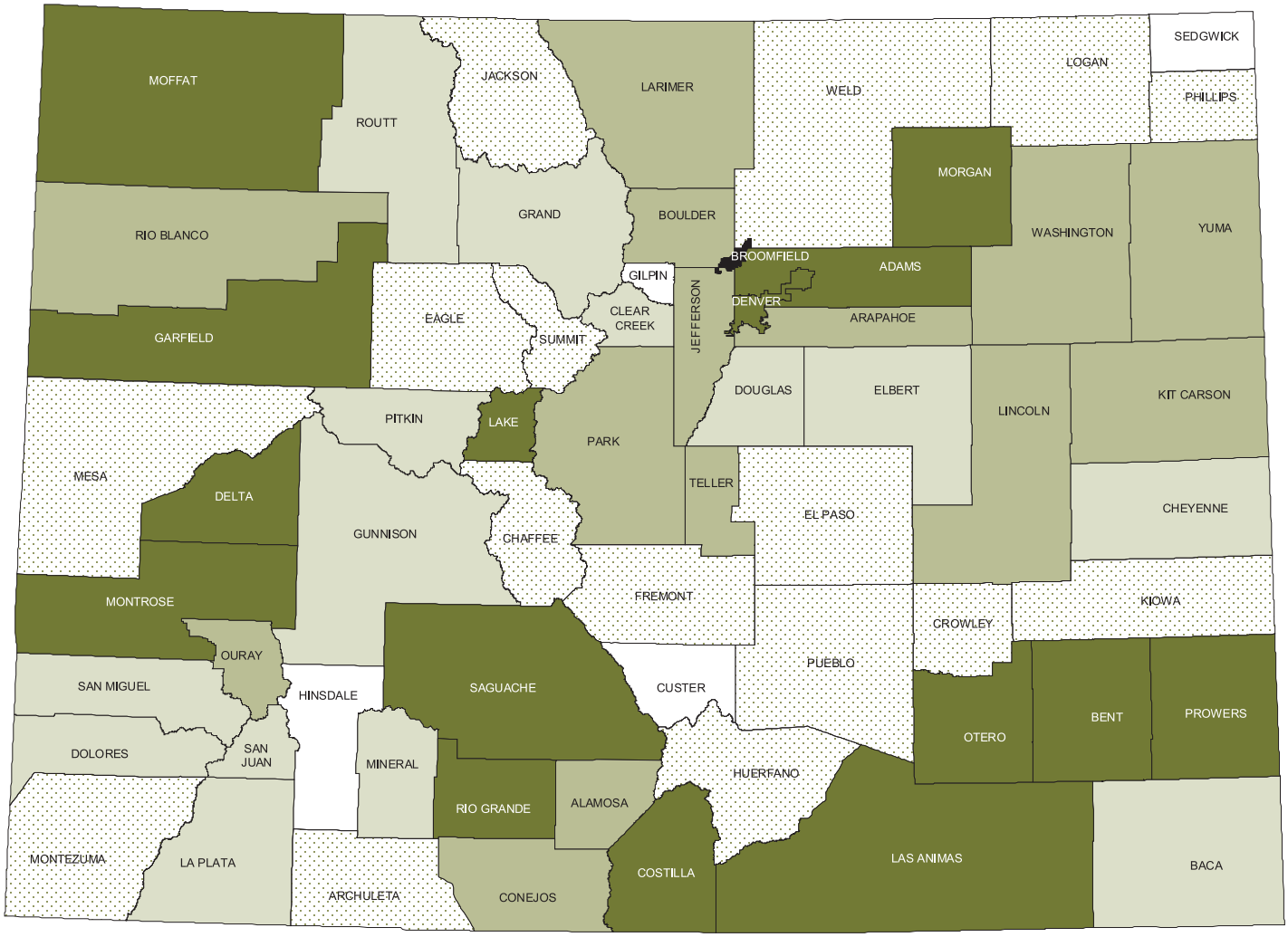
Colorado health watch

2004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LA PLATA
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Colorado health watch

2004

Colorado Department
of Public Health
and Environment

Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

(303) 692-2160
www.cdphe.state.co.us/hs/
health.statistics@state.co.us

Colorado Department
of Public Health
and Environment

Health Statistics Section

Alyson Shupe, Ph.D.,
Section Chief

Monica Clancy

Patricia Holguin

Research and Evaluation Unit

Jodi Drisko, M.S.P.H.,
Director

Janelle Mares

Debra Tuenge

Chris Wells, M.S.

Survey Research Unit

Becky Rosenblatt, M.A.,
Director

Mark King

Trenton L. Thoms

Vital Statistics Unit

Mary Chase, Director

Juanita Galvan

Jason Gannon

Rose Hammond, M.S.

Jan Handke, M.S.

4300 Cherry Creek Drive South
Denver, Colorado 80246-1530
(303)692-2160

health.statistics@state.co.us
www.cdphe.state.co.us/hs/

About the Report

The information contained here illustrates the health status of the Colorado population on certain key indicators by life cycle. The format was chosen to demonstrate the clear link between health risk behaviors, morbidity (illness conditions), and death and how behaviors engaged in at one point in the life cycle can impact health outcomes at a later point in life. The life cycle approach also highlights critical health threats and challenges that face people at different times in life.

A key role of public health is to monitor the health status of the population, thereby providing data that allow individuals, educators, health care professionals, and policy makers to make informed decisions about personal and population health. This report should serve as one source of health data that can be used in prioritizing health issues, planning programs, developing policies, and evaluating population-based health efforts.

This report replaces the Colorado Vital Statistics Report which has been published by the Health Statistics Section annually for many years. The data that would have been in the Colorado Vital Statistics Report for the year 2002 are now available on the Internet at www.cdphe.state.co.us/hs. If you do not have access to the Internet, please contact the Health Statistics Section at (303) 692-2160 for assistance in acquiring the data.

Healthy People 2010

This report is closely tied to *Healthy People 2010: Understanding and Improving Health*, a document published by the U.S. Department of Health and

Human Services in 2000. This document serves as a health promotion and disease prevention agenda for the nation. The overarching goals of *Healthy People 2010* are to:

- help individuals of all ages to increase life expectancy *and* improve their quality of life, and
- eliminate health disparities among segments of the population, including differences that occur by gender, race or ethnicity, education or income, disability, geographic location, or sexual orientation.

Healthy People 2010 is comprised of 28 focus areas supported by 467 health objectives. Naturally, all of these objectives are not covered in this report; however, corresponding objectives are listed wherever possible. In future reports we hope to broaden the scope to include measurement of more objectives in more focus areas.

Sources of data included in this report

Most data in this report come from those surveillance systems maintained by the Health Statistics Section of the Colorado Department of Public Health and Environment (CDPHE). Many other valuable public health data are available from various divisions within CDPHE. Sources of data in this report include:

- Population data: U.S. Bureau of the Census: www.census.gov.

- Environmental health data: Ambient ozone trend source data are from Bill Hague, Technical Service Program, Air Pollution Control Division, CDPHE. Mercury advisory source data are from Lucia Machado, Monitoring Unit, Water Quality Control Division, CDPHE.

- Vital statistics: According to Colorado state statute, birth, fetal death, induced termination of pregnancy, and death are reportable vital events. These events are reported to the state health department via standardized forms, entered into databases, aggregated, and analyzed. The result is vital statistics data. Extreme caution is used to prevent the identification of an individual. No names, addresses, or other identifying informa-

tion are released. Also, in the case where the number of events is small, information is suppressed.

- Pregnancy Risk Assessment Monitoring System (PRAMS) data: PRAMS is a population-based risk factor surveillance system designed to identify and monitor behaviors and experiences of women before, during, and after pregnancy. Information is collected by surveying a sample of women who have recently given birth. Approximately 3,000 Colorado women are surveyed each year.

- Youth Risk Behavior Survey (YRBS) data: The YRBS measures those behaviors related to the leading causes of mortality and morbidity among youth and assesses how these risk behaviors change over time. The YRBS measures behaviors that fall into six categories: behaviors that result in unintentional injuries and violence; tobacco use; alcohol and other drug use; sexual behaviors that result in HIV infection, other sexually transmitted diseases, and unintended pregnancies; dietary behaviors; and physical activity. The survey is conducted every other year among 9-12th graders in a randomly selected sample of Colorado public high schools.

- Behavioral Risk Factor Surveillance System (BRFSS): The BRFSS is a system of telephone surveys sponsored by the Centers for Disease Control and Prevention to monitor lifestyles and behaviors related to the leading causes of mortality and morbidity. Approximately 4,000 Colorado adults 18 years of age and older are surveyed each year.

- Census of Fatal Occupational Injuries (CFOI): The CFOI is a national census conducted in partnership with states to compile work-related fatality data. All fatal injuries that occurred while an employee was at work receiving pay or other compensation, was conducting work activity, or was present at the site of the incident as a condition of employment are included in the census.

Data at the county level

In an attempt to restrict the length of this report,

most data are presented at the state level. However, many of these data are available at the regional, county, or subcounty level as well. There are several online sources for county-level data related to the indicators in this report:

Colorado Vital Statistics:
www.cdphe.state.co.us/hs/
Colorado PRAMS:
www.cdphe.state.co.us/hs/prams/
Colorado BRFSS:
www.cdphe.state.co.us/hs/brfss/
Colorado Health Information Dataset (CoHID):
www.cdphe.state.co.us/cohid/

Data Gap: Child Health

Although this report is organized by life cycle, very little population-based data exist on the health of children. As illustrated above, data from birth records and from the Pregnancy Risk Assessment Monitoring System (PRAMS) provide information about pregnancy, birth, and early infancy. The Youth Risk Behavior Survey (YRBS) provides information on adolescents in grades 9-12. The Behavioral Risk Factor Surveillance System surveys adults over age 18. Data from death records cut across the life cycle. Very little data are available on the health status, risk factors, and health conditions of young children. To address this data gap, the Health Statistics Section at CDPHE is partnering with other programs within the state health department, researchers at the University of Colorado Health Sciences Center, and community-based organizations to develop and implement a Colorado Child Health Survey. The survey is currently being conducted, and data from 2004 will be available in the spring of 2005. For more information on this effort, contact Jodi Drisko at (303) 692-2171.

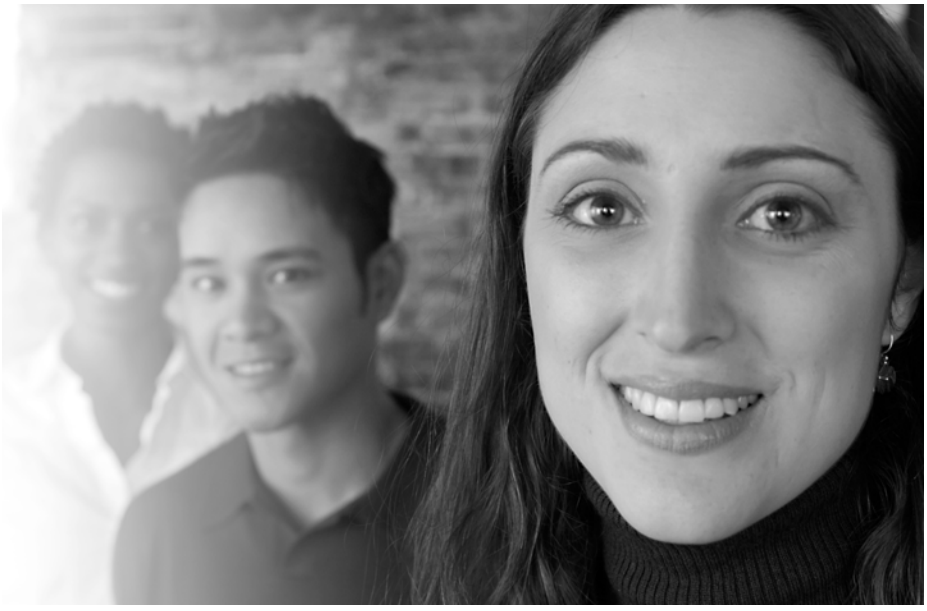
Contents

Population

This section describes the overall Colorado population in terms of basic demographics. Many aspects of health are related to the demographic characteristics of income and education, race and ethnicity, and geographic location (frontier vs rural vs urban).

Disparities in income and education levels are associated with differences in the occurrence of illness and death, including those resulting from heart disease, diabetes, obesity, elevated blood lead level, and low birth weight. Higher incomes permit increased access to medical care, enable people to afford better housing and live in safer neighborhoods, and increase the opportunity to engage in health-promoting behaviors (*Healthy People 2010*).

Health disparities also exist by race and ethnicity with African Americans, Hispanics, and American Indians experiencing a disproportionate share of disability and disease in most cases. Current information about the biologic and genetic characteristics of these groups does not explain these health disparities.



These disparities are believed to be the result of the complex interaction among genetic variations, environmental factors, and specific health behaviors (*Healthy People 2010*).*

In general, injury-related death rates are much higher in rural populations than in urban populations, and heart disease, cancer, and diabetes rates exceed those for urban areas. People living in rural areas are less likely to use preventive screening services, exercise regularly, or have health insurance. Timely access to emergency services and the availability of specialty care are other issues for those living in frontier or rural areas (*Healthy People 2010*).

Understanding the demographic characteristics of the State of Colorado can help to explain the prevalence of health risk behaviors and outcomes compared to the United States as a whole.

*The Health Statistics Section, as well as the Centers for Disease Control and Prevention, recognizes that race and ethnicity do not represent valid biological or genetic categories but are social constructs with cultural and historical meaning.

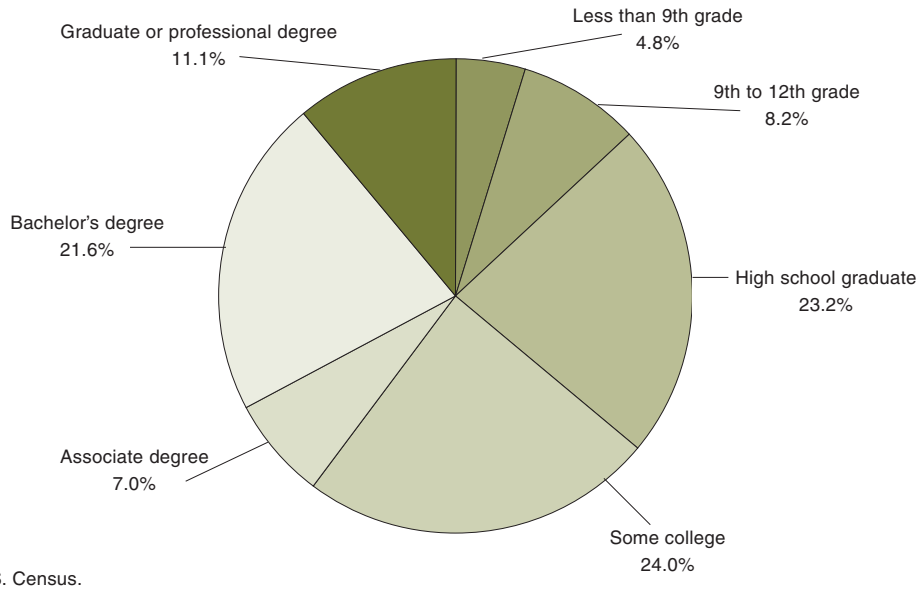
A profile of Colorado demographic and socioeconomic characteristics, specifically population growth, educational attainment, poverty levels, earnings, geographic distribution, and race/ethnicity, is described here using data collected through the 2000 U.S. Census.

In 2000, 4,301,261 individuals resided in the state of Colorado, representing 1.5 percent of the total U.S. population. Compared to the 1990 census population (3,294,394), this figure indicates a 30.6 percent population increase with a net migration gain of 692,953 people during this ten-year period. Net migration is the portion of population change not accounted for by births and deaths.

In Colorado, 86.9 percent of adults ages 25 and over had completed high school compared to 80.4 percent nationally. Also, 32.7 percent had at least a bachelor's degree, compared to 24.4 percent nationally (Figure 1).

In Colorado, 82.8 percent of the general population

Figure 1. Educational attainment: Colorado adults ages 25 and older, 1999

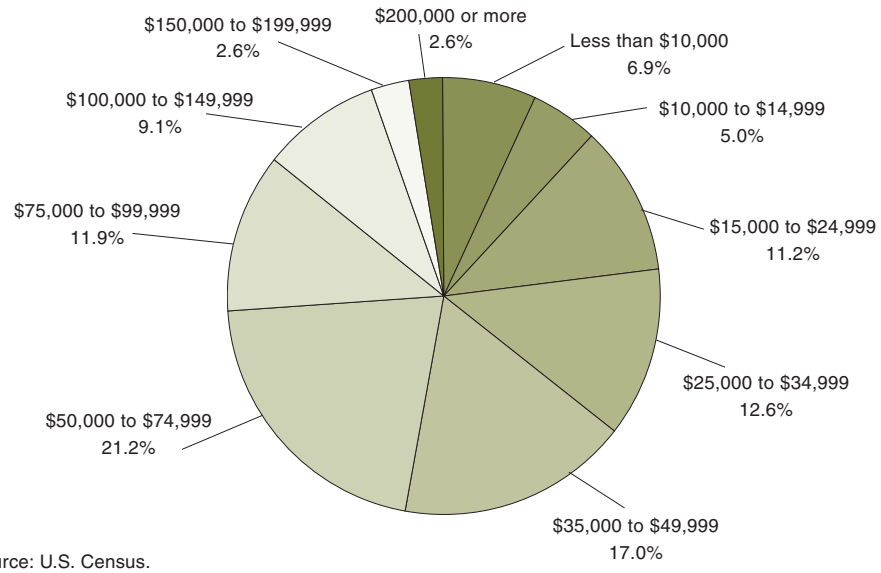


Source: U.S. Census.

In 1999, 9.3 percent of the Colorado population and 6.2 percent of Colorado families were below the federal poverty level (annual income, $16,700 for a family of 4 in 1999). The poverty rate of Colorado families with a female head-of-household, no husband present, was 20.6 percent.

Median household income in Colorado was $47,203 in the year 1999. For 6.9 percent of Colorado households, earnings were less than $10,000. Conversely, 13.7 percent of households had an annual income of more than $100,000. Approximately one in five households (21.2%) in Colorado had a household income between $50,000 and $74,999 in 1999 (Figure 2).

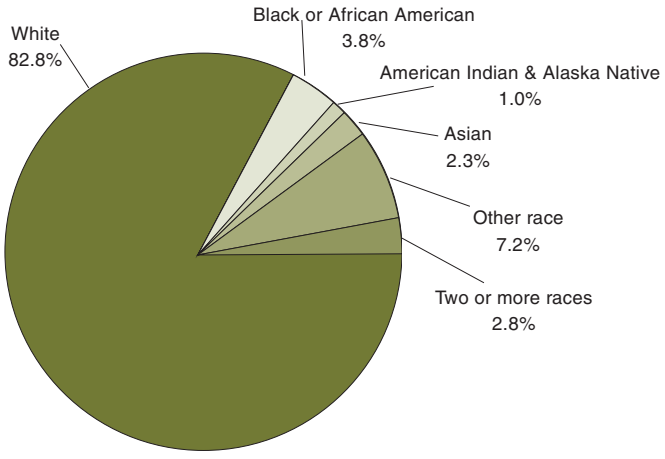
Figure 2. Annual income: Colorado households, 1999



Source: U.S. Census.

