PFIZER FACTS

The Health Status of Older Adults

Updated 2007

Findings from the National Health and Nutrition Examination Survey (NHANES) 1999–2004, the National Health Interview Survey (NHIS) 2005, and the Compressed Mortality File (CMF) 2003

OUTCOMES RESEARCH

Pfizer


Pfizer

The Health Status of Older Adults

Thirty-seven million adults—12% of the total US population—are 65 years of age and older. Today, older adults are living longer than ever before, and growing in number. Over the past 30 years, life expectancy has grown to 81.8 years in men and 84.8 years in women, increases of 3 years and 1.7 years, respectively. By the year 2020, the older adult population will represent 16% of the total US population.

With these increases in life expectancy come decreases in mortality from heart disease and cancer, the leading causes of death among elders. However, there continues to be room for improvement. Heart disease mortality remains 38% higher among older men than women; a challenge to eliminating this disparity is improving awareness and treatment rates for dyslipidemia and diabetes. Older men lag behind women in awareness and treatment for these two major risk factors for heart disease. The decreasing trend in cancer mortality is driven by declining death rates among men only. Although death rates for breast cancer and colorectal cancer have declined among women, the lack of improvement overall among women is attributable to increased mortality from lung cancer.

With advancing age comes increases in disease prevalence and greater use of healthcare resources. Seventy-one percent of adults 65 years and older have hypertension, the most prevalent condition in this age group. Dyslipidemia, arthritis, ischemic heart disease and diabetes follow in rank order. Pain is the most frequently reported symptom among older adults, with joint and lower back pain being most prevalent, affecting 55% and 38% of elders.

Nearly all adults 65 and older (95% of community-dwelling elders) are enrolled in Medicare. The average annual healthcare expenditure for a community-dwelling Medicare-enrolled elder is $9941; 62% of which is paid for by Medicare and 16% each is paid out-of-pocket and by private insurers. Older adults averaged 6.3 physician office visits in 2004; 43% of all visits were to diagnose specific symptoms or complaints, and 38% of visits were to treat new and previously diagnosed diseases, including counseling and medications.

This issue of Pfizer Facts presents new analysis of national databases to gain insight into the burden of illness and use of healthcare resources among older adults in the United States. We present analyses of the National Health and Nutrition Examination Survey (NHANES) 1999–2004, the National Health Interview Survey (NHIS) 2002–2005, the Compressed Mortality File (CMF) 1990–2003, the Behavioral Risk Factor Surveillance System (BRFSS) 2004, the National Ambulatory Medical Care Survey (NAMCS) 2004, the Medicare Current Beneficiary Survey (MCBS) 2003, the National Comorbidity Survey: Replication (NCS-R) 2001–2003, and the National Hospital Discharge Survey (NHDS) 2004. We present information on disease prevalence and mortality, functional limitations, symptoms, behavioral risk factors and healthcare resource utilization in an effort to heighten awareness and encourage discussion pertaining to the health of older adults.

Margaret McDonald, PhD
Director

Robin P. Hertz, PhD
Senior Director/Team Leader

Population Health
US Outcomes Research
Pfizer Global Pharmaceuticals

Table of contents

Highlights

Demographic profile

- The US population includes 37 million adults aged 65 years and older. Women comprise 58% of these older adults.

Life expectancy and mortality

- Life expectancy is increasing for men and women: A man reaching age 65 in 2003 could expect to live to age 81.8, a woman to age 84.8—an increase since 1975 of 3.0 years for men and 1.7 years for women.
- Heart disease is the leading cause of death among persons 65 years of age and older, accounting for 31% of deaths in both men and women. Although heart disease mortality declined for older men and women since 1990, 29% and 25% respectively, a substantial gap in heart disease mortality rates persists between men and women (1847 vs 1338 deaths per 100,000 in 2003).
- Cancer, the second most common cause of death, accounts for a higher proportion of deaths in men (25%) than in women (19%). Lung cancer accounts for the greatest percentage of cancer deaths among men and women (32% and 26%) respectively, followed by prostate (14%) and colorectal (10%) cancer in men, and breast (13%) and colorectal (12%) cancer in women. Cancer mortality is on the decline among men, but has not changed among women between 1990 and 2003. The lack of progress overall among older women is attributable to the rising lung cancer mortality rate; deaths from breast and colorectal cancer have declined during this time period.

Disease prevalence

- Hypertension is the most prevalent condition among older adults, affecting 71% of the population. Women are more likely to have hypertension than men (77% vs 63%), and, if treated pharmacologically, are less likely to attain blood pressure goal (43% vs 58%).
- Dyslipidemia affects 60% of older adults, making it the second most prevalent condition. Older men are less likely to be aware that they have dyslipidemia than older women (59% vs 71%) and men are also less likely to be treated with pharmacotherapy (41% vs 45%). Among treated older adults, only 65% reach their LDL goal.
- 45% of older adults have comorbid hypertension and dyslipidemia, but among these adults, only 54% are aware of having both conditions. Thirty-seven percent of comorbid prevalent cases are treated for both conditions, and only 41% of those treated for both hypertension and dyslipidemia reach goal for both.
- Arthritis is the third most prevalent condition among older adults, affecting 60% of older women and 42% of older men.
- One in 5 older adults has diabetes, and men are less likely than women to be aware of their condition (64% vs 79%). Only 51% of older adults treated for diabetes reach goal, based on HbA1c <7%.
- 14% of older women and 11% of older men have chronic obstructive pulmonary disease (COPD [defined as having emphysema or chronic bronchitis]). COPD is about 3 times higher among older adults who currently smoke compared with those who have never smoked (23% vs 8%).
- Women 65 and older are much more likely to be diagnosed with osteoporosis than are older men, 26% vs 4%. Having osteoporosis increases the risk of fractures following a fall. Osteoporotic fractures are the most common fall-related injuries among adults 65 and older; 7% of older women with osteoporosis have had a fall-related fractured hip, about 4 times the rate of fall-related hip fractures among older women without osteoporosis.

Functional limitations

- 8% of older women and 4% of older men need help with activities of daily living (ADL) such as bathing, dressing, eating, and toileting. Conditions most associated with ADL deficits are stroke (20%), diabetes (11%), and ischemic heart disease (IHD) (10%). Although only 7% of older adults with arthritis report ADL deficits, the high prevalence of arthritis (52%) results in a large number of people in need of assistance.
- Cataracts are the most common vision problem among older adults, affecting 41% of persons aged 65 and older (36% of men and 45% of women). Older adults with diabetes are more likely to have cataracts than those without diabetes (51% vs 39%). Glaucoma, affecting 8% of the older population, is also more prevalent among those with diabetes (12% vs 7%).

Symptoms

- 70% of older adults have suffered pain symptoms at some point in the past 12 months, with joint pain and lower back pain being most prevalent, affecting 55% and 38% of this population, respectively.
- Mobility problems are prevalent among older adults: balance difficulties, dizziness, and falls affect 23%, 22%, and 11% of this age group, respectively.
- 34% of older adults report experiencing urinary incontinence. The prevalence is higher among women than men, 47% vs 18%.

Behavioral risk factors

- 29% of older adults are classified as obese based on body mass index (BMI) greater than or equal to 30. Obese older adults are more likely than nonobese older adults to have hypertension (78% vs 67%), dyslipidemia (65% vs 59%), and diabetes (30% vs 18%).
- 54% of adults 65 years and older do not exercise.
- 9% of older adults currently smoke; 56% of current smokers say they would like to quit.
- Current smokers are more likely than lifetime-nonsmokers to have ischemic heart disease, 22% vs 18%. COPD affects 23% of current smokers, 16% of former smokers, and 8% of lifetime-nonsmokers.

Health care resource utilization

- 95% of people aged 65 and older are enrolled in Medicare. Among community-dwelling elder enrollees, the average annual healthcare expenditure is $9941, of which 62% is paid by Medicare, and 16% each by out-of-pocket payment and by private insurers.
- 30% of the average annual healthcare expenditure for older community-dwellers enrolled in Medicare is for hospital inpatient services, another 31% is for physician outpatient services.
- Older adults average 6.3 physician office visits per person annually. Almost 3 of every 4 outpatient visits are either for diagnosis or treatment of circulatory system diseases (27%), neoplasms (15%), endocrine, nutritional or metabolic diseases (17%), or eye conditions (11%).
- 4% of adults aged 65 and older have seen a mental health professional in the past year.

- Many elders are not receiving recommended screening and prevention services. Although covered by Medicare annually, only 62% of older women have had a mammogram in the past year; only 57% of older men have had digital rectal exam (DRE) in the past year; and only 65% of older men have had a prostate specific antigen test (PSA) in the past year. Only 24% of older men and 21% of older women had a fecal occult blood test (FOBT) in the past year; 49% of older men and 48% of older women have never had this test. Medicare covers colonoscopy or sigmoidoscopy periodically, yet 34% of Medicare-eligible men and 38% of Medicare-eligible women have never had either of these screening procedures.
- 18% of adults aged 65 and older had a hospital stay in the past year, with an average length of stay of 5.6 days. The most frequent hospital discharge diagnosis among older men and older women is pneumonia and influenza, accounting for 7% and 6% of all discharges, respectively, followed by congestive heart failure, accounting for 6% of total discharges for both genders.
- Older adults are large consumers of both prescription medicines and over-the-counter pain medicines: 80% of men and 88% of women take at least one prescription medicine, and 39% and 34%, respectively, use non-prescription pain medicine daily. Twenty-six percent of older adults use 5 or more prescription medicines.

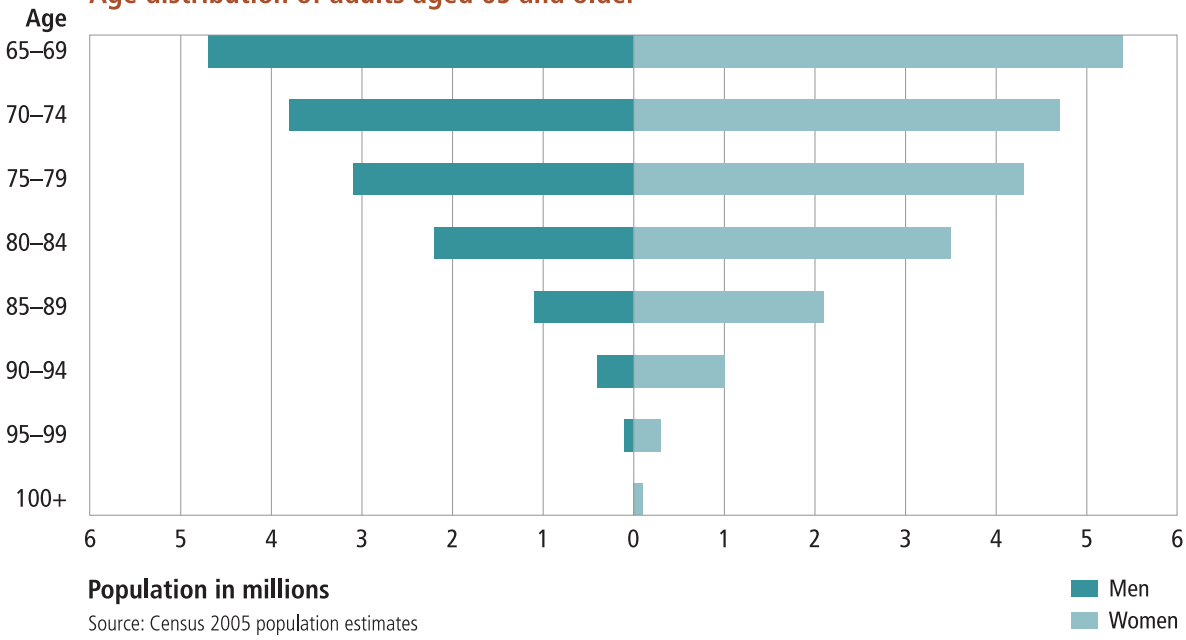
Demographic profile

Thirty-seven million people—12% of the US population—are 65 years of age and older; 58% of these elders are women. Among the oldest segment, those 85 years and older, the gender disparity grows wider, with women comprising 69% of the segment. By 2020, older adults will comprise 16% of the US population and the oldest segment is expected to increase by 26%.

The older adult population is predominately white, non-Hispanic (83%). Sixty-one percent have a high school education or less.

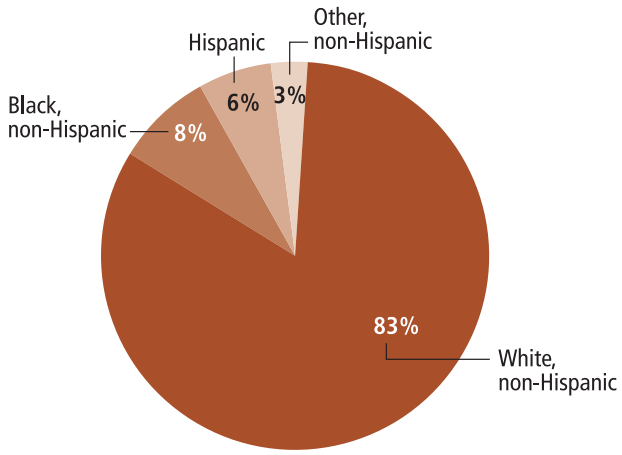
Men are more likely than women to be married or living with a partner (77% vs 44%), partly because women are more likely to outlive men. The expected lifespan is 85 years for women vs 82 years for men, among those reaching age 65.

Age distribution of adults aged 65 and older



Source: Census 2005 population estimates

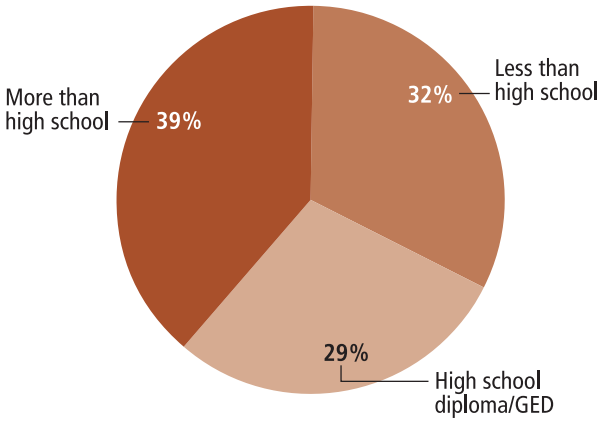
Race/ethnicity of adults aged 65 and older



Percent of population

Source: NHIS 2005

Educational level of adults aged 65 and older

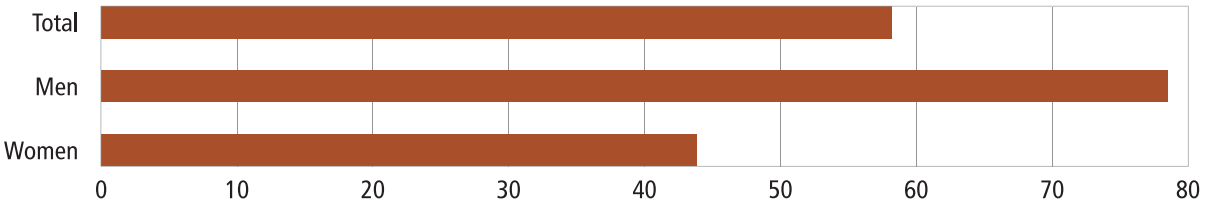


Percent of population

GED–General Education Diploma

Source: NHANES 1999–2004

Marital/partnership living arrangements of adults aged 65 and older

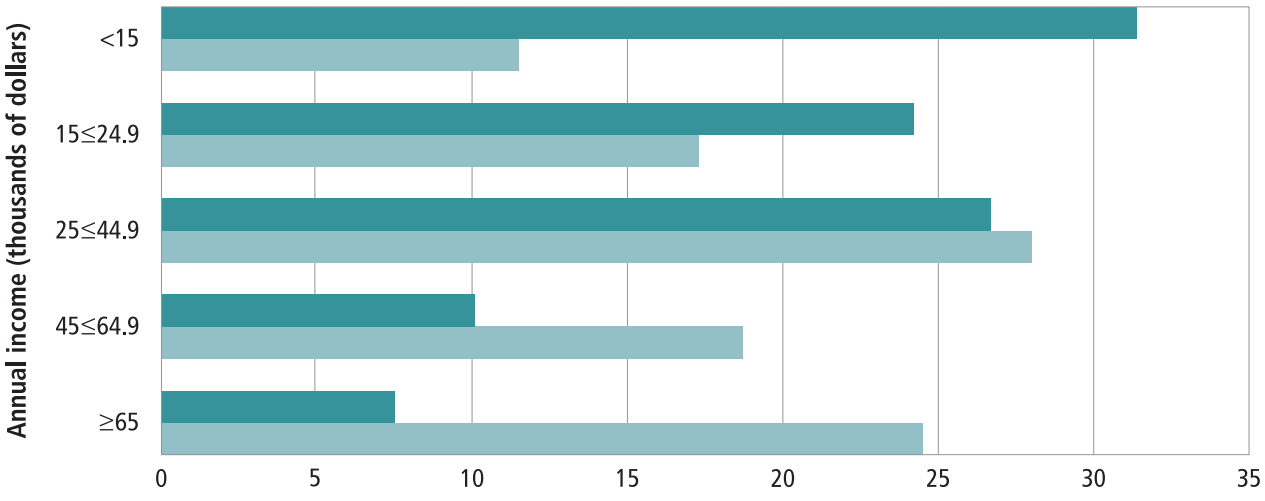


Percent married or living with partner

Source: NHANES 1999–2004

The median household income of older adults is $27,900, and is strongly associated with education: 24% of the older population with more than a high school education have incomes exceeding $65,000, compared with only 8% of those with a high school diploma or less. Conversely, nearly one third of those with no post-high school education have incomes less than $15,000 compared with only 12% of those with more than a high school education.

