

# Keeping Oregonians Healthy:

Preventing Chronic Diseases by Reducing Tobacco Use, Improving Diet, and Promoting Physical Activity and Preventive Screenings



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*Information in this report was compiled primarily from published and unpublished Oregon Department of Human Services sources.*

*Many of these data and reports are available at the Oregon Department of Human Services website: <http://oregon.gov/DHS/ph/hpcdp>*

*Data sets and methodology are more fully described in Appendix B.*

*For additional information about this report, contact the Health Promotion and Chronic Disease Prevention Program at (971) 673-0984.*

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Oregon Department of Human Services  
Public Health Division  
Health Promotion and Chronic Disease Prevention Program  
[www.healthoregon.org/hpcdp](http://www.healthoregon.org/hpcdp)

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# Executive Summary



# Executive Summary

*Keeping Oregonians Healthy is a statewide report that summarizes data and presents information for preventing and managing chronic diseases. Chronic diseases, including cancer, heart disease, stroke, lung disease, diabetes and arthritis, are the major causes of disability and death for Oregonians. In addition to claiming the lives of 19,219 Oregonians in 2005, chronic diseases resulted in hospitalization costs of more than \$1.4 billion.*

## Section 1 Selected Chronic Diseases and Risk Conditions: Overview

Section 1 of this report includes data on the most common chronic diseases, including the following:

- **Cancer** is the leading cause of death in Oregon. During 2004, 19,683 new cases were diagnosed in Oregonians and 7,320 people died from cancer. Cancer accounted for 24 percent of all deaths.
- **Lung cancer** is the leading cause of cancer death in Oregon. In 2004, 2,074 Oregonians died from lung cancer, representing nearly 29 percent of all cancer deaths.
- **Breast cancer** continues to be the most common cancer in Oregon, with 2,671 cases of invasive breast cancer diagnosed among women in 2004
- **Heart disease** is the second leading cause of death in Oregon for both men and women, accounting for 22 percent of all deaths.
- **Stroke** is the third leading cause of death in Oregon. It is preventable; 65-80 percent of strokes are due to elevated blood pressure.
- **Asthma** is the most common chronic disease among children, affecting 8.4 percent of Oregon youth.
- **Diabetes** was the seventh leading cause of death among Oregonians in 2005. More than 179,000 Oregonians report having been diagnosed with diabetes, and perhaps as many as 62,000 adults in the state have diabetes but have not been diagnosed.
- **Arthritis** is the most common chronic disease and affects 27 percent of adult Oregonians. It is a leading cause of disability.
- **High blood pressure** is common among Oregonians, including 70 percent of those who have had a heart attack.
- **Elevated blood cholesterol** is a common condition; 36 percent of adult Oregonians have it. This condition increases the risk for both heart disease and stroke.

- **Obesity** increased 57 percent among Oregonians between 1995 and 2005. Almost one in four adults in the state is obese, more than twice the rate seen just 15 years ago.
- **Depression** is common among those with chronic diseases; one in ten Oregonians with a chronic condition had active symptoms consistent with major depression, and one in three had clinically relevant depression in the prior 12 months.
- Early detection of disease through cholesterol screening, mammography and colorectal cancer screening can result in early treatment, reduced disease burden, and increased survival rates.

## Section 2

### Modifiable Risk Factors: Overview

- **Tobacco use** contributed to nearly 22 percent of all deaths in Oregon in 2005. More than 19 percent of Oregon adults smoke tobacco, and 60,000 Oregon youth use some form of tobacco.
- **Physical inactivity** is common among Oregonians. More than 10 percent of Oregonians lead sedentary lives, and only 56 percent of Oregonians are meeting CDC physical activity recommendations.
- **Poor diet** is a common problem in Oregon, where only one in four Oregonians eats the recommended daily servings of fruits and vegetables.

## Section 3

### Selected Populations: Overview

- Each subsection describes the frequency of selected chronic conditions, related risk factors and mortality rates for African Americans, American Indians and Alaska Natives, Asians and Pacific Islanders, Latinos, Economically Disadvantaged Oregonians, and Older Oregonians.
- In some areas, disparities exist; in others, findings are encouraging and reflect healthy behaviors. It will be important to maintain these areas of strength while working to address other disparities that adversely affect Oregon's diverse communities.

## Section 4

### Community Conditions that Support Health

In Section 4 of *Keeping Oregonians Healthy*, we discuss actions communities can take to support health, including tobacco prevention, promotion of active community environments and healthy eating, implementation of the Chronic Care Model in health care settings and promotion of healthy worksites.

These actions are particularly important given that over the next 20 years, the proportion of older Oregonians will increase and the number of people affected by chronic diseases could escalate rapidly.

#### Overview:

- 76 percent of smokers in Oregon want to quit.
- Smokers who call the Oregon Quit Line and use nicotine replacement therapy are four times as likely to quit as those who try on their own.
- Designing cities and neighborhoods in a way that promotes physical activity increases the number of people who stay active.
- The food industry spends more than \$10 billion a year to advertise foods and beverages; less than \$4 million is spent by public health agencies to promote healthy eating.
- Simple changes in how health clinics are run can improve both quality of care and patient satisfaction for Oregonians with chronic diseases.
- Worksites are critical environments for supporting and promoting healthy behaviors. One in six Oregon worksites has made it easier for employees to fit physical activity into their day by instituting a flextime policy.



# Introduction

*Chronic diseases, including cancer, heart disease, stroke, lung disease, diabetes and arthritis, are among the major causes of disability and death for Oregonians. During 2005, chronic diseases claimed the lives of 19,219 Oregonians.*

Together, heart disease, stroke, cancers, diabetes and chronic lower respiratory diseases account for more than three of five deaths in Oregon. In 2005, the hospitalization costs of these diseases exceeded \$1.4 billion. This is a low estimate, since several large hospitals do not supply information about hospitalization costs.

Chronic diseases and their associated disabilities increase with age. That means as the baby boomer population ages, the number of Oregonians affected by these chronic diseases will escalate, significantly affecting the population's health status and resultant health care needs.

Figures 1 and 2 show that, by 2025, Oregon's population will include a far higher percentage of older Oregonians. Between 2005 and 2025, the state will add nearly a half-million additional people age 65 and older. This older population will increase the need and demand for health care, particularly for chronic diseases.

Communities can help ease the transition to an older state population by fostering “successful aging” that supports healthy lifestyles. To reduce the burden of chronic diseases, the need for costly medical care, and the number of premature deaths, communities can promote tobacco abstinence, healthy eating and physical activity — all of which can help delay the onset of disease and prolong active, healthy lives.

While facing this impending escalation of chronic disease, the public health community is both celebrating the decline in tobacco use and reeling from the explosion of obesity throughout the United States and Oregon.



Figure 1  
**POPULATION PYRAMID FOR OREGON, 2005**

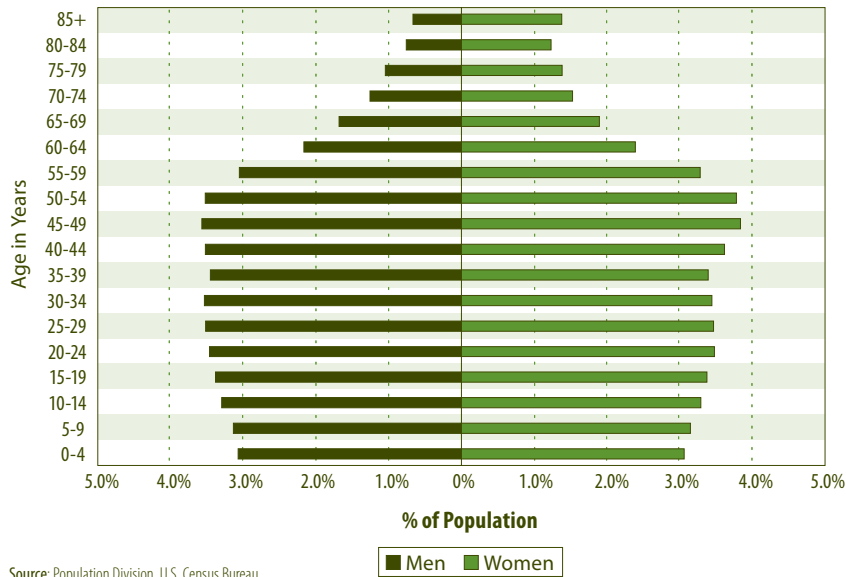
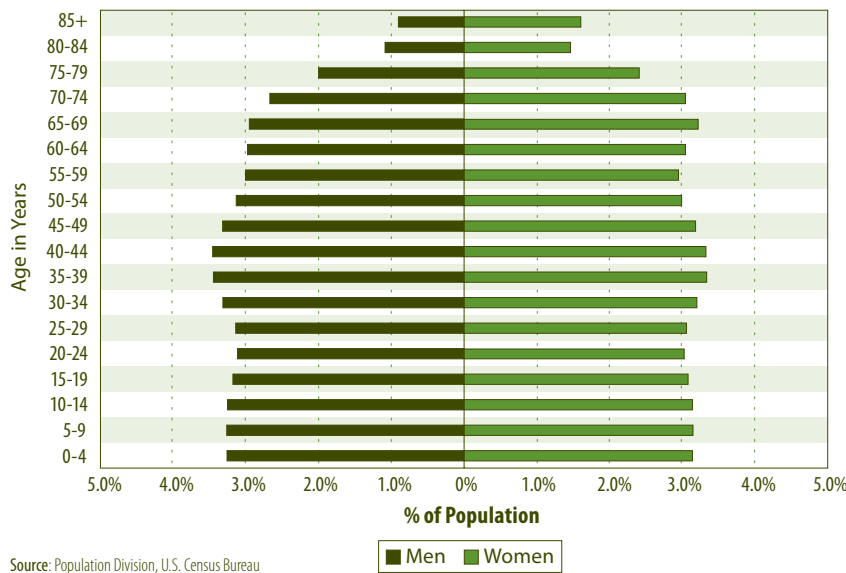


Figure 2  
**PYRAMID FOR PROJECTED POPULATION, OREGON, 2025**



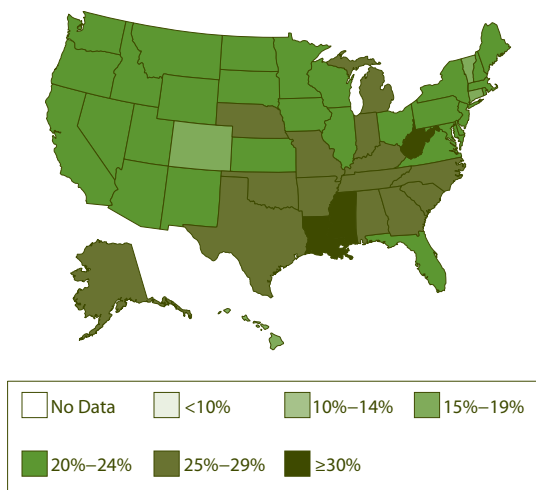
In 2001, Oregon was one of only four states west of the Rocky Mountains where the population of adults who were obese exceeded one in five. As shown in Figure 3, Oregon's prevalence of obesity remains in this range, and we have been joined by every other state in the West except Colorado. Parallel to this increase in obesity is a decline in physical activity and healthy diet. Together, tobacco use, physical activity, diet and obesity play a significant role in the health of Oregonians.

Oregonians who use tobacco, are physically inactive, and eat diets low in fiber and high in fat, sugar and calories are at a much higher risk for many chronic diseases than those who maintain healthier lifestyles by avoiding tobacco use, being active and eating a balanced, low-fat diet. Because these lifestyle behaviors increase an individual's likelihood of developing disease, the behaviors are considered risk factors.

Our behaviors with regard to tobacco use, sedentary lifestyle and poor nutrition not only put us at risk for developing high blood pressure, elevated cholesterol and obesity. These same risk factors can affect the quality of life of those living with chronic diseases.

Early detection and screening for chronic diseases are preventive measures that reduce the burden of disease by leading to early treatment. The medical community has developed screening tools to help identify some chronic diseases in their early stages so that medical treatment can reduce the chances of premature disability and death. Screenings for high blood pressure and high cholesterol can alert patients and their medical providers to the risk of heart disease.

Figure 3  
**U.S. OBESITY AMONG ADULTS, 2005**



BMI  $\geq$  30, or ~ 30 lbs. overweight for 5'4" person  
Source: CDC

Mammography, Pap tests, and sigmoidoscopy (examination of the large intestine lining) are cancer screening tests. Lack of screening is considered a risk factor for selected chronic diseases.

Chronic diseases have a disproportionate impact on some populations. In Section Three of this report, we provide information about how the prevalence of chronic diseases, and risk factors for them, differ between Oregon’s diverse communities.

Conditions in a community provide one way to measure that community’s support for healthy behaviors. Examples include smoke-free worksites and school nutrition guidelines. In the final section of this report, we examine community conditions and policies that support healthy behaviors and appropriate preventive screenings.

The public health community — working in concert with community partners such as businesses, health care delivery systems, faith organizations and civic organizations — can influence these community conditions. These efforts can yield results including the creation of conditions conducive to people making healthy choices; the improvement of early disease detection (maximizing treatment options and survival rates); and the establishment of environments supporting self-care of chronic conditions.

One of the most important settings for supporting healthy behaviors is the worksite. A healthy, tobacco-free worksite environment can lower employers’ health-care costs while improving employees’ health and productivity.

The information in *Keeping Oregonians Healthy* comes from a variety of sources. Two are featured prominently. The Behavioral Risk Factor Surveillance Survey (BRFSS) is an annual, random telephone survey among Oregon adults that tracks rates of chronic disease and related behaviors. The Oregon Healthy Teens survey (OHT) is an annual, random school-based survey of Oregon 8th and 11th graders that tracks behaviors such as smoking, physical activity and eating habits. More details are available in Appendix B, “Data Sources”.

We hope this document provides information that will lead to effective interventions that are focused on modifiable risk factors and that engage our entire community. Together, we can create conditions that promote and support healthy lifestyle choices for every Oregonian.

The goals of this chronic disease assessment are:

- To describe the burden of selected chronic diseases in Oregon, including groups of people affected by these diseases, selected behaviors and screenings that affect these diseases, and community conditions that support healthy lifestyles.
- To provide data for use in monitoring the effectiveness of selected interventions.
- To identify systems and policies that promote healthy lifestyles.

## Section 1: Selected Chronic Diseases and Risk Conditions



# Section 1

## Selected Chronic Diseases and Risk Conditions

*Together, heart disease, stroke, cancer, chronic lower respiratory disease and diabetes claimed the lives of more than 19,000 Oregonians in 2005. These diseases accounted for more than 62% of all deaths in the state (Table 1.1).*

Chronic diseases are common among Oregonians. More than one-third of Oregon adults have high blood cholesterol, 27% have arthritis and 24% have high blood pressure (Table 1.2). These conditions, and other chronic diseases like cancer, asthma and heart disease, exert a significant impact on the quality of life of those who have them.

In addition to the suffering and death caused by these diseases, they also have a substantial economic impact. Among them, heart disease, stroke, cancer, chronic lung disease and diabetes were responsible for 60,000 hospitalizations in 2005 alone, at a cost to Oregonians of more than \$1.4 billion.

Table 1.1  
**DEATHS AND HOSPITALIZATIONS DUE TO SELECTED CHRONIC DISEASES, OREGON, 2005**

Disease	Total Deaths*	% of All Deaths	Total Hospitalizations**	Total Cost**
Cancer	7,277	23.6%	12,181	\$338,088,287
Heart Disease	6,721	21.8%	33,000	\$849,709,895
Stroke	2,268	7.4%	8,112	\$165,670,653
Chronic Lower Respiratory Disease	1,822	5.9%	3,778	\$50,155,846
Diabetes	1,131	3.7%	3,516	\$54,204,821
Total	19,219	62.4%	60,587	\$1,457,829,502

\*Source: Oregon Resident Death Certificates, 2005

\*\* Source: Oregon Hospital Discharge Database, 2005

Hospitalizations were included only when the disease in question was the first-listed diagnosis.

Table 1.2  
**PREVALENCE OF SELECTED CHRONIC CONDITIONS, OREGON, 2005**

Condition	% of Adults
Arthritis	27%
Asthma	10%
Heart Attack	4%
Coronary Heart Disease	4%
Stroke	3%
Diabetes	7%
High Blood Pressure	24%
High Blood Cholesterol	36%

Source: BRFSS, 2005

These numbers give a conservative estimate of the economic impact. They include only those hospitalizations that had a chronic disease as the first-listed, or “primary” diagnosis. This means that if a person with cancer was hospitalized for pneumonia that developed during treatment, and pneumonia was listed as the primary diagnosis, that hospitalization would not be counted, even though the pneumonia developed as a consequence of the person’s cancer.



When we consider all hospitalizations that include one of the chronic diseases listed in Table 1.1 as a contributing diagnosis, the cost of these conditions exceeds \$4.1 billion. These costs don’t reflect additional expenses for outpatient care, medications, and income lost through disability. The economic costs also do not reflect the toll of human suffering caused by these conditions, such as the frustration of a person who can no longer speak to and communicate with loved ones due to stroke, or the pain of a person with cancer or arthritis.

This section reviews the burden in Oregon of several common chronic diseases and conditions. It reviews strategies to detect and treat risk factors for chronic disease so the impact from chronic diseases can be limited, or in some cases, these diseases can be prevented. Finally, it outlines the impact of depression and unhealthy weight on Oregonians with chronic disease.

# Cancer

The Oregon Comprehensive Cancer Plan was developed by the Oregon Partnership for Cancer Control.

This plan provides a blueprint for cancer prevention, control and treatment efforts statewide.

It is available at [www.healthoregon.org/cancer](http://www.healthoregon.org/cancer).

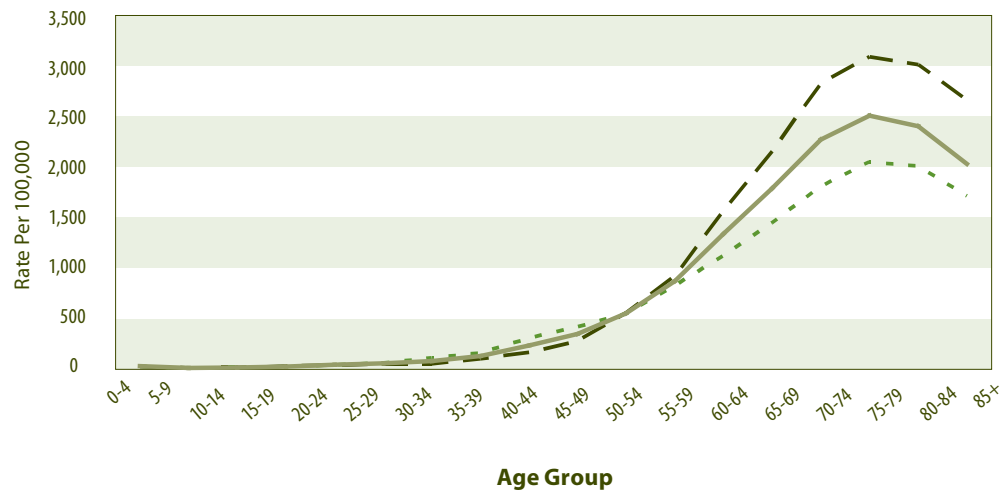
Cancer is the leading cause of death in Oregon. During 2004, a total of 19,683 new cancer cases were diagnosed in Oregonians, and 7,320 people died from cancer. Cancer accounted for 24% of all deaths.

Cancer control depends on preventing cancer whenever possible and — when cancer does occur — detecting it at the earliest possible stage.

Prevention and early detection help reduce cancer risk and prevent cancer-related deaths.

The American Cancer Society recommends the following strategies for cancer prevention: eat a variety of healthful foods, with an emphasis on plant sources; adopt a physically active lifestyle; maintain a healthful weight throughout life; don't smoke; and limit alcohol consumption.

Figure 1.3  
**CANCER INCIDENCE RATES, BY AGE GROUP AND SEX, OREGON, 2004**



Source: Oregon State Cancer Registry, 2004

— Men    - - - Women    — Total

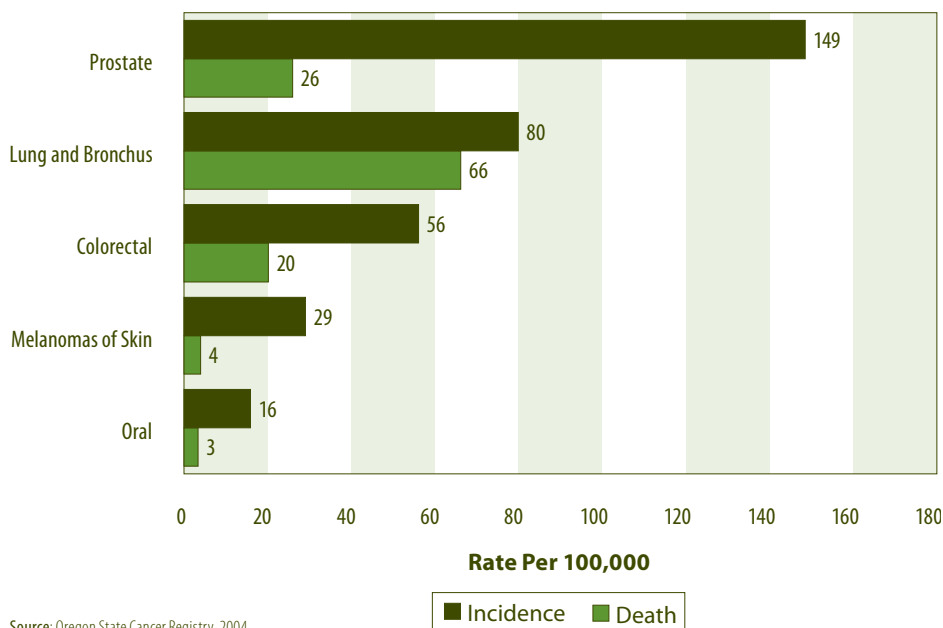


Regular cancer screening examinations by a health professional can find cancer in its earliest stages, when treatment is most effective and the chances for cure are greatest. In addition, Oregonians who have multiple relatives with the same type of cancer may benefit from genetic testing for known cancer genes.

The risk of developing cancer increases with age. Figure 1.3 shows that the rate at which Oregonians develop new cancers, also called the “incidence rate,” rises sharply after age 50. The incidence rate for Oregonians age 50–54 is four times greater than that of Oregonians age 35–39.

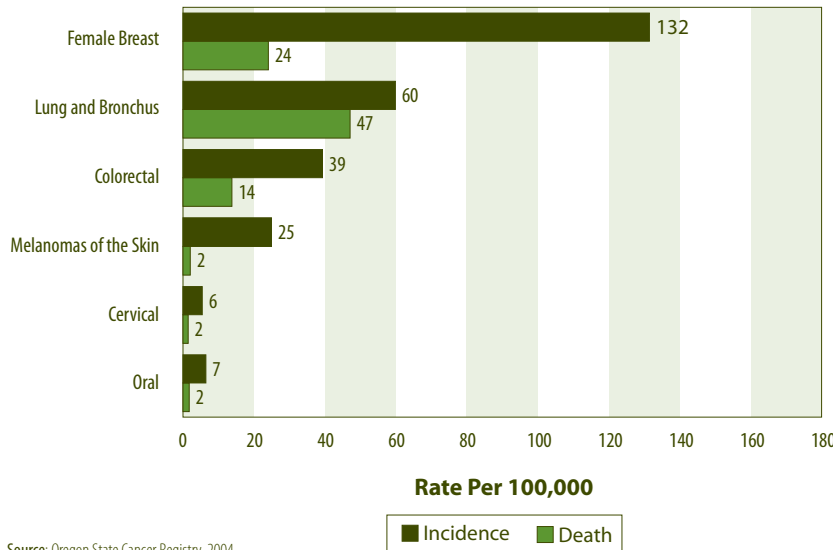
In 2004, Oregon men had a 25% higher age-adjusted cancer incidence rate than Oregon women (537 vs. 429 per 100,000), and a 37% higher age-adjusted cancer death rate than women (228 vs. 167 per 100,000). Figure 1.4 shows the incidence and mortality of selected cancer sites for Oregon men, among whom prostate cancer is the most common.

Figure 1.4  
**INCIDENCE AND DEATH RATES AMONG MEN,  
 BY SELECTED CANCER SITES, OREGON, 2004**



Source: Oregon State Cancer Registry, 2004

Figure 1.5  
**INCIDENCE AND DEATH RATES AMONG WOMEN,  
 BY SELECTED CANCER SITES, OREGON, 2004**

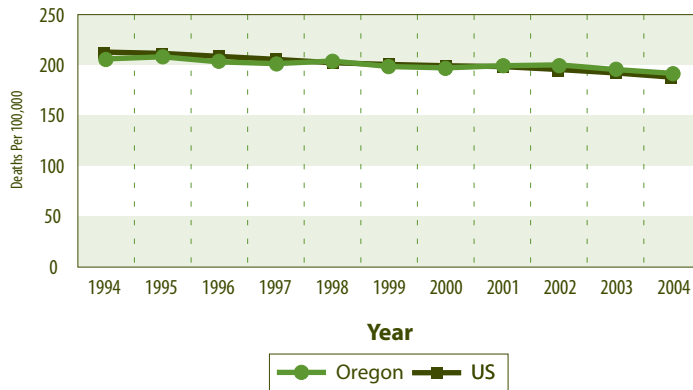


Source: Oregon State Cancer Registry, 2004

Figure 1.5 shows the incidence and mortality of selected cancer sites for Oregon women. Among Oregon women, breast cancer is the most common type of cancer, followed by lung cancer, which is the leading cause of cancer-related deaths for both men and women in the state.

The state's death rates for cancer have remained similar to those for the United States over the past 10 years (Figure 1.6). Oregon's death rate for all cancers in 2004 (192.1 per 100,000) was 20% above the Healthy People 2010 target of 159.9.<sup>1</sup>

Figure 1.6  
**CANCER DEATH RATES, U.S. AND OREGON, 1994-2004\***



Age adjusted to the 2000 Standard Population  
 \* Mortality recodes for cancer begin in 2001  
 Source: CDC Wonder, 1994-2004

## Lung Cancer

Lung cancer is the leading cause of cancer death in Oregon. Smoking is responsible for 80% of lung cancers. Decreasing exposure to tobacco smoke among Oregonians could prevent the majority of lung cancer cases.

In 2004, 2,074 Oregonians died from lung cancer, representing nearly 30% of all cancer deaths. The prognosis for lung cancer is less favorable than for many other cancers. Within five years of a lung cancer diagnosis, seven of 10 men and half of women will have died from their disease.

In Oregon, lung cancer is the third most frequently reported cancer, with 2,557 cases diagnosed in 2004. The incidence of lung cancer among Oregon women is significantly higher than the national rate.

From 1996-2004, the incidence of lung cancer among Oregon men was highest for African Americans. The lung cancer rate for African American men was significantly higher than the rate for non-Latino white men (127 vs. 85 per 100,000).

Among Oregon women during the same time period, American Indian and Alaska Native women had the highest incidence rate for lung cancer (78 per 100,000). This was significantly higher than the rate for non-Latina white women (61 per 100,000).

*The U.S. Preventive Services Task Force<sup>2</sup> recommends periodic screening of all people age 50 years or older, with fecal occult blood testing, sigmoidoscopy or colonoscopy. Fecal occult blood testing is a test that can be done at home to check for evidence of blood in the stool. Sigmoidoscopy and colonoscopy are tests in which a special scope is used to examine the lining of the large intestine to assess for cancer or pre-cancers called polyps.*

## Colorectal Cancer

Together, the colon and rectum make up the large intestine. Cancers occurring in these areas are often grouped together and referred to as colorectal cancer, which is the third most common cause of cancer-related death for men and women in Oregon.

In 2004, 637 Oregon adults died from colorectal cancer. Both incidence and mortality rates were greater among men than women and increased significantly after the age of 50.

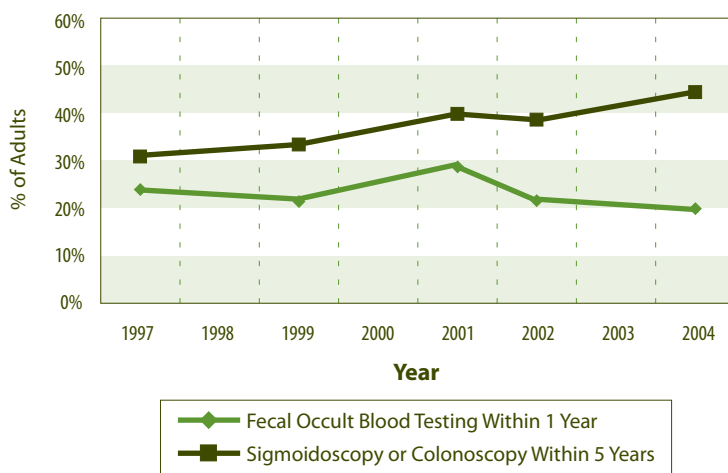
The stage at diagnosis is an important factor in cancer prognosis. Cancers diagnosed in the earliest stages have the best chance for cure.

Among Oregon's 1,852 new cases of colorectal cancer in 2004, only 42% were detected in early stages.

Several screening tests for colorectal cancer are proven to reduce the risk of death from this illness among people over the age of 50. In Oregon, although rates for certain types of screening are improving, only about half of people in this age range receive recommended colorectal cancer screening (Figure 1.7).

Figure 1.7

### OREGONIANS AGE 50 YEARS OR OLDER WHO REPORTED COLORECTAL CANCER SCREENING, BY YEAR, OREGON, 1997-2004



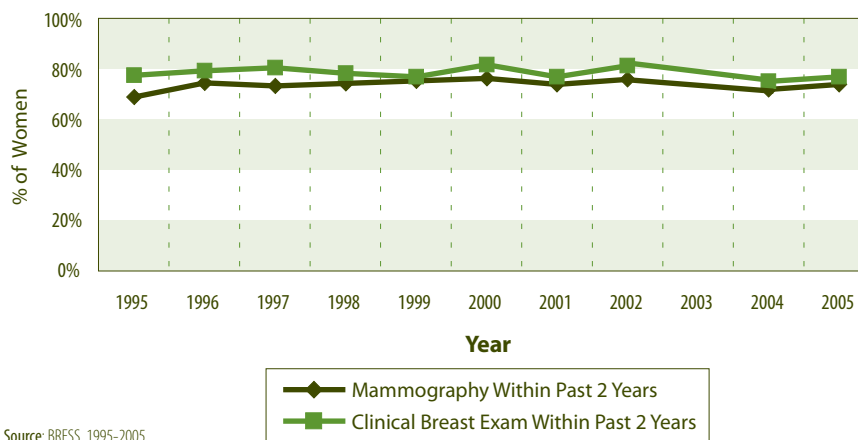
Source: BRFSS, 1997-2004

## Breast Cancer

In 2004, 512 Oregon women died from breast cancer, and with 3,225 new cases, female breast cancer continues to be the most frequently reported cancer. (Twelve Oregon men also developed breast cancer in 2004.)

As seen nationally, breast cancer was the most common cancer in Oregon women and was the second-leading cause of cancer death. Oregon's female breast cancer incidence rate was 6% higher than the national rate (132 vs. 124 per 100,000); however, Oregon's mortality rate was 4% lower (24 vs. 25 per 100,000).

Figure 1.8  
**OREGON WOMEN AGE 40 AND OLDER WHO HAVE HAD BREAST CANCER SCREENING, BY YEAR, OREGON, 1995-2005**



Source: BRFSS, 1995-2005

Early detection of breast cancer improves survival. While more than 70% of Oregon women age 40 and older receive recommended screening (Figure 1.8), more than one in four do not. Still, in 2004, such screening detected 72% of breast cancer cases at an early stage, when treatment is most likely to result in a cure.

*The U.S. Preventive Services Task Force<sup>2</sup> recommends mammography, with or without a clinical breast exam, every one to two years for all women age 40 years and older.*

## Prostate Cancer

Prostate cancer is the most common cancer diagnosed among men, exceeding lung cancer.

In 2004, 406 Oregon men died due to prostate cancer and 2,576 new cases of prostate cancer were detected. The majority of prostate cancers were diagnosed at an early stage, when cure is most likely.

Among Oregon men, African Americans were more likely than non-Latino whites to be diagnosed with prostate cancer (208 vs. 155 per 100,000) and to die of prostate cancer (27 vs. 12 per 100,000).

Screening for prostate cancer, with a blood test for the prostate-specific antigen (PSA), has increased in the U.S. over the past 10 years, but routine screening for prostate cancer is controversial. Most prostate cancers occur in older men, grow slowly, and studies are inconsistent in demonstrating benefits of prostate cancer screening in improved survival or quality of life.

