHLIGHTS

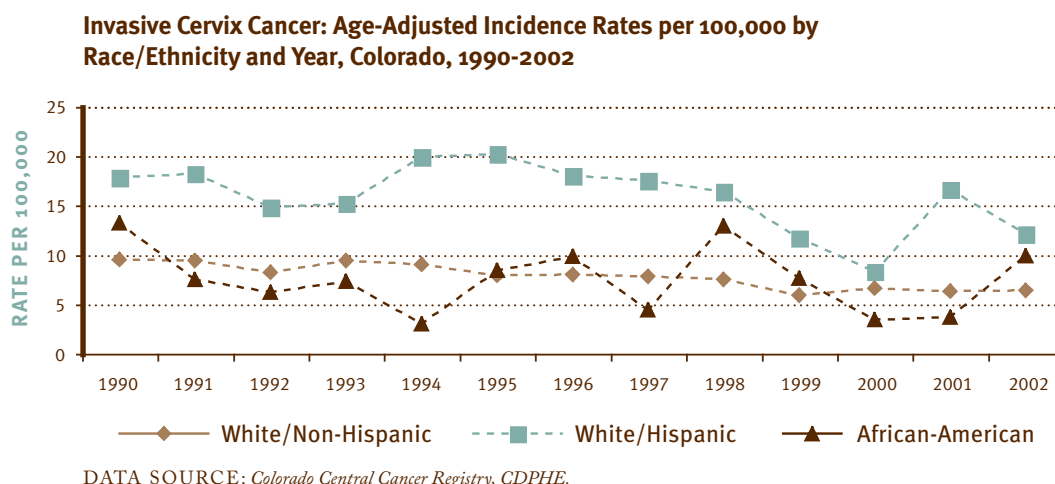
- From 1997 to 2001, the prostate mortality rate for African-Americans was statistically higher (more than double) the rate for non-Hispanic Whites.
- More than 8 in 10 prostate cancers among Colorado men are detected at an early stage, and a large majority of men survive at least five years after diagnosis. African-American men from

poorer areas of the state have a lower proportion of cancers diagnosed early compared to African-American men from wealthier areas. While poorer areas of Colorado have lower incidence rates of prostate cancer, men from poorer areas have worse survival rates.

## INDICATOR 30

### Incidence of Invasive Cancer of the Cervix

The dramatic decrease in cervical cancer incidence and mortality during the past 40 years is mainly the result of the widespread use of the Papanicolaou test. Cigarette smoking; infection with the high-risk human papilloma virus (HPV); and certain sexual practices, including having multiple sex partners, early age at first intercourse and history of a sexually transmitted disease, increase the risk for cervical cancer.



#### DATA HIGHLIGHTS

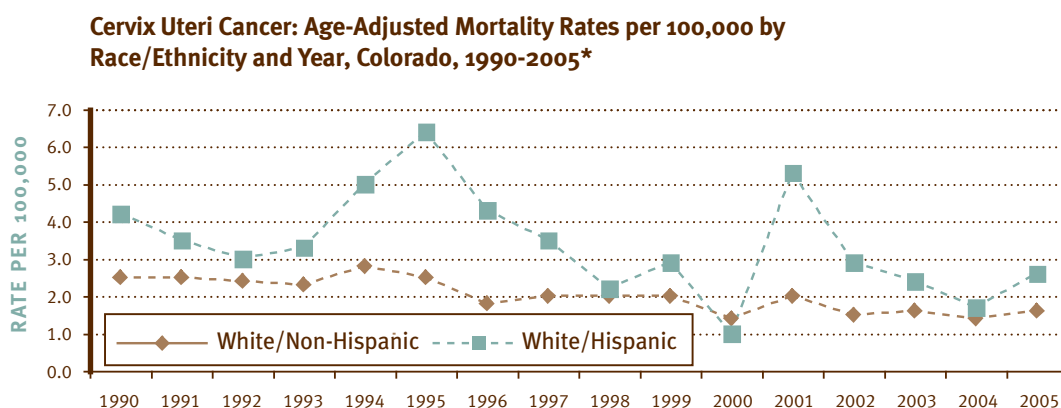
- In Colorado, the cumulative lifetime risk of invasive cervical cancer is 1 in 151.
- From 1997 to 2001, the Colorado invasive cervical cancer incidence rate for all races was statistically lower (22 percent) than the U.S. rate, but the rate in Colorado Hispanics continued to be more than twice that of non-Hispanic Whites.
- There were modest cervical cancer incidence rate declines in Colorado between 1997–2001 and 2002.
- Trends in cervical cancer incidence rates from 1992 to 2002 were generally favorable, with drops of 4 percent per year for non-Hispanic Whites and Hispanics. In 2002, invasive cervical cancer in Hispanics and African-Americans was detected later than in non-Hispanic Whites.
- The cervical cancer incidence rate for Colorado from 1998 to 2002 was 7.3 cases per 100,000 females. For the wealthier areas of the state, the rate was 6.2. The rates for the middle poverty level (8.4) and the poorest areas (10.9) were both statistically higher.



## INDICATOR 31

### Mortality from Cancer of the Cervix

Approximately 40 to 60 percent of cervical cancer deaths could be prevented by increased use of the Papanicolaou (Pap) test and effective, timely treatment. The dramatic decrease in cervical cancer incidence and mortality during the past 40 years is mainly the result of the widespread use of the Pap test. Cigarette smoking; infection with the high-risk human papilloma virus (HPV); and certain sexual practices, including having multiple sex partners, early age at first intercourse and history of a sexually transmitted disease, increase the risk of cervical cancer.



DATA SOURCE: Colorado Central Cancer Registry and Health Statistics Section, CDPHE.

\*African-American rates were not included due to fewer than 3 events per year.

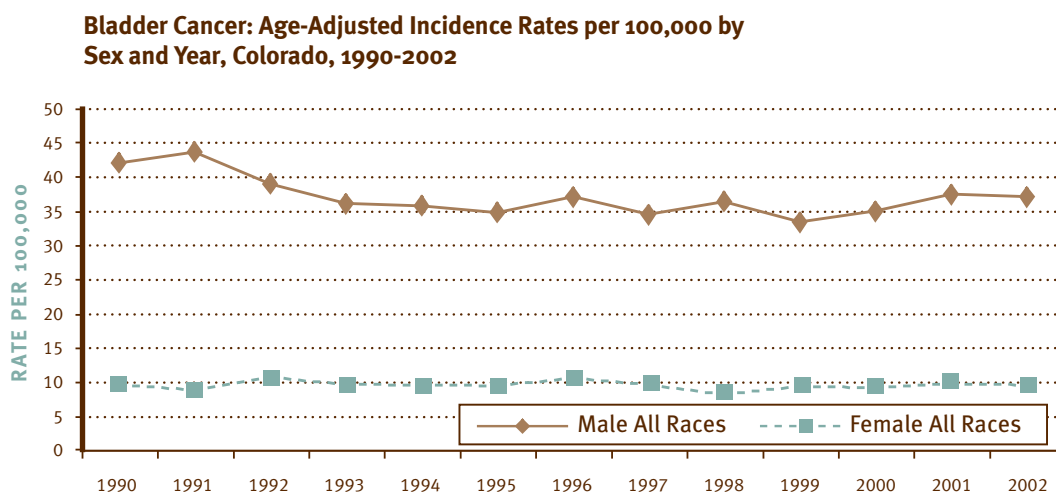
#### DATA HIGHLIGHTS

- From 1997–2001 to 2002, the mortality trend for cervical cancer in Colorado was statistically down 10 percent, and the trend during 1992–2002 showed drops of 5 percent per year for non-Hispanic Whites and Hispanics.
- Pap smear usage is lower among poorer Colorado women. The poorer the area of the state, the higher the incidence rate of cervical cancer found there.
- Between 1997 and 2001, the mortality rate for cervical cancer for all races combined in Colorado was statistically lower (31 percent) than the U.S. rate. In Colorado, rates for non-Hispanic Whites (24 percent) and African-Americans (46 percent) were also statistically lower than the U.S. rates.

## INDICATOR 32

### Incidence of Cancer of the Bladder (in situ and invasive)

Cigarette smoking is estimated to account for 30 to 50 percent of bladder cancer. Risk of bladder cancer is also associated with certain occupational exposures, such as in the dye, rubber or leather industries. Approximately 20 percent of bladder cancer is attributable to occupational exposure. Drinking more fluids and eating more vegetables may lower the risk of bladder cancer.



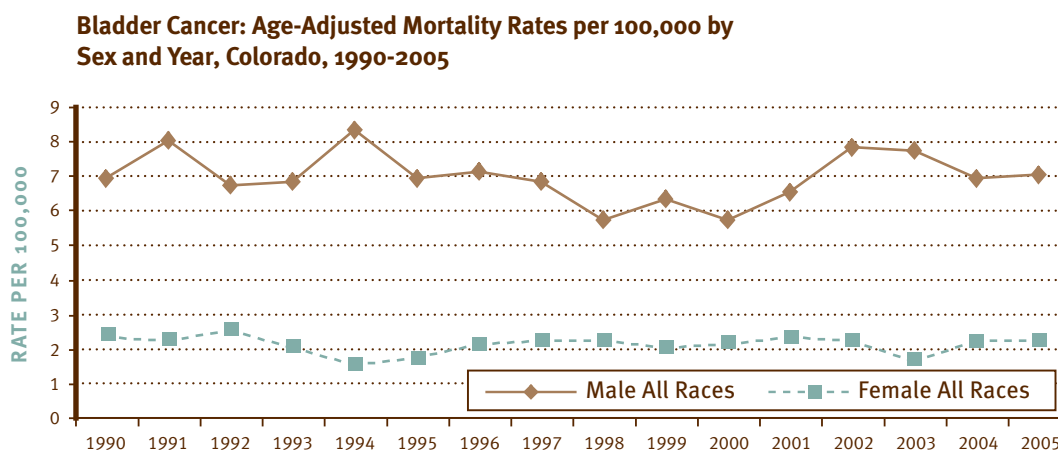
#### DATA HIGHLIGHTS

- In Colorado, the cumulative lifetime risk of bladder cancer is 1 in 20 for males and 1 in 79 for females.
- From 1997 to 2001, Colorado bladder cancer incidence rates were statistically lower (10 percent) than the U.S. rates.
- Between 1992 and 2001, bladder cancer incidence rates for Hispanics and African-Americans were statistically lower (44 to 54 percent) than rates for non-Hispanic Whites in Colorado.
- From 1992 to 2002, bladder cancer incidence rates for Hispanic males and females each decreased approximately 4 percent per year.
- The incidence rate of bladder cancer in Colorado from 1998 to 2002 was 20.5 cases per 100,000. For the wealthier areas of the state, the rate was 20.6, and for the middle poverty areas, it was 19.6. The rate for the poorest areas (16.6) was statistically lower.

## INDICATOR 33

### Mortality from Cancer of the Bladder

Cigarette smoking is estimated to account for 30 to 50 percent of bladder cancer. Risk of bladder cancer is also associated with certain occupational exposures, especially in the dye, rubber or leather industries. Approximately 20 percent of bladder cancer is attributable to occupational exposure.



DATA SOURCE: *Colorado Central Cancer Registry and Health Statistics Section, CDPHE.*

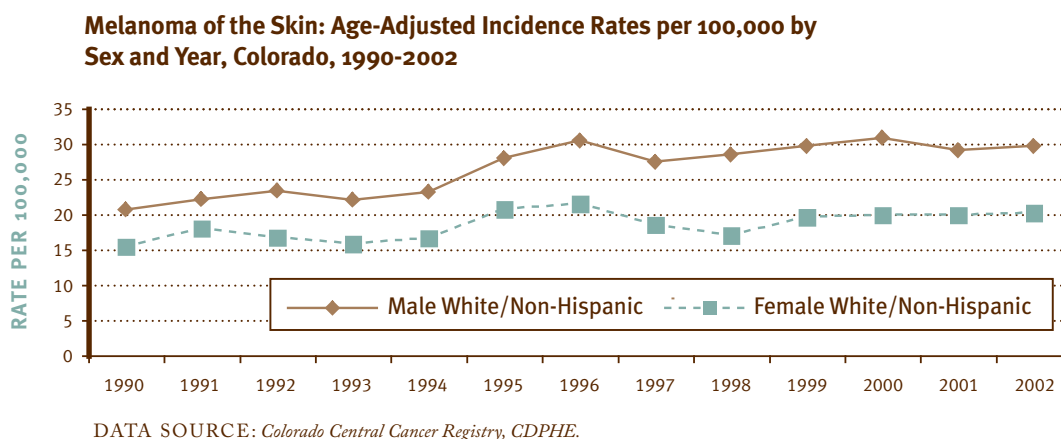
#### DATA HIGHLIGHTS

- From 1997 to 2001, mortality rates for bladder cancer in Colorado were 4 to 29 percent lower than the U.S. mortality rates.
- In Colorado from 1997–2001 to 2002, bladder cancer mortality rates changed little, but the rate for non-Hispanic White men showed a statistically high increase of 32 percent.

## INDICATOR 34

### Incidence of Invasive Melanoma

Sun exposure—especially intense, repeated, blistering sunburns during childhood—increases the risk of melanoma as an adult. Overexposure to ultraviolet radiation in sunlight is believed to be a contributing factor to some cases of melanoma. Other risk factors include fair skin that burns easily, a family history of melanoma and having many moles or atypical or unusual looking moles. Prevention of melanoma should include avoidance of sunburns.



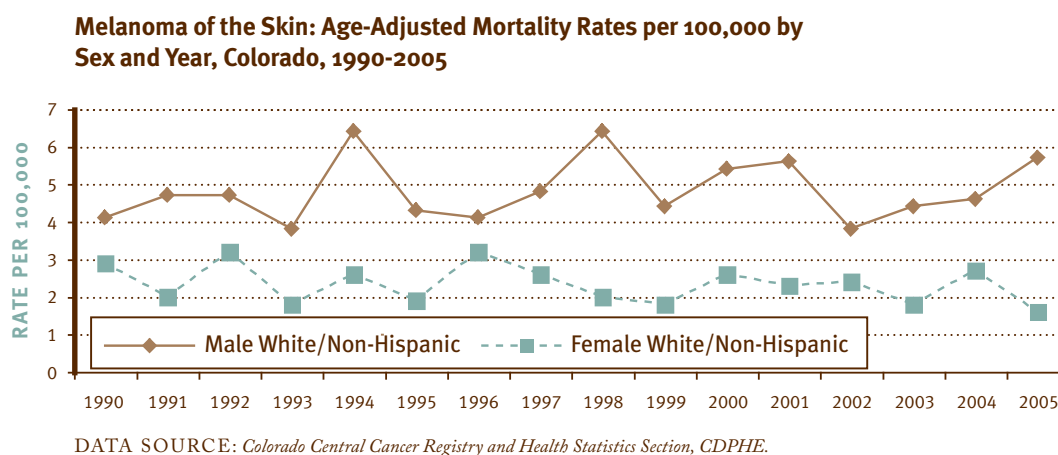
#### DATA HIGHLIGHTS

- In Colorado, the cumulative lifetime risk of melanoma is 1 in 33 for males and 1 in 62 for females.
- From 1997 to 2001, Colorado melanoma incidence rates for males (30 percent) and females (32 percent) were each statistically higher than the U.S. rates.
- The Colorado melanoma incidence rate for non-Hispanic White males climbed 2 percent from 1997–2001 to 2002, while the rate for females climbed 6 percent.
- Between 1992 and 2002 in Colorado, the incidence rate of melanoma for non-Hispanic White males increased 3 percent per year, while the rate increased 2 percent per year for females.
- From 1998 to 2002, the incidence rate of melanoma in Colorado was 22.7 cases per 100,000. For the wealthier areas of the state, the rate was 23.0. The rates for the middle poverty areas (20.4) and the poorest areas (15.7) were both statistically lower.

## INDICATOR 35

### Mortality from Melanoma

Sun exposure—especially intense, repeated, blistering sunburns during childhood—increases the risk of melanoma as an adult. Prevention of melanoma should include avoidance of sunburns.



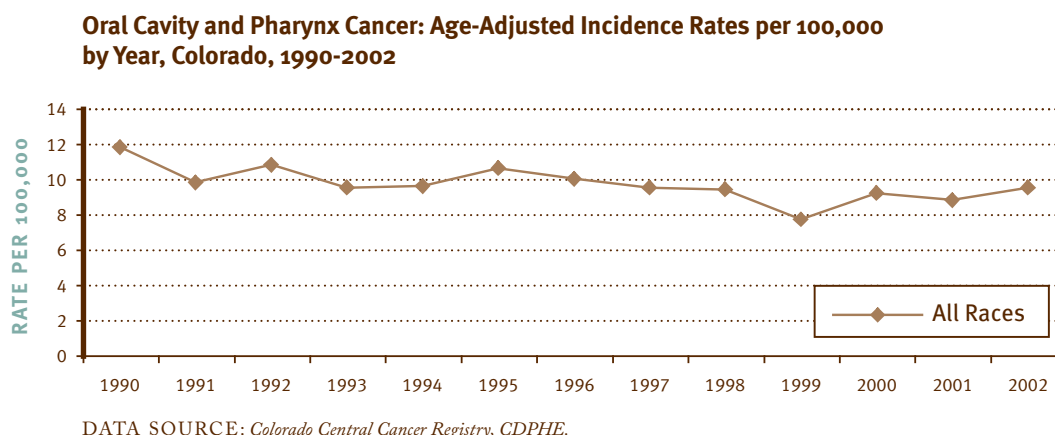
#### DATA HIGHLIGHTS

- Melanoma mortality rates for Colorado males were statistically higher (18 percent) than U.S. rates from 1997 to 2001, but declined 26 percent in 2002. Melanoma mortality rates for Colorado women were similar to U.S. rates.
- Melanoma mortality rates in Colorado from 1992 to 2002 were fairly stable.
- While poorer areas of Colorado have lower incidence rates of melanoma, survival rates are statistically worse.
- Data on race/ethnicity are not presented for this indicator due to the small number of events in all race-ethnicity groups other than non-Hispanic Whites.

## INDICATOR 36

### Incidence of Invasive Cancer of the Oral Cavity and Pharynx

Cancer of the oral cavity and pharynx is associated with use of tobacco products and excessive alcohol use. Together, tobacco and alcohol use account for approximately 75 percent of all oral cancers in the United States. Comparison of rates by stage at diagnosis can be used to measure the effectiveness and coverage of screening programs.



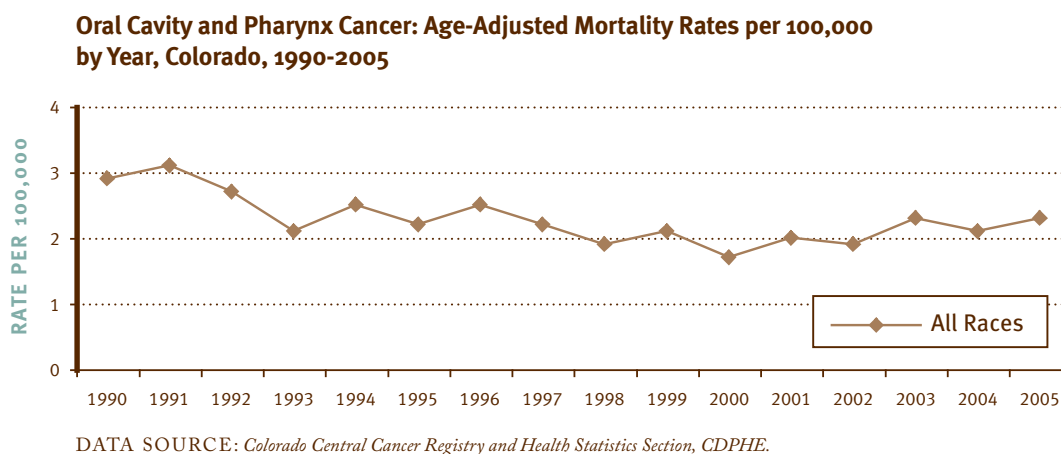
#### DATA HIGHLIGHTS

- In Colorado, the cumulative lifetime risk of oral cavity cancers is 1 in 61 for males and 1 in 136 for females.
- The 1996–2000 Colorado incidence rates of oral cavity cancers were statistically lower (6 to 55 percent) than the U.S. rates, varying by race/ethnicity and sex.
- From 1996–2000 to 2001, oral cavity cancer incidence rates in Colorado declined 12 to 39 percent for males and increased 9 to 35 percent for females, varying by race groups.
- Between 1996 and 2000, Hispanics and African-Americans in Colorado had lower incidence rates of oral cavity cancers than non-Hispanic Whites.
- The incidence rate of oral cavity cancer in Colorado from 1998 to 2002 was 9.0 cases per 100,000. For the wealthier areas of the state, the rate was 8.3, and the rate for middle poverty areas was 9.3. The rate for the poorest areas (10.5) was statistically higher.

## INDICATOR 37

### Mortality from Cancer of the Oral Cavity and Pharynx

Cancer of the oral cavity and pharynx is associated with use of tobacco products and excessive alcohol use. Together, tobacco and alcohol use account for approximately 75 percent of all oral cancers in the United States.



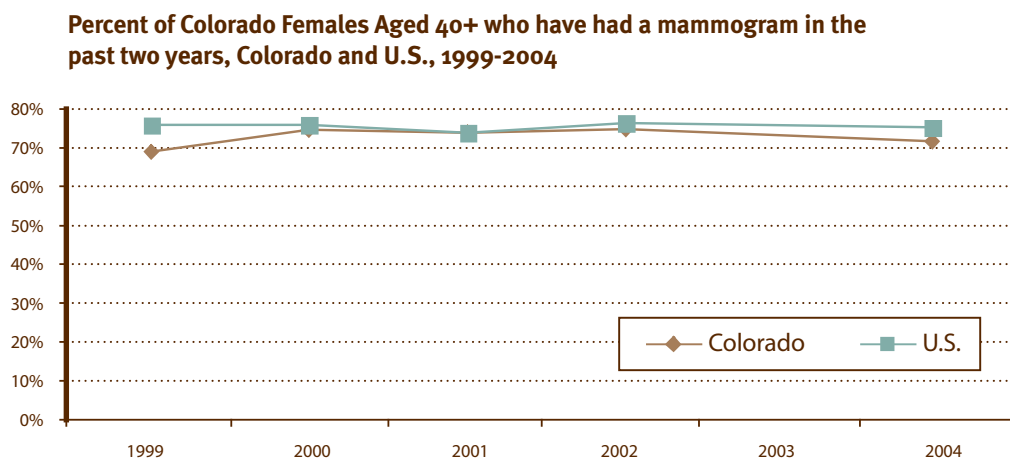
#### DATA HIGHLIGHTS

- Early detection of oral cavity cancer in Colorado was substantially worse for Hispanics and African-Americans than for non-Hispanic Whites.
- The five-year survival rate for oral cavity cancers in Colorado was close to 55 percent for 1990–1993 and 1994–1997, but survival for Hispanics and African-Americans was lower because of later detection.
- From 1996 to 2000 Colorado oral cavity cancer mortality rates were statistically lower than the U.S. rates for both men and women.