Household income of adults aged 65 and older by education level



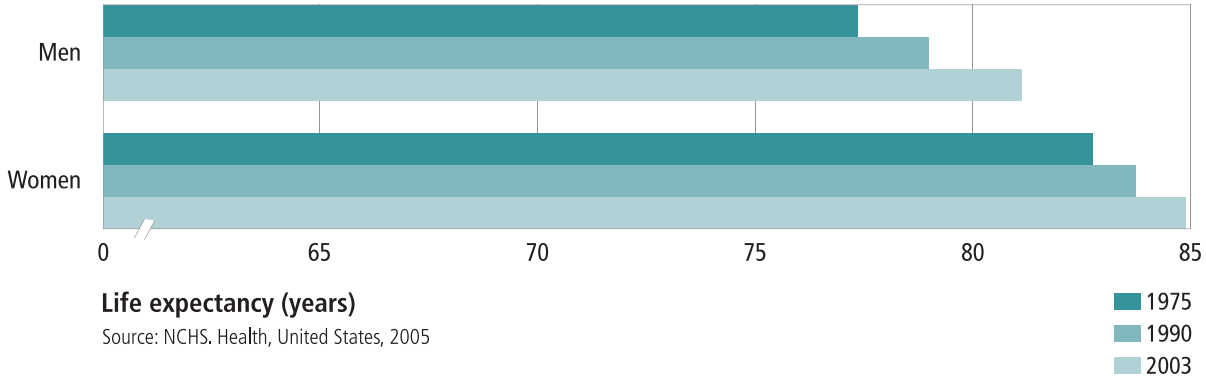
Percent of population

Source: NHANES 1999–2004

Life expectancy and mortality

Life expectancy is increasing for men and women, and the gender gap is narrowing. A man reaching age 65 in 2003 could expect to live to age 81.8, a woman to age 84.8, an increase of 3.0 years for men, and 1.7 years for women since 1975.

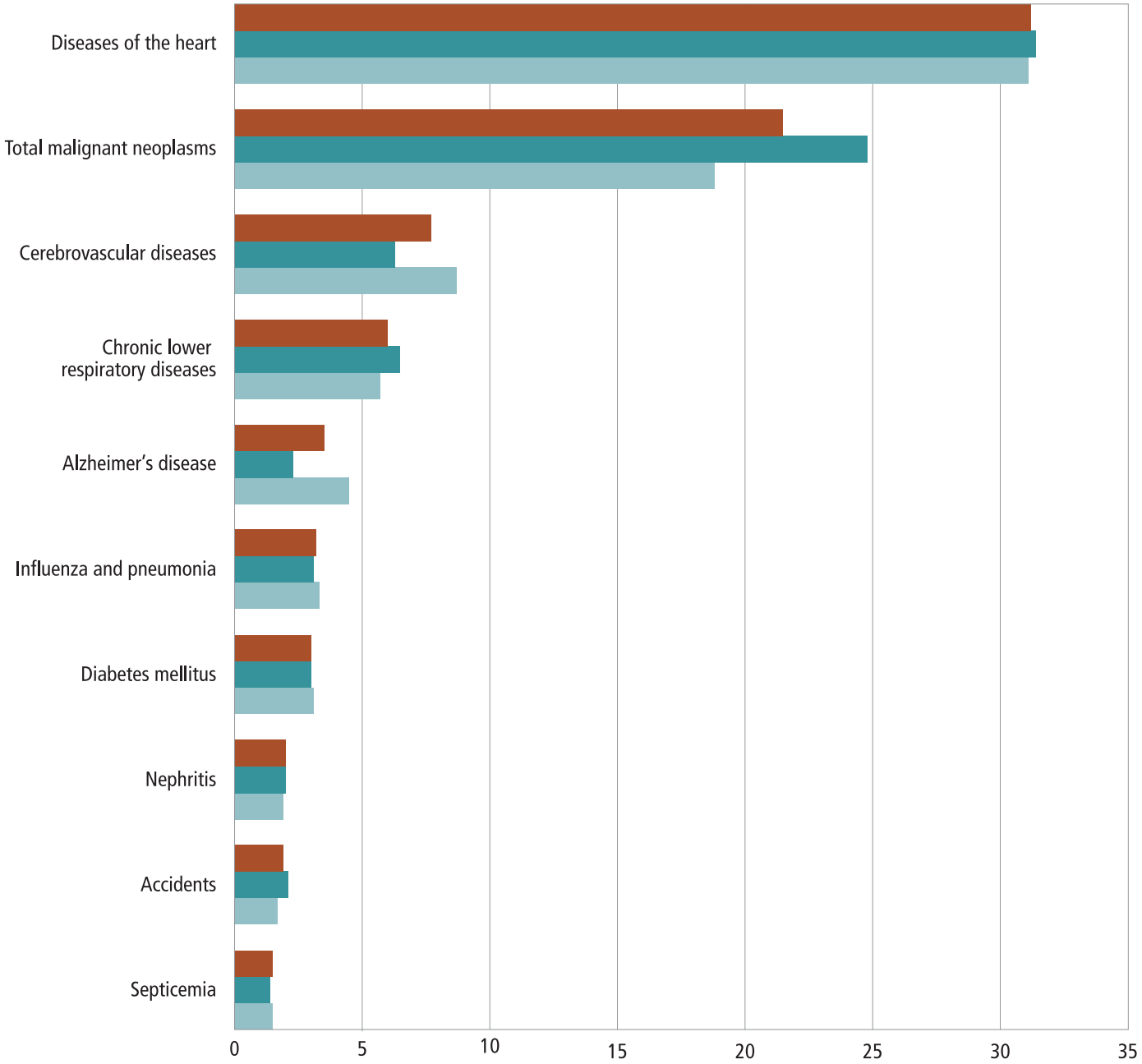
Life expectancy of adults reaching 65 years of age in 1975, 1990 and 2003



Source: NCHS. Health, United States, 2005

Heart disease is the leading cause of death among persons 65 years of age and older, accounting for 31% of mortality in both men and women. Cancer, the second leading cause of death, accounts for 25% and 19% of mortality among men and women, respectively. Combined, over half of all deaths among older adults are due to these two causes; 81% of deaths are due to the leading 10 conditions.

Leading causes of death among adults aged 65 and older



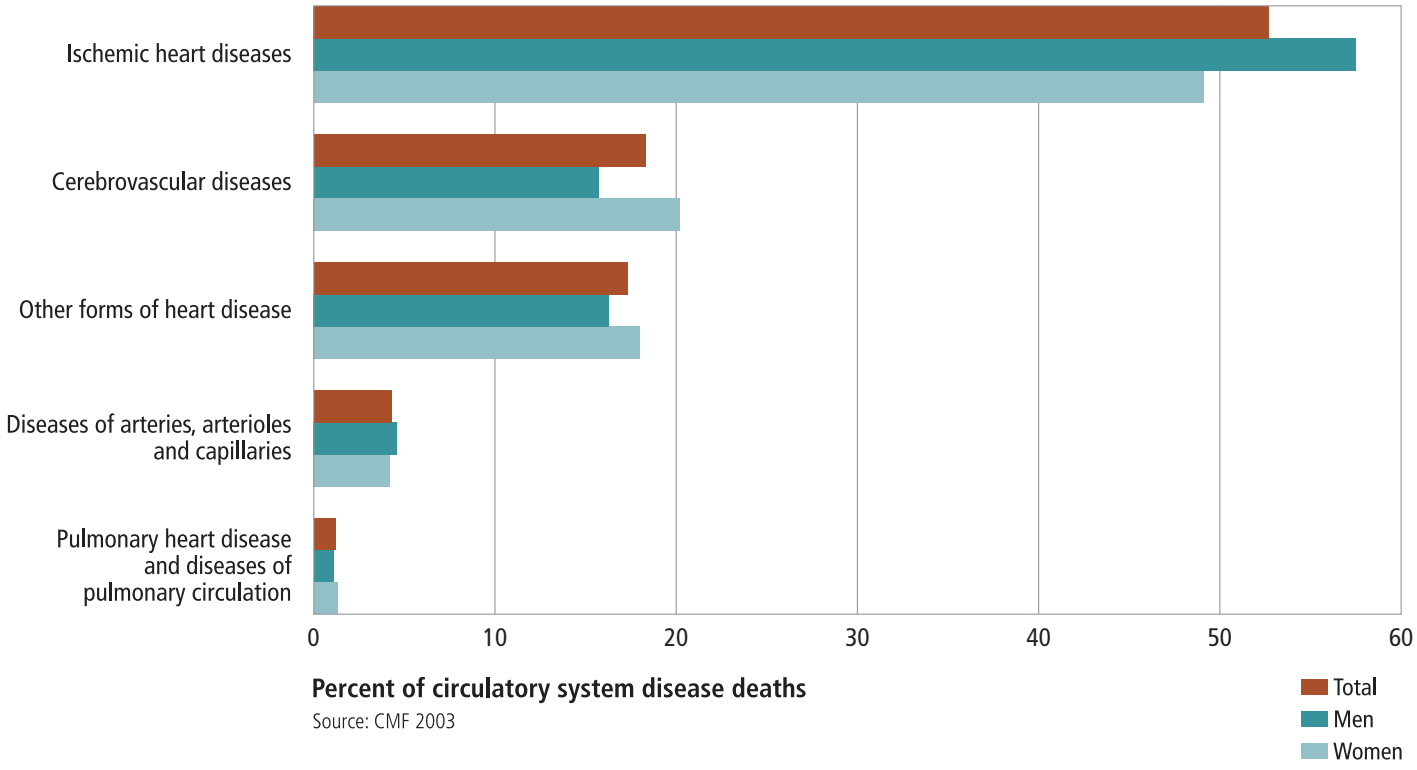
Note: Malignant neoplasms exclude basal and squamous skin cancers. This exclusion applies to all analyses.

Source: CMF 2003

Heart disease mortality

At 53%, ischemic heart diseases (defined as acute myocardial infarction, angina, and atherosclerotic disease) account for the largest proportion of circulatory system disease deaths among older adults; older men have a higher proportion of ischemic heart disease deaths than older women (58% vs 49%). Atherosclerotic disease accounts for the majority of all ischemic heart disease deaths (60%). Stroke and other forms of heart disease (includes congestive heart failure) account for 18% and 17% of all circulatory system disease deaths, respectively. Congestive heart failure accounts for 41% of deaths due to other forms of heart disease.

Leading causes of death among adults aged 65 and older dying of circulatory system diseases

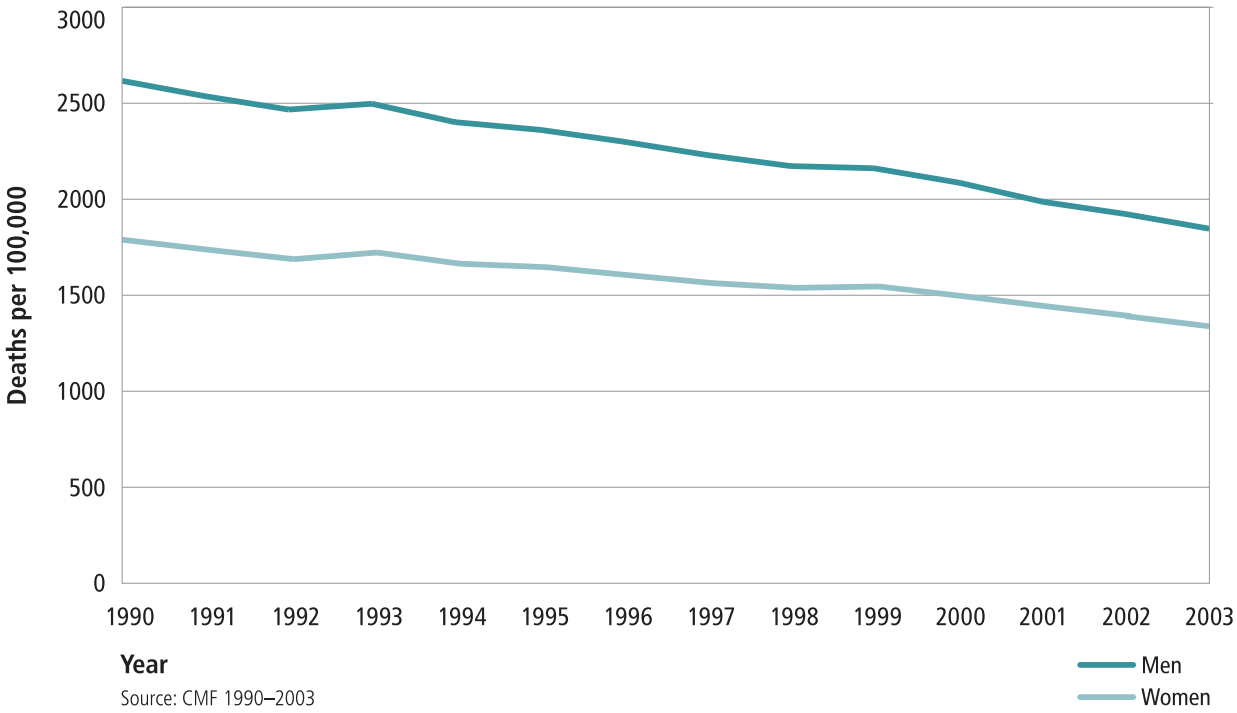


Source: CMF 2003

The overall age-adjusted mortality rate for heart disease declined from 2109 deaths per 100,000 in 1990 to 1547 deaths per 100,000 in 2003, a 27% reduction. Mortality for heart disease declined at a slightly higher rate for men than for women, 29% vs 25%, respectively.

A substantial gap in heart disease mortality rates persists between men and women, 1847 vs 1338 deaths per 100,000 in 2003.