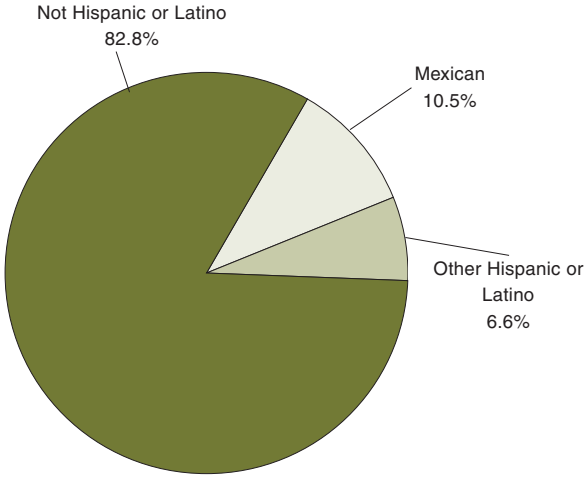
identified themselves as White (Figure 3). In the 2000 U.S. Census, 17.2 percent of Colorado residents responded that they were of Hispanic or Latino ethnicity and 10.5 percent reported Mexican origin (Figure 4).

Figure 3. Population by race: Colorado 2000



Source: U.S. Census.

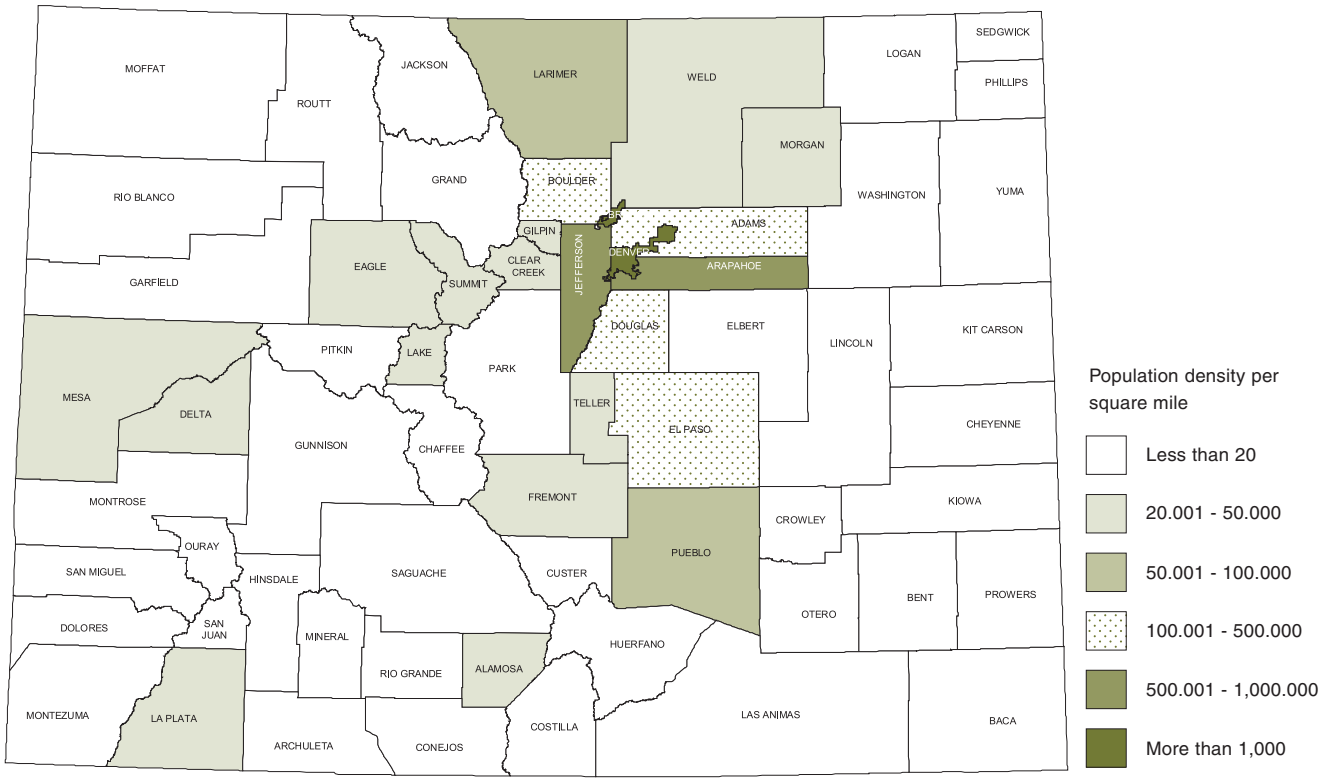
Figure 4. Population by ethnicity: Colorado 2000



Source: U.S. Census.

The majority of Colorado residents live in ten metropolitan counties on the east side of the Rocky Mountains known as the Front Range. According to the 2000 U.S. Census, Colorado population density per square mile was 41.5 persons per square mile, varying from a high of 4,997 persons per square mile in Denver county to the lowest (<1 person per square mile) in Hinsdale county (Figure 5).

Figure 5. Population density by county: Colorado, 2000



Source: U.S. Census.

Environment

The magnificent Rocky Mountains on the horizon are a constant reminder of the many natural wonders within Colorado's borders. It is easily recognizable that the health of the human body is strongly influenced by the constant environmental qualities that we are exposed to on a daily basis. The quality of the air and the water can especially affect the condition of one's health.

Within the Colorado Department of Public Health and Environment, air and water quality are both monitored carefully according to federal and state standards. There are six criteria pollutants for which standards have been established to protect those with respiratory ailments and particularly sensitive individuals such as the elderly and young children. These six pollutants are carbon monoxide, sulfur dioxide, nitrogen dioxide, lead, particulate matter, and ozone. All are pollutants that decrease the quality of the air we breathe, but ozone in particular can exacerbate res-

piratory health problems. Even at concentrations below the standard ozone can cause respiratory stress in sensitive individuals.

Recreation is a large part of many Colorado citizens' lives. Many enjoy such activities as hiking, biking, running, swimming, and fishing in Colorado's outdoors. Lakes and reservoirs are significant areas of recreation, making the health of the waters important to monitor. From recent data, the levels of mercury in five of the state's reservoirs have been elevated and fish consumption advisories have been implemented. By monitoring the air and waters of Colorado we not only protect the health of all Coloradans, but we also improve the health of the environment for the enjoyment of future generations.

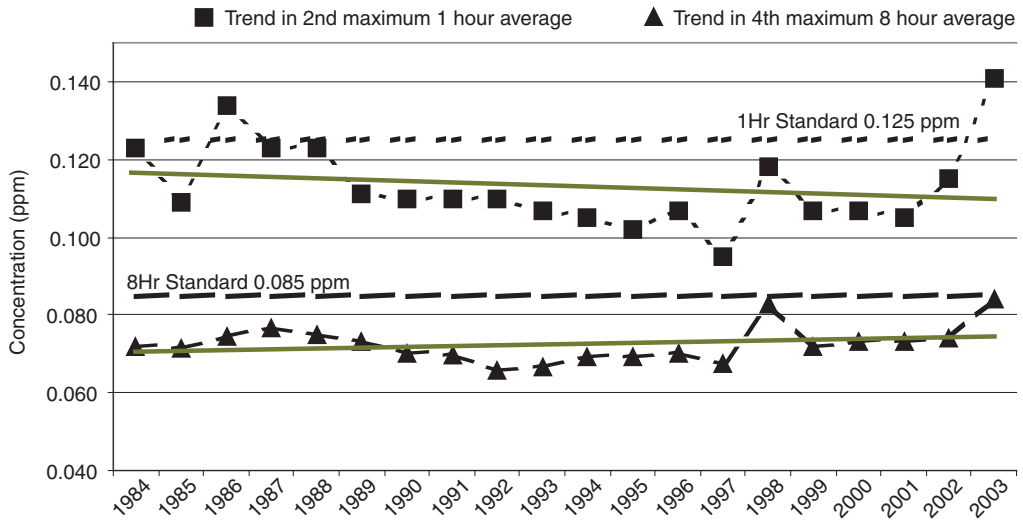
Ozone

Ozone (O_3) is a highly reactive form of oxygen that, at ambient concentrations, is colorless, odorless, and at ground level considered to be a pollutant.

Ozone levels are monitored throughout the state because of the potential health effects. Exposure to high concentrations of the pollutant can impair lung function, causing breathing difficulty and coughing, and can act as an irritant to eyes and throat. Those especially at risk are individuals with preexisting respiratory ailments like asthma, individuals who work outside, and sensitive individuals such as the elderly and young children. Even at levels below the standard, ozone can aggravate respiratory conditions. Thus it is important to continually monitor the levels of ozone.

Ozone is produced year round with usually elevated concentrations occurring during the summer season, when sunlight is most intense. As a secondary pollutant, ozone does not have a directly emitting source; rather, it is created from a photochemical reaction in the atmosphere of existing pollutants and sunlight. The state and federal standards allow for 0.085 parts per million (ppm) of ozone to be the average for an 8-hour time period and 0.125 ppm for a 1-hour average. Since 1984, the 8-hour average has not been exceeded. However, the 1-hour average has been exceeded on two different occasions, most recently in 2003 (Figure 6).

Figure 6. Colorado ambient trends: ozone, 1984-2003



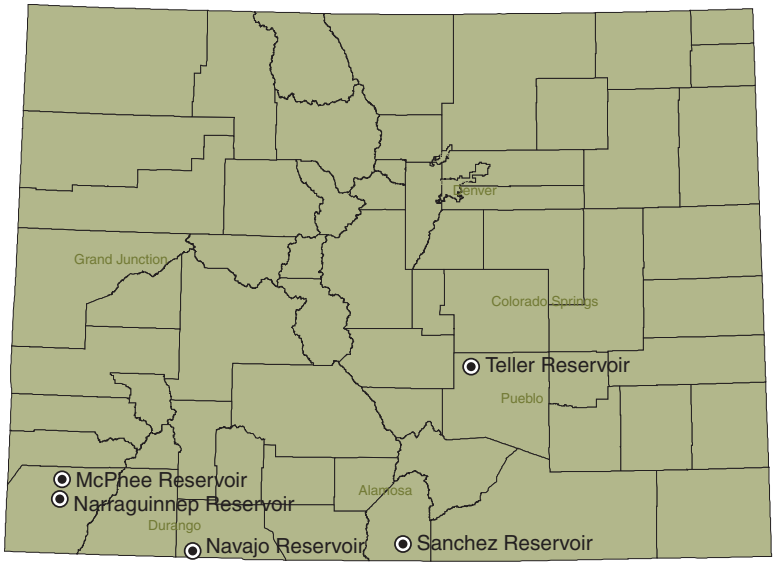
Source: Technical Service Program, Air Pollution Control Division, CDPHE

Mercury

In the environment, mercury is a naturally occurring heavy metal, and although it does have beneficial functions, it is toxic to the human body. Once in the environment, mercury does not break down. Such pollutants are known as persistent bioaccumulative toxins (PBT). When deposited into waterways, bacteria convert the mercury into its highly toxic form of methylmercury. This is a potential health concern because the methylmercury is a neurotoxin which may have significant effects in developing fetuses and children. Those especially susceptible to mercury exposure are women who are pregnant or may become pregnant, nursing mothers, and young children.

The Colorado Department of Public Health and Environment has issued fish consumption advisories for the following five water reservoirs due to an elevated concentration of mercury: McPhee, Narraguinnep, Navajo, Sanchez and Teller.

Figure 7. Water bodies under advisory due to elevated mercury concentrations



Source: Monitoring Unit, Water Quality Control Division, CDPHE

Maternal and Child Health

This section of the report looks at key health indicators of mothers, infants, and children. The health of this group is of critical importance, both as a reflection of the current health status of a large segment of the population and as a predictor of the health of the next generation (*Healthy People 2010*). Infants who receive the healthiest start in life have the best chance for continued health and well-being into childhood, adolescence, and adulthood. The indicators included here are primarily those that affect pregnant women and infant health and survival.

Many factors can impact the pregnancy and ultimate health and well-being of the infant and mother. Some of these factors are: whether the pregnancy was intended; access to prenatal care; smoking and alcohol abuse during pregnancy;

physical abuse during pregnancy; and maternal weight gain. Low birth weight and preterm birth are among the leading causes of neonatal death. Breastfeeding is an important contributor to overall infant health because human breast milk presents the most complete form of nutrition for infants. Infant sleep position is an important factor in Sudden Infant Death Syndrome (SIDS), a leading cause of infant death after the first month of life.

HP 2010 Objective: 70% of pregnancies to be intended at the time of conception (these pregnancies include those that end in live birth, miscarriage, and abortion)

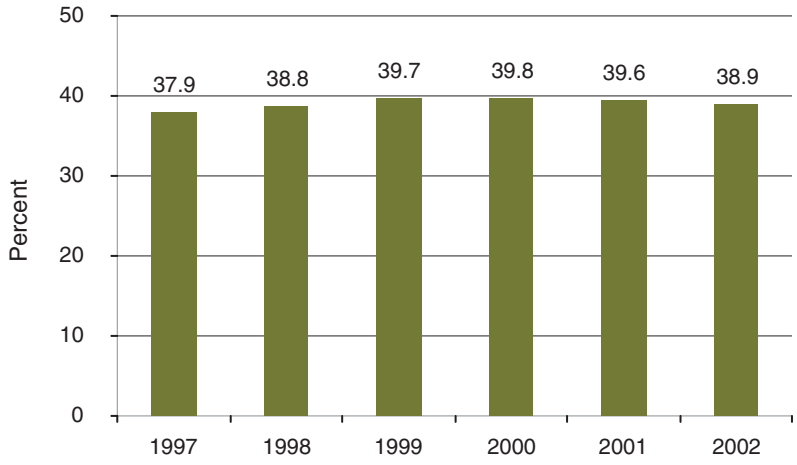
Colorado Status: Colorado data are not directly comparable as they only reflect those pregnancies that ended in a live birth

Unintended Pregnancy

Nearly 40 percent of all live births in Colorado are the result of an unintended pregnancy (Figure 8). Unintended pregnancies are defined as those that are unwanted (pregnancy not wanted at any time) or mistimed (pregnancy not wanted until some time in the future) at the time of conception. Many women with unintended pregnancies receive late or inadequate prenatal care, suffer from poor nutrition, and often use harmful substances like alcohol, tobacco, and other drugs. Their infants are at higher risk for low birth weight, dying in the first year of life, and of being abused or neglected.

The *Healthy People 2010* objective is for 70 percent of pregnancies to be intended at the time of conception. These pregnancies include those that end in live birth, miscarriage, and abortion. Colorado data are not directly comparable as they only reflect those pregnancies that ended in a live birth.

Figure 8. Percent unintended* pregnancies among new mothers: Colorado residents, 1997-2002



* Unintended is defined as an unwanted (pregnancy not wanted at any time) or mistimed (pregnancy not wanted until some time in the future) pregnancy.

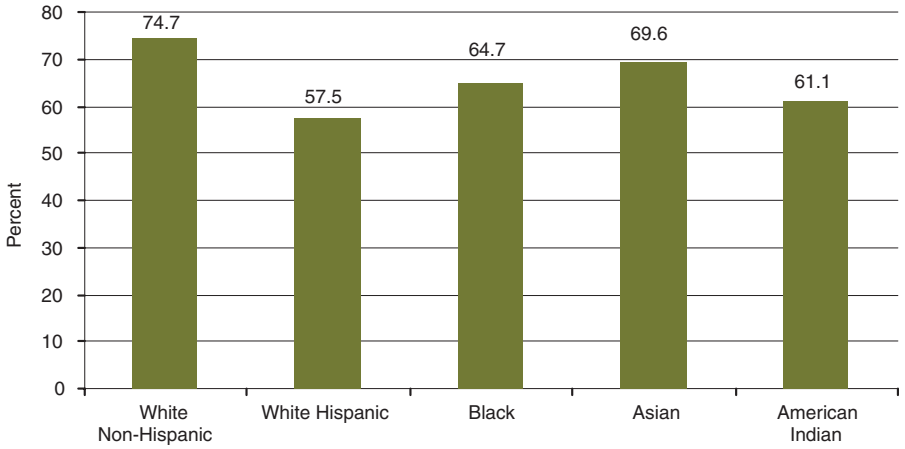
Source: Pregnancy Risk Assessment Monitoring System, Health Statistics Section, CDPHE.

HP 2010 Objective: 90% of women receive adequate prenatal care
Colorado Status: 68.8% of women received adequate prenatal care

Prenatal Care

An inadequate number of prenatal care visits is associated with an increased chance of late identification of high-risk conditions and decreased opportunity to help women address behavioral factors, such as smoking and drinking alcohol, that can contribute to poor birth outcomes. The *Healthy People 2010* objective is for 90 percent of women to receive adequate prenatal care. In Colorado in 2003, only 74.7 percent of White, non-Hispanic women received adequate care, and rates were even lower for women in other racial and ethnic groups (Figure 9). Overall, only 68.8 percent of Colorado women received adequate prenatal care in 2003.

Figure 9. Adequate prenatal care* by race/ethnicity: Colorado residents, 2003



*Adequate prenatal care measured by Kotelchuck Adequacy of Prenatal Care Utilization Index for all ages. Denominator excludes cases with adequacy of prenatal care unknown.

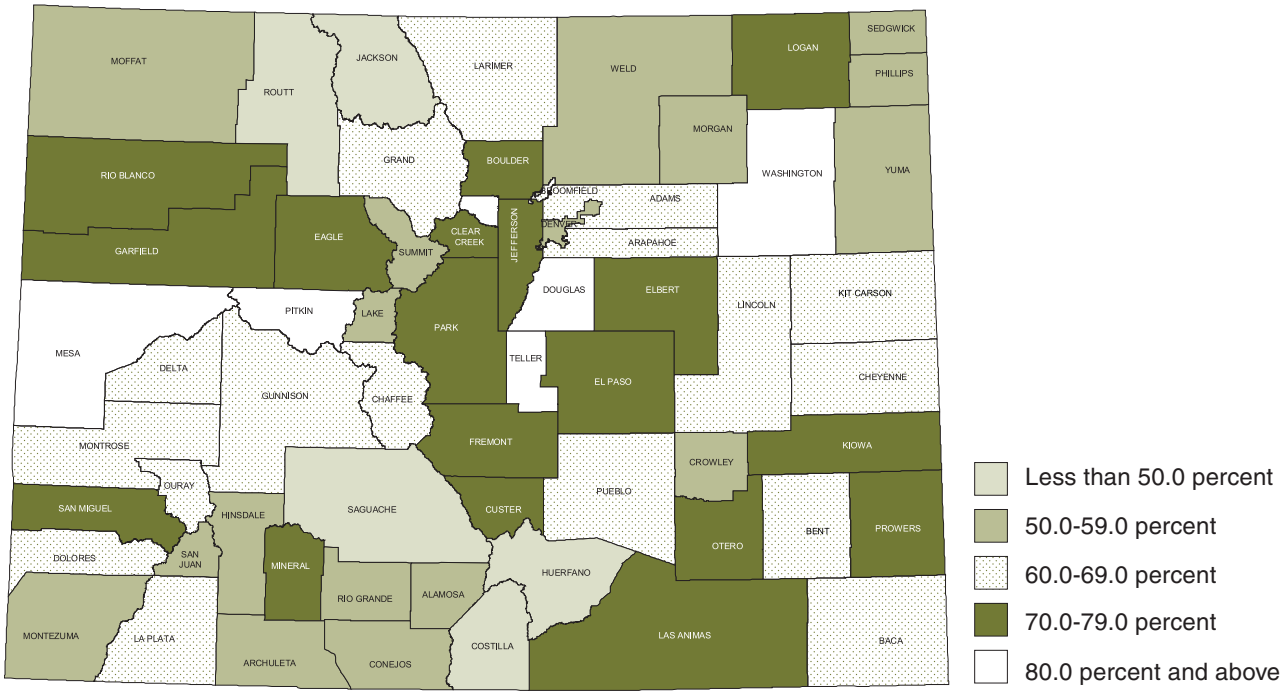
Source: Birth records, Health Statistics Section, CDPHE.