## INDICATOR 38

### Mammography Utilization Among Women Aged 40 Years and Older

Mammography screening, with or without clinical breast examination, can reduce breast cancer deaths by 16 percent among women aged 40 years and older; risk reduction is greater among women aged 50 years and older. The U.S. Preventative Services Task Force recommends mammography screening, with or without clinical breast examination, every one to two years for women age 40 and older.



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. Behavioral Risk Factor Surveillance System, CDC.

#### 2004 DATA HIGHLIGHTS

- In Colorado, 71.3 percent of women aged 40 and older had a mammogram in the past two years.
- Between 1999 and 2004, mammogram screening in Colorado increased from 68.6 percent to 71.3 percent.
- In the U.S., 75.5 percent of women had a mammogram in the past two years in 1999, compared to 74.9 percent of women in 2004.
- Mammogram screening rates for each age group were 61.3 percent for ages 40–49, 77.3 percent for ages 50–59, 77.8 percent for ages 60–69, 77.8 percent for ages 70–79 and 76.8 percent for ages 80–89.
- Hispanics (60.1 percent) had statistically lower mammogram screenings compared to

non-Hispanic Whites (71.9 percent) during 2004. African-Americans (75.7 percent) had a higher percentage of mammogram screening compared to non-Hispanic Whites.

- There were statistically fewer/less mammogram screenings for women who did not complete high school (57.3 percent) compared to those who attended (72.9 percent) or graduated (76.8 percent) college or technical school. The percentage of mammogram screening for high school graduates was 66.8 percent.
- Women earning more than \$50,000 per year had a statistically higher percentage (76.4 percent) of mammogram screenings compared to those earning less than \$20,000 (59.7 percent) and those earning \$20,000 to \$50,000 (67.7 percent).

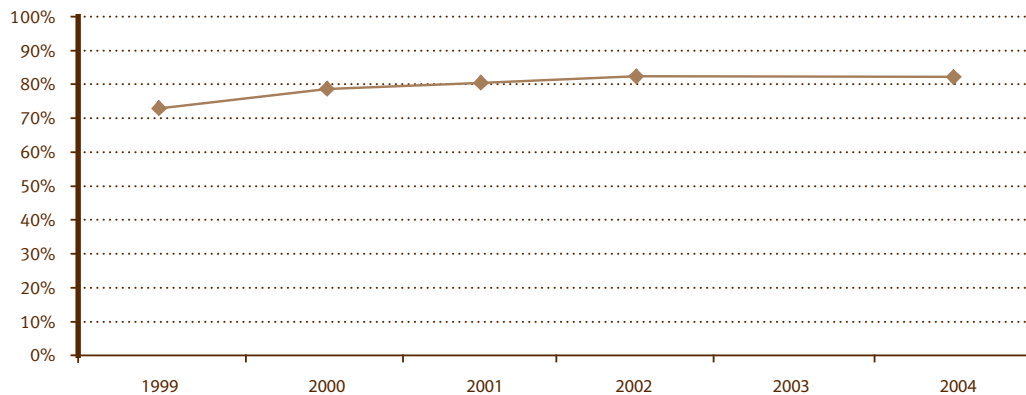


## INDICATOR 39

### Clinical Breast Examination Among Women Aged 40 Years and Older

Among women aged 50–69 years, detection and treatment of breast cancer at an early stage reduces the risk of breast cancer mortality by 25 to 30 percent. Although controversy remains regarding effectiveness, a clinical breast exam is widely recommended for women aged 40 years and older.

**Percent of Colorado Females Aged 40+ who have had a clinical breast exam in the past two years, Colorado, 1999–2004**



DATA SOURCE: *Behavioral Risk Factor Surveillance System, CDPHE.*

#### 2004 DATA HIGHLIGHTS

- In Colorado, 81.8 percent of women aged 40 and older had a clinical breast exam in the past two years.
- Colorado women who had a clinical breast exam in the past two years increased from 1999 (72.6 percent) to 2004 (81.8 percent).
- Clinical breast exams for each ten-year age group were 83.2 percent for ages 40–49, 83.2 percent for ages 50–59, 83.1 percent for ages 60–69, 79.1 percent for ages 70–79 and 68.5 percent for ages 80–89.
- Hispanics (70.1 percent) had a statistically lower percentage of clinical breast exams compared to non-Hispanic Whites (82.9 percent) during 2004. For African-Americans, the percentage was 82.9.
- The percentage of clinical breast exams for women who did not complete high school (70.8 percent) was lower compared to high school graduates (77 percent), those who attended (82 percent) or those who graduated (88.3 percent) college or technical school. The difference in clinical breast exams was statistically different between women who did not complete high school and those who graduated college.
- Women earning more than \$50,000 per year had a statistically higher percentage (87.5 percent) of clinical breast exams compared to those earning \$20,000 to \$50,000 (78.3 percent). Women earning less than \$20,000 per year had a statistically lower percentage (67.9 percent) than the other groups.

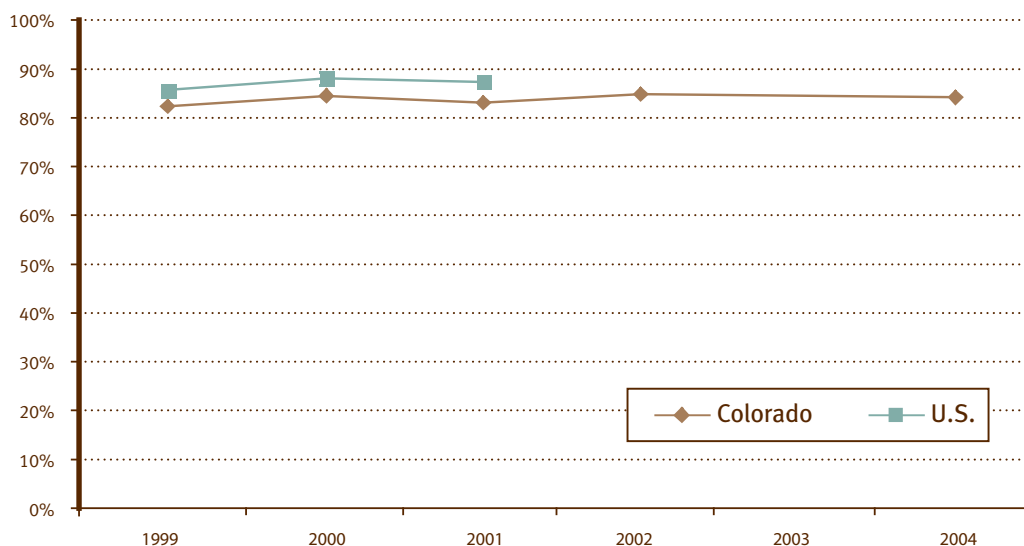
## INDICATOR 40

### Pap Smear Utilization Among Adult Women Aged 18 Years and Older

Approximately 40 to 60 percent of cervical cancer deaths can be prevented by increased use of the Pap test and effective, timely treatment. The dramatic decrease in cervical cancer incidence and mortality during the past 40 years is mainly the result of the widespread use of the Pap test.

The U.S. Preventive Services Task Force recommends beginning screening for cervical cancer with a Pap test at age 21 or within three years of becoming sexually active, whichever comes first. According to the American Cancer Society, nearly 100 percent of females in the U.S. diagnosed with pre-invasive cervical lesions will survive.

**Percent of Colorado Females Aged 18+ who have had a Pap test in the past three years, Colorado and U.S., 1999-2004**



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. Behavioral Risk Factor Surveillance System, CDC.

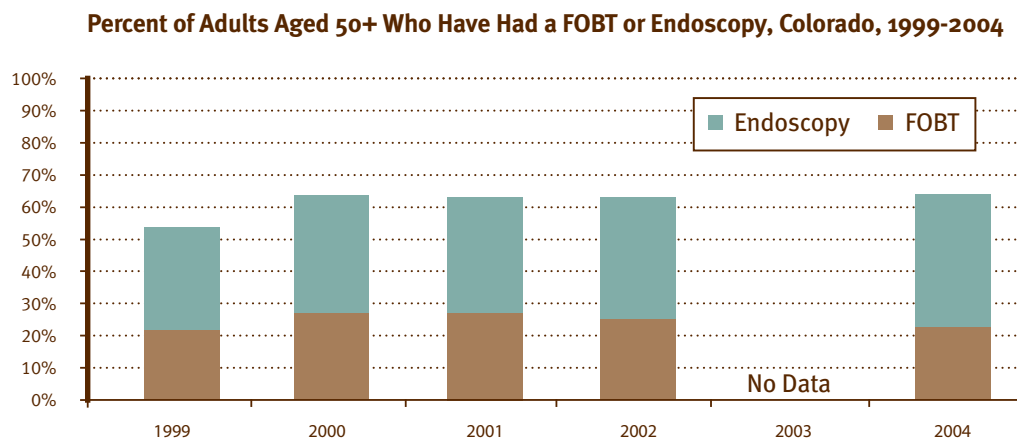
#### 2004 DATA HIGHLIGHTS

- In Colorado, 83.9 percent of women aged 18 and older had a Pap test in the past three years.
- Colorado women who had a Pap test in the past three years was 82.1 percent in 1999.
- Prevalence of Pap tests for each ten-year age group were 85.4 percent for ages 18–29, 93.7 percent for ages 30–39, 90.4 percent for ages 40–49, 85.4 percent for ages 50–59, 73.9 percent for ages 60–69, 58.3 percent for ages 70–79 and 48 percent for ages 80 and older.
- During 2004, Pap testing for African-Americans was 80.6 percent, 87.1 percent for Hispanics and 83.4 percent for non-Hispanic Whites.
- There was a lower percentage of Pap tests for women who did not complete high school (74.9 percent) compared to high school graduates (80 percent), those who attended (83.2 percent) or those who graduated (89.4 percent) college or technical school.
- Women earning more than \$50,000 per year (87.5 percent) and those earning \$20,000 to \$50,000 (83.4 percent) had a statistically higher percentage of Pap tests compared to those earning less than \$20,000 (72.2 percent).

## INDICATOR 41

### Fecal Occult Blood Test or Sigmoidoscopy/Colonoscopy Among Adults Aged 50 Years and Older

Mortality from colon and rectum cancer can be reduced through early detection and treatment. The U.S. Preventive Services Task Force recommends that colorectal cancer screening begin at age 50 for all adults without additional risk factors, such as family history of colorectal cancer, personal history of colon polyps or inflammatory bowel disease, smoking, obesity, physical inactivity and low consumption of fruits and vegetables. The most important risk factor for colorectal cancer is age. More than 90 percent of colorectal cancers occur in adults aged 50 years and older.



DATA SOURCE: *Behavioral Risk Factor Surveillance System, CDPHE.*

#### 2004 DATA HIGHLIGHTS

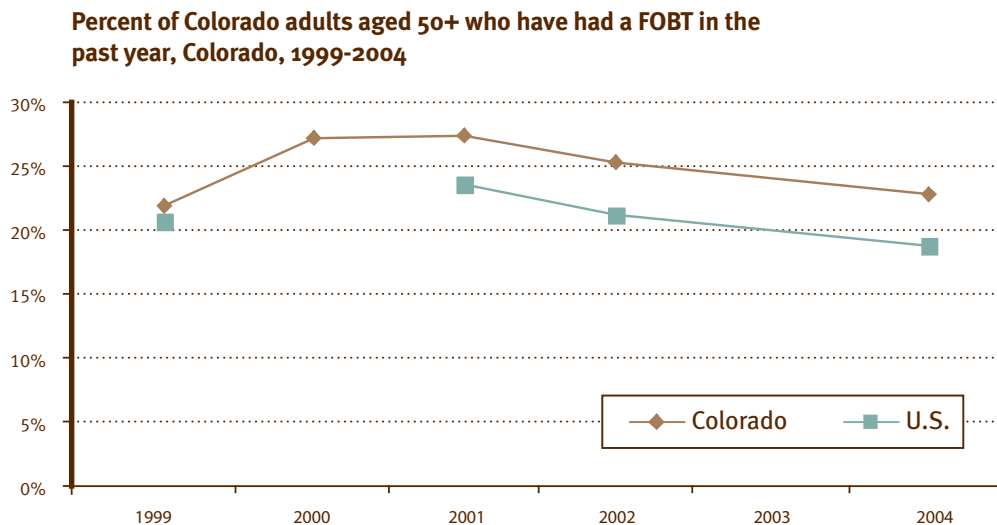
Colorado adults aged 50 and older who had a fecal occult blood test or endoscopy (sigmoidoscopy or colonoscopy) was 53.7 percent in 1999 and 64.0 percent in 2004.

## INDICATOR 42

### Fecal Occult Blood Test Among Adults Aged 50 Years and Older

Early detection with fecal occult blood test (FOBT) and sigmoidoscopy/colonoscopy, treatment of precancerous lesions and treatment in the early stages of cancer decrease mortality from colon and rectum cancer.

The FOBT is used to find occult (hidden) blood in feces. The traditional version of this test cannot tell whether blood is from the colon or from other portions of the digestive tract (i.e., the stomach). Therefore, if this test is positive, a colonoscopy is needed to see if there is a cancer, polyp or other cause of bleeding, such as ulcers, hemorrhoids, diverticulosis (tiny pouches that form at weak spots in the colon wall) or inflammatory bowel disease (colitis). (American Cancer Society)



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. Behavioral Risk Factor Surveillance System, CDC.

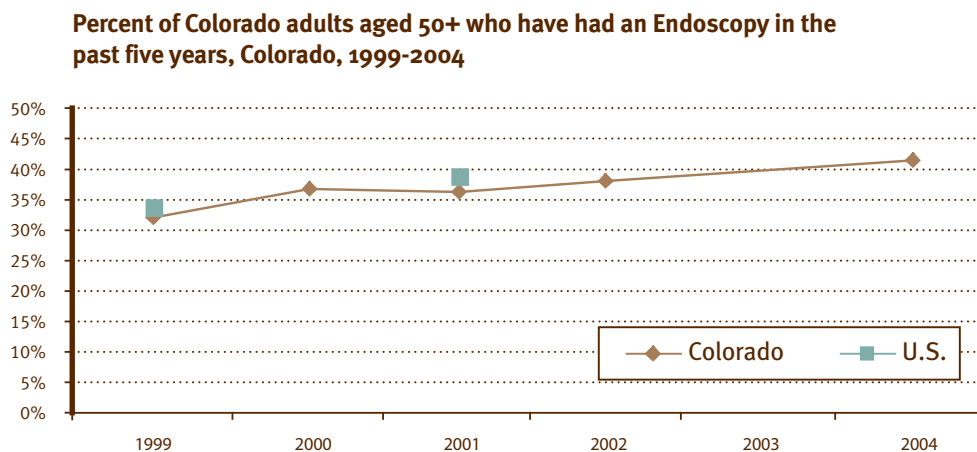
#### 2004 DATA HIGHLIGHTS

- Colorado adults who had a FOBT in the past year was 21.8 percent in 1999 and 22.7 percent in 2004.
- In 2004, approximately the same proportion of women (23.2 percent) and men (22.2 percent) had a FOBT in the past year.
- FOBT rates for each ten-year age group were 16.5 percent for ages 50–59, 26.1 percent for ages 60–69, 31.5 percent for ages 70–79 and 30.8 percent for ages 80–89. Age group 50–59 was statistically lower than the other age groups.
- There was an insufficient amount of data for reliable estimates for African-Americans and Hispanics.
- FOBT was statistically similar for high school graduates (23.6 percent), those who attended college or technical school (23.6 percent) and college or technical school graduates (22.4 percent). There was insufficient data for reliable estimates for persons who did not graduate high school.
- FOBT for each income group was statistically similar for those earning less than \$20,000 per year (21.6 percent), those earning \$20,000 to \$50,000 (22.6 percent) and those earning more than \$50,000 (23.1 percent).

## INDICATOR 43

### Sigmoidoscopy/Colonoscopy Among Adults Aged 50 Years and Older

Early detection with fecal occult blood testing (FOTB) and sigmoidoscopy/colonoscopy, treatment of precancerous lesions and treatment in the early stages of cancer decrease mortality from colon and rectum cancer.



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. Behavioral Risk Factor Surveillance System, CDC.

#### 2004 DATA HIGHLIGHTS

- In Colorado, 41.3 percent of adults had an endoscopy in the past five years.
- The percentage of endoscopy in Colorado increased from 1999 (31.9 percent) to 2004 (41.3 percent).
- In 2004, 41.6 percent of women had an endoscopy in the past five years. For men, the percentage was 40.9.
- Endoscopy rates for each ten-year age group were 32.3 percent for ages 50–59, 49.6 percent for ages 60–69, 50.1 percent for ages 70–79 and 47.9 percent for ages 80–89. Age group 50–59 was statistically lower than the other age groups.
- Hispanics (28.4 percent) had a statistically lower endoscopy rate compared to non-Hispanic Whites (42.7 percent) during 2004. African-Americans (39.2 percent) had a lower endoscopy rate compared to non-Hispanic Whites.
- College or technical school graduates (48.7 percent) were more likely to have an endoscopy than those who attended college or technical school (41.3 percent), high school graduates (33.5 percent) or those who did not complete high school (29.4 percent).
- The percentage of endoscopy was higher for those earning \$50,000 or more per year (46.5 percent) than for those earning less than \$20,000 per year (37.8 percent) or those earning \$20,000 to \$49,999 (34.7 percent).

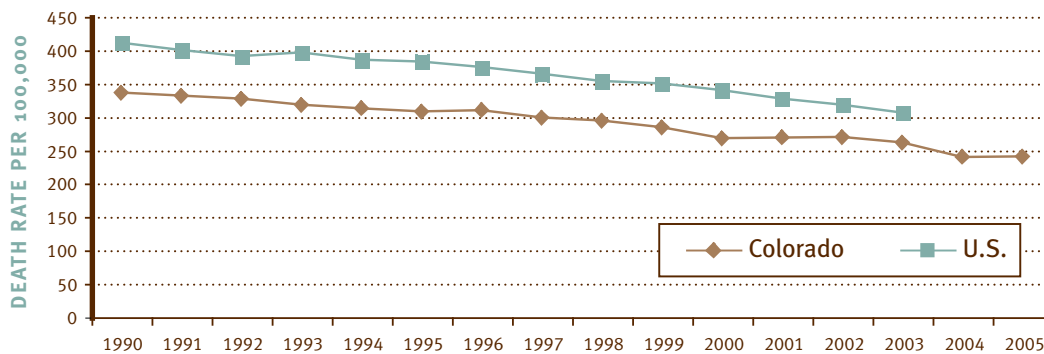
## INDICATOR 44

### Mortality from Major Cardiovascular Diseases

Modifiable risk factors for cardiovascular disease (CVD) include behaviors (e.g., tobacco use, physical inactivity and improper nutrition), health status (e.g., hypertension, hyperlipidemia, overweight or diabetes) and policies (e.g., smoking policies in restaurants and worksites). Substantial differences in CVD death rates exist by race, age, sex, place of residence and other demographic factors.

Cardiovascular disease is a broad term that includes heart disease, essential (primary) hypertension and hypertensive renal disease, cerebrovascular disease (stroke), atherosclerosis and other diseases of the circulatory system.

**Age-Adjusted Mortality from Major Cardiovascular Diseases,  
Colorado and U.S., 1990-2005**



DATA SOURCE: *Vital Statistics, Health Statistics Section, CDPHE. National Vital Statistics System, National Center for Health Statistics, CDC.*

#### 2005 DATA HIGHLIGHTS

- Cardiovascular disease (CVD) is the leading cause of death in Colorado even though there has been a 28 percent decrease in the mortality rate between 1990 (336.0 per 100,000 persons) and 2005 (240.4 per 100,000 persons).
- CVD accounted for 8,845 (or 30 percent) of all deaths in Colorado.
- On average, one Coloradan dies every hour due to CVD.
- In 2003, the age-adjusted mortality rate for CVD in the U.S. was 305.8 per 100,000. In 2005, Colorado's rate was 240.4 per 100,000.
- Men (292.1 per 100,000) had a statistically higher mortality rate than women (202.2 per 100,000).
- Mortality rates for each ten-year age group were statistically different from each other. Mortality rates per 100,000 by age group were 3.9 for ages 35–44, 9.3 for ages 45–54, 14.4 for ages 55–64, 32.1 for ages 65–74, 76 for ages 75–84 and 103.2 for ages 85 and older.
- The mortality rate for African-Americans (290.7 per 100,000 persons) and Hispanics (272.6 per 100,000 persons) was statistically higher than non-Hispanic Whites (239.0 per 100,000 persons).

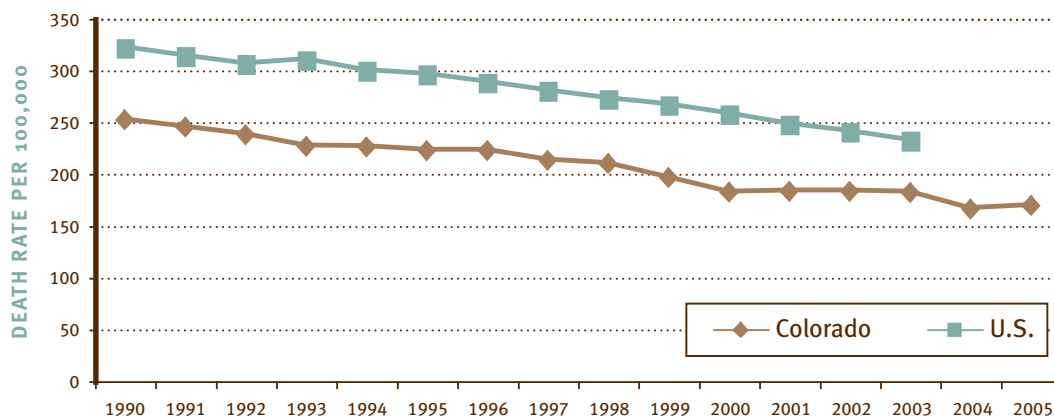
## INDICATOR 45

### Mortality from Diseases of the Heart

Modifiable risk factors for heart disease include behaviors (e.g., tobacco use, physical inactivity and improper nutrition), health status (e.g., hypertension, hyperlipidemia, overweight or diabetes) and policies (e.g., smoking policies in restaurants and worksites). Substantial differences in heart disease death rates and preventive measures exist by race, age, sex, place of residence and other demographic factors.

Heart disease is not a single disease, but rather multiple diseases, including acute rheumatic fever and chronic rheumatic heart disease, hypertensive heart disease, hypertensive heart and renal disease, ischemic heart disease and other heart diseases (including heart failure). Heart diseases have different causes, risks and potential interventions.

**Age-Adjusted Mortality from Diseases of the Heart, Colorado and U.S., 1990-2005**



DATA SOURCE: *Vital Statistics, Health Statistics Section, CDPHE. National Vital Statistics System, National Center for Health Statistics, CDC.*

#### 2005 DATA HIGHLIGHTS

- In 2003, the age-adjusted mortality rate for heart disease in the U.S. was 232.1 per 100,000 persons. In 2005, Colorado's rate was 169.4 per 100,000 persons.
- Between 1990 and 2005, the age-adjusted mortality rate due to heart disease in Colorado decreased by 32.8 percent. In 1990, Colorado's rate was 252.0 per 100,000 persons.
- Men (218.3 per 100,000) had a statistically higher mortality rate than women (134.1 per 100,000).
- Mortality rates for each ten-year age group were statistically different from each other. Mortality rates per 100,000 by age group were 2.9 for ages 35–44, 7.5 for ages 45–54, 11.4 for ages 55–64, 24.2 for ages 65–74, 52.4 for ages 75–84 and 69.9 for ages 85 and older.
- The mortality rate for African-Americans (195.8) and Hispanics (179.2) was higher than for non-Hispanic Whites (169.5).