It is recommended that men and their health care providers discuss the risks and benefits of screening for this condition.

## Cervical Cancer

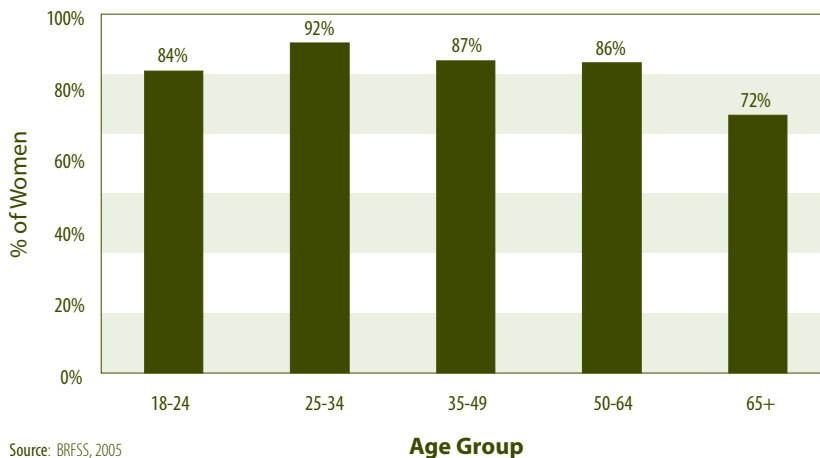
In 2004, 29 Oregonians died due to cervical cancer, and 102 new cases of invasive cervical cancer were reported.

Oregon's age-adjusted incidence and death rates for cervical cancer have been decreasing in recent years, and Oregon's age-adjusted death rate for this cancer (2 per 100,000) is below the national rate (3 per 100,000) and declining annually. In 2004, half of cervical cancer cases were diagnosed in the early (localized) stage.

Incidence and death rates for cervical cancer in Oregon have been decreasing. Pap tests can also detect pre-cancerous conditions that can then be treated, effectively preventing cervical cancer. While many women get recommended Pap tests to screen for cervical cancer, there is room for improvement; 15% of women age 18-24 reported they have never had a Pap test. Overall, one in seven Oregon women report not having had a Pap test within the past three years (Figure 1.9).

Figure 1.9

### OREGON WOMEN WHO HAVE HAD A PAP TEST WITHIN 3 YEARS, BY AGE GROUP, 2005



Source: BRFSS, 2005

*The U.S. Preventive Services Task Force<sup>2</sup> recommends routine screening for cervical cancer for all women age 65 or younger who are or have been sexually active and who have a cervix. Recommendations include:*

- *Pap testing should begin with the onset of sexual activity.*
- *Pap testing should be repeated at least every 3 years.*
- *In women age 65 and older who have had previously normal screening and are not otherwise at high risk for cervical cancer, Pap testing is not recommended.*

## Melanoma of the Skin

In 2004, 1,899 Oregonians were diagnosed with melanoma, of which 977 cases were invasive. Melanoma caused the death of 120 Oregonians.

Oregon's incidence rate for melanoma in 2004 was 26 per 100,000, 40% higher than the national rate of 19 per 100,000. The reason for this is not clear. It is possible that Oregonians may be less likely to protect themselves with a hat or sunscreen due to the many rainy and overcast days in Western Oregon. Unfortunately, clouds do not block out all of the ultraviolet radiation from the sun — radiation that causes melanoma.

In 2004, the Oregon mortality rate from melanoma was 15% higher than the national average. Incidence for Oregon men (29 per 100,000) was significantly higher than that for Oregon women (25 per 100,000) as was mortality (4 vs. 2 per 100,000).

The majority (nearly 80%) of melanomas were diagnosed at an early (*in situ* or localized) stage in 2004.



## Oral Cancer

In 2004, Oregon had 94 deaths due to oral cancer and 443 new cases of oral cancer. More than half of these oral cancer deaths were linked to tobacco. Incidence and death rates for men are more than twice as high as those for women. Just over a third (36%) of the cancers were diagnosed at an early stage.

Although screening for oral cancer is not universally recommended, examination of the mouth by a health professional in persons at high risk can detect cancers at an early stage. It can also lead to recognition and treatment of pre-cancerous lesions, sores that, if untreated, could develop into cancer. This makes it possible, in some cases, actually to prevent oral cancer from occurring.

## Summary

Table 1.10 summarizes the incidence and mortality of selected cancers in Oregon. Overall, 19,683 new cancer cases were diagnosed among Oregonians and 7,320 Oregonians died from cancer in 2004.

Table 1.10

### INCIDENCE AND MORTALITY OF SELECTED CANCERS, OREGON, 2004

Type of Cancer	Total New Cases <sup>1</sup>	Oregon Incidence Rate <sup>1</sup>	U.S. Incidence Rate (2004) <sup>2</sup>	Total Deaths <sup>3</sup>	Oregon Death Rate <sup>3</sup>	U.S. Death Rate (2004) <sup>4</sup>
Overall	19,683	474.9	470.9	7,320	192.1	187.9
Lung and Bronchus	2,557	68.6	61.6	2,074	55.3	53.2
Colorectal	1,852	46.9	48.2	637	16.5	17.8
Female Breast	3,225	131.5	121.3	512	24.1	24.5
Male Prostate	2,576	148.5	155.3	406	25.9	25.4
Cervical	102	5.5	8.1	29	1.5	2.4
Melanomas of the Skin	1,899	26.1	19.4	120	3.1	2.7
Oral	443	10.9	10.3	94	2.5	2.6

All rates are age-adjusted to the 2000 US Standard Population and per 100,000

<sup>1</sup> Source: Oregon Cancer Registry

<sup>2</sup> Surveillance, Epidemiology, and End Results (SEER) Program ([www.seer.cancer.gov](http://www.seer.cancer.gov)) SEER\*Stat Database: Incidence - SEER 17 Regs Limited-Use, Nov. 2006

<sup>3</sup> Source: Oregon Resident Death Certificates

<sup>4</sup> Source: CDC Wonder

# Heart Disease and Stroke

*More Oregonians die each year from heart disease and stroke than from AIDS, suicide and all forms of cancer combined.*

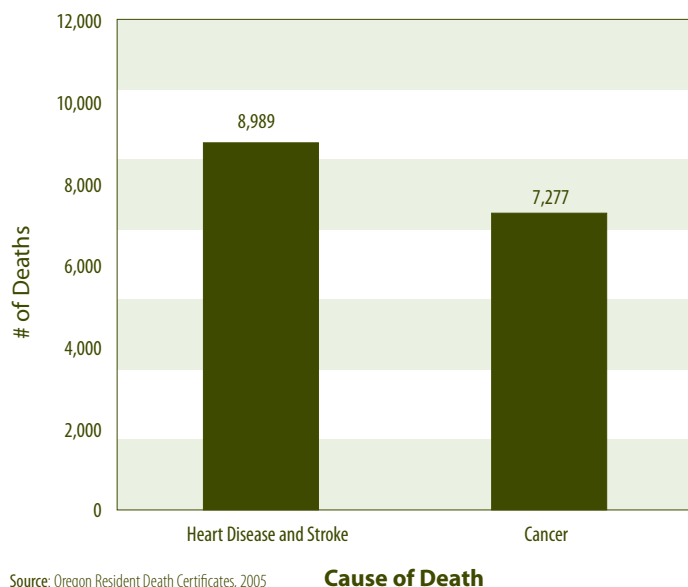
Heart disease is the second leading cause of death for both men and women in Oregon. Although men have a higher heart disease death rate than women, heart disease killed more than six times as many women as did breast cancer in 2004.

As shown in Figure 1.11, heart disease and stroke combined led to almost 9,000 deaths in Oregon in 2005, considerably more than all forms of cancer.

*The Oregon Heart Disease and Stroke Coordinating Council recently published the Statewide Plan for Heart Disease and Stroke Prevention and Care. The plan outlines a strategy to prevent the development of heart disease and stroke, where possible, and to ensure timely, appropriate care to decrease the impact of these diseases on those who have them. The plan is available at [www.healthoregon.org/hdsp](http://www.healthoregon.org/hdsp).*

Figure 1.11

### BURDEN OF DEATHS FROM HEART DISEASE AND STROKE COMPARED WITH CANCER, OREGON, 2005



*Much of the suffering and death caused by heart disease is preventable.*

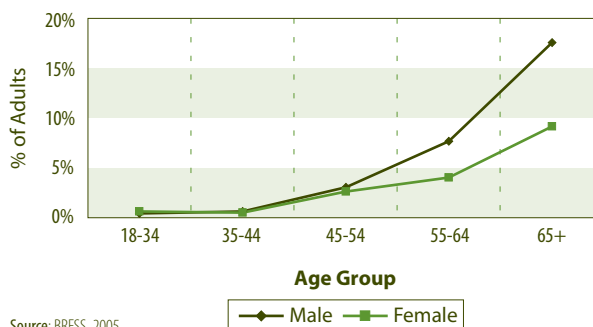
*Factors that increase the risk of heart disease include cigarette smoking, high blood pressure, high cholesterol, diabetes and having a high body mass index (that is, being at a weight that is too high for one's height). Eating a healthy diet, being active and abstaining from tobacco use can markedly decrease one's risk of developing heart disease.*

## Heart Disease

Figure 1.12 shows the increasing prevalence of heart disease and angina (heart-related chest pain) as men and women get older. The prevalence among both men and women age 65 and older is more than double that of people age 55–64.

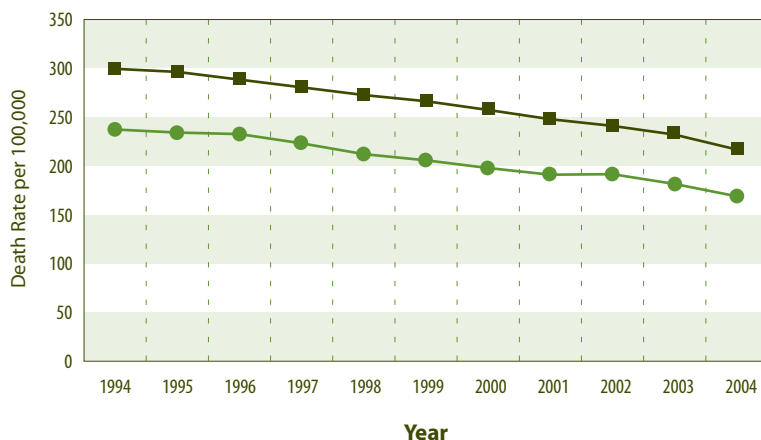
As indicated in Figure 1.13, Oregon death rates from heart disease are gradually declining and have remained below the U.S. rate.

Figure 1.12  
**PREVALENCE OF HEART DISEASE, BY AGE GROUP AND SEX, OREGON, 2005**



Source: BRFSS, 2005

Figure 1.13  
**HEART DISEASE DEATH RATES, U.S. AND OREGON, 1994-2004**



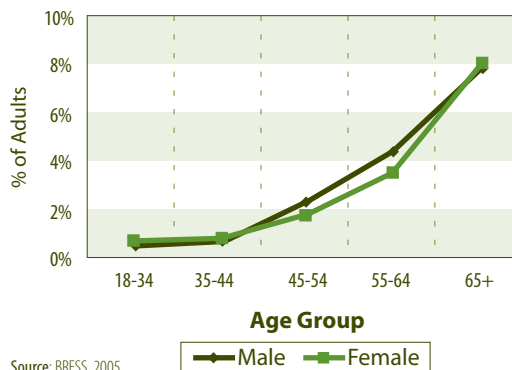
Age adjusted to the 2000 Standard Population  
Source: CDC Wonder, 1994-2004

## Stroke

Figure 1.14 shows the substantial increase in stroke prevalence among both men and women as they age. The prevalence of stroke is more than three times greater for men and women age 65 and older, compared to those ages 45–54.

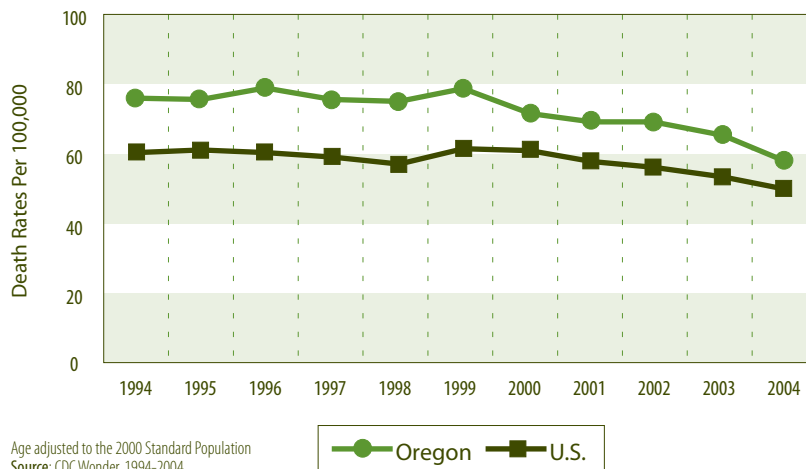
Oregon's death rate from stroke has been higher than the U.S. death rate for many years, as shown in Figure 1.15. For unknown reasons, the stroke death rate in Oregon is among the highest in the nation. In 2004, Oregon ranked 10th nationally in stroke deaths, down from third in 2000.

Figure 1.14  
**STROKE PREVALENCE, BY AGE GROUP AND SEX, OREGON, 2005**



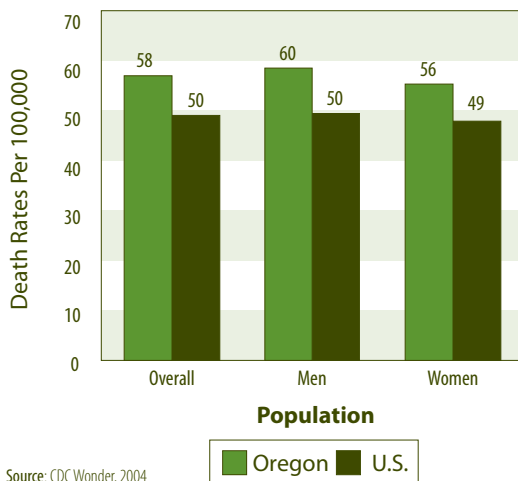
Source: BRFSS, 2005

Figure 1.15  
**STROKE DEATH RATES, U.S. AND OREGON, 1994-2004**



Age adjusted to the 2000 Standard Population  
Source: CDC Wonder, 1994-2004

Figure 1.16  
**STROKE DEATH RATES, BY SEX,  
U.S. AND OREGON, 2004**



Source: CDC Wonder, 2004

In 2004, stroke death rates were similar for men and women in Oregon. This is similar to the trend seen nationally (Figure 1.16).

High blood pressure increases the risk for developing both heart disease and stroke, and is a particularly strong risk factor for stroke; up to two-thirds of strokes are attributable to elevated blood pressure.<sup>3</sup> When someone has high blood pressure in combination with diabetes, smoking, high cholesterol or

a high body mass index, the risk of heart disease or stroke increases several times over.

Early detection of high blood pressure through routine screening and subsequent control of the problem can decrease the risk of developing cardiovascular disease, a broad class of related diseases of the blood vessels that includes heart disease and stroke. Control of high blood pressure in a person with cardiovascular disease also decreases the risk of death or acute events like heart attack or stroke.

The risk of cardiovascular disease also increases with higher levels of cholesterol. Routine screening, and subsequent control if high cholesterol is diagnosed, can lessen the risk of developing heart disease or stroke.

Diabetes markedly increases the risk of cardiovascular disease. However, control of blood sugar and blood pressure in people with diabetes has been proven to cut the risk of complications.

Smoking is a major risk factor for heart disease and for sudden death from heart attack, with smokers having two to four times the risk of nonsmokers.<sup>4</sup> Cigarette smoking is also increasingly recognized as a risk factor for stroke.

Through recommended screening of blood pressure and blood cholesterol, and screening for diabetes if indicated, Oregonians can detect conditions early that increase their risk for cardiovascular disease. Treating these conditions, as well as staying active and avoiding tobacco, can help protect people from the effects of heart disease and stroke.

# Chronic Lower Respiratory Disease

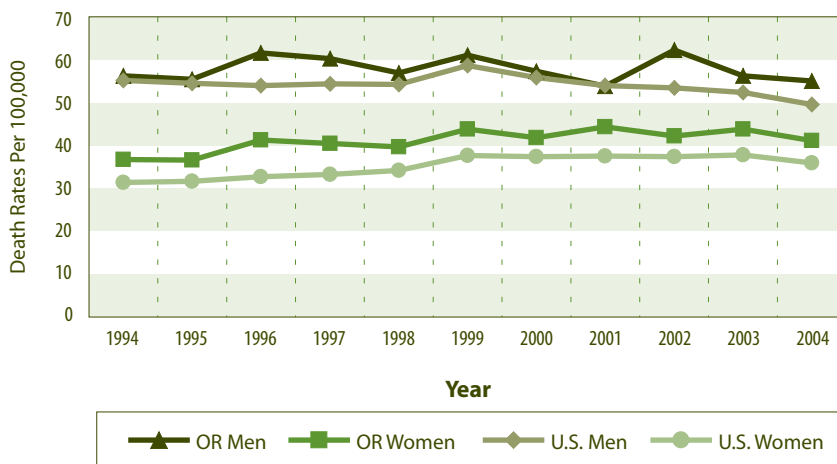
*Chronic Lower Respiratory Disease (CLRD) includes emphysema and chronic bronchitis. These diseases have become increasingly common killers of Oregonians, and CLRD is now the fourth-leading cause of death for both men and women in the state.*

CLRD is a major source of health care costs. In 2005 alone, hospitalizations for these conditions cost Oregonians more than \$50 million. This represents only the costs of in-patient treatment; if clinic visits and loss of earnings due to disability were considered, the economic impact would be much higher.

CLRD death rates in Oregon and the U.S. have increased among women (Figure 1.17). The CLRD death rates for both men and women in Oregon are higher than the rates for the U.S. population.

The strongest risk factor for chronic lower respiratory disease is cigarette smoking, responsible for nearly 90% of chronic lung disease. The Surgeon General’s 2004 report on the health consequences of smoking states that a smoker is more than 10 times as likely as a nonsmoker to die of CLRD.<sup>5</sup>

Figure 1.17  
**CHRONIC LOWER RESPIRATORY DISEASE DEATH RATES, BY SEX AND YEAR, U.S. AND OREGON, 1994-2004**



Age adjusted to the 2000 Standard Population  
Source: CDC Wonder, 1994-2004

# Asthma

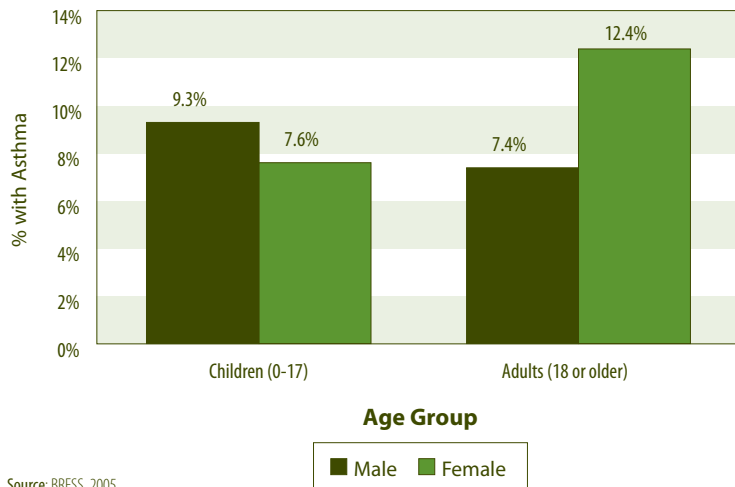
*The Oregon Asthma Leadership Plan identifies critical areas of focus to improve the quality of life for all Oregonians with Asthma. It is available at [www.healthoregon.org/asthma](http://www.healthoregon.org/asthma).*

*Asthma is a chronic inflammatory condition of the airways that may result in episodes of wheezing, shortness of breath, chest tightness and coughing. Although it cannot be cured, asthma can be controlled, and people with asthma can lead healthy, active lives.*

Uncontrolled asthma may result in increased frequency of asthma symptoms, decreased quality of life, emergency department visits, hospitalization or even death.

Asthma is one of the most common chronic diseases in the U.S. and Oregon, and is the most common chronic disease among children. Over the past 25 years, asthma prevalence has increased substantially in the U.S. and Oregon.

Figure 1.18  
**ASTHMA PREVALENCE, BY SEX, FOR CHILDREN AND ADULTS, OREGON, 2005**



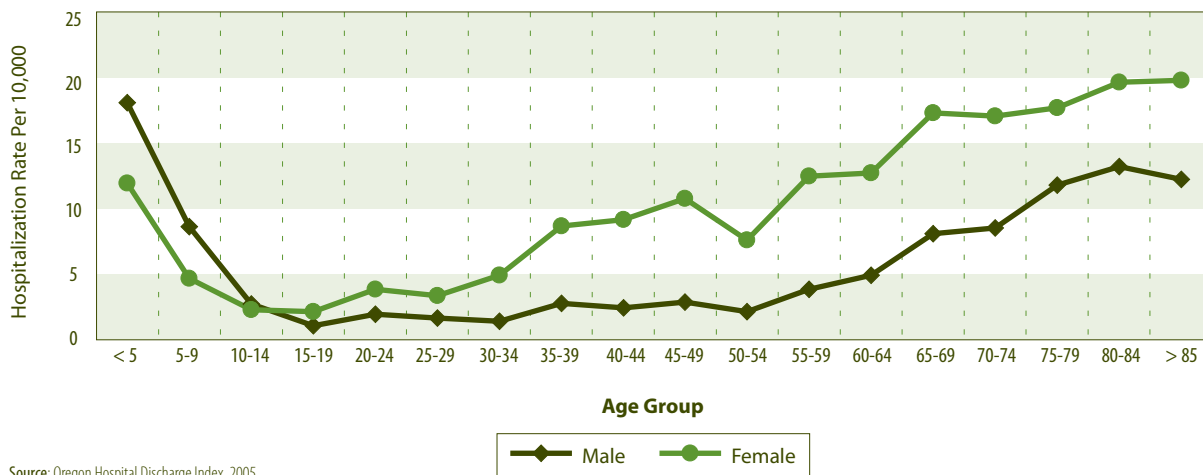
Asthma prevalence in 2005 was 9.9% among adults and 8.4% among children, afflicting more than 345,000 Oregonians. As seen in Figure 1.18, asthma prevalence is higher among boys than girls; however, this trend reverses in adulthood such that prevalence is higher among women than men.

In 2005, asthma was the primary reason for more than 2,400 hospitalizations in the state, at a direct cost of \$23.5 million. Even though asthma is common in Oregon, death from asthma is rare. In Oregon, 49 people died from asthma in 2004.



Figure 1.19

**ASTHMA HOSPITALIZATION RATES, BY SEX AND AGE GROUP, OREGON, 2005**



Source: Oregon Hospital Discharge Index, 2005

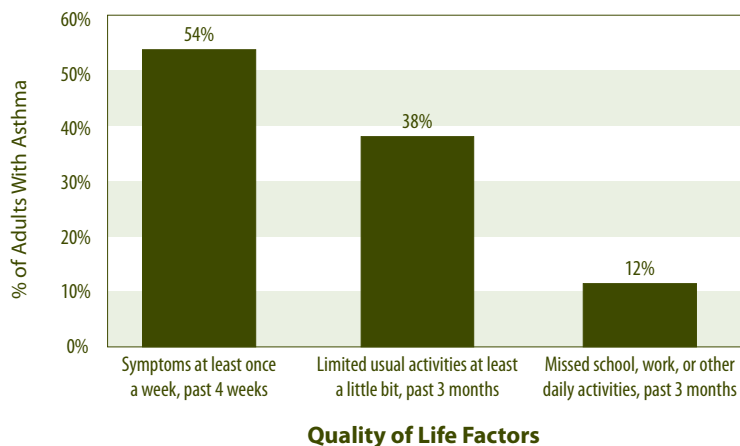
As shown in Figure 1.19, asthma hospitalization rates are highest among young children and among adults age 65 and older. Hospitalization rates are higher among young boys than girls. Similar to the findings for prevalence, this difference reverses in the early teenage years when hospitalization rates are higher for women than men as they enter adulthood.

Beyond deaths and hospitalizations, asthma that is not controlled leads to decreased quality of life, as illustrated in Figure 1.20. For example, in 2005, 54% of Oregonians with asthma reported having asthma symptoms at least once a week, 38% reported limiting their usual activities due to asthma in the past three months, and 12% reported missing school, work or other daily activities because of asthma in the past three months.

Asthma control requires good asthma management, which includes quality medical care, taking appropriate asthma medications, reducing exposure to asthma triggers and monitoring asthma symptoms.

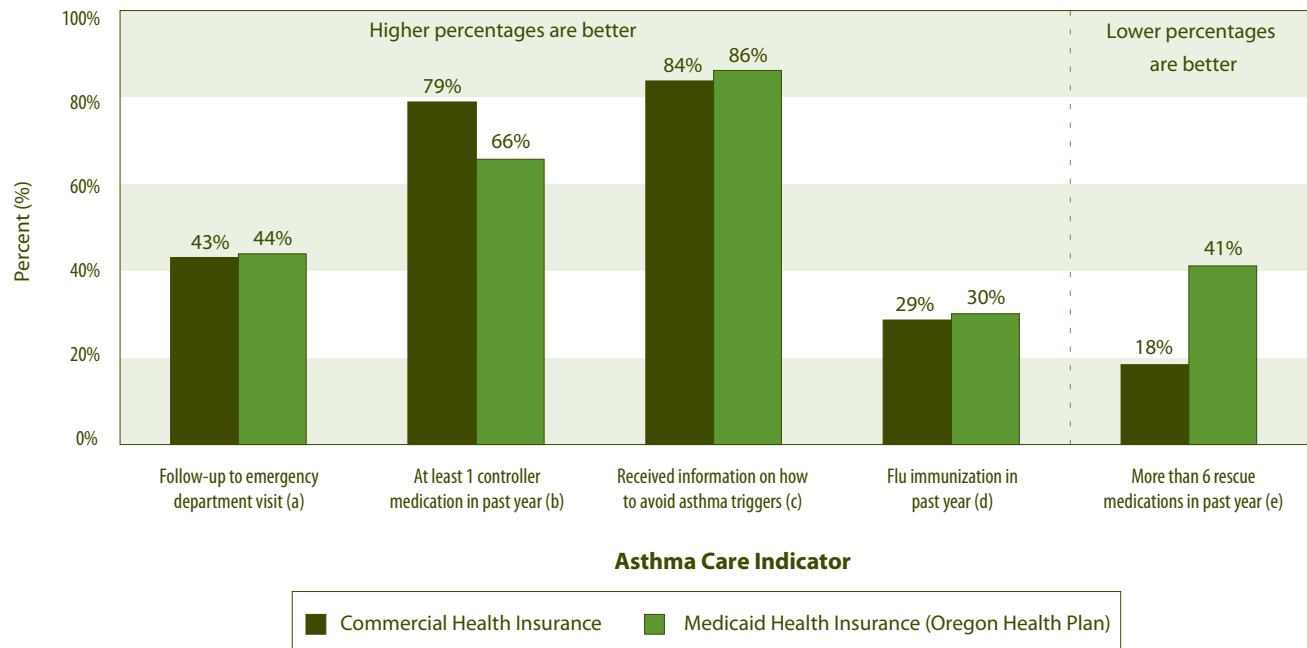
Figure 1.20

**EFFECTS OF ASTHMA ON QUALITY OF LIFE, OREGON, 2005**



Source: BRFSS, 2005

Figure 1.21  
**ASTHMA CARE INDICATORS, BY TYPE OF HEALTH INSURANCE, OREGON, 2005**



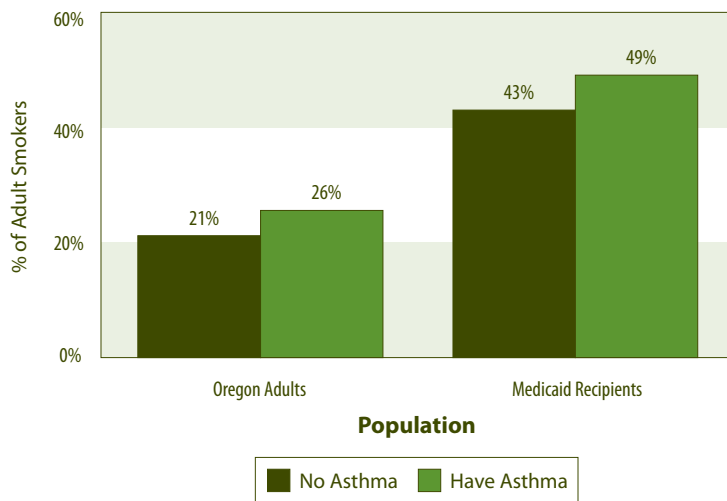
**Sources and Notes:**

- a. Percentage of people with an emergency department (ED) visit for asthma who had a follow-up outpatient visit for asthma within 30 days of the ED visit. Source: Asthma Data Workgroup (ADWG) and Division of Medical Assistance Programs-Quality and Performance Improvement Workgroup (DMAP-QPIWG), 2005
- b. Percentage of people with persistent asthma who had one or more inhaled corticosteroid prescriptions filled in a year. Source: ADWG and DMAP-QPIWG, 2005
- c. Percentage of people with asthma who report ever receiving information from a doctor, nurse, or other health professional on how to avoid things that make their asthma worse. Source: BRFSS, 2005
- d. Percentage of people with asthma who received an influenza immunization within the past year. Source: ADWG, 2005
- e. Percentage of people with persistent asthma who had more than six short-acting inhaled beta-agonist prescriptions filled in a year. Source: ADWG and DMAP-QPIWG, 2005

Figure 1.21 displays information about several indicators of effective asthma management and control, such as having a follow-up clinic visit after an emergency department visit for asthma, using “controller” medications, receiving information on asthma triggers and receiving an annual influenza immunization.

Figure 1.21 also includes one measure, overuse of “rescue” medications (more than six inhalers in a year), that suggests poor control of asthma. This figure compares these measures among Medicaid recipients and people with asthma who have commercial insurance. While results are similar for most measures, Medicaid recipients are more likely to have received large numbers of prescriptions for rescue medications, suggesting problems with asthma control.

Figure 1.22  
**SMOKING PREVALENCE\*, BY ASTHMA STATUS AND TYPE OF HEALTH INSURANCE, OREGON, 2005**



\* Respondents age 56 years or older were not included.  
 Sources: BRFSS, 2005 and HRHSS, 2004

Another strategy to help control asthma is to eliminate smoking and exposure to secondhand smoke among people with asthma. Tobacco smoke exposure has been associated with the development of asthma, triggering asthma symptoms and reducing the effectiveness of the most common asthma controller medications.

Despite these findings, and as illustrated in Figure 1.22, people with asthma are more likely to smoke cigarettes than people without asthma. Cigarette use is higher still among Medicaid recipients with asthma.

Much of the burden of asthma can be managed through quality medical care, use of appropriate medications, avoidance of asthma triggers, and monitoring of asthma symptoms.

# Diabetes

The Oregon Diabetes Coalition published Oregon's Action Plan for Diabetes. The plan outlines specific measures to broaden public awareness of diabetes, increase self-management activities among Oregonians with diabetes, and ensure quality diabetes care. The plan is available at [www.healthoregon.org/diabetes](http://www.healthoregon.org/diabetes).

In Oregon, as in the rest of the United States, diabetes is a major health problem. The percentage of adult Oregonians with diagnosed diabetes has risen more than 50% in the past 10 years (Figure 1.23). An estimated 179,000 Oregonians report having been diagnosed with diabetes, and an additional 62,000 adult Oregonians likely have the disease but do not know it.