The Kotelchuck Adequacy of Prenatal Care Utilization Index combines information about prenatal care initiation, number of prenatal visits, and gestational age to determine the adequacy of prenatal care utilization for live births.

The index does not provide any information about the quality of prenatal care, only the utilization. In 2003, prenatal care was considered to be adequate in 68.8 percent of live births to Colorado residents.

This percentage varied widely by county of residence from 35.3 to 87.3 percent (Figure 10).

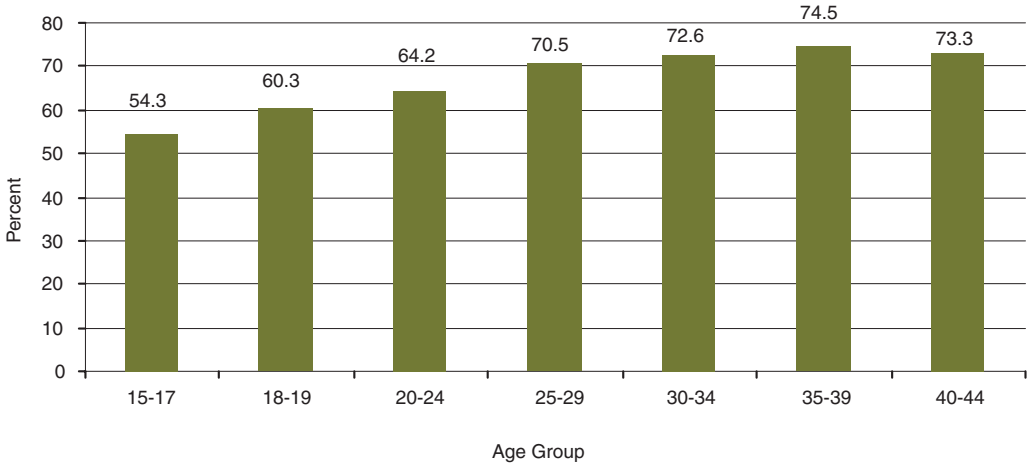
Figure 10. Percent of adequate prenatal care by county: Colorado residents, 2003



Source: Birth records, Health Statistics Section, CDPHE.

Although just over two-thirds of Colorado resident women ages 15-44 get adequate prenatal care, that percent drops to just over half for teens ages 15-17. Mothers 25 and older are more likely to get adequate prenatal care than younger mothers (Figure 11).

Figure 11. Percent adequate prenatal care* by age group of mother: Colorado residents, 2003



*Adequate prenatal care measured by Kotelchuck Adequacy of Prenatal Care Utilization Index for all ages. Denominator excludes cases with adequacy of prenatal care unknown.

Source: Birth records, Health Statistics Section, CDPHE.

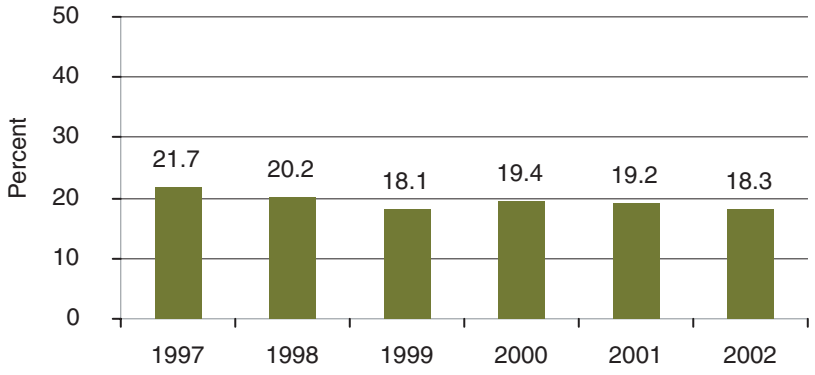
HP 2010 Objective: 90% of women receive prenatal care in the first trimester of pregnancy

Colorado Status: 79.1% of women received prenatal care in the first trimester

Approximately one-fifth of women in Colorado do not receive prenatal care services as early as they would like (Figure 12). The most common reasons for delayed prenatal care initiation include: inability to get an earlier appointment, not enough money or insurance to pay for the visits, the woman did not know she was pregnant, and the woman did not have her Medicaid card.

In 2002, Colorado ranked 44th in the U.S. for the number of women receiving prenatal care in the first trimester of pregnancy with 79.1 percent. For the U.S. as a whole, 83.7 percent of women received first trimester prenatal care. The *Healthy People 2010* objective is for 90 percent of women to receive care in the first trimester of pregnancy.

Figure 12. Women who did not get prenatal care as early as they wanted: Colorado residents, 1997-2002



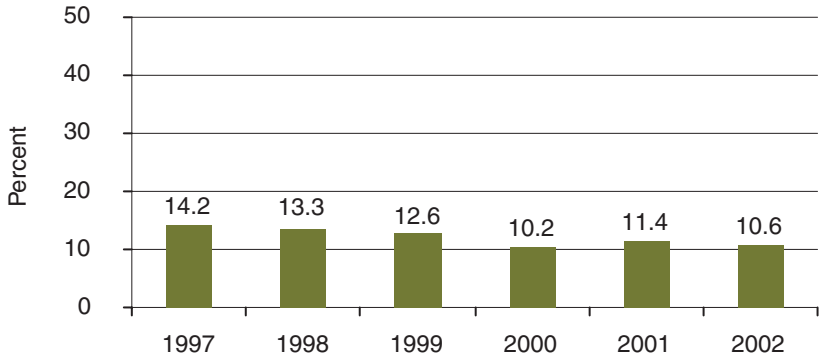
Source: Pregnancy Risk Assessment Monitoring System, Health Statistics Section, CDPHE.

HP 2010 Objective: 99% of women abstain from smoking during pregnancy
Colorado Status: 89.4% of Colorado women abstained during pregnancy

Smoking During Pregnancy

Smoking during pregnancy has been shown to contribute to low birth weight infants. Over the years, fewer women are smoking during pregnancy. In the year 2002, about 10 percent of all women smoked during pregnancy (Figure 13). Many smokers quit smoking during their pregnancy, but about 60 percent of smokers continued to smoke throughout their pregnancy. Although many women quit smoking while pregnant, some started up again after their babies were born, often exposing them to second-hand smoke. The *Healthy People 2010* objective states that 99 percent of women will abstain from smoking during pregnancy.

Figure 13. Women who smoked during pregnancy: 1997-2002



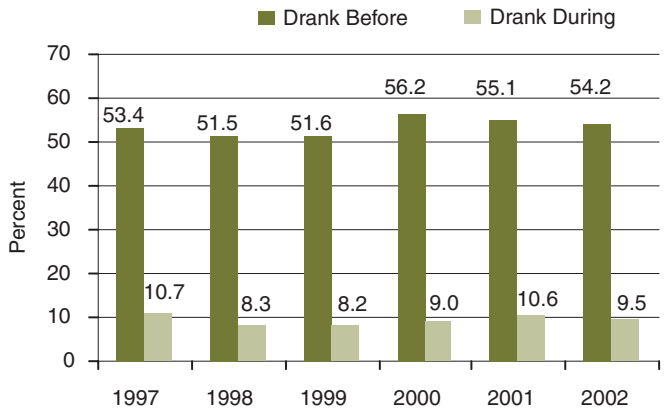
Source: Pregnancy Risk Assessment Monitoring System, Health Statistics Section, CDPHE.

HP 2010 Objective: 94% of women abstain from drinking alcohol during pregnancy
Colorado Status: 90.5% of women abstained during pregnancy

Alcohol Use During Pregnancy

Although there is no established threshold for a "safe" amount of alcohol to consume during pregnancy, moderate alcohol consumption has been associated with preterm delivery and heavy consumption with fetal alcohol syndrome. In Colorado, about 10 percent of women reported drinking alcoholic beverages during pregnancy, and this has remained fairly constant over time (Figure 14.) The majority (96%) of women who reported drinking drank one or two drinks per week. The *Healthy People 2010* objective is for 94 percent of pregnant women to abstain from drinking alcohol.

Figure 14. Women who drank alcohol before and during pregnancy, 1997-2002



Source: Pregnancy Risk Assessment Monitoring System, Health Statistics Section, CDPHE.

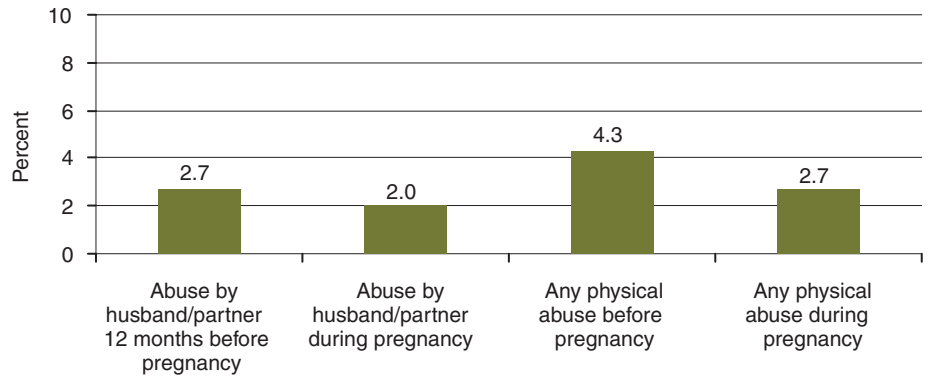
HP 2010 Objective: Fewer than 0.33% of people experience physical assault by current or former intimate partner

Colorado Status: 2.7% of women experienced physical assault by an intimate partner before pregnancy

Physical Abuse During Pregnancy

In 2002, 4.3 percent of Colorado mothers reported having been physically abused by someone during the year before pregnancy; for 2.7 percent, that abuse had been by their husband or partner (Figure 15.) These rates decreased during pregnancy, but they were still far greater than the *Healthy People 2010* objective of fewer than 3.3 physical assaults by a current or former intimate partner per 1,000 persons (0.33%) 12 years or older. Physical abuse during pregnancy can result in fetal loss, early onset of labor, and delivery of a preterm low birth weight infant.

Figure 15. Physical abuse before and during pregnancy: Colorado residents, 2002



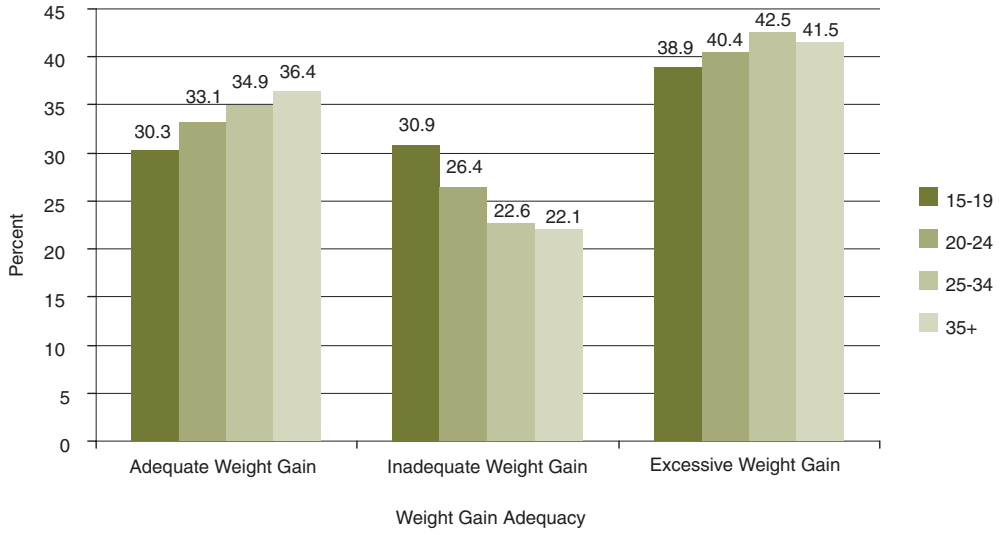
Source: Pregnancy Risk Assessment Monitoring System, Health Statistics Section, CDPHE.

Maternal Weight Gain During Pregnancy

During 2001 and 2002, approximately one-third of women gained the appropriate amount of weight during pregnancy. However, the majority of Colorado women gained weight outside of the National Institute of Medicine guidelines with approximately one quarter gaining an inadequate amount and about 40 percent gaining an excessive amount of weight during pregnancy. The proportion of women who gained inadequately varied by age with younger women being more at risk (Figure 16).

Inadequate prenatal weight gain is a significant risk factor for intrauterine growth retardation and low birth weight in infants and, during the third trimester of pregnancy, can be associated with increased risk of spontaneous preterm delivery. Excessive maternal weight gain is associated with excessive postpartum weight retention which is of concern given the trend toward increasing obesity among U.S. women and the health risks associated with obesity.

Figure 16. Adequacy of weight gain during pregnancy by maternal age: Colorado residents, 2001-2002



Source: Pregnancy Risk Assessment Monitoring System, Health Statistics Section, CDPHE.

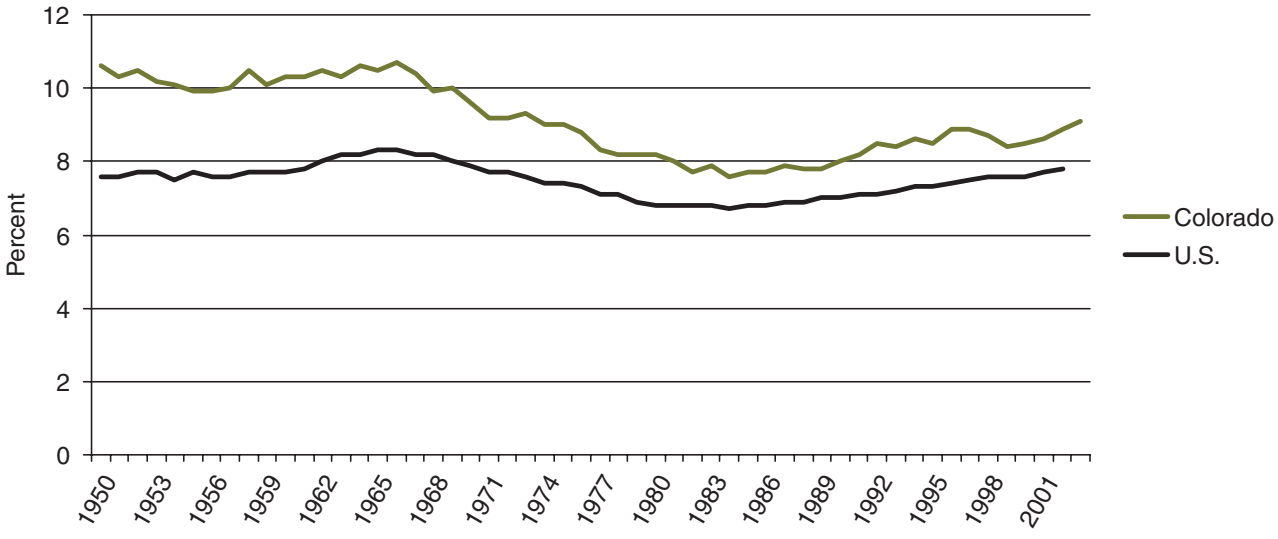
HP 2010 Objective: Reduce low birth weight births to 5%
Colorado Status: In 2003, 9.1% of births were low birth weight

Low Birth Weight

By definition, a newborn weighing less than 2,500 grams (less than 5 lb. 9 oz.) is considered a low weight birth. These infants are at much greater risk for long-term morbidity and early death. Colorado has continually experienced a relatively higher percentage of low weight births than the U.S. overall (Figure 17). In 2002, Colorado ranked 12th among the fifty states and the District of Columbia for highest percentage of low weight births with 8.9 percent of births being low weight.

The *Healthy People 2010* objective is for 90 percent of very low birth weight (<1,500 grams) infants to be delivered at facilities for high-risk deliveries and neonates. In Colorado, in 2003, 73.5 percent of those deliveries took place at such facilities.

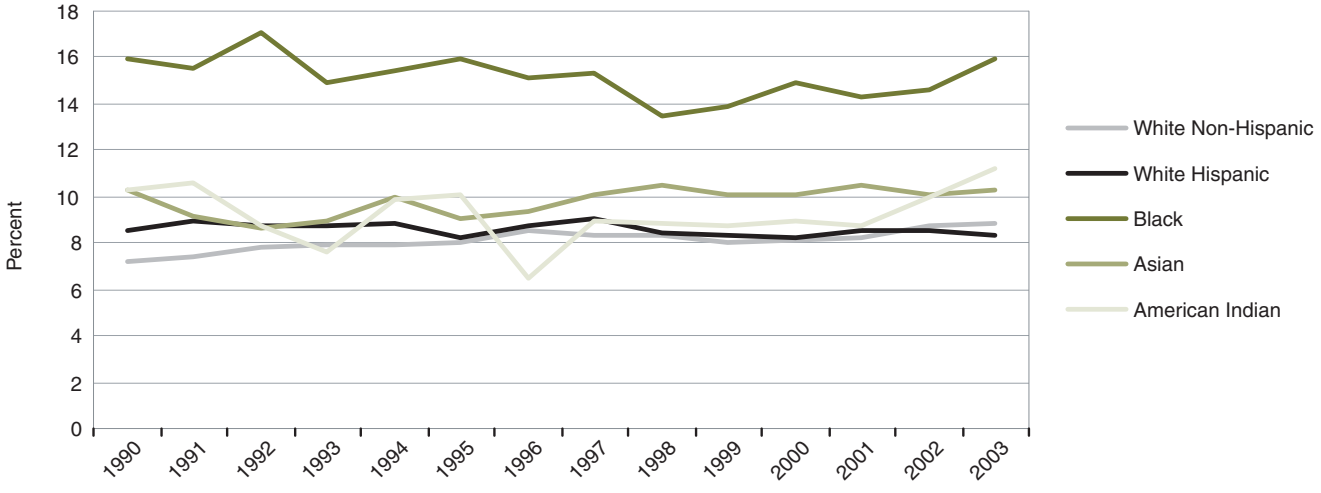
Figure 17. Percent low weight births: Colorado residents and United States*, 1950-2003



Sources: Birth records, Health Statistics Section, CDPHE.
National Center for Health Statistics.
U.S. data are not available for 2003.