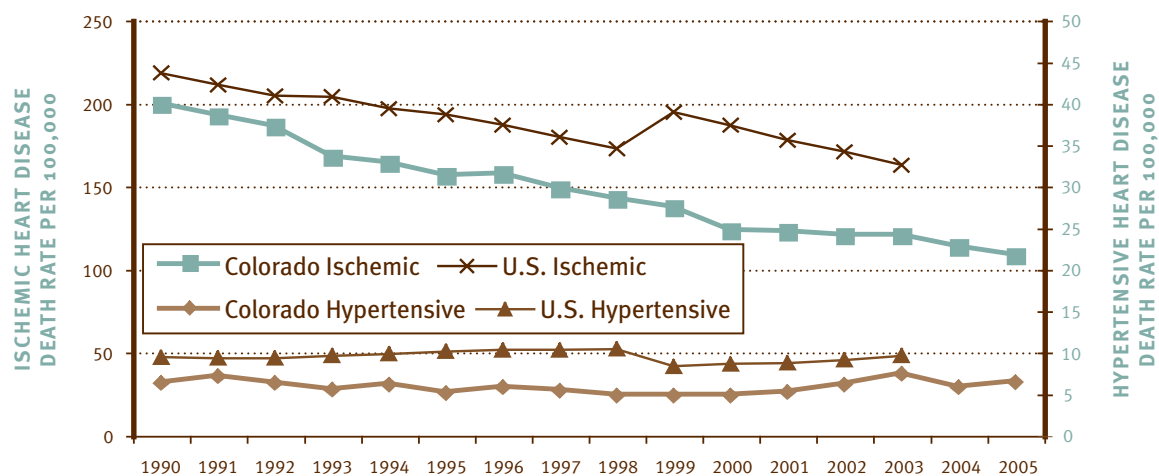
## INDICATOR 46

### Mortality from Coronary Heart Disease

Modifiable risk factors for coronary heart disease include behaviors (e.g., tobacco use, physical inactivity and improper nutrition), health status (e.g., hypertension, hyperlipidemia, overweight or diabetes) and policies (e.g., smoking policies in restaurants and worksites). Substantial differences in CHD death rates and preventive measures exist by race, age, sex, place of residence and other demographic factors.

Coronary heart disease includes hypertensive heart disease and ischemic heart disease, which are reported separately below.

**Age-Adjusted Mortality from Coronary Heart Diseases, Colorado and U.S., 1990-2005**



DATA SOURCE: *Vital Statistics, Health Statistics Section, CDPHE. National Vital Statistics System, National Center for Health Statistics, CDC.*

#### 2005 DATA HIGHLIGHTS FOR ISCHEMIC HEART DISEASE

- In 2003, the age-adjusted mortality rate for ischemic heart disease in the U.S. was 162.9 per 100,000 persons. In 2005, Colorado's rate was 108.3 per 100,000 persons.
- Between 1990 and 2005, the age-adjusted death rate due to ischemic heart disease in Colorado decreased by 21 percent.
- Men (152.4 per 100,000) had a statistically higher mortality rate than women (76.9 per 100,000).
- Mortality rates for each ten-year age group were statistically different from each other. Mortality rates per 100,000 by age group were 1.3 for ages 35–44, 5.0 for ages 45–54, 8.1 for ages 55–64, 17.4 for ages 65–74, 35.5 for ages 75–84 and 40.8 for ages 85 and older.
- The mortality rate for African-Americans (126.6) and Hispanics (115.3) was higher than for non-Hispanic Whites (108.2).

#### 2005 DATA HIGHLIGHTS FOR HYPERTENSIVE HEART DISEASE

- In 2003, the age-adjusted mortality rate for hypertensive heart disease in the U.S. was 9.6 per 100,000 persons. In 2005, Colorado's rate was 6.4 per 100,000 persons.
- Between 1990 and 2005, the age-adjusted death rate due to hypertensive heart disease in Colorado remained constant overall, with rates ranging from 4.8 to 7.4.
- The death rate due to hypertensive heart disease was similar for men (6.1 per 100,000) and women (6.2 per 100,000).
- Mortality rates for each ten-year age group were statistically different from each other. Mortality rates per 100,000 by age group were 0.1 for ages 35–44, 0.3 for ages 45–54, 0.5 for ages 55–64, 0.8 for ages 65–74, 1.5 for ages 75–84 and 2.5 for ages 85 and older.
- There was insufficient data for determining reliable mortality rates due to hypertensive heart disease for Hispanics and African-Americans.

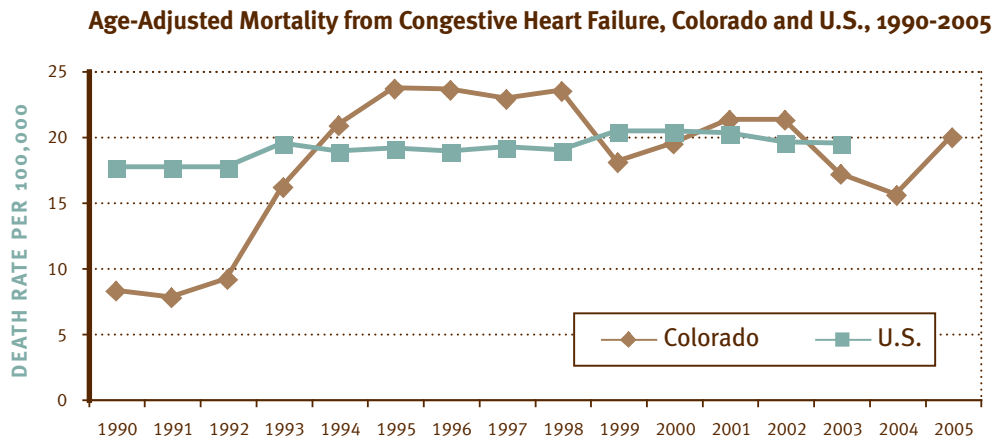


## INDICATOR 47

### Mortality from Congestive Heart Failure

Approximately 75 percent of persons with Congestive Heart Failure (CHF) have antecedent hypertension. From 1979 through 1996, hospitalization for CHF increased by 130 percent. Substantial differences in CHF death rates and preventive measures exist by race, age, sex, place of residence and other demographic factors.

CHF is a condition where the heart cannot pump enough blood throughout the body. It does not mean that the heart has stopped or is about to stop working, but rather the heart is not able to pump blood the way that it should.



DATA SOURCE: *Vital Statistics, Health Statistics Section, CDPHE. National Vital Statistics System, National Center for Health Statistics, CDC.*

#### 2005 DATA HIGHLIGHTS

- In 2003, the age-adjusted mortality rate for congestive heart failure in the U.S. was 19.4 per 100,000 persons. In 2005, Colorado's rate was 19.9 per 100,000 persons.
- Between 1990 and 2005, the age-adjusted death rate due to congestive heart failure in Colorado increased from 8.2 to 19.9, a 142.7 percent increase.
- The mortality rate was similar for men (20.6 per 100,000) and women (19.5 per 100,000).
- Mortality rates for each ten-year age group were statistically different from each other. Mortality rates per 100,000 by age group were 0.1 for ages 35–44, 0.2 for ages 45–54, 0.5 for ages 55–64, 1.5 for ages 65–74, 5.5 for ages 75–84 and 12.2 for ages 85 and older.
- There was insufficient data for determining rates for Hispanics and African-Americans.

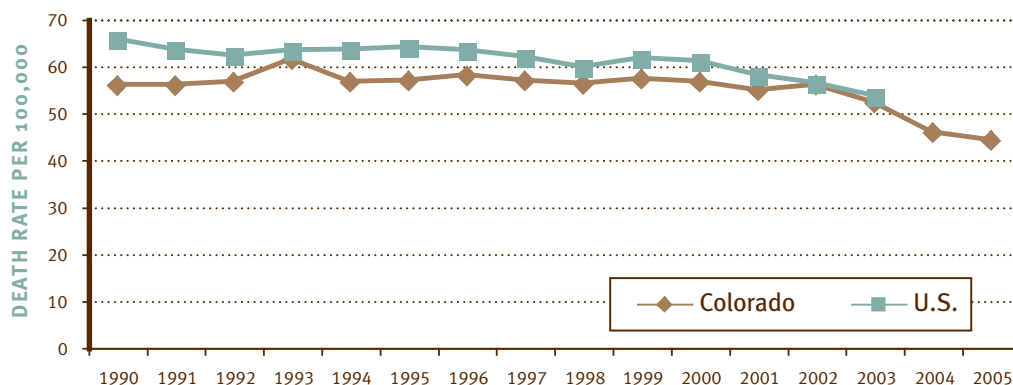
## INDICATOR 48

### Mortality from Cerebrovascular Disease (Stroke)

Modifiable risk factors for stroke include behaviors (e.g., tobacco use, physical inactivity and improper nutrition) and health status (e.g., untreated hypertension, hyperlipidemia, overweight or diabetes). Approximately 26 percent of stroke deaths in the United States are attributable to high blood pressure, and 12 percent to smoking. Substantial differences in risk and preventive factors exist by race, age, sex, place of residence and other demographic factors.

Cerebrovascular disease (stroke) is the damage that results when circulation to the brain is interrupted. There are two general categories for stroke: ischemic and hemorrhagic. Most strokes (approximately 80 to 85 percent) are ischemic strokes, which are caused by a blockage of the vessels to the brain. A hemorrhagic stroke is caused by a rupture of a blood vessel that supplies the brain.

**Age-Adjusted Mortality from Cerebrovascular Disease, Colorado and U.S., 1990-2005**



DATA SOURCE: *Vital Statistics, Health Statistics Section, CDPHE. National Vital Statistics System, National Center for Health Statistics, CDC.*

#### 2005 DATA HIGHLIGHTS

- In 2003, the age-adjusted mortality rate for cerebrovascular disease in the U.S. was 52.1 per 100,000 persons. In 2005, Colorado's rate was 44.1 per 100,000 persons.
- Between 1990 and 2005, the mortality rate due to cerebrovascular disease in Colorado decreased by 21 percent.
- Men (46.8 per 100,000) had a higher mortality rate than women (41.9 per 100,000), although the actual number of deaths due to cerebrovascular disease was 1.4 times higher for women than for men.
- Mortality rates per 100,000 by age group were 1.3 for ages 45–54, 1.9 for ages 55–64, 5.1 for ages 65–74, 14.5 for ages 75–84 and 20.3 for persons 85 and older. Mortality rates for groups beginning with 65–74 and older were statistically different from each other. There was an insufficient amount of data to report for ages 44 and younger.
- The mortality rate for African-Americans (54.1) and Hispanics (54.4) was higher than for non-Hispanic Whites (43.2).

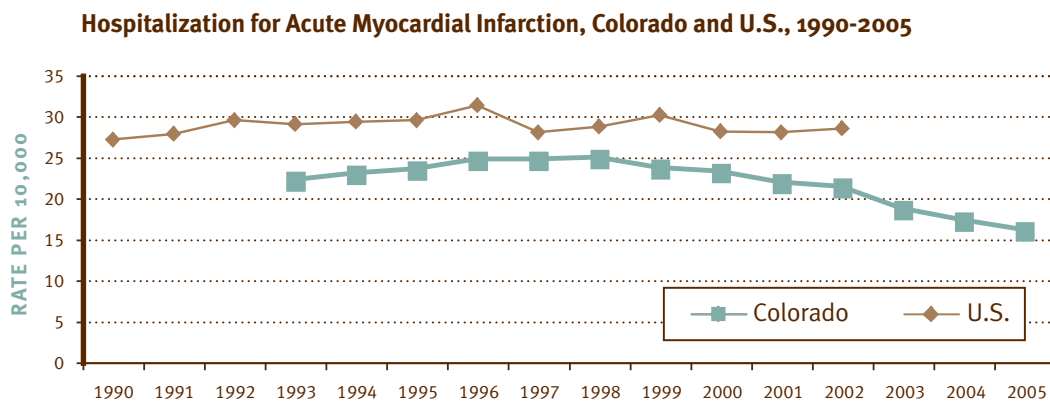
## INDICATOR 49

### Hospitalization for Acute Myocardial Infarction

Modifiable risk factors for coronary heart disease (CHD) include behaviors (e.g., tobacco use, physical inactivity and improper nutrition), health status (e.g., hypertension, hyperlipidemia, overweight or diabetes) and policies (e.g., smoking policies in restaurants and worksites).

Rapid identification and treatment of heart attacks reduce heart muscle damage, improve heart muscle function and lower the heart attack death rate. Substantial differences in CHD death rates and preventive measures exist by race, age, sex, place of residence and other demographic factors.

An acute myocardial infarction (heart attack) occurs when one of the arteries that supplies the heart muscle becomes blocked.



DATA SOURCE: Colorado Hospital Discharge Data, Colorado Hospital Association. National Hospital Discharge Survey, National Center for Health Statistics, CDC.

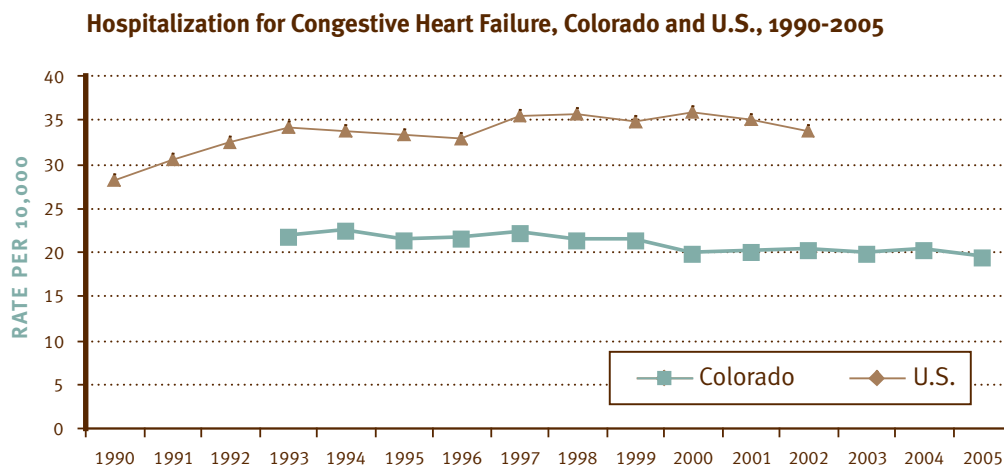
#### 2005 DATA HIGHLIGHTS

- In 2005, there were nearly 6,700 hospitalizations with a primary diagnosis of acute myocardial infarction. The age-adjusted hospital discharge rates have decreased since 1993. The overall change from 1993 (22.1 per 10,000 persons) to 2005 (16.0 per 10,000) represents a decrease of 27.6 percent.
- Men (22.7 per 10,000) had a statistically higher age-adjusted hospitalization rate than women (10.3 per 10,000).
- Patients aged 75–84 had the highest hospitalization rate for acute myocardial infarction. The rates per 10,000 by age group were 2.0 for ages 45–54, 3.0 for ages 55–64, 3.6 for ages 65–74, 4.3 for ages 75–84 and 2.2 for ages 85 and older. Patients aged 55 and older accounted for more than 78 percent of hospitalizations.
- In 2005, the average length of hospitalization was approximately 4 days, and the average charge per hospitalization was \$55,929.

## INDICATOR 50

### Hospitalization for Congestive Heart Failure

Approximately 75 percent of persons with congestive heart failure (CHF) have antecedent hypertension. Between 1979 and 1996, hospitalizations for CHF increased by 130 percent. Substantial differences in CHF death rates and preventive measures exist by race, age, sex, place of residence and other demographic factors.



DATA SOURCE: *Colorado Hospital Discharge Data, Colorado Hospital Association. National Hospital Discharge Survey, National Center for Health Statistics, CDC.*

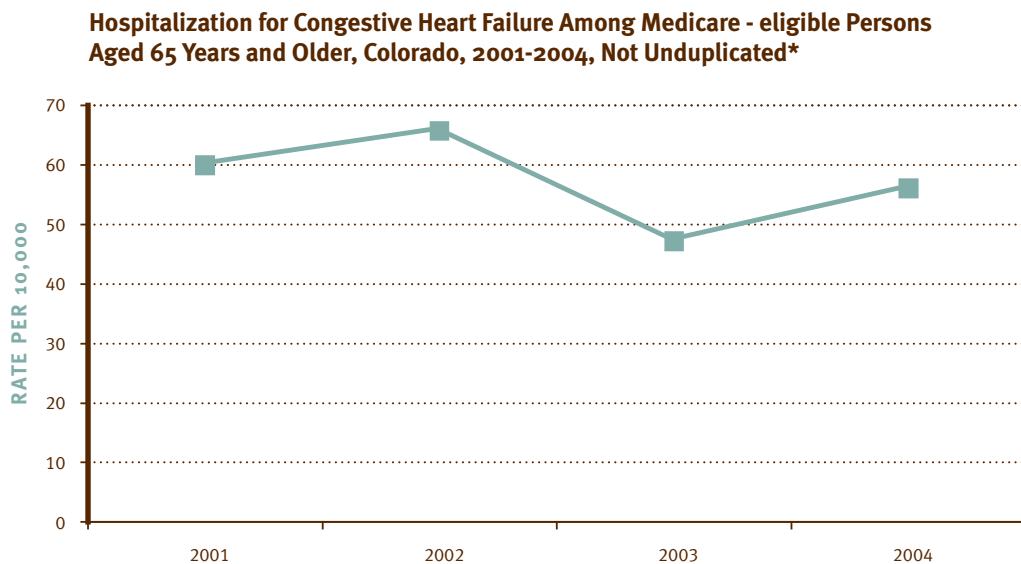
#### 2005 DATA HIGHLIGHTS

- In 2005, there were more than 7,300 hospitalizations with a primary diagnosis of congestive heart failure. The age-adjusted hospital discharge rates have decreased since 1993. The overall change from 1993 (21.8. per 10,000 persons) to 2005 (19.3 per 10,000 persons) represents a decrease of 11.5 percent.
- Men (23.5 per 10,000) had a higher age-adjusted hospitalization rate than women (16.3 per 10,000).
- Patients aged 75–84 had the highest hospitalization rate for congestive heart failure. The rates per 10,000 by age group were 1.0 for ages 45–54, 1.7 for ages 55–64, 4.1 for ages 65–74, 6.8 for ages 75–84 and 5.1 for ages 85 and older. Patients aged 65 and older accounted for 77 percent of hospitalizations.
- In 2005, the average length of hospitalization was approximately 5 days, and the average charge per hospitalization was \$29,883.

## INDICATOR 51

### Hospitalization for Congestive Heart Failure Among Medicare-eligible Persons Aged 65 Years and Older

Approximately 75 percent of persons with congestive heart failure (CHF) have antecedent hypertension. Between 1979 and 1996, hospitalizations for CHF increased by 130 percent. Substantial differences in CHF death rates and preventive measures exist by race, age, sex, place of residence and other demographic factors.



DATA SOURCE: Medicare Beneficiary Claims Data, Colorado Foundation for Medical Care.  
\*The term not unduplicated refers to the fact that one person might account for multiple admissions.

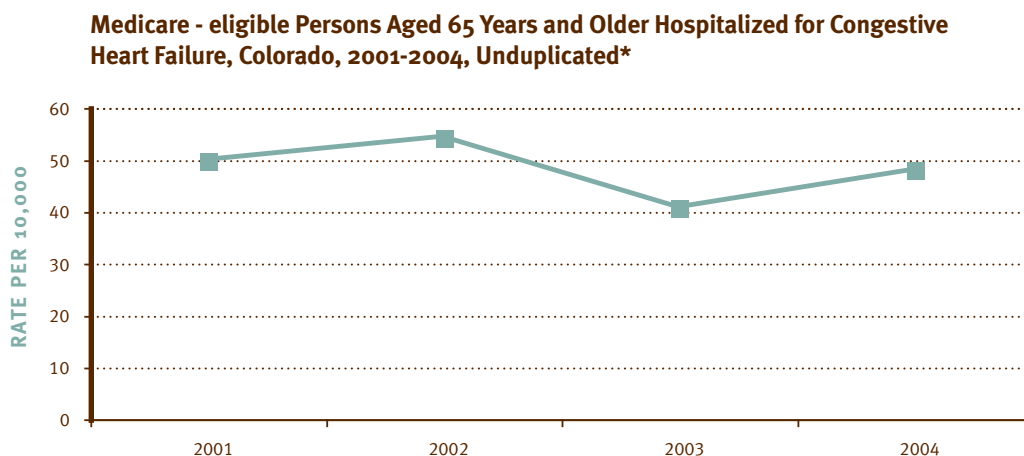
#### 2004 DATA HIGHLIGHTS

Between 2001 and 2004, the (not unduplicated) hospitalization rate for congestive heart failure among Medicare-eligible Coloradans aged 65 years and older has varied between 47.2 in 2003 and 65.7 in 2002. In 2004, the rate was 56.0 per 10,000.

## INDICATOR 52

### Medicare-eligible Persons Aged 65 Years and Older Hospitalized for Congestive Heart Failure (Unduplicated)

Approximately 75 percent of persons with congestive heart failure (CHF) have antecedent hypertension. Between 1979 and 1996, hospitalizations for CHF increased by 130 percent. Substantial differences in CHF death rates and preventive measures exist by race, age, sex, place of residence and other demographic factors.



DATA SOURCE: *Medicare Beneficiary Claims Data, Colorado Foundation for Medical Care.*

\*The term unduplicated means that persons with multiple admissions during the calendar year are only counted once.

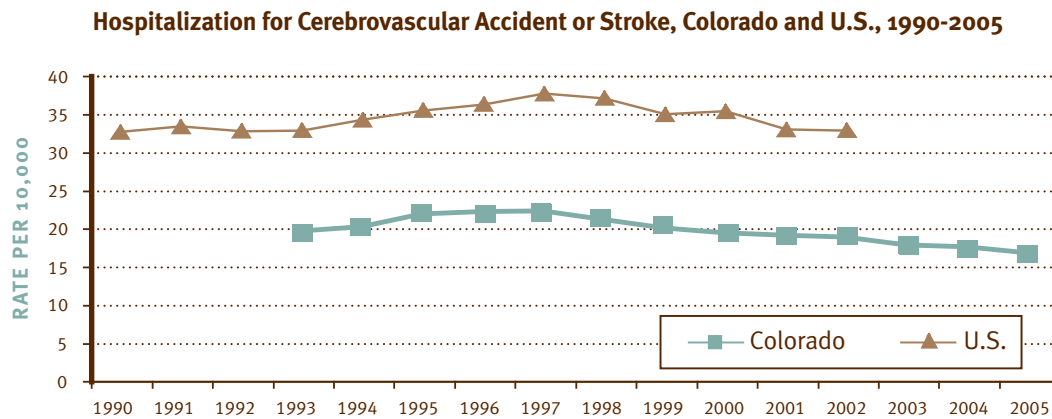
#### 2004 DATA HIGHLIGHTS

Between 2001 and 2004, the (unduplicated) hospitalization rate for congestive heart failure among Medicare-eligible Coloradans aged 65 years and older has varied between 40.7 in 2003 and 54.2 in 2002. In 2004, the rate was 48.0 per 10,000.