Figure 1.23  
**PREVALENCE OF DIABETES AMONG ADULTS, OREGON, 1995-2005**

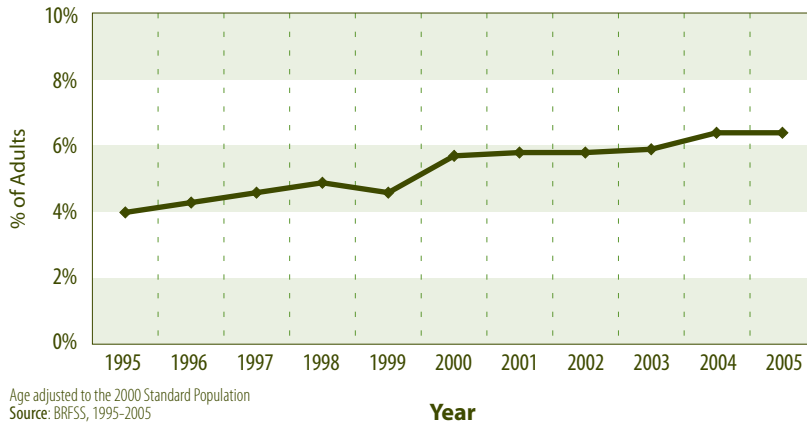
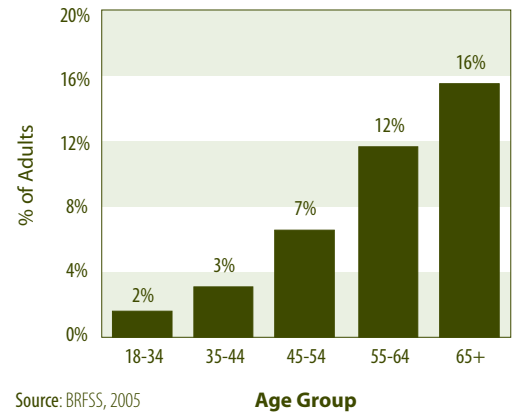
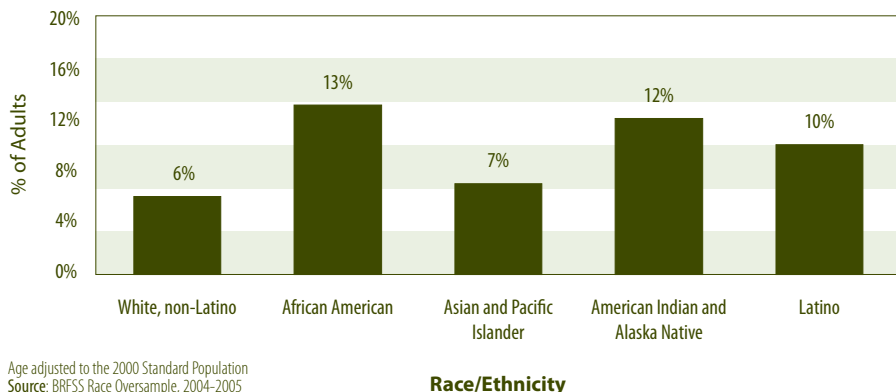


Figure 1.24  
**ADULTS WITH DIABETES, BY AGE GROUP, OREGON, 2005**



Older adults are at increased risk for diabetes. Figure 1.24 shows that the percentage of Oregonians with diabetes increases with age, especially after age 45.

Figure 1.25  
**ADULTS WITH DIABETES, BY RACE/ETHNICITY, OREGON, 2004-2005**



Diabetes also disproportionately affects certain populations. African Americans, American Indians/Alaska Natives and Latinos are all more likely to have diabetes than non-Latino whites, as Figure 1.25 demonstrates.

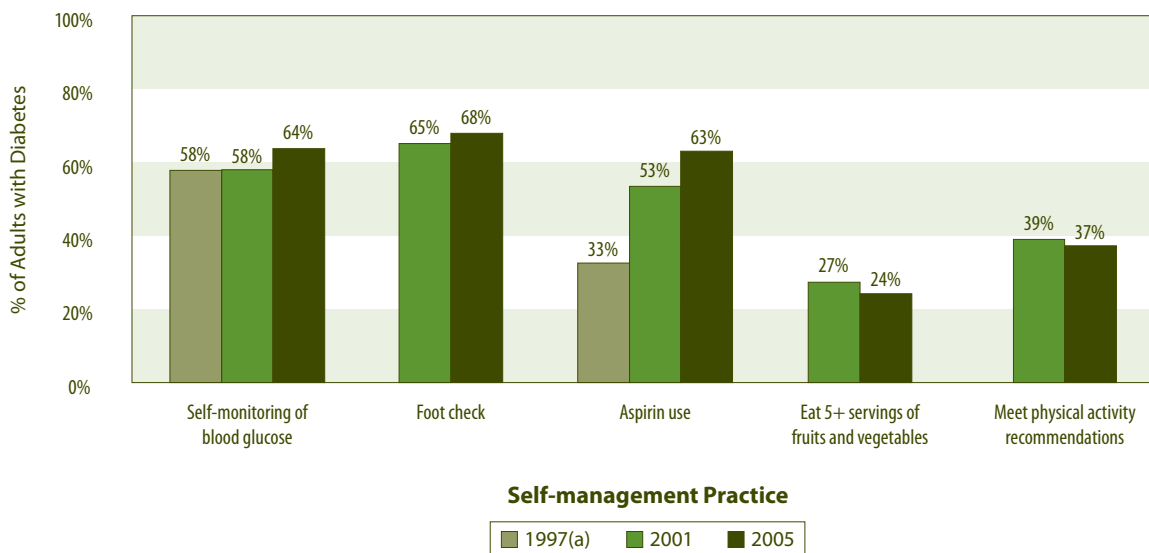
Diabetes is a chronic, progressive disease that results in high costs for individuals and society due to complications, lost productivity and the cost of hospitalizations. In Oregon, diabetes is one of the most frequent hospital discharge diagnoses. In 2005, more than 3,500 hospitalizations with a primary diagnosis of diabetes resulted in more than \$54 million in direct medical costs. In the same year, 45,000 hospitalizations with diabetes as a contributing cause cost Oregonians more than \$800 million.

Oregonians with diabetes are at risk for developing a number of complications, including blindness, kidney failure, heart disease, stroke and lower-extremity amputations. A variety of factors, such as smoking and hypertension, can interact to increase the risk of these complications.

Much of the burden of diabetes could be prevented or delayed through regular health care and diabetes self-management. Practices essential for diabetes self-care include daily foot checks, daily self-monitoring of blood glucose, regular aspirin use, management of diet and regular physical activity.

Figure 1.26

**SELF-MANAGEMENT PRACTICES AMONG ADULTS WITH DIABETES, OREGON, 1997, 2001, AND 2005**



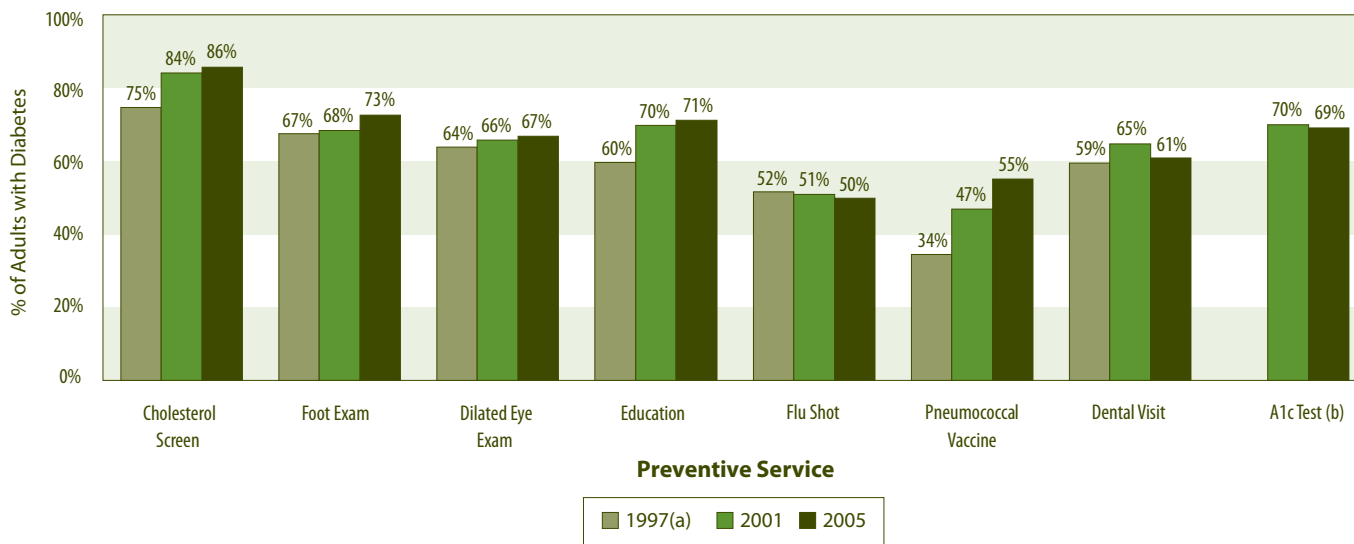
a. Foot check, fruit and vegetable consumption, and physical activity questions were not asked in 1997. All practices, with the exception of meeting physical activity recommendations, are conducted daily. Age adjusted to the 2000 Standard Population using the following age groups: 18-64 and 65+ years. Source: BRFSS, 1997, 2001, and 2005

Although many Oregonians with diabetes are engaging in these important self-management activities, there is still room for improvement, particularly in the areas of nutrition and physical activity (Figure 1.26).

Several preventive services are generally recommended for people with diabetes. Some can detect complications at an early, treatable stage (e.g., dilated eye exams). Some actually prevent complications (e.g., immunizations for influenza and *Strep pneumoniae*, often called “pneumococcal vaccine”). Another, the hemoglobin A1c test, monitors long-term control of blood sugar.

Figure 1.27

**RECEIPT OF RECOMMENDED SERVICES AMONG ADULTS WITH DIABETES, OREGON, 1997, 2001, AND 2005**



a. Baseline for all services established in 1997, except for sensory foot exams and dental visits which were established in 1998.

b. Data are not presented for A1c Test for 1997 because the question used to assess this was significantly different.

All services required at least once in the past year, except the Hemoglobin A1c test, which is conducted twice per year and pneumonia vaccine and education which have no time requirement. Age adjusted to the 2000 Standard Population using the following age groups: 18-64 and 65+ years.

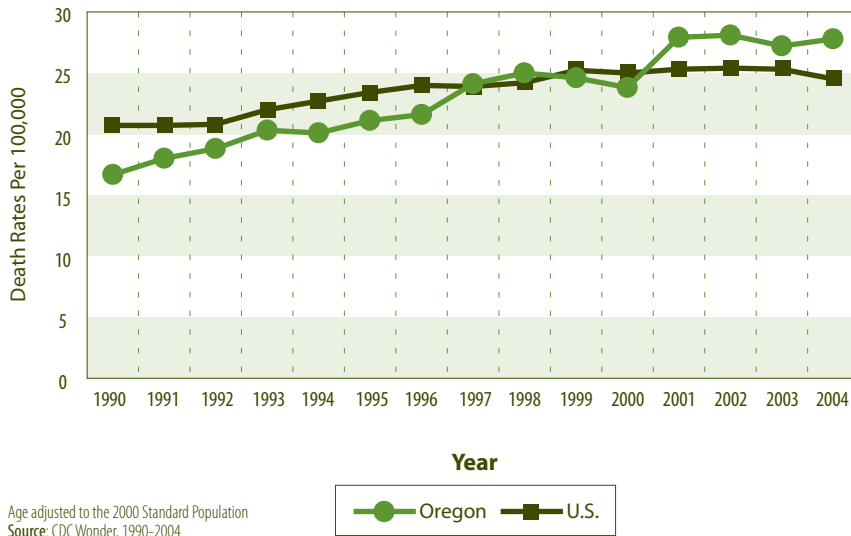
Source: BRFSS, 1997, 2001, and 2005

Guidelines have been developed to measure how often people with diabetes receive these recommended services. This provides a way to monitor, and improve, the quality of health care for Oregonians with diabetes.

Figure 1.27 shows the trends over time in receipt of these recommended preventive services. While there has been improvement in several areas, more can be done.

Figure 1.28

**DIABETES DEATH RATES, U.S. AND OREGON, 1990-2004**



## Mortality

Since 1998, the death rate due to diabetes has been steadily increasing across all age groups and both sexes. In 2004, diabetes was the seventh leading cause of death among Oregonians.

Historically, Oregon's diabetes death rate has been markedly lower than the national average, but with increases during recent years, this trend has been reversed. Figure 1.28 shows the age-adjusted mortality rates from diabetes for Oregon and the U.S.

Some Oregonians are disproportionately affected by mortality from diabetes. The rate of death due to diabetes is more than twice as high among African Americans and American Indians/Alaska Natives as it is in non-Latino whites.



## Preventing Disease and Knowing the Risks

The U.S. Preventive Services Task Force<sup>2</sup> does not recommend routine screening of the general population for diabetes due to insufficient evidence that such screening actually decreases mortality or long-term complications.

There is strong evidence, however, that control of high blood pressure and blood sugar in people with diabetes can decrease the frequency of many diabetes complications. Further, people with pre-diabetes (a condition in which blood sugar is elevated, but not to the point seen in diabetes) can cut their risk of developing diabetes 58% by staying physically active and losing as little as 7% of their body weight.<sup>6</sup>

People age 45 and older are at increased risk for diabetes (and pre-diabetes), but the risk is even greater for those with a body mass index of 25 kg/m<sup>2</sup> or higher. Other important risk factors for diabetes include elevated cholesterol levels, high blood pressure and a family history of diabetes.

Again, much of the burden of diabetes could be prevented through regular, quality medical care, diligent self-management, healthy diet and a physically active lifestyle.

# Arthritis

*Arthritis is the leading cause of disability in the United States, and it affects more than 700,000 Oregonians.*

Arthritis is an umbrella term that encompasses more than 100 different types of diseases and conditions affecting the joints or surrounding tissues and causing chronic pain and limitation of joint movement.<sup>7</sup>

Results from the 2005 Oregon BRFSS demonstrate that arthritis is a major public health issue in the state. More than 700,000 adult Oregonians, 27% of the population, suffer

from arthritis. Arthritis is the leading cause of disability in the United States.<sup>8</sup>

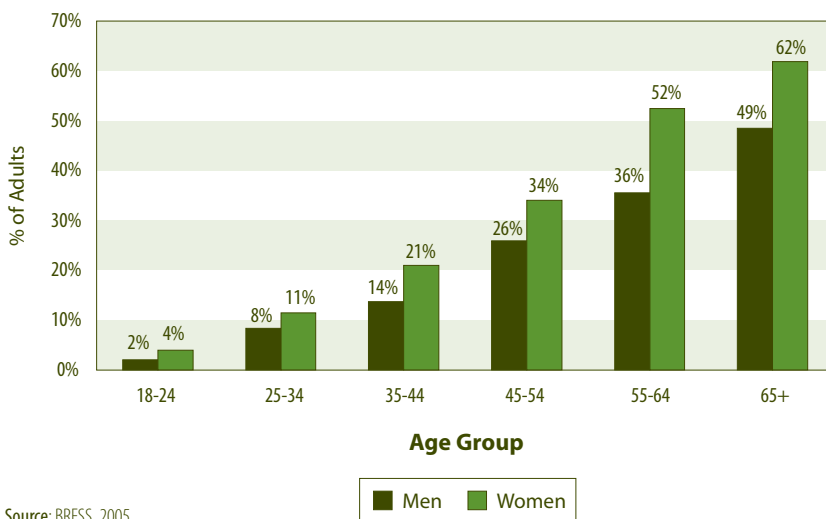
As shown in Figure 1.29, the prevalence of arthritis in Oregon increases with age and is higher among women than in men. Among Oregonians with this condition, 43% report that it limits their daily activities such as walking and dressing.

During 2003, the total economic impact of arthritis and rheumatic diseases in Oregon was \$1.6 billion (\$1.02 billion in direct medical costs and \$586 million in indirect costs such as loss of earnings due to disability).<sup>9</sup> In 2005, 8,413 of the hospitalizations for osteoarthritis and rheumatoid arthritis resulted in surgical replacement of a major joint (knee, shoulder or hip), with an estimated total cost of \$247 million.

Compared with data from 2001, the number of hospitalizations for osteoarthritis has increased, as has the number of joint replacements. The overall cost for such hospitalizations has increased by \$130 million.

*The Oregon Arthritis Action Plan was released by the Oregon Arthritis Coalition. The plan, which outlines objectives and strategies to optimize the quality of life for Oregonians affected by arthritis, is available at [www.healthoregon.org/arthritis](http://www.healthoregon.org/arthritis).*

Figure 1.29  
**ADULTS WITH ARTHRITIS, BY AGE GROUP AND SEX, OREGON, 2005**



Source: BRFSS, 2005

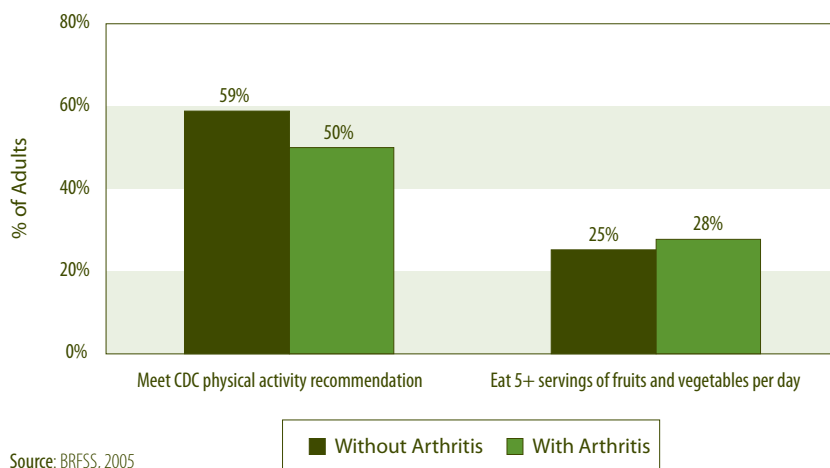
Physical activity and nutrition are key factors in reducing the impact of arthritis. Physical activity helps decrease joint pain and improve mobility. In addition, lack of physical activity and poor diet can lead to the development of obesity, which increases the risk of osteoarthritis and can worsen other kinds of arthritis. Slightly more than half of Oregonians with clinically diagnosed arthritis have received advice from a health care professional to incorporate physical activity into their routines as a way to relieve their arthritis symptoms.

As seen in Figure 1.30, half of those with arthritis meet CDC physical activity recommendations, compared to 59% among those without arthritis. In contrast, those with arthritis are more likely to eat five or more serving of fruits and vegetables a day. Changes in lifestyle, including regular weight-bearing exercise and a healthy diet, can help maintain an optimal weight and reduce strain on the joints.

Other factors that can increase a person’s risk for developing arthritis include work-related injury or repetitive labor, sports injury and infection.

Figure 1.30

**PERCENTAGE OF ADULTS WITH AND WITHOUT ARTHRITIS WHO MEET CDC PHYSICAL ACTIVITY RECOMMENDATIONS AND EAT 5+ SERVINGS OF FRUITS AND VEGETABLES PER DAY, OREGON, 2005**



Source: BRFSS, 2005

These risk factors can be addressed through increased attention to work safety and scrupulous care after joint trauma or infection. Taking these steps can potentially decrease the risk of arthritis onset or morbidity.

The number of Oregonians over the age of 65 is expected to double in the next decade, and arthritis will have an enormous impact on this aging population. Arthritis is more prevalent among older Oregonians and, as noted, is associated with a high body mass index. In light of increasing rates of obesity and the aging of the population, arthritis is likely to become even more prominent as a cause of disability.

Children are also affected by arthritis, but we do not have statistics on the number of children suffering from juvenile rheumatoid arthritis.

People living with arthritis report poorer health status (28%) compared with those without arthritis (11%), and overall report that there is a decrease in their quality of life.

# High Blood Pressure

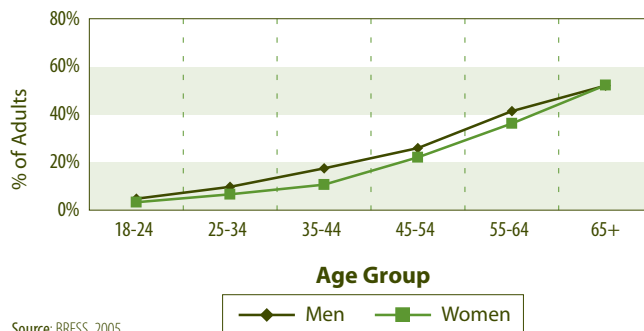
*High blood pressure is a risk factor for heart disease and stroke for all Oregonians. It also increases risk for kidney disease and retinopathy, a condition of the eyes that can lead to blindness. For those with diabetes, these risks are even greater.*

Figure 1.31 shows that more than half of Oregonians age 65 and older have high blood pressure. The condition affects men and women about equally.

As shown in Figure 1.32, high blood pressure is particularly common among Oregonians with heart disease, stroke and diabetes. Uncontrolled high blood pressure can lead to heart disease and stroke, and, while it does not cause diabetes, it increases the risk of complications from that condition.

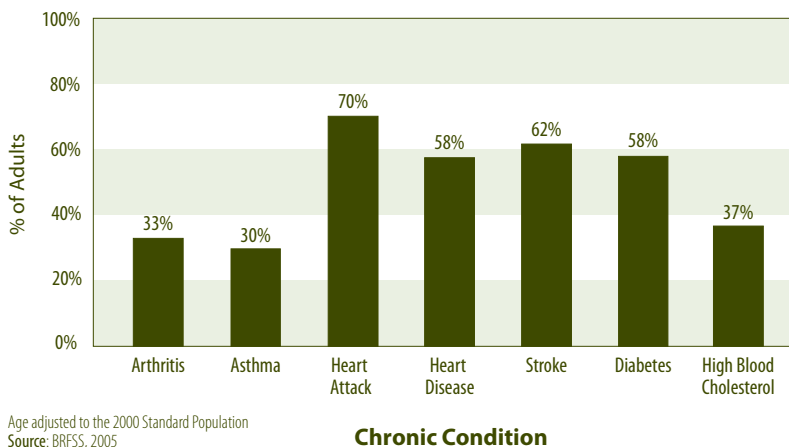
While high blood pressure is common, it can be controlled. A variety of effective medications are available. Further, being physically active, maintaining a healthy weight and avoiding excessive salt intake can help prevent and manage this condition.

Figure 1.31  
**PERCENTAGE OF ADULTS DIAGNOSED WITH HIGH BLOOD PRESSURE, BY AGE GROUP AND SEX, OREGON, 2005**



Source: BRFSS, 2005

Figure 1.32  
**HIGH BLOOD PRESSURE AMONG ADULTS WITH SELECTED CHRONIC CONDITIONS, OREGON, 2005**



Age adjusted to the 2000 Standard Population  
Source: BRFSS, 2005

# Elevated Cholesterol

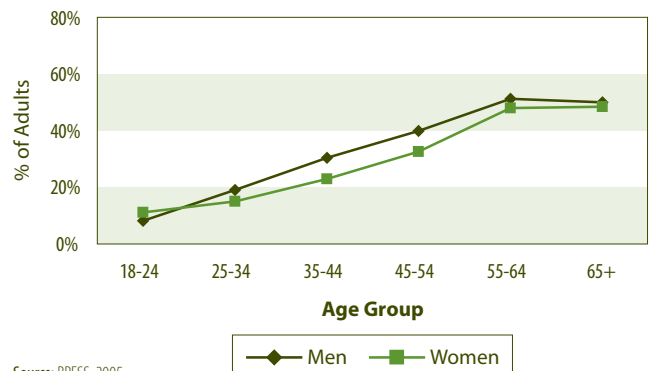
*Elevated blood cholesterol in adults is a risk factor for heart disease. A diet low in saturated fats and high in fresh fruits and vegetables can help prevent and manage high cholesterol.*

High cholesterol is defined as a total blood cholesterol, measured while fasting, of  $\geq 240$  milligrams/deciliter. In addition, if a person's low density lipoprotein cholesterol, a sub-type that more strongly increases the risk of heart disease, is  $\geq 160$  mg/dl while fasting, this also meets the definition for high cholesterol.<sup>10</sup>

About half of Oregon men and women age 55 and older have been diagnosed with high blood cholesterol (Figure 1.33). Among younger Oregonians, the prevalence rises steadily with age.

Figure 1.33

## ADULTS DIAGNOSED WITH HIGH BLOOD CHOLESTEROL, BY AGE GROUP AND SEX, OREGON, 2005

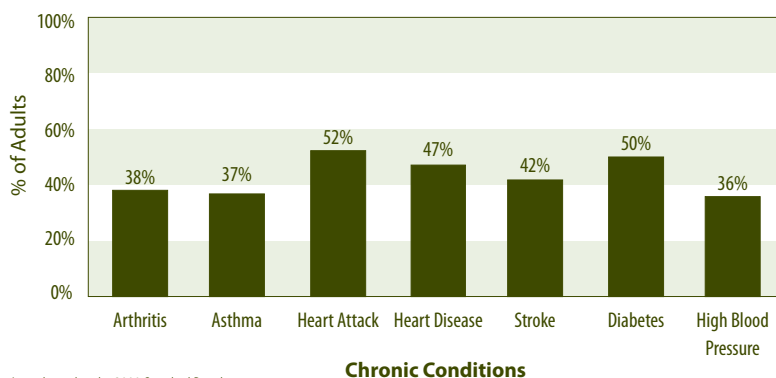


Source: BRFSS, 2005

Figure 1.34 shows that Oregonians with heart disease and diabetes are particularly likely to have high cholesterol. As with high blood pressure, uncontrolled high cholesterol actually contributes to the development of heart disease, and increases the likelihood of complications in persons with diabetes.

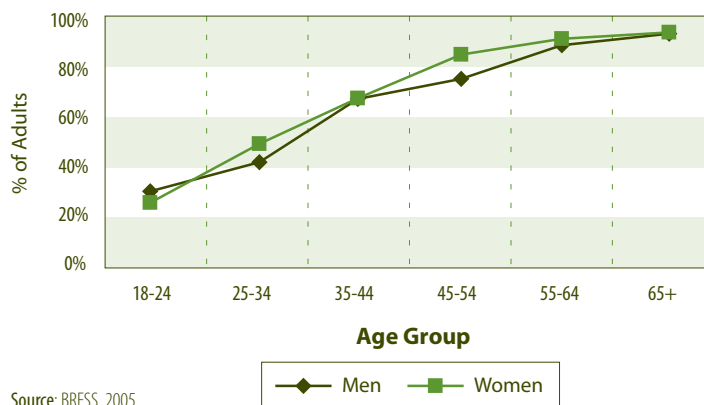
The percentage of Oregonians who have had their cholesterol checked within the past five years increases dramatically across age groups (Figure 1.35). The National Cholesterol Education Program<sup>10</sup> recommends that all men and women age 20 or older get their cholesterol checked every five years. Some people, such as those with diabetes, should have it checked more often.

Figure 1.34  
**HIGH BLOOD CHOLESTEROL AMONG ADULTS WITH SELECTED CHRONIC CONDITIONS, OREGON, 2005**



Age adjusted to the 2000 Standard Population  
 Source: BRFSS, 2005

Figure 1.35  
**ADULTS WHO HAVE HAD BLOOD CHOLESTEROL CHECKED WITHIN 5 YEARS, BY AGE GROUP AND SEX, OREGON, 2005**



Source: BRFSS, 2005

# Weight Status and Health

*Oregon has a State Plan for Physical Activity and Nutrition. The plan outlines strategies through which planning of communities, policies at schools and worksites, and other activities can make the healthy choice the easy choice where being active, eating a healthy diet, and weight management are concerned. The plan is available at [www.healthoregon.org/pan](http://www.healthoregon.org/pan).*

*The prevalence of obesity has reached epidemic proportions in Oregon and the United States.*

In less than 30 years, the rate of obesity among adult Americans has more than doubled. In Oregon, almost one in four adults is obese, more than twice the rate seen just 15 years ago.

This epidemic has important implications for people's health. The Centers for Disease Control and Prevention (CDC) estimate that more than 100,000 Americans die each year from illnesses related to poor nutrition and physical inactivity. In 2003, 1,400 Oregonians died prematurely as a consequence of poor diet and/or sedentary lifestyle — almost four people every day.

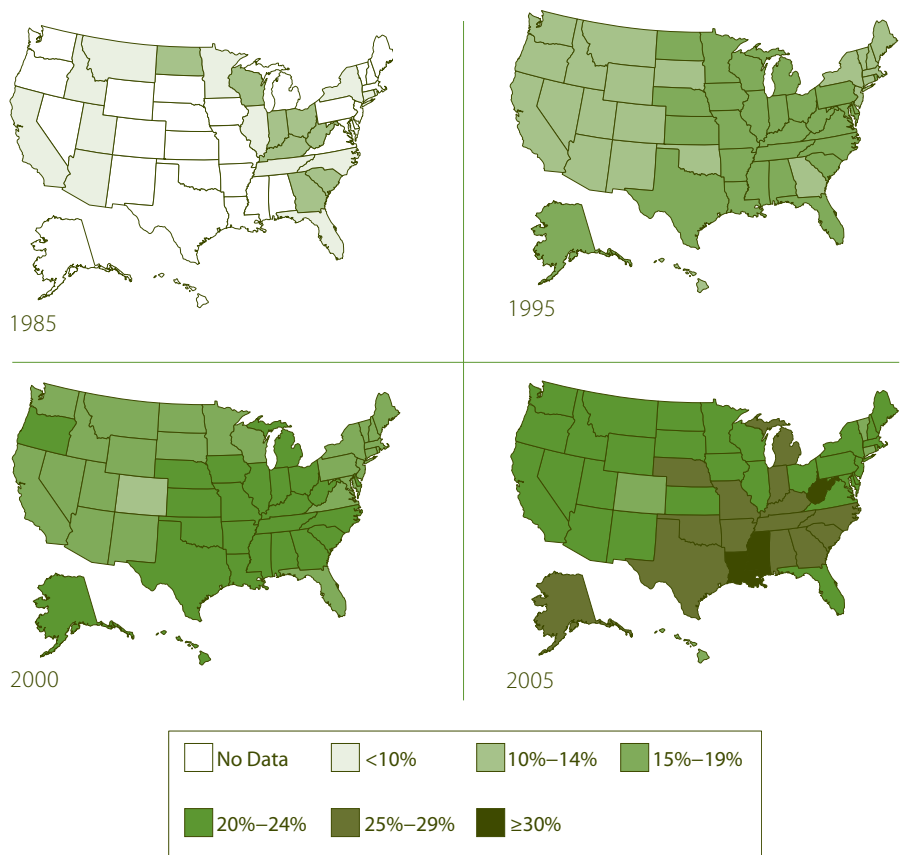
Weight status is assessed using the body mass index, which shows whether a person's weight is in a healthy range for his/her height. It is determined by dividing the weight in kilograms by the height in meters, squared ( $\text{kg}/\text{m}^2$ ). An adult is considered overweight if the body mass index is between 25 and 29.9, and obese if the body mass index is  $\geq 30$ .

Figure 1.36 shows the substantial increase in obesity among the U.S. population since 1985.



Figure 1.36

**OBESITY TRENDS\* AMONG U.S. ADULTS**

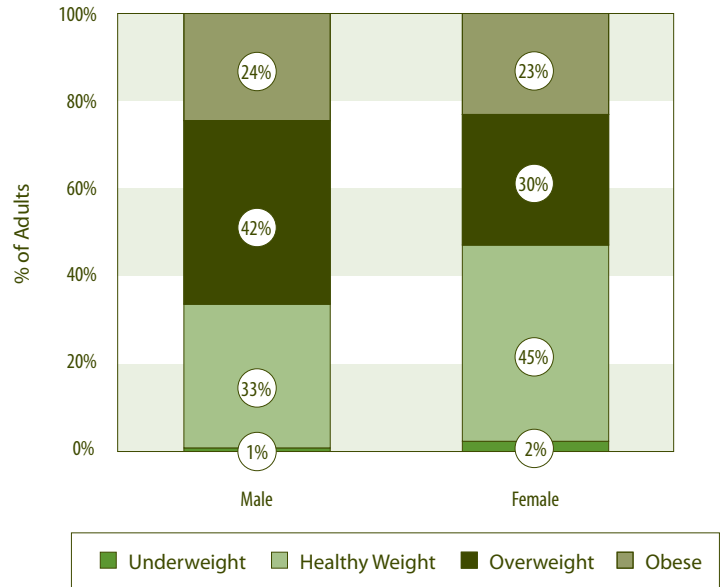


BMI  $\geq$  30, or ~ 30 lbs. overweight for 5'4" person  
 Source: BRFSS

As illustrated in Figure 1.37, only one-third of men are at a healthy weight and less than half of women are at a healthy weight.