A significant health disparity exists for infants born to Black women with regard to birth weight. In Colorado, as in the U.S., the proportion of low weight births to Black women is significantly higher than for other women (Figure 18).

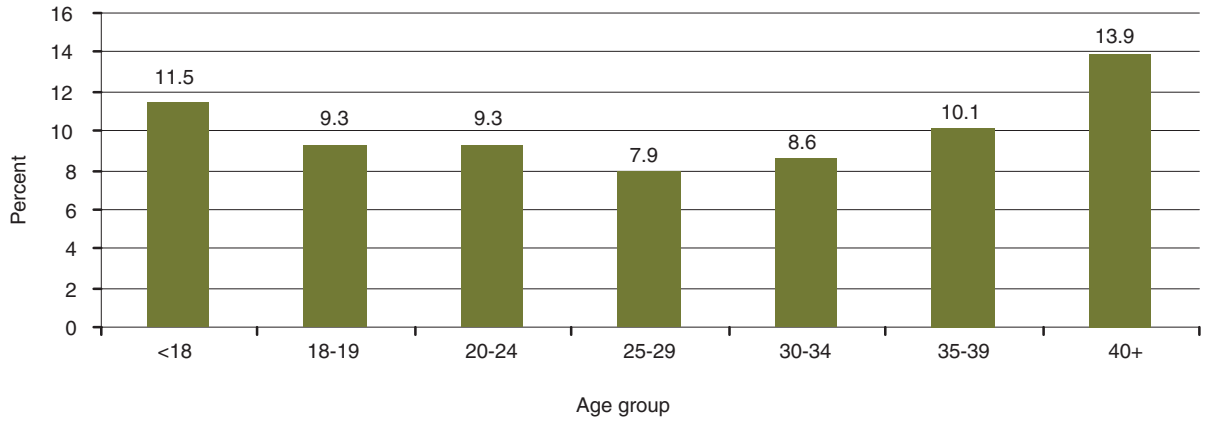
Figure 18. Percent low birth weight births (<2500 grams) by race/ethnicity of mother: Colorado residents, 1990-2003



Source: Birth records, Health Statistics Section, CDPHE.

Low birth weight births are also related to the age of the mother. The youngest and the oldest mothers are more likely to have a low birth weight infant (Figure 19).

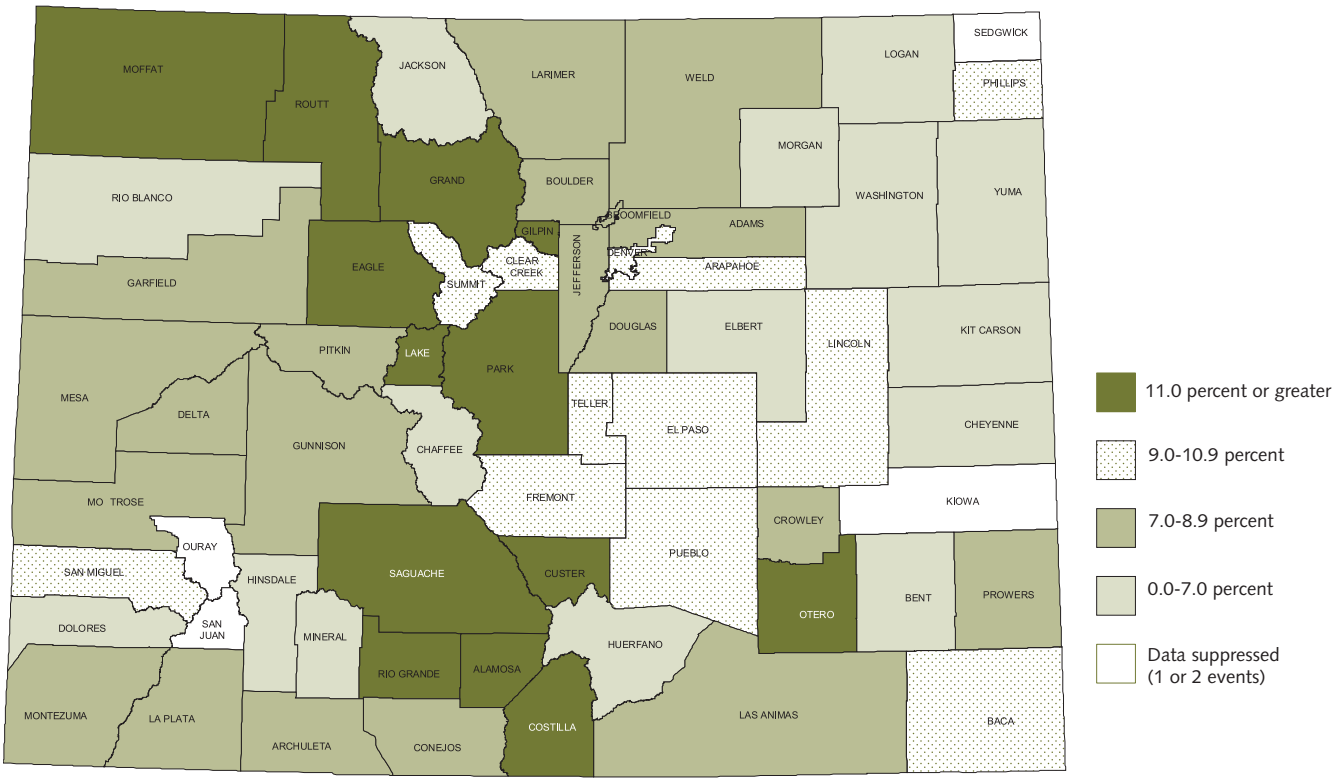
Figure 19. Percent low birth weight births (<2,500 grams) by age group of mother: Colorado residents, 2003



Source: Birth records, Health Statistics Section, CDPHE.

There is a great deal of variability between counties in the percent of births that are low birth weight.

Figure 20. Percent low birth weight births (<2,500 grams) by county: Colorado residents, 2003



Source: Birth records, Health Statistics Section, CDPHE.

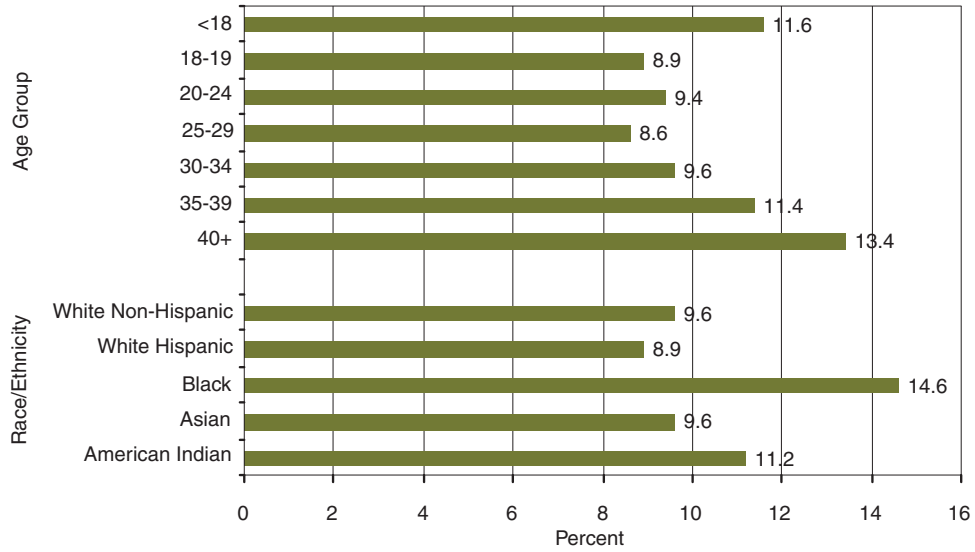
HP 2010 Objective: Reduce preterm births to no more than 7.6% of all births
Colorado Status: 9.6% of births were preterm

Preterm Birth

According to *Healthy People 2010*, preterm birth is the leading cause of neonatal death not associated with birth defects. Additionally, two-thirds of low birth weight infants and 98 percent of very low weight infants are born preterm. Consequently, reductions in preterm deliveries will result in large decreases in infant illness, disability, and death.

Inadequate weight gain and use of alcohol, tobacco, and other drugs during pregnancy are associated with preterm birth. In Colorado in 2003, the oldest and the youngest mothers had the highest percentages of preterm births (Figure 21). Black women are more likely than women of other racial/ethnic groups to have a preterm birth.

Figure 21. Percent preterm births (<37 weeks) by age group and race/ethnicity of mother: Colorado residents, 2003



Source: Birth records, Health Statistics Section, CDPHE.

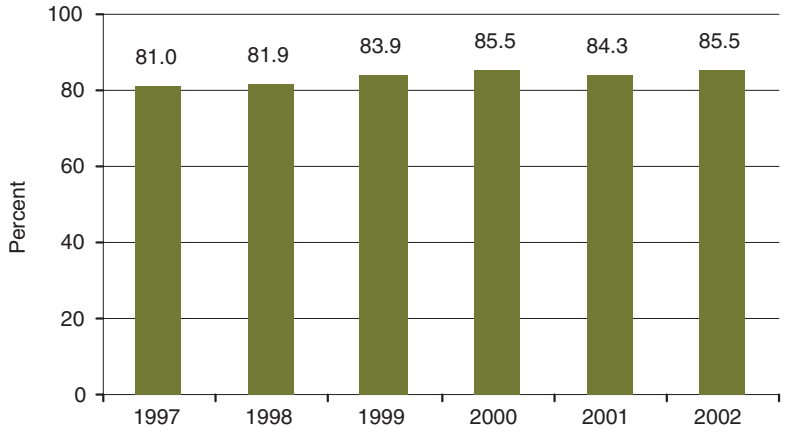
HP 2010 Objective: 75% of women initiate breastfeeding after delivery
Colorado Status: 85.5% of women initiated breastfeeding after delivery

Breastfeeding

Breastfeeding has long been known to be beneficial to both the infant and the mother. Some of the benefits for the babies are fewer middle-ear infections, fewer chronic illnesses such as diabetes, fewer allergies, and less obesity. Schoolchildren who were breastfed as infants have been found to have IQs about eight points higher than those who were not.

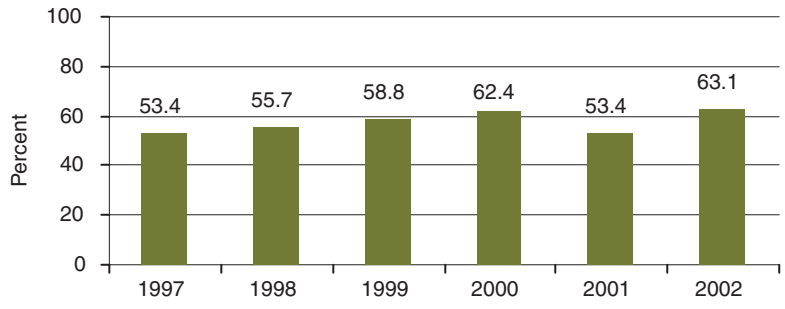
Most Colorado women start breastfeeding shortly after their baby is born (Figure 22), but many do not continue long enough for the baby to gain all of the benefits. The American Academy of Pediatrics recommends breastfeeding for one year, but most women do not continue for that length of time. Although more women are breastfeeding, less than two-thirds currently do so for nine weeks or more (Figure 23). The *Healthy People 2010* objective states that 75 percent will initiate breastfeeding soon after delivery and 50 percent will breastfeed for six months.

Figure 22. Women who initiated breastfeeding after delivery: Colorado residents, 1997-2002



Source: Pregnancy Risk Assessment Monitoring System, Health Statistics Section, CDPHE.

Figure 23. Women who breastfed for nine or more weeks: Colorado residents, 1997-2002



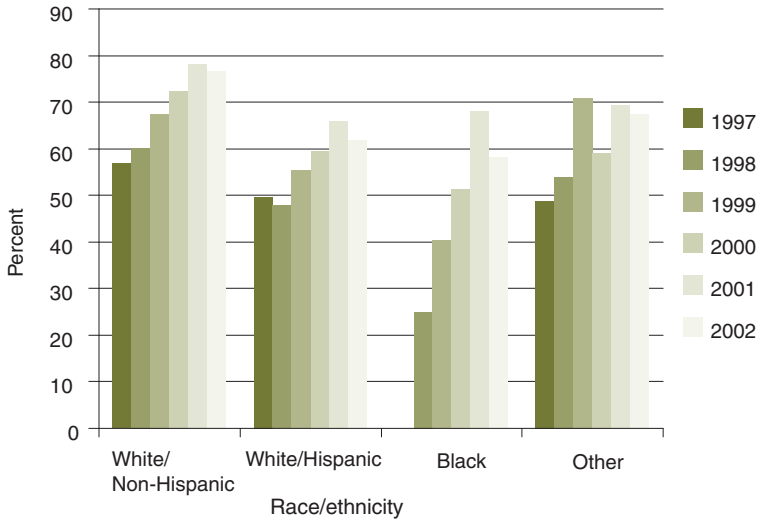
Source: Pregnancy Risk Assessment Monitoring System, Health Statistics Section, CDPHE.

HP 2010 Objective: At least 70% of infants sleep on their backs
Colorado Status: White non-Hispanic 76.7; Hispanic 61.8%; Black 58.1%

Infant Sleep Position

Infant sleep position has been identified as an important factor in preventing Sudden Infant Death Syndrome (SIDS). Infants who sleep on their stomachs are estimated to be up to 9.3 times more likely to die of SIDS than infants who sleep on their backs. Since the implementation of the 1994 "Back to Sleep" campaign, the percent of infants who sleep on their backs has increased significantly. In Colorado, increasing trends are seen for infants who sleep on their backs for all race and ethnic groups (Figure 24). However, continued efforts are needed in Colorado's Hispanic and Black populations to meet the *Healthy People 2010* objective of at least 70 percent of infants being put to sleep on their backs.

Figure 24. Percent of infants who sleep on their backs by race/ethnicity: Colorado residents, 1997*-2002



*No data are available for black infants for 1997.
Source: Pregnancy Risk Assessment Monitoring System, Health Statistics Section, CDPHE.

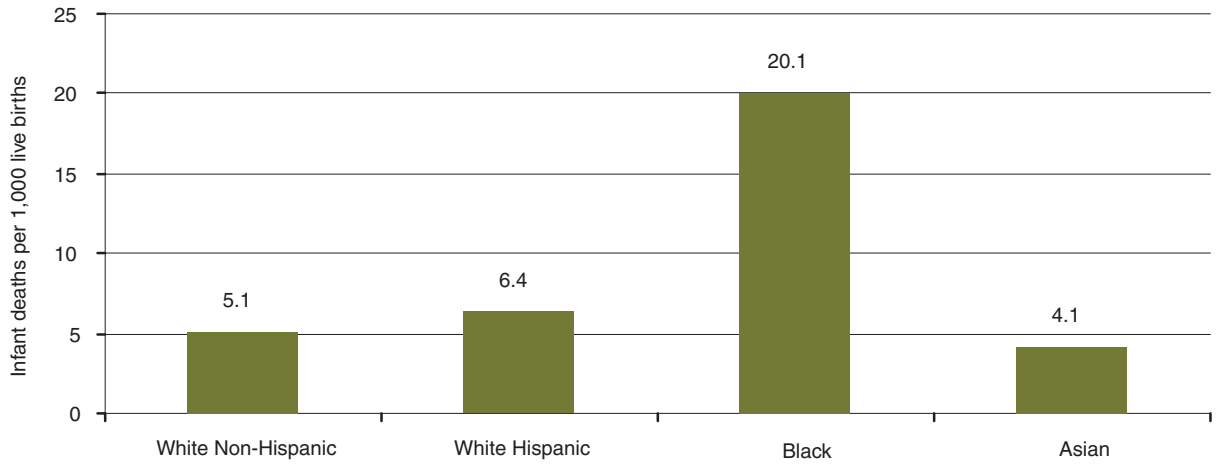
HP 2010 Objective: Reduce infant mortality to 4.5 infant deaths per 1,000 live births

Colorado Status: 6.0 infant deaths per 1,000 live births

Infant Mortality

Of the 69,304 infants born to Colorado residents in 2003, 419 did not survive the first year of life. The infant mortality rate is the number of infant deaths per 1,000 live births. In 2003, the infant mortality rate for Colorado was 6.0. The *Healthy People 2010* objective is to reduce that rate to 4.5 infant deaths per 1,000 live births. Colorado has made progress in reducing this rate, as has the U.S., but there is still a large disparity in infant mortality by race/ethnicity (Figure 25). In 2003, the infant mortality rate for Black infants was three times as high as that for White Hispanic infants and approximately four times higher than the other racial/ethnic groups.

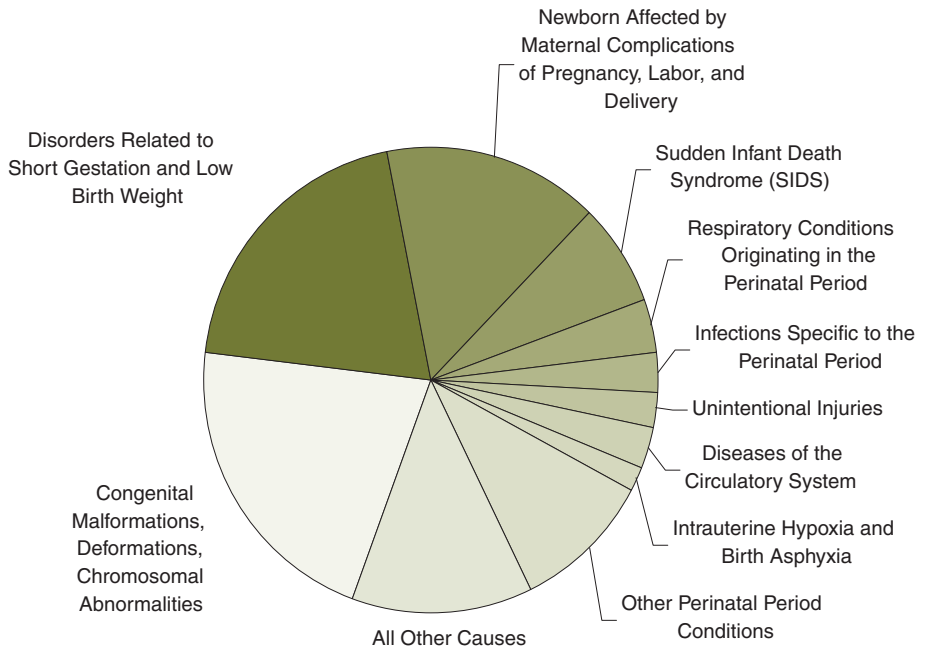
Figure 25. Infant mortality rates by race/ethnicity: Colorado residents, 2003



Source: Death records, Health Statistics Section, CDPHE.

Four underlying cause categories were identified in 64 percent of all infant deaths to Colorado residents in 2003: congenital malformations, deformations, and chromosomal abnormalities; disorders related to short gestation and low birth weight; newborn affected by maternal complications of pregnancy, labor, and delivery; and Sudden Infant Death Syndrome (SIDS) (Figure 24). For each of these causes, the rate for Black infant mortality was higher than that for White infants (regardless of ethnicity).