## INDICATOR 53

### Hospitalization for Cerebrovascular Accident or Stroke

Modifiable risk factors for stroke include behaviors (e.g., tobacco use, physical inactivity and improper nutrition) and health status (e.g., untreated hypertension, hyperlipidemia, overweight or diabetes). Approximately 26 percent of stroke deaths in the United States are attributable to high blood pressure, and 12 percent to smoking. Substantial differences in stroke death rates and preventive measures exist by race, age, sex, place of residence and other demographic factors. Historically, the southeastern United States has had high stroke death rates.



DATA SOURCE: *Colorado Hospital Discharge Data, Colorado Hospital Association. National Hospital Discharge Survey, National Center for Health Statistics, CDC.*

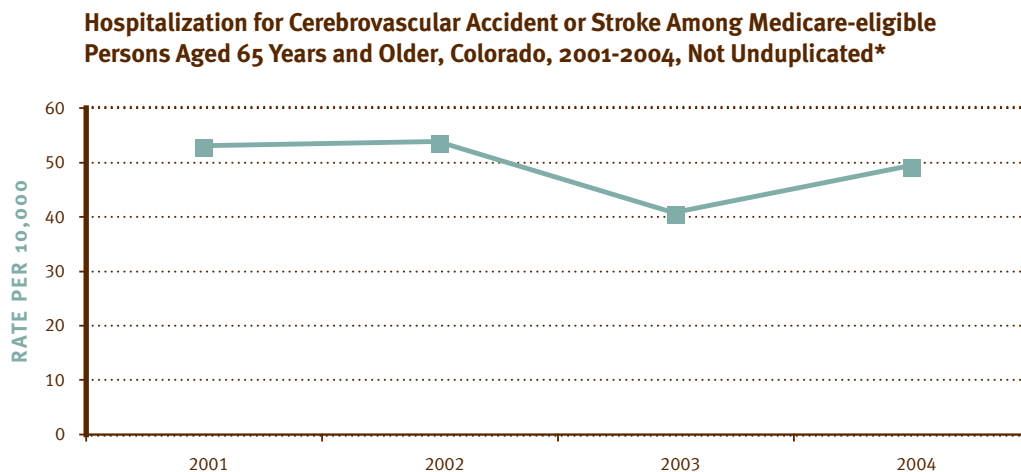
#### 2005 DATA HIGHLIGHTS

- In 2005, there were nearly 6,600 hospitalizations with a primary diagnosis of stroke. The age-adjusted hospital discharge rates have decreased since 1993. The overall change from 1993 (18.2 per 10,000 persons) to 2005 (16.6 per 10,000 persons) represents a decrease of 8.8 percent.
- Men (18.4 per 10,000) had a higher age-adjusted hospitalization rate than women (15.3 per 10,000), although 51.9 percent of hospitalizations for stroke were women.
- Patients aged 75–84 had the highest hospitalization rate for stroke. The rates per 10,000 by age group were 1.2 for ages 45–54, 1.9 for ages 55–64, 3.9 for ages 65–74, 5.6 for ages 75–84 and 2.9 for ages 85 and older. Patients aged 65 and older accounted for more than half (67 percent) of hospitalizations for stroke.
- In 2005, the average length of hospitalization was approximately 5 days, and the average charge per hospitalization was \$39,147.

## INDICATOR 54

### Hospitalization for Cerebrovascular Accident or Stroke Among Medicare-eligible Persons Aged 65 Years and Older

Modifiable risk factors for stroke include behaviors (e.g., tobacco use, physical inactivity and improper nutrition) and health status (e.g., untreated hypertension, hyperlipidemia, overweight or diabetes). Approximately 26 percent of stroke deaths in the United States are attributable to high blood pressure, and 12 percent to smoking. Substantial differences in stroke death rates and preventive measures exist by race, age, sex, place of residence and other demographic factors. Historically, the southeastern United States has had high stroke death rates.



DATA SOURCE: Medicare Beneficiary Claims Data, Colorado Foundation for Medical Care.

\*The term not unduplicated refers to the fact that one person might account for multiple admissions.

#### 2004 DATA HIGHLIGHTS

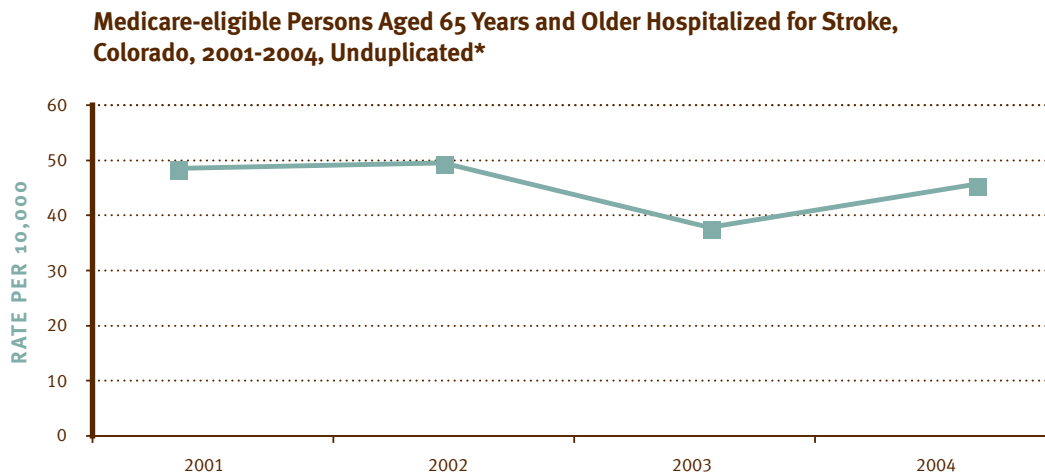
Between 2001 and 2004, the (not unduplicated) hospitalization rate for stroke among Medicare-eligible Coloradans aged 65 years and older has varied between 40.3 in 2003 and 53.4 in 2002. In 2004, the rate was 49.0 per 10,000.



## INDICATOR 55

### Medicare-eligible Persons Aged 65 Years and Older Hospitalized for Cerebrovascular Accident or Stroke (Unduplicated)

Modifiable risk factors for stroke include behaviors (e.g., tobacco use, physical inactivity and improper nutrition) and health status (e.g., untreated hypertension, hyperlipidemia, overweight or diabetes). Approximately 26 percent of stroke deaths in the United States are attributable to high blood pressure, and 12 percent to smoking. Substantial differences in stroke death rates and preventive measures exist by race, age, sex, place of residence and other demographic factors. Historically, the southeastern United States has had high stroke death rates.



DATA SOURCE: Medicare Beneficiary Claims Data, Colorado Foundation for Medical Care.

\*The term unduplicated means that persons with multiple admissions during the calendar year are only counted once.

#### 2004 DATA HIGHLIGHTS

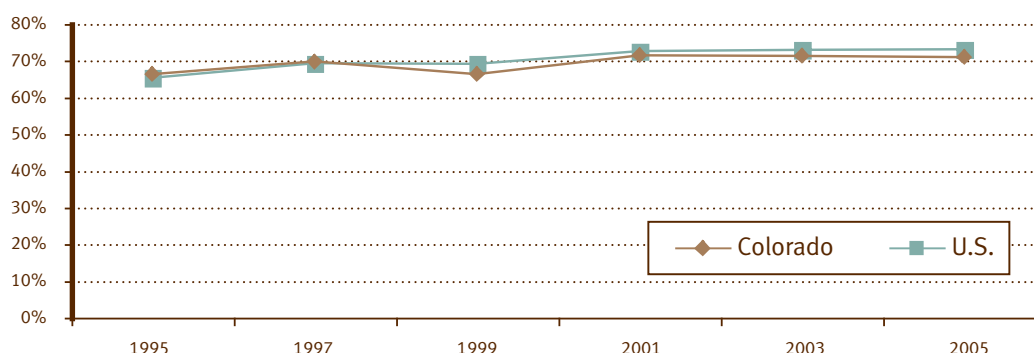
Between 2001 and 2004, the (unduplicated) hospitalization rate for stroke among Medicare-eligible Coloradans 65 years and older has varied between 37.4 in 2003 and 49.1 in 2002. In 2004, the rate was 45.2 per 10,000.

## INDICATOR 56

### Cholesterol Screening Among Adults Aged 18 Years and Older

Elevated levels of serum cholesterol can lead to development of atherosclerosis. Approximately 30 to 40 percent of coronary heart disease and 10 to 20 percent of strokes in the United States are attributable to elevated serum cholesterol. Elevated cholesterol has been associated with physical inactivity, high fat intake, smoking cigarettes, diabetes and obesity. Lifestyle changes and medications can reduce cholesterol and prevent heart disease among persons with elevated serum cholesterol.

**Trend in Percentages of Adults Screened for High Cholesterol Within the Past 5 Years, Aged 18 Years and Older, Colorado and the U.S., 1995-2005**



DATA SOURCE: *Behavioral Risk Factor Surveillance System, CDPHE. Behavioral Risk Factor Surveillance System, CDC.*

#### 2005 DATA HIGHLIGHTS

- In Colorado, 70.9 percent of adults were screened for high cholesterol in the past five years.
- Between 1995 and 2005, cholesterol screening in Colorado increased from 66.3 percent to 70.9 percent.
- In 2005, women (74.5 percent) had a statistically higher cholesterol screening rate than men (67.4 percent).
- The percentage of cholesterol screening for each age group was statistically different from each other with the exception of ages 65 and older: 30 percent for ages 18–24, 55.2 percent for ages 25–34, 73.1 percent for ages 35–44, 83 percent for ages 45–54, 90 percent for ages 55–64, 93 percent for ages 65–74, 95 percent for ages 75–84 and 87.4 percent for ages 85 and older.
- Hispanics (52 percent) had a statistically lower cholesterol screening rate compared to non-Hispanic Whites (75.2 percent) during 2005. The cholesterol screening rate for African-Americans was 67.4 percent.
- The percentage of cholesterol screening for each level of education group was statistically different from each other: 45.2 percent for persons who did not complete high school, 64.3 percent for high school graduates, 71.9 percent for those who attended college or technical school and 81.2 percent for college or technical school graduates.
- Adults earning \$15,000 to less than \$25,000 per year had a statistically lower cholesterol-screening rate (53.6 percent) compared to other income categories. Adults earning more than \$50,000 per year had the highest percentage (80.4 percent) of cholesterol screening compared to other income categories.

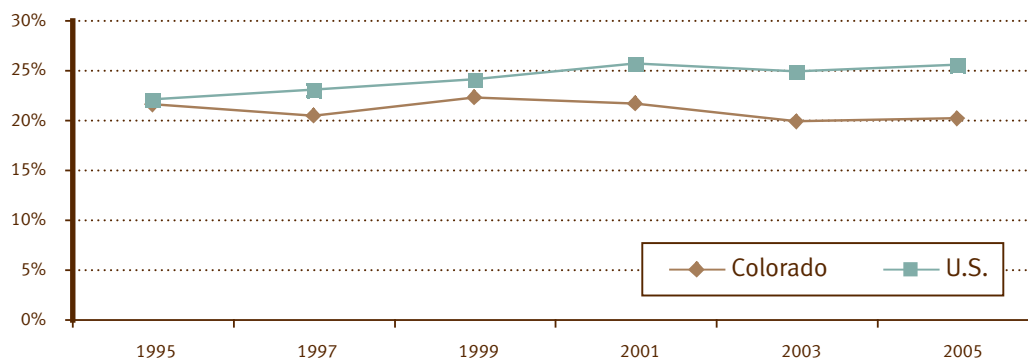
## INDICATOR 57

### Prevalence of High Blood Pressure Awareness Among Adults Aged 18 Years and Older

Approximately 20 to 30 percent of coronary heart disease and 20 to 50 percent of strokes in the United States are attributable to uncontrolled hypertension. Blood pressure-related cardiovascular complications can occur before the onset of established hypertension. Lifestyle risk factors for hypertension include high sodium intake, excessive caloric intake, physical inactivity, excessive alcohol consumption and deficient potassium intake. Lifestyle changes and medications can be used to reduce blood pressure.

High blood pressure increases the heart's workload, causing the heart to enlarge and weaken over time, thereby increasing the risk of cardiovascular disease. A 12-13 point reduction in blood pressure among people with high blood pressure can reduce heart attacks by 21 percent, strokes by 37 percent and total CVD deaths by 25 percent. Fifty million Americans have high blood pressure, and another 45 million are pre-hypertensive, or at high risk of developing high blood pressure. Seventy percent of people with high blood pressure do not have it under control.

**Trend in High Blood Pressure Awareness, Aged 18 Years and Older, Colorado and the U.S., 1995-2005**



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. Behavioral Risk Factor Surveillance System, CDC.

#### 2005 DATA HIGHLIGHTS

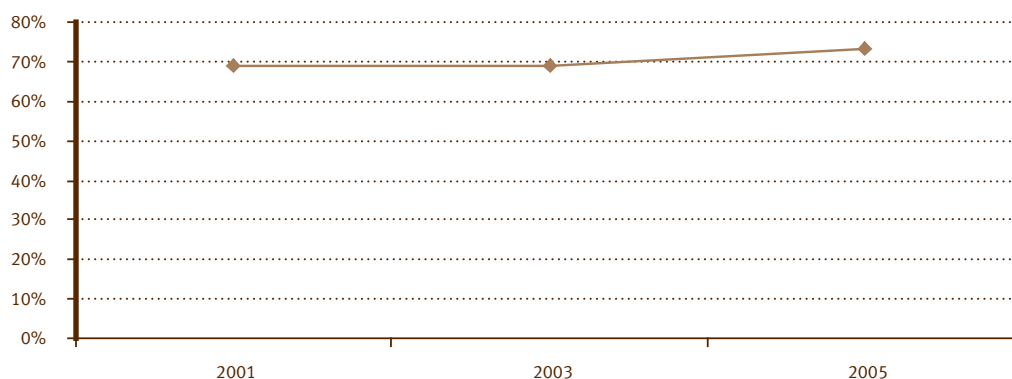
- In Colorado, 20.1 percent of adults have high blood pressure.
- Between 1995 and 2005, the prevalence of high blood pressure in Colorado decreased from 21.5 percent to 20.1 percent.
- A slightly higher proportion of men (20.9 percent) had high blood pressure compared to women (19.2 percent).
- The prevalence of high blood pressure for each ten-year age group was statistically different from each other with the exception of age group 25-34 and for the two groups 75 and older: 6.9 percent for ages 25-34, 10.3 percent for ages 35-44, 24.9 percent for ages 45-54, 35.8 percent for ages 55-64, 46.9 percent for ages 65-74, 52.8 percent for ages 75-84 and 53 percent for ages 85 and older. The age group 18-24 had insufficient data for a reliable estimate.
- In 2005, Hispanics (12.1 percent) had a statistically lower prevalence of high blood pressure compared to non-Hispanic Whites (21.4 percent). There was insufficient data for determining a rate for African-Americans.
- The prevalence of high blood pressure for persons who did not complete high school was statistically lower than other groups: 15.4 percent for persons who did not complete high school, 21.9 percent for high school graduates, 21.5 percent for those who attended college or technical school and 19.1 percent for college or technical school graduates.
- Adults earning more than \$50,000 per year had the lowest percentage (17.2 percent) of high blood pressure compared to other income categories. Adults earning less than \$15,000 per year had a statistically higher percentage (28.0 percent) of high blood pressure compared to adults earning more than \$50,000 per year.

## INDICATOR 58

### Taking Medicine for High Blood Pressure Control Among Adults Aged 18 Years and Older

Approximately 20 to 30 percent of coronary heart disease and 20 to 50 percent of strokes in the United States are attributable to uncontrolled hypertension. Blood pressure-related cardiovascular complications can occur before the onset of established hypertension. Lifestyle risk factors for hypertension include high sodium intake, excessive caloric intake, physical inactivity, excessive alcohol consumption and deficient potassium intake. Lifestyle changes and medications can be used to reduce blood pressure.

**Trend in Prevalence of Taking Medicine for High Blood Pressure Control, Aged 18 Years and Older, Colorado, 2001-2005**



DATA SOURCE: *Behavioral Risk Factor Surveillance System, CDPHE.*

#### 2005 DATA HIGHLIGHTS

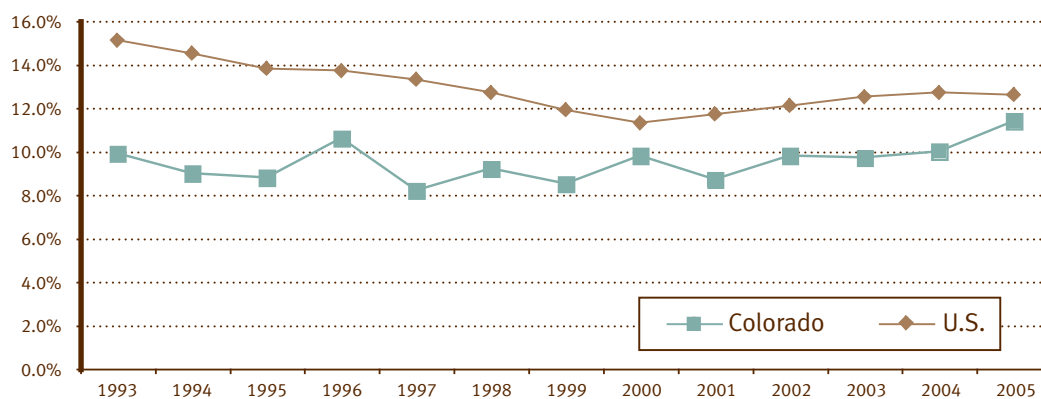
- In Colorado, 73.5 percent of adults take medicine to control their high blood pressure.
- Women (82 percent) had a statistically higher rate of taking medicine for high blood pressure than men (65.7 percent).
- The prevalence of taking medicine for high blood pressure for ten-year age groups was statistically different for ages 35–44, ages 45–54 and ages 55–64. The prevalence was 47.1 percent for ages 35–44, 69 percent for ages 45–54, 84.7 percent for ages 55–64, 89.7 percent for ages 65–74, 94.5 percent for ages 75–84 and 93.2 percent for ages 85 and older. The age groups including 18–34 had insufficient data for a reliable estimate.
- The prevalence of taking medicine for high blood pressure was lower in Hispanics (64.0 percent) compared to non-Hispanic Whites (75.3 percent). There was an insufficient amount of data for a reliable estimate for African-Americans.
- Adults taking medicine for high blood pressure were 76.5 percent for persons who did not complete high school, 77.7 percent for high school graduates, 69.3 percent for those who attended college or technical school and 73.1 percent for college or technical school graduates.
- Seventy percent (69.8) of adults earning \$35,000 to less than \$55,000 per year were taking medicine for high blood pressure compared to other income categories. Seventy-five percent of adults earning less than \$25,000 per year were taking medicine for high blood pressure, a higher percentage compared to other income categories.

## INDICATOR 59

### Poverty

Socioeconomic conditions (e.g., poverty, low level of education and lack of health insurance coverage) are associated with poor health status and chronic disease, including cardiovascular disease, cancer, diabetes and chronic lung disease. Income provides an assessment of the financial resources available to individual persons or families for basic necessities (e.g., food, clothing and health care) to maintain or improve their well-being.

**Trend in Prevalence of Persons Living Below the Federal Poverty Level, Colorado and the U.S., 1993-2005**



DATA SOURCE: *Current Population Survey, US Census Bureau.*

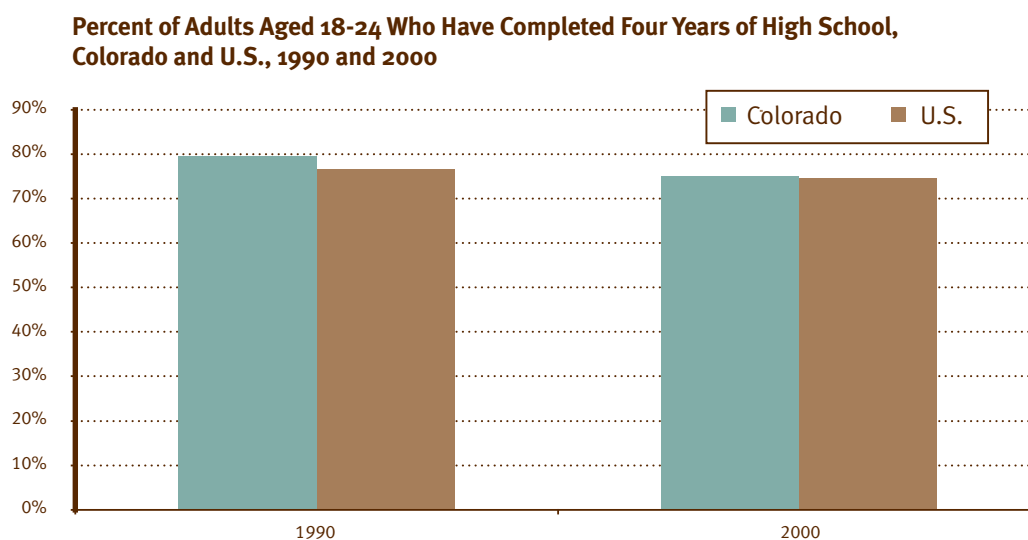
#### DATA HIGHLIGHTS

- In 2005, 462,900 Coloradans (11.4 percent) lived in households with incomes below the federal poverty level, equivalent to \$18,850 for a family of four.
- According to the 2000 Census, women (9.9 percent) were more likely to have incomes below the poverty level than men (8.2 percent).
- Also according to the 2000 Census, the percentage of African-Americans living below the poverty level (16.3 percent) was more than twice that of non-Hispanic Whites (7.6 percent). Hispanics had a prevalence of poverty (18.9 percent) that was higher than either non-Hispanic Whites or African-Americans.
- The poverty estimate for Colorado increased in both 2004 and 2005, which is the only consecutive two-year increase recorded since 1993. In 2005, while the U.S. poverty rate (12.6 percent) remained virtually unchanged, the Colorado rate increased by more than 10 percent (10 to 11.4 percent).

## INDICATOR 60

### High School Completion

Socioeconomic conditions (e.g., low level of education) are associated with poor health status and morbidity from chronic disease, including cardiovascular disease, cancer, diabetes and chronic lung disease. Low educational attainment among young adults is strongly associated with low income and poor health status. The level of a person's education is modifiable.



DATA SOURCE: *Current Population Survey, US Census Bureau.*

#### DATA HIGHLIGHTS

- In 2000, 75.1 percent of persons aged 18–24 years completed high school in Colorado, similar to the national average of 74.7 percent.
- Females (78.4 percent) in this age group were more likely to complete high school than males (72 percent).
- Non-Hispanic Whites aged 18–24 years were more likely to complete high school (78.8 percent) than African-Americans (72.8 percent). Hispanics were significantly less likely to complete high school (51.5 percent) than the overall population (75.1 percent).
- The proportion of persons in this age group who completed high school was higher in 1990 than in 2000, in both Colorado and the U.S.