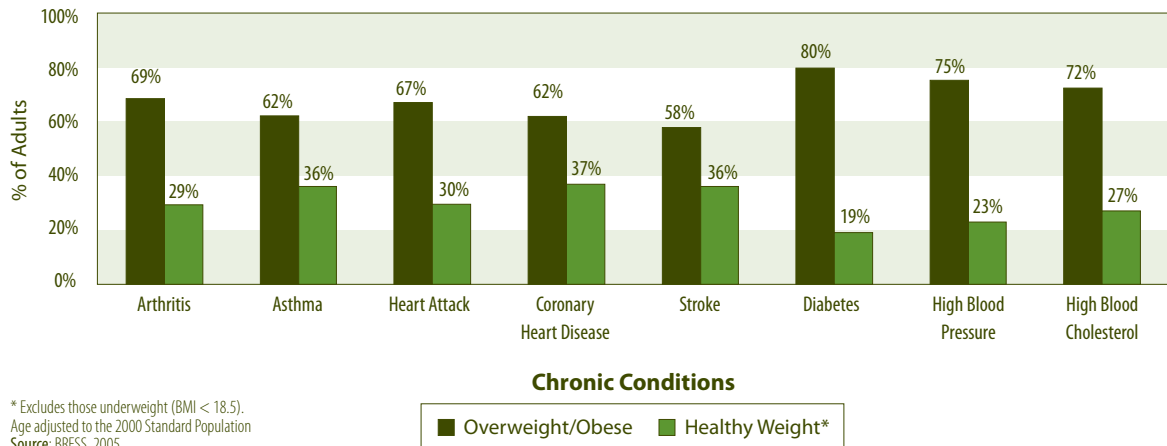
Obesity increases the risk for many chronic diseases. Figure 1.38 shows that Oregonians with diabetes, high blood pressure, and high cholesterol are very likely to have a high body mass index as well.

Figure 1.37  
**ADULTS, BY WEIGHT STATUS AND SEX, OREGON, 2005**



"Underweight" is defined by a body mass index of <math>< 18.5 \text{ kg/m}^2</math>  
 "Healthy weight" is defined by a body mass index of <math>18.5\text{--}24.9 \text{ kg/m}^2</math>  
 "Overweight" is defined by a body mass index of <math>25\text{--}29.9 \text{ kg/m}^2</math>  
 "Obese" is defined by a body mass index of <math>\geq 30 \text{ kg/m}^2</math>  
 Source: BRFSS, 2005

Figure 1.38  
**WEIGHT STATUS AMONG ADULTS WITH SELECTED CHRONIC CONDITIONS, OREGON, 2005**



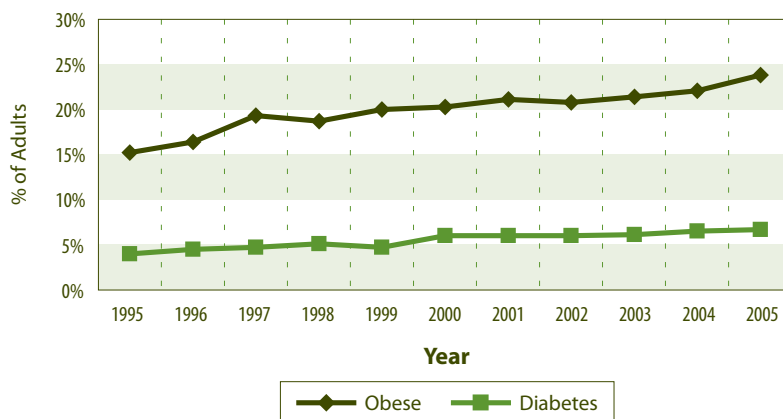
\* Excludes those underweight (BMI <math>< 18.5</math>).  
 Age adjusted to the 2000 Standard Population  
 Source: BRFSS, 2005

Obesity and weight gain are closely associated with an increased risk of diabetes. Figure 1.39 shows the prevalence of obesity and diabetes among adults in Oregon. From 1995 to 2005, the prevalence of obesity increased 57%, and the prevalence of diabetes increased 61%.

Among Oregon youth, more than one in five are overweight or at risk of being overweight (Figure 1.40).

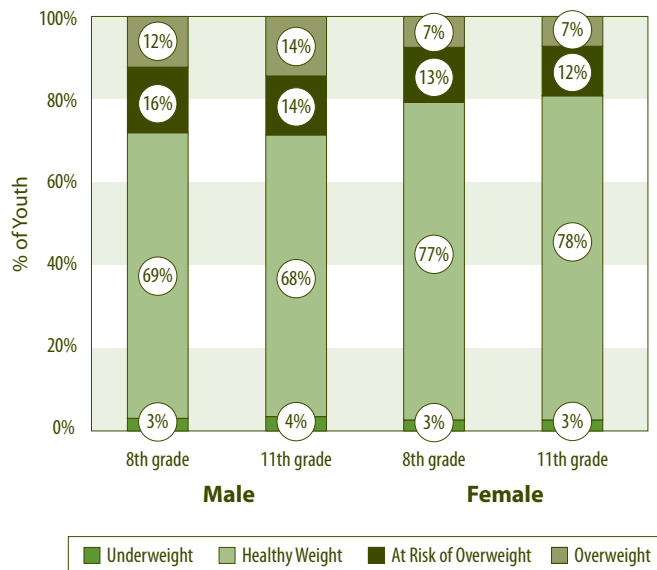
Daily physical activity and a diet that is low in fats and sugar and rich in vegetables, fruits, and whole grains can decrease the risk of obesity.

Figure 1.39  
**PREVALENCE OF OBESITY AND DIABETES AMONG ADULTS, BY YEAR, OREGON, 1995-2005**



"Obesity" is defined as a body mass index of  $\geq 30$  kg/m<sup>2</sup>  
Source: BRFSS, 1995-2005

Figure 1.40  
**YOUTH, BY WEIGHT STATUS AND SEX, OREGON, 2005**



For Youth, "overweight" is defined as  $\geq 95$ th percentile for body mass index, by age and sex, on a standard growth chart.  
"At risk of overweight" is defined as being between the 85th and 95th percentiles for body mass index, by age and sex, on a standard growth chart  
Source: OHI, 2005

# Depression and Chronic Diseases

*Depression is a common mental health condition, and the prevalence of depression is higher among those with chronic diseases.*

In a survey of adult Oregonians with chronic diseases, one in ten respondents had active symptoms consistent with major depression, and one in three had clinically relevant depression in the prior 12 months.

Rates of depression for those with chronic diseases are significantly higher than for the general Oregon population (Table 1.41).

Depression is also associated with poorer reported health status and with higher rates of smoking, as well as with having a body mass index that increased chronic disease risk. These findings have important implications for people with chronic diseases because depression can interfere with their ability to self-manage their disease effectively.

Table 1.41

## PREVALENCE OF DEPRESSION AMONG THOSE WITH CHRONIC DISEASES AND AMONG THE GENERAL POPULATION

	Oregonians with chronic diseases*	Oregon general population
Active symptoms of depression in past 2 weeks	10%	5%
Clinically relevant depression in past 12 months	30%	17%

\* The chronic diseases included in this analysis were arthritis, diabetes, heart disease, and stroke.  
Sources: Depression and Chronic Disease Call-back Survey, 2004 and BRFSS, 2005

Table 1.42

**COMPARISON OF RESPONDENTS WITH AND WITHOUT CLINICALLY RELEVANT DEPRESSION IN PAST 12 MONTHS, BY LEVEL OF CONFIDENCE IN CARRYING OUT SELF-MANAGEMENT STRATEGIES AND BY FREQUENCY OF ENGAGING IN SELF-MANAGEMENT BEHAVIORS**

	Depressed with chronic diseases*	Non-depressed with chronic diseases*
<b>Confidence</b>		
Get adequate physical activity	55%	73%
Manage weight	50%	68%
Follow healthy eating plan	52%	70%
Take medications as prescribed	87%	95%
Do necessary activities to manage condition	62%	82%
<b>Behaviors</b>		
Meet physical activity recommendations	24%	38%
Try to lose weight	58%	45%
Use physical activity to manage weight	52%	66%

\* The chronic diseases included in this analysis were arthritis, diabetes, heart disease, and stroke.  
Sources: Depression and Chronic Disease Call-back Survey, 2004

As Table 1.42 shows, those with chronic diseases and depression were significantly less confident than those without depression in their ability to get adequate physical activity, manage their weight, follow a healthy eating plan, take medications as prescribed and do all necessary activities to manage their condition. Furthermore, depressed respondents with chronic diseases were less likely to report actually engaging in several of these activities, including meeting physical activity recommendations and using physical activity to manage their weight.

Among those suffering from depression, this difficulty in performing important self-management strategies may increase the risk of complications and mortality from chronic disease. Enhanced efforts are necessary to screen systematically for depression among those with arthritis, cardiovascular disease and diabetes, and if present, to begin effective treatment.

*The U.S. Preventive Services Task Force<sup>2</sup> recommends screening all adults for depression, if accurate diagnosis and effective treatment can be offered.*



## Section 2: Modifiable Risk Factors



## Section 2

## Modifiable Risk Factors

Many factors contribute to the development of chronic diseases. For example, a person's genes might lead to an increased risk of cancer or diabetes. Lack of access to health care and screening services could heighten the risk of heart attack or advanced stages of cancer. Some things that increase one's risk of chronic disease one can't do much about, such as age, sex, or heredity. Other modifiable risk factors can be controlled or eliminated.

Community conditions affect modifiable behaviors; in other words, they influence individual decisions about health behaviors. Figure 2.1 shows that tobacco use, poor diet and physical inactivity are the leading modifiable factors contributing to deaths in Oregon. The diseases that cause the most deaths among Americans — heart disease, stroke, and cancer — are associated with these risk factors. These modifiable risk factors will be the focus of this section.

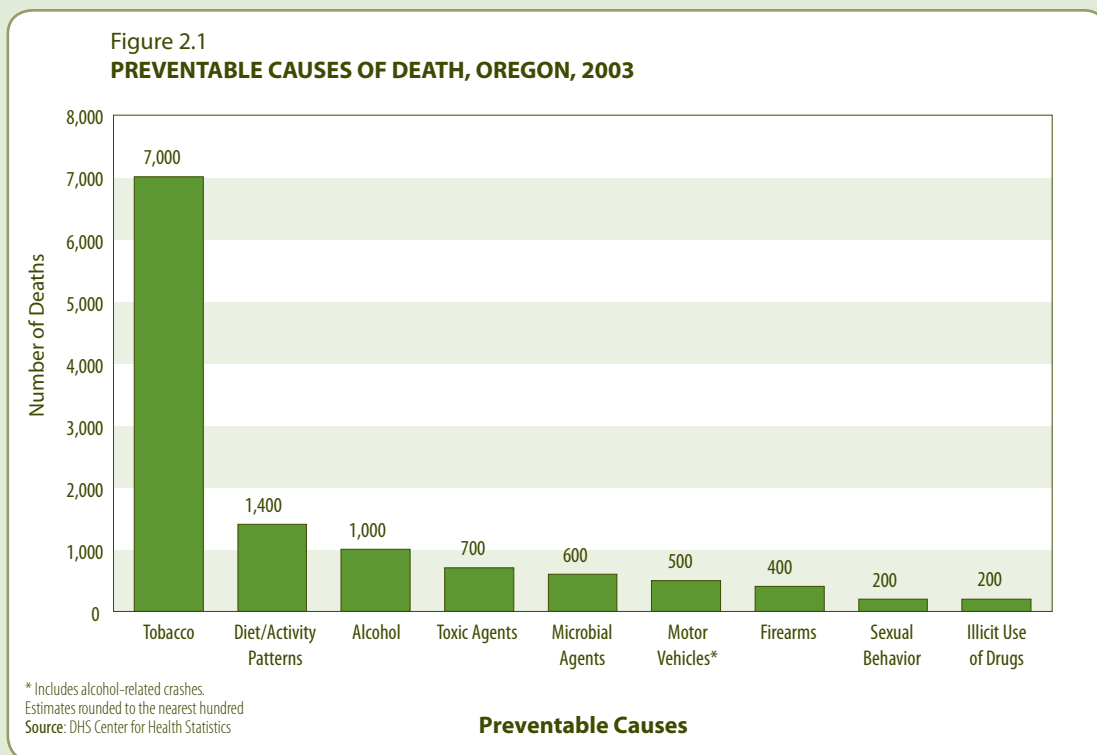
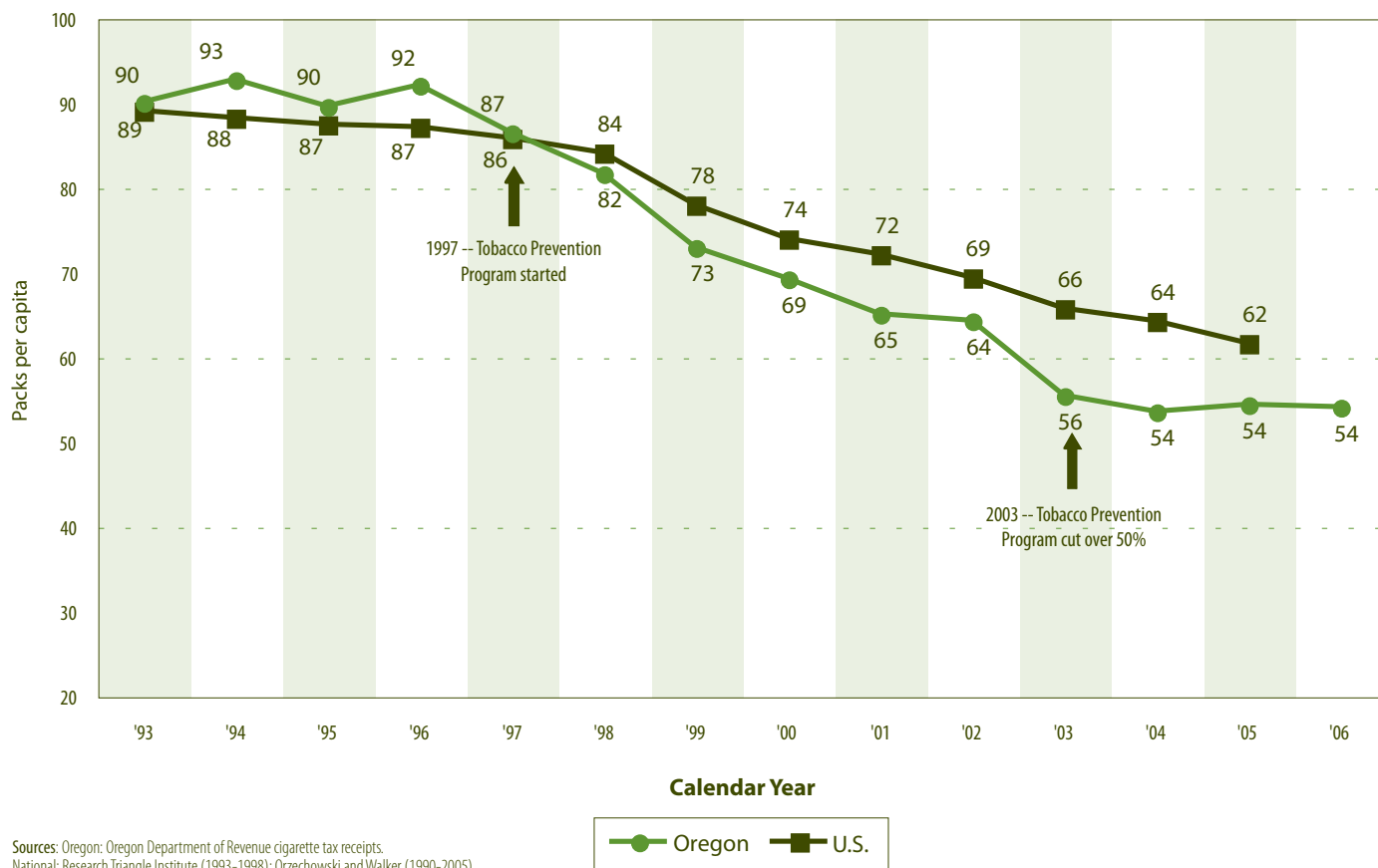




Figure 2.2  
**ANNUAL PER CAPITA CIGARETTE SALES, U.S. AND OREGON, 1993-2006**



Sources: Oregon: Oregon Department of Revenue cigarette tax receipts.  
 National: Research Triangle Institute (1993-1998); Orzechowski and Walker (1990-2005).

## Tobacco Use

*Tobacco use is the leading preventable cause of death in the United States. It contributes substantially to premature deaths from cancer, heart disease, stroke and chronic lower respiratory disease. Across the U.S., tobacco accounts for more than 400,000 deaths each year.*

Since 1996, the year before the Oregon Tobacco Prevention and Education Program began, cigarette consumption in Oregon has fallen 41%, a more rapid decrease than that seen nationally (Figure 2.2). However, consumption has leveled off since 2003, the year Oregon’s tobacco prevention funding was reduced.

Table 2.3 shows that adults in Oregon with less education and lower incomes are more likely to smoke. Nearly one-third of Oregonians who did not graduate from high school smoke, compared to just one in 12 college graduates. Similarly, almost one in three adults from households with incomes below \$15,000 smoke, compared to just one in nine of those earning \$50,000 or more.

Among people with certain chronic diseases such as diabetes, heart disease, and stroke, those who smoke are at higher risk for further complications and death.

Table 2.3  
**ADULT CIGARETTE SMOKING,  
 BY EDUCATION AND HOUSEHOLD INCOME,  
 OREGON, 2005**

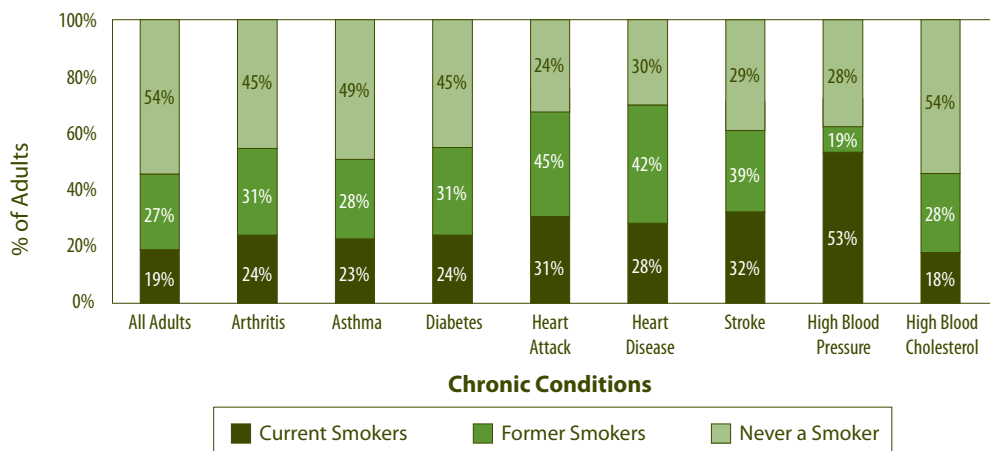
<b>Education</b>	<b>Smoking Prevalence</b>
Did not graduate HS	31%
HS grad or GED	25%
Some college	20%
College grad	8%
<b>Household Income</b>	
< \$15,000	32%
\$15,000-24,999	27%
\$25,000-49,999	20%
\$50,000+	11%

Source: BRFSS, 2005

Figure 2.4 shows current or prior smoking is more common among Oregonians with chronic conditions than it is in the general population (“All Adults,” first column). These data are age adjusted to allow comparison across conditions. These adjusted values do not represent the actual percentages of people who smoke, are former smokers, or who have never smoked, among people with a given condition.

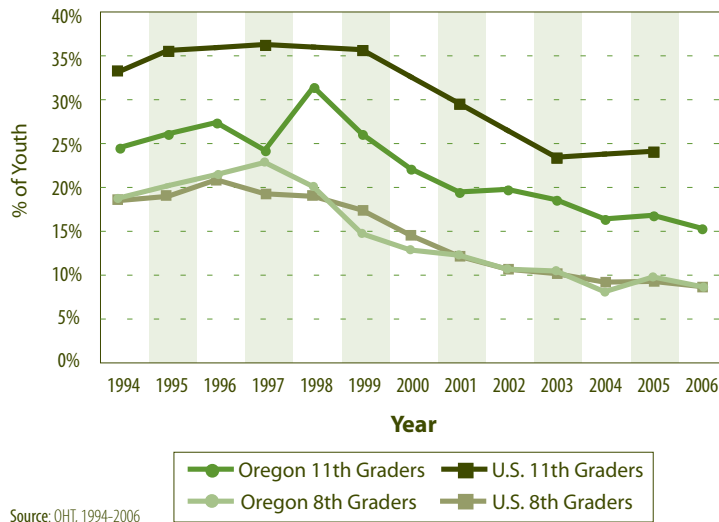
Unexpectedly, smoking rates among Oregonians with asthma are higher than in the general population, even though tobacco smoke is a potent trigger of asthma attacks and makes management of the disease more difficult. Smoking is also common among Oregonians with high blood pressure.

Figure 2.4  
**SMOKING STATUS OF ADULTS WITH SELECTED CHRONIC CONDITIONS, BY CONDITION, OREGON, 2005**



Age adjusted to the 2000 Standard Population  
 Source: BRFSS, 2005

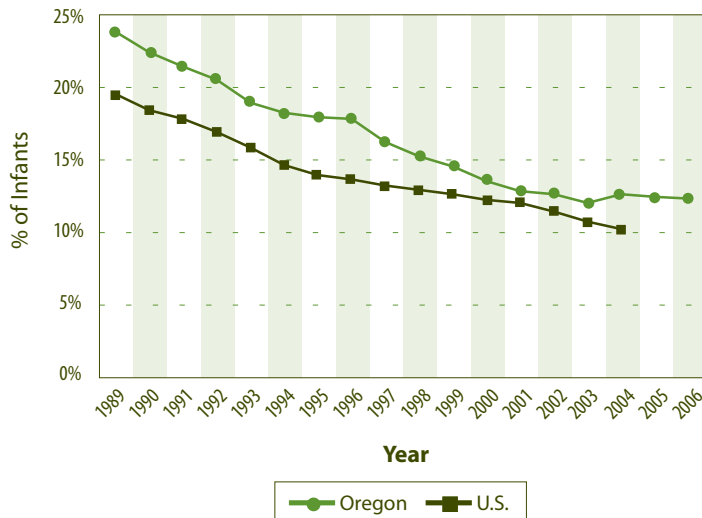
Figure 2.5  
**SMOKING PREVALENCE AMONG YOUTH,  
 BY GRADE AND YEAR, OREGON AND U.S., 1994-2006**



Tobacco use among Oregon adolescents has declined steadily since the late 1990s. In 2006, less than 10% of Oregon 8th graders reported smoking in the last 30 days, and just over 15% of Oregon 11th graders smoked (Figure 2.5).

As seen in Figure 2.6, rates of smoking during pregnancy in Oregon have been higher than those seen nationally since monitoring began in 1989. While the gap has narrowed considerably, the percentage of women in Oregon who use tobacco during pregnancy has not declined as rapidly in recent years.

Figure 2.6  
**INFANTS BORN TO MOTHERS WHO USED TOBACCO  
 DURING PREGNANCY, OREGON AND U.S., 1989-2006**



# Physical Activity

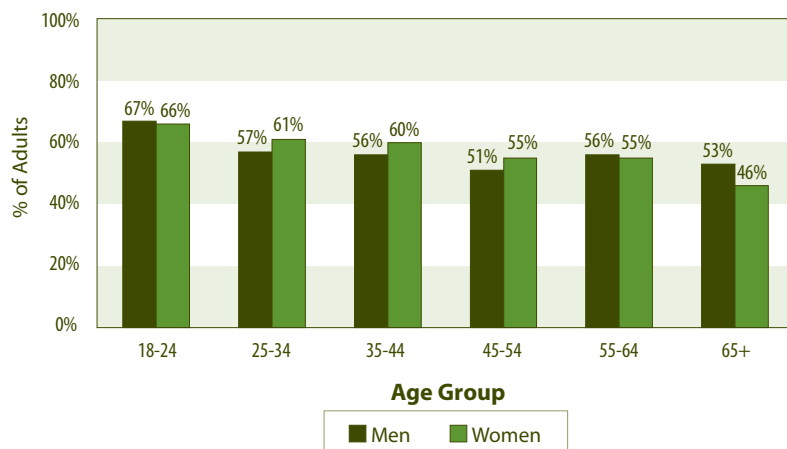
## Benefits and Current Recommendations

Being physically active provides a number of key health benefits. People who are physically active live longer, on average, than those who aren't. Being active decreases the risk of developing heart disease, high blood pressure, diabetes, and osteoporosis. It also helps prevent complications from these conditions in people who might already have them.

The Centers for Disease Control and Prevention (CDC) set recommendations for the amount of physical activity that adults should get, using the minimum amounts of activity known to produce the above benefits. CDC also has physical activity recommendations for youth.



Figure 2.7  
**ADULTS MEETING CDC PHYSICAL ACTIVITY RECOMMENDATIONS\*, BY SEX AND AGE GROUP, OREGON, 2005**



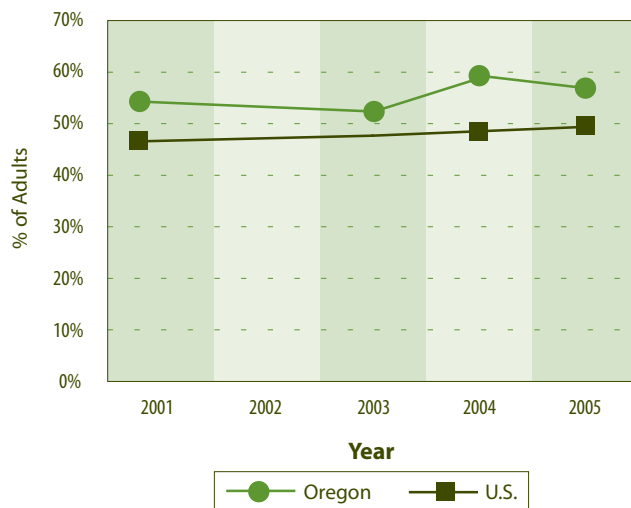
\* Moderate activity  $\geq 30$  minutes at least five days a week or vigorous activity for  $\geq 20$  minutes at least 3 days a week.  
 Source: BRFSS, 2005

## Physical Activity Among Adults

Figure 2.7 shows the percentage of Oregonians who meet the CDC recommendations for physical activity (moderate activity  $\geq 30$  minutes at least five days a week or vigorous activity for  $\geq 20$  minutes at least three days a week).

The percentage of women who meet these recommendations steadily declines across the age groups, reaching a low of 46% among women age 65 and older. Among men as well, physical activity is highest in the 18-24 age group and declines with age.

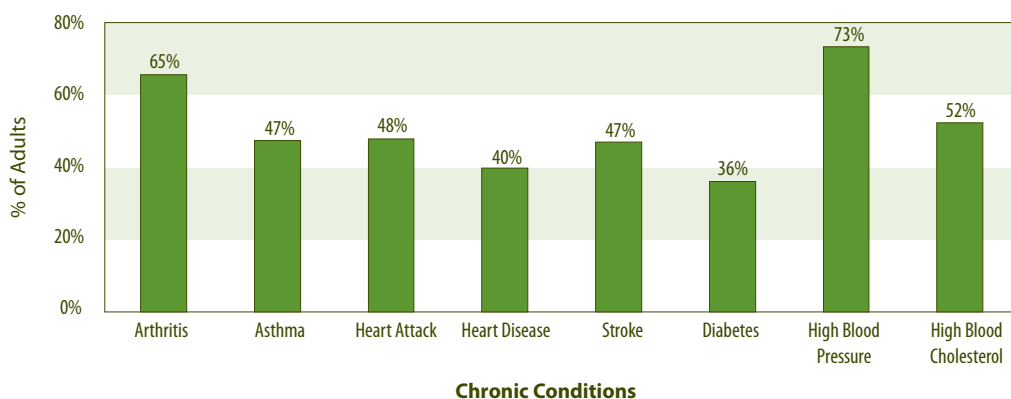
Figure 2.8  
**ADULTS MEETING CDC PHYSICAL ACTIVITY RECOMMENDATIONS\*, BY YEAR, OREGON AND U.S., 2001-2005**



\* Moderate activity  $\geq 30$  minutes at least five days a week or vigorous activity for  $\geq 20$  minutes at least 3 days a week.  
 Source: Oregon: BRFSS 2001-2005. U.S.: BRFSS 2001-2005.

As shown in Figure 2.8, the percentage of Oregon adults who meet CDC physical activity recommendations has not changed greatly since tracking began in 2001. Oregonians are more likely to meet these CDC recommendations than Americans in general.

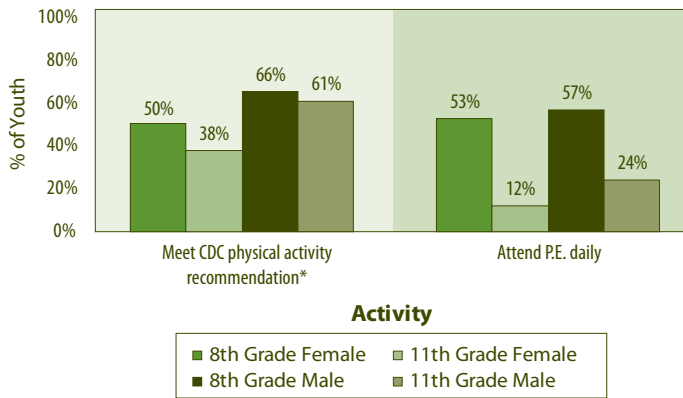
**Figure 2.9**  
**ADULTS WITH SELECTED CHRONIC CONDITIONS WHO MEET CDC**  
**PHYSICAL ACTIVITY RECOMMENDATIONS, BY CONDITION, OREGON, 2005**



Age adjusted to the 2000 Standard Population  
 Source: BRFSS, 2005

Figure 2.9 shows the percentage of Oregonians with selected chronic conditions that meet CDC recommendations for physical activity. Those with high blood pressure, high cholesterol and arthritis are most likely to be active, while fewer adults with the other chronic diseases meet these recommendations.

Figure 2.10  
**EXTENT OF PHYSICAL ACTIVITY AMONG YOUTH,  
 BY GRADE AND SEX, OREGON, 2005**



\*CDC physical activity recommendation for youth: physically active for at least 60 minutes per day, 5 or more days per week.  
 Source: OHT, 2005

## Physical Activity Among Youth

Physically active youth usually enjoy better physical and mental health than their non-active peers. Additionally, being active in childhood can lead to an active lifestyle in adulthood, which reduces the risk of developing chronic diseases and related risk factors, such as obesity.

Figure 2.10 illustrates the drop in physical activity that occurs between 8th and 11th grade among Oregon adolescents. CDC recommends that youth get 60 or more minutes of activity most days of the week, and preferably daily. In 8th grade, half of all girls meet these activity recommendations, but three years later just 38% of girls meet them. The percentage of active boys also drops between 8th and 11th grade, although in both grades boys are far more likely than girls to meet activity recommendations.

The decrease in activity for boys and girls may be due in part to the precipitous decline in daily attendance in physical education classes between 8th and 11th grade (55% and 18%, respectively).