Age-adjusted heart disease mortality rates among adults aged 65 and older

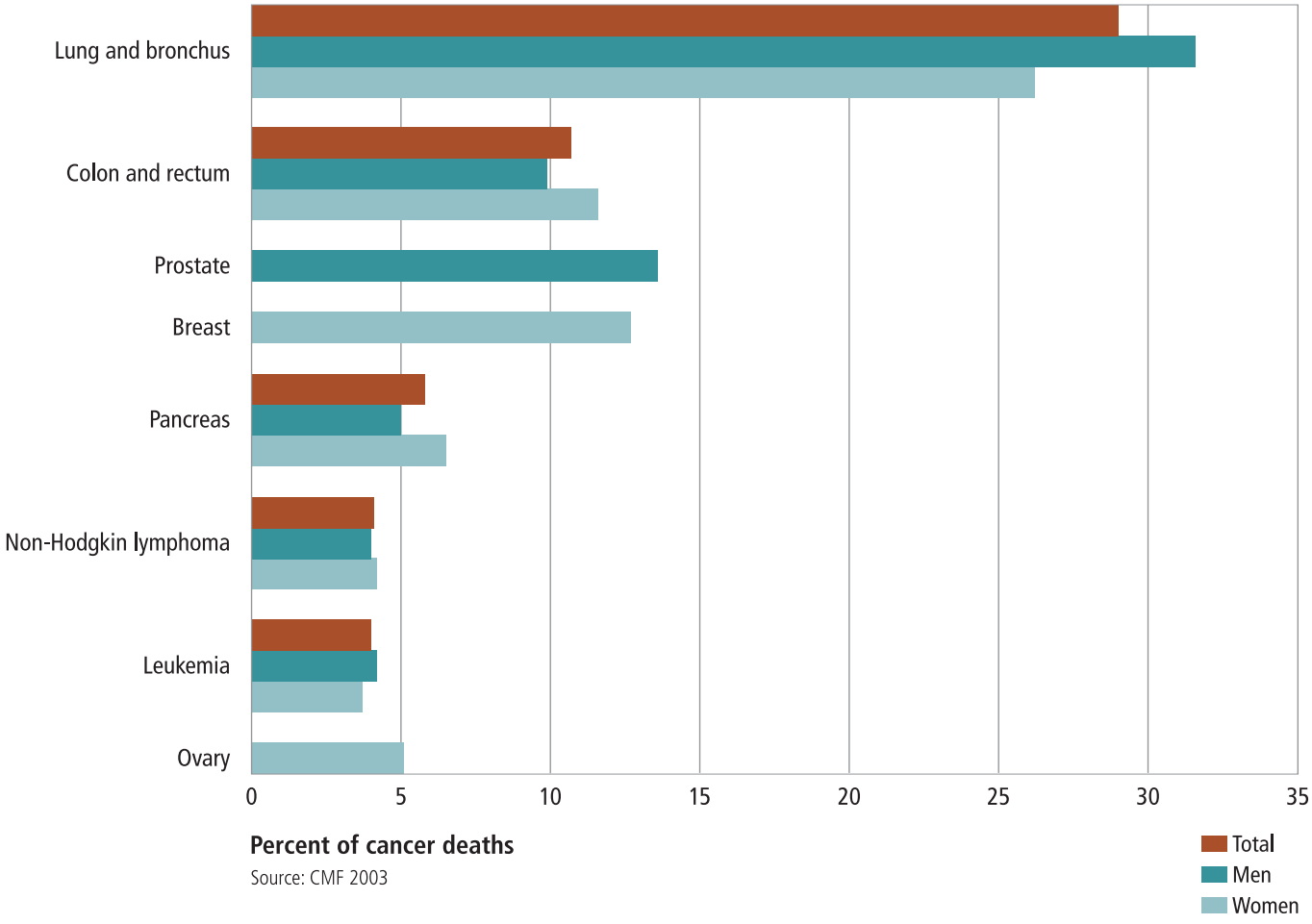


Source: CMF 1990–2003

Cancer mortality

Lung cancer accounts for 29% of all cancer deaths among older adults, and 32% and 26% of cancer deaths among older men and women, respectively. Other site-specific cancers causing death among older men are prostate (14%), colon and rectum (10%), and pancreas (5%). Among older women, mortality is associated with cancers of the breast (13%), colon and rectum (12%) and pancreas (6%).

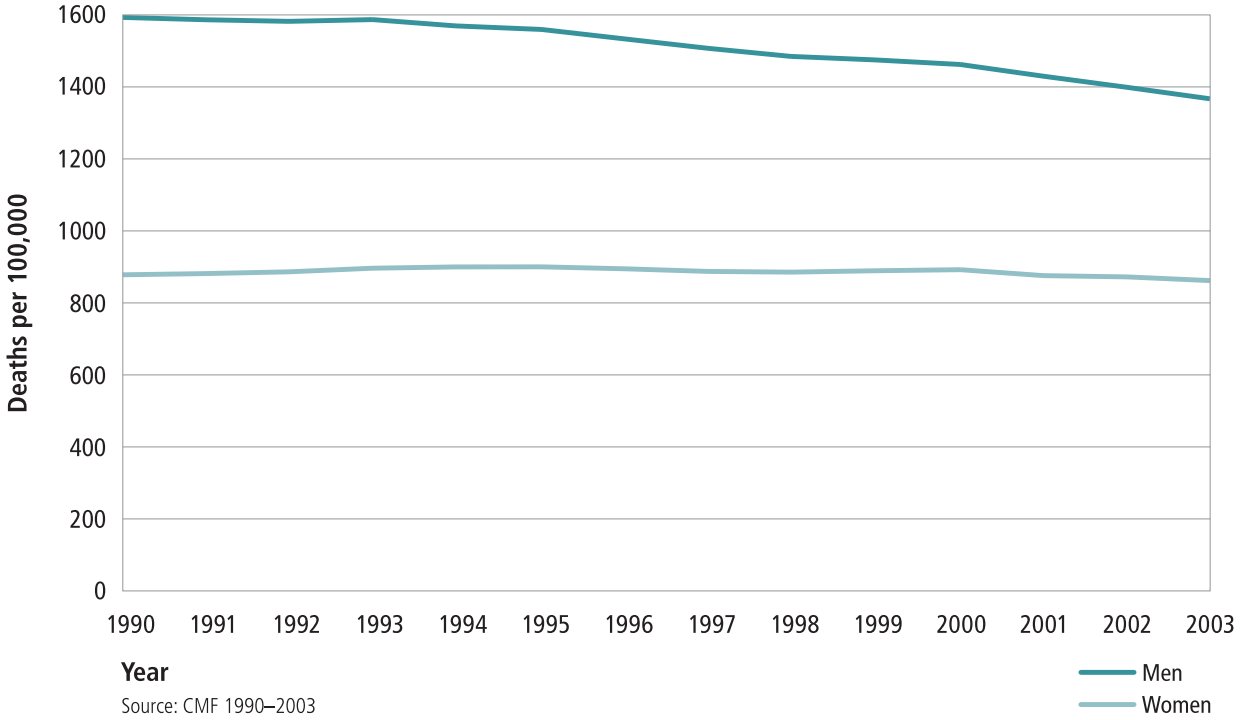
Leading causes of death among adults aged 65 and older dying of cancer



Source: CMF 2003

The age-adjusted cancer mortality rate among older women remained essentially unchanged between 1990 and 2003 (878 and 862 deaths per 100,000 in 1990 and 2003, respectively), while decreasing substantially among men (1593 and 1367 per 100,000 in 1990 and 2003, respectively).

Age-adjusted cancer mortality rates among adults aged 65 and older, malignant neoplasms

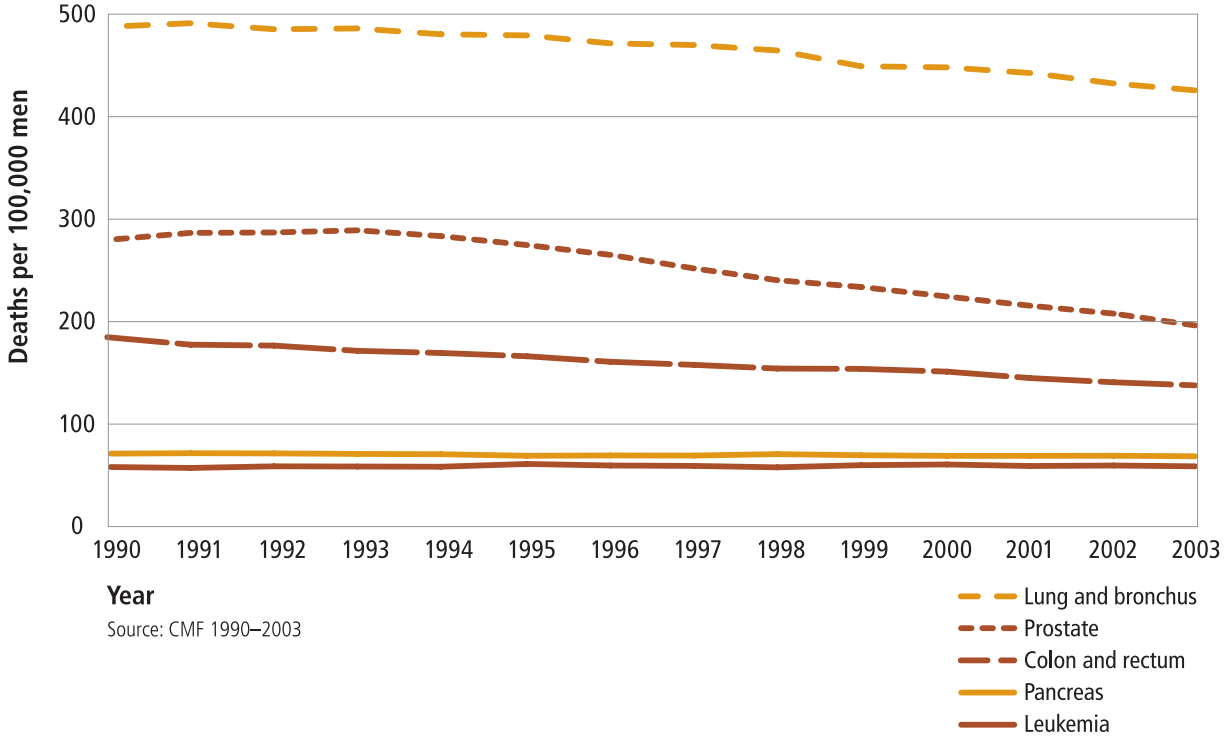


Source: CMF 1990–2003

From 1990 to 2003, mortality rates among older men have declined most sharply for prostate cancer (30% drop, from 280 to 196 deaths per 100,000 men); colorectal cancer (25% drop, from 185 to 138 deaths per 100,000 men); and lung cancer (13% drop, from 488 to 426 deaths per 100,000 men).

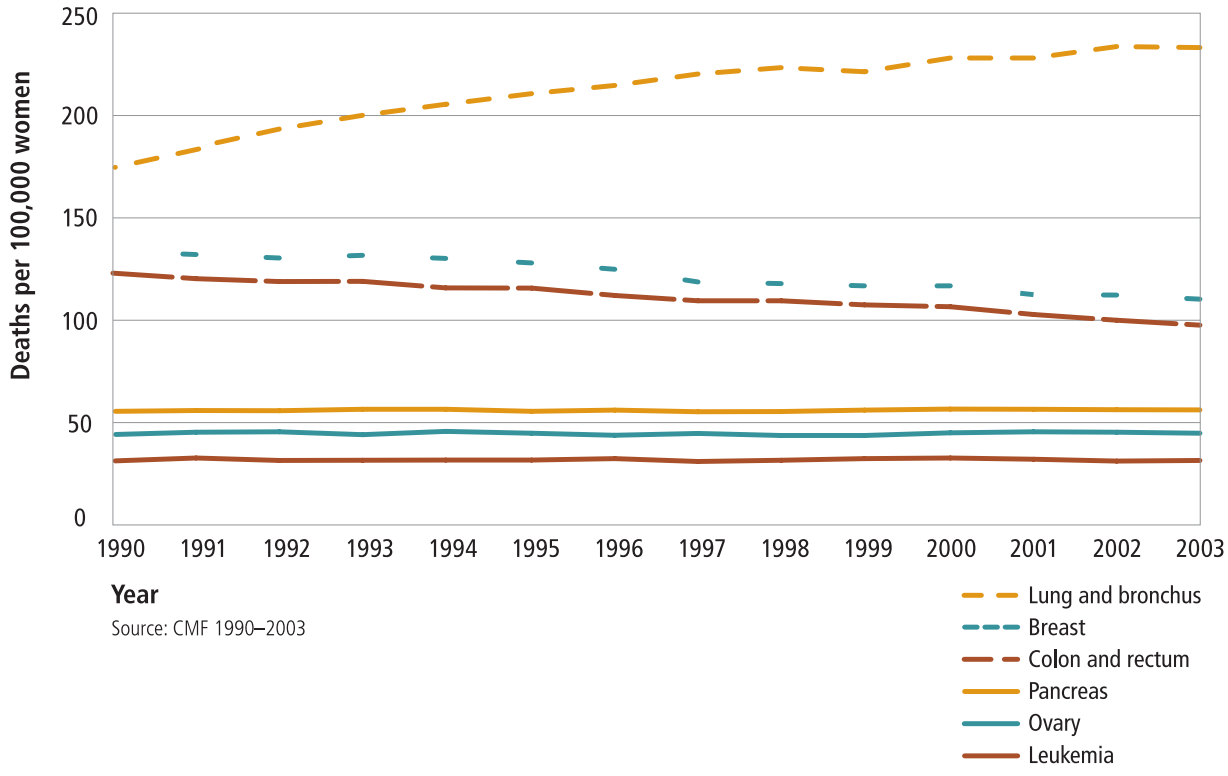
During this same time period, mortality rates among women have declined for breast cancer (18% drop, from 134 to 110 deaths per 100,000 women), and colorectal cancer (20% drop, from 123 to 98 deaths per 100,000 women). The mortality rate for lung cancer has risen 32%, from 176 to 233 deaths per 100,000.