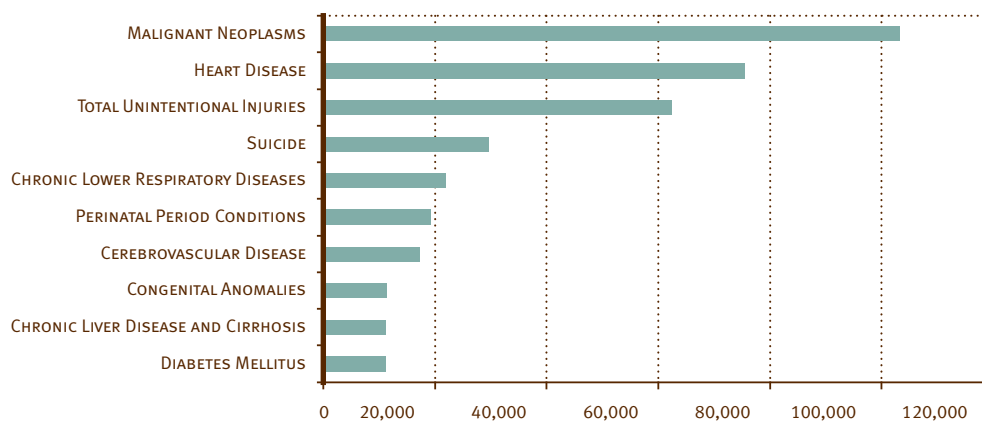
## INDICATOR 61

### Premature Mortality

Multiple chronic diseases, including heart disease, cancer, stroke, chronic lung disease, and diabetes are associated with modifiable risk factors that can lead to premature mortality. Premature mortality from all causes is a key approximation of preventable deaths.

Premature mortality is often measured by years of potential life lost (YPLL), which is based on estimating the average time a person would have lived had he or she not died prematurely; in these cases, either before life expectancy or before the age of 65 years.

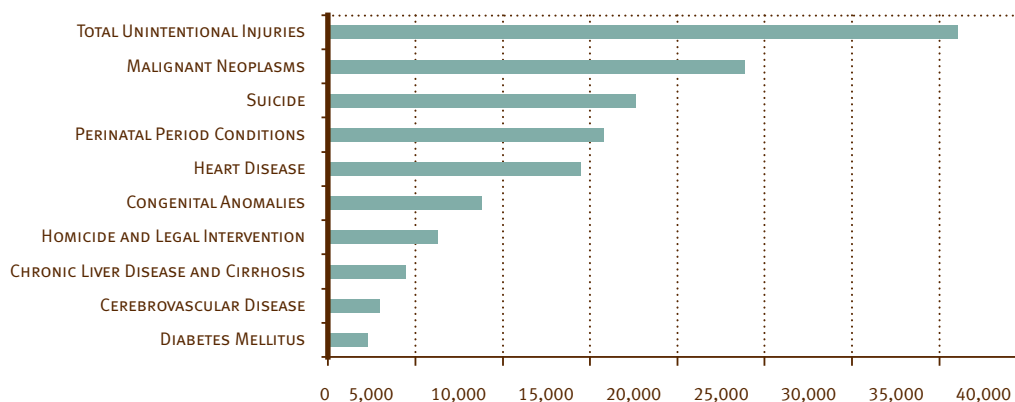
**Years of Potential Life Lost (YPLL) Before Life Expectancy,  
Top 10 Causes of Death: Colorado Residents, 2005**



DATA SOURCE: *Vital Statistics, Health Statistics Section, CDPHE.*

Malignant neoplasms accounted for 21 percent of YPLL before life expectancy in 2005, followed by heart disease (15 percent), unintentional injuries (13 percent) and suicide (6 percent).

**Years of Potential Life Lost (YPLL) Before Age 65 Years,  
Top 10 Causes of Death: Colorado Residents, 2005**



DATA SOURCE: *Vital Statistics, Health Statistics Section, CDPHE.*

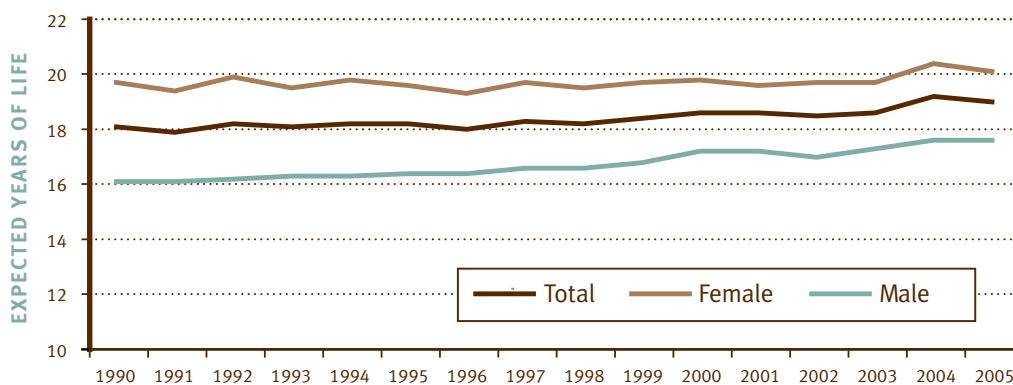
Unintentional injuries accounted for 21 percent of YPLL before age 65 years in 2005, followed by malignant neoplasms (14 percent), suicide (10 percent) and perinatal period conditions (9.4 percent).

## INDICATOR 62

### Life Expectancy at Age 65 Years

Life expectancy at age 65 years reflects health status and health care access among the elderly. Life expectancy is the average number of years that adults aged 65 years in a given year would live if they were to experience the same age-specific death rates throughout the remainder of their lives that occurred in that year.

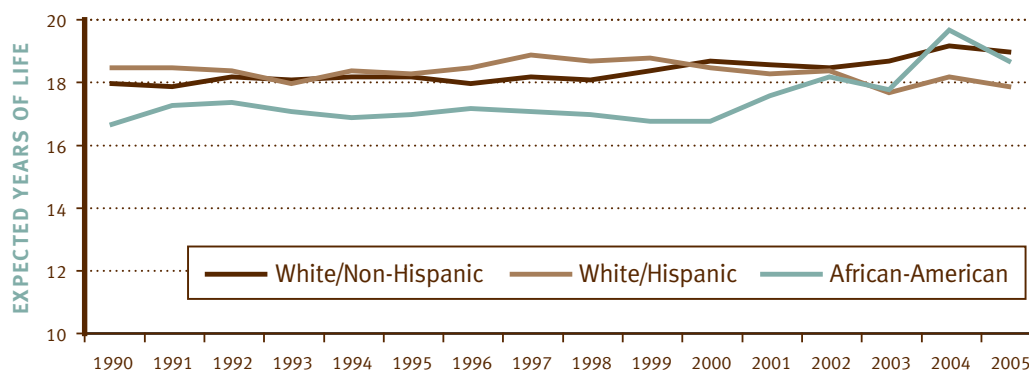
**Life Expectancy at Age 65 Years by Sex: Colorado Residents, 1990-2005**



DATA SOURCE: *Vital Statistics, Health Statistics Section, CDPHE.*

In 2005, life expectancy at age 65 years was 18.9 years (20.0 years for females, 17.5 for males). In the U.S. in 2003 (most current data available), life expectancy at age 65 years was 18.4 years (19.8 years for females, 16.8 years for males).

**Life Expectancy at Age 65 Years by Race/Ethnicity: Colorado Residents, 1990-2005**



DATA SOURCE: *Vital Statistics, Health Statistics Section, CDPHE.*

In 2005, life expectancy at age 65 years for non-Hispanic Whites was 18.9 years, 17.8 years for Hispanics and 18.6 years for African-Americans. African-Americans experienced the greatest increase over time (2.0 years since 1990).

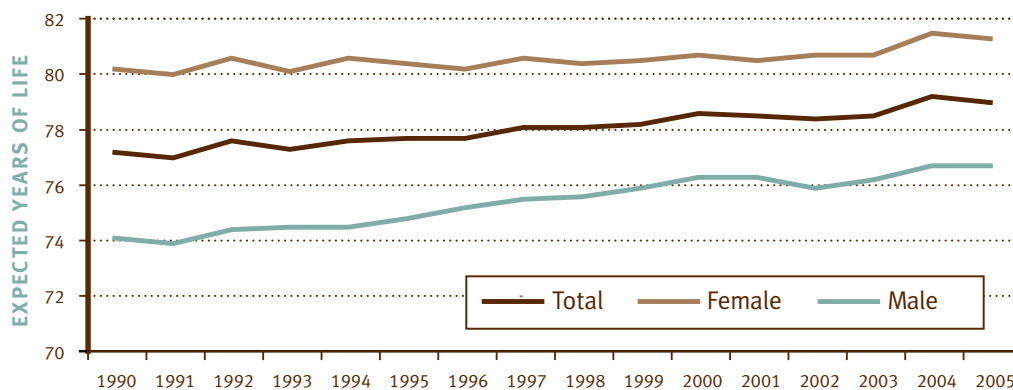


## INDICATOR 63

### Life Expectancy at Birth

Life expectancy at birth measures health status across all age groups. Life expectancy is the average number of years that newborns in a given year would live if they were to experience the same age-specific death rates throughout their lives that occurred in that year.

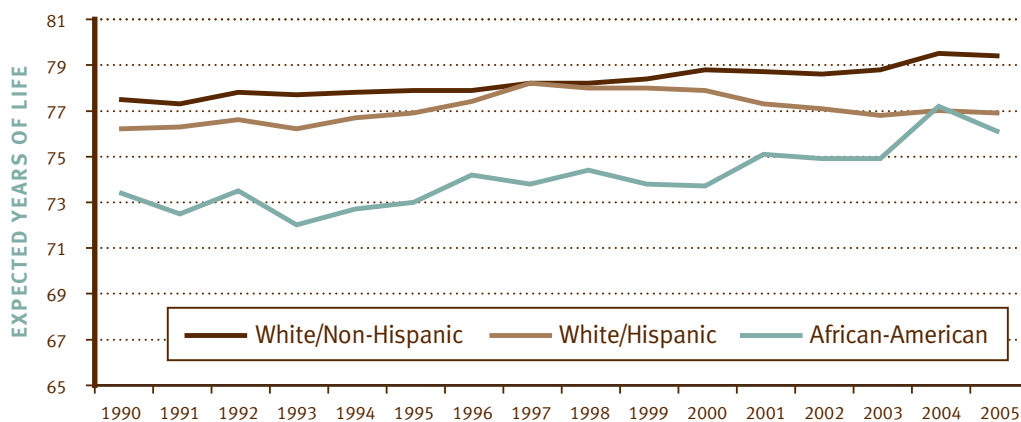
**Life Expectancy at Birth by Sex: Colorado Residents, 1990-2005**



DATA SOURCE: *Vital Statistics, Health Statistics Section, CDPHE.*

In 2005, life expectancy at birth was 78.9 years (81.2 years for females, 76.6 for males). In the U.S. in 2003 (most current data available), life expectancy at birth was 77.5 years (80.1 years for females, 74.8 years for males).

**Life Expectancy at Birth by Race/Ethnicity: Colorado Residents, 1990-2005**



DATA SOURCE: *Vital Statistics, Health Statistics Section, CDPHE.*

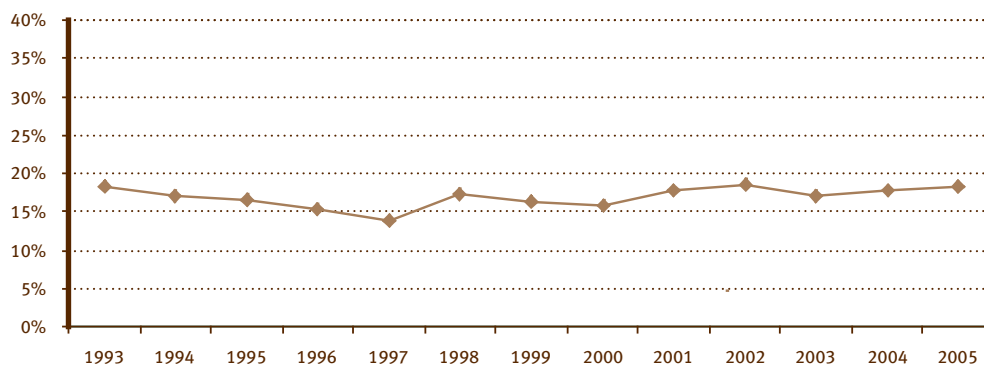
In 2005, life expectancy at birth for non-Hispanics Whites was 79.3 years, 76.8 years for Hispanics and 76.0 years for African-Americans. African-Americans experienced the greatest increase over time (2.7 years since 1990).

## INDICATOR 64

### Current Lack of Health Insurance Among Adults aged 18–64 Years

Lack of health insurance remains a major determinant of access to necessary health services, including preventive care. Certain socioeconomic conditions, including a lack of health insurance coverage and poverty, are associated with poor health status and chronic disease.

**Proportion of Adults Age 18–64 Who Have No Health Care Coverage, Colorado, 1993–2005**



DATA SOURCE: *Behavioral Risk Factor Surveillance System, CDPHE.*

#### 2005 DATA HIGHLIGHTS

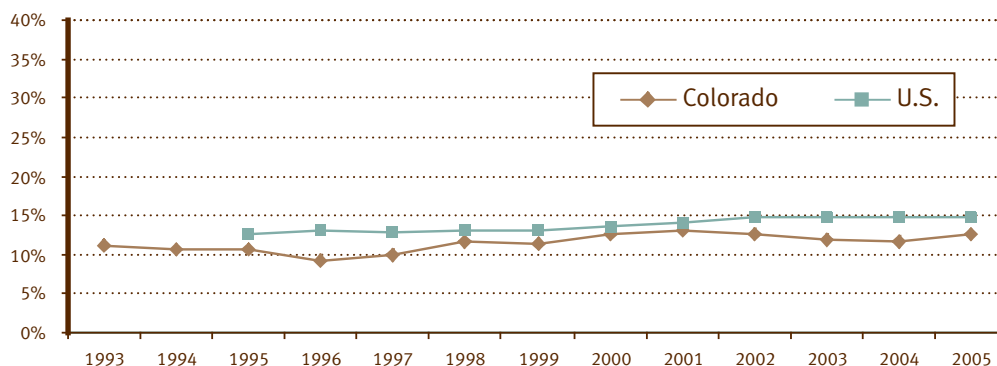
- In Colorado, 18.3 percent of adults aged 18–64 did not have health care coverage.
- A higher proportion of men (20 percent) than women (16.5 percent) lacked health care coverage.
- Lack of health care coverage declined statistically with age: 33.2 percent for ages 18–24, 15.4 percent for ages 35–44 and 8.5 percent for ages 55–64 lacked health care coverage.
- A statistically higher proportion of Hispanics (41.9 percent) did not have health care coverage compared to African-Americans (21.7 percent) and non-Hispanics Whites (12.5 percent).
- Lack of health care coverage declined statistically with increasing education. While more than half (54.9 percent) of adults aged 18–64 with less than a high school education did not have health care coverage, only seven percent of adults aged 18–64 with a college degree lacked health care coverage.
- Lack of health care coverage declined statistically as income increased, from 45.2 percent among adults with annual income of less than \$25,000 to 25.9 percent among adults with annual income between \$25,000 and \$34,999, 16.2 percent among adults with annual income between \$35,000 and \$49,999 to 5.2 percent among adults with annual income of \$50,000 or more.

## INDICATOR 65

### Self-Assessed Health Status Among Adults aged 18 years and Older

Self-assessed health status is a strong measure of overall health status and has been demonstrated to correlate with subsequent health service use, functional status and mortality. In Colorado, the proportion of adults aged 18 and older who report fair or poor health status has fluctuated around 12 percent since 1993. Nationally, the proportion of adults who report fair or poor health status has gradually risen from 12.7 percent in 1995 to 14.8 percent in 2005.

**Proportion of Adults Aged 18 and Older Reporting Fair or Poor General Health, Colorado and the U.S., 1993-2005**



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. Behavioral Risk Factor Surveillance System, CDC

#### 2005 DATA HIGHLIGHTS

- In Colorado, 12.7 percent of adults aged 18 and older reported fair or poor health status.
- The percentage of women who reported fair or poor health status (14.0 percent) was statistically higher than the percentage of men who reported fair or poor health status (11.3 percent).
- Fair or poor health status increased statistically with age. Among adults aged 18–44, prevalence of fair or poor health was only 9.4 percent. Prevalence rose to 14.2 percent among adults aged 45–74 and to 31.5 percent among adults aged 75 and older.
- 25.3 percent of Hispanics reported fair or poor health. This rate was statistically higher than that

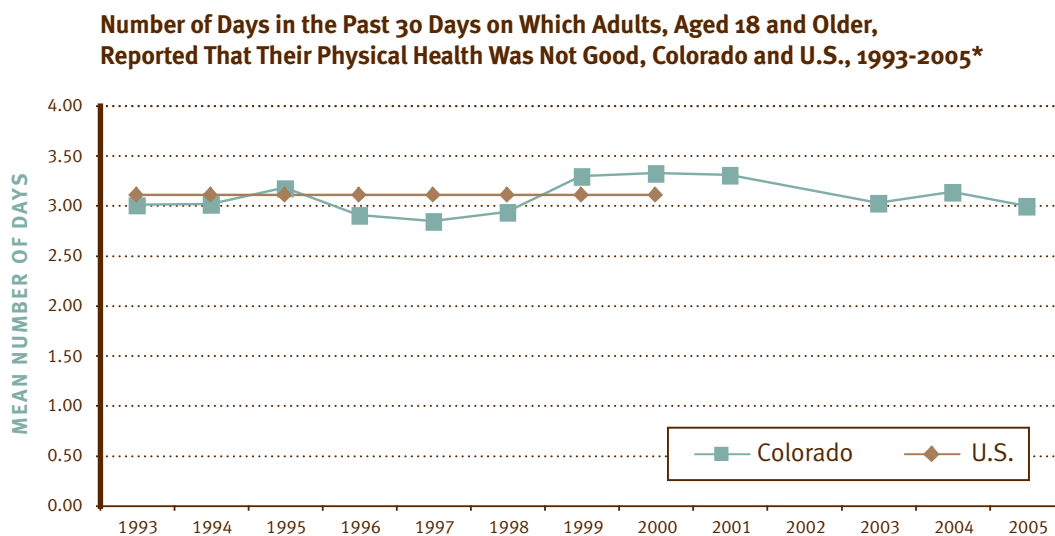
reported by non-Hispanic Whites (9.7 percent). Fifteen (15.3) percent of African-Americans reported fair or poor health.

- Health status improved statistically with increasing education. More than 1 in 3 (34.2 percent) adults with less than a high school education reported fair or poor health status, compared to 1 in 20 (5.5 percent) adults with a college degree.
- Thirty-six (36.4) percent of adults earning less than \$15,000 annually reported fair or poor health; this rate declined statistically as income increased, with only 4.3 percent of adults earning \$75,000 or more annually reporting fair or poor health.

## INDICATOR 66

### Recent Physical Health Among Adults Aged 18 Years and Older

Poor physical health interferes with social functioning, is associated with health behavior and should be monitored as an indicator of overall chronic disease burden. Recent physical health is used with recent mental health to estimate the mean number of unhealthy days (i.e., days with impaired physical or mental health) during the previous 30 days—a summary measure of population health.



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. \*No data available for 2002

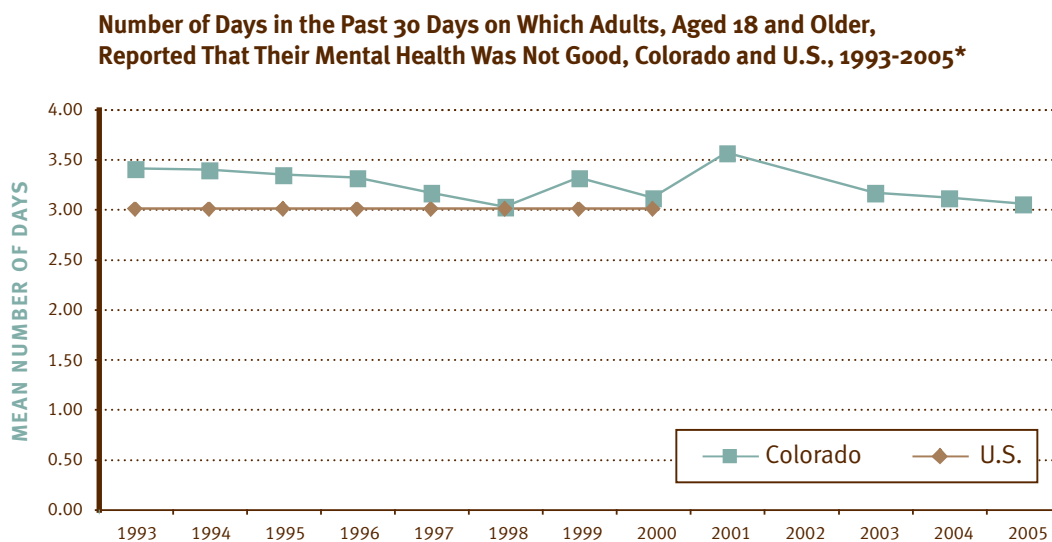
#### 2005 DATA HIGHLIGHTS

- The average number of days of poor physical health for Coloradans in the past month was 2.99. This number has remained fairly constant over the last decade (ranging from 2.84 to 3.32 days of poor physical health).
- Women (3.45 days) reported a statistically higher average number of days of poor physical health than men (2.53 days).
- The average number of days of poor physical health increased with age, with 2.05 days for ages 18–24, 2.22 days for ages 25–44, 3.69 days for ages 45–64 and 4.72 days for ages 65 and older. The number of days is statistically higher for persons aged 45–64 and 65 and older.
- A similar number of days of poor physical health was reported by non-Hispanic Whites (2.89 days) and Hispanics (2.86 days), while the number of days for African-Americans (3.16 days) was slightly higher.
- The average number of days of poor physical health decreased as income level increased, from 4.86 days among adults with annual income of less than \$25,000, to 3.39 days among adults with annual income between \$25,000 and \$34,999, 2.63 days among adults with income between \$35,000 and \$49,999 and to 2.08 days among adults with annual income of \$50,000 or more.

## INDICATOR 67

### Recent Mental Health Among Adults Aged 18 Years and Older

Poor mental health interferes with social functioning, is associated with health behavior and should be monitored as an overall indicator of chronic disease burden. Recent mental health is used with recent physical health to estimate the mean number of unhealthy days (days with impaired physical or mental health) during the previous 30 days—a summary measure of population health.