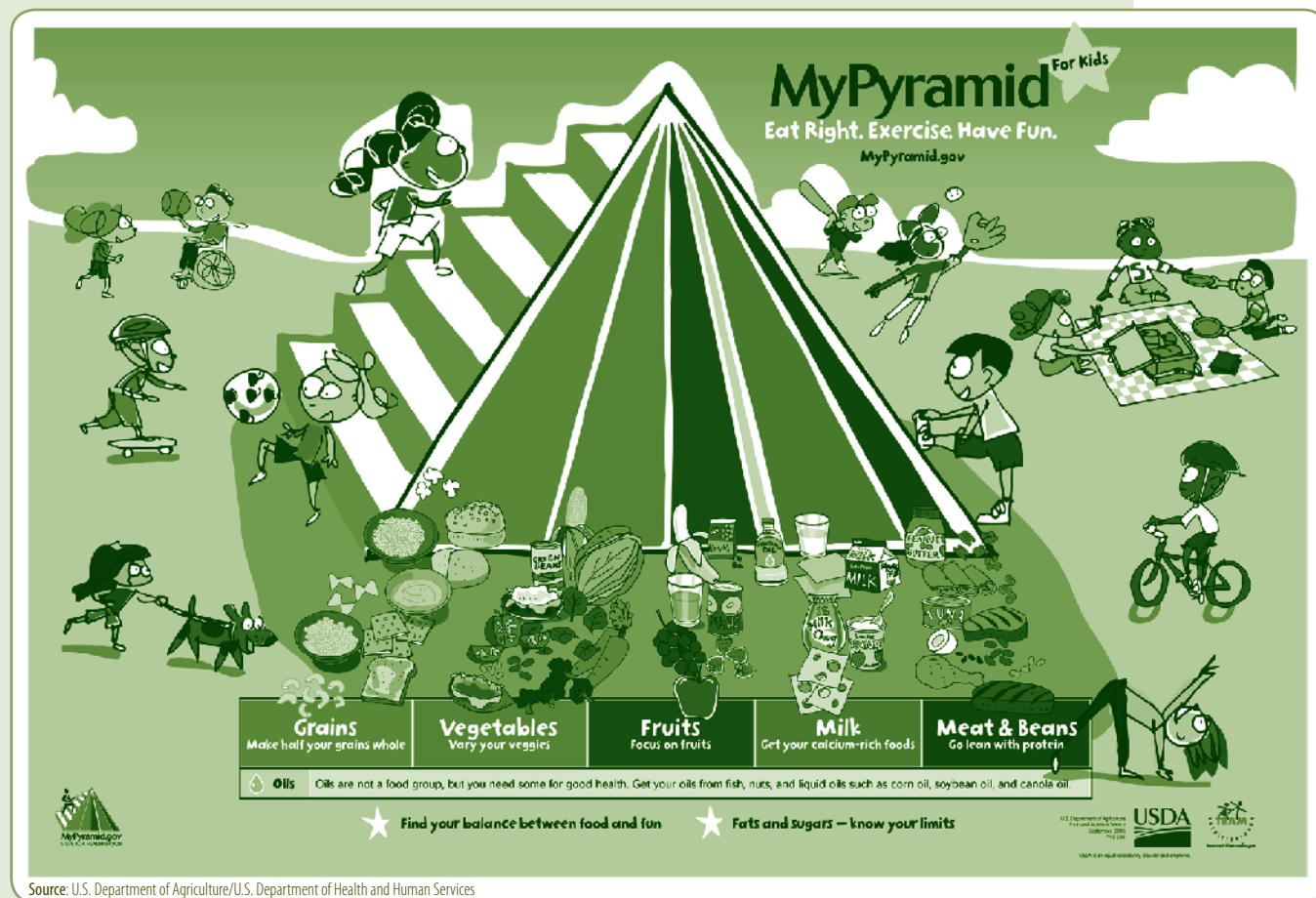


# Healthy Eating

Regular consumption of fruits and vegetables is a strong indicator of an overall healthy diet and is linked to numerous health benefits, including a lower risk of cardiovascular disease and some types of cancer.

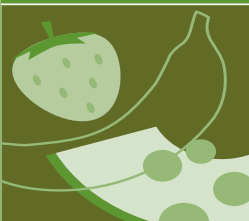
As seen in the figure below, designed to promote healthy eating among children, a healthy diet includes:

- Fruits and vegetables
- Low-fat dairy products
- Whole-grain products
- Legumes
- Lean meats



Source: U.S. Department of Agriculture/U.S. Department of Health and Human Services

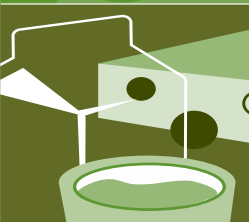
## Mix up your choices within each food group.



Focus on fruits. Eat a variety of fruits—whether fresh, frozen, canned, or dried—rather than fruit juice for most of your fruit choices. For a 2,000-calorie diet, you will need 2 cups of fruit each day (for example, 1 small banana, 1 large orange, and 1/4 cup of dried apricots or peaches).



Vary your veggies. Eat more dark green veggies, such as broccoli, kale, and other dark leafy greens; orange veggies, such as carrots, sweetpotatoes, pumpkin, and winter squash; and beans and peas, such as pinto beans, kidney beans, black beans, garbanzo beans, split peas, and lentils.



Get your calcium-rich foods. Get 3 cups of lowfat or fat-free milk—or an equivalent amount of low-fat yogurt and/or low-fat cheese (1 1/2 ounces of cheese equals 1 cup of milk)—every day. For kids aged 2 to 8, it's 2 cups of milk. If you don't or can't consume milk, choose lactose-free milk products and/or calcium-fortified foods and beverages.



Make half your grains whole. Eat at least 3 ounces of whole-grain cereals, breads, crackers, rice, or pasta every day. One ounce is about 1 slice of bread, 1 cup of breakfast cereal, or 1/2 cup of cooked rice or pasta. Look to see that grains such as wheat, rice, oats, or corn are referred to as “whole” in the list of ingredients.



Go lean with protein. Choose lean meats and poultry. Bake it, broil it, or grill it. And vary your protein choices—with more fish, beans, peas, nuts, and seeds.

Know the limits on fats, salt, and sugars. Read the Nutrition Facts label on foods. Look for foods low in saturated fats and trans fats. Choose and prepare foods and beverages with little salt (sodium) and/or added sugars (caloric sweeteners).

In 2005, the U.S. Department of Health and Human Services (HHS) and the Department of Agriculture (USDA) released the most recent Dietary Guidelines for Americans<sup>11</sup> (see figure at left).

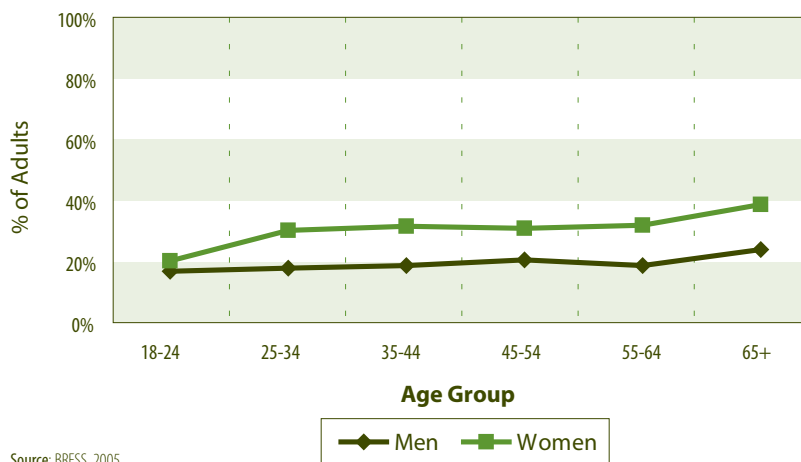
These guidelines provide advice about good dietary habits for people two years and older and explain how such habits promote health and reduce risk for major chronic diseases. They serve as the basis for federal food and nutrition education programs. The recommendation for adults is to eat at least four and a half cups of fruit or vegetables daily.

Source: U.S. Department of Agriculture/U.S. Department of Health and Human Services

Figure 2.11 shows that Oregon women of all ages are more likely than men to consume five or more servings of fruits and vegetables each day. The percentage of women who eat this amount increases with age; 39% of women age 65 and older consume this amount of fruits and vegetables, compared to just 24% of men in this age group.

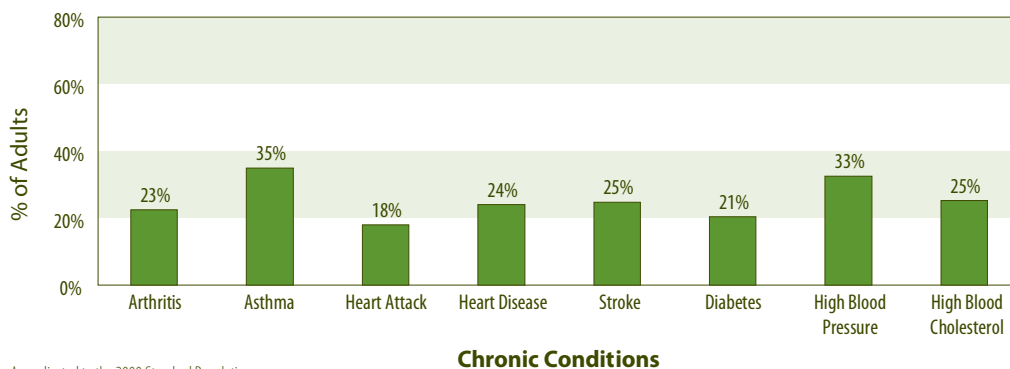
As shown in Figure 2.12, a relatively small percentage of Oregonians with selected chronic conditions consume five or more servings of fruits and vegetables. Those who have asthma or high blood pressure are most likely to consume this amount.

**Figure 2.11**  
**ADULTS WHO CONSUMED 5 OR MORE SERVINGS OF FRUITS AND VEGETABLES A DAY, BY AGE GROUP AND SEX, OREGON, 2005**



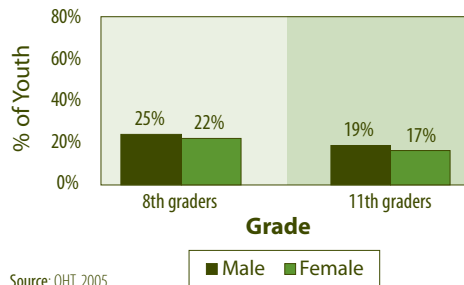
Source: BRFSS, 2005

**Figure 2.12**  
**ADULTS WITH SELECTED CHRONIC CONDITIONS WHO CONSUMED 5 OR MORE SERVINGS OF FRUITS AND VEGETABLES A DAY, BY CONDITION, OREGON, 2005**



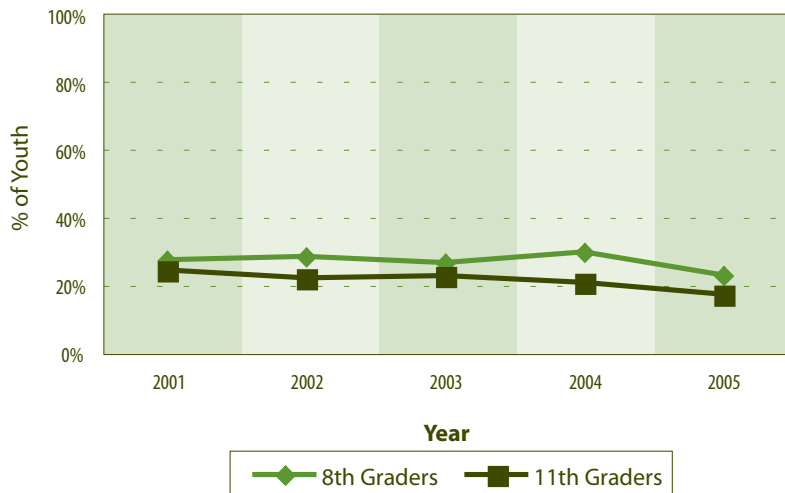
Age adjusted to the 2000 Standard Population  
 Source: BRFSS, 2005

Figure 2.13  
**YOUTH WHO CONSUMED 5 OR MORE SERVINGS OF FRUITS AND VEGETABLES A DAY, BY SEX AND GRADE, OREGON, 2005**



Source: OHT, 2005

Figure 2.14  
**YOUTH WHO CONSUMED 5 OR MORE SERVINGS OF FRUITS AND VEGETABLES A DAY, BY GRADE AND YEAR, OREGON, 2001-2005**



Source: Oregon Healthy Teens, 2001-2005

## Diet and Youth

Helping Oregon's children develop healthy eating habits may make it easier for them to maintain a healthy diet through adolescence and into adulthood.

Figure 2.13 shows a decline between 8th and 11th grade in the percentage of Oregon adolescents who consume five or more servings of fruits and vegetables each day. In both grades, females are less likely than males to consume this amount.

Figure 2.14 indicates that the percentage of Oregon adolescents who consume five or more servings of fruits and vegetables daily declined between 2001 and 2005. In 2005, consumption at both grade levels fell to new lows, with just 23% of 8th-graders and 18% of 11th-graders consuming five or more servings daily.

## Section 3: Selected Populations





## Section 3

# Selected Populations



The information in Section 3: *Selected Populations* provides data for use in planning appropriate, culturally relevant chronic disease prevention and intervention efforts. Each population for which information is presented has great diversity, so generalization is difficult and not necessarily reflective of all people in a given group. Further, there is undoubtedly overlap between populations described in the *Older Oregonians* subsection, the *Economically Disadvantaged Oregonians* subsection and the communities covered in the other parts of this section. Nonetheless, certain patterns emerge across populations, and readers may find this information to be of value.

This section includes information about the burden of illness and mortality for several segments of Oregon's population:

- African Americans
- American Indians and Alaska Natives
- Asians and Pacific Islanders
- Latinos
- Economically Disadvantaged Oregonians
- Older Oregonians



Each subsection describes the frequency of selected chronic conditions and related risk factors for each group, as well as mortality rates for these diseases. The four subsections covering racial and ethnic groups also include information about younger Oregonians.

In the discussion of factors that increase a person's risk of getting chronic disease, we focus on those that are modifiable. Some things that increase one's risk from chronic diseases we cannot do much about. Examples include age, sex and family history of disease. We can do something about other modifiable risk factors. These include smoking, the amount of physical activity we get and the foods we eat. Some of the findings presented are encouraging and reflect healthy behaviors in these populations. It is important to maintain these areas of strength while working to address other disparities that adversely affect the community's health.

# African Americans

Table 3.1 compares the frequency of various chronic conditions among African Americans and non-Latino whites. While African American Oregonians are less likely to have high cholesterol than non-Latino whites, they experience higher rates of other chronic diseases, including significantly higher rates for high blood pressure, diabetes, and heart attack.

Figure 3.2 addresses modifiable risk factors for chronic disease. African Americans are significantly more likely to be smokers, compared to non-Latino whites. Nutritionally, African Americans are somewhat more likely to eat five or more servings of fruits and vegetables a day than non-Latino whites. However, as with non-Latino whites, more than 60% of African American adults in Oregon are at a weight that puts them at increased risk for diabetes and heart disease.

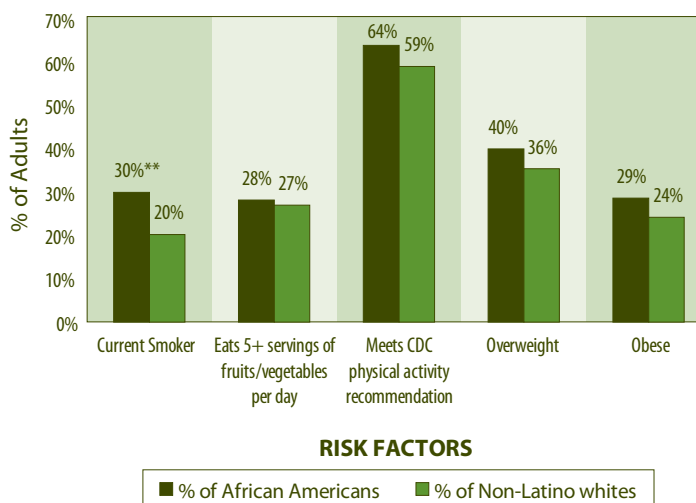
Table 3.1

## PREVALENCE OF SELECTED CHRONIC CONDITIONS AMONG AFRICAN AMERICANS AND NON-LATINO WHITES, OREGON, 2004-2005

CHRONIC CONDITIONS	% of African-Americans	% of Non-Latino Whites
ARTHRITIS	36%	28%
ASTHMA	16%	10%
HEART ATTACK	8%**	4%
HEART DISEASE	4%	4%
STROKE	3%	2%
DIABETES	13%**	6%
HIGH BLOOD PRESSURE	42%**	25%
HIGH BLOOD CHOLESTEROL	26%	32%

Note: The racial categories white, African American, Asian/Pacific Islander and American Indian do not include respondents of Latino ethnicity. Age-adjusted to 2000 U.S. Standard Population. \*\* Statistically significant difference, compared to white, non-Latinos. Source: BRFSS Race/Ethnicity August 2004-2005

Figure 3.2  
MODIFIABLE RISK FACTORS AMONG AFRICAN AMERICANS AND NON-LATINO WHITES, OREGON, 2004-2005



Note: The racial categories white, African American, Asian/Pacific Islander and American Indian do not include respondents of Latino ethnicity. Age adjusted to the 2000 Standard Population. \*\* Statistically significant difference, compared to white, non-Latinos. Source: BRFSS Race/Ethnicity August 2004-2005

Table 3.3  
**RECEIPT OF PREVENTIVE SERVICES AMONG AFRICAN AMERICANS AND NON-LATINO WHITES, OREGON, 2004-2005**

Preventive Services	% of African Americans	% of Non-Latino Whites
Had cholesterol checked within 5 years (18+ years)	72%	71%
Pap test within 3 years (women 18+ years)	89%	86%
Mammogram within 2 years (women 40+ years)	80%	73%

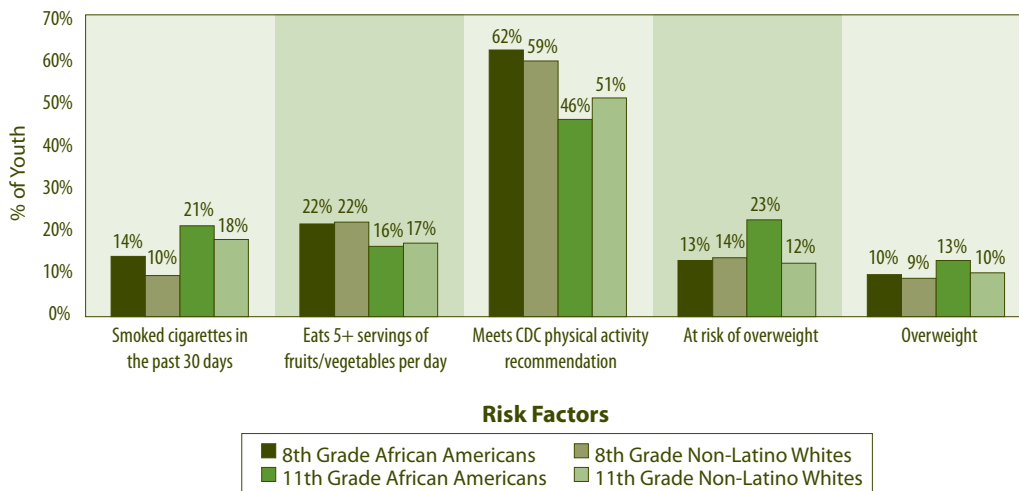
Note: The racial categories white, African American, Asian/Pacific Islander and American Indian do not include respondents of Latino ethnicity. Age-adjusted to 2000 U.S. Standard Population. \*\* Statistically significant difference, compared to white, non-Latinos  
 Source: BRFSS Race/Ethnicity Augment 2004-2005

As shown in table 3.3, rates for routine mammography are higher among African American women than among white non-Latinas, and rates for recommended Pap testing to screen for cervical cancer are also somewhat higher. These are actions that promote health.

Figure 3.4 provides information about modifiable risks factors for chronic disease among African

American adolescents. It shows that African American 8th graders are more likely than their non-Latino white counterparts to meet CDC recommendations for physical activity. However, among 11th graders this difference disappears, and African Americans in 11th grade are less likely than non-Latino whites to be at a healthy weight.

Figure 3.4  
**MODIFIABLE RISK FACTORS AMONG YOUTH: AFRICAN AMERICANS AND NON-LATINO WHITES, OREGON, 2005**



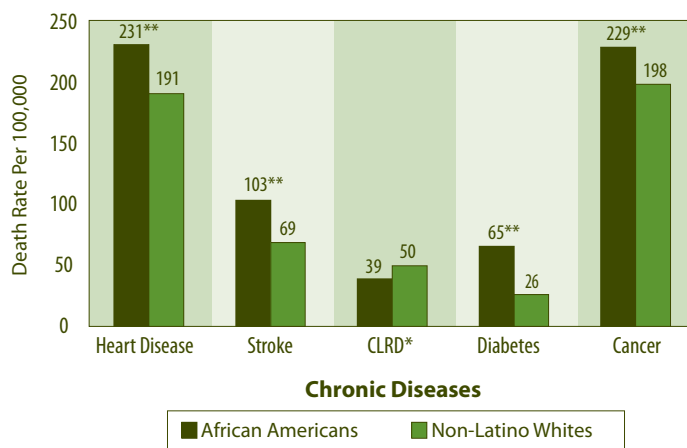
\* Respondents were asked, "How do you describe yourself (select one or more responses)?" Students were counted in each category they chose. CDC physical activity recommendation is for  $\geq 60$  minutes of physical activity/day on most days of the week, preferably daily. Figure above represents the percentage of adolescents who get at least 60 minutes of activity five or more days a week. At risk of overweight is defined by a body mass index for age in the 85th to 95th percentile on a standard pediatric growth chart. Overweight is defined by a body mass index for age at or above the 95th percentile on a standard pediatric growth chart.

Source: Oreon Health Teens 2005



Figure 3.5 compares chronic disease death rates among African Americans and non-Latino whites in Oregon. During the period 1999-2004, the leading chronic disease-related causes of death in both groups were heart disease and cancer, followed by stroke. Compared to non-Latino whites, African Americans were significantly more likely to die from every chronic disease assessed except chronic lower respiratory disease.

Figure 3.5  
**CHRONIC DISEASE DEATH RATES AMONG AFRICAN AMERICANS AND NON-LATINO WHITES, OREGON, 1999-2004**



\* CLRD = Chronic Lower Respiratory Disease. Age adjusted to the 2000 Standard Population.

\*\* Statistically significant difference, compared to white, non-Latinos.

Source: Oregon Resident Death Certificates, 1999-2004

# American Indians and Alaska Natives

Table 3.6

**PREVALENCE OF SELECTED CHRONIC CONDITIONS AMONG AMERICAN INDIANS AND ALASKA NATIVES AND NON-LATINO WHITES, OREGON, 2004-2005**

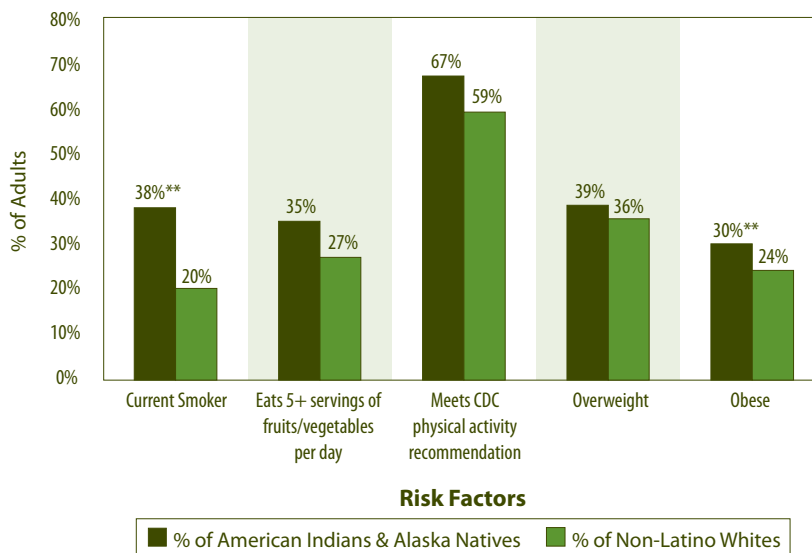
CHRONIC CONDITIONS	% of American Indians and Alaska Natives	% of Non-Latino Whites
ARTHRITIS	41%**	28%
ASTHMA	15%**	10%
HEART ATTACK	10%**	4%
HEART DISEASE	8%**	4%
STROKE	5%**	2%
DIABETES	12%**	6%
HIGH BLOOD PRESSURE	30%	25%
HIGH BLOOD CHOLESTEROL	28%	32%

Note: the racial categories white, African American, Asian/Pacific Islander and American Indian do not include respondents of Latino ethnicity. Age-adjusted to 2000 U.S. Standard Population. \*\* Statistically significant difference, compared to white, non-Latinos.  
 Source: BRFSS Race/Ethnicity Augment 2004-2005

Table 3.6 compares the percentage of American Indians and Alaska Natives who have certain chronic conditions with the percentage among non-Latino whites. In most cases, the percentage is significantly higher among American Indians and Alaska Natives. The frequency of heart attack and stroke is more than twice as high, and rates are two times higher for diabetes and coronary heart disease.

In Oregon, a larger percentage of adult American Indians and Alaska Natives meet CDC recommendations for physical activity (67%) than do white non-Latinos (59%). This, coupled with somewhat lower rates of high cholesterol, is a health promoting pattern among American Indian communities (Figure 3.7). On the other hand, high rates of smoking and unhealthy weight (significantly higher than those among non-Latino whites), and lower rates of mammography screening among women age 40 and older continue to be a challenge (See Table 3.8).

**Figure 3.7**  
**MODIFIABLE RISK FACTORS AMONG AMERICAN INDIANS & ALASKA NATIVES AND NON-LATINO WHITES, OREGON, 2004-2005**



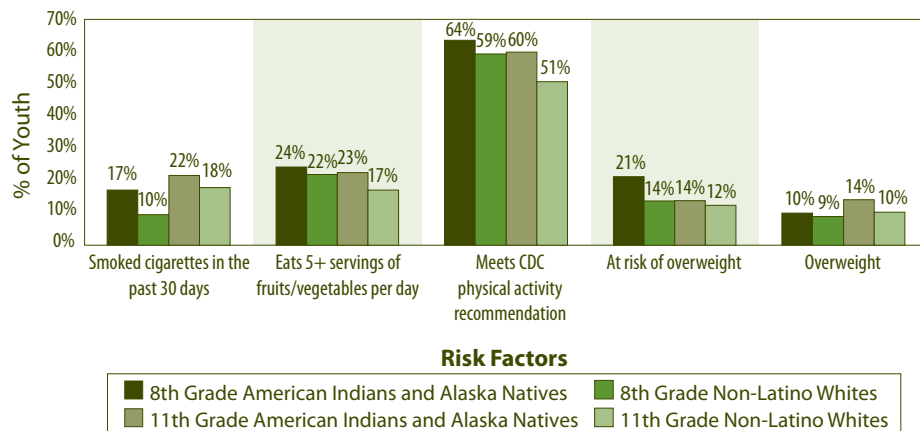
\*\* Statistically significant difference, compared to white, non-Latinos. Note: the racial categories white, African American, Asian/Pacific Islander and American Indian do not include respondents of Latino ethnicity. Age adjusted to the 2000 Standard Population.  
 Source: BRFSS Race/Ethnicity August 2004-2005

**Table 3.8**  
**RECEIPT OF PREVENTIVE SERVICES AMONG AMERICAN INDIANS AND ALASKA NATIVES AND NON-LATINO WHITES, OREGON, 2004-2005**

Preventive Services	% of American Indians & Alaska Natives	% of Non-Latino Whites
Had cholesterol checked within 5 years (18+ years)	68%	71%
Pap test within 3 years (women 18+ years)	82%	86%
Mammogram within 2 years (women 40+ years)	58%	73%

Note: The racial categories white, African American, Asian/Pacific Islander and American Indian do not include respondents of Latino ethnicity. Age-adjusted to 2000 U.S. Standard Population. \*\* Statistically significant difference, compared to white, non-Latinos.  
 Source: BRFSS Race/Ethnicity August 2004-2005

**Figure 3.9**  
**MODIFIABLE RISK FACTORS AMONG YOUTH:**  
**AMERICAN INDIANS & ALASKA NATIVES AND NON-LATINO WHITES\*,**  
**OREGON, 2005**

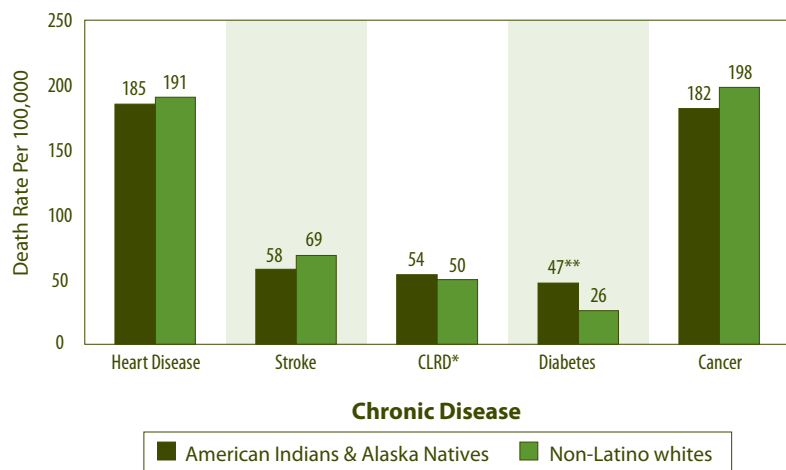


\* Respondents were asked, "How do you describe yourself (select one or more responses)?". Students were counted in each category they chose. CDC physical activity recommendation is for  $\geq 60$  minutes of physical activity/day on most days of the week, preferably daily. Figure above represents the percentage of adolescents who get at least 60 minutes of activity five or more days a week. At risk of overweight is defined by a body mass index for age in the 85th to 95th percentile on a standard pediatric growth chart. Overweight is defined by a body mass index for age at or above the 95th percentile on a standard pediatric growth chart.  
 Source: Oregon Healthy Teens 2005

Review of risk factors for chronic disease among American Indian and Alaska Native adolescents (Figure 3.9) reveals that both 8th grade and 11th grade American Indians and Alaska Natives are more likely to meet CDC physical activity recommendations, and are more likely to eat five or more servings of fruits and vegetables a day than their white, non-Latino counterparts. Of more concern, American Indian and Alaska Native youth are more likely than white non-

Latinos to smoke and to be at a weight that increases their risk for chronic disease.

**Figure 3.10**  
**CHRONIC DISEASE DEATH RATES AMONG AMERICAN INDIANS AND**  
**ALASKA NATIVES AND NON-LATINO WHITES, OREGON, 1999-2004**



\* CLRD = Chronic Lower Respiratory Disease. Age adjusted to the 2000 Standard Population.  
 \*\* Statistically significant difference, compared to white, non-Latinos.  
 Source: Oregon Resident Death Certificates, 1999-2004

Figure 3.10 compares death rates from various diseases among American Indians and Alaska Natives with rates among non-Latino whites. For both groups, cancer, heart disease and stroke were the leading causes of death, although heart disease was the leading cause among American Indians and Alaska Natives, while cancer was the leading cause of death among white non-Latinos. The death rate from diabetes was significantly higher among American Indians and Alaska Natives. It is also possible that, since death certificates are often filled out without direct input from family members, rates for several of these diseases may be underestimated, due to misidentification of an American Indian decedent as white or Latino.

# Asians and Pacific Islanders

Table 3.11 compares the frequency of various chronic conditions among Asians and Pacific Islanders with the frequency of these conditions among non-Latino whites. Rates are largely similar except that Asians and Pacific Islanders were significantly less likely to report having asthma.

When modifiable risk factors are considered (Figure 3.12), Asians and Pacific Islanders have levels of physical activity and fruit and vegetable consumption that are comparable to non-Latino whites, and are significantly less likely to report smoking, or to be at a weight that increases their risk of chronic disease.

Table 3.11

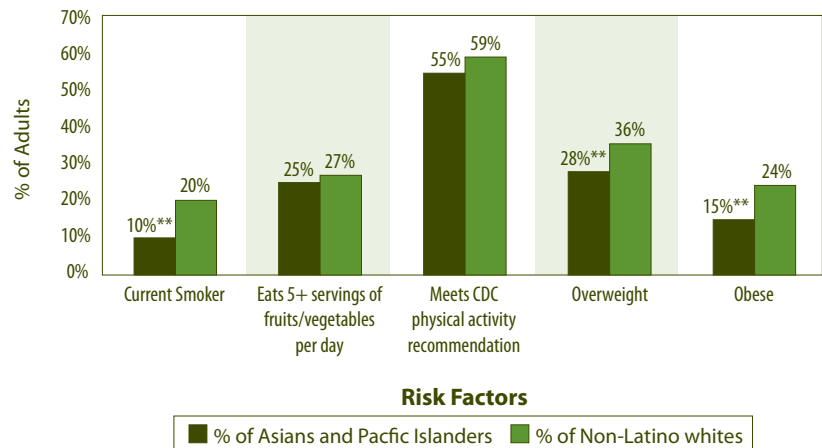
## PREVALENCE OF SELECTED CHRONIC CONDITIONS AMONG ASIANS AND PACIFIC ISLANDERS AND NON-LATINO WHITES, OREGON, 2004-2005

CHRONIC CONDITIONS	% of Asians and Pacific Islanders	% Non-Latino Whites
ARTHRITIS	24%	28%
ASTHMA	6%**	10%
HEART ATTACK	2%	4%
HEART DISEASE	4%	4%
STROKE	3%	2%
DIABETES	7%	6%
HIGH BLOOD PRESSURE	19%	25%
HIGH BLOOD CHOLESTEROL	36%	32%

Note: The racial categories white, African American, Asian/Pacific Islander and American Indian do not include respondents of Latino ethnicity. Age-adjusted to 2000 U.S. Standard Population. \*\* Statistically significant difference, compared to white, non-Latinos  
Source: BRFSS Race/Ethnicity Augment, 2004-2005

Figure 3.12

## MODIFIABLE RISK FACTORS AMONG ASIANS AND PACIFIC ISLANDERS AND NON-LATINO WHITES, OREGON, 2004-2005



Note: The racial categories white, African American, Asian/Pacific Islander and American Indian do not include respondents of Latino ethnicity. Age adjusted to the 2000 Standard Population. \*\* Statistically significant difference, compared to white, non-Latinos  
Source: BRFSS Race/Ethnicity Augment 2004-2005

Table 3.13

**RECEIPT OF PREVENTIVE SERVICES AMONG ASIANS AND PACIFIC ISLANDERS AND NON-LATINO WHITES, OREGON, 2004-2005**

Preventive Services	% of Asians and Pacific Islanders	% of Non-Latino Whites
Had cholesterol checked within 5 years (18+ years)	72%	71%
Pap test within 3 years (women 18+ years)	77%	86%
Mammogram within 2 years (women 40+ years)	72%	73%

Note: The racial categories white, African American, Asian/Pacific Islander and American Indian do not include respondents of Latino ethnicity. Age-adjusted to 2000 U.S. Standard Population.