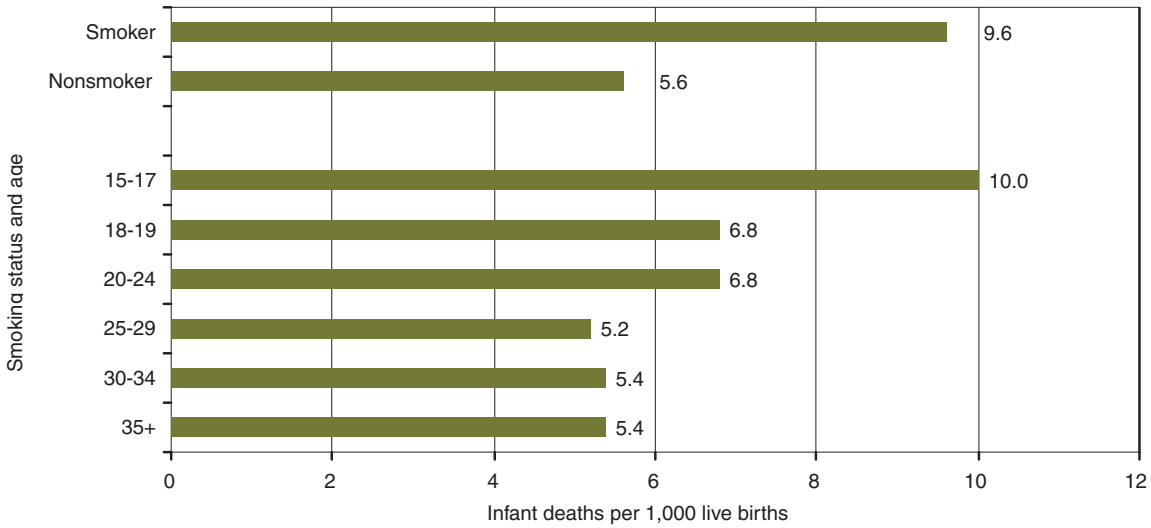
Figure 24. Percent of infant deaths by underlying cause: Colorado residents, 2003



Source: Death records, Health Statistics Section, CDPHE.

Infant mortality rates vary by such maternal characteristics as smoking during pregnancy and mother's age (Figure 27).

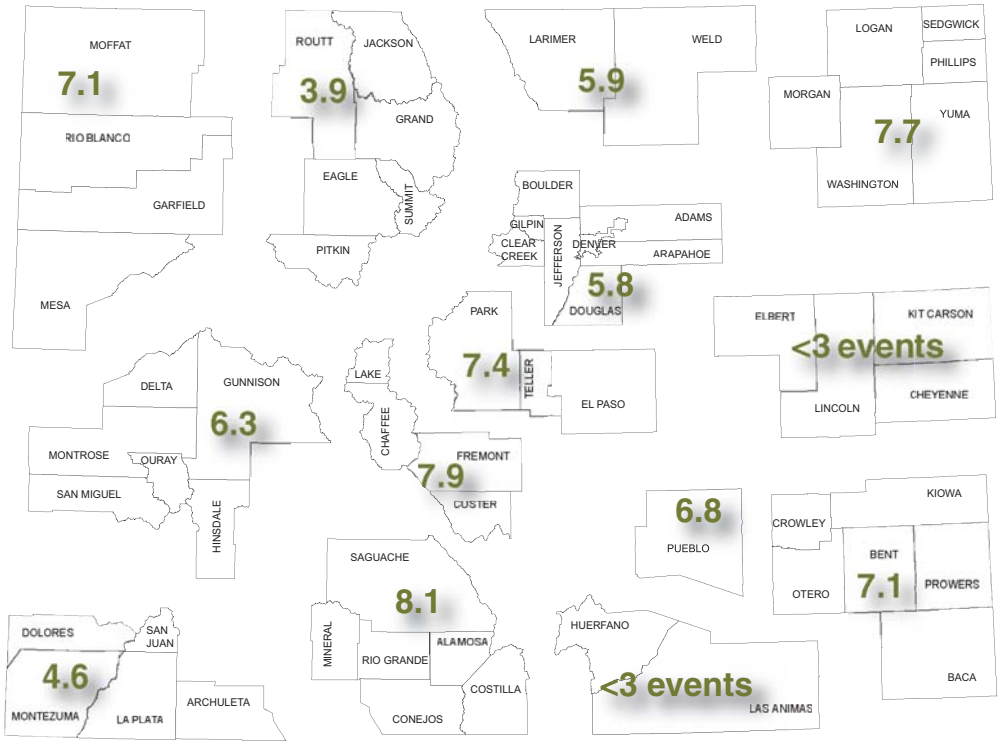
Figure 27. Infant mortality rates by prenatal smoking status and age of mother: Colorado residents, 2003



Source: Death records, Health Statistics Section, CDPHE.

Infant mortality rates vary throughout the state with the lowest rates occurring in the Planning and Management Regions composed of Eagle, Grand, Jackson, Pitkin, Routt, and Summit counties and Archuleta, Dolores, La Plata, Montezuma, and San Juan counties. The Planning and Management Region composed of Alamosa, Conejos, Costilla, Mineral, Rio Grande, and Saguache counties had the highest infant mortality rate for the years 1999-2003 combined.

Figure 28. Infant mortality rates by Planning and Management Region of residence: Colorado residents, annual average 1999-2003



Infant mortality rate is number of infant deaths (<1 year) per 1,000 live births
Source: Death records, Health Statistics Section, CDPHE.

HP 2010 Objective: 25.0 deaths per 100,000 children ages 1-4
Colorado Status: 30.2 deaths per 100,000 children ages 1-4

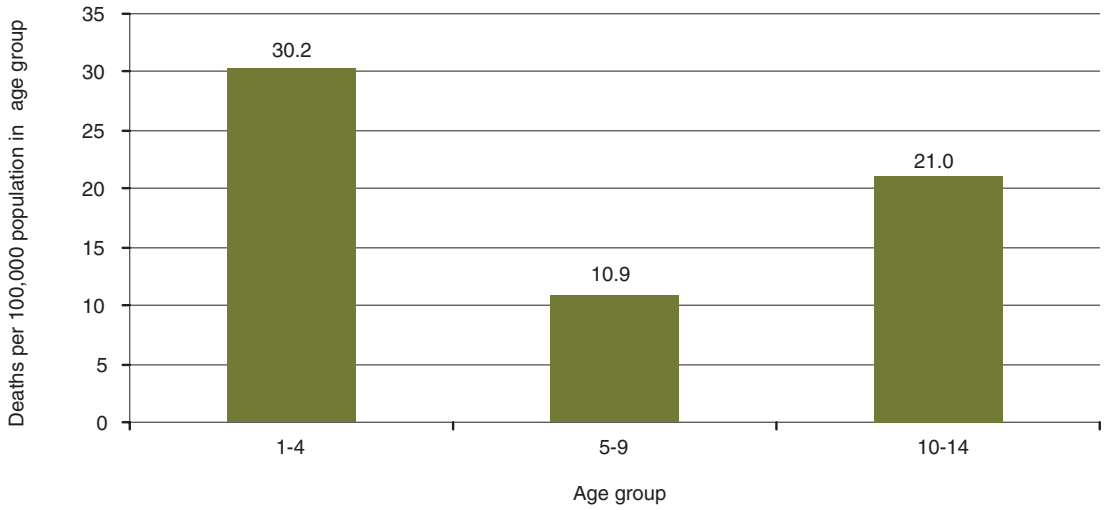
HP 2010 Objective: 14.3 deaths per 100,000 children ages 5-9
Colorado Status: 10.9 deaths per 100,000 children ages 5-9

HP 2010 Objective: 16.8 deaths per 100,000 children ages 10-14
Colorado Status: 21.0 deaths per 100,000 children ages 10-14

Child Mortality

A total of 79 Colorado children ages 1-4 lost their lives in 2003. At 30.2, the 2003 Colorado death rate per 100,000 population of children ages 1-4 is higher than the *Healthy People 2010* objective of 25.0 deaths per 100,000 in that age group (Figure 29). For the 5-9 age group, 34 children died and the Colorado rate for 2003 is 10.9, lower than the *Healthy People 2010* objective of 14.3. For children ages 10-14, the 2003 Colorado rate of 21.0 is higher than the *Healthy People 2010* objective of 16.8. A total of 68 Colorado children ages 10-14 died in 2003.

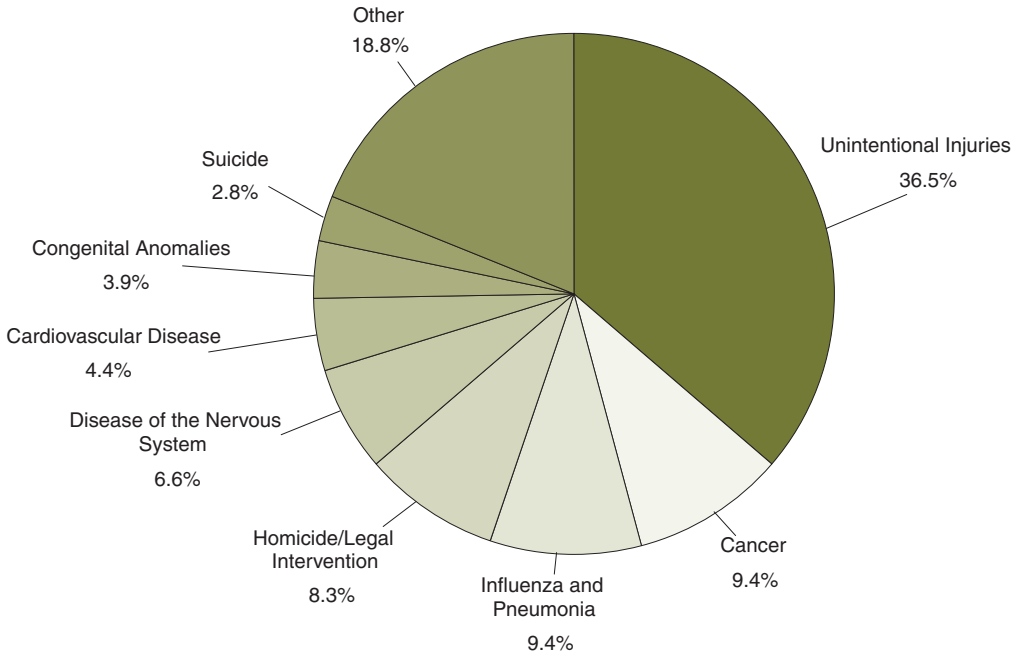
Figure 29. Age-specific death rates: Colorado residents ages 1-14, 2003



Source: Death records, Health Statistics Section, CDPHE.

More than one-third of deaths to children ages 1-14 in Colorado in 2003 were due to unintentional injuries (Figure 30). Two-thirds (66.7%) of those unintentional injuries were related to transportation, and 13.6 percent were due to drowning. When both unintentional and intentional (homicide and suicide) injuries are combined, almost half of all child deaths in this age group (47.5%) are injury-related. Most of these injury deaths are considered to be preventable.

Figure 30. Child deaths (ages 1-14) by underlying cause: Colorado residents, 2003



Source: Death records, Health Statistics Section, CDPHE.

Adolescent Health

This section describes a constellation of health risk factors for adolescents that contribute markedly to the leading causes of death, disability, and social problems among youth and adults. These include:

- Alcohol, tobacco, and marijuana use;
- Sexual behaviors that contribute to teen pregnancy; and
- Behaviors that contribute to unintentional injuries and violence.

Tobacco and alcohol use initiated during adolescence, and often continued into adulthood, are risk factors for many chronic diseases, including the leading causes of death for adults, heart disease and cancer. Births to teens are often associated with a host of negative consequences for the teens as well as the infants. Pregnancy-related issues are the leading cause of hospitalizations for teens. Violence and unintended injuries account for approximately three-quarters of all deaths to teens, and behavioral patterns established in adolescence may also carry over into adulthood contributing to another leading cause of death for adults: unintentional injury.

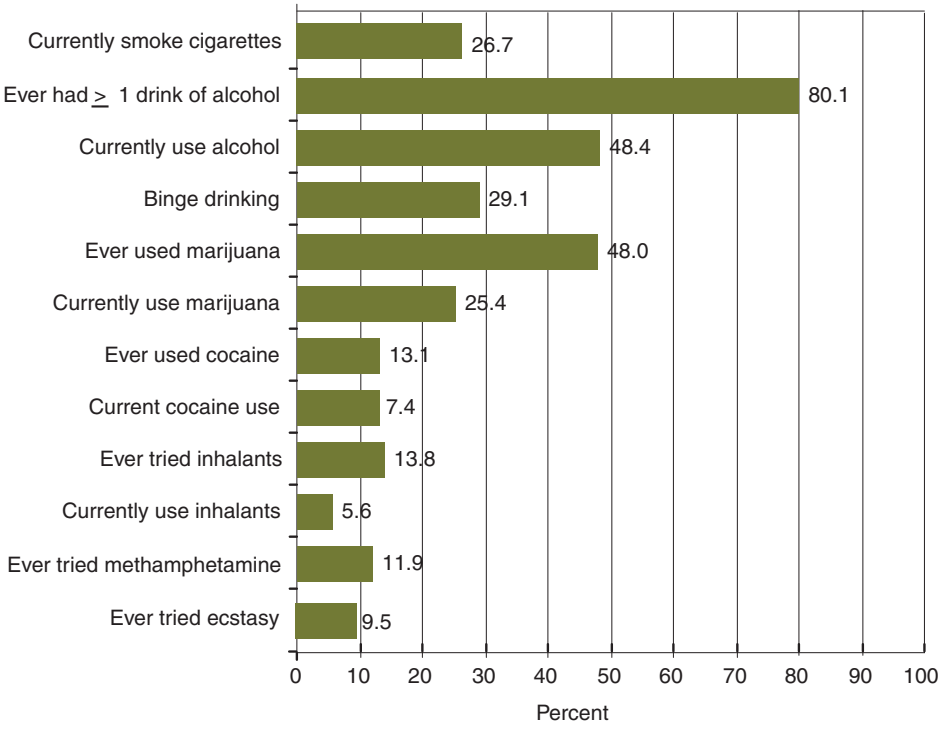
HP 2010 Objective: 29% of high school seniors to have never tried alcoholic beverages
Colorado Status: 19.9% of students grades 9-12 had never tried alcohol

HP 2010 Objective: 0.7% of adolescents ages 12-17 reported using marijuana in last 30 days
Colorado Status: 25.4% of students grades 9-12 reported using marijuana in past 30 days

Substance Use

Substance use among youth is a major predictor of continued use or abuse as an adult, which can often lead to physical and/or mental health problems. More than one-fourth of students surveyed were currently smoking cigarettes (Figure 31). Those adolescents who smoke are more likely to smoke as adults and to be at increased risk for cancer and heart disease. The use of drugs and/or alcohol can lead to dangerous behaviors, including unprotected or unwanted sex, driving under the influence, and more serious criminal behaviors. Nearly 50 percent of students surveyed used alcohol and one-quarter currently used marijuana.

Figure 31. Tobacco, alcohol and marijuana use: Colorado students grades 9-12, 2003



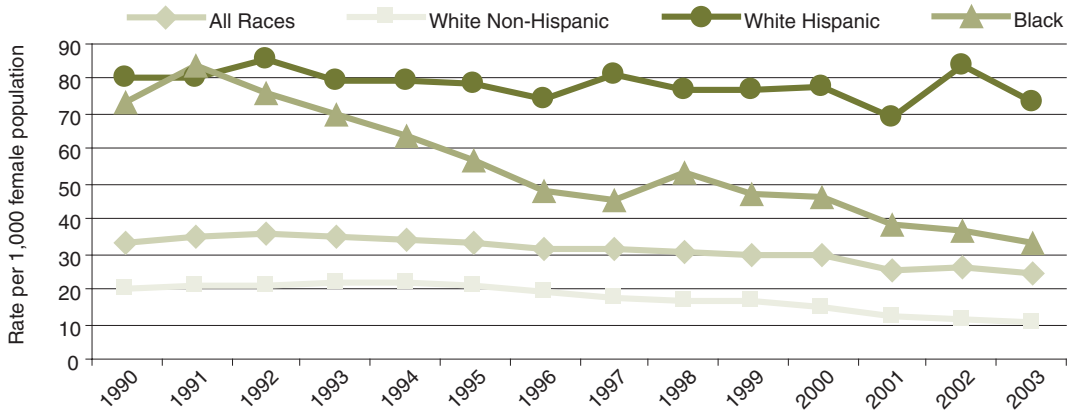
Source: Youth Risk Behavior Survey, Health Statistics Section, CDPHE.

Teen Fertility Rates

Births to teens are of concern because teen mothers are less likely to complete high school, and their children are at increased risk for a variety of negative health and educational outcomes. An age-specific fertility rate is the number of live births in an age group per 1,000 women in the population for that age group. In Colorado, this rate has declined since 1990 to a low of 24.6 in 2003. These rates vary by race/ethnicity but are decreasing for all groups, with the smallest decrease among White Hispanic teens. Still, there were more than 2,300 births to 15-17-year-old Colorado residents in 2003.

Almost half of all hospitalizations for teens ages 15-19 are related to pregnancy or childbirth. The total charges for these hospitalizations are more than $50 million.

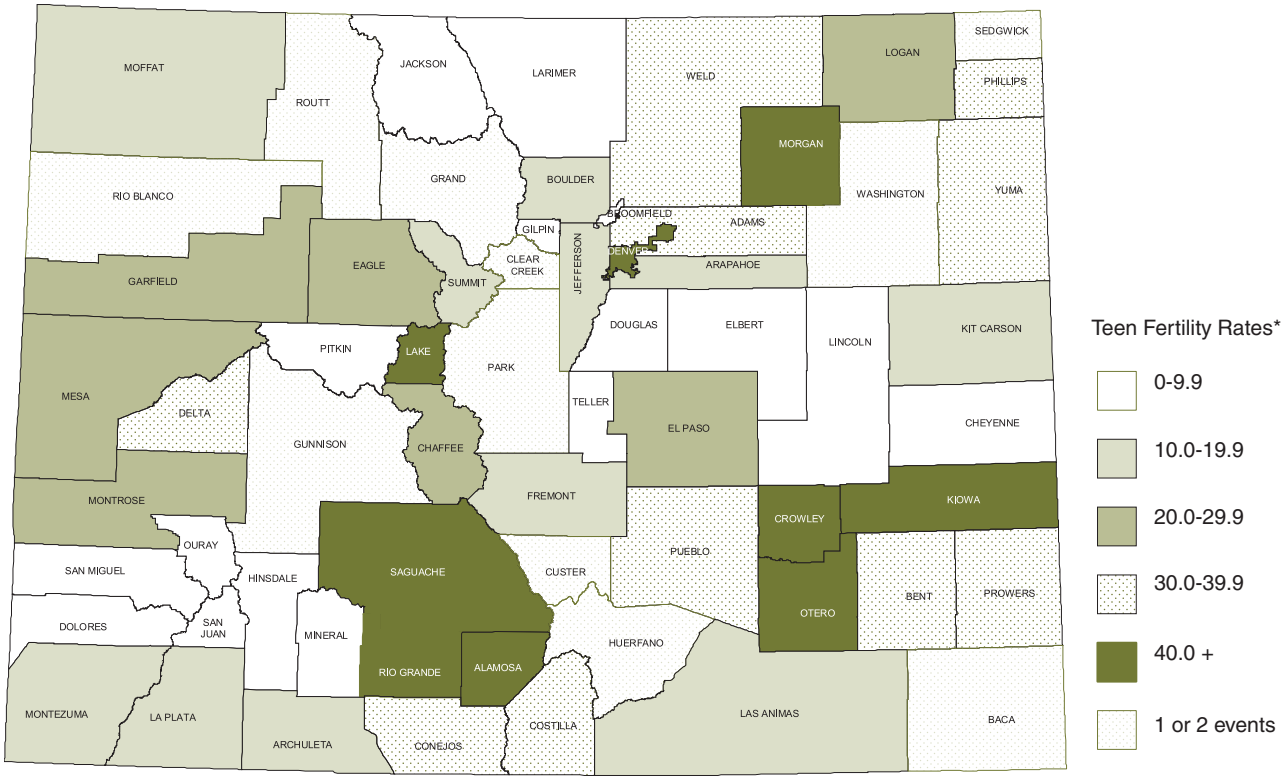
Figure 32. Teen fertility rates by race/ethnicity: Colorado female residents ages 15-17, 1990-2003



Source: Birth records, Health Statistics Section, CDPHE.