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. \* No data available for 2002

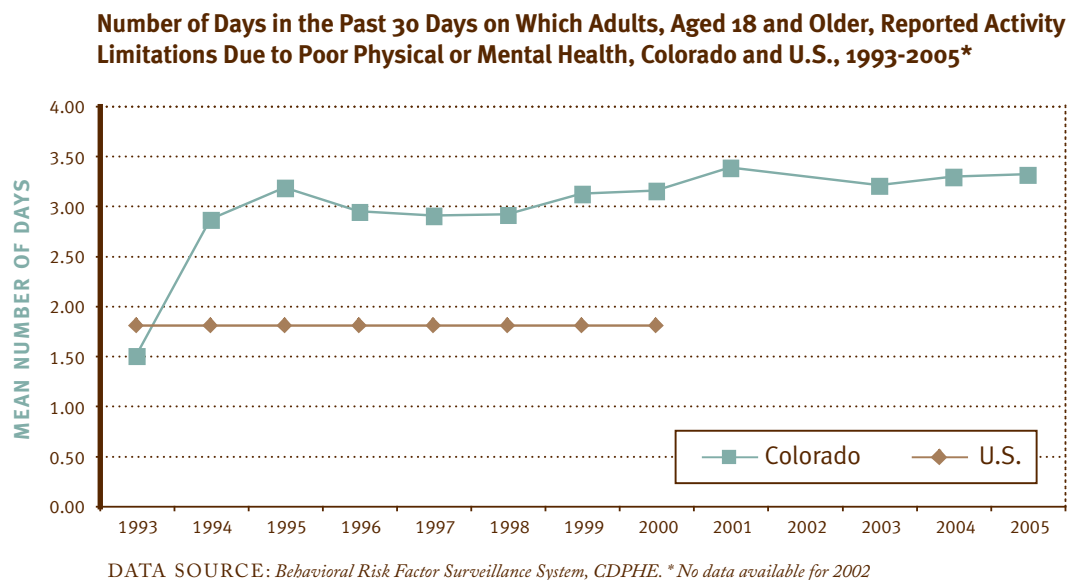
#### 2005 DATA HIGHLIGHTS

- The average number of days of poor mental health for Coloradans in the past month was 3.05. This number has remained fairly constant over the last decade (ranging from 3.02 to 3.56 days of poor mental health).
- Women (3.58 days) reported a statistically higher average number of days of poor mental health than men (2.51 days).
- The average number of days of poor mental health for each ten-year age group was 4.06 days for ages 18–24, 3.27 days for ages 25–44, 3.01 days for ages 45–64 and 1.48 days for ages 65 and older. The number was highest in the youngest age group, with the number being statistically lower for persons age 65 and older.
- Non-Hispanic Whites reported a lower number of days of poor mental health (2.89 days) than African-Americans (3.32 days) and Hispanics (3.51 days).
- The average number of days of poor mental health was statistically higher for persons with annual incomes less than \$25,000 (4.55 days) than for persons with incomes more than \$50,000 (2.22 days). Adults with annual income of \$35,000 to \$50,000 averaged 3.43 days, and adults with annual income of \$25,000 to \$34,999 averaged 3.37 days.

## INDICATOR 68

### Recent Activity Limitation Among Adults Aged 18 Years and Older

Experiencing activity limitations because of poor physical or mental health interferes with social functioning, is associated with health behavior and is an indicator of population productivity. A measure of disability burden should be monitored as a chronic condition.



#### 2005 DATA HIGHLIGHTS

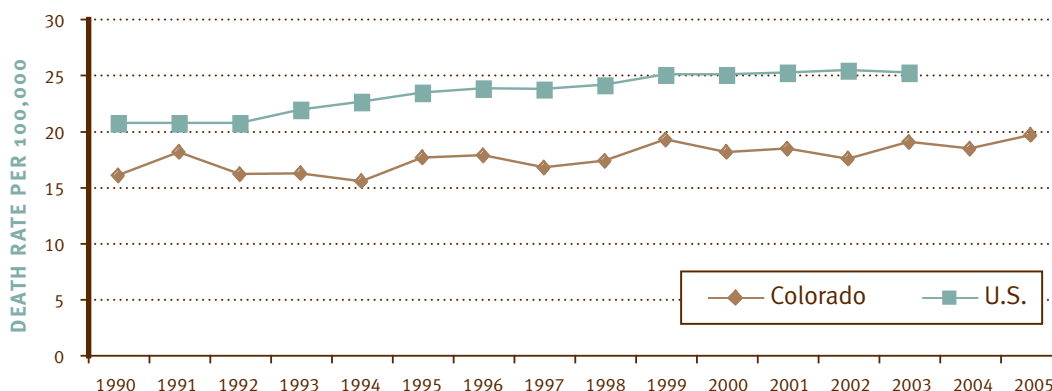
- The average number of days Coloradans reported limiting activities due to physical, mental or emotional problems in the last 30 days was 3.31. Since 1994, this number has ranged from 2.86 to 3.38.
- Women (3.45 days) reported a somewhat higher average number of days of activity limitation than men (3.16 days).
- The average number of days of activity limitation for each ten-year age group was 2.54 days for ages 18–24, 2.45 days for ages 24–44, 4.14 days for ages 45–64 and 5.60 days for ages 65 and older. Persons aged 45–64 and 65 and older reported a statistically higher number of days of activity limitation than younger persons.
- Hispanic persons reported a lower number of days of activity limitation (2.76 days) than non-Hispanic Whites (3.15 days). The average number of days for African-Americans (6.89 days) was statistically higher than both groups.
- The average number of days of activity limitation was 5.23 days for persons with annual incomes less than \$25,000, 3.31 days for persons with annual incomes of \$25,000 to \$34,999, 3.38 days for persons with annual income of \$35,000 to \$49,999 and 2.17 days for persons with annual incomes of \$50,000 or more.

## INDICATOR 69

### Mortality with Diabetes

Multiple long-term complications of diabetes can be prevented through glucose, lipid and blood pressure regulation, and through screening and treatment for eye, foot and kidney abnormalities. Means to prevent diabetes complications include improved patient education and self-management skills, as well as the provision of timely screening services and medical care.

**Age-Adjusted Mortality with Diabetes as the Underlying Cause, Colorado and U.S., 1990-2005**



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. Behavioral Risk Factor Surveillance System, CDC

#### 2005 DATA HIGHLIGHTS

- In 2003, the age-adjusted U.S. mortality rate for diabetes was 25.3 per 100,000 persons. In 2005, Colorado's rate was 19.6 per 100,000 persons.
- Diabetes mortality for males was 21.1 per 100,000, compared to 18.3 per 100,000 for females.
- Diabetes mortality rises with age. The 2005 mortality rate for each ten-year age group was 9.1 for ages 45–54, 23.6 for ages 55–64 and 123.6 for ages 65 and older.
- Diabetes mortality was highest for Hispanics (46.6 per 100,000) and African-Americans (24.1 per 100,000). Non-Hispanic Whites had the lowest rate at 16.7 per 100,000.

## INDICATOR 70

### Mortality with Diabetic Ketoacidosis

In 2006, the Council of State and Territorial Epidemiologist, Chronic Disease Directors and Centers for Disease Control and Prevention revised the chronic disease indicators and removed Diabetic Ketoacidosis as an indicator for chronic disease surveillance.

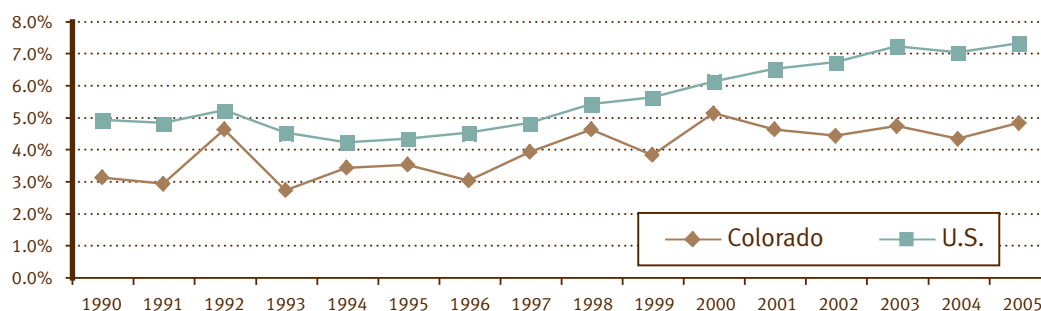


## INDICATOR 71

### Diabetes Prevalence Among Adults Aged 18 Years and Older

The burden of diabetes in the United States has grown with the increasing prevalence of obesity. Multiple long-term complications of diabetes can be prevented through improved patient education and self-management, as well as provision of adequate and timely screening services and medical care.

**Prevalence of Adults with Diabetes, Aged 18 Years and Older, Colorado and the U.S., 1990-2005**



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. Behavioral Risk Factor Surveillance System, CDC

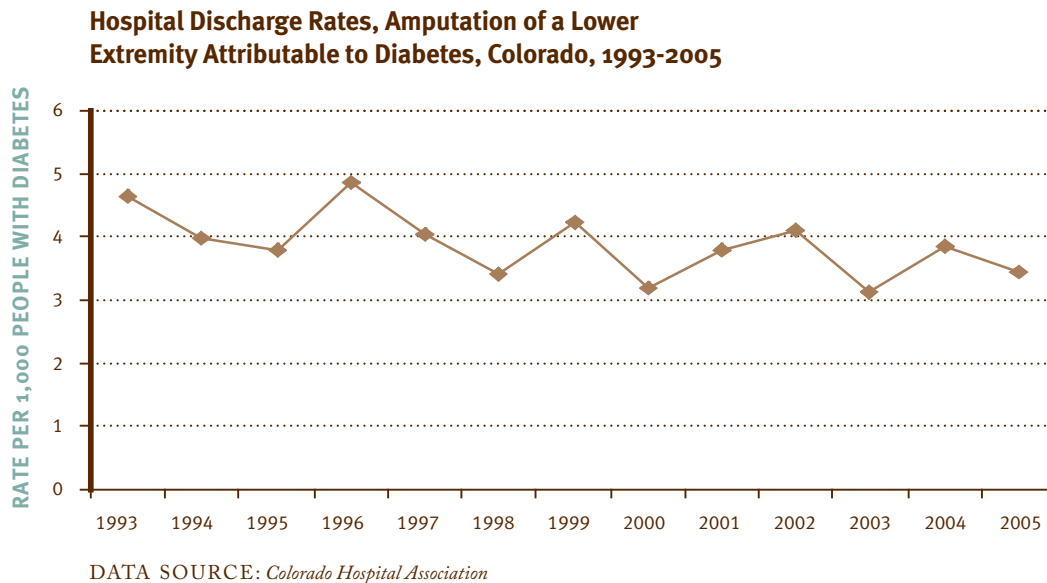
#### 2005 DATA HIGHLIGHTS

- In Colorado, the prevalence of diabetes among adults was 4.8 percent.
- The prevalence among males was 5.1 percent, and 4.4 percent among females.
- Prevalence of diabetes increased with age, with 1.46 percent for ages 18–44, 6.1 percent for ages 45–64 and 14.4 percent for ages 65 and older.
- The prevalence of diagnosed diabetes was highest among African-Americans (7.4 percent) and Hispanics (5.2 percent)
- Seven percent of adults who were not high school graduates reported being diagnosed with diabetes, whereas only 3.8 percent who had at least graduated from high school did.
- A statistically higher percentage of diagnosed diabetes prevalence was reported among adults with an annual income below \$15,000 (6.3 percent) compared to adults earning \$50,000 or more per year (3.5 percent).

## INDICATOR 72

### Amputation of a Lower Extremity Attributable to Diabetes

Multiple long-term complications of diabetes, including amputation, can be prevented through glucose, lipid and blood pressure regulation and screening and treatment for foot abnormalities. Means to prevent amputation include improved patient education and self-management.



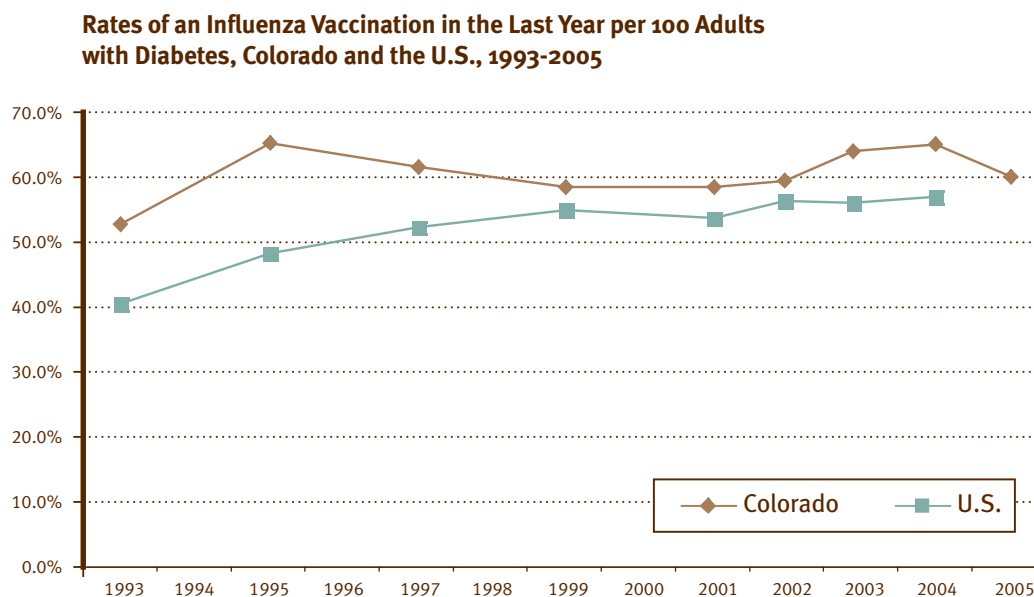
#### 2005 DATA HIGHLIGHTS

- In 2005, the lower extremity amputation rate was 3.4 per 1,000 persons with diabetes.
- The rate of lower extremity amputations among males with diabetes (5.5 per 1,000 males with diabetes) was statistically higher compared to females (3.3 per 1,000 females with diabetes).
- Hospitalizations for lower extremity amputations for people with diabetes increased with age until age 55, from 1.2 per 1,000 among those 25–34 to 4.9 per 1,000 among those aged 55 years or older.
- In general, the annual number of diabetes-related hospital discharges with lower extremity amputation as a reported procedure increased from approximately 452 in 1993 to 771 in 2005.
- The average hospitalization cost for a nontraumatic lower extremity amputation related to diabetes was \$52,637 in 2005, and the average length of hospital stay decreased from 13.1 days in 1993 to 9.2 days in 2005.

## INDICATOR 73

### Influenza Vaccination Among Adults Aged 18 Years and Older with Diabetes

An annual influenza vaccination might prevent or attenuate the clinical course of respiratory illness attributable to influenza. Compared with persons without diabetes, mortality from pneumonia and influenza has been demonstrated to be more than 7 times higher among persons with diabetes diagnosed before age 30, and approximately 2 times higher among persons with diabetes first diagnosed after age 30.



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. Behavioral Risk Factor Surveillance System, CDC

#### 2003–2005 DATA HIGHLIGHTS

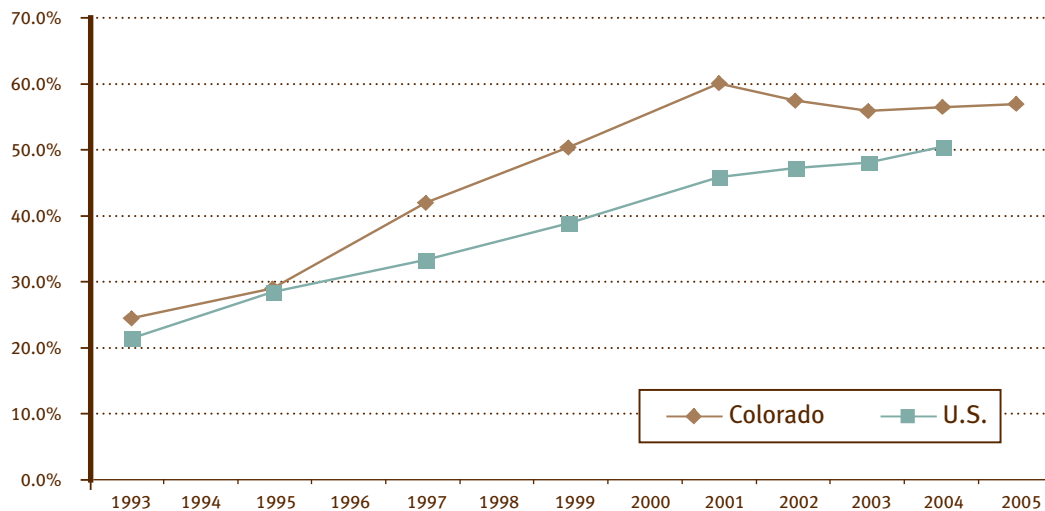
- In Colorado, approximately 59.8 percent of adults with diagnosed diabetes received a flu shot in the past year.
- A higher proportion of adult women with diabetes (68 percent) received flu shots than adult men with diabetes (52.6 percent).
- Influenza vaccination increased uniformly with age, from 27.6 percent for ages 18–44 to 57.4 percent for ages 45–64 and 77.2 percent for ages 65 years and older.
- Non-Hispanic White adult diabetics (61.0 percent) were much more likely to receive a flu shot than Hispanic adults diabetics (58.1 percent).
- Diabetic adults with less than a high school education were less likely to receive a flu shot (54.4 percent) than diabetic adults with at least a high school education (61.6 percent).
- Diabetic adults who had an annual household income less than \$25,000 (64 percent) were more likely to receive a flu shot in the past year than those who earned \$50,000 or more per year (53 percent).

## INDICATOR 74

### Pneumonia Vaccination Among Adults Aged 18 Years and Older with Diabetes

Compared with persons without diabetes, mortality from pneumonia and influenza has been demonstrated to be more than 7 times higher among persons with diabetes diagnosed before age 30, and approximately 2 times higher among persons with diabetes first diagnosed after age 30. A pneumonia vaccination might prevent or attenuate the clinical course of respiratory illness attributable to *Streptococcus pneumoniae*.

**Rates of a Pneumonia Vaccination per 100 Adults with Diabetes, Colorado and the U.S., 1993-2005**



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. Behavioral Risk Factor Surveillance System, CDC

#### 2003–2005 DATA HIGHLIGHTS

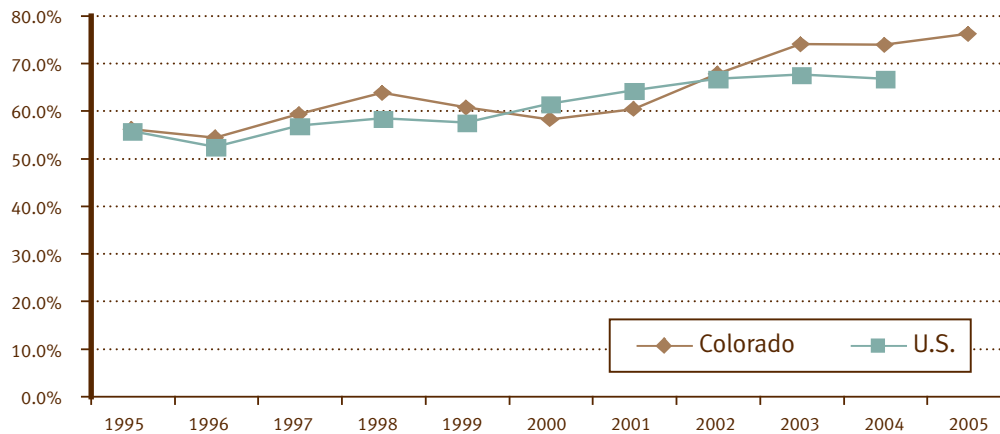
- In Colorado, the rate of pneumonia vaccination was 56.4 percent.
- Fifty-eight percent of adult women with diabetes received a pneumonia vaccination, whereas 54.7 percent of adult men with diabetes did so.
- Diabetic adults aged 65 and older (75.5 percent) were twice as likely to report having received a pneumonia vaccination than those aged 18–44 (30.4 percent), and 48 percent of adults aged 45–64 have ever had a pneumonia vaccination.
- A higher percentage of non-Hispanic White diabetic adults (61.3 percent) have received a pneumonia vaccination than Hispanic diabetics (43.1 percent).
- Only 39.5 percent of diabetic adults with less than a high school degree have ever had a pneumonia vaccination, compared to 60 percent of diabetic adults who completed high school.
- Adults with diabetes who had an annual household income of \$50,000 or more were least likely to report having had a pneumonia vaccination (48.9 percent). Diabetic adults with annual household income less than \$25,000 had the highest rate of a lifetime pneumonia vaccination (61.6 percent). Diabetic adults with annual income of \$25,000–\$49,999 had a rate of 44.1 percent.

## INDICATOR 75

### Foot Examinations Among Adults Aged 18 Years and Older with Diabetes

Persons with diabetes are at increased risk for pathologic changes of their lower extremities that, when combined with minor trauma and infection, can lead to serious foot problems or amputation. Routine and periodic foot examination can enable early detection of peripheral vascular complications. Diabetes is the leading cause of nontraumatic amputation in the United States, causing approximately 82,000 amputations per year.

**Rates of a Foot Exam in Last Year per 100 Adults with Diabetes, Colorado and the U.S., 1995-2005**



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. Behavioral Risk Factor Surveillance System, CDC

#### 2003–2005 DATA HIGHLIGHTS

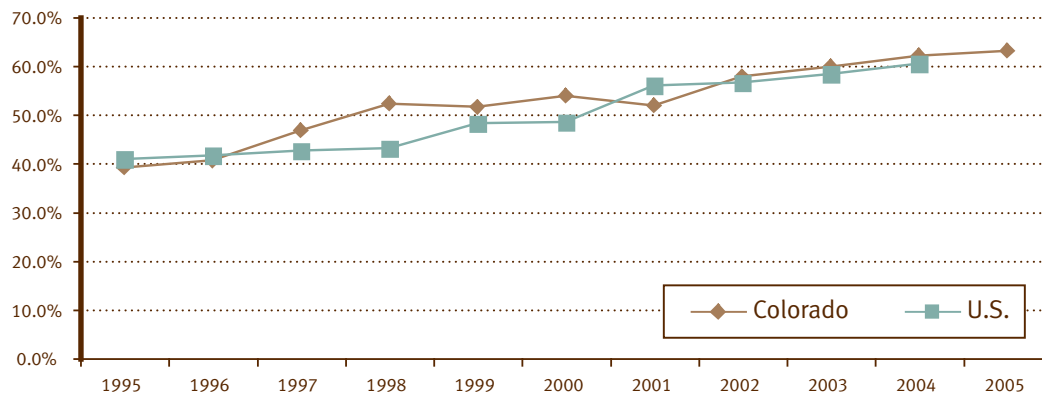
- In Colorado, the rate of foot exams among adults with diabetes was 74.2 percent.
- Approximately 76.1 percent of men and 71.9 percent of women with diabetes received a foot exam.
- Younger adults aged 18–44 years were more likely to have foot exams in the past year (80.4 percent) compared to 75.4 percent of adults aged 45–64 years old and 74.4 percent among adults aged 65 years or older.
- A higher percentage of Hispanic diabetic adults (76.8 percent) had a foot exam than non-Hispanic White diabetics (73.9 percent).
- Foot exams increased uniformly with education level, from 67.7 percent among adults with less than a high school education to 77.2 percent among adults with a high school education or more.
- More than 80.5 percent of diabetic adults with an annual household income of \$50,000 or more indicated receiving a foot exam from a health care professional in the past year, while 71.8 percent of diabetic adults whose annual household income was less than \$25,000 reported having a foot exam last year.

## INDICATOR 76

### Self-Blood Glucose Monitoring Among Adults Aged 18 Years and Older with Diabetes

Glycemic control among adults with diabetes is important in preventing or delaying the onset or progression of diabetes-related complications (e.g., retinopathy, lower extremity amputations and end-stage renal disease). Self-monitoring of blood glucose assists persons with diabetes in controlling their blood glucose.