\*\* Statistically significant difference, compared to white, non-Latinos.

Source: BRFSS Race/Ethnicity Augment, 2004-2005

As seen in Table 3.13, while mammography screening rates are similar, Asian and Pacific Islander women are less likely than their non-Latina white counterparts to have had a Pap test in the previous three years, although the difference was not statistically significant.

Figure 3.14

**MODIFIABLE RISK FACTORS AMONG YOUTH: ASIANS AND PACIFIC ISLANDERS AND NON-LATINO WHITES\*, OREGON, 2005**

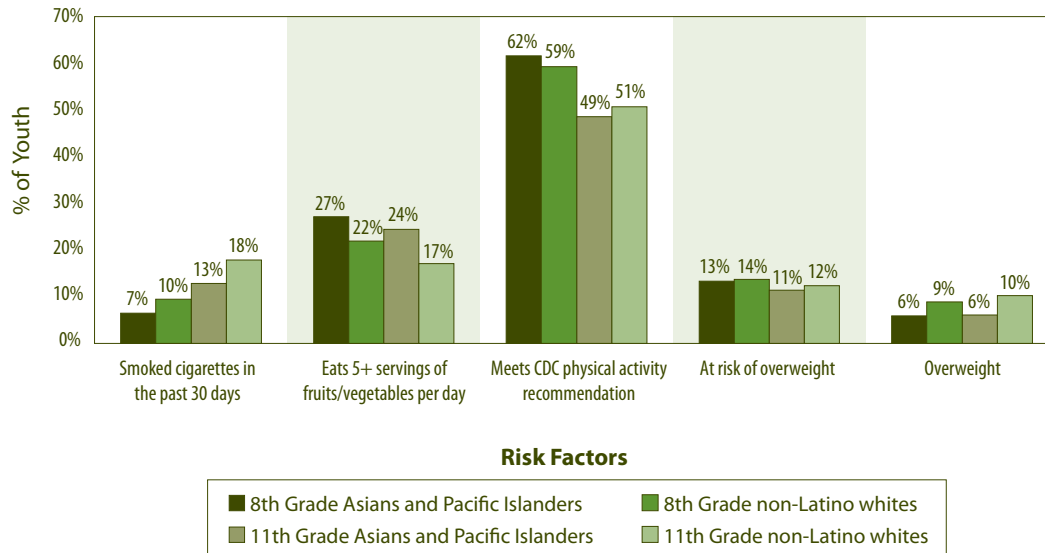
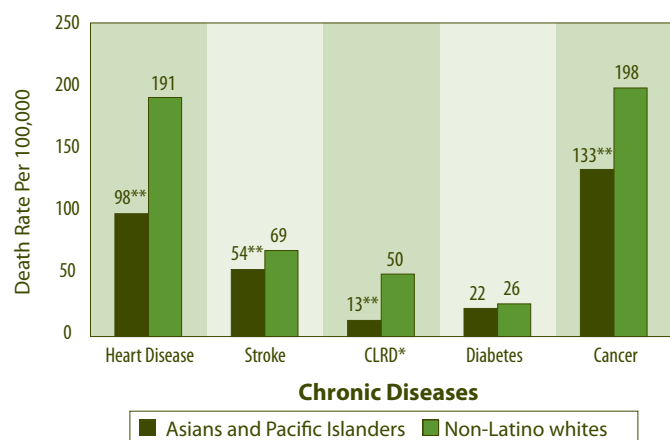


Figure 3.14 indicates that Asian and Pacific Islander youth generally have fewer modifiable risk factors for chronic disease than their non-Latino white counterparts. Both 8th grade and 11th grade Asians and Pacific Islanders are less likely than white non-Latinos to smoke or to be overweight, and they are more likely to eat five or more servings of fruits and vegetables daily.

\* Respondents were asked, "How do you describe yourself (select one or more responses)?". Students were counted in each category they chose. NOTE: If you separate Asians and Pacific Islanders, 4% of Asian 8th graders vs. 11% of Pacific Islanders smoked. Among 11th graders, 11% of Asians smoked vs. 20% of Pacific Islanders. CDC physical activity recommendation is for ≥ 60 minutes of physical activity/day on most days of the week, preferably daily. Figure above represents the percentage of adolescents who get at least 60 minutes of activity five or more days a week. At risk of overweight is defined by a body mass index for age in the 85th to 95th percentile on a standard pediatric growth chart. Overweight is defined by a body mass index for age at or above the 95th percentile on a standard pediatric growth chart.

Source: Oregon Healthy Teens, 2005

Figure 3.15  
**CHRONIC DISEASE DEATH RATES AMONG ASIANS AND PACIFIC ISLANDERS AND NON-LATINO WHITES, OREGON, 1999-2004**



\* CLRD = Chronic Lower Respiratory Disease. Age adjusted to the 2000 Standard Population.  
 \*\* Statistically significant difference, compared to white, non-Latinos.  
 Source: Oregon Resident Death Certificates, 1999-2004

As shown in Figure 3.15, cancer, heart disease and stroke are the three leading causes of death for Asians and Pacific Islanders, just as they are for non-Latino whites. For each of these conditions, the death rate among Asians and Pacific Islanders is lower than that for non-Latino whites. However, for several forms of cancer, notably cancers of the liver (16.5/100,000) and stomach (10.8/100,000), death rates among Asians and Pacific Islanders were more than three times higher.

Table 3.16

**PREVALENCE OF SELECTED CHRONIC CONDITIONS AMONG LATINOS AND NON-LATINO WHITES, OREGON, 2004-2005**

CHRONIC CONDITIONS	% of Latinos	% of Non-Latino Whites
ARTHRITIS	15%**	28%
ASTHMA	5%**	10%
HEART ATTACK	3%	4%
HEART DISEASE	2%	4%
STROKE	2%	2%
DIABETES	10%**	6%
HIGH BLOOD PRESSURE	19%**	25%
HIGH BLOOD CHOLESTEROL	32%	32%

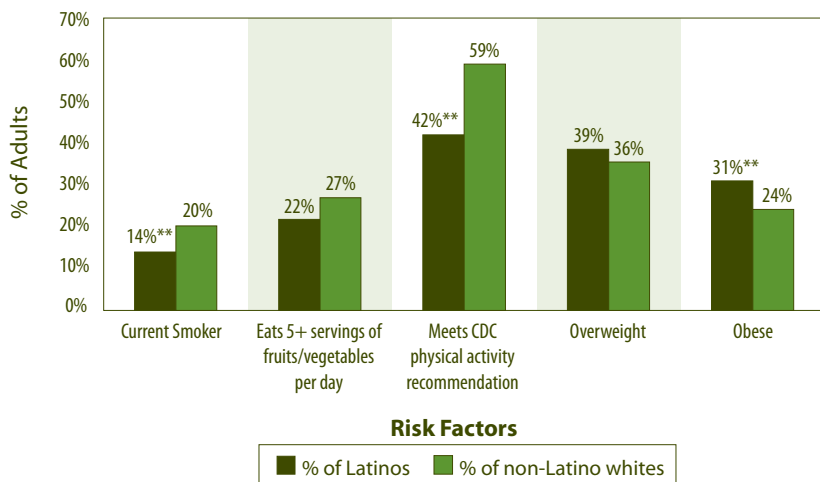
Note: The racial categories white, African American, Asian/Pacific Islander and American Indian do not include respondents of Latino ethnicity. Age-adjusted to 2000 U.S. Standard Population. \*\* Statistically significant difference, compared to white, non-Latinos.  
 Source: BRFSS Race/Ethnicity Augment 2004-2005

# Latinos

Latinos in Oregon are less likely to have some chronic diseases than are white non-Latinos. Table 3.16 reveals that the reported prevalence of arthritis, asthma and high blood pressure are significantly lower among Latinos. In contrast, diabetes is significantly more common in Latinos.

Figure 3.17 illustrates differences in modifiable risk factors for chronic diseases between Latinos and non-Latino whites. While Latinos are significantly less likely than non-Latino whites to smoke, they are also significantly less likely to meet current physical activity recommendations. Nearly one-third of Latinos report being obese, with another 39% reporting they are overweight. This combination of low levels of physical activity and a high frequency of overweight increases the risk of chronic disease, especially diabetes.

Figure 3.17  
**MODIFIABLE RISK FACTORS AMONG LATINOS AND NON-LATINO WHITES, OREGON, 2004-2005**



Note: The racial categories white, African American, Asian/Pacific Islander and American Indian do not include respondents of Latino ethnicity. Age adjusted to the 2000 Standard Population. \*\* Statistically significant difference, compared to white, non-Latinos.  
 Source: BRFSS Race/Ethnicity Augment 2004-2005



Table 3.18 shows that Latinos are generally less likely than non-Latino whites to have received preventive services. Latina women were less likely to report recommended Pap testing for cervical cancer screening, and less likely to have recommended breast cancer screening with mammography. Latinos were also significantly less likely to have had their cholesterol checked within the past five years.

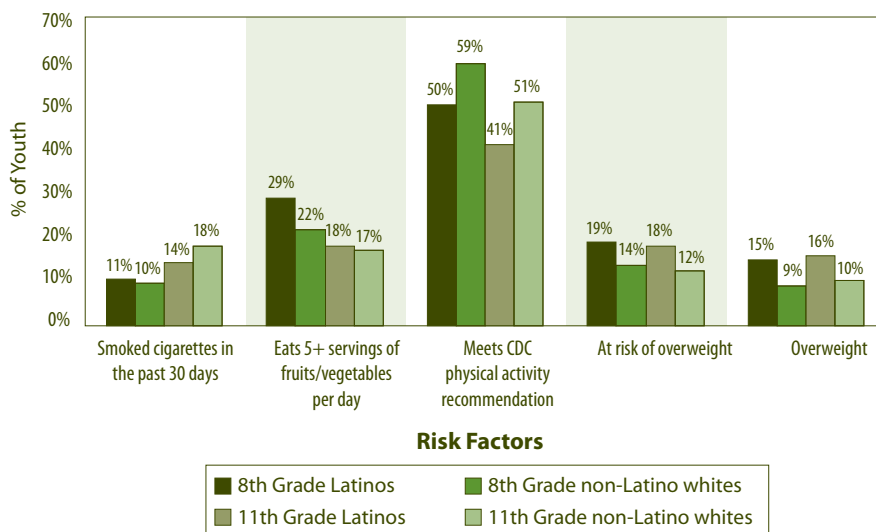
Reviewing modifiable risk factors for chronic disease among adolescents (Figure 3.19), Latino 11th graders are less likely to smoke than their non-Latino white counterparts. However, Latino youth are more likely to be overweight or at risk of becoming overweight, compared to non-Latino white youth. They are also much less likely to meet CDC physical activity recommendations.

Table 3.18  
**RECEIPT OF PREVENTIVE SERVICES AMONG LATINOS AND NON-LATINO WHITES, OREGON, 2004-2005**

Preventive Services	% of Latinos	% of Non-Latino Whites
Had cholesterol checked within 5 years (18+ years)	52%**	71%
Pap test within 3 years (women 18+ years)	79%	86%
Mammogram within 2 years (women 40+ years)	66%	73%

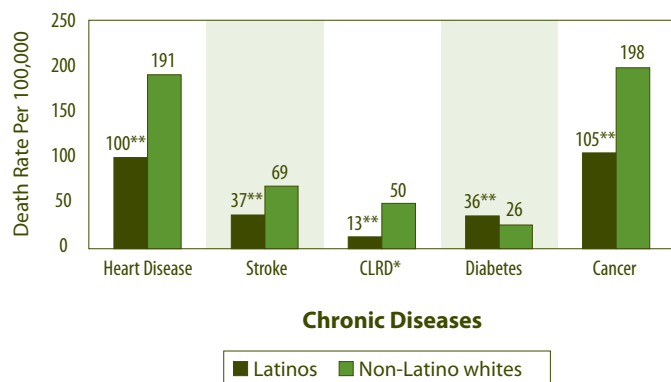
Note: the racial categories white, African American, Asian/Pacific Islander and American Indian do not include respondents of Latino ethnicity. Age-adjusted to 2000 U.S. Standard Population. \*\* Statistically significant difference, compared to white, non-Latinos.  
 Source: BRFSS Race/Ethnicity Augment 2004-2005

Figure 3.19  
**MODIFIABLE RISK FACTORS AMONG YOUTH: LATINOS AND NON-LATINO WHITES\*, OREGON, 2005**



CDC physical activity recommendation is for ≥ 60 minutes of physical activity/day on most days of the week, preferably daily. Figure above represents the percentage of adolescents who get at least 60 minutes of activity five or more days a week. At risk of overweight is defined by a body mass index for age in the 85th to 95th percentile on a standard pediatric growth chart. Overweight is defined by a body mass index for age at or above the 95th percentile on a standard pediatric growth chart.  
 \* Respondents were asked, "How do you describe yourself (select one or more responses)?". Students were counted in each category they chose.  
 Source: Oregon Healthy Teens 2005

Figure 3.20  
**CHRONIC DISEASE DEATH RATES AMONG LATINOS AND  
 NON-LATINO WHITES, OREGON, 1999-2004**



\* CLRD = Chronic Lower Respiratory Disease. Age adjusted to the 2000 Standard Population  
 \*\* Statistically significant difference, compared to white, non-Latinos.  
 Source: Oregon Resident Death Certificates, 1999-2004

Figure 3.20 shows that cancer and heart disease are the leading causes of death among Latinos, as they are for non-Latino whites. However, death rates (the number of deaths per 100,000 population) from these diseases are substantially lower among Latinos. By contrast, diabetes-related death rates are higher among Latinos.

# Economically Disadvantaged Oregonians

Differences in financial resources often result in disparities involving health care access and risk for chronic disease. Here we assess the health and related risk factors of economically disadvantaged Oregonians.

In this analysis, we include economically disadvantaged people who have a household income at or below 100% of Federal Poverty Guidelines or who have not graduated from high school. In addition, we provide information about the prevalence of chronic diseases and related risk factors among adult recipients of the Oregon Health Plan, Oregon's Medicaid program.

People who meet the “economically disadvantaged” definition differ in a number of ways from those who do not. They are younger (median age 35 years vs. 47 years), more likely to be regular speakers of a language other than English (32% vs. 6%), more likely to be recipients of the Oregon Health Plan (21% vs. 3%), and have a higher median household size (4 vs. 2). In each group, half are men and half are women. We have chosen a definition that most would agree describes a group that is economically disadvantaged. We recognize that there are others with more resources who still experience disparities related to income and educational background.

Table 3.21

**PREVALENCE OF SELECTED CHRONIC CONDITIONS AMONG THE ECONOMICALLY DISADVANTAGED, MEDICAID RECIPIENTS, AND THE GENERAL POPULATION, OREGON, 2005**

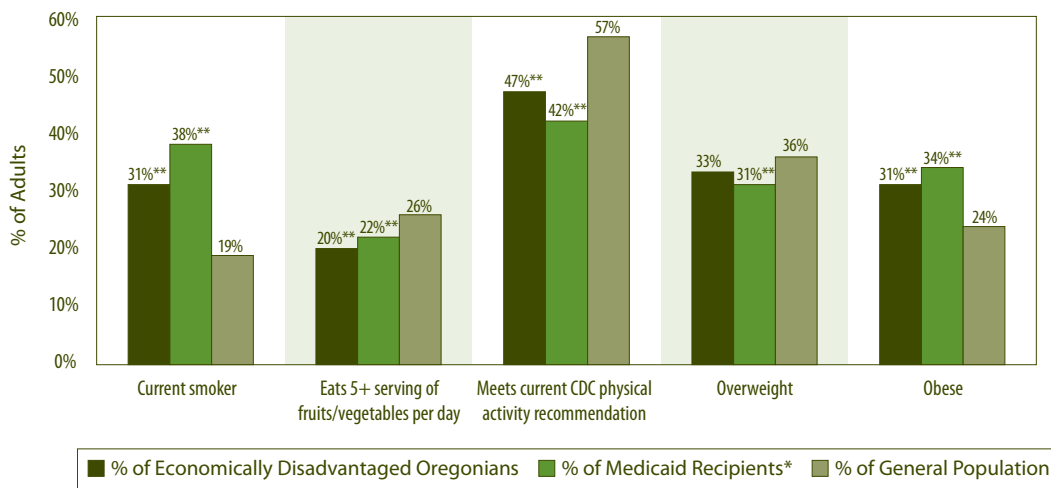
CHRONIC CONDITIONS	% of Economically Disadvantaged Oregonians	% of Medicaid Recipients*	% of General Population
ARTHRITIS	30%**	39%**	26%
ASTHMA	14%**	19%**	10%
HEART ATTACK	7%**	7%**	4%
HEART DISEASE	5%**	8%**	4%
STROKE	6%**	8%**	3%
DIABETES	11%**	13%**	6%
HIGH BLOOD PRESSURE	28%**	34%**	23%
HIGH BLOOD CHOLESTEROL	34%	37%**	32%

People were considered Economically Disadvantaged if 1) they had a household income  $\leq$  100% of Federal Poverty or 2) they had not completed high school. \*\* Statistically significant difference, compared to Oregon General Population. Age-adjusted to 2000 U.S. Standard Population. Source: BRFSS, 2005 and Health Risk Health Status Survey (HRHSS), 2004\*

As seen in Table 3.21, prevalence of most chronic diseases is higher among Oregon’s economically disadvantaged than in the general population. A similar pattern is seen among Oregon Health Plan recipients. The economically disadvantaged are also more likely to be smokers, less likely to meet CDC physical activity recommendations, less likely to eat five or more servings of fruits and vegetables a day, and more likely to have a BMI  $\geq$ 30, which also increases their risk of chronic disease morbidity and mortality. Oregon Health Plan recipients experience a similar risk pattern (Figure 3.22).

Figure 3.22

**MODIFIABLE RISK FACTORS AMONG THE ECONOMICALLY DISADVANTAGED, MEDICAID RECIPIENTS, AND THE GENERAL POPULATION, OREGON, 2005**



\*\* Statistically significant difference, compared to Oregon General Population. Age adjusted to the 2000 Standard Population. People were considered Economically Disadvantaged if 1) they had a household income  $\leq$  100% of Federal Poverty Guidelines or 2) they had not completed high school. Source: BRFSS, 2005 and Health Risk Health Status Survey (HRHSS), 2004\*

Table 3.23

**RECEIPT OF PREVENTIVE SERVICES AMONG THE ECONOMICALLY DISADVANTAGED OREGONIANS, MEDICAID RECIPIENTS, AND THE GENERAL POPULATION, OREGON, 2005**

	<b>% of Economically Disadvantaged Oregonians</b>	<b>% of Medicaid Recipients*</b>	<b>% of General Population</b>
Had cholesterol checked within 5 years	54%**	63%	67%
PAP test within 3 years (women 18+ years)	76%**	76%**	85%
Mammogram within 2 years (women 40+ years)	52%**	59%**	73%

People were considered Economically Disadvantaged if 1) they had a household income  $\leq$ 100% of Federal Poverty or 2) they had not completed high school. \*\* Statistically significant difference, compared to Oregon General Population. Age-adjusted to 2000 U.S. Standard Population.

Source BRFSS, 2005 and Health Risk Health Status Survey (HRHSS), 2004\*

Table 3.23 shows that the economically disadvantaged and Oregon Health Plan recipients are significantly less likely to receive recommended cancer screening services. Economically disadvantaged Oregonians are also significantly less likely to receive screening for cholesterol at recommended intervals.

# Older Oregonians

Table 3.24

**PREVALENCE OF SELECTED CHRONIC CONDITIONS AMONG OLDER OREGONIANS,  
BY AGE GROUP, 2005**

<b>CHRONIC CONDITIONS</b>	<b>55-64 years old</b>	<b>65-74 years old</b>	<b>75-84 years old</b>	<b>85+ years old</b>
ARTHRITIS	44%	54%	58%	57%
ASTHMA	10%	9%	8%	6%
HEART ATTACK	5%	11%	14%	13%
HEART DISEASE	6%	12%	14%	10%
STROKE	4%	6%	9%	12%
DIABETES	12%	17%	15%	9%
HIGH BLOOD PRESSURE	39%	51%	53%	54%
HIGH CHOLESTEROL	49%	51%	49%	37%

Source: BRFSS, 2005

Among older Oregonians (age 55 or older), with some exceptions, frequency of chronic conditions increases with age. This pattern holds for arthritis, heart disease, stroke and high blood pressure (Table 3.24).

Table 3.25

**MODIFIABLE RISK FACTORS AMONG OLDER OREGONIANS, BY AGE GROUP, 2005**

	<b>55-64 years old</b>	<b>65-74 years old</b>	<b>75-84 years old</b>	<b>85+ years old</b>
Current smoker	16%	11%	5%	2%
Eats 5+ serving of fruits/ vegetables per day	26%	29%	35%	42%
Meets CDC physical activity recommendation*	56%	53%	45%	40%
Overweight	38%	42%	42%	32%
Obese	31%	24%	14%	11%

\* CDC recommendations include moderate activity for at least 30 minutes, 5 or more days per week, or vigorous activity for at least 20 minutes, 3 or more days per week.

Source: BRFSS, 2005

As seen in Table 3.25, among older Oregonians, certain modifiable risk factors such as smoking and obesity decline steadily across the four age groups. The prevalence of healthy levels of fruit and vegetable consumption increases by age group among older Oregonians, reaching a high of 42% among those age 85 years or older. By comparison, 24% of Oregonians under age 55 consume five or more servings of fruits and vegetables daily.

Table 3.26

**RECEIPT OF PREVENTIVE SERVICES AMONG OLDER OREGONIANS, BY AGE GROUP, 2005**

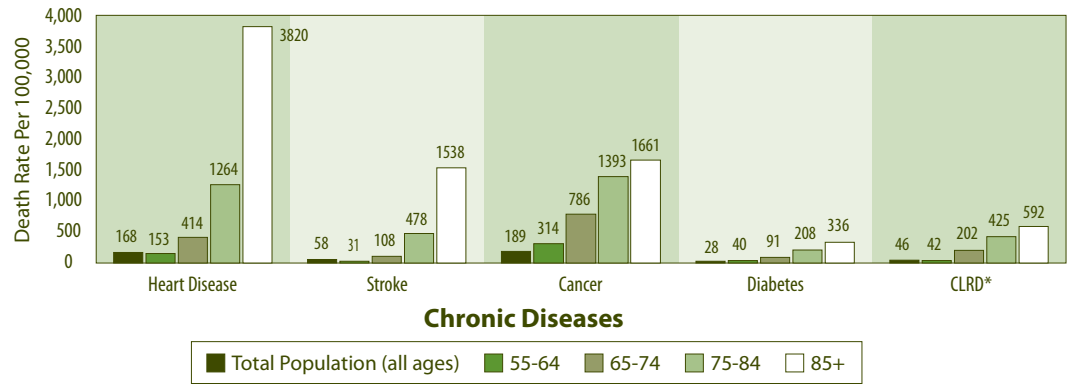
	55-64 years old	65-74 years old	75-84 years old	85+ years old
Had cholesterol checked within 5 years	89%	93%	93%	84%
Pap test within 3 years (women)	89%	78%	74%	37%†
Mammogram within 2 years (women)	79%	82%	83%	55%
Fecal occult blood test (FOBT) within 1 year*	23%	23%	25%	14%
Sigmoidoscopy or colonoscopy within 5 years*	47%	51%	56%	37%

† % based on less than 50 respondents; may not accurately reflect behavior of entire age group.  
Source: BRFSS 2005, 2004\*

With regard to preventive medical services, Table 3.26 indicates older Oregonians do not always receive recommended cancer screening services. Though numbers have improved over the past few years, only one in two older Oregonians has had colorectal cancer screening with endoscopy in the past 5 years, and one in four reports recommended screening with fecal occult blood testing.

Figure 3.27 shows chronic disease death rates among older Oregonians. For all these conditions, death rates are highest among those 85 and older, and generally the frequency increases with age.

Figure 3.27  
**CHRONIC DISEASE DEATH RATES AMONG OLDER OREGONIANS, BY AGE GROUP, 2004**



\*CLRD = Chronic Lower Respiratory Disease  
Source: Oregon Resident Death Certificates, 2004



## Section 4: Community Conditions that Support Health



## Section 4

# Community Conditions that Support Health

*Virtually all Oregon adults (97%) are affected by or at risk for chronic diseases due to one or more modifiable risk factors. Given that these risk factors affect so many Oregonians, prevention must occur in a broader context than the physician's office. Community conditions that promote health and prevent disease are essential.*

Community conditions affect the choices that people make regarding health behaviors. Communities can adopt policies and create environments that are supportive of healthy behaviors. For example, adopting smoke-free policies protects the health of those who would otherwise be exposed to secondhand smoke; it also helps smokers quit and remain smoke-free. Sidewalks, bike paths, and quality physical education in schools are examples of ways to make being physically active on a daily basis much easier.

Community conditions also influence children's attitudes and behaviors related to tobacco use, physical activity, and diet. Childhood attitudes set the stage for lifelong healthy or unhealthy behaviors.

Oregon data on community conditions are limited. This section describes existing or proposed policies and guidelines for creating environments that support healthy choices regarding tobacco use, physical activity, and healthy eating.

# Tobacco Prevention

It is easy to wonder why people still smoke. Most Oregonians know it is unhealthy, and of those who do smoke, 76% want to quit.

People smoke for many reasons. They smoke because tobacco companies spend more than \$160 million per year in Oregon alone to market their products. People smoke because it is addictive. Nicotine is one of the most addictive drugs we know of — more addictive than heroin. People smoke because they see it in the movies; because when they were 14, they thought it looked cool; and because the drug helps them feel calm and alert.

Community conditions can also encourage smoking, which results in community exposure to the toxic chemicals in secondhand smoke.

These community conditions include:

- Smoking allowed in bars, taverns and other public places
- Allowing advertising that appeals to children
- Keeping cigarettes inexpensive and widely available
- Restricting funding to programs that help people quit and keep kids from starting
- Displaying cigarettes where they can be easily stolen

Community conditions can help people decide to smoke. They can also help people decide to quit smoking or not start in the first place, and can encourage people to avoid secondhand smoke. Creating community conditions that discourage tobacco use and encourage quitting must be Oregon’s first priority in tobacco prevention and education.

Since 1996, the state has worked to achieve the following goals:

- **Eliminate exposure to secondhand smoke**
- **Eliminate youth initiation of tobacco use**
- **Provide help to all Oregonians who want to quit smoking or using tobacco**
- **Eliminate disparities in tobacco use and tobacco industry targeting**

To achieve these goals, it is important to change how communities view smoking and tobacco use. Often, conditions that help us achieve one goal are important in the achievement of another.

## Eliminate exposure to secondhand smoke

Secondhand smoke contains more than 4,000 toxic chemicals, more than 50 of which are known to cause cancer in humans. Secondhand smoke causes heart attacks, strokes and lung cancer in adult non-smokers, and it causes SIDS, respiratory illnesses, diminished lung function and asthma in children. Exposure to secondhand smoke makes it harder for people to quit smoking and encourages kids to start. Clearly, it is extremely important for Oregonians to work together to eliminate exposure to secondhand smoke.

Oregon is making progress in changing community conditions that lead to secondhand smoke exposure. Smoking is now prohibited:

- In almost all indoor workplaces
- On all K–12 school campuses
- On many hospital campuses and government agency campuses

Communities are passing ordinances prohibiting smoking:

- In parks
- Near playgrounds
- At fairs, rodeos and community events
- Near doorways, windows and intake vents of buildings

Oregonians are learning about the dangers of secondhand smoke through the media. Advertisements on television and radio educating adults and children about secondhand smoke are running statewide. In addition, news stories, editorials and notices of program activities are in local newspapers and on local radio and television news programs. These advertisements and news stories have been shown to work, with 87% of Oregonians now recognizing that secondhand smoke is harmful.

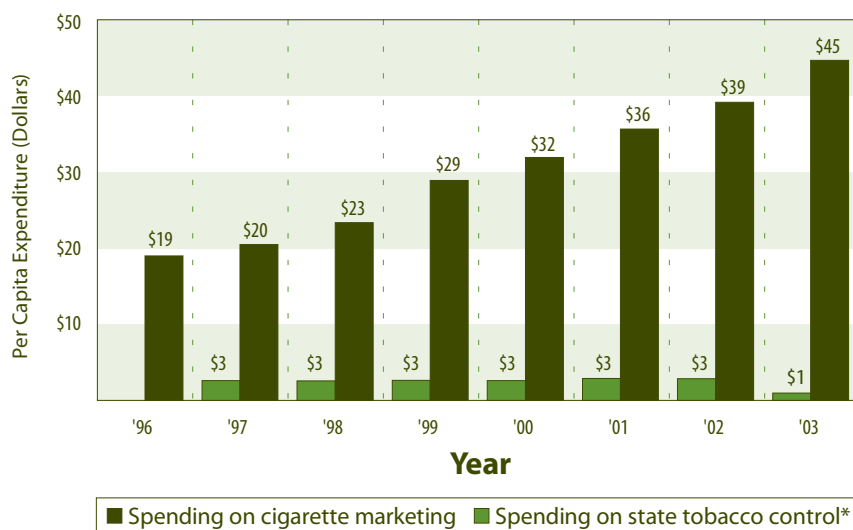
## Eliminate youth initiation of tobacco use

In 2004, the Oregon Board of Education passed a policy requiring all school campuses and off-campus activities to be 100% tobacco-free. This rule not only protects students and staff from secondhand smoke, it provides a healthy model for youth. Seeing and modeling healthy behavior are important parts of a youth's decision not to smoke or use tobacco.

Messages for youth need to come from many different sources in the community, including television, radio, posters and booths at community events, health care clinics and classroom curricula. All these messages are necessary to counter the millions of dollars spent in Oregon by tobacco companies to market their deadly products.

As shown in Figure 4.1, per-capita expenditures on cigarette marketing in Oregon steadily increased from 1996–2003. During the same period, Oregon's state spending on tobacco control failed to increase on a per-capita basis, and was cut by two-thirds between 2002 and 2003.

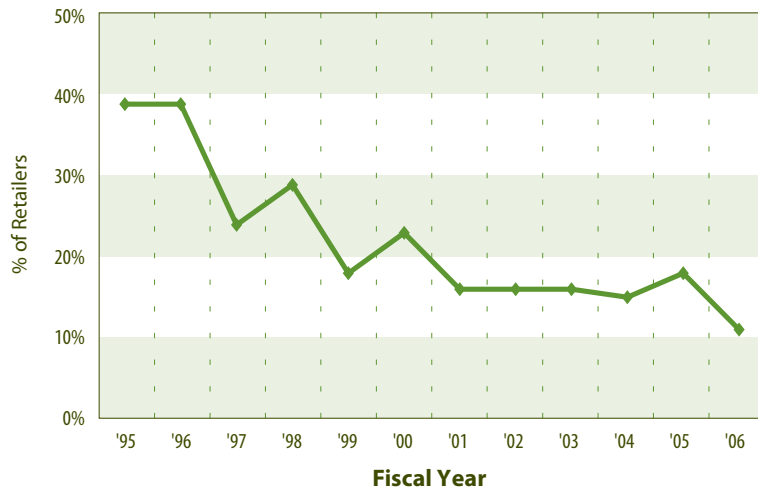
Figure 4.1  
**TOBACCO COMPANY MARKETING EXPENDITURES AND STATE TOBACCO CONTROL EXPENDITURES IN OREGON, 1996-2003**



\* All state spending on preventing smoking and helping people quit.  
 Sources: Federal Trade Commission and Oregon Tobacco Prevention and Education Program

Figure 4.2

**PERCENTAGE OF RETAILERS THAT SOLD TOBACCO TO MINORS,  
OREGON, 1995-2006**



Source: Oregon Sales to Minors Inspection Results (Synar), Department of Human Services

School districts across the state provide students with comprehensive programs in tobacco use prevention, including curriculum, staff training and anti-tobacco activities for youth. When children hear and see from community leaders, youth role models, parents, teachers and health care providers that smoking is unhealthy, unattractive and unacceptable, they are less likely to pick up the habit.