Age-adjusted, site-specific cancer mortality rates among men aged 65 and older



Source: CMF 1990–2003

Age-adjusted, site-specific cancer mortality rates among women aged 65 and older



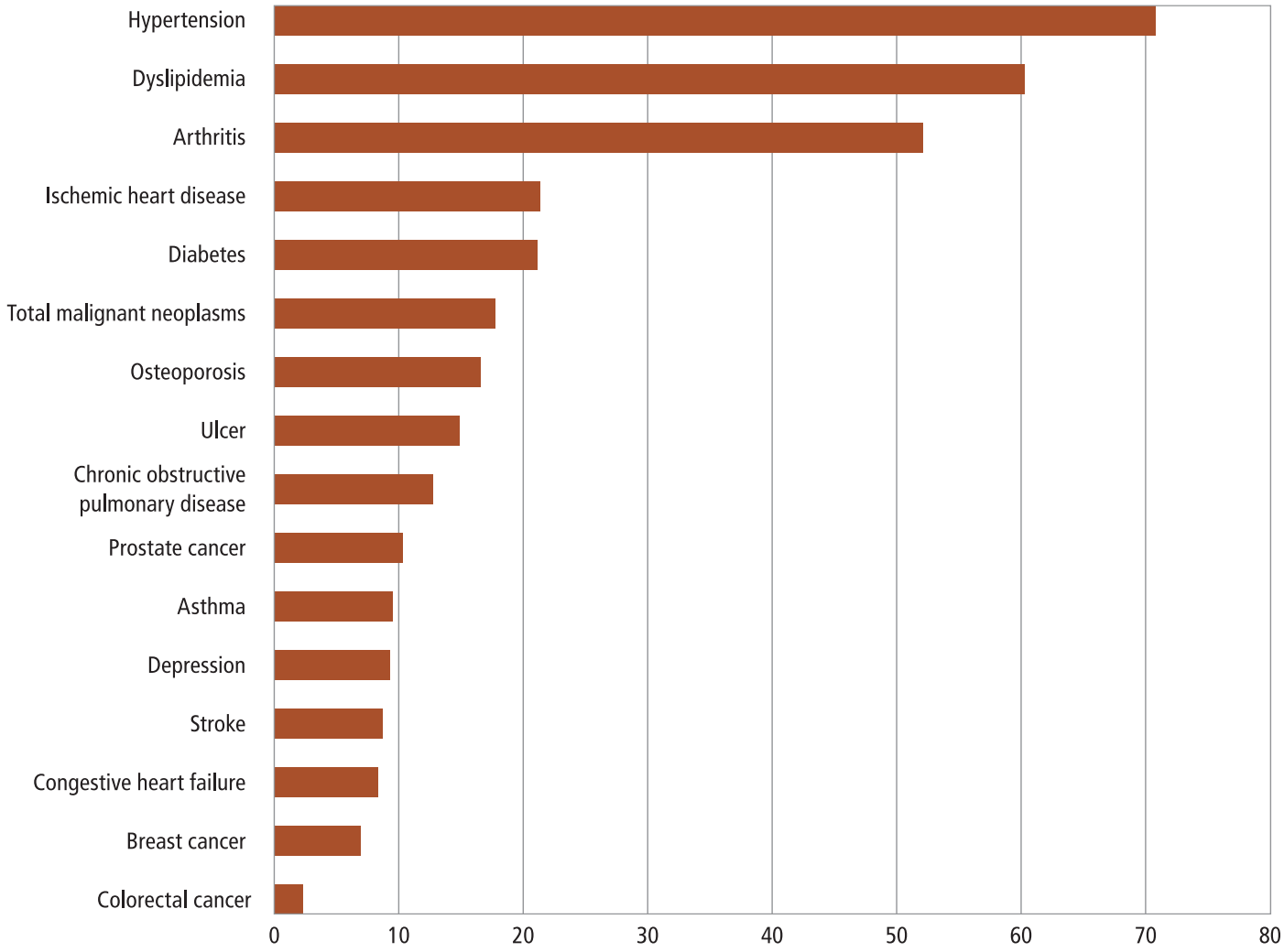
Source: CMF 1990–2003

Disease prevalence

Hypertension, dyslipidemia, and arthritis are the most prevalent chronic conditions among older adults, affecting 71%, 60%, and 52% of this population, respectively. Nearly all older adults (94%) have at least 1 of these 3 conditions. Ischemic heart disease and diabetes each affect 21% of older adults.

Older women have a higher prevalence of hypertension (77% vs 63%), arthritis (60% vs 42%), osteoporosis (26% vs 4%), and depression (13% vs 5%) than older men, but a lower prevalence of ischemic heart disease (17% vs 27%) and cancer (16% vs 20%).

Prevalence of chronic conditions among adults aged 65 and older

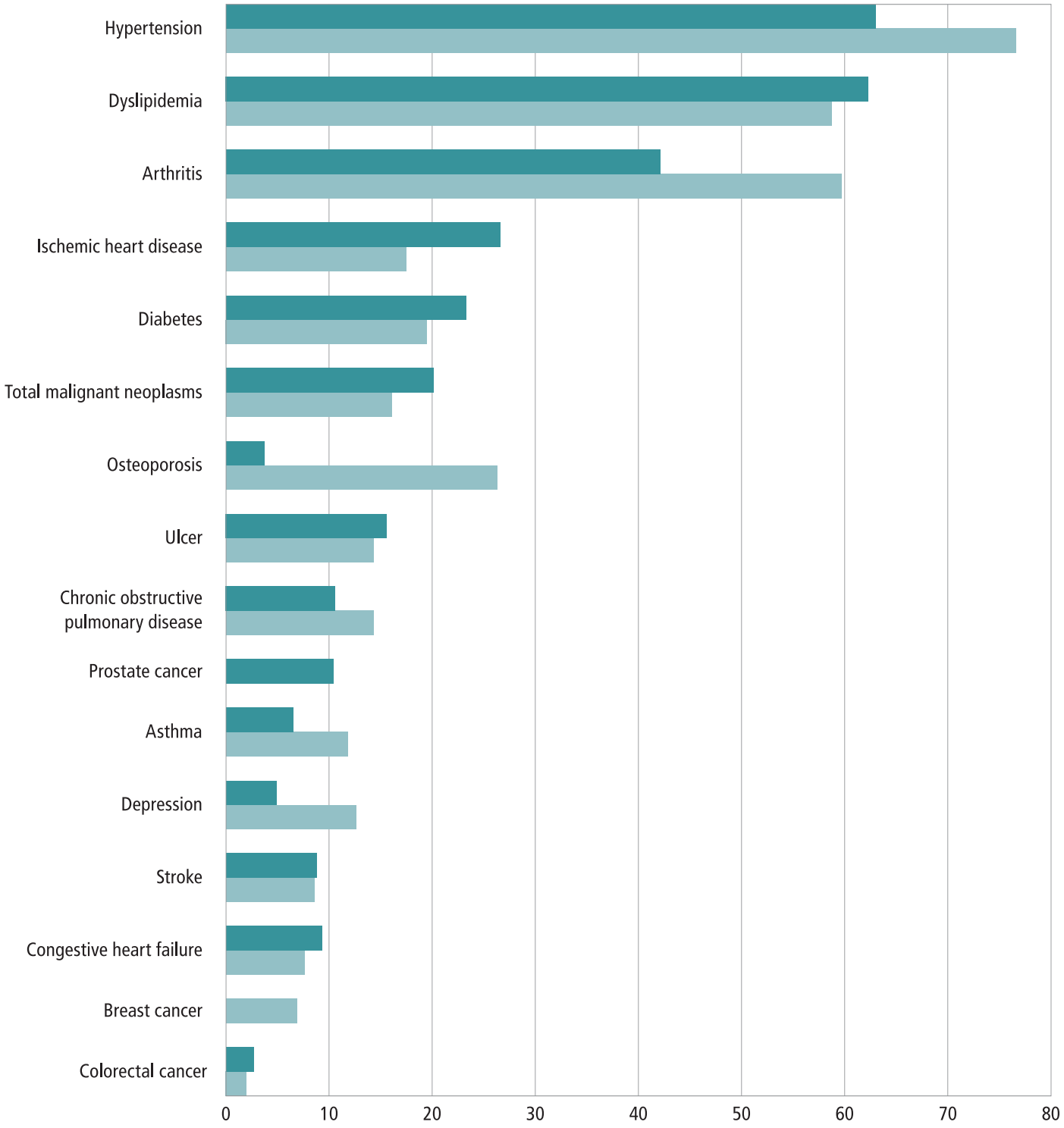


Percent of population

Dyslipidemia, hypertension, diabetes, and depression include diagnosed and undiagnosed cases. Persons were classified as having undiagnosed dyslipidemia, hypertension, diabetes, or depression if they test positive but reported no previous diagnosis. All other conditions are based on self-reported diagnosis.

Source: NHANES 1999–2000 (ulcer), NCS-R 2001–2003 (depression), NHANES 1999–2004 (all other conditions)

Prevalence of chronic conditions among adults aged 65 and older by gender



Percent of population

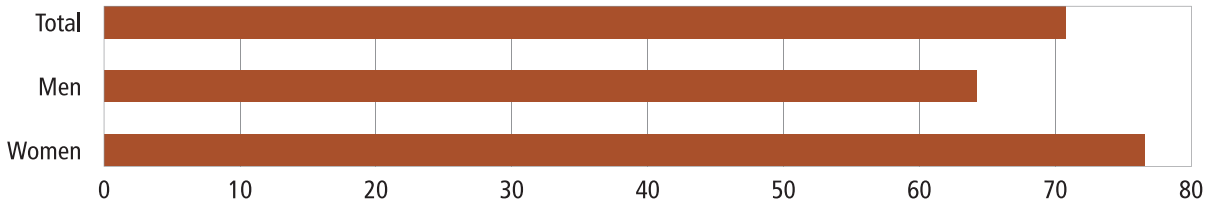
Dyslipidemia, hypertension, diabetes, and depression include diagnosed and undiagnosed cases. Persons were classified as having undiagnosed dyslipidemia, hypertension, diabetes, or depression if they test positive but reported no previous diagnosis. All other conditions are based on self-reported diagnosis.

Source: NHANES 1999–2000 (peptic ulcer), NCS-R 2001–2003 (depression), NHANES 1999–2004 (all other conditions)

Hypertension

Seventy-one percent of adults aged 65 and older have hypertension. This prevalence rate represents the combination of diagnosed and undiagnosed cases. Fifty-four percent of the population has been told by a healthcare provider that they have high blood pressure; the remaining 17% of the population with hypertension test positive based on multiple blood pressure readings but have never been diagnosed by a provider. The awareness rate of hypertension, that is, the percentage of prevalent cases that are diagnosed, is 76% among older adults. Sixty-nine percent of prevalent cases are treated with antihypertensive medication. Goal attainment is less than optimal for persons on pharmacotherapy, with only half (49%) achieving a systolic blood pressure <140 mmHg and a diastolic blood pressure <90 mmHg. Goal attainment is higher among older men than among older women (58% vs 43%).

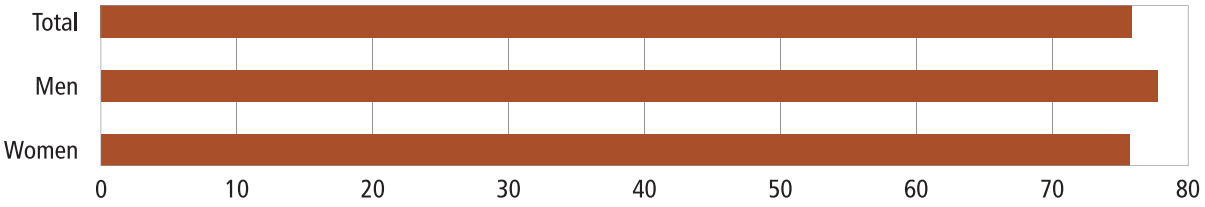
Prevalence of hypertension among adults aged 65 and older by gender



Percent of population

Source: NHANES 1999–2004

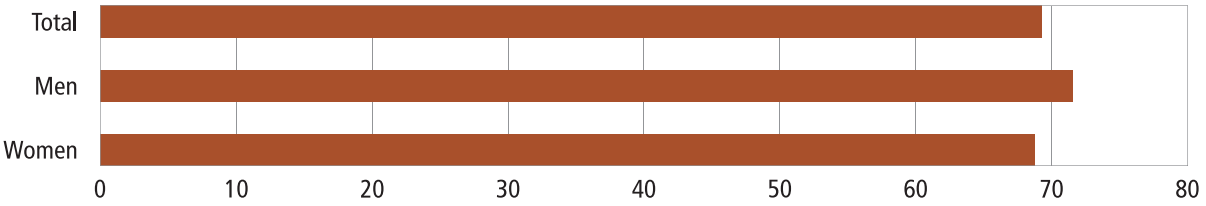
Awareness of hypertension among prevalent cases by gender



Percent aware

Source: NHANES 1999–2004

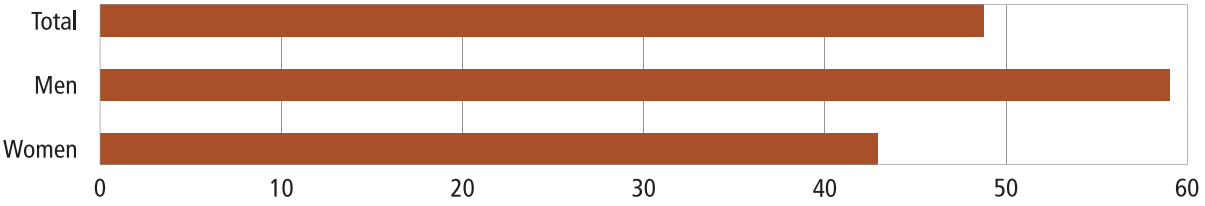
Treatment of hypertension among prevalent cases by gender



Percent treated

Source: NHANES 1999–2004

Goal attainment among those treated for hypertension by gender



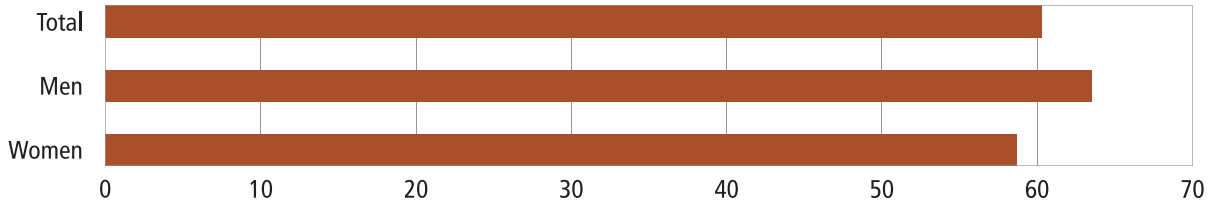
Percent at goal among those treated

Source: NHANES 1999–2004

Dyslipidemia

Sixty percent of adults aged 65 and older have dyslipidemia (39% diagnosed and 21% undiagnosed). Men are less likely to be aware of their condition than women (59% vs 71%), and have a lower treatment rate (41% vs 45%). Nearly two thirds (65%) of those being treated with lipid lowering medication meet their LDL goal.

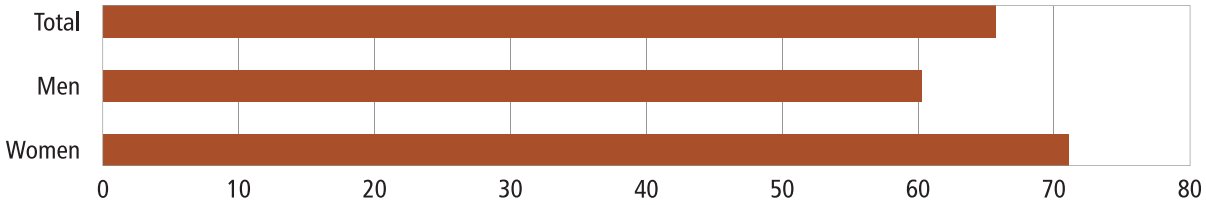
Prevalence of dyslipidemia among adults aged 65 and older by gender



Percent of population

Source: NHANES 1999–2004

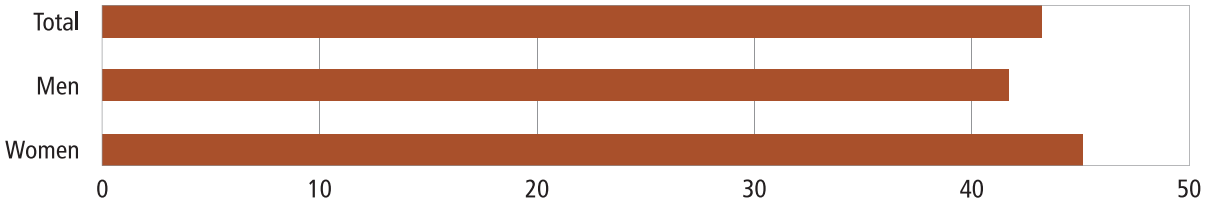
Awareness of dyslipidemia among prevalent cases by gender



Percent aware

Source: NHANES 1999–2004

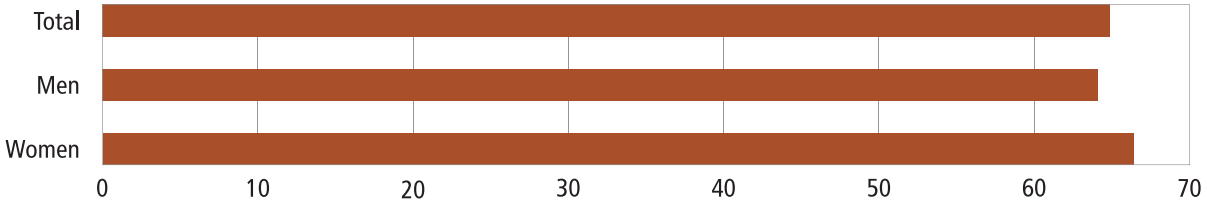
Treatment of dyslipidemia among prevalent cases by gender