Fertility rates for teens ages 15-17 vary by county (Figure 33).

Figure 33. Fertility rates for teens ages 15-17 by county of residence: Colorado residents, 2003



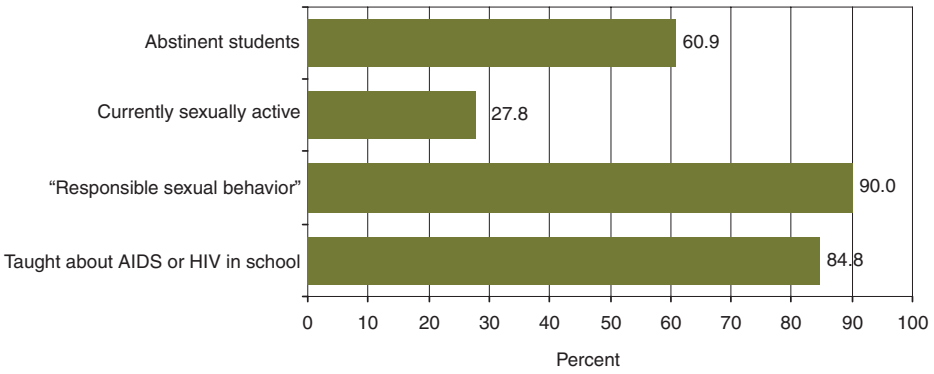
Source: Birth records, Health Statistics Section, CDPHE.
* Births per 1,000 females ages 15-17.

HP 2010 Objective: 75% of 15- to 17-year-olds to remain abstinent
Colorado Status: 60.9% of students had remained abstinent

Abstinence and Sexual Behaviors

The Colorado Youth Risk Behavior Survey in 2001 estimated that 42 percent of teens in high school had ever had sex. This proportion dropped to 39.1 percent in 2003 (Figure 34). This may be one of the factors associated with the decline in teen fertility rates. Although the question about responsible sexual behavior had not been asked in the survey prior to 2001, questions about contraceptive use were asked. The responses to these questions indicated that use of condoms is increasing. This may also be contributing to the decline in teen fertility rates in Colorado.

Figure 34. Abstinence and sexual behaviors: Colorado students grades 9-12, 2003



* Responsible sexual behavior includes never had sexual intercourse, had sexual intercourse but not in the three months preceding the survey, or had used a condom the last time they had sexual intercourse during the three months preceding the survey.

Source: Youth Risk Behavior Survey, Health Statistics Section, CDPHE.

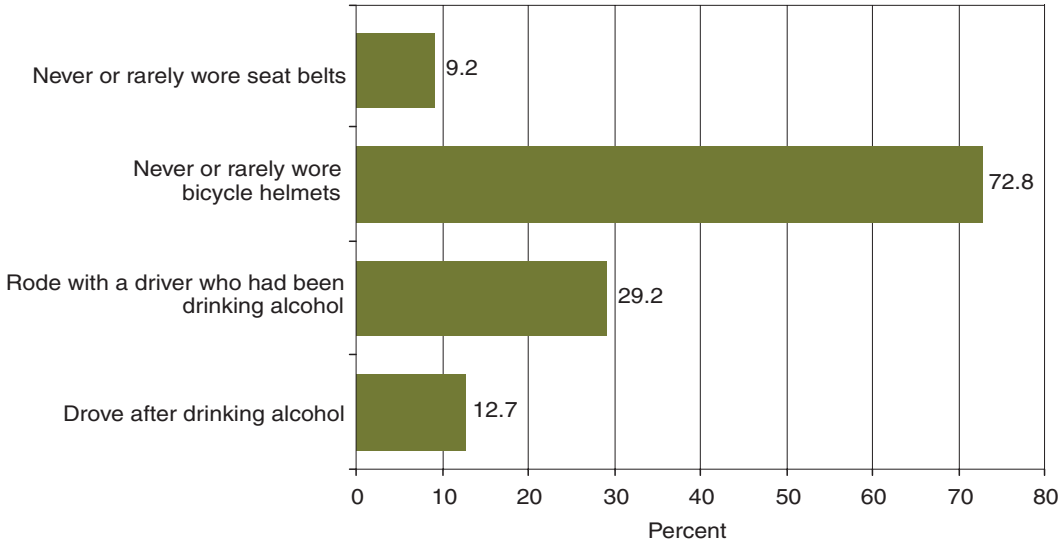
HP 2010 Objective: 92% of population to wear seat belts
Colorado Status: 90.8% of students wore seat belts more than rarely

HP 2010 Objective: 30% or fewer students riding with someone who has been drinking
Colorado Status: 29% of students rode with someone who had been drinking

Unintentional Injuries

The Colorado Youth Risk Behavior Survey measures those health risk behaviors that are most closely associated with the leading causes of death and disability among adolescents. In 2003, unintentional injuries were the leading cause of death to Colorado residents ages 15-19 (56.5%), and motor vehicle-related injuries accounted for the majority of those deaths (47.8% of total deaths). Twenty-nine percent of adolescents surveyed rode with a driver who had been drinking alcohol, and 13 percent had driven after drinking alcohol (Figure 35). Unintentional injuries were also responsible for more than 1,300 Colorado hospitalizations for 15-19-year olds and resulted in more than $40 million in total charges for inpatient hospital care.

Figure 35. Prevalence of behaviors that contribute to unintentional injuries: Colorado students grades 9-12, 2003



Source: Youth Risk Behavior Survey, Health Statistics Section, CDPHE.

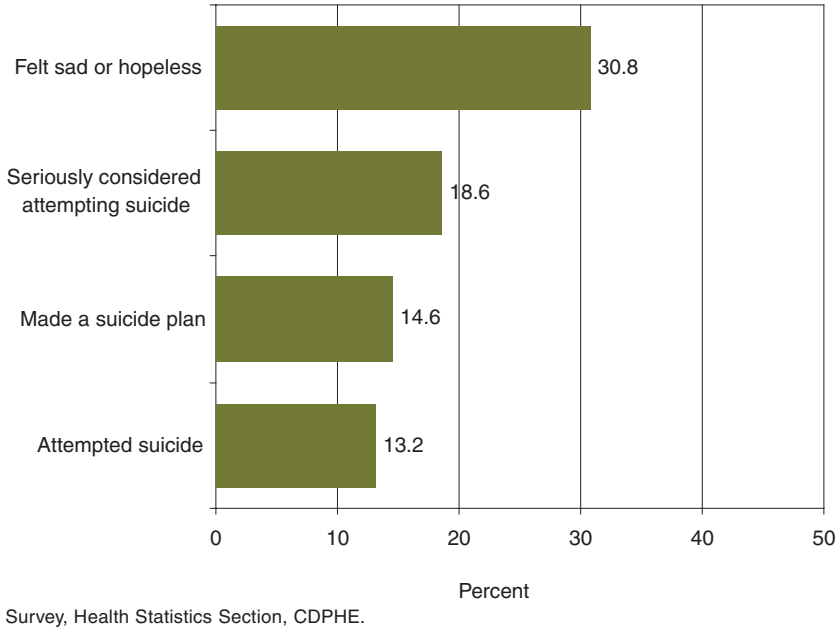
HP 2010 Objective: 1.0% or fewer suicide attempts by adolescents
Colorado Status: 13.2% of students attempted suicide

HP 2010 Objective: 6.0 or lower suicide rate per 100,000 population ages 15-19
Colorado Status: 7.3 suicide deaths per 100,000 Colorado residents ages 15-19

Suicide

In 2003, 30.8 percent of Colorado high school students reported feeling sad or hopeless, and thirteen percent attempted suicide (Figure 36). Suicide rates in Colorado and the Rocky Mountain region are among the highest in the U.S. In 2003, there were 25 suicide deaths to Colorado residents ages 15-19 for an age-specific rate of 7.3 per 100,000 population. In 2003, there were more than 250 hospital discharges of patients 15-19 in Colorado with injuries resulting from intentional self-harm; there were more than 150 discharges with principal diagnoses related to mental disorders that were associated with intentional self-harm.

Figure 36. Sadness, suicide ideation and attempts: Colorado students grades 9-12, 2003



Source: Youth Risk Behavior Survey, Health Statistics Section, CDPHE.

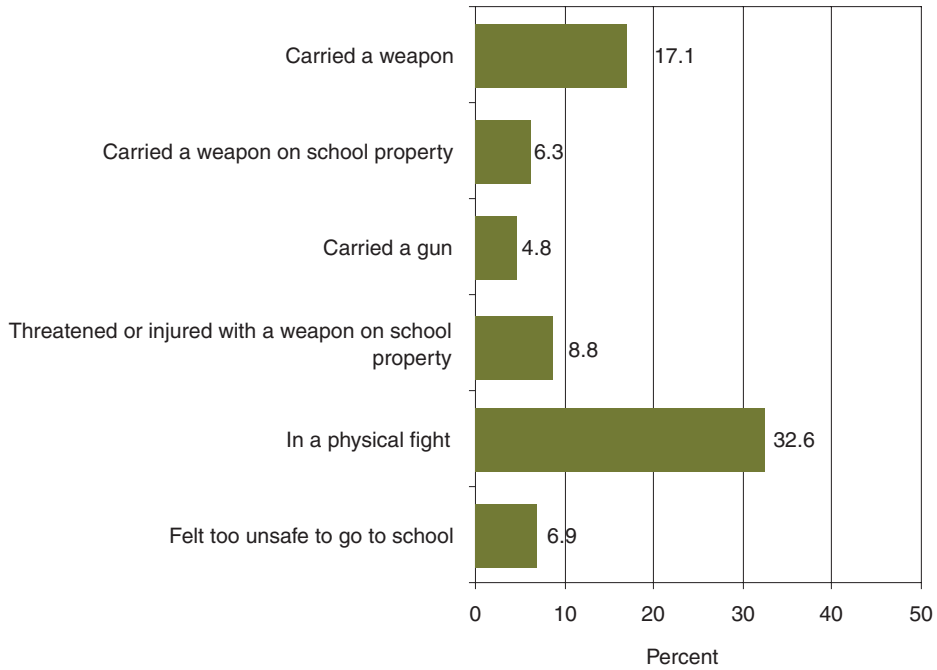
HP 2010 Objective: 4.9% or fewer students carrying weapons on school property
Colorado Status: 6.3% of students carried a weapon on school property

HP 2010 Objective: 32% or fewer students will have engaged in a physical fight
Colorado Status: 32.6% of students had engaged in a physical fight

Violence

Homicide was the underlying cause of death for 20 teens ages 15-19 in Colorado in 2003. More than 150 hospital discharges in Colorado for that age group were the result of assaults. Deaths and injuries are the most tangible effects of violence. Behaviors that contribute to violence among students can also adversely affect the school environment (Figure 37).

Figure 37. Prevalence of behaviors that contribute to violence: Colorado students grades 9-12, 2003

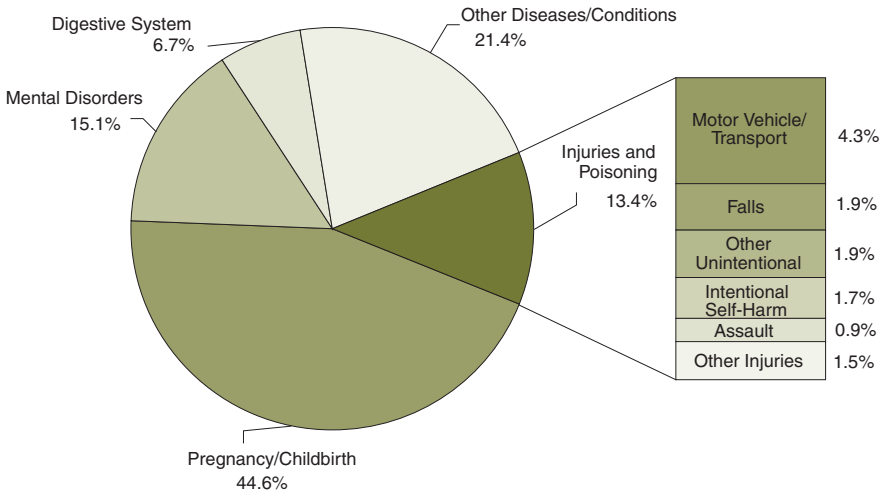


Source: Youth Risk Behavior Survey, Health Statistics Section, CDPHE.

Hospitalization

In 2003, nearly one half of the more than 16,000 Colorado hospitalizations of patients ages 15-19 were related to pregnancy or childbirth (Figure 38). These accounted for approximately one-fourth of the total charges of $240 million that resulted from all hospitalizations for this age group. Diagnoses related to mental disorders accounted for an additional 15.1 percent of hospital discharges in this age group, and injuries and poisonings were another 13.4 percent.

Figure 38. Percent of hospital discharges by principal diagnosis type for patients ages 15-19: Colorado occurrences, 2003

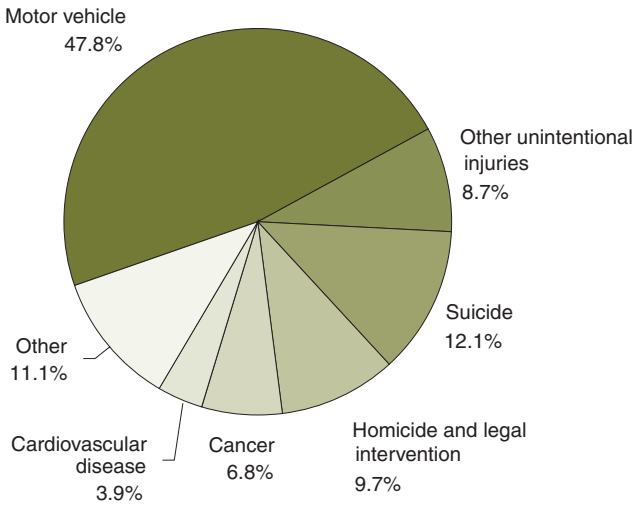


Source: Hospital discharge records, Colorado Health and Hospital Association.

Mortality

In 2003, there were 207 deaths to Colorado residents ages 15-19 resulting in an age-specific death rate of 60.6 deaths per 100,000 population in this age group. The majority of these deaths (56.6%) were due to unintentional injuries, with motor vehicles accounting for 47.8 percent. Other injuries resulted in an additional 21.7 percent (suicide 12.1% and homicide 9.7%) of the deaths in this age group. Overall, more than three-quarters of these deaths were injury-related.

Figure 39. Deaths by leading cause: Colorado residents ages 15-19, 2003



Source: Death records, Health Statistics Section, CDPHE.

Adult Health

Certain risk behaviors initiated during childhood and adolescence and continued into adulthood contribute to the development of chronic disease conditions in adulthood. Heart disease and cancer, the leading causes of death in Colorado adults ages 45 and older, are related to lifetime patterns of poor nutrition, physical inactivity, smoking, and heavy alcohol consumption. Behaviors such as binge drinking contribute to unintentional injuries, the leading cause of death for adults ages 20-44 and third leading cause of death for adults ages 45-54. Access to health care and appropriate use of health screening can help to identify conditions early and provide opportunities for education and referral.

HP 2010 Objective: 100% health care coverage
Colorado Status: 85% had health care coverage

HP 2010 Objective: 98% have a specific source of health care
Colorado Status: 78.6% had a specific source of health care

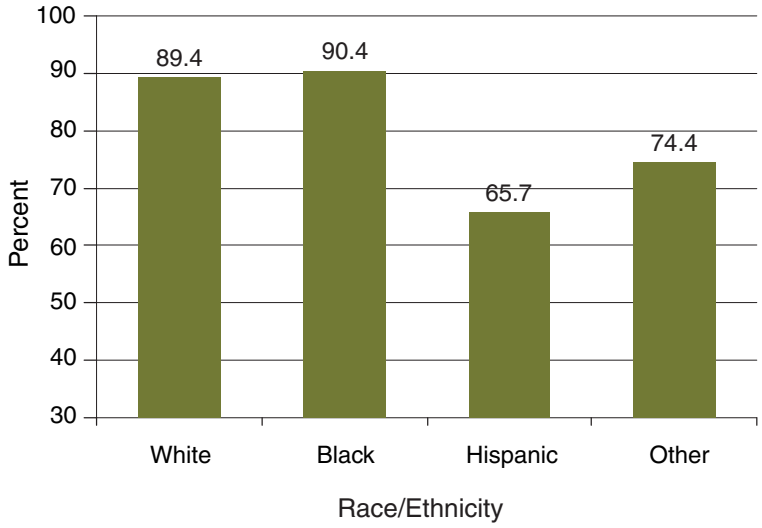
Health Care Coverage

According to *Healthy People 2010*, "Access to health services—including preventive care, primary care, and tertiary care—often depends on whether a person has health insurance. Uninsured people are less than half as likely as people with health insurance to have a primary care provider; to have received appropriate preventive care, such as recent mammograms or Pap tests; or to have had any recent medical visits. Lack of insurance also affects access to care for relatively serious medical conditions. Evidence suggests that lack of insurance over an extended period significantly increases the risk of premature death and that death rates among hospitalized patients without health insurance are significantly higher than among patients with insurance." (Objective 1-1, Clinical Preventive Care)

Eighty-five percent of Colorado adults were covered by some form of health insurance in 2003. Whereas 89.4% of White and 90.4 percent of Black Coloradans have health care coverage, only 65.7 percent of Hispanics reported being covered by health insurance. The *Healthy People 2010* objective is for 100 percent coverage of the population.

Having a specific source of ongoing care is also an important factor in health care access. In 2003, 78.6 percent of Coloradans had a specific source of primary care, falling short of the *Healthy People 2010* objective of 98 percent.