Communities can take other important steps to reduce the number of youth smoking or using tobacco:

- Enforce laws prohibiting sales to youth under 18
- Keep tobacco products behind the counter
- Raise the price of cigarettes by increasing the tax

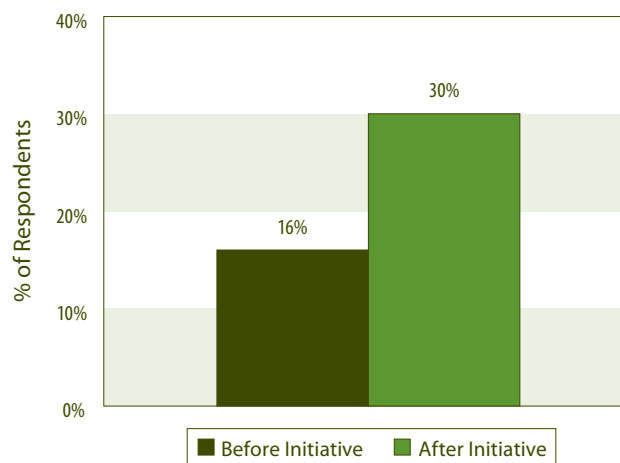
Under Oregon law, it is illegal for retail clerks to sell tobacco products to individuals under the age of 18. Figure 4.2 shows that sales to minors have decreased in the past decade, including a large decline from 2005 to 2006. Still, more than 10% of retail clerks continue to sell tobacco to minors.

## Provide help to all Oregonians who want to quit tobacco use

In Oregon, 76% of smokers want to quit. Communities can help Oregonians quit using tobacco or smoking in several ways:

- **Higher taxes:** Higher taxes on tobacco encourage people to quit and make it harder for kids to start.
- **Eliminate exposure to secondhand smoke:** When people are trying to quit using tobacco, smoke-free environments in which to work, live and play are essential.
- **Provide services to help people quit:** The Oregon Tobacco Quit Line (1-800-QUIT-NOW) is a service available to all Oregonians who want to quit. The Quit Line provides free coaching and determines if a caller is eligible for additional services. Many are eligible for free nicotine replacement therapy (NRT or patches), which has been shown to help people remain tobacco-free (see Figure 4.3). People who receive help through the Quit Line are two times more likely to quit for good than those who don't. Those who use NRT and receive help from the Quit Line double those chances again.

Figure 4.3  
**PERCENTAGE OF CLIENTS WHO WERE TOBACCO-FREE FOR THE PAST 30 DAYS\* BEFORE AND AFTER AN INITIATIVE TO DISTRIBUTE FREE NICOTINE REPLACEMENT THERAPY**



\* As measured 6 months after the 1st call to Oregon's Tobacco Quit Line.  
 Source: Oregon Tobacco Quit Line: The Oregon Free Patch Initiative: Six-Months Report 2005, Free and Clear

- **Encourage employers and insurance purchasers to make sure all employees have access to low- or no-cost cessation services:** Providing cessation support to employees who want to quit smoking costs little, but saves a lot. Employees who quit smoking are more productive during the day, take fewer breaks, take less sick leave and bring insurance costs down.

## Eliminate disparities in tobacco use

Not all communities are receiving the benefits of tobacco prevention and education equally. Tobacco industry marketing targets some communities. As a result, for example, American Indians and Alaska Natives smoke at almost twice the rate of the general population. African Americans and members of the lesbian, gay, and bisexual community also smoke at rates much higher than the general population.

It takes community-based interventions to address these disparities. Tobacco prevention and education programs are operating in all nine of Oregon's federally recognized tribes and in the African American, Asian and Pacific Islander, Latino, Lesbian and Gay, and urban American Indian communities.

Eliminating disparities will require many types of interventions, including:

- Support and prevention activities in specific communities, led by community members
- Research conducted by community members on the experience of tobacco use within a community and the best ways to reach the community with prevention, education and cessation resources
- Help to quit that is culturally appropriate
- Elimination of exposure to secondhand smoke where all people work, live and play



# Active Community Environments

*Active Community Environments (ACEs) are places where people of all ages and abilities can easily fit physical activity into their daily routine.*

ACEs support and promote physical activity through:

- Land use policies that encourage mixed use of land, high density and short distances between destinations<sup>12</sup>
- Transportation systems with interconnected, continuous networks of streets, bike paths and sidewalks<sup>12</sup>
- Urban design features that encourage walking and biking, such as storefronts adjacent to sidewalks, buffers between the sidewalk and street, benches and adequate lighting<sup>13</sup>

By supporting and promoting an active lifestyle, ACEs make it easy for all Oregonians to achieve the Centers for Disease Control and Prevention's physical activity recommendations (see Glossary).



## Promoting Physical Activity Among Adults

Creating active community environments will make it easier for Oregonians to be active every day. Among Oregonians who commuted to work in 2004, 6% reported using public transportation, while 12% reported walking or biking part or all of the way to work. This represents a 50% increase in use of public transportation, and a 100% increase in walking and biking since the year 2000.

The following strategies are part of a multi-faceted approach key stakeholders across the state can take to create an active community environment.

### **Policymakers:**

Implement policies and provide adequate resources to:

- Support bicycling and walking infrastructure (bike lanes, sidewalks, paths)
- Develop and maintain parks, trails, open-space and green-space acquisition and development in communities

### **City Planners and Community Developers:**

Incorporate community and transportation design that facilitates active transportation:

- Include paths to connect dead-end and cul-de-sac streets
- Provide lighting for safety
- Ensure frequent, safe pedestrian and bicycle crossings
- Employ traffic calming techniques where needed
- Promote mixed-use neighborhood designs, so shopping, schools and restaurants are all within easy reach by walking or bicycling

### **Employers:**

Expand the proportion of worksites with policies and environmental supports that encourage:

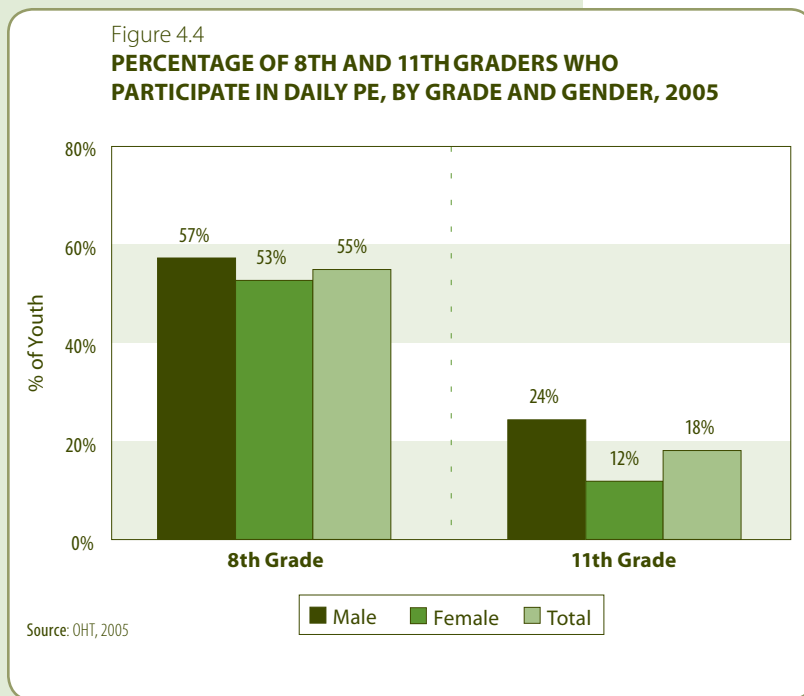
- Active modes of transportation to and from work
- Opportunities to fit physical activity into the work day
- Availability of on-site showers and lockers, so employees can be active and then quickly prepare to go home or back to work
- Use of public transportation, where available, through reduced-price transit passes

## Promoting Physical Activity Among Youth

As shown in Figure 4.4, physical activity among Oregon youth declines with age. Although 55% of 8th-grade students engage in daily physical education (PE), by 11th grade the percentage falls to just 18% for all students and 12% for girls.

To stop this trend, community and school settings must support development of lifelong habits of physical activity for our youth. Policymakers and school districts can help by ensuring that every student, from kindergarten through 12th grade, receives standards-based, daily PE, which teaches students that regular physical activity isn't just healthy and fun — it's normal.

Encouraging students to walk and bike to school is another way to help youth make physical activity a regular part of the day. Based on 2002 data, there is room for improvement; among school age children in Oregon who lived within two miles of school, one in four walked to school three or more days a week, while only one in twenty biked to school this often. In 2005, the state legislature passed legislation creating the Oregon Safe Routes to School Program, and by 2006 administrative rules were adopted to fund



community projects designed to increase walking and biking to school.

Daily physical activity helps students become and continue to be fit, healthy and ready to learn. Regular physical activity, along with healthy eating, can help reduce the incidence of childhood obesity and help instill healthy choices at an early age.

## Access to Healthy Foods

*“Americans now spend more money on fast food than on higher education, personal computers, computer software, or new cars. They spend more on fast food than on movies, books, magazines, newspapers, videos, and recorded music – combined.”*

— Eric Schlosser,  
*Fast Food Nation*

*Over the past decade, obesity has skyrocketed among adults and children in Oregon and across the country. To confront the obesity epidemic and reduce its impact on quality of life and health care costs in Oregon, we must change our environment and our communities to create conditions that encourage a healthy, well-balanced diet.*

Even as the problem of obesity escalates, the food industry supports consumption of larger and larger portions of sugar-laden, salty and fatty foods. Food advertising — including ads targeted at children — has been shown to affect individual food choices. Marketing campaigns repeatedly promote unhealthy food options that are often tasty and inexpensive but also play a significant role in the nation’s ever-increasing obesity epidemic.

In 2004, the food industry spent more than \$11 billion on advertising for foods and beverages. By contrast, public health and other agencies had a total of \$3.5 million to spend in promoting consumption of fruits, vegetables and other components of a healthy diet.<sup>14</sup>

A new national campaign, *Fruits & Veggies—More Matters™*, promotes fruit and vegetable consumption. Within Oregon, numerous straightforward strategies can increase the availability of healthy food choices and promote public awareness of the importance of healthy eating:

- Access to grocery stores with affordable and healthy food choices in all neighborhoods
- School food policies limiting access to unhealthy food choices
- Increased access to community and school gardens
- Policies that support breastfeeding in public places and in worksites
- Fast food and chain restaurants with calorie information on menu boards and in menus
- Neighborhood farmers markets with affordable fruits and vegetables
- Worksite vending machines stocked with competitively priced and attractive fruits, vegetables, low-fat dairy products and whole-grain snacks

The obesity epidemic can be addressed through thoughtful, community-wide strategies like these. The CDC has identified large portion sizes, excess consumption of sugar-sweetened beverages, and lack of consumption of fruits and vegetables as areas in which intervention can lead to meaningful change.

## Promoting Healthy Eating Among Youth

Largely because of the many “purchasing years” in front of them and their ongoing establishment of tastes and habits, children are the target of many food-related advertising campaigns. This promotion, combined with the wide availability of food and drinks high in fat and sugar, have led America’s youth to a diet in which 50% of their daily calories come from added fat and sugar.<sup>15</sup>

Figure 4.5 shows that youth today drink more soda than milk. Unlike milk, which provides important nutrients like calcium, soda is typically a high-calorie, nutrient-free blend of sugar, flavoring and water. The increase in soda consumption among America’s youth is a recent phenomenon. Just 30 years ago, children drank far more milk than soda. In the intervening years, advertising soft-drink consumption to children has been a major priority of the beverage industry.

Figure 4.5  
**TEENS' CONSUMPTION OF MILK AND SOFT DRINKS, U.S.**



Source: USDA, Nationwide Food Consumption Survey, 1977-1978 and 1994-1996

To support healthy eating environments for youth, Oregonians can:

- Increase the number of schools with variety (salad) bars offering fruits and vegetables, purchased locally whenever possible
- Develop school-district policies to eliminate sponsorship and/or sales contracts with soda companies and fast-food vendors
- Implement farm-to-school programs in which schools purchase produce from local farmers for the cafeteria; plant vegetable gardens with the children; and incorporate the food-to-farm concept into the curriculum
- Limit time spent by youth in front of a TV or computer screen to less than two hours daily. This will reduce exposure to junk food advertising, while increasing time available for physical activity.
- Adopt child-care policies and practices limiting access to television and other screen time and limiting access to unhealthy food choices

# Chronic Care Model

*Thousands of Oregonians now live with chronic health conditions, and the numbers are expected to grow at a rapid pace in the years to come. With the proper health care support systems and strategies in place, those with chronic conditions can lead healthier lives and health care costs can be reduced.*

Three areas offer opportunities for focused strategies to address the growing issue of chronic illness in Oregon:

- Health Systems
- Self-management
- The Community

## Health Systems

The Robert Wood Johnson Foundation’s *Improving Chronic Illness Care* is a national program working to transform what is currently a reactive health care system into one that keeps its patients as healthy as possible through planning, proven strategies and management.

Aspects of the existing health care system that can be addressed through the foundation’s Chronic Care Model include:

- Rushed practitioners not following established practice guidelines
- Lack of care coordination

- Lack of active follow-up to ensure the best outcomes
- Patients with insufficient information, skills and self-confidence to manage their illnesses

The following strategies may be used to address deficiencies in existing health care systems:

- Health systems can create policies and administrative structures that make it convenient and affordable for patients to receive preventive care before their illness creates a health crisis.
- Clinical information systems can track services provided, guidelines for care and risk of developing additional chronic conditions or complications.
- Decision support for both patients and providers can assure that evidence-based guidelines provide solid principles to guide care decisions.
- Delivery system design can be revamped to assure that patients are receiving appropriate follow-up services while they are healthy, rather than responding only when they are ill.

Table 4.6

### KEY FEATURES OF AN EFFECTIVE CHRONIC CARE MANAGEMENT SYSTEM

#### System is Tightly Integrated

- Less fragmentation of care
- Very different economic incentives

#### Patient-centered Care as Opposed to Episodic Care

- Better preventive care
- Better chronic disease management

#### Performance Measurement Systems

- Focus on clear, relevant outcomes
- Quality data available to individual practitioners
- Clear accountability

#### Comprehensive Electronic Medical Record

- Reduced duplication of services
- Automatic reminders to provide important services
- Computerized clinical tools and online references
- Rich data source for population health data and system performance

Table 4.6 shows how one health system, the Portland Veterans Affairs (VA) Medical Center, implemented a care system that incorporates many components of the Chronic Care Model. The table outlines the specific strategies used and the benefits that resulted. Table 4.7 summarizes the performance of the Portland VA, commercial health plans, and organizations caring for Medicare and Medicaid recipients on a number of key measures related to chronic disease management. The VA consistently compares favorably.

Table 4.7

### Current Performance Indicators: Portland Veterans Affairs Medical Center (VA) Compared To National Data From Peers, 2005

CLINICAL PERFORMANCE INDICATOR*	VA FY 05 <sup>1</sup>	HEDIS <sup>2</sup>		
		Commercial 2005	Medicare 2005	Medicaid 2005
Breast cancer screening	86%	72%	72%	54%
Cervical cancer screening	92%	82%	Not Reported	65%
Colorectal cancer screening	76%	52%	54%	Not Reported
Beta blocker on discharge after AMI <sup>3</sup>	98%	97%	94%	86%
Diabetes: HbA1c done past year	96%	88%	89%	76%
Diabetes: Poor control HbA1c > 9.0% (lower is better)	17%	30%	24%	49%
Diabetes: Cholesterol (LDL-C) screening	95%	92%	93%	81%
Diabetes: Cholesterol (LDL-C) controlled (<100)	60%	44%	50%	33%
Diabetes: Eye exam	79%	55%	67%	51%
Hypertension: BP ≤ 140/90 most recent visit	77%	69%	66%	49%
Smoking cessation counseling <sup>4</sup>	82%	71%	76%	61%
Immunizations: influenza, (note patient age groups)	75% (age 65 and older or high risk)	36% (age 50-64)	70% (age 65 and older)	Not Reported

\* Due to population differences and methodology variations, not all Health Plan Employer Data and Information Set (HEDIS) measures are comparable to VA measures - therefore this is not a comprehensive list of indicators but this comparison does contain those indicators that are closely aligned in content and methodology.

1) VA comparison data are obtained by abstracting medical record data using methodologies that matched HEDIS methodologies.

2) HEDIS data were obtained from the 2006 "State of Health Care Quality Report" available on the NCQA website: [www.ncqa.org](http://www.ncqa.org)

3) Acute Myocardial Infarction (heart attack)

4) Advised to quit - does not include medication or referral. HEDIS is obtained by survey, VA is obtained by medical record abstraction

Source: Veterans' Affairs Office of Quality and Performance, Updated 10-24-06



## Self-management

As medical technology and knowledge continue to improve, chronic diseases can be detected at earlier stages, eliminating or delaying symptomatic illness and premature death. All chronic diseases or conditions require daily self-care or monitoring to delay or prevent poor health outcomes. A reformed health care system will provide an opportunity for medical practitioners to support individuals in self-management of chronic conditions. Self-management support enables the patient to become a member of the care team. The provision of education and linkage to community resources assists patients in effective self-management of their condition.

People living with a chronic disease face three common self-management tasks. They need to understand the medical nature of their condition so that they can improve self-care (e.g., checking blood sugar levels, being physically active, planning healthy meals). They need to carry out their normal daily activities as well as they are able (e.g., going to work, maintaining social contacts). And, they need to manage the emotions that can accompany a chronic disease (e.g., anger, fear, frustration, depression).

Numerous sites around the state offer a course in chronic disease self-management. People with chronic disease who have taken the six-week Stanford Chronic Disease Self-Management Program, known in many areas of the state as *Living Well with Chronic Conditions*, reported significant improvement in their general health, got significantly higher levels of physical activity and spent fewer days in the hospital than people with the same diseases who didn't take the course. Currently, *Living Well* is offered through 36 active programs, and is available in 19 of Oregon's 36 counties.

## The Community

A community's ability to support the efforts of people with chronic diseases in managing these conditions is essential to the success of these efforts, both through self-management and through care provided by health systems.

Community resources can be created and maintained to support people in their individual behavior choices as well as self-management tasks. Examples of this support include:

- Providing a Tobacco Quit Line
- Creating safe walking and bicycling routes
- Maintaining up-to-date medical references for laypeople at the local library
- Providing a clean, private place at a worksite where people with diabetes can test their blood sugar
- Scheduling warm-water aquatics programs at a local swimming pool for people living with arthritis
- Offering a variety of healthy food choices in worksite and school cafeterias

# Oregon Healthy Worksites

Worksites are a crucial setting for supporting and promoting healthy behaviors. Creating and maintaining a healthy worksite environment benefits both employers and employees.

Employers can experience reduced healthcare costs, increased productivity, decreased absenteeism and a workforce with an improved morale. Employees can experience improved health and increased job satisfaction.

A healthy worksite environment that promotes being active and makes it easy to eat healthy foods can help employees achieve and maintain a healthy weight. It also helps people manage or reduce their risk for chronic diseases including coronary heart disease, stroke, some types of cancer, diabetes, arthritis, and osteoporosis, and can lower an employee's risk for feelings of depression, stress, and anxiety.

Healthy worksite environments that are tobacco-free, support being active and promote eating healthy foods can help employees in their efforts to make healthy choices. Through environmental changes and policies that promote physical activity, healthy eating and protection from secondhand smoke, reinforcement from co-workers and managers, and an environment where engaging in healthy behaviors is the norm, a supportive worksite environment can empower employees to take more control in their efforts to improve their health.

In Oregon, a number of companies and organizations have already taken up the challenge to create workplace environments where “the healthy choice is the easy choice.”

Table 4.8

**PERCENTAGE OF WORKSITES ENGAGING IN VARIOUS HEALTH PROMOTION ACTIVITIES, BY SIZE OF WORKFORCE AND PUBLIC VS. PRIVATE SECTOR, OREGON 2005**

Workforce Size	Public Sector		Private Sector		Total
	20-49	≥50	20-49	≥50	
% of worksites with policies encouraging nutritious foods	25	16	7	6	11
% of worksites with flextime policy for physical activity	21	21	15	14	17
% of worksites with policies reinforcing Oregon smoke-free workplace law	91	84	68	79	78

Source: Oregon Healthy Worksite Initiative Employer Survey, 2005

As seen in Table 4.8, one in six Oregon worksites has made it easier for employees to fit physical activity into their day by instituting a flextime policy. One in nine has policies encouraging nutritious foods to be available in cafeterias, vending machines or at meetings. Sixty percent of Oregon worksites have increased protection against secondhand smoke by prohibiting smoking at building entrances, and seven percent make classes on smoking cessation available to employees who smoke.

With a few exceptions, public sector worksites (tribes, public schools, and county, state or federal agencies) were more likely to have implemented these policies. There were no consistent differences between worksites with larger and smaller workforces.

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*“Many people believe that dealing with overweight and obesity is a personal responsibility. To some degree they are right, but it is also a community responsibility. When there are no safe, accessible places for children to play or adults to walk, jog, or ride a bike, that is a community responsibility. When school lunchrooms and office cafeterias do not provide healthy and appealing food choices, that is a community responsibility. When new or expectant mothers are not educated about the benefits of breastfeeding, that is a community responsibility. When we do not require daily physical education in our schools, that is also a community responsibility. There is much that we can and should do together.”*

— DAVID SATCHER,  
“The Surgeon General’s Call to Action to Prevent  
and Decrease Overweight and Obesity,” 2001



## Summary and Recommendations



## Summary and Recommendations

Chronic diseases such as cancer, heart disease, stroke, lung disease, diabetes and arthritis are the major causes of disability and death for Oregonians. They account for 62% of deaths in the state and are closely related to three modifiable factors: tobacco use, physical inactivity and poor diet.

While tobacco use is declining, obesity among adults and youth (resulting from physical inactivity and poor diet) is escalating at an alarming rate. In 2005, almost one in four adult Oregonians were obese.

Over the next 20 years, as the age distribution of our population changes, the proportion of older Oregonians will increase, leading to an expected increase in chronic diseases. As we face this aging society, our goal is not to prevent death; rather, we can strive for successful aging, where on average, active and healthy life is prolonged and most disability is compressed to the years right before death.

Healthy living requires the creation of environments that promote healthy behaviors and lifestyles. The community plays an essential role in supporting the choice of Oregonians to lead healthy lives — lives that are tobacco-free and include healthy eating choices as well as sustained daily physical activity. These behaviors can reduce the risk for developing selected chronic diseases, delay the onset of these diseases and improve the quality of life for those living with these diseases.

Early disease detection provides the opportunity for early medical intervention and treatment, prolonging life and improving quality of life for those with selected chronic diseases. Shifting perspective to a chronic disease model can improve health care delivery systems' responsiveness to preventing, screening and managing chronic diseases.



Community conditions that support effective self-management of chronic diseases, along with the creation of healthy worksites that are tobacco-free and that encourage physical activity and healthy eating, can improve the overall quality of life for Oregonians.

The following recommendations can help us make Oregon a state that actively supports healthy lifestyles:

- Implement proven population-based strategies to reduce tobacco use, increase physical activity and increase healthy eating. Combined, these actions can improve Oregonians' overall health and reduce chronic diseases
- Support a comprehensive, coordinated statewide effort to create communities that promote healthy lifestyles
- Provide medical care in a way that promotes prevention, early detection, and effective management of chronic diseases
- Support efforts of selected population groups (such as racial/ethnic groups, seniors, low-income) in planning and implementing culturally appropriate health services and outreach programs
- Continue to measure the disease burden of chronic diseases in Oregon, including death, disability and changes over time
- Continue to measure the modifiable factors most closely linked with selected chronic diseases



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# Appendices



**Age-adjusted Rate**

An age-adjusted rate adjusts for differences in the age distribution of populations. It makes it possible to compare one population with another with less worry that differences are due to one population being, on average, older or younger than the other. This type of adjustment is most important when looking at conditions like diabetes, or stroke, for which the frequency of the condition varies with age. All age-adjusted rates are expressed per 100,000 individuals per year and are adjusted to the 2000 Standard Population.

**Body Mass Index**

Body mass index (BMI) provides a way to assess if a person's weight is at an unhealthy level in comparison to that person's height. It is determined by taking a person's weight in kilograms and dividing by height in meters squared ( $BMI = \text{kg}/\text{m}^2$ ).

**Chronic Disease**

Chronic disease can be defined as a disease that has a prolonged course, that does not resolve spontaneously, and for which a complete cure is rarely achieved.

**Crude Rate**

A fraction expressing the total number of events occurring in a population over a period of time; the numerator is the number of events and the denominator is the size of the population.

**Diabetes**

Diabetes is a disease that occurs when the body is not able to use glucose (a type of sugar that our cells use as fuel) as it should. The two types of diabetes are type 1 and type 2. In type 1 diabetes, the pancreas does not produce insulin needed to process glucose in the blood. In the past, type 1 diabetes has been called juvenile-onset or insulin-dependent diabetes and usually develops among children and young adults. Type 2 is the most common type, affecting 90-95% of people with diabetes. In type 2 diabetes, often called adult-onset diabetes, the body does not respond properly to the insulin being produced.

**Elevated Cholesterol**

Elevated cholesterol levels are defined as 200-239 mg/dL (borderline high) and  $\geq 240$  mg/dL (high). A low density lipoprotein (LDL) cholesterol level of  $\geq 160$  mg/dl is also considered elevated.

**High Blood Pressure**

High blood pressure is defined as a systolic reading  $\geq 140$  mm Hg and/or diastolic blood pressure  $\geq 90$  mm Hg.

**Incidence/Incidence Rate**

The number of new cases of a given disease during the year. The incidence rate is the number of new cases of the disease expressed as a rate per 100,000 persons in the population.



## Morbidity

The relative incidence of a particular disease.

## Mortality Rate

Mortality refers to the number of deaths attributed to a particular cause. The mortality rate is the number of deaths during the year expressed as a rate per 100,000 persons in the population.

## Obesity

The World Health Organization defines obesity as a body mass index (BMI) greater than or equal to 30 kg/m<sup>2</sup>. The BMI is a simple index of weight to height.

## Overweight

The World Health Organization defines overweight for adults as a body mass index (BMI) between 25 – 29.9 kg/m<sup>2</sup>. Overweight for youth is defined as over the 95th percentile of BMI by age and sex. The BMI is a simple index of weight to height.

## Physical Activity Recommendations, CDC

For Adults, CDC recommends moderate activity for 30 or more minutes per day for a minimum of 5 days per week or vigorous physical activity for 20 or more minutes per day for a minimum of 3 days per week. For youth, CDC recommends 60 or more minutes of activity most days of the week, preferably daily.

## Prevalence

The total number of cases of a disease in a given population at a specific time.

## Risk Factor

A behavior or characteristic that increases an individual's likelihood of developing a disease or condition.

# Appendix B

## Data Sources

### **Behavioral Risk Factor Surveillance System (BRFSS)**

The Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing random-digit dialed telephone survey of adults concerning health conditions and health-related behaviors. The BRFSS was developed by the Centers for Disease Control and Prevention (CDC) and is conducted in all states in the U.S. Each year, between 5,000 and 15,000 adult Oregonians are interviewed. The BRFSS includes questions on health behavior risk factors such as seat belt use, diet, weight control, tobacco and alcohol use, physical activity, preventive health screenings, and use of preventive and other health care services. The data are weighted to represent all adults aged 18 years and older. A core set of questions is asked annually, and other topics are surveyed on a rotating basis.

Data presented by race/ethnicity are from a special combined 2004 and 2005 file, which includes additional surveys among African Americans, American Indians/Alaska Natives, and Asians/Pacific Islanders. The additional surveys were done to ensure that there would be a minimum of 250 surveys for each racial/ethnic group. Data for each racial/ethnic group were weighted to represent the group's population by age and gender. Percentages presented have been age-adjusted, so that they will not be affected by differences in the age distribution between the various groups.

County-level information was obtained by combining BRFSS data for the four years from 2002 through 2005.

### **CDC Wonder**

Database that provides data collected by the National Center for Health Statistics (NCHS) for statistical reporting and analysis of deaths from specific diseases.

## Death Certificate Statistical File

The Death Certificate Statistical File includes all deaths occurring in Oregon and deaths occurring out-of-state among Oregon residents. Data are obtained from death certificates that are collected by the State Registrar. The data are used to examine trends in mortality and causes of death. Variables in this database include cause of death; decedent’s identifying information; date and place of death; occupation of the decedent; whether the death was related to tobacco use; education of decedent; marital status of decedent; and county, place and date of injury (if applicable). The mortality data analyzed for this report consist of deaths of Oregon residents and exclude residents of other states or countries who died in Oregon.

## Depression and Chronic Disease Callback Survey

The Depression and Chronic Disease Callback Survey was designed to determine the prevalence of depression among Oregonians with chronic diseases, and to examine whether depression influences people’s knowledge, confidence, and behaviors in regard to self-management of their chronic diseases. Participants included 2,973 people who completed the Behavioral Risk Factor Surveillance System (BRFSS) telephone survey from July 2003 through December 2004, and who reported they had been diagnosed by a health care professional with diabetes, arthritis, angina or coronary heart disease, heart attack, or stroke. Among those people, 2,271 agreed to be re-contacted for another telephone interview. Ultimately, a total of 1,638 people completed the Depression and Chronic Disease Callback Survey. The callback survey was conducted between July 2004 and February 2005.

## Health Risk Health Status Survey (HRHSS), 2004

In 2003, the Oregon Department of Human Services (DHS), Health Services, Office of Medical Assistance Programs (now the Division of Medical Assistance Programs) contracted with OMPRO (now Acumentra Health) to conduct a survey measuring specific health risks and the health status of adult Oregon Health Plan (OHP) clients. The resulting *Health Risk Health Status Survey* (HRHSS) was conducted by telephone and gathered information regarding chronic disease prevalence, health risk behaviors, clinical preventive health practices, and healthcare access. The population from which the sample was drawn included adults (age 18 or older as of July 1, 2003) enrolled in OHP at least 137 days during the period from July 1, 2003–June 30, 2004. Enrollment did not have to be continuous. Clients enrolled in the Citizen/Alien-Waived Emergent Medical (CAWEM) program as of July 1, 2004, were excluded. A random sample was pulled, stratifying by six race/ethnicity categories: White, African American, Latino, Native American, Asian/Pacific Islander, and Other. Surveys were conducted during August 19, 2004–October 18, 2004. Of the sample of 11,921 adult OHP enrollees selected, 2,995 responded to the survey.

## Hospital Discharge Database

This database from the Oregon Association of Hospitals and Health Systems provides information on all discharges from all but two acute care hospitals in Oregon. Data from two Veterans Affairs Hospitals (Portland VA Medical Center and VA Roseburg Healthcare System) are excluded. Information includes the dates of admission and discharge, principal and additional diagnoses and procedures, financial charges, primary payer, and limited patient demographic information (excluding race/ethnicity). Estimates for total cost of hospitalizations in the state based on this dataset are conservative, since several large hospitals do not supply cost information. Information on the prevalence of chronic disease admissions is available through analysis of the discharge diagnoses. Quality of data from this database depends on the accuracy with which the data are coded and transcribed. Since unique personal identifiers are not available, there is no way to tell whether or not one person has one or many hospital visits. Therefore, the rates of chronic disease hospitalization computed from this database are not population disease rates, but instead are rates that reflect the burden on the health care system. These data can be used to keep track of trends over time in chronic disease hospitalizations for the state overall, and by age, sex, and geographic location.

## Oregon Healthy Teens

Since 2000, the Youth Risk Behavior Survey (YRBS), developed by CDC, and the Oregon Public School Drug Use Survey have been combined into a single annual survey, Oregon Healthy Teens (OHT). Surveys are administered annually to nearly one-half of Oregon’s 8th and 11th graders. The OHT collected information from about 30,000 Oregon adolescents in 2005. Participating students came from 248 schools in 34 counties. Each year a random sampling process is used to select districts within counties and schools within districts for participation. Data are weighted to more accurately represent the Oregon school-aged population. County-level information on adolescents is from a combined OHT dataset incorporating data years 2005 and 2006.

The YRBS was administered in a sample of Oregon schools every other year from 1991 to 2000. The sample size varied between 1,600 and 32,000 and the final data were weighted to more accurately represent the Oregon high school population. The questionnaire assessed behavioral risks among Oregon high school students (grades 9 through 12) in the areas of vehicle safety, weapon carrying and violence, tobacco and alcohol use, other drug use, sexual activity and pregnancy, HIV knowledge and attitudes, eating behaviors, nutrition, physical activity, and access to health care, including use of school-based health centers. A sample of middle school students (grades 6 through 8) was added in 1997.