Percent treated

Source: NHANES 1999–2004

Goal attainment among those treated for dyslipidemia by gender



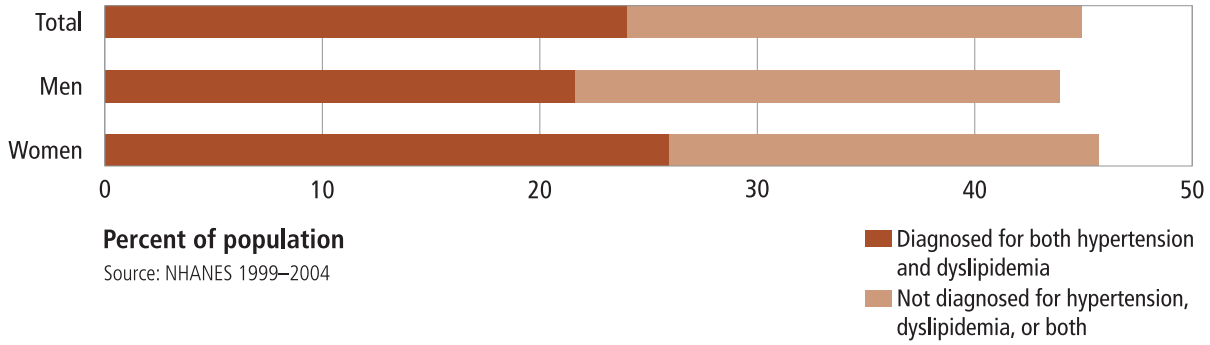
Percent at goal among those treated

Source: NHANES 1999–2004

Comorbid hypertension and dyslipidemia

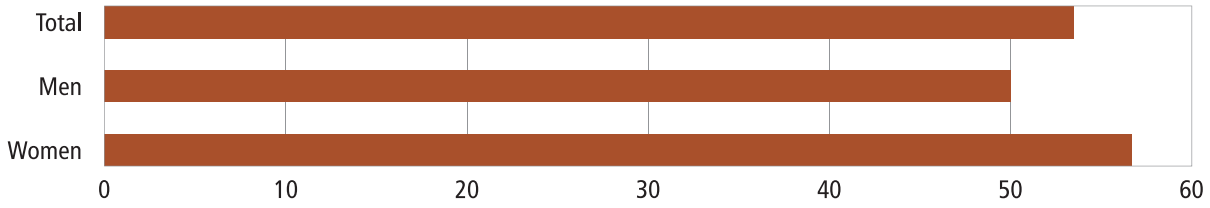
Forty-five percent of older adults have both hypertension and dyslipidemia. Among these adults, 53% are aware of both conditions, and 37% of prevalent cases of comorbid disease are treated for both. Of those receiving treatment for both conditions, 41% reach goal for both. Women are less likely to attain goal than men (37% vs 45%).

Prevalence of comorbid hypertension and dyslipidemia among adults aged 65 and older by gender



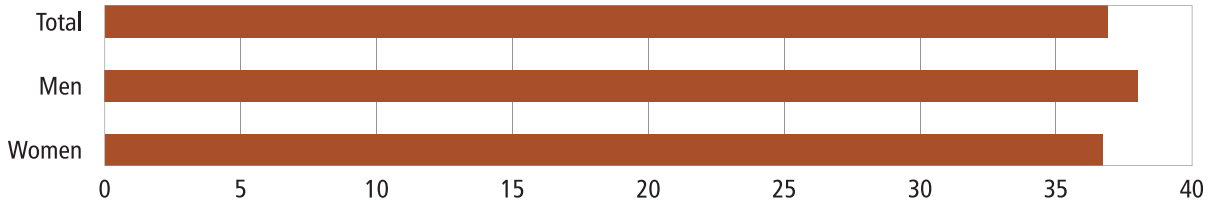
Source: NHANES 1999–2004

Awareness of comorbid hypertension and dyslipidemia among prevalent cases by gender



Source: NHANES 1999–2004

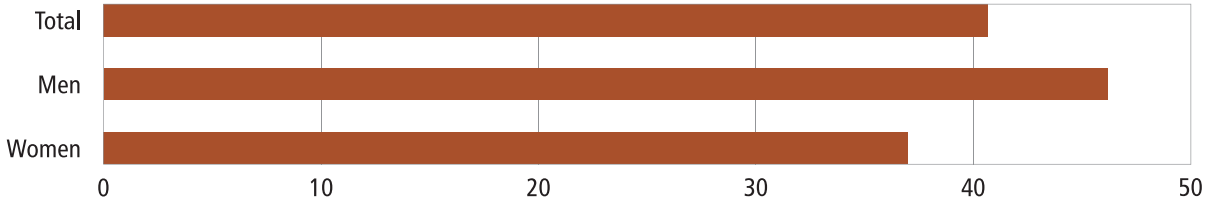
Treatment of comorbid hypertension and dyslipidemia among prevalent cases by gender



Percent treated for both conditions

Source: NHANES 1999–2004

Goal attainment among those treated for comorbid hypertension and dyslipidemia by gender



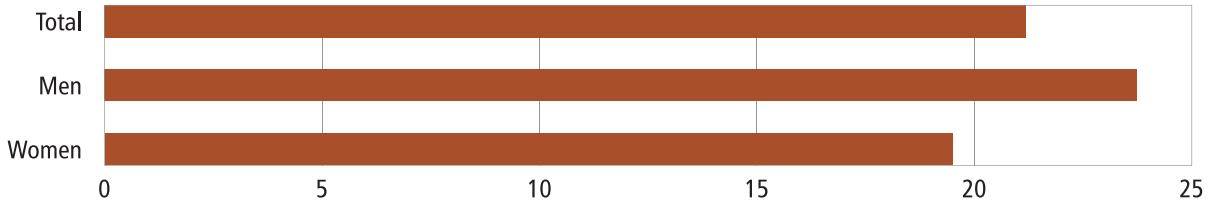
Percent at goal for both conditions among those treated for both

Source: NHANES 1999–2004

Diabetes

Diabetes affects 21% of adults aged 65 and older, and is similar among men and women (23% and 20%). The awareness rate is lower among men than women (64% vs 79%). About half of older adults with diabetes are being treated pharmacologically with insulin or oral agents (45% of men and 56% of women). Goal attainment (based on HbA1c <7%) among those treated is 53% for men and 50% for women.

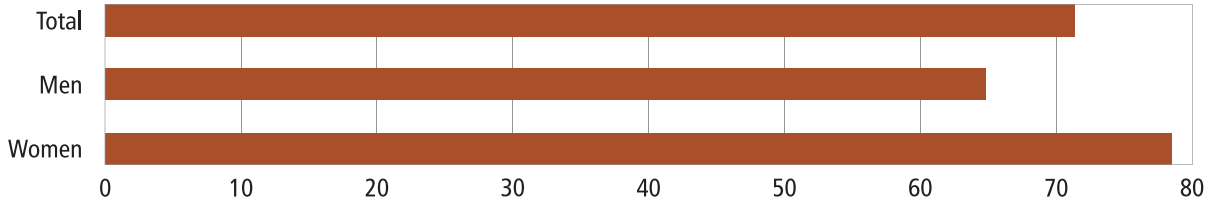
Prevalence of diabetes among adults aged 65 and older by gender



Percent of population

Source: NHANES 1999–2004

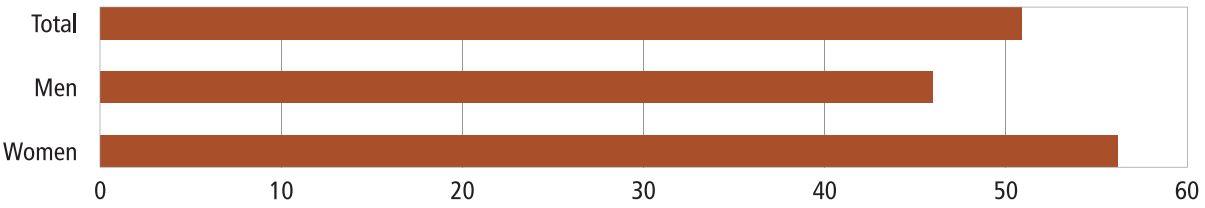
Awareness of diabetes among prevalent cases by gender



Percent aware

Source: NHANES 1999–2004

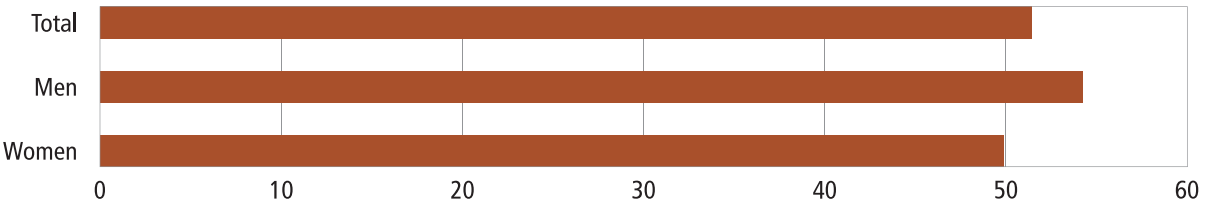
Treatment of diabetes among prevalent cases by gender



Percent treated

Source: NHANES 1999–2004

Goal attainment among those treated for diabetes by gender

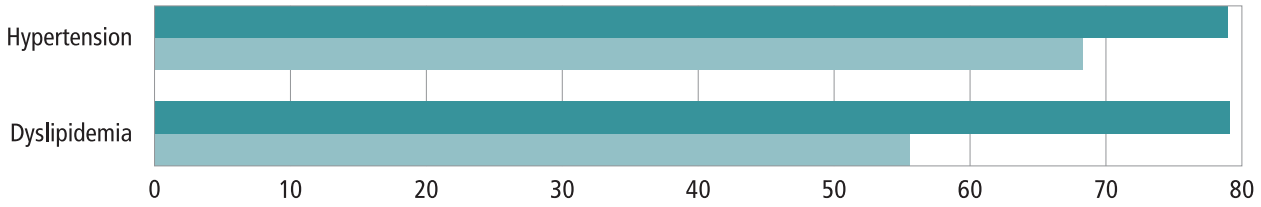


Percent at goal among those treated

Source: NHANES 1999–2004

Adults 65 years of age and older with diabetes are more likely than those without diabetes to have other cardiovascular risk conditions such as hypertension (79% vs 68%) and dyslipidemia (79% vs 56%).

Prevalence of hypertension and dyslipidemia among adults aged 65 and older by diabetes status



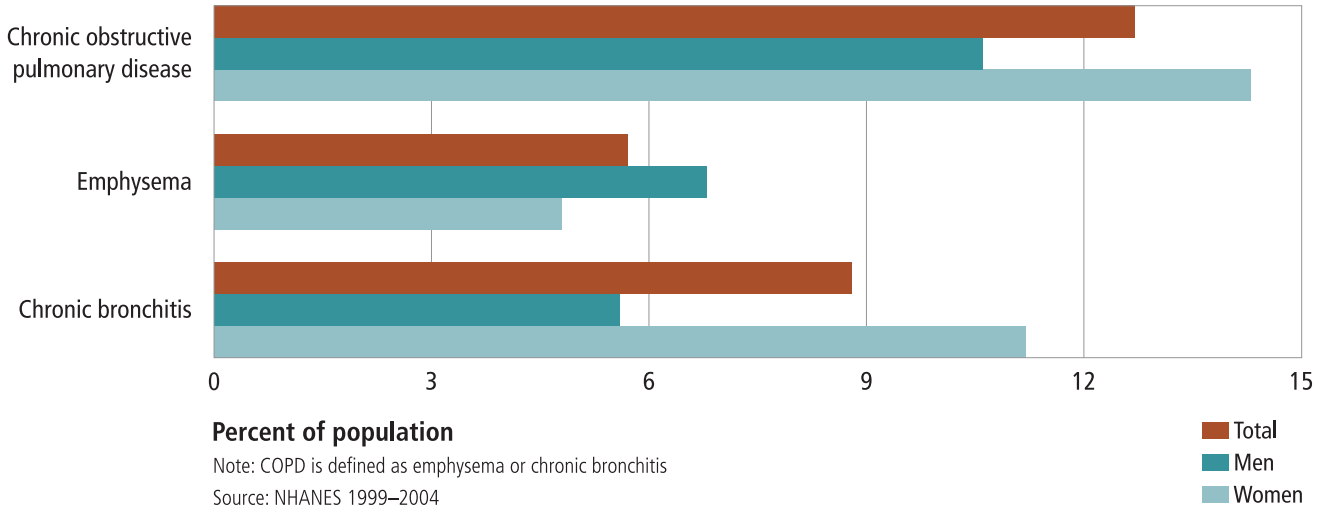
Percent of population

Source: NHANES 1999–2004

Chronic Obstructive Pulmonary Disease (COPD)

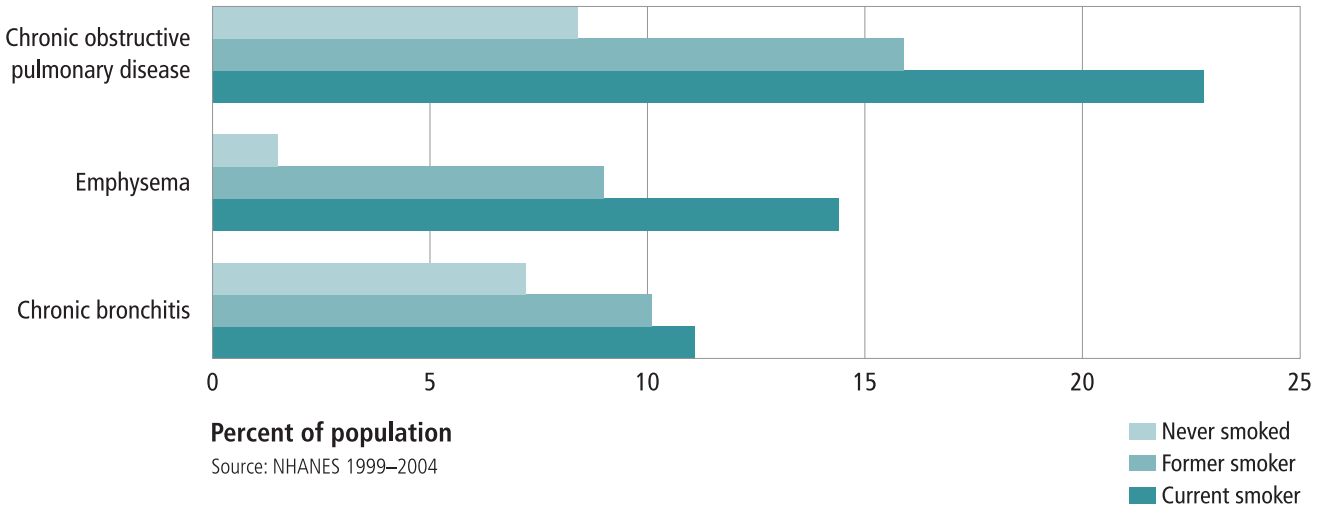
The prevalence of COPD (defined as having emphysema or chronic bronchitis) is 13% among older adults, and is higher among women. COPD is much higher among current and former smokers, 23% and 16% respectively, compared with the 8% of older adults who have never smoked.