Figure 40. Health care coverage by race and ethnicity: Colorado adults, 2003



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

HP 2010 Objective: 90% of women ≥ 18 have had a pap smear in past three years
Colorado Status: 84.6% of women ≥ 18 have had a pap smear in past three years

HP 2010 Objective: 70% of women ≥ 40 have had a mammogram within past 2 years
Colorado Status: 74.3% of women ≥ 40 have had a mammogram within past 2 years

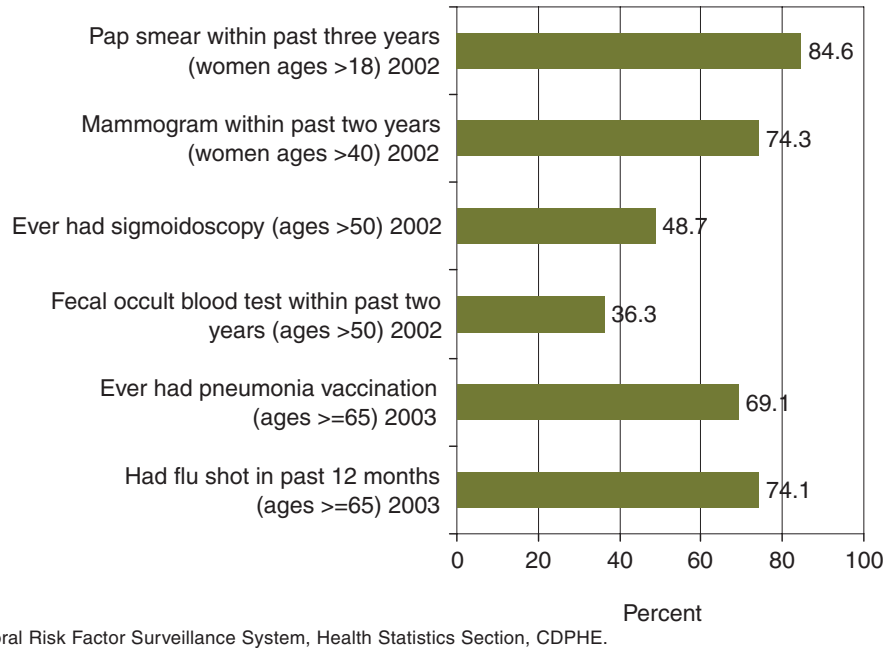
HP 2010 Objective: 50% of adults ≥ 50 have had fecal occult blood test; 50% have had sigmoidoscopy
Colorado Status: 36.3% of adults ≥ 50 have had fecal occult blood test; 48.7% have had sigmoidoscopy

HP 2010 Objective: 90% of adults> 65 have ever had pneumonia vaccine; 90% had flu shot in past 12 months
Colorado Status: 69.1% of adults> 65 have ever had pneumonia vaccine; 74.1% had flu shot in past 12 months

Preventive Health Practices

Preventive health measures such as immunizations against influenza and pneumonia and screening for cancer can be important factors in preventing illness and promoting early detection. In 2003, 84.6 percent of Colorado women ages 18 and over had a pap smear within the past three years. The *Healthy People 2010* objective is 90 percent. Also in 2003, 74.3 percent of Colorado women ages 40 and over had a mammogram in the past two years, exceeding the *Healthy People 2010* objective of 70 percent. The fecal occult blood test (FOBT) and sigmoidoscopy screen for colorectal cancer. In Colorado in 2003, 36.3 percent of adults 50 years and over had an FOBT within the past two years and 48.7 percent had ever had a sigmoidoscopy. Colorado falls short of the *Healthy People 2010* objectives of 50 percent for both of these tests. The *Healthy People 2010* objectives are for 90 percent of adults ages 65 and over to have ever had a pneumonia vaccine and to have had a flu shot within the past 12 months. In Colorado, only 69.1 percent had ever had a pneumonia vaccine and 74.1 percent had a flu shot in 2003.

Figure 41. Preventive health practices: Colorado adults, 2002 and 2003



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

HP 2010 Objective: No more than 20% of adults are physically inactive
Colorado Status: 16.8% of adults were physically inactive

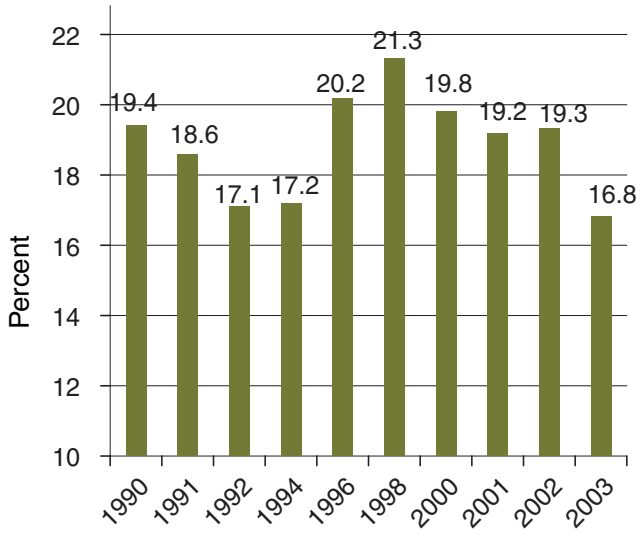
HP2010 Objective: 50% of adults engage in regular, moderate, or vigorous physical activity
Colorado Status: 55% of adults engaged in regular, moderate, or vigorous physical activity

Physical Activity

Healthy People 2010 provides a summary of the research into the benefits of physical activity and shows that virtually all individuals will benefit from regular physical activity. Heart disease is the leading cause of death in Colorado and the United States. Physically inactive people are almost twice as likely to develop heart disease as persons who engage in regular physical activity. Lack of physical activity also puts people at higher risk for diabetes and some types of cancer. Those adults who report that they engage in no leisure time activity are considered physically inactive. In Colorado, between 16 and 20 percent of adults have reported being physically inactive in almost every year since 1990. At this level, Colorado typically meets the *Healthy People 2010* objective of no more than 20 percent of adults being physically inactive.

In 2003, 55 percent of Coloradans reported engaging in regular, moderate physical activity 5 or more days per week for 30 or more minutes or engaging in vigorous physical activity three or more days per week for 20 minutes or more. The *Healthy People 2010* objective is for at least 50 percent of people to engage in moderate or vigorous physical activity.

Figure 42. Physical inactivity: Colorado adults, 1990-2003



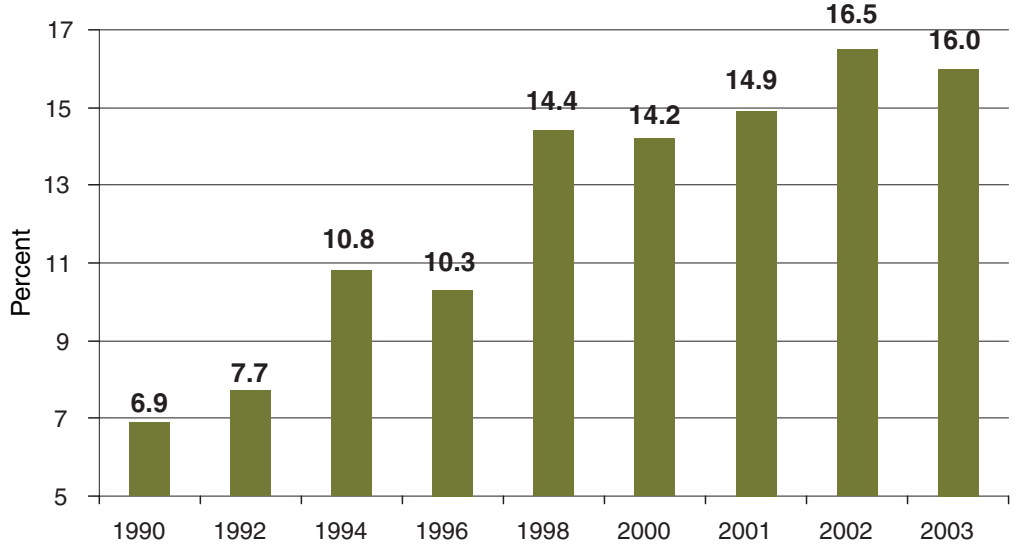
Source: Behavioral Risk Factor Surveillance System, Health Statistics Section, CDPHE.

HP 2010 Objective: No more than 15% of adults are obese
Colorado Status: 16.0% of adults were obese

Obesity

Persons who are overweight or obese are at increased risk for high blood pressure, type 2 diabetes, heart disease, stroke, gallbladder disease, osteoarthritis, sleep apnea, respiratory problems, and some types of cancer. The health outcomes related to these diseases, however, often can be improved through weight loss or, at a minimum, no further weight gain (*Healthy People 2010*). Adults with a body mass index (weight in kilograms/height in meters squared) above 30 are considered obese. In Colorado, as in the rest of the US, the proportion of adults who are obese is increasing dramatically. As shown in Figure 43, obesity has more than doubled in Colorado between 1990 and 2003. In 2003, 16.0 percent of Colorado adults were obese. The *Healthy People 2010* objective is for no more than 15 percent of adults to be obese.

Figure 43. Obesity: Colorado adults, 1990-2003



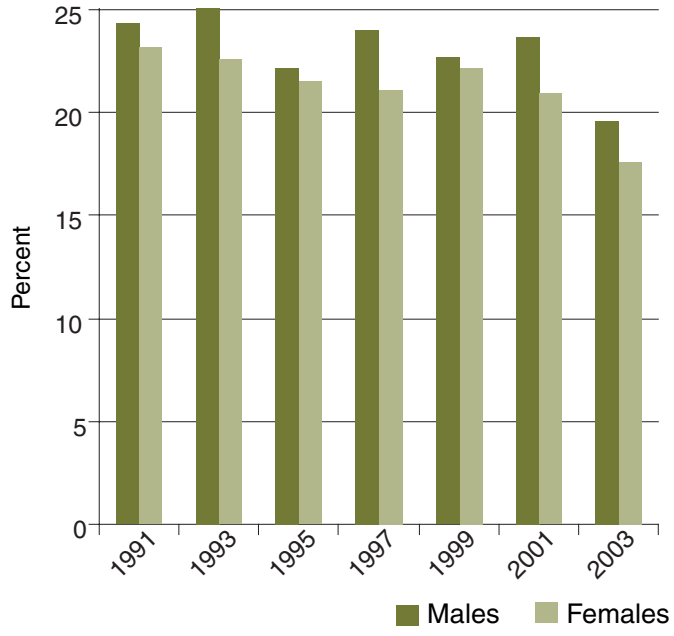
Source: Behavioral Risk Factor Surveillance System, Health Statistics Section, CDPHE.

HP 2010 Objective: No more than 12% of adults smoke cigarettes
Colorado Status: 18.6% of adults smoke cigarettes

Cigarette Smoking

Cigarette smoking is the leading cause of preventable death in the United States. Cigarette smoking causes heart disease, several kinds of cancer (lung, larynx, esophagus, pharynx, mouth, and bladder), and chronic lung disease. Smoking during pregnancy contributes to spontaneous abortions, low birth weight, and Sudden Infant Death Syndrome. There is clear evidence of a decline in smoking by both Colorado males and females; however, at an overall rate of 18.6 percent, Colorado falls far short of the *Healthy People 2010* objective of no more than 12 percent.

Figure 44. Cigarette smoking: Colorado adults, 1991-2003



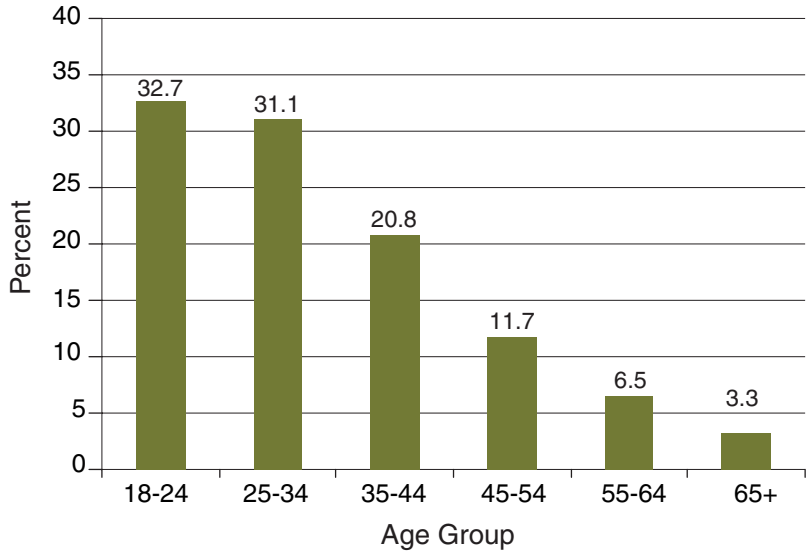
Source: Behavioral Risk Factor Surveillance System, Health Statistics Section, CDPHE.

HP 2010 Objective: No more than 6% of adults engage in binge drinking
Colorado Status: 18.3% of adults engage in binge drinking

Binge Drinking

Research summarized in *Healthy People 2010* shows that alcohol use has been linked with a substantial proportion of injuries and deaths from motor vehicle crashes, falls, fires, and drownings, and is a factor in homicide, suicide, domestic violence, child abuse, and high-risk sexual behavior. Binge drinking is defined as having five or more drinks on one occasion during the past 30 days. Nearly one-third of Coloradans ages 18-24 reported binge drinking in 2003 (Figure 45). Overall, 18.3 percent of Colorado adults reported binge drinking within the past 30 days. The *Healthy People 2010* objective is for 6 percent or fewer adults to engage in binge drinking.

Figure 45. Binge drinking by age group: Colorado adults, 2003



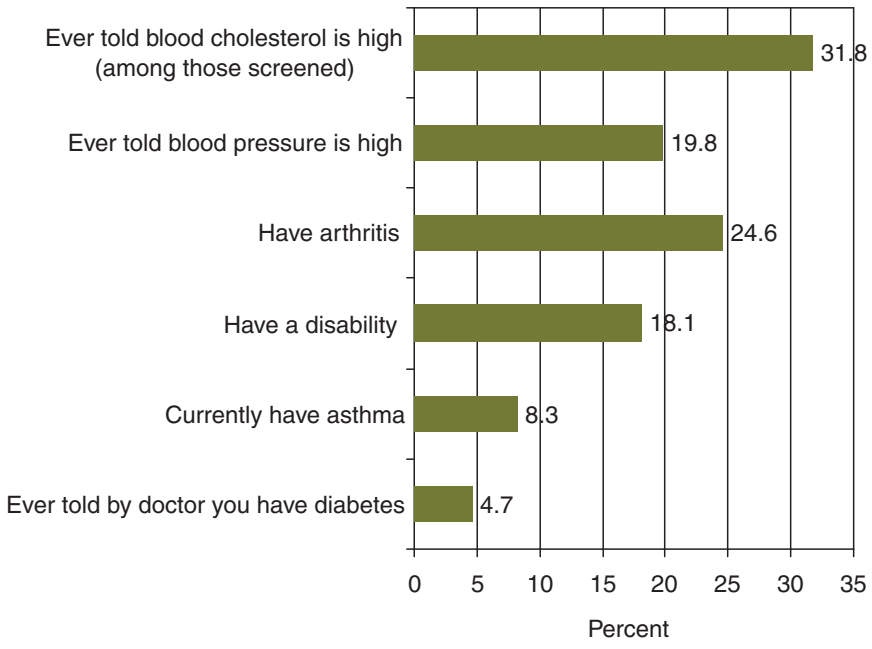
Source: Behavioral Risk Factor Surveillance System, Health Statistics Section, CDPHE.

HP 2010 Objective: No more than 2.5% of adults have diabetes
Colorado Status: 4.7% of adults had diabetes

Morbidity

Several conditions can lead to premature death or can decrease quality of life. In 2003, more than 30 percent of Colorado adults had elevated blood cholesterol levels and nearly 20 percent suffered from high blood pressure, two major risk factors for cardiovascular disease, a leading cause of death (Figure 46). Nearly one in four Coloradans reported that they have arthritis, which can limit daily activities and affect one's ability to work. Eighteen percent of Colorado adults reported that they have a disabling condition which limits their activities. Eight percent suffered from asthma, and nearly 5 percent had clinically diagnosed diabetes. Diabetes is a major risk factor for heart attack and stroke. The *Healthy People 2010* objective is for fewer than 2.5 percent of people to have diabetes.

Figure 46. Morbidity: Colorado adults, 2003

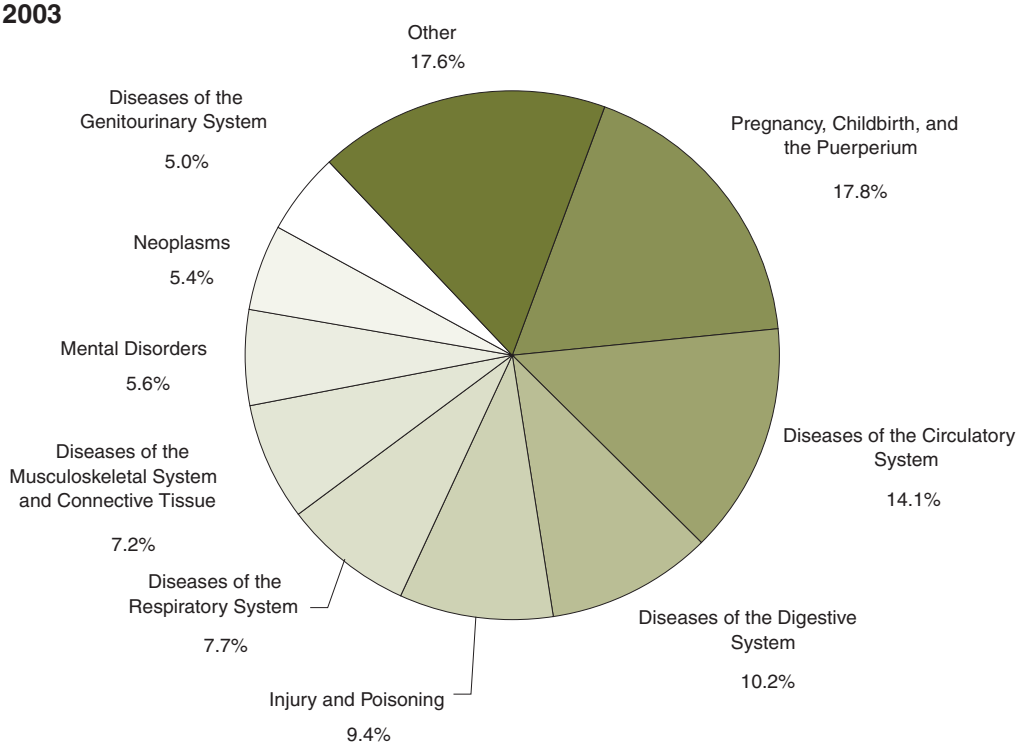


Source: Behavioral Risk Factor Surveillance System, Health Statistics Section, CDPHE.

Hospitalization

For adults ages 20 or older, there were more than 360,000 hospital discharges in Colorado in 2003 and approximately $7.7 billion in total charges. Almost 18 percent of these discharges were related to pregnancy and childbirth (Figure 47), although diagnoses in this group accounted for just 7 percent of the total charges. Pregnancy and childbirth, diseases of the circulatory system, diseases of the digestive system, and injury and poisoning accounted for more than half of all hospital discharges. Together, diseases of the circulatory system and injury and poisoning accounted for more than one-third of all charges for hospital discharges in Colorado in 2003, although those were the diagnoses for less than one-quarter of all discharges.