## Oregon Healthy Worksites Initiative Employer Survey

This survey was conducted in 2005 among a random sample of Oregon employers to learn about health promotion activities at worksites around the state. Worksites with large and small workforces and from the public and private sector were included. The goal was to collect information about health care benefits provided, the types of support for healthy lifestyles, including education offered about chronic diseases, availability of potentially lifesaving equipment such as automatic external defibrillators (AEDs), and signs promoting awareness of heart attack and stroke symptoms. This information was collected to allow DHS to develop programs and services that will be useful to the greatest number of Oregon employers and workers. A total of 1,717 public employers (government worksites) and 4,470 private worksites were randomly selected for inclusion in the Healthy Worksites Initiative Employer Study. This was a pen-and-paper survey completed by a human resources administrator or manager at the worksite. Worksites were stratified by public vs. private, and by number of employees (small = 20-49, large  $\geq$  50). Response rates ranged from 35% to 52% across the four strata.

# Appendix C: Tables

## **Table I**

Provides county-level information about death rates for several chronic diseases. These rates are age adjusted, so that they can be compared with rates for other counties and for the state. (A more in-depth explanation of age adjustment is provided below.) This information was obtained by combining data from Oregon resident death certificates for the years 2000-2004. The last column gives the rate of tobacco-related deaths per year. The information for this column is provided by physicians, who report on the death certificate whether or not, in their clinical judgment, a death was due to tobacco use.

## **Tables II and III**

Provide county-level information about chronic diseases and related risk factors among adults. These tables were created using combined BRFSS survey results from 2002 through 2005. Two numbers are provided for each condition or disease: an unadjusted rate and an age-adjusted rate. Unadjusted rates provide a description of the absolute burden of a disease or risk factor for an individual county. Age-adjusted rates allow you to compare rates for a given county to the State's rate. They adjust for differences that could result from a county's population being, on average, older or younger than the State's. When comparing counties with Oregon or with each other, use age-adjusted rates. Data are adjusted to the 2000 Standard Population.

## **Tables IV and V**

Provide county-level information about body mass index, levels of physical activity and nutrition among Oregon adolescents. These tables were created using a combined dataset from the Oregon Healthy Teens survey, incorporating data years 2005 and 2006.

# Appendix C

Table I: Age-adjusted Death Rates Due to Selected Causes, by County of Residence, Oregon, 2000-2004

County	Total Death Rate*	Heart Disease*	Stroke*
<b>Oregon</b>	<b>834.1</b>	<b>191.8</b>	<b>68.8</b>
Baker	805.9	196.8	61.5
Benton	681.1 **	169.3**	65.1
Clackamas	821.4	195.4	74.1
Clatsop	881.0 **	220.9**	74.5
Columbia	940.3 **	214.1**	74.3
Coos	949.9 **	226.3**	66.4
Crook	873.0	201.2	46.8**
Curry	848.1	214.1**	61.6
Deschutes	777.1 **	189.3	66.4
Douglas	905.5 **	203.0	63.0
Gilliam	887.8	150.0	52.7†
Grant	891.4	188.3	54.8
Harney	824.0	202.0	45.9†
Hood River	829.5	201.4	65.2
Jackson	830.8	186.4	71.5
Jefferson	916.9 **	214.6**	62.5
Josephine	892.6 **	227.6**	67.2
Klamath	947.3 **	217.6	56.4**
Lake	861.5	180.1	65.2
Lane	821.5	177.0**	63.1**
Lincoln	894.7 **	194.8	71.7
Linn	838.3	197.2	70.2
Malheur	783.7 **	209.3	55.8
Marion	846.2	192.5	79.3**
Morrow	830.9	217.9	52.8
Multnomah	888.5 **	196.5	75.3**
Polk	693.9 **	159.5**	67.5
Sherman	705.0	187.0	63.8†
Tillamook	815.2	183.6	59.2
Umatilla	853.5	189.3	64.2
Union	785.4	181.6	40.8**
Wallowa	729.3 **	179.3	65.5
Wasco	929.0 **	205.2	73.7
Washington	754.8 **	171.7**	66.7
Wheeler	751.0	139.5†	94.2†
Yamhill	825.2	197.4	61.8

\* Rates are per 100,000 Population and are adjusted to the 2000 Standard Population using 11 age groups (<1, 1-4, 5-14,15-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+).

\*\* Statistically significant difference compared to Oregon rate.

† Death rate calculated with a numerator of 20 or less. Rate may not be stable. Interpret with caution.

Tobacco-related deaths determined by physician report on death certificate that death was related to tobacco use.

Deaths were included only when the disease in question was the first listed primary diagnosis.

Source: 2000 - 2004 Oregon Resident Death Certificates



County	Cancer*	CLRD*	Diabetes*	Tobacco-related Disease*
<b>Oregon</b>	<b>198.4</b>	<b>49.1</b>	<b>27.7</b>	<b>184.8</b>
Baker	180.7	53.6	22.8	172.2**
Benton	156.3**	39.1**	25.5	139.7**
Clackamas	197.2	45.1	25.2	162.7**
Clatsop	215.6	38.2**	31.3	197.7
Columbia	228.7**	58.4	28.2	217.7**
Coos	224.1**	59.9**	33.2	243.6**
Crook	183.6	58.8	25.7	269.5**
Curry	212.8	40.3	20.5	151.3**
Deschutes	179.5**	46.1	19.4**	165.6**
Douglas	209.5	62.4**	34.1**	224**
Gilliam	242.8	54.0†	41.7†	163.6
Grant	205.3	68.9	19.7†	253.2**
Harney	181.3	66.0	29.5†	264.8**
Hood River	177.1	47.6	26.2	147.7**
Jackson	199.0	51.4	24.0	173.8
Jefferson	188.7	61.0	36.3	223.6**
Josephine	219.2**	48.7	22.1**	219.9**
Klamath	204.8	70.5**	33.5	235.5**
Lake	215.8	48.3	24.7†	196.1
Lane	196.9	49.4	30.2	177.4
Lincoln	206.3	52.7	28.4	231.6**
Linn	208.7	47.8	25.6	188.5
Malheur	159.4**	51.0	28.1	152.5**
Marion	208.4**	49.0	31.1	191.5
Morrow	211.1	64.3	37.4†	254.7**
Multnomah	207.1**	48.4	30.3	198.1**
Polk	176.1**	34.5**	23.0	144.2**
Sherman	129.4†	45.5†	32.4†	232.8
Tillamook	183.1	66.2**	30.2	198.6
Umatilla	196.5	60.5**	30.4	205.9**
Union	181.8	52.4	26.6	164.6
Wallowa	166.6	31.0†	11.1†	196.5
Wasco	209.7	79.3**	29.4	246.9**
Washington	181.5**	38.1**	25.6	140.7**
Wheeler	174.8	54.0†	0†	227.8
Yamhill	201.0	47.8	31.6	198.7

# Appendix C

Table II: Age-Adjusted and Unadjusted Prevalence\* of Selected Chronic Conditions Among Adults, by County of Residence, Oregon, 2002-2005

County	Arthritis		Asthma		Heart Attack		Coronary Heart Disease	
	Unadjusted	Age-Adjusted	Unadjusted	Age-Adjusted	Unadjusted	Age-Adjusted	Unadjusted	Age-Adjusted
<b>OREGON</b>		<b>27%</b>		<b>9%</b>		<b>4%</b>		<b>4%</b>
Baker	42%	37%	9%	10%	5%	5%	10%	8%
Benton	20%	24%	9%	9%	2%	3%	3%	4%
Clackamas	26%	25%	10%	10%	3%	3%	4%	4%
Clatsop	31%	29%	9%	10%	5%	4%	6%	5%
Columbia	28%	26%	10%	10%	4%	4%	3%	3%
Coos	31%	26%	9%	8%	6%	5%	6%	5%
Crook	27%	25%	9%	9%	4%	3%	4%	4%
Curry	38%	26%	8%	8%	6%	5%	8%	7%
Deschutes	29%	27%	9%	9%	4%	4%	4%	4%
Douglas	36%	32%**	12%	12%	7%	6%**	6%	5%
Grant	39%	39%†	9%	10%	1%	1%	3%	2%
Harney	35%	32%†	6%	6%	3%	2%	4%	4%
Hood River	20%	20%	4%	4%**	3%	3%	1%	1%**
Jackson	32%	29%	8%	8%	4%	4%	4%	4%
Jefferson	32%	30%	6%	6%	9%	8%**	7%	6%
Josephine	34%	29%	11%	11%	6%	5%	6%	5%
Klamath	34%	31%	11%	11%	7%	6%**	5%	5%
Lake	45%	37%†	12%	14%	3%	2%	4%	3%
Lane	31%	30%**	11%	11%	3%	3%	4%	4%
Lincoln	32%	27%	9%	9%	6%	5%	7%	6%
Linn	35%	33%**	12%	12%**	6%	6%	6%	5%
Malheur	26%	26%	6%	6%	4%	4%	6%	6%
Marion	25%	26%	9%	9%	4%	4%	4%	4%
Morrow	31%	31%	11%	11%	3%	3%	7%	7%
Multnomah	24%	25%	9%	9%	3%	3%	4%	4%
Polk	25%	25%	7%	7%	4%	3%	5%	4%
Tillamook	33%	27%	10%	9%	4%	3%	4%	3%
Umatilla	29%	29%	7%	7%	4%	4%	4%	4%
Union	27%	27%	11%	11%	4%	4%	5%	5%
Wallowa	17%	12%**†	7%	7%	4%	2%	6%	4%
Washington	21%	24%	9%	9%	2%	3%**	3%	5%
Yamhill	27%	29%	11%	11%	4%	4%	4%	4%
Gilliam/Wheeler	31%	22%†	3%	3%	1%	0.3%**†	0%	0%†
Sherman/Wasco	29%	26%	10%	10%	5%	4%	2%	2%

\*Unadjusted rates provide a description of the absolute burden of a disease or risk factor for a county. Age-adjusted rates allow you to compare rates for a given county to the State's rate. When comparing counties with Oregon or with each other, use age-adjusted rates.

\*\* Statistically significant difference compared to Oregon.

† % based on less than 50 respondents or fewer than 12 persons in one age group; may not accurately reflect behavior of entire county, and results should be interpreted with caution.

Age-adjusted to the 2000 Standard Population using 3 age groups (18-34, 35-54, and 55+).

Sources: BRFSS 2002-2005

County	Stroke		Diabetes		High Blood Pressure		High Blood Cholesterol	
	Unadjusted	Age-Adjusted	Unadjusted	Age-Adjusted	Unadjusted	Age-Adjusted	Unadjusted	Age-Adjusted
<b>OREGON</b>		<b>2%</b>		<b>6%</b>		<b>24%</b>		<b>31%</b>
Baker	5%	5%	9%	8%	50%	47%**	56%	59%**
Benton	2%	2%	4%	5%	17%	20%	30%	28%
Clackamas	2%	2%	5%	5%**	23%	22%	34%	32%
Clatsop	4%	4%	7%	7%	24%	22%	40%	34%
Columbia	1%	1%	9%	9%	34%	31%**	32%	27%
Coos	3%	2%	8%	7%	31%	27%	28%	22%**
Crook	1%	1%	8%	7%	24%	21%	45%	41%†
Curry	5%	3%	10%	8%	32%	27%	43%	37%†
Deschutes	2%	2%	5%	5%**	23%	22%	34%	30%
Douglas	4%	3%	8%	7%	33%	30%**	41%	34%
Grant	4%	3%	6%	5%	41%	34%†	64%	61%†
Harney	2%	1%	8%	6%	32%	28%†	47%	44%†
Hood River	2%	2%	4%	4%	26%	27%	43%	43%†
Jackson	3%	3%	7%	6%	26%	24%	37%	34%
Jefferson	4%	4%	12%	12%**	32%	30%	26%	21%**
Josephine	2%	2%	8%	7%	27%	23%	40%	31%
Klamath	3%	2%	6%	6%	25%	23%	38%	32%
Lake	0%	0%	10%	8%	43%	37%†	31%	25%†
Lane	2%	2%	6%	6%	25%	25%	35%	32%
Lincoln	3%	2%	8%	7%	30%	25%	38%	31%
Linn	4%	4%**	8%	8%	29%	28%	35%	31%
Malheur	4%	3%	7%	7%	29%	29%	46%	42%**
Marion	3%	3%	7%	7%	24%	24%	30%	27%**
Morrow	1%	1%	8%	8%	33%	33%	55%	56%**†
Multnomah	2%	3%	6%	7%	21%	23%	32%	30%
Polk	2%	2%	7%	6%	23%	22%	43%	37%
Tillamook	5%	3%	7%	5%	26%	19%	32%	23%
Umatilla	4%	3%	8%	8%	29%	29%**	40%	35%
Union	2%	2%	4%	4%	24%	23%	37%	27%
Wallowa	5%	4%	6%	4%	27%	25%†	25%	20%†
Washington	2%	2%	5%	5%	21%	24%	31%	30%
Yamhill	2%	2%	6%	6%	21%	23%	36%	35%
Gilliam/Wheeler	6%	4%†	10%	9%†	39%	29%†	36%	26%†
Sherman/Wasco	2%	2%	9%	8%	28%	26%	41%	34%†

# Appendix C

Table III: Age-Adjusted and Unadjusted Rates for Prevalence\* of Modifiable Chronic Disease Risk Factors and for Preventive Health Screening among Adults, by County of Residence, Oregon, 2002-2005

County	% of adults who currently smoke cigarettes		% of adults who met CDC recommendations for physical activity <sup>1</sup>		% of adults classified as overweight <sup>2</sup>	
	Unadjusted	Age-Adjusted	Unadjusted	Age-Adjusted	Unadjusted	Age-Adjusted
<b>Oregon</b>		<b>20%</b>		<b>55%</b>		<b>37%</b>
Baker	21%	23%	47%	51%	38%	37%
Benton	13%	13%**	59%	58%	36%	38%
Clackamas	18%	18%**	54%	55%	38%	38%
Clatsop	25%	26%	56%	57%	34%	34%
Columbia	25%	26%**	55%	57%	36%	36%
Coos	26%	27%**	59%	60%	39%	37%
Crook	25%	26%	55%	56%	45%	45%
Curry	23%	26%	58%	68%**†	40%	39%
Deschutes	17%	18%	57%	58%	39%	39%
Douglas	25%	27%**	51%	52%	38%	37%
Grant	13%	14%	68%	73%†	45%	42%
Harney	28%	29%	57%	56%†	47%	49%**
Hood River	14%	14%	44%	45%†	40%	39%
Jackson	23%	25%**	58%	58%	36%	36%
Jefferson	19%	19%	51%	54%	43%	43%
Josephine	25%	28%	54%	56%	35%	33%
Klamath	23%	24%	53%	54%	40%	39%
Lake	23%	22%	63%	63%†	39%	37%
Lane	21%	21%	59%	59%	36%	36%
Lincoln	27%	30%**	51%	50%	40%	38%
Linn	24%	25%**	54%	55%	35%	35%
Malheur	15%	15%	47%	47%	40%	40%
Marion	21%	21%	50%	50%**	39%	39%
Morrow	21%	21%	40%	40%	46%	46%
Multnomah	22%	21%	56%	56%	34%	35%**
Polk	18%	18%	58%	58%	37%	37%
Tillamook	22%	24%	50%	53%	41%	39%
Umatilla	26%	26%**	38%	37%**	40%	40%
Union	19%	20%	61%	62%	40%	40%
Wallowa	8%	10%	52%	52%†	39%	37%
Washington	15%	15%**	52%	51%	37%	37%
Yamhill	21%	20%	56%	56%	36%	37%
Gilliam/Wheeler	16%	19%†	65%	65%†	30%	24%†
Sherman/Wasco	21%	22%	63%	65%	36%	35%

\*Unadjusted rates provide a description of the absolute burden of a disease or risk factor for a county. Age-adjusted rates allow you to compare rates for a given county to the State's rate.

When comparing counties with Oregon or with each other, use age-adjusted rates.

\*\* Statistically significant difference compared to Oregon.

† % based on less than 50 respondents or fewer than 12 persons in one age group; may not accurately reflect behavior of entire county, and results should be interpreted with caution.

Age adjusted to 2000 Standard Population using three age groups (18-34, 35-54, and 55+).

County	% of adults classified as obese <sup>3</sup>		% of adults who consumed at least 5 servings of fruits and vegetables per day		% who had their cholesterol checked within past 5 years (≥18 years old)	
	Unadjusted	Age-Adjusted	Unadjusted	Age-Adjusted	Unadjusted	Age-Adjusted
<b>Oregon</b>		<b>22%</b>		<b>26%</b>		<b>68%</b>
Baker	19%	18%	26%	28%	72%	69%
Benton	15%	16%	29%	30%	66%	71%
Clackamas	21%	21%	25%	25%	74%	73%**
Clatsop	26%	26%	23%	23%	68%	65%
Columbia	31%	31%**	25%	26%	75%	73%
Coos	24%	23%	22%	22%	69%	64%
Crook	24%	24%	25%	24%	76%	74%
Curry	17%	15%**	32%	33%	78%	68%
Deschutes	18%	18%**	30%	30%	72%	70%
Douglas	27%	27%**	20%	20%**	70%	66%
Grant	23%	23%	16%	18%†	63%	52%†
Harney	27%	26%	23%	22%†	62%	56%†
Hood River	20%	20%	29%	30%	62%	61%
Jackson	21%	21%	26%	26%	71%	68%
Jefferson	29%	29%	31%	33%	70%	68%
Josephine	24%	23%	24%	23%	65%	58%**
Klamath	23%	23%	27%	26%	69%	66%
Lake	26%	24%	18%	20%†	72%	68%
Lane	23%	23%	24%	24%	68%	68%
Lincoln	27%	28%**	24%	24%	73%	66%
Linn	31%	31%**	23%	23%	71%	69%
Malheur	30%	30%**	23%	23%	69%	70%
Marion	25%	25%**	24%	25%	67%	67%
Morrow	29%	29%	13%	13%	65%	65%
Multnomah	19%	20%**	28%	28%	66%	68%
Polk	21%	21%	25%	25%	74%	74%**
Tillamook	22%	21%	29%	28%	77%	70%
Umatilla	26%	26%	20%	20%	59%	59%**
Union	20%	21%	23%	22%	62%	60%
Wallowa	11%	10%**	28%	26%	71%	58%
Washington	20%	20%	29%	30%**	68%	70%
Yamhill	26%	26%	23%	24%	65%	66%
Gilliam/Wheeler	34%	43%**†	32%†	26%†	68%†	55%†
Sherman/Wasco	24%	23%	28%	26%	65%	63%

1. Moderate activity for 30+ minutes at least 5 days per week or vigorous activity for 20+ minutes at least 3 days per week.

2. Body mass index of between 25 and 30 kg/m<sup>2</sup>

3. Body mass index of ≥30 kg/m<sup>2</sup>

Sources: BRFSS 2002-2005

# Appendix C

Table III (continued): Age-Adjusted and Unadjusted Rates for Prevalence\* of Modifiable Chronic Disease Risk Factors and for Preventive Health Screening among Adults, by County of Residence, Oregon, 2002-2005

County	% who had a mammogram within past 2 years (women ≥40 years old)		% who had a Pap test within past 3 years (women ≥ 18 years old)	
	Unadjusted	Age-Adjusted	Unadjusted	Age-Adjusted
<b>Oregon</b>		<b>73%</b>		<b>85%</b>
Baker	75%†	74%†	78%†	55%†
Benton	80%	80%	84%	86%
Clackamas	76%	76%	87%	86%
Clatsop	66%	66%	71%	70%**
Columbia	73%	73%	83%	82%
Coos	74%	72%	82%	82%
Crook	76%†	73%†	95%†	95%†
Curry	83%†	85%†	76%†	80%†
Deschutes	69%	68%	83%	83%
Douglas	70%	68%	79%	80%
Grant	66%†	67%†	38%†	36%†
Harney	68%	71%†	90%†	92%†
Hood River	85%	84%	91%†	89%†
Jackson	71%	70%	86%	85%
Jefferson	67%†	62%†	84%†	84%†
Josephine	66%	61%**	82%	83%
Klamath	83%	82%	87%	86%
Lake	83%†	82%†	61%†	58%†
Lane	76%	75%	89%	89%
Lincoln	65%	63%	74%	74%
Linn	67%	64%	78%	78%
Malheur	63%†	64%†	73%†	72%†
Marion	78%	77%	80%	80%
Morrow	88%†	88%†	89%†	89%†
Multnomah	76%	76%	89%	88%
Polk	78%	74%	88%	86%
Tillamook	60%	55%**	84%†	85%†
Umatilla	72%	70%	89%	88%
Union	74%	75%	91%†	90%†
Wallowa	67%†	61%†	83%†	85%†
Washington	76%	75%	87%	86%
Yamhill	73%	72%	84%	83%
Gilliam/Wheeler	--	--	--	--
Sherman/Wasco	76%	77%	72%†	74%†

\*Unadjusted rates provide a description of the absolute burden of a disease or risk factor for a county. Age-adjusted rates allow you to compare rates for a given county to the State's rate. When comparing counties with Oregon or with each other, use age-adjusted rates. \*\* Statistically significant difference compared to Oregon.

† % based on less than 50 respondents or fewer than 12 persons in one age group; may not accurately reflect behavior of entire county, and results should be interpreted with caution. Age adjusted to 2000 Standard Population using three age groups (18-34, 35-54, and 55+).

Sources: BRFSS 2002-2005

County	% who had a blood stool test within the past year (≥50 years old)	% who had a sigmoidoscopy or colonoscopy within 5 years (≥ 50 years old)
	Unadjusted	Unadjusted
<b>Oregon</b>		
Baker	8%†	21%†
Benton	30%	50%
Clackamas	15%	35%
Clatsop	22%	41%
Columbia	17%	30%
Coos	16%	41%
Crook	31% †	24%†
Curry	27%†	46%†
Deschutes	19%	37%
Douglas	22%	44%
Grant	0%†	20%†
Harney	12%†	14%†
Hood River	19%†	40%†
Jackson	21%	42%
Jefferson	21%†	26%†
Josephine	13%	44%
Klamath	27%	43%
Lake	19%†	24%†
Lane	27%	47%
Lincoln	11%	25%
Linn	27%	33%
Malheur	8%†	24%†
Marion	22%	39%
Morrow	9%†	70%†
Multnomah	17%	42%
Polk	23%	41%
Tillamook	28%	50%†
Umatilla	29%	36%
Union	12%	33%†
Wallowa	16%	20%†
Washington	24%	52%
Yamhill	15%	41%
Gilliam/Wheeler	--	--
Sherman/Wasco	27%	34%

# Appendix C

Table IV: Modifiable Risk Factors for Chronic Disease among 11th Graders, by County of Residence, Oregon, 2005-2006

County	% at risk of overweight <sup>1</sup>	% overweight <sup>2</sup>	% who met CDC physical activity <sup>3</sup> recommendations	% who consumed at least 5 servings of fruits and vegetables per day	% who had breakfast every day	% who drank at least 3 glasses of milk per day
<b>Oregon</b>	<b>13%</b>	<b>11%</b>	<b>49%</b>	<b>18%</b>	<b>38%</b>	<b>17%</b>
Baker	8%**	13%	63%**	13%	38%	19%
Benton	10%	8%	43%**	22%**	46%**	17%
Clackamas	12%	10%	49%	18%	38%	15%
Clatsop	16%	12%	54%	23%	36%	22%**
Columbia	10%	13%	53%	21%	35%	21%
Coos	15%	12%	61%**	19%	39%	22%**
Crook	15%	10%	55%	16%	37%	17%
Curry	12%	11%	50%	18%	37%	20%
Deschutes	10%	8%	56%**	19%	39%	17%
Douglas	14%	12%	54%	18%	37%	21%
Gilliam	13%†	13%†	48%†	8%†	12%**†	8%†
Grant	10%	10%	50%	16%	37%	25%**
Harney	15%	14%	47%	16%	44%	19%
Hood River	14%	12%	44%	19%	39%	14%
Jackson	13%	12%	47%	15%**	36%	16%
Jefferson	19%	11%	45%	20%	32%	18%
Josephine	--	--	--	--	--	--
Klamath	12%	12%	48%	15%	31%**	16%
Lake	17%	6%	67%**	15%	35%	19%
Lane	13%	11%	52%	19%	40%	17%
Lincoln	--	--	--	--	--	--
Linn	14%	11%	53%	16%	36%	14%
Malheur	11%	15%**	49%	20%	39%	26%**
Marion	14%	12%	52%	21%	35%	17%
Morrow	19%**	8%	58%**	21%	34%	24%**
Multnomah	13%	10%	40%**	18%	35%	14%**
Polk	19%**	14%	56%**	16%	34%	23%**
Sherman	18%†	8%†	73%**†	28%†	39%†	15%†
Tillamook	15%	5%	48%	18%	29%	26%**
Umatilla	17%**	13%	53%**	17%	38%	19%
Union	16%	10%	52%	16%	40%	22%
Wallowa	23%†	3%†	47%†	15%†	28%†	10%†
Wasco	17%	13%	50%	18%	39%	16%
Washington	11%	10%	46%	18%	43%**	16%
Wheeler	18%†	15%†	48%†	30%†	50%†	40%**†
Yamhill	18%**	11%	54%	21%	34%	17%

1. Body mass index between the 85th and 95th percentile for age.

2. Body mass index at or above the 95th percentile for age.

3. 60 or more minutes of activity per day on most days of the week (preferably daily).



County	% who drank at least 7 sodas per week	% who bought soda at school at least 1 day per week	% who participated in PE daily	% who watched TV more than 2 hours daily
<b>Oregon</b>	<b>27%</b>	<b>32%</b>	<b>19%</b>	<b>22%</b>
Baker	27%	28%	41%**	16%**
Benton	22%**	35%	6%**	17%**
Clackamas	26%	30%	16%**	20%
Clatsop	28%	12%**	15%	23%
Columbia	26%	44%**	32%**	21%
Coos	27%	39%**	46%**	19%
Crook	38%**	33%	30%**	22%
Curry	30%	38%	47%**	19%
Deschutes	29%	22%**	27%**	20%
Douglas	34%**	38%	23%**	21%
Gilliam	36%†	64%**†	4%†	12%†
Grant	32%	39%	3%**	16%
Harney	28%	33%	9%**	13%**
Hood River	21%**	22%**	8%**	25%
Jackson	30%	33%	12%**	23%
Jefferson	30%	28%	33%**	27%
Josephine	--	--	--	--
Klamath	32%**	39%**	20%	26%
Lake	31%	31%	43%**	16%
Lane	28%	35%	26%**	20%
Lincoln	--	--	--	--
Linn	33%**	36%	18%	22%
Malheur	33%**	35%	14%**	33%**
Marion	30%	42%**	33%**	24%
Morrow	38%**	45%**	4%**	32%**
Multnomah	24%**	37%**	5%**	24%
Polk	33%	45%**	43%**	24%
Sherman	44%**†	56%**†	37%**†	33%†
Tillamook	30%	46%**	28%**	24%
Umatilla	31%**	34%	20%	27%**
Union	33%	39%**	17%	22%
Wallowa	33%†	22%†	0%†	18%†
Wasco	29%	15%**	23%	25%
Washington	21%**	15%**	7%**	21%
Wheeler	37%†	39%†	0%†	25%†
Yamhill	29%	39%**	33%**	28%**

\*\* Statistically significant difference compared to Oregon.

† % based on fewer than 50 respondents; may not accurately reflect behavior of entire county. Interpret with caution.

Sources: OHT 2005-2006

# Appendix C

Table V: Modifiable Risk Factors for Chronic Disease among 8th Graders, by County of Residence, Oregon, 2005-2006

County	% at risk of overweight <sup>1</sup>	% overweight <sup>2</sup>	% who met CDC physical activity <sup>3</sup> recommendations	% who consumed at least 5 servings of fruits and vegetables per day	% who had breakfast every day	% who drank at least 3 glasses of milk per day
<b>Oregon</b>	<b>15%</b>	<b>10%</b>	<b>59%</b>	<b>24%</b>	<b>46%</b>	<b>24%</b>
Baker	17%	8%	62%	24%	54%**	32%**
Benton	12%**	8%	54%	31%**	58%**	24%
Clackamas	12%**	10%	58%	24%	49%**	22%
Clatsop	20%	11%	62%	21%	39%**	25%
Columbia	15%	15%**	59%	23%	45%	30%**
Coos	16%	13%	66%**	25%	46%	29%**
Crook	13%	13%	54%	21%	47%	25%
Curry	11%	13%	59%	22%	46%	26%
Deschutes	12%**	8%**	61%	22%	49%	23%
Douglas	18%	11%	67%**	22%	41%**	26%
Gilliam	18%†	6%†	67%†	11%†	26%†	26%†
Grant	15%	18%	64%	13%**	55%	37%
Harney	7%**	13%	50%	17%	55%	32%
Hood River	14%	10%	44%**	30%**	53%**	25%
Jackson	14%	9%	61%	22%	46%	25%
Jefferson	19%	13%	54%	27%	47%	25%
Josephine	--	--	--	--	--	--
Klamath	13%	12%	59%	23%	51%	27%
Lake	11%	8%	80%**	23%	55%	28%
Lane	15%	9%	61%	24%	47%	24%
Lincoln	--	--	--	--	--	--
Linn	18%**	12%	64%**	23%	43%	26%
Malheur	19%	15%**	53%**	27%	42%	30%**
Marion	16%	13%**	62%**	24%	45%	25%
Morrow	16%	9%	61%	23%	42%	32%**
Multnomah	15%	11%	55%**	27%**	43%**	22%
Polk	23%**	12%	59%	27%	39%**	23%
Sherman	18%†	13%†	51%	29%†	47%	20%
Tillamook	22%**	11%	65%	15%**	45%	29%
Umatilla	18%	14%**	59%	22%	44%	26%
Union	18%	7%	68%**	19%	47%	26%
Wallowa	14%†	10%†	72%	15%†	54%	30%
Wasco	19%	12%	57%	23%	43%	20%
Washington	15%	8%**	55%**	24%	47%	20%**
Wheeler	19%†	14%†	76%†	28%†	23%†	39%†
Yamhill	17%	13%	58%	25%	43%	27%

1. Body mass index between the 85th and 95th percentile for age.

2. Body mass index at or above the 95th percentile for age.

3. 60 or more minutes of activity per day on most days of the week (preferably daily).

County	% who drank at least 7 sodas per week	% who bought soda at school at least 1 day per week	% who participated in PE daily	% who watched TV more than 2 hours daily
<b>Oregon</b>	<b>27%</b>	<b>17%</b>	<b>55%</b>	<b>31%</b>
Baker	26%	18%	84%**	30%
Benton	18%**	8%**	49%**	21%**
Clackamas	23%**	11%**	54%	26%**
Clatsop	34%**	8%**	48%**	37%**
Columbia	23%	26%**	24%**	24%**
Coos	28%	13%**	92%**	31%
Crook	24%	14%	30%**	31%
Curry	27%	19%	21%**	26%
Deschutes	24%	12%**	58%	23%**
Douglas	35%**	23%**	55%	31%
Gilliam	37%†	16%†	17%†**	42%†
Grant	28%	17%	3%**	27%
Harney	22%	5%**	2%**	31%
Hood River	25%	11%**	8%**	34%
Jackson	27%	14%**	53%	30%
Jefferson	29%	7%**	59%	36%
Josephine	--	--	--	--
Klamath	25%	19%	58%	26%
Lake	28%	20%	69%**	27%
Lane	27%	16%	47%**	28%
Lincoln	--	--	--	--
Linn	31%**	13%**	63%**	28%
Malheur	27%	18%	44%**	39%**
Marion	28%	15%	58%	32%
Morrow	24%	36%**	3%**	25%
Multnomah	27%	18%	55%	34%**
Polk	28%	31%**	14%**	37%**
Sherman	39%	37%**	0%	27%
Tillamook	24%	32%**	31%**	27%
Umatilla	32%**	24%**	43%**	37%**
Union	22%	24%**	73%**	26%
Wallowa	24%	44%**	2%†**	32%
Wasco	28%	10%**	37%**	34%
Washington	27%	21%**	73%**	33%
Wheeler	25%†	14%†	0%†	20%†
Yamhill	27%	25%**	69%**	34%

\*\* Statistically significant difference compared to Oregon.

† % based on fewer than 50 respondents; may not accurately reflect behavior of entire county

Sources: OHT 2005-2006