Prevalence of respiratory conditions among adults aged 65 and older by gender



Note: COPD is defined as emphysema or chronic bronchitis
Source: NHANES 1999–2004

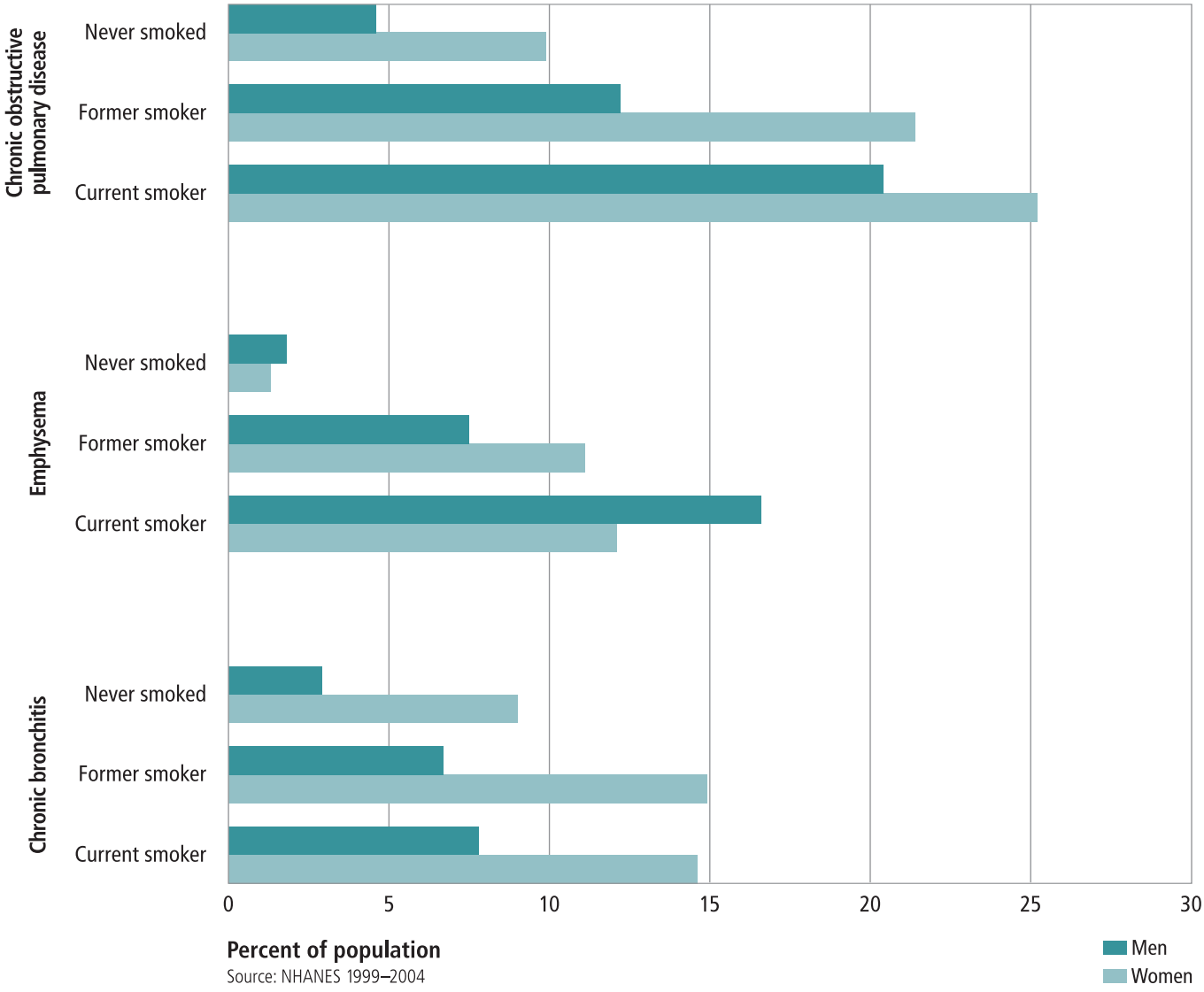
Prevalence of respiratory conditions among adults aged 65 and older by smoking status



Source: NHANES 1999–2004

Although older men are more likely than older women to have a history of smoking, the prevalence of chronic bronchitis is higher in women regardless of their smoking status.

Prevalence of respiratory conditions among adults aged 65 and older by smoking status and gender

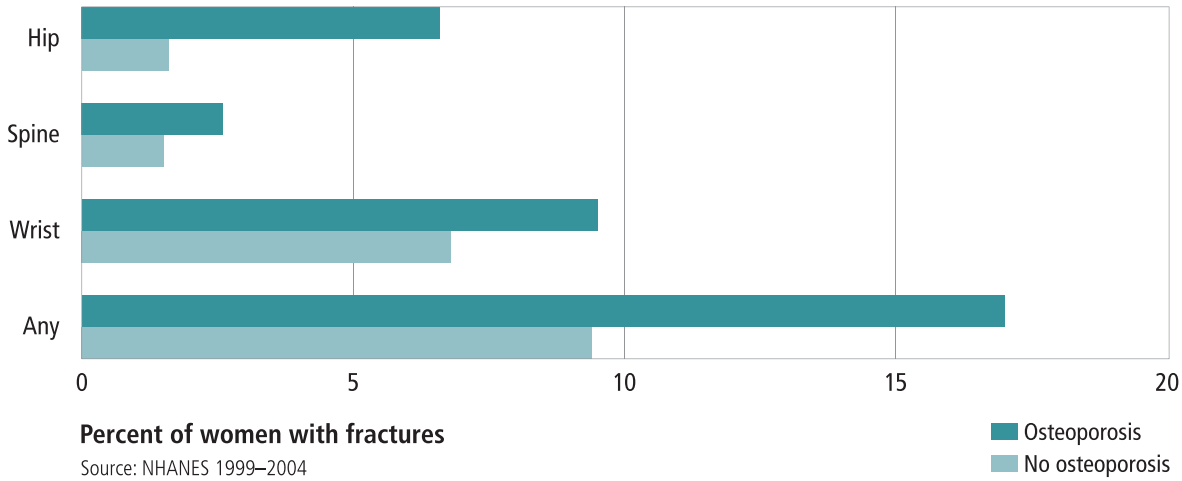


Source: NHANES 1999–2004

Osteoporosis

Falls are a serious public health problem among older adults. The most common fall-related injuries are osteoporotic fractures. Seven percent of older women who have been diagnosed with osteoporosis have had a fractured hip, about 4 times the rate of hip fractures in older women without diagnosed osteoporosis. This is likely an underestimate of the percent of hip fractures that are related to osteoporosis because the estimate does not include undiagnosed cases. Although recent data are not available, estimates from NHANES III (1988–1994) indicate that more than half of osteoporosis is undiagnosed (58% in women).

Percent of women aged 65 and older who suffered a fracture at age 50 or older by diagnosed osteoporosis status



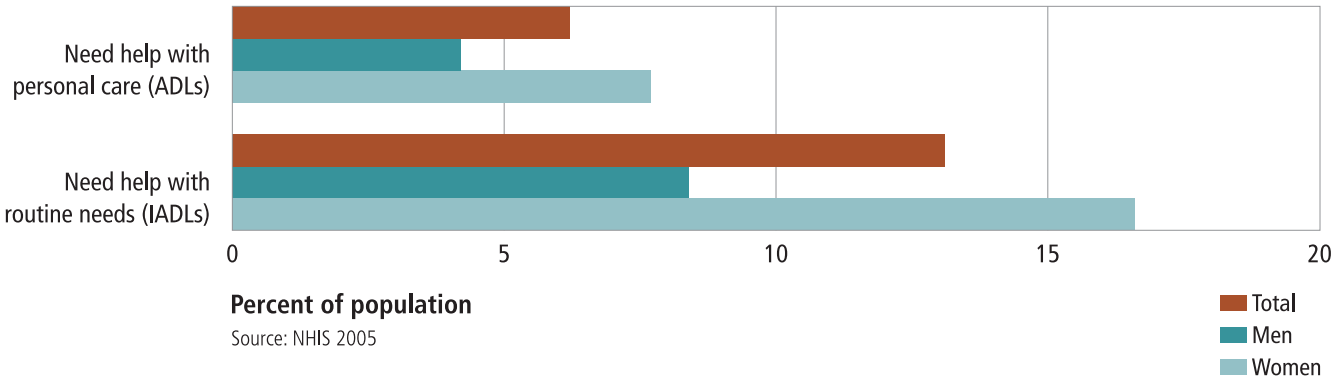
Source: NHANES 1999–2004

Functional limitations

Functional impairments can make it difficult for the elderly to carry out the daily activities necessary for independent living. These activities-of-daily-living (ADL) include bathing, dressing, eating, toileting, and personal mobility; other more complex activities (instrumental or IADL) include cooking, shopping, housekeeping, and driving. Overall, 6% of older adults need help with ADLs, and 13% need help with IADLs. Women are twice as likely as men to need help with ADLs (8% vs 4%) and IADLs (17% vs 8%).

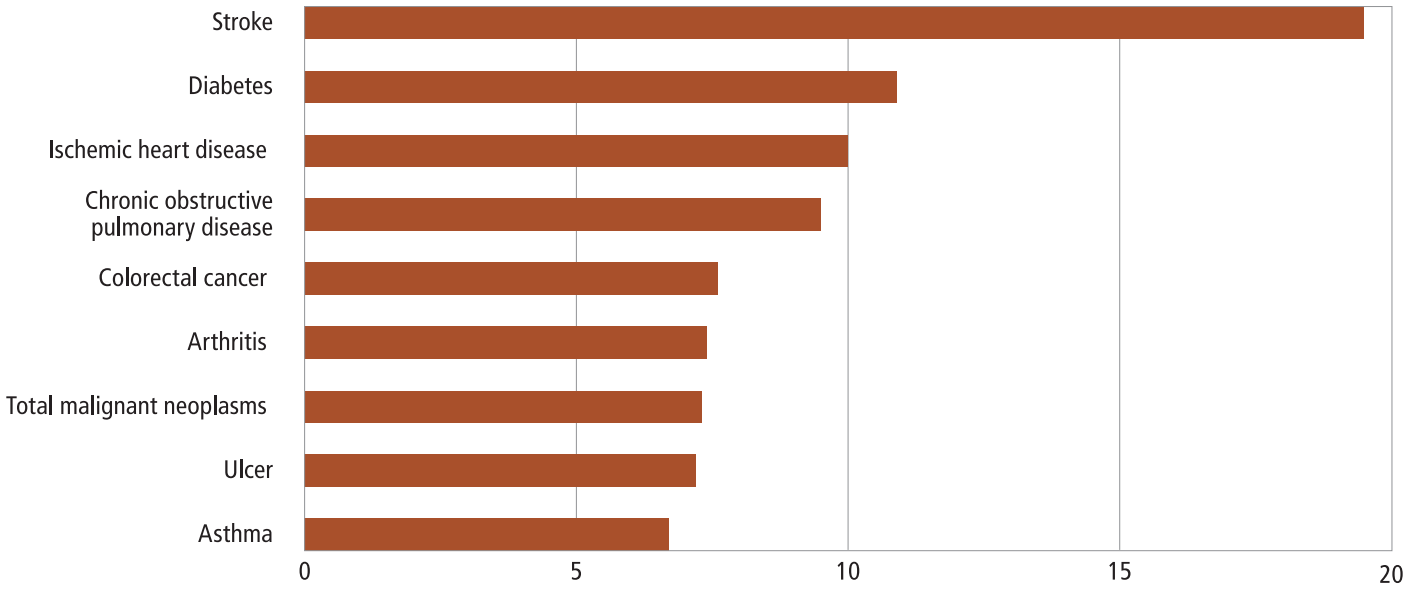
Certain diseases increase the risk of functional limitations, with 20% of stroke survivors, 11% of older adults with diabetes, and 10% of older adults with ischemic heart disease requiring help performing ADLs. Seven percent of older adults with arthritis need help performing ADLs. Given the high prevalence of arthritis in this age group (52%), deficits associated with arthritis result in a major burden in terms of the number of older adults in need of assistance. In contrast, although stroke increases the likelihood of deficits, with a prevalence of 9%, fewer Americans are affected.

Percent requiring help with at least one activity of daily living or routine need among adults aged 65 and older by gender



Source: NHIS 2005

Percent of adults aged 65 and older requiring help with at least one activity of daily living by chronic condition

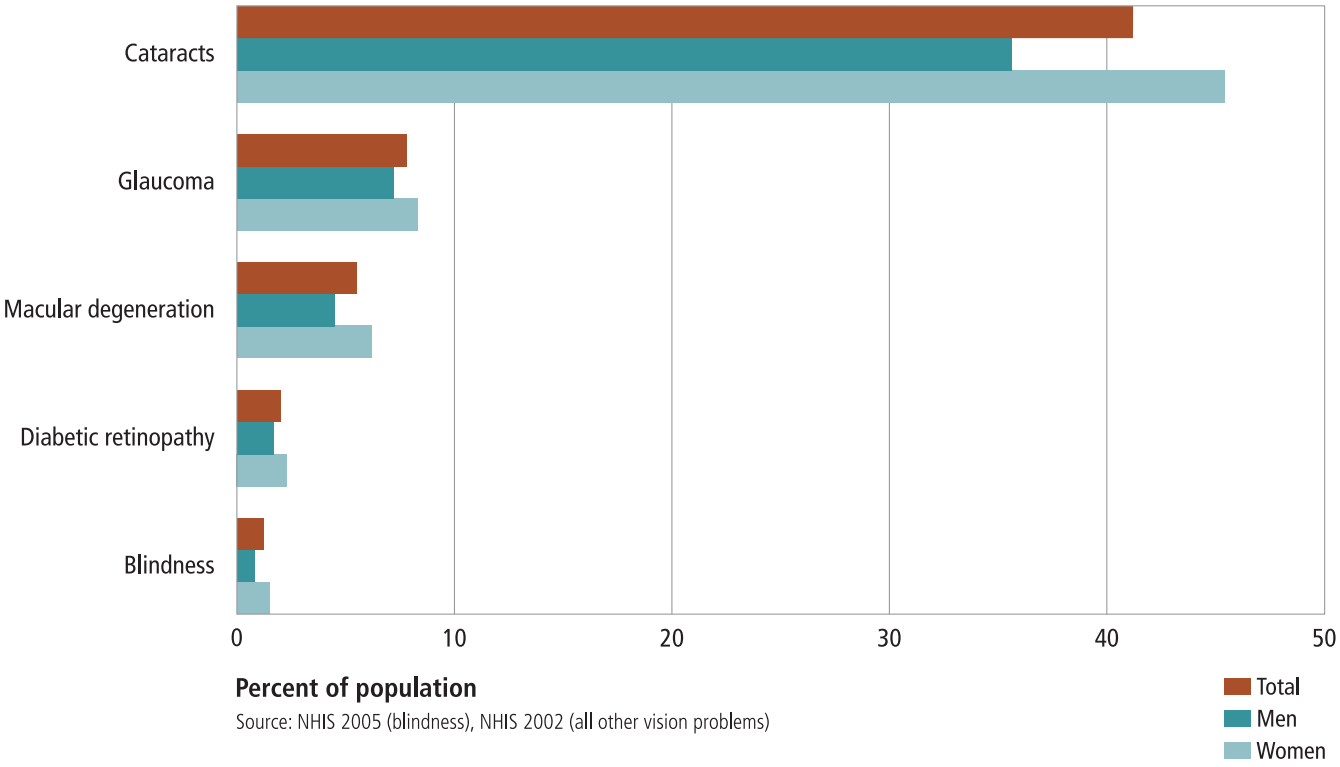


Source: NHIS 2005

The most common vision problem affecting older adults is cataracts, with a prevalence of 41%. Women are more likely than men to have been diagnosed with cataracts (45% vs 36%). Other vision problems include glaucoma (8%) and macular degeneration (5%).