Figure 47. Percent of hospital discharges by principal diagnosis type: Colorado occurrences for ages 20+, 2003

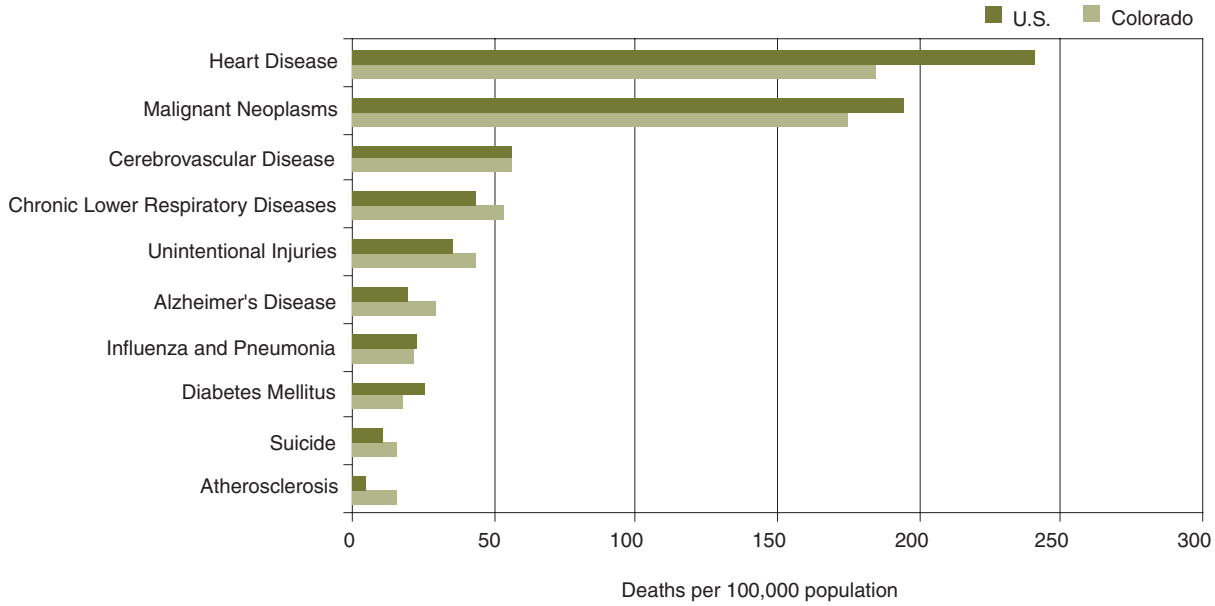


Source: Hospital discharge records, Colorado Health and Hospital Association.

Mortality

Colorado residents had a lower overall age-adjusted death rate than the U.S. in 2002 with 812.8 deaths per 100,000 population compared to 846.8 for the U.S, and Colorado also had lower rates for the two leading causes of death: heart disease and cancer (Figure 48). However, Colorado had higher death rates for some underlying causes of death, such as chronic lower respiratory diseases, unintentional injuries, Alzheimer's disease, suicide, and atherosclerosis.

Figure 48. Age-adjusted* death rates for selected leading causes of death: Colorado residents and U.S., 2002**

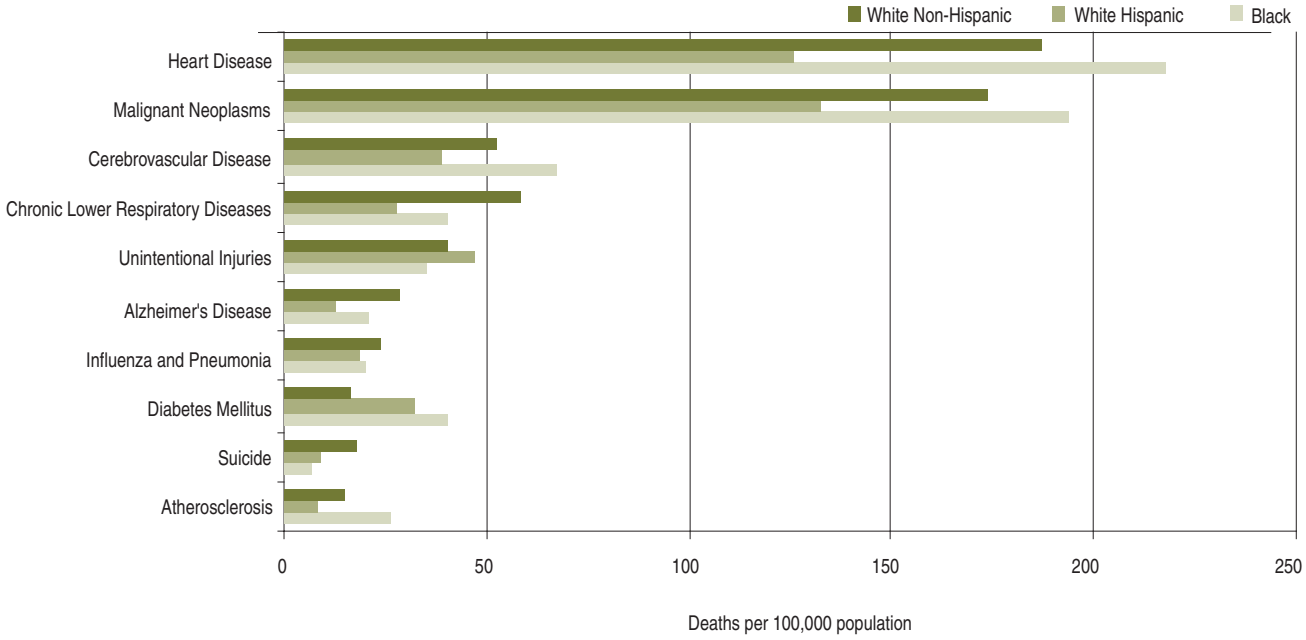


*Rates are age-adjusted to the 2000 U.S. standard population using the direct method applied to 10-year age groups.
** U.S. data are preliminary for 2002.

Source: Death records, Health Statistics Section, CDPHE.

Age-adjusted death rates in Colorado in 2003 varied by race/ethnicity. For chronic lower respiratory diseases, Alzheimer's disease, influenza and pneumonia, and suicide, the highest rates were among White non-Hispanics. White Hispanics had the highest rates for unintentional injuries. The rates for heart disease, cancer, cerebrovascular disease, and atherosclerosis were highest among Blacks and lowest among White Hispanics while the rates for diabetes were highest among Blacks and lowest among White non-Hispanics.

Figure 49. Age-adjusted* death rates by selected race/ethnicity: Colorado residents, 2003



* Rates are age-adjusted to the 2000 U.S. standard population using the direct method applied to 10-year age groups.

Source: Death records, Health Statistics Section, CDPHE.

Mortality patterns differ by age group, but remain somewhat stable over time. One new leading cause in 2003 was for ages 1-9 with influenza and pneumonia becoming the second leading cause. Unintentional injuries were the leading cause of death for the age group 1-44 years, with suicide being the second leading cause for those ages 15-34. For ages 15-24, the three leading causes of death were injury-related: unintentional injuries, suicide, and homicide, and for ages 0-55, at least one of the three leading causes was injury-related. Chronic diseases accounted for more deaths in the older age groups. Cancer was the leading cause for ages 45-74, and heart disease was second. These were reversed after age 75. It is important to understand these patterns in order to develop appropriate strategies to prevent or reduce deaths from different causes in different age groups.

Figure 50. Three leading causes of death by age group: Colorado residents, 2003

Age Group	First Cause	Second Cause	Third Cause
<1	Perinatal Period Conditions	Congenital Anomalies	Unintentional Injuries
1-9	Unintentional Injuries	Influenza and Pneumonia	Homicide
10-14	Unintentional Injuries	Malignant Neoplasms	Suicide
15-19	Unintentional Injuries	Suicide	Homicide
20-24	Unintentional Injuries	Suicide	Homicide
25-34	Unintentional Injuries	Suicide	Malignant Neoplasms
35-44	Unintentional Injuries	Malignant Neoplasms	Suicide
45-54	Malignant Neoplasms	Heart Disease	Unintentional Injuries
55-64	Malignant Neoplasms	Heart Disease	Chronic Lower Respiratory Diseases
65-74	Malignant Neoplasms	Heart Disease	Chronic Lower Respiratory Diseases
75-84	Heart Disease	Malignant Neoplasms	Chronic Lower Respiratory Diseases
85+	Heart Disease	Malignant Neoplasms	Cerebrovascular Disease

Source: Death records, Health Statistics Section, CDPHE.

Injuries can be classified as unintentional or intentional and can be broken down within those groups by cause of death. They account for a large proportion of deaths in the younger age groups and are usually considered to be preventable. In addition to varying by age group, deaths from injuries are distributed differently among gender and racial/ethnic groups. Colorado is among a group of western states that have the highest suicide rates in the U.S. In Colorado in 2003, suicide was the leading cause of injury deaths for males and for White non-Hispanics and the third leading cause of death for females and White Hispanics (Figure 51), with motor vehicle-related deaths being first for those groups. Motor vehicle-related deaths were the second leading cause for males, White non-Hispanics, and Blacks.

Figure 51. Three leading types of injury death by gender and race/ethnicity: Colorado occurrences, 2003

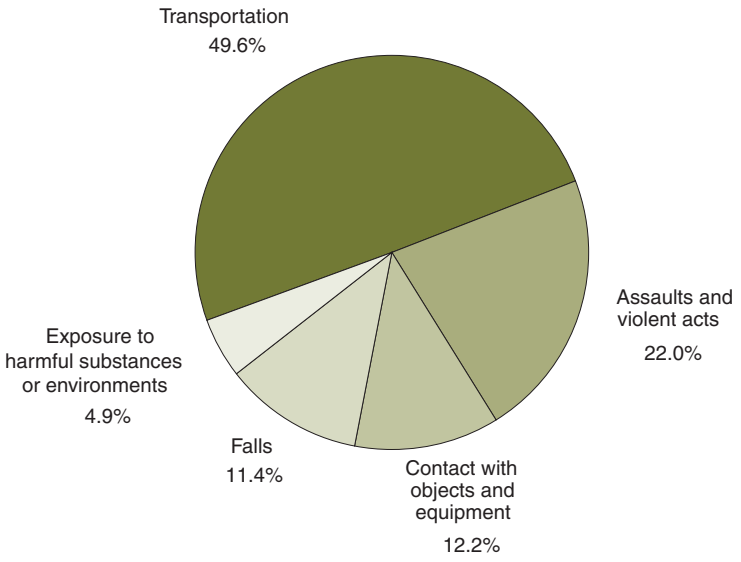
	First Cause	Second Cause	Third Cause
Female	Motor Vehicle	Falls	Suicide
Male	Suicide	Motor Vehicle	Poisoning
White Non-Hispanic	Suicide	Motor Vehicle	Falls
White Hispanic	Motor Vehicle	Homicide	Suicide
Black	Homicide	Motor Vehicle	Poisoning

Source: Death records, Health Statistics Section, CDPHE.

Occupational Injuries

According to the Census of Fatal Occupational Injuries, there were 123 work-related fatalities in Colorado in 2002, for a rate of 5.0 fatalities per 100,000 employed civilians in the state. Transportation-related events were the cause of 49.6 percent of these deaths, followed by assaults and violent acts at 22.0 percent and falls at 12.2 percent (Figure 52).

Figure 52. Work-related fatalities by type of event: Colorado occurrences, 2002

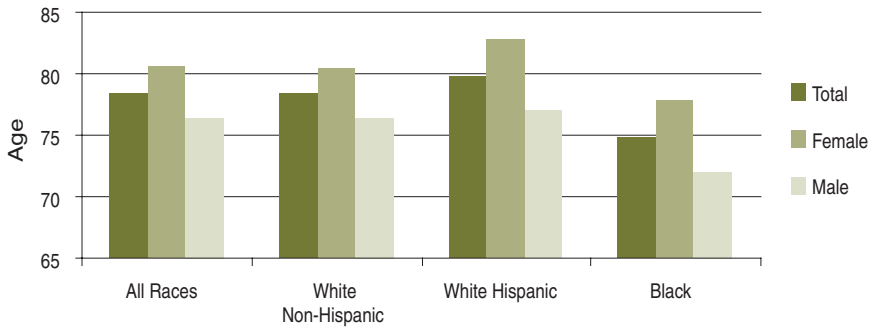


Source: Census of Fatal Occupational Injuries, Health Statistics Section, CDPHE.

Life Expectancy

Life expectancy at birth as presented in Figure 53 is the average number of years that newborns would live if they were to experience the same age-specific death rates throughout their lives that occurred in 2003. In 1991, life expectancy at birth for Colorado residents was 76.9, and in 2003 it was 78.5 for an increase of 1.6 years of expected life or more than 2 percent. U.S. data are not available for 2003, but life expectancy at birth in 2002 was 77.4, a record high. Life expectancy in Colorado is 4.2 years higher for females than for males overall and is higher for females than for males among all racial/ethnic groups. White Hispanic females have the longest life expectancy at 82.8 years and Black males the shortest at 71.9 years.

Figure 53. Life expectancy at birth by sex and race/ethnicity: Colorado residents, 2003

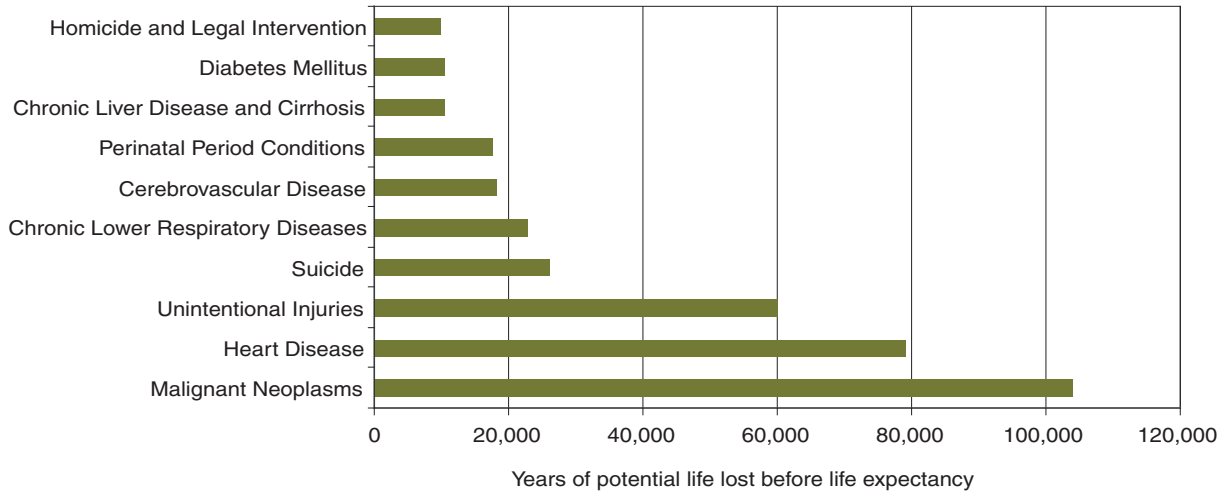


Source: Death records, Health Statistics Section, CDPHE.

Potential Life Lost

Years of potential life lost (YPLL) is a statistic that measures the relative effect of causes of death on premature mortality. It can be calculated as the potential number of years lost before life expectancy or before some other defined time, as age 65. Figure 54 depicts the number of years lost before life expectancy for some leading causes of death.

Figure 54. Years of potential life lost before life expectancy: Colorado residents, 2003



Source: Death records, Health Statistics Section, CDPHE.

Summary

On the whole, Colorado does well on many of the health indicators contained in this report, but there are also many opportunities for improving the health of the population.

The condition of the environment does affect an individual's total health. To ensure that the air and water bodies to which Coloradans are exposed remain at or above standards, air quality such as ozone levels and water quality such as mercury concentrations are continuously monitored. This allows the public to be notified when their health might be affected and makes it possible to develop targeted efforts for environmental improvement.

Because of the critical importance of prenatal care in helping to ensure a healthy pregnancy and delivery, all pregnant women in Colorado should be able to access prenatal care at the beginning and throughout their entire pregnancy. Rates of access are particularly low for women of color. Barriers such as cost and availability of timely appointments should be removed to improve access. Prenatal care provides an important venue for providing advice and assistance to address many of the health issues facing pregnant women in Colorado, such as smoking during pregnancy, inadequate or excessive weight gain, not breastfeeding, and placing babies to sleep on their stomachs instead of on their backs. Changes in these behaviors would help reduce the low birth weight and preterm delivery rates as well as positively impact the infant mortality rate.

As illustrated in this report, unintentional injury is the leading cause of death for children in Colorado. By their very nature, most injuries are predictable and preventable. Parents need continual education about safety measures for children, including the importance of using properly installed bike helmets, car safety seats, and smoke detectors.

Many opportunities for health improvement exist for the adolescent population in Colorado. Very high rates of smoking, alcohol use, and marijuana use are in evidence. There is a good deal of research which points to promising strategies for reducing substance use among adolescents (see *Healthy People 2010*, Chapter 26, Substance Abuse and Chapter 27, Tobacco Use for a summary). These strategies include school-based programs focused on altering perceived peer-group norms about alcohol use and developing skills in resisting peer pressures to drink. Community-wide programs involving school curricula, peer leadership,

parental involvement and education, and community task forces also have reduced alcohol use among adolescents. Stronger penalties for driving under the influence, raising the minimum drinking age, and raising the price of alcohol and cigarettes have also been effective in reducing use. Health education curricula at the appropriate grade level can prevent initiation among youth, provide knowledge about effective cessation methods, and increase understanding of the health effects of tobacco use.

Adolescents in Colorado also have high rates of attempted and completed suicide. Unfortunately, very few intervention strategies have been evaluated, so evidence of effective suicide prevention strategies remains inconclusive.

The decline in teen fertility for 15-17-year-olds over the past decade is a very positive sign and supported by the increase in reported abstinence and condom use among sexually active high school students in Colorado.

As with younger children, the leading cause of death for adolescents, injury, carries the promise of effective intervention strategies that, if implemented, could reduce the death rate for people in this age group.

As is true for pregnant women, all adults in Colorado require access to health care in order to maximize health outcomes. Health care coverage, an important predictor of access, is extremely low for Hispanics in Colorado. Despite somewhat limited access to health care, Colorado adults avail themselves of preventive health services, such as mammography.

Colorado adults have fairly low rates of physical inactivity and more than half of all adults engage in regular moderate or vigorous physical activity. Colorado adults have correspondingly low rates of obesity, compared to the rest of the country.

Adults in Colorado exceed *Healthy People 2010* goals for binge drinking and cigarette smoking, two factors which contribute to the leading causes of death: injuries, heart disease and cancer.

Opportunities exist for health improvement throughout the life cycle. The need for access to health care exists at every stage. Health behaviors initiated in

childhood and adolescence impact behaviors in adulthood, and health behavior is directly linked to leading causes of illness and death, illustrating the need for the development of healthy behaviors early in life.

Colorado Department
of Public Health
and Environment