**Rates of Daily Self-Monitoring of Blood Glucose per 100 Adults with Diabetes, Colorado and the U.S., 1995-2005**



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. Behavioral Risk Factor Surveillance System, CDC

#### 2003–2005 DATA HIGHLIGHTS

- In Colorado, 62.1 percent of adults with diagnosed diabetes reported checking their blood sugar on a daily basis.
- Sixty-five percent of adult women with diabetes reported checking their blood sugar on a daily basis, whereas 59.8 percent of adult men with diabetes did so.
- Younger adults aged 18–44 were more likely to check their blood sugar every day (74.6 percent) compared to 58 percent of adults aged 45–64 and 63.5 percent of adults aged 65 years or older.
- Only 55.5 percent of Hispanic adults diagnosed with diabetes tested their blood sugar daily, compared to 62.3 percent of non-Hispanic White adults with diabetes.
- The proportion of adults with diabetes who checked their blood sugar daily was greater among those with more than a high school education (62.9 percent) than those with less than a high school education (55.9 percent).
- The proportion of adults with diabetes who checked their blood sugar daily increased slightly as income levels increased. Sixty (60.7) percent of those earning less than \$25,000 annually checked their blood sugar daily, while 63.1 percent of adults with diabetes earning between \$25,000 and \$49,999 annually and 63.6 percent of adults with diabetes earning \$50,000 or more annually checked their blood sugar daily.

## INDICATOR 77

### Dilated Eye Examination Among Adults Aged 18 Years and Older with Diabetes

Routine dilated eye examinations can lead to early detection and effective treatment of complications. Persons with diabetes are at increased risk for blindness as a result of retinopathy. Diabetes is the leading cause of new cases of blindness among adults aged 20–74 years.

**Rates of Dilated Eye Exam in the Last Year per 100 Adults with Diabetes, Colorado, 1995–2005**



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE. Behavioral Risk Factor Surveillance System, CDC

#### 2003–2005 DATA HIGHLIGHTS

- In Colorado, 70.5 percent of diabetic adults in Colorado reported having a dilated eye exam within the past year.
- Approximately the same proportion of men (69.1 percent) and women (72.2 percent) had a dilated eye exam.
- Adults with diabetes aged 65 years and older (77.7 percent) were more likely to have their eyes dilated in the past year than other age groups. Approximately 69 percent of adults with diabetes aged 18–64 had their eyes examined in the past year.
- Hispanic adults with diagnosed diabetes were less likely to have a dilated eye exam in the past year

(63.6 percent), compared to non-Hispanic White adults (72.0 percent).

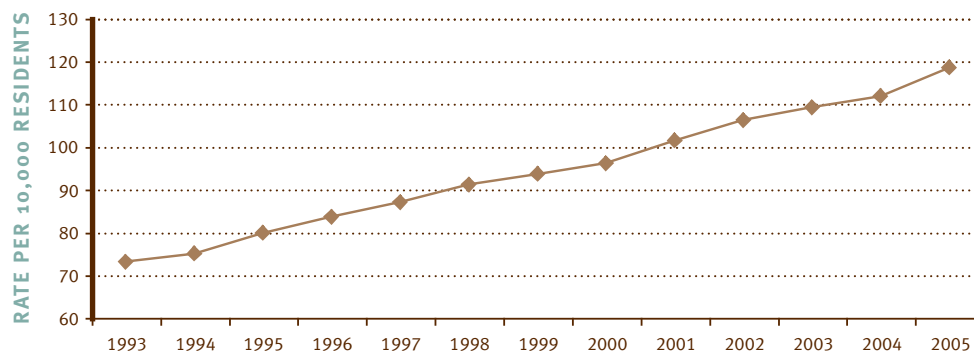
- Dilated eye exams increased uniformly with education, from 56.2 percent among adults with less than a high school education to 67.1 percent among adults with at least a high school education and 75.3 percent among adults with some college education.
- Rates of dilated eye exams were statistically higher among adults with an annual household income of \$50,000 or more (78.4 percent), compared to adults with a household income of \$25,000–\$49,999 (66.6 percent) and less than \$25,000 (63.2 percent).

## INDICATOR 78

### Hospitalization with Diabetes

Long-term complications of diabetes requiring hospitalization can be prevented through glucose, lipid and blood pressure regulation, as well as screening and treatment for eye, foot and kidney abnormalities. Patient education, self-management and medical care can prevent complications.

**Hospital Discharge Rates with Any Mention of Diabetes as a Listed Diagnosis by Year, Colorado, 1993-2005**



DATA SOURCE: *Colorado Hospital Discharge Data, Colorado Hospital Association.*

#### 2005 DATA HIGHLIGHTS

- In 2005, there were more than 55,000 hospitalizations with a diagnosis of diabetes. This represents approximately 11.5 percent of hospitalizations for Colorado residents. Of the 55,266 hospitalizations with a diabetes diagnosis, 8 percent had diabetes listed as the principal diagnosis, suggesting that the reason for the hospital admission was a direct result of diabetes. The remaining hospitalizations with a diabetes diagnosis (92 percent) had diabetes listed as a secondary (any mentioned) diagnosis. Such hospitalizations include those with long-term complications of diabetes.
- The hospital discharge rates have increased steadily since the early 1990s. The overall change from 1993 (73 per 10,000 persons) to 2005 (119 per 10,000 persons) represents an increase of 63 percent.
- Hospitalizations where diabetes was one of the mentioned diagnoses accounted for more than 256,000 hospital days and incurred more than \$1.5 billion in hospital charges in 2005.
- In 2005, the average length of hospitalization was approximately 5 days, and average charge per hospitalization was nearly \$28,000.
- In 2005, patients aged 65 and older accounted for more than half (54 percent) of hospitalizations for diabetes.

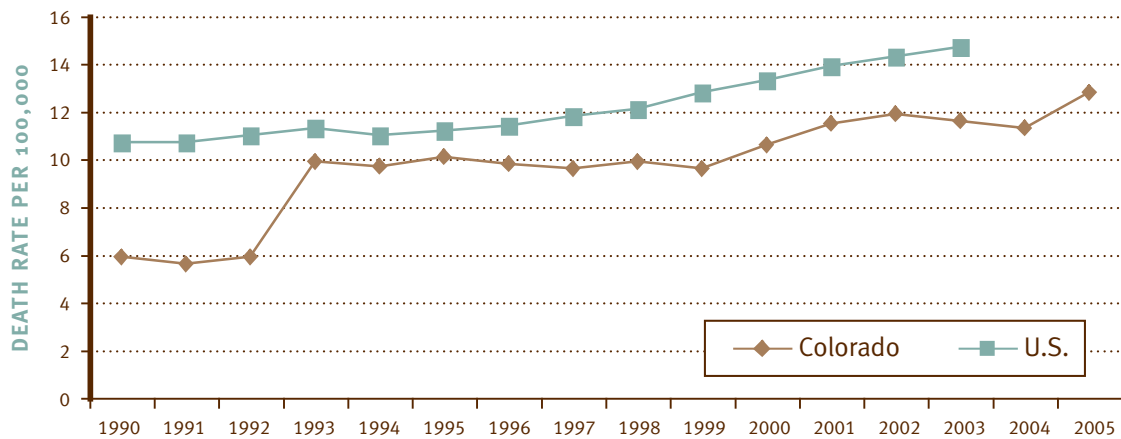


## INDICATOR 79

### Mortality From End-Stage Renal Disease as Underlying Cause

The complications of diabetes and hypertension, including end-stage renal disease (ESRD), can be prevented through improved patient education and self-management, as well as provision of adequate and timely medical care, including blood glucose and blood pressure control.

**Age-Adjusted Mortality from End-Stage Renal Disease as the Underlying Cause, Colorado and U.S., 1990-2005**



DATA SOURCE: Vital Statistics, Health Statistics Section, CDPHE. National Vital Statistics System, National Center for Health Statistics, CDC.

#### 2005 DATA HIGHLIGHTS

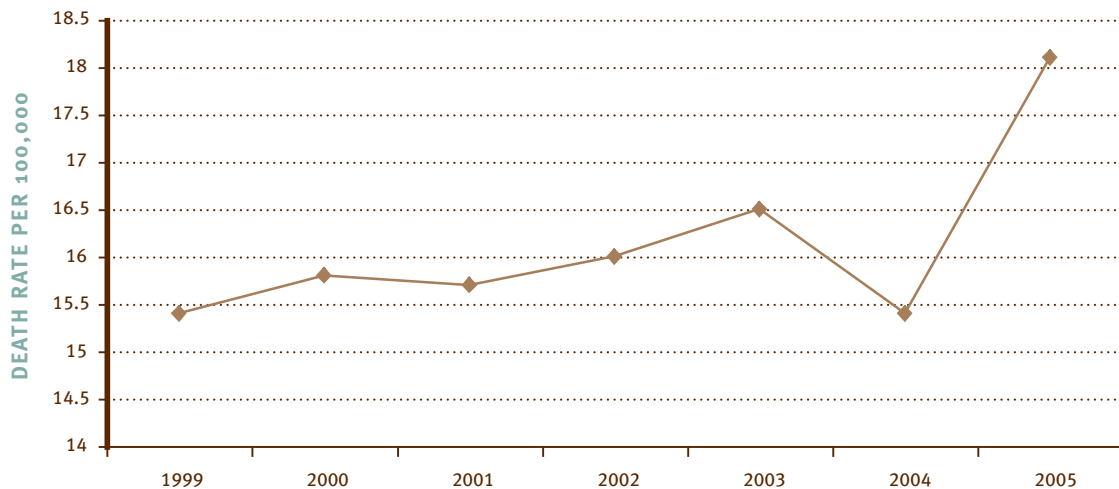
- In Colorado, the age-adjusted mortality rate for end-stage renal disease (ESRD), as the underlying cause, was 12.8 per 100,000 persons. The U.S. rate in 2003 was 14.7 per 100,000.
- ESRD mortality for males was 10.3 per 100,000 compared to 9.5 per 100,000 for females.
- ESRD mortality rises dramatically with age. In 2005, the mortality rate per 100,000 was 2.7 for ages 45–54, 7.2 for ages 55–64, 33.7 for ages 65–74 and 319.6 for ages 75–84. ESRD mortality rates were lowest among Hispanics (5.1 per 100,000) compared to African-Americans (9.8) and non-Hispanic Whites (10.6).

## INDICATOR 80

### Mortality With End-Stage Renal Disease

The complications of diabetes and hypertension, including end-stage renal disease (ESRD), can be prevented by improved patient education and self-management, as well as the provision of adequate and timely medical care, including blood glucose and blood pressure control.

**Age-Adjusted Mortality from End-Stage Renal Disease as Any Mentioned Cause, Colorado, 1999-2005**



DATA SOURCE: *Vital Statistics, Health Statistics Section, CDPHE, National Vital Statistics System, National Center for Health Statistics, CDC.*

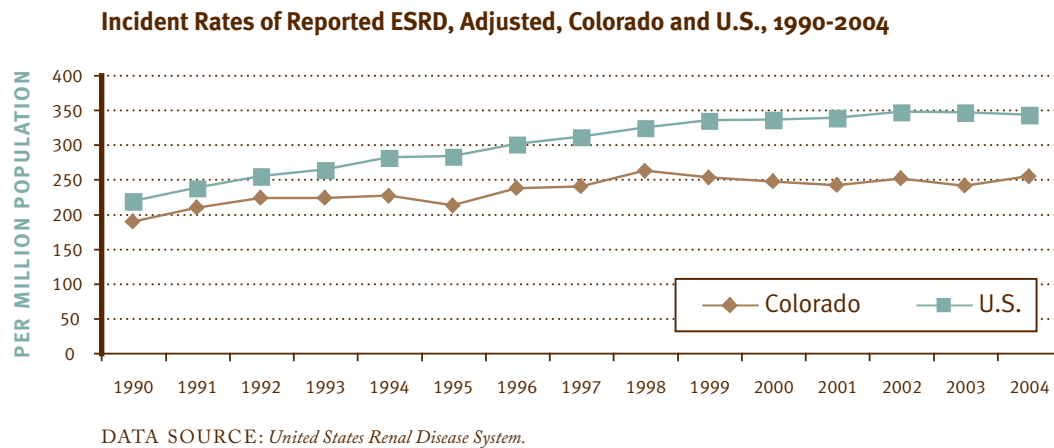
#### 2005 DATA HIGHLIGHTS

- In Colorado, the age-adjusted mortality rate for end-stage renal disease (ESRD), as any mentioned cause, was 18.1 per 100,000 persons.
- ESRD mortality for males (45.1 per 100,000) was slightly higher compared to females (42.7 per 100,000).
- ESRD mortality rises dramatically with age. In 2005, the mortality rate per 100,000 persons was 10.9 for ages 45–54, 34.1 for ages 55–64, 124.2 for ages 65–74 and 334.5 for ages 75–84. ESRD mortality was highest among African-Americans (48.1 per 100,000 persons), followed by non-Hispanic Whites (46.9), Hispanics (35.6), Asians (22.4) and American Indians (17.7).

## INDICATOR 81

### Incidence of Treated End-Stage Renal Disease

The complications of diabetes and hypertension, including end-stage renal disease (ESRD), can be prevented by improved patient education and self-management, as well as the provision of adequate and timely medical care, including blood glucose and blood pressure control.



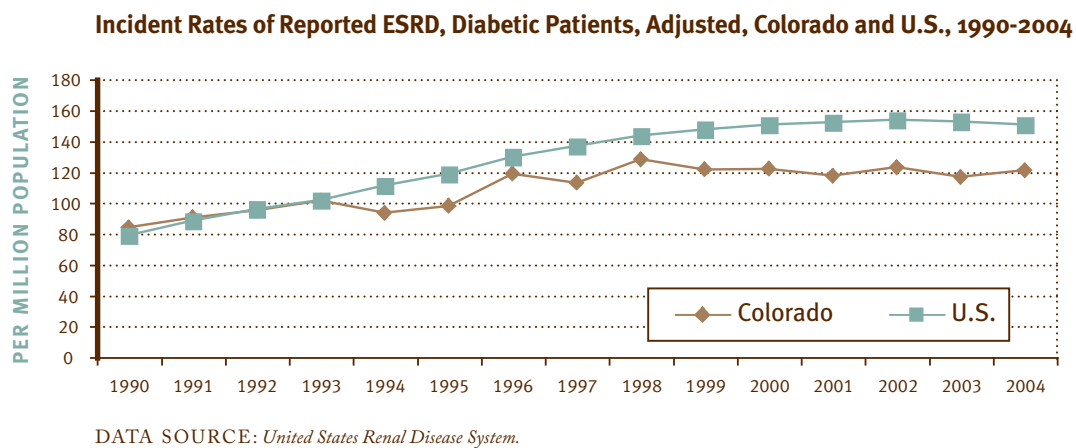
#### 2004 DATA HIGHLIGHTS

In Colorado, adjusted incidence rate for end-stage renal disease (ESRD) was 253.4 per million population. The U.S. rate for the same year was 342.4 per million population. The Colorado rates have been consistently lower than the national rates since the early 1990s.

## INDICATOR 82

### Incidence of Treated End-Stage Renal Disease Attributed to Diabetes

The incidence of ESRD among persons with diabetes can be prevented through improved patient education and self-management, as well as provision of adequate and timely medical care, including blood glucose and blood pressure control.



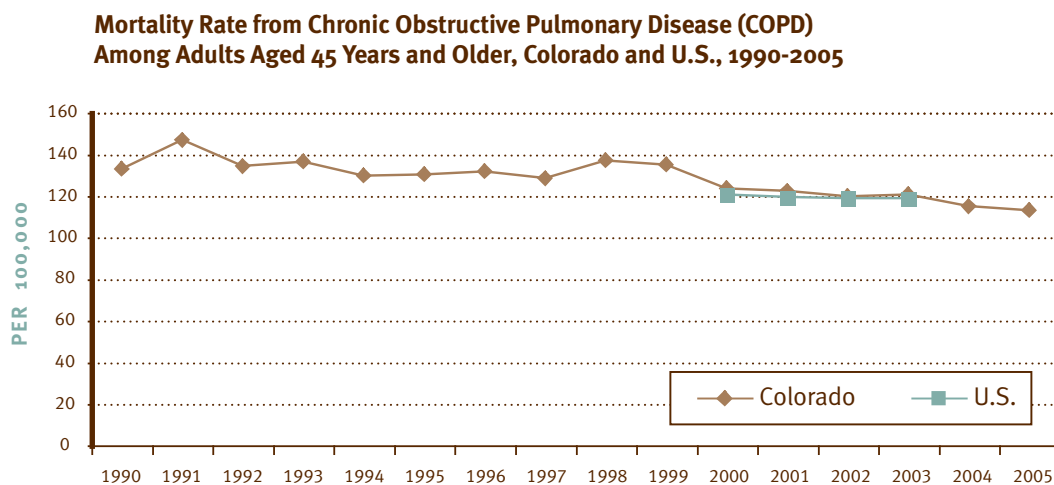
#### 2004 DATA HIGHLIGHTS

In Colorado, adjusted incidence rate for end-stage renal disease for diabetic patients was 120.9 per million population. The U.S. rate for the same year was 150.4 per million population.

## INDICATOR 83

### Mortality with Chronic Obstructive Pulmonary Disease Among Adults Aged 45 Years and Older

Elimination of tobacco use is the most effective way to reduce chronic obstructive pulmonary disease (COPD) because approximately 90 percent of COPD cases are attributable to smoking. Other risk factors for COPD include ambient air pollution and occupational exposure.



DATA SOURCE: *Vital Statistics, Health Statistics Section, CDPHE.*

#### 2005 DATA HIGHLIGHTS

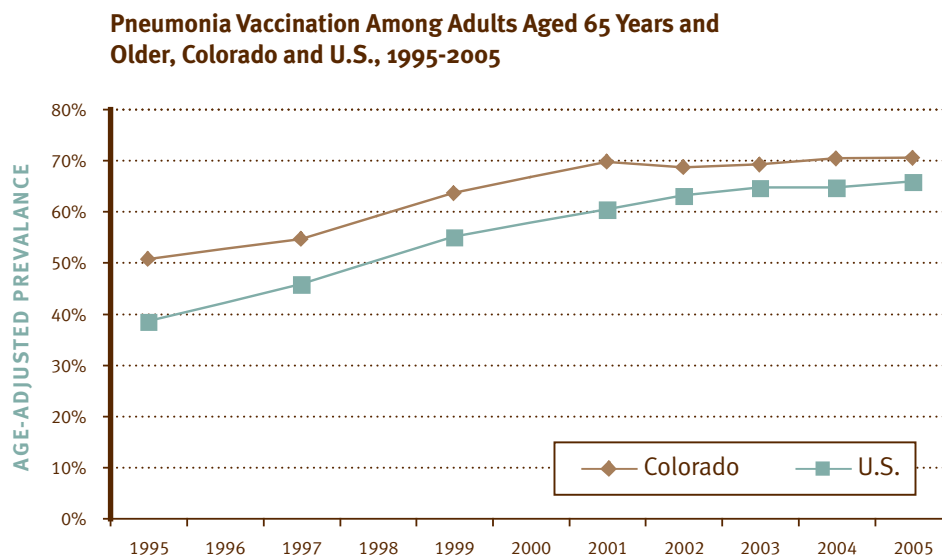
- In 2003, the national mortality rate from chronic obstructive pulmonary disease (COPD) among adults aged 45 years and older was 118.7 per 100,000. The 2005 mortality rate in Colorado was 113.1 per 100,000.
- COPD mortality in 2005 was higher for males (121.3 per 100,000) compared to that of females (105.5 per 100,000).

- COPD mortality rises dramatically with age. In 2005, the mortality rate per 100,000 persons was 3.7 for ages 45–49, 18.7 for ages 50–64 and 314.3 for ages 65 and older. COPD mortality for non-Hispanic Whites (124.2 per 100,000 persons) was twice the rate of African-Americans (60.5 per 100,000) and statistically higher than Hispanics (70.1 per 100,000).

## INDICATOR 84

### Pneumonia Vaccination Among Adults Aged 65 Years and Older

Ever having received a pneumococcal vaccination might prevent or attenuate the clinical course of respiratory illness attributable to *Streptococcus pneumoniae*. Invasive pneumococcal disease kills nearly 5,000 people in the United States each year, most of them 65 years of age or older. A single dose of pneumococcal vaccine is recommended for most persons 65 years or older. With the aging of the population, increasing numbers of adults will be at risk for these diseases and their complications.



DATA SOURCE: Behavioral Risk Factor Surveillance System, Health Statistics Section, CDPHE.

#### 2005 DATA HIGHLIGHTS

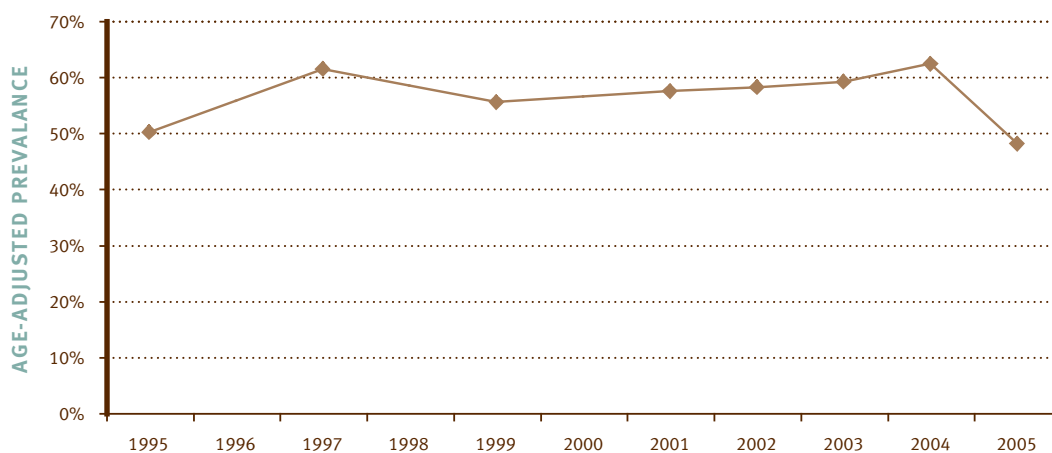
- In 2005, 61.2 percent of Colorado adults aged 65–74 reported ever receiving a pneumonia vaccination, and 80.6 percent of adults aged 75 years and older had been vaccinated.
- Pneumonia vaccination did not vary by gender with 69.8 percent of men aged 65 years and older reporting vaccination and 70.4 percent of females of the same age group reported vaccination.
- There were significant discrepancies in pneumococcal vaccination for adults aged 65 and older by ethnicity. A higher proportion of non-Hispanic Whites (72.1 percent) reported vaccination than Hispanics (45.2 percent).
- There was no pattern for pneumonia vaccination for persons aged 65 and older based on income. For this age group, 72 percent with annual incomes under \$25,000 had been immunized, 73.1 percent with annual incomes between \$25,000 and \$50,000 had been immunized, and 61.1 percent with annual incomes over \$50,000 had received their immunization.

## INDICATOR 85

### Influenza Vaccination Among Adults Aged 50 Years and Older

Each year, influenza infections result in an annual average of 36,000 deaths nationally (more than 90 percent of deaths among adults ages 65 and older) and 110,000 pneumonia and influenza hospitalizations. Annual vaccination might prevent or attenuate the clinical course of the respiratory infection due to influenza. With the aging population, increasing numbers of adults will be at risk. To increase influenza vaccination among persons aged 50–64 years with medical conditions associated with increased risk of complications from influenza infection, the Advisory Committee on Immunization Practices has recommended that the age for annual influenza vaccination be lowered from age 65 to age 50.