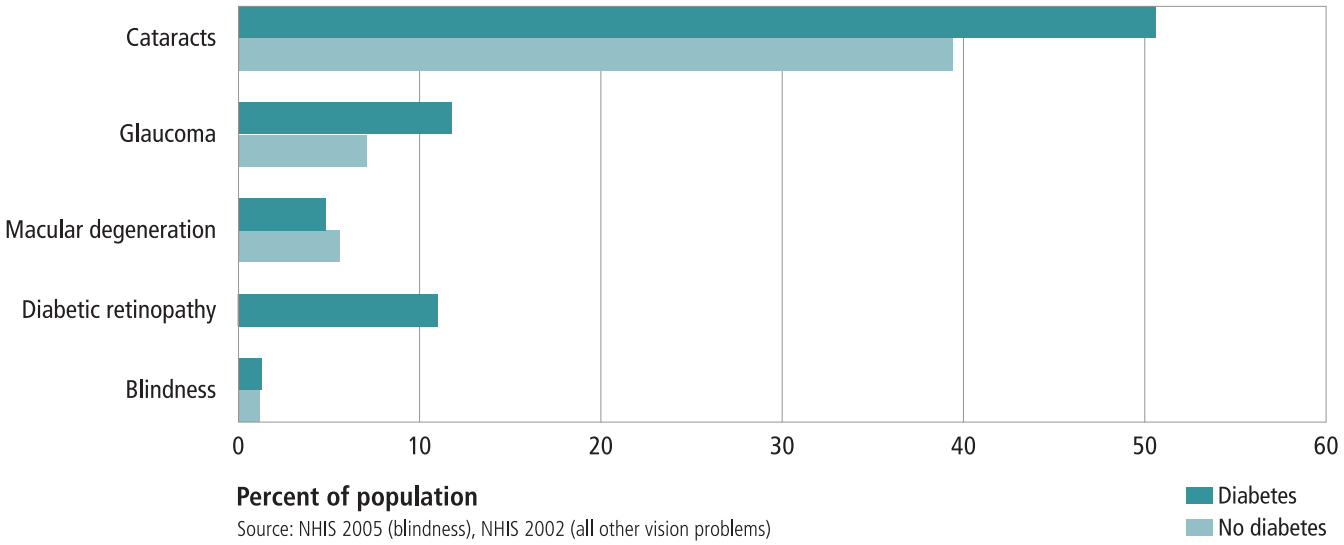
Damage to the eye is a common complication of diabetes. About 1 in 9 persons with diagnosed diabetes has diabetic retinopathy, and their risk of cataracts is greater, 51%, compared with 39% among those without diagnosed diabetes.

Prevalence of vision problems among adults aged 65 and older by gender



Source: NHIS 2005 (blindness), NHIS 2002 (all other vision problems)

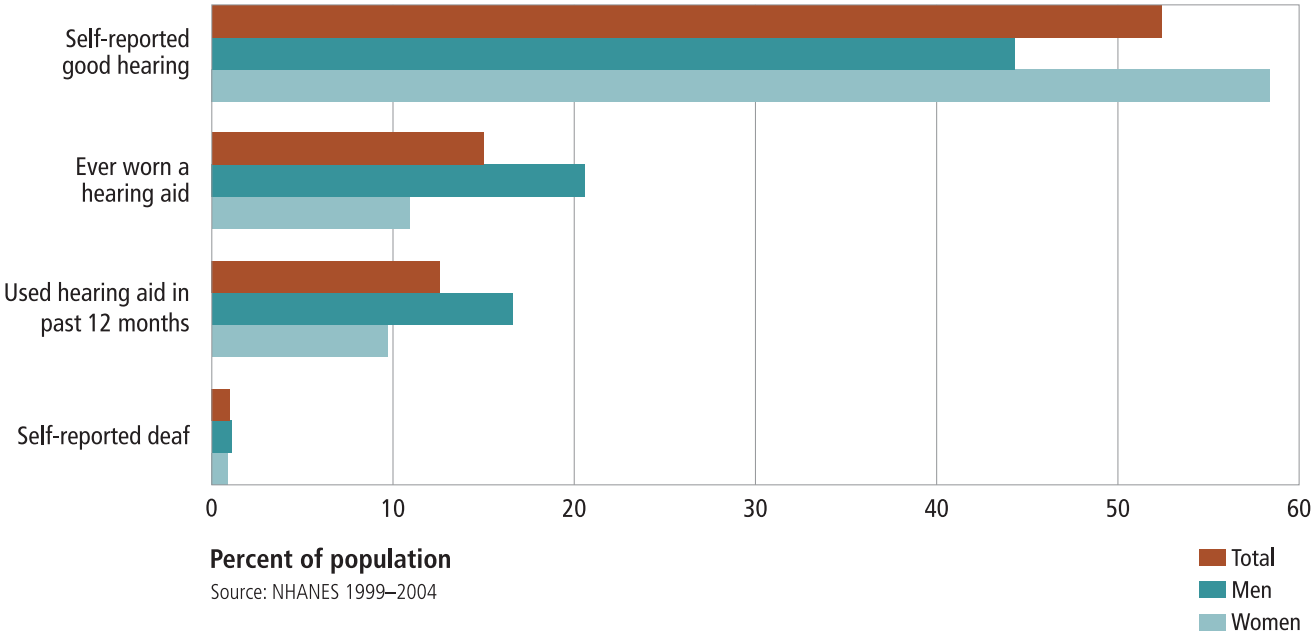
Prevalence of vision problems among adults aged 65 and older by diagnosed diabetes status



Source: NHIS 2005 (blindness), NHIS 2002 (all other vision problems)

Fifty-two percent of elders report that they hear well, with women being more likely than men to report having good hearing, 58% vs 44%. Men are about twice as likely to have used a hearing aid, 21% vs 11%, and 70% more likely to be currently wearing a hearing aid, 17% vs 10%.

Hearing status among adults aged 65 and older by gender



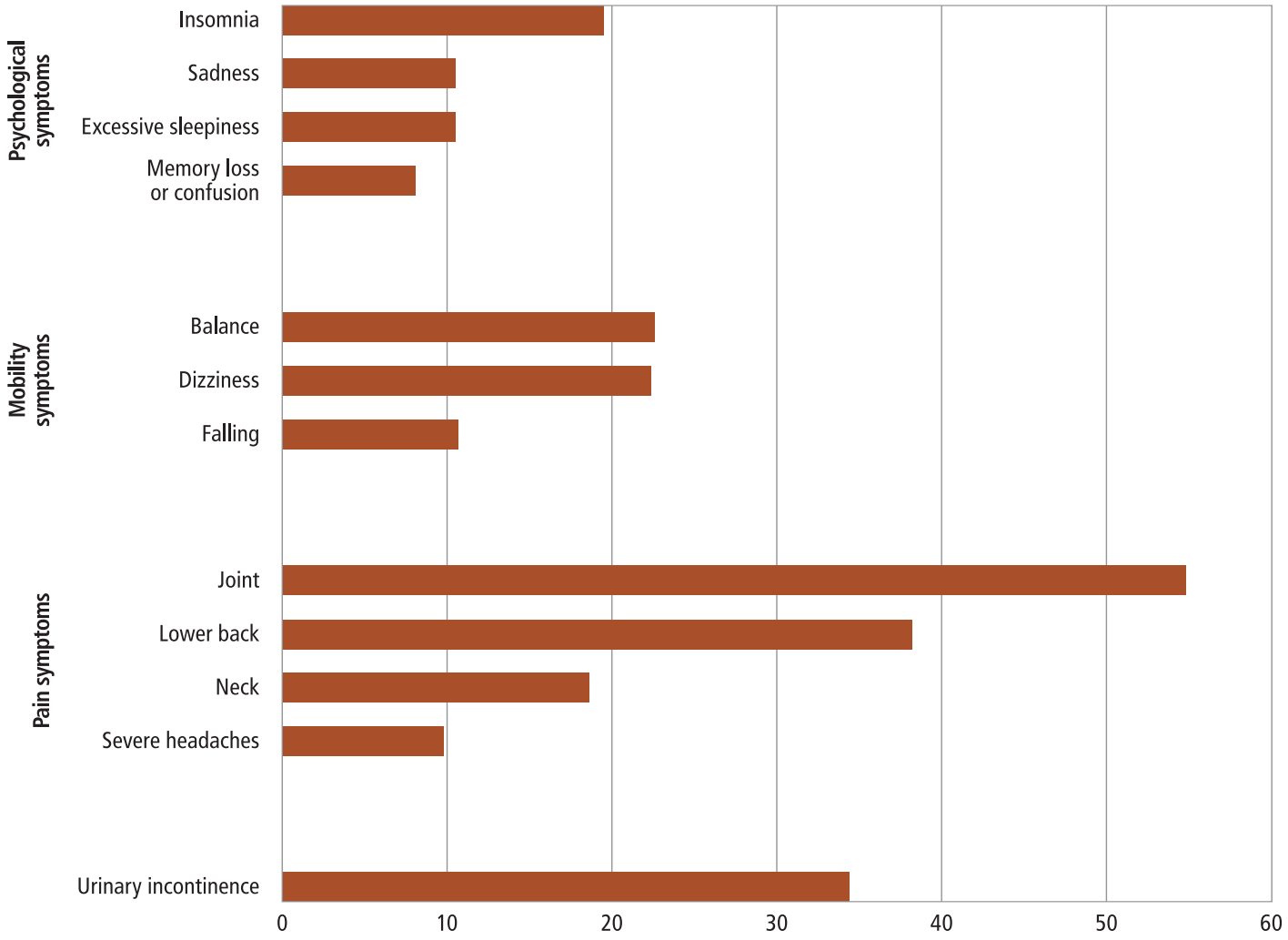
Source: NHANES 1999–2004

Symptoms

Seventy percent of older adults report having experienced pain symptoms at some point in the past 12 months. Joint pain and lower back pain are the most frequently reported types of pain, affecting 55% and 38% of elders, respectively. Knee pain is the most frequently reported joint pain among older adults followed by finger and shoulder pain. Elders with diagnosed arthritis are about three times as likely to report joint pain as those without diagnosed arthritis. Joint pain also disproportionately affects those who are obese (BMI ≥30.0), and the differences in pain symptoms among the obese and nonobese are most pronounced for knee pain (41% vs 26%), ankle pain (21% vs 11%), and toe pain (7% vs 4%).

After pain, the next most commonly reported symptom is urinary incontinence, a condition that affects 34% of elders. Urinary incontinence disproportionately affects women, 47% vs 18%. Balance difficulties and dizziness are reported by 23% and 22% of elders, respectively, with women being approximately 40% more likely than men to report each of these mobility problems. Insomnia affects 20% of the elderly population, and is 50% more common in women than men, 23% vs 15%.

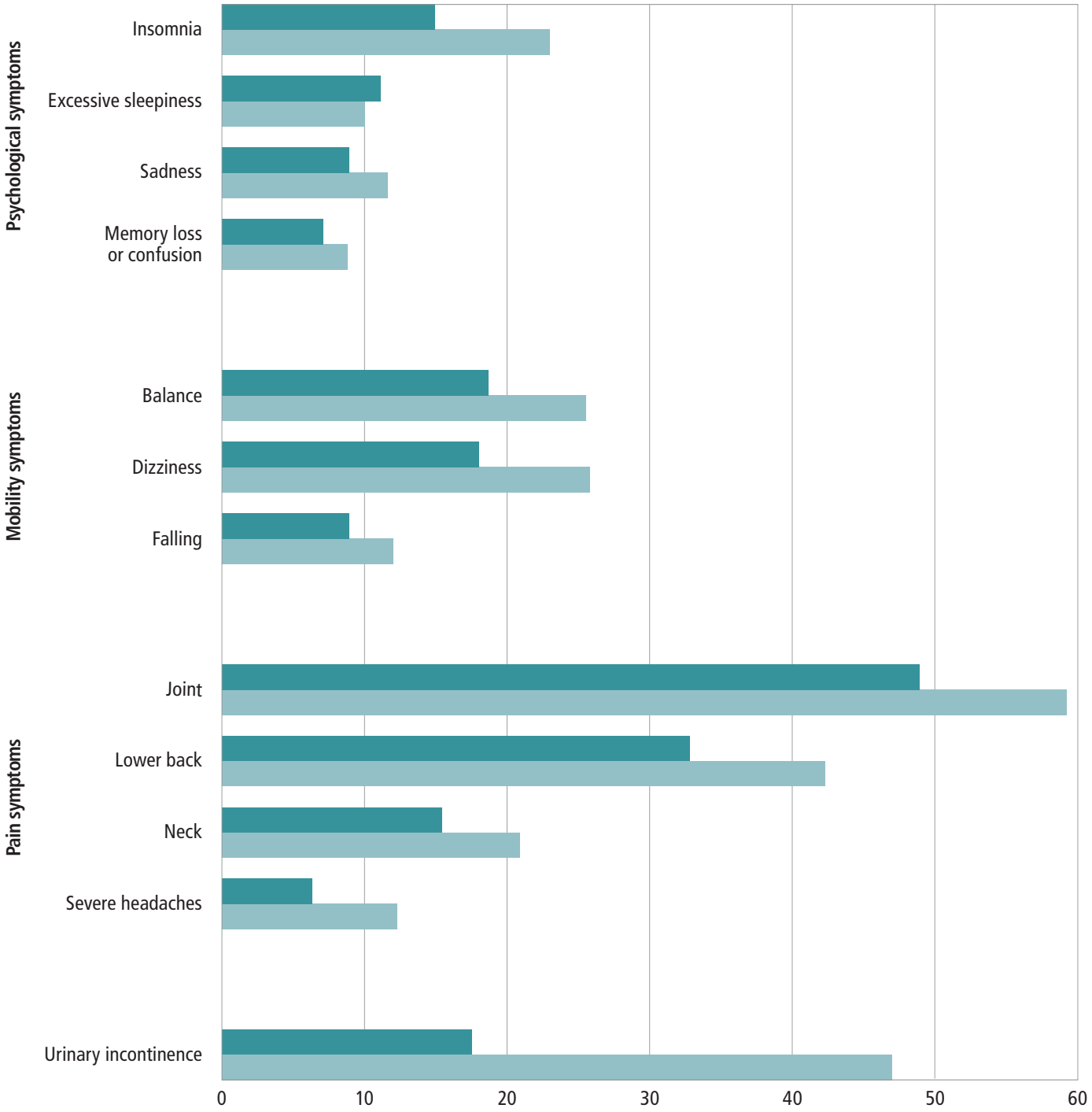
Prevalence of symptoms* among adults aged 65 and older



*Neck pain, lower back pain, and severe headaches reported in the past 3 months; all other conditions reported in the past 12 months

Source: NHANES 1999–2004 (mobility symptoms, urinary incontinence, pain symptoms)
NHIS 2005 (sadness, memory loss), 2002 (insomnia, excessive sleepiness)