**Influenza Vaccination Among Adults Aged 50 Years and Older, Colorado, 1995-2005**



DATA SOURCE: *Behavioral Risk Factor Surveillance System, Health Statistics Section, CDPHE.*

#### 2005 DATA HIGHLIGHTS

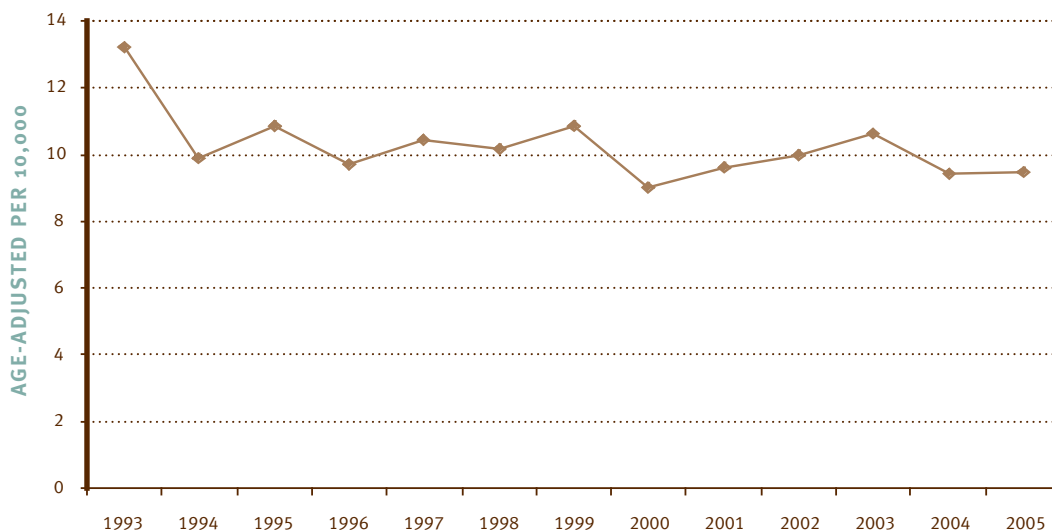
- In 2005, 48.3 percent of Coloradans aged 50 and older received a flu vaccine.
- A statistically higher proportion of Coloradans aged 65 years and older (74.7 percent) received a flu vaccine than those aged 50–64 years (32.9 percent).
- A statistically higher proportion of women older than 50 years of age (51.7 percent) reported receiving an influenza vaccination in the last year than men in that age group (44.0 percent).
- Non-Hispanic White adults aged 50 years and older (49.2 percent) received their influenza vaccine at the highest proportion, as compared to African-American adults (44.3 percent) and Hispanic adults (42.0 percent).
- Persons aged 50 years and older with annual incomes greater than \$50,000 received flu vaccination in significantly lower proportions (41.1 percent) than persons with annual incomes between \$25,000 and \$50,000 (50.1 percent) and those with annual incomes less than \$25,000 (54.3 percent).

## INDICATOR 86

### Hospitalization with Asthma

The majority of problems associated with asthma, including hospitalization, are preventable if asthma is managed according to established guidelines. Effective management includes control of exposure to factors that trigger exacerbations, adequate pharmacological management, continual monitoring of the disease and patient education in asthma care.

**Hospitalization with Asthma among Colorado Residents, 1993-2005**



DATA SOURCE: *Colorado Hospital Association.*

#### 2005 DATA HIGHLIGHTS

- Between 1993 and 2005, the rate of asthma hospitalization among Colorado residents dropped from a high of 13.2 per 10,000 in 1993 to 9.5 in 2005, with an average rate of 10.2 per 10,000 for the period.
- Females had a statistically higher rate (58.9 percent) of hospitalizations for asthma in 2005 with an age-adjusted rate of 11.01 per 10,000, compared to a statistically lower age-adjusted rate in men of 7.75 per 10,000.
- The trend of age-specific asthma hospitalization follows a bell-like curve, with the highest rates occurring in the youngest and oldest ages. In 2005, the age-specific rate was 27.4 for ages 4 years and younger, 12.6 for ages 5–14, 3.8 for ages 35–64 and 15.2 for ages 65 years and older.
- The average length of stay for inpatient hospitalization where asthma was the primary discharge diagnosis was 3.1 days, and the average cost was \$12,515.

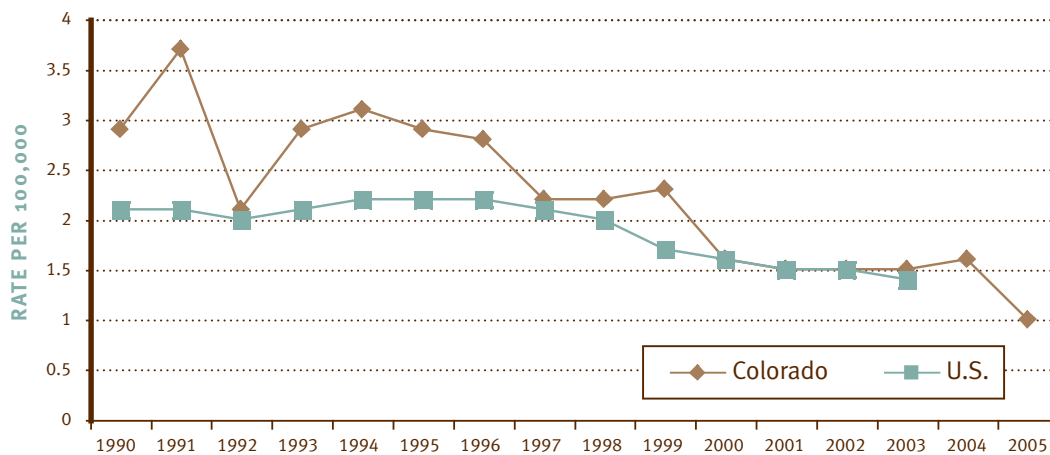


## INDICATOR 87

### Mortality from Asthma

The majority of the problems associated with asthma are preventable if asthma is managed according to established guidelines. Effective management includes control of exposure to factors that trigger exacerbations, adequate pharmacological management, continual monitoring of the disease and patient education in asthma care.

**Mortality from Asthma by Underlying Cause, Colorado and U.S., 1990-2005**



DATA SOURCE: *Vital Statistics, Health Statistics Section, CDPHE. CDC Wonder.*

#### 1990-2005 DATA HIGHLIGHTS

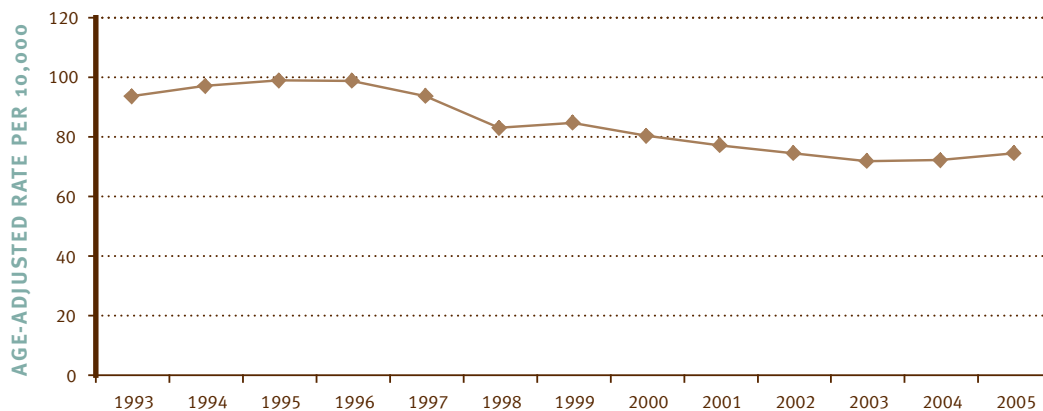
- The death rate per 100,000 due to asthma rose steadily with increasing age, with 0.1 for ages 0-4, 0.2 for ages 5-14, 0.4 for ages 15-34, 1.6 for ages 35-64 and 11.1 for ages 65 years and older.
- Asthma mortality in Colorado varied by race/ethnicity. Hispanics (0.95) had the lowest rate per 100,000 compared to non-Hispanic Whites (2.0) and African-Americans (3.21).
- Women (2.4 per 100,000) had a higher asthma mortality rate than men (1.3 per 100,000).

## INDICATOR 88

### Hospitalization for Hip Fracture Among Medicare-eligible Adults Aged 65 Years and Older

Hip fracture is the most serious consequence of osteoporosis. The risk of osteoporosis and its complications might be reduced through physical activity, proper nutrition (i.e., adequate calcium and vitamin D intake through food or supplementation) and pharmacologic therapy.

Hospitalization for Hip Fracture Among Colorado Residents Aged 65 and Older, 1993-2005



DATA SOURCE: Colorado Hospital Association.

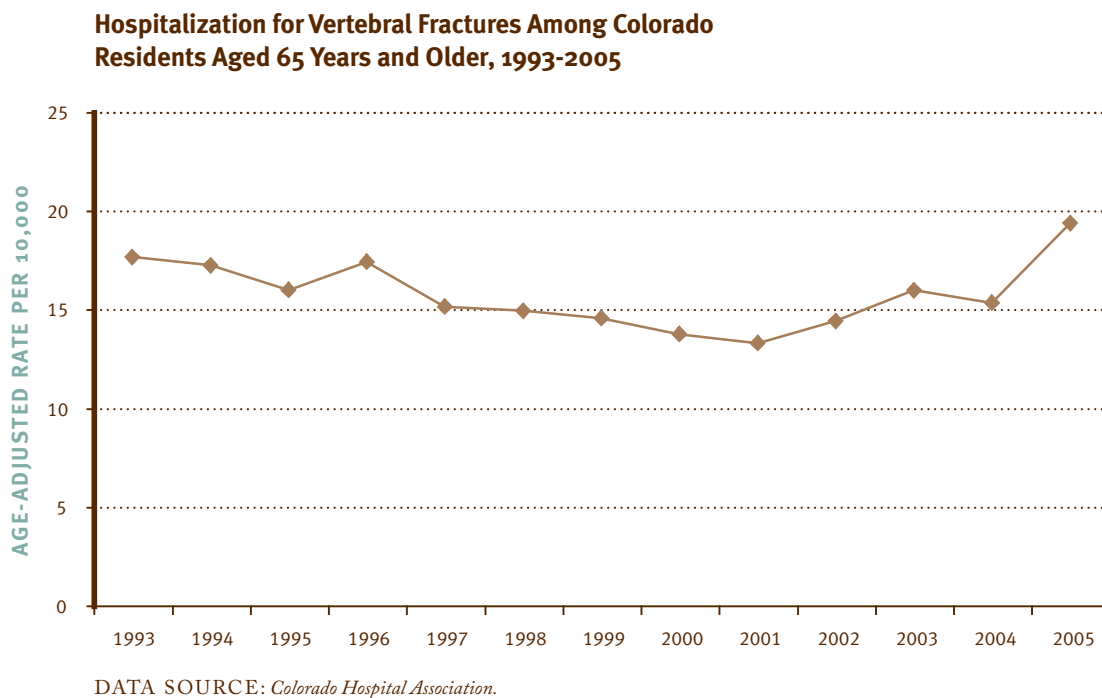
#### 2005 DATA HIGHLIGHTS

- The hospitalization rate for hip fracture among Colorado residents aged 65 years and older dropped from a high of 93.2 per 10,000 in 1993 to 74.2 per 10,000 in 2005, representing a statistically significant decrease. The average rate over this period was 84.4 per 10,000.
- In 2005, the hip fracture hospitalization rate was statistically higher in females (89.1 per 10,000 adults aged 65 and older) than in males (50.98 per 10,000 adults over the age of 65).
- Increasing age is a major risk factor for hip fracture. In 2005, the rate for adults aged 75 years and older (63.5 per 10,000) was statistically higher at more than 6 times the rate for adults aged 65–74 (10.7 per 10,000).
- The average length of stay for inpatient hospitalization where hip fracture was the primary discharge diagnosis was 5.3 days, and the average cost was more than \$36,000.

## INDICATOR 89

### Hospitalization for Vertebral Fracture Among Medicare-eligible Adults Aged 65 Years and Older

Vertebral fracture is a serious consequence of osteoporosis. Approximately 5 million to 8 million U.S. residents have osteoporosis. The risk of osteoporosis and its complications might be reduced through physical activity, proper nutrition (i.e., adequate calcium and vitamin D intake through food or supplementation) and pharmacologic therapy.



#### 2005 DATA HIGHLIGHTS

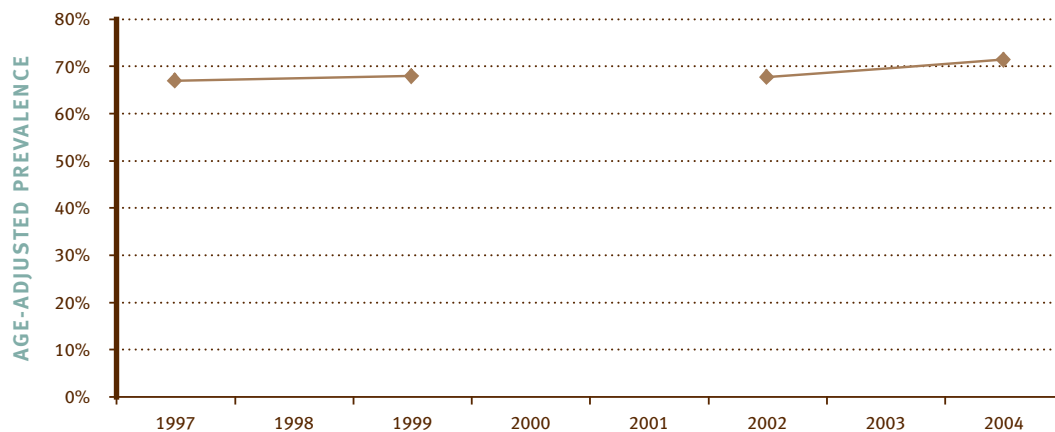
- Between 1993 and 2005, the age-adjusted rate of hospitalization for vertebral fracture in Colorado fluctuated from 17.6 per 10,000 adults over the age of 65 in 1993 to 19.4 per 10,000 in 2005, with an average rate of 15.9 per 10,000 for the period.
- In 2005, the rate of hospitalization for vertebral fracture was statistically higher for females (20.9 per 10,000) than for males (16.8 per 10,000).
- The rate of hospitalization for vertebral fracture is statistically higher among adults 75 years and older (14.9 per 10,000) compared to adults aged 65–74 years (4.5 per 10,000).
- In 2005, the average length of hospital stay for vertebral fracture was 5.4 days, and the average cost was \$29,195.

## INDICATOR 90

### Visits to Dentist or Dental Clinic Among Adults Aged 18 Years and Older

Visiting the dentist or dental clinic within the past year for any reason correlates with perceived oral health needs of consumers and their assessment of accessibility, acceptability and affordability of oral health care received. Infrequent use of dental services has been associated with poor oral health among adults, whereas regular use of the oral health care delivery system leads to better oral health by providing an opportunity for clinical preventive services and early detection of oral diseases.

**Visits to Dentist or Dental Clinic Among Adults Aged 18 Years and Older  
in the Past 12 months, Colorado, 1997-2004**



DATA SOURCE: *Behavioral Risk Factor Surveillance System, CDPHE.*

#### 2004 DATA HIGHLIGHTS

- The proportion of Colorado adults who visited a dentist in 2004 was 72.3 percent, which was slightly higher than the national average of 70.8 percent.
- A statistically higher percentage of women (73.3 percent) reported visiting the dentist in the past year than men (69.0 percent).
- There was no overall pattern to dental visits based on age. Dental visits by age group were 71.1 percent for ages 18–24, 64.1 percent for ages 25–34, 71.9 percent for ages 35–44, 74.4 percent for ages 45–64 and 72.1 percent for ages 65 and older.
- Lower income was associated with fewer dental visits and the differences are statistically significant. Among persons with annual incomes more than \$50,000, 81.7 percent reported visiting the

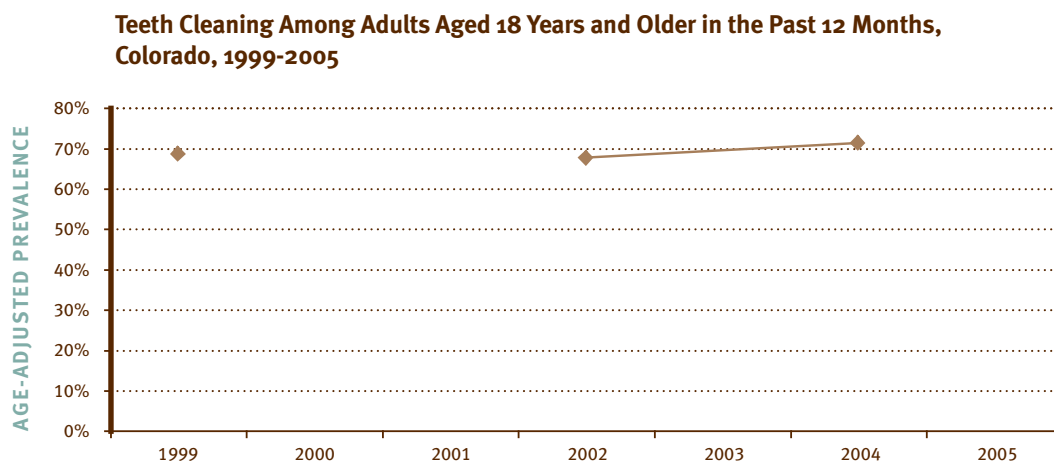
dentist in the past year, compared to 68.1 percent of persons with annual incomes of \$25,000–\$49,999 and 53.4 percent of persons with annual incomes less than \$24,999.

- Increasing education level was associated with higher use of dental care, and the differences are statistically significant. Only 44.3 percent of persons who did not graduate from high school reported a dental visit in the last year, compared to 62.9 percent of persons who graduated high school and 78.7 percent of persons who attended or graduated from college.
- A statistically lower proportion of persons who smoke (50.3 percent) reported visiting a dentist in the past year than nonsmokers (74.3 percent).
- A statistically higher proportion of non-Hispanic Whites (74.3 percent) and African-Americans (75.7 percent) reported visiting the dentist in the past year, compared to Hispanics (57.0 percent).

## INDICATOR 91

### Teeth Cleaning Among Adults Aged 18 Years and Older

Oral diseases, although nearly 100 percent preventable, continue to impact Coloradans of all ages. Having one's teeth cleaned prevents and delays the progression of periodontal disease and is indicative of personal preventive behavior.



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE.

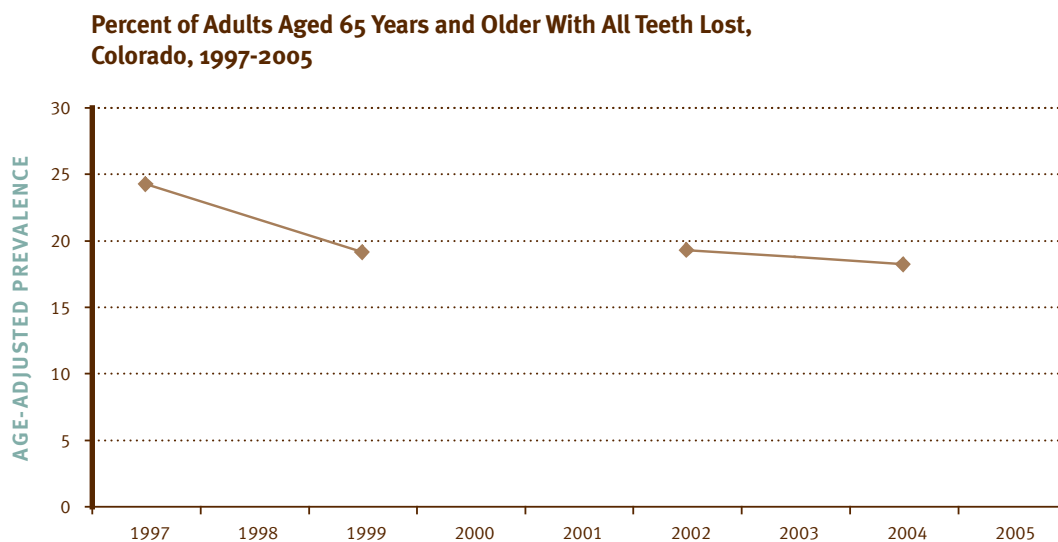
#### 2004 DATA HIGHLIGHTS

- In 2004, 71.2 percent of Colorado adults reported having their teeth cleaned in the past year.
- A statistically higher proportion of women (72.7 percent) had their teeth cleaned in the past year than men (68.8 percent).
- Among age groups, the highest proportion of persons who had their teeth cleaned were those aged 65 and older (77.9 percent). Proportions for other age ranges were 69.7 percent for ages 18–24, 62 percent for ages 25–34, 70.4 percent for ages 35–44 and 74.1 percent for ages 45–64.
- Lower income was associated with fewer dental cleanings. For persons with annual incomes more than \$50,000, 80.3 percent reported having a dental cleaning in the past year, compared to 69.9 percent for persons with annual incomes of \$35,000–\$49,999, 59.0 percent for persons with annual incomes of \$20,000–\$34,999 and 51.5 percent for persons with annual incomes less than \$20,000.
- Increasing level of education was associated with teeth cleaning, and all differences are statistically significant. Only 48 percent of persons who did not graduate from high school reported a dental cleaning in the last year, compared to 62.5 percent for those who graduated from high school and 76.7 percent for those who attended or graduated from college.
- The proportion of non-Hispanic Whites (73.2 percent) and African-Americans (73.2 percent) who reported having a dental cleaning the past year was higher than the proportion of Hispanics (59 percent) who had their teeth cleaned.

## INDICATOR 92

### All Teeth Lost Among Adults Aged 65 Years and Older

Edentulism, the loss of all natural teeth, can have serious implications for maintaining oral function, self-image and quality of life in older adults. Nationally, Colorado ranks in the top three states for adults aged 65 and older who have retained most of their natural teeth (60.5 percent).



DATA SOURCE: Behavioral Risk Factor Surveillance System, CDPHE.

#### 2004 DATA HIGHLIGHTS

- The proportion of Coloradans aged 65 and older who have lost all teeth was 18.1 percent in 2004, compared to the national average of 21.3 percent.
- A greater percentage of women (20.7 percent) had lost all teeth compared to men (14.5 percent).
- A significantly larger proportion of persons with annual incomes less than \$20,000 (36.6 percent) had total tooth loss, while 16.5 percent of persons with annual incomes of \$20,000-\$34,000 had total teeth loss. There was insufficient data for determining a rate for other income groups.
- Total tooth loss seems to be associated with education level. Among persons who graduated from high school, 23.3 percent had total tooth loss, as compared to 10.6 percent for persons who attended or graduated from college. There was insufficient data for determining a rate for persons who did not graduate from high school.
- Seventeen (17.2) percent of non-Hispanic Whites had lost all teeth. There was insufficient data for determining a rate for other racial/ethnic groups.

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