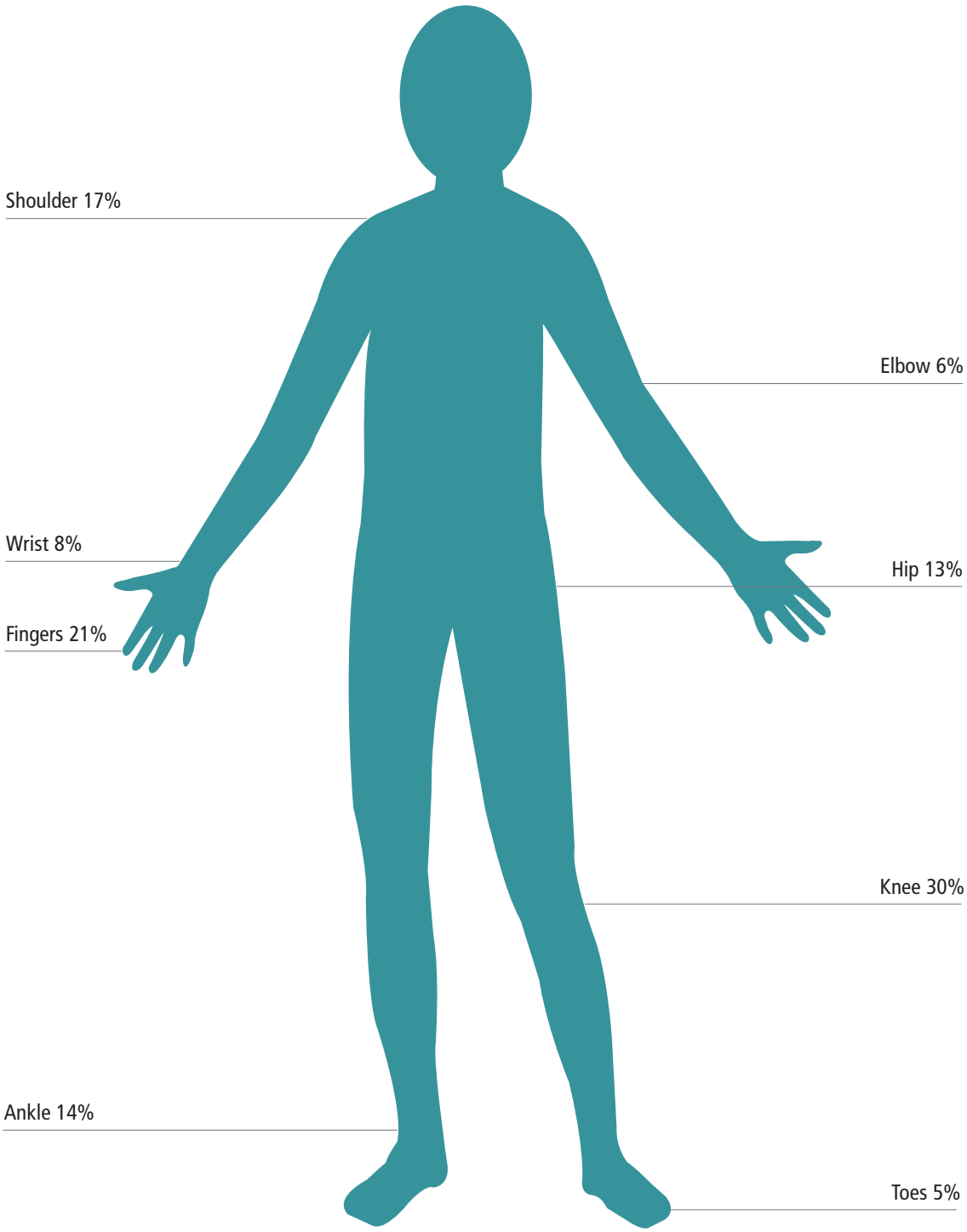
Prevalence of symptoms* among adults aged 65 and older by gender



*Neck pain, lower back pain, and severe headaches reported in the past 3 months; all other conditions reported in the past 12 months

Source: NHANES 1999-2004 (mobility symptoms, urinary incontinence, pain symptoms)
NHIS 2005 (sadness, memory loss), 2002 (insomnia, excessive sleepiness)

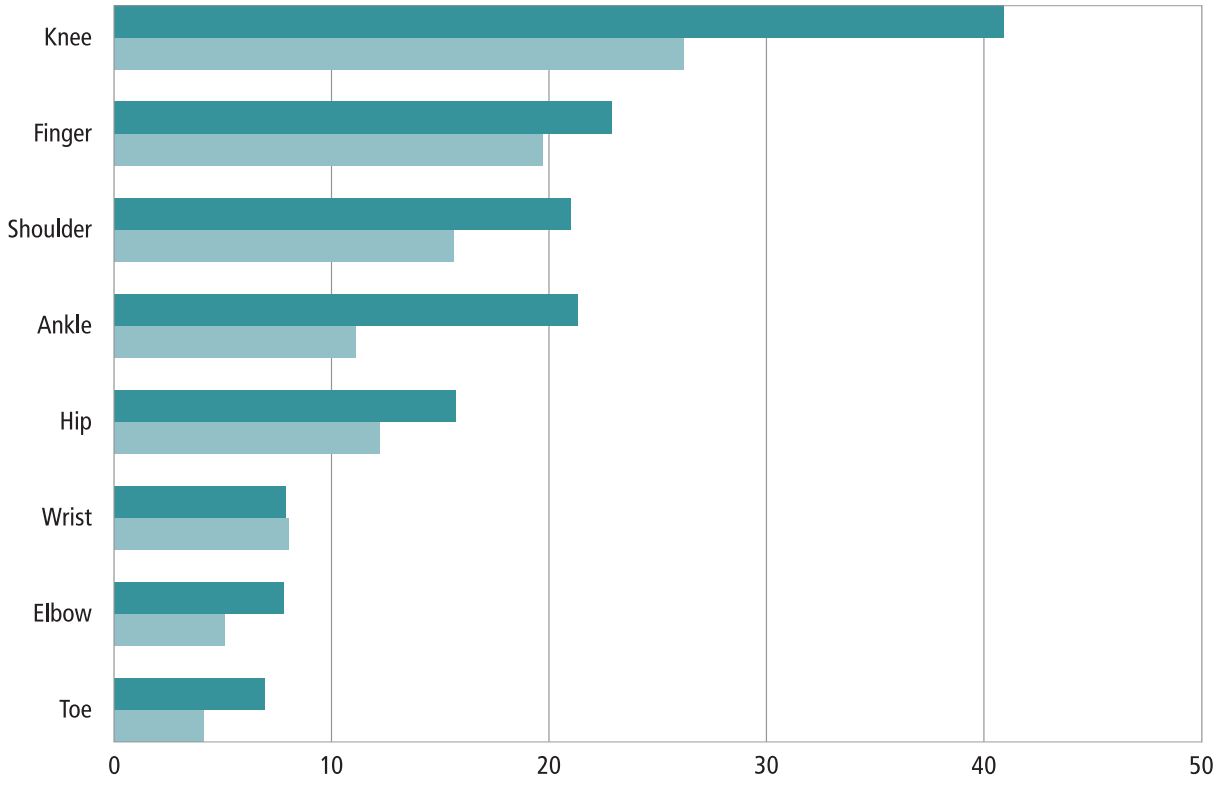
Location of joint pain among adults aged 65 and older



Percent of population

Source: NHANES 1999–2004

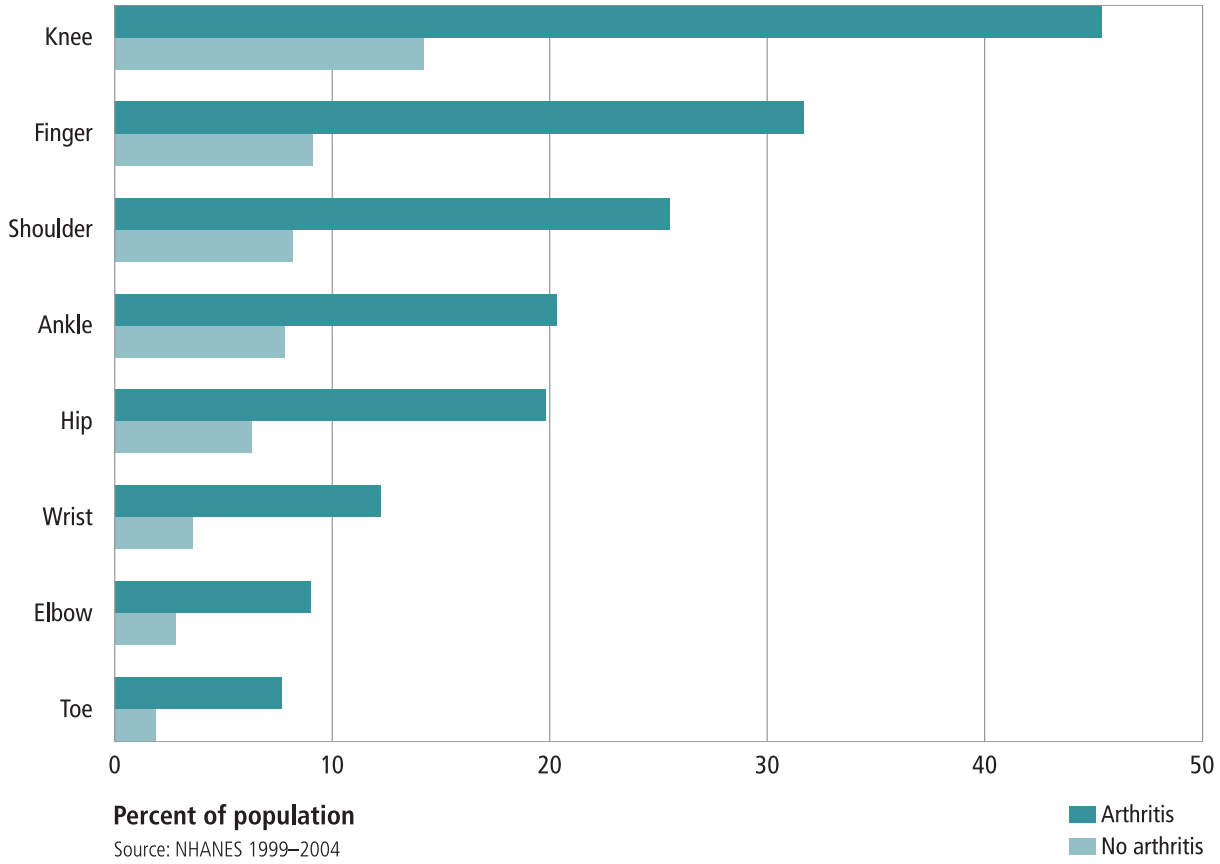
Location of joint pain among adults aged 65 and older by obesity status



Obese: BMI ≥ 30.0

Source: NHANES 1999–2004

Location of joint pain among adults aged 65 and older by arthritis status



Source: NHANES 1999–2004

Behavioral risk factors

Maintaining normal body weight, exercising regularly, not smoking, and drinking moderately or not at all, are behaviors that contribute to good health. However, 69% of older adults are overweight or obese, 54% do not exercise, 9% currently smoke, and 3% are considered heavy alcohol consumers.

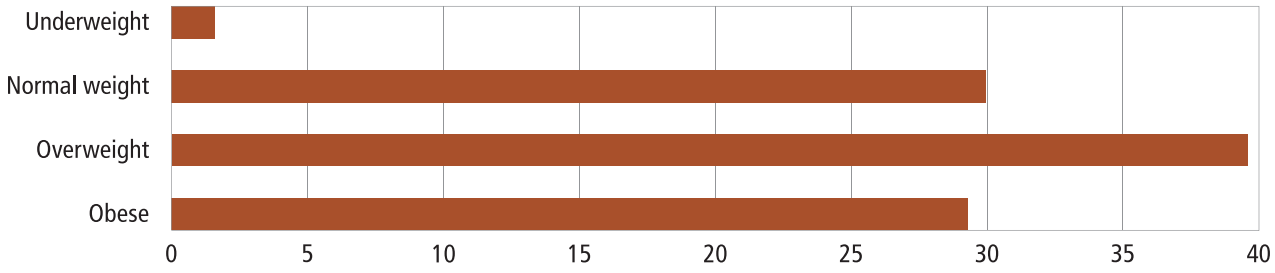
Twenty-nine percent of elders are classified as obese. These obese elders are more likely than their nonobese counterparts to have hypertension (78% vs 67%), dyslipidemia (65% vs 59%), diabetes (30% vs 18%), and the metabolic syndrome (70% vs 38%).

Fifty-two percent of elders have never smoked; 40% are former smokers. Thirteen percent of current or recent smokers (those who smoked in the last 12 months) quit in the past year. Fifty-six percent of current smokers would like to quit.

Current smokers are more likely than lifetime-nonsmokers to have ischemic heart disease (22% vs 18%). Almost 1 of 4 current smokers has COPD, a prevalence that is almost three times greater than that of lifetime-nonsmokers (23% vs 8%), and 43% higher than former smokers (16%).

More than half (57%) of the elderly population report that they do not consume alcohol, and 40% report being infrequent or moderate drinkers.

Prevalence of underweight, normal weight, overweight and obesity among adults aged 65 and older

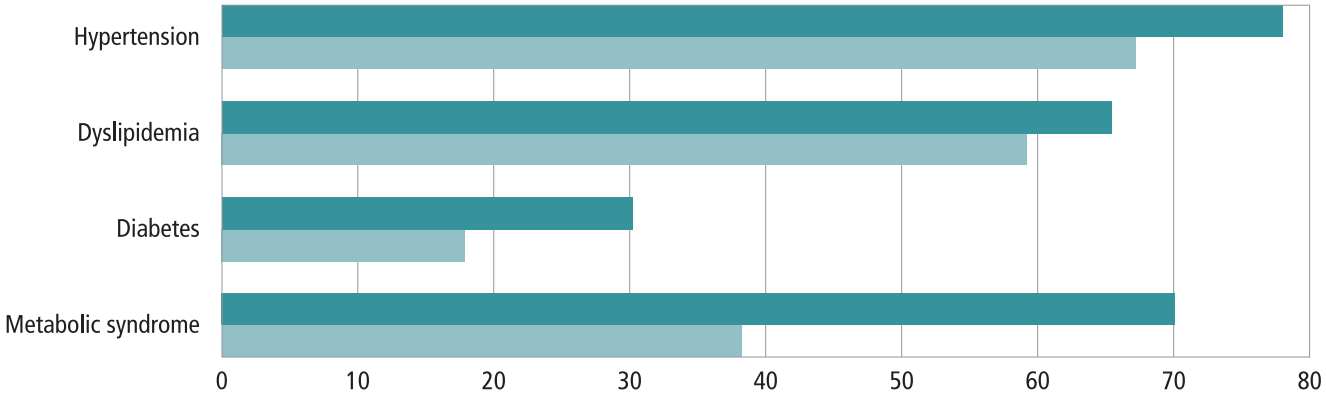


Percent of population

Underweight: Body Mass Index (BMI) <18.5
Normal weight: BMI 18.5 to 24.9
Overweight: BMI 25.0 to 29.9
Obese: BMI ≥30.0

Source: NHANES 1999–2004

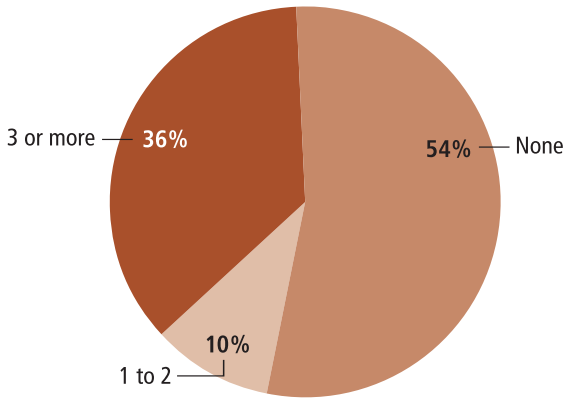
Prevalence of cardiovascular risk factors among adults aged 65 and older by obesity status



Obese: BMI ≥ 30.0

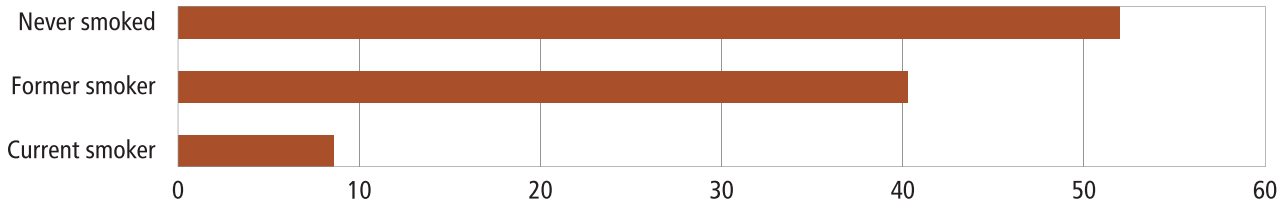
Source: NHANES 1999–2004

Days per week of vigorous or moderate exercise among adults aged 65 and older



Source: NHANES 1999–2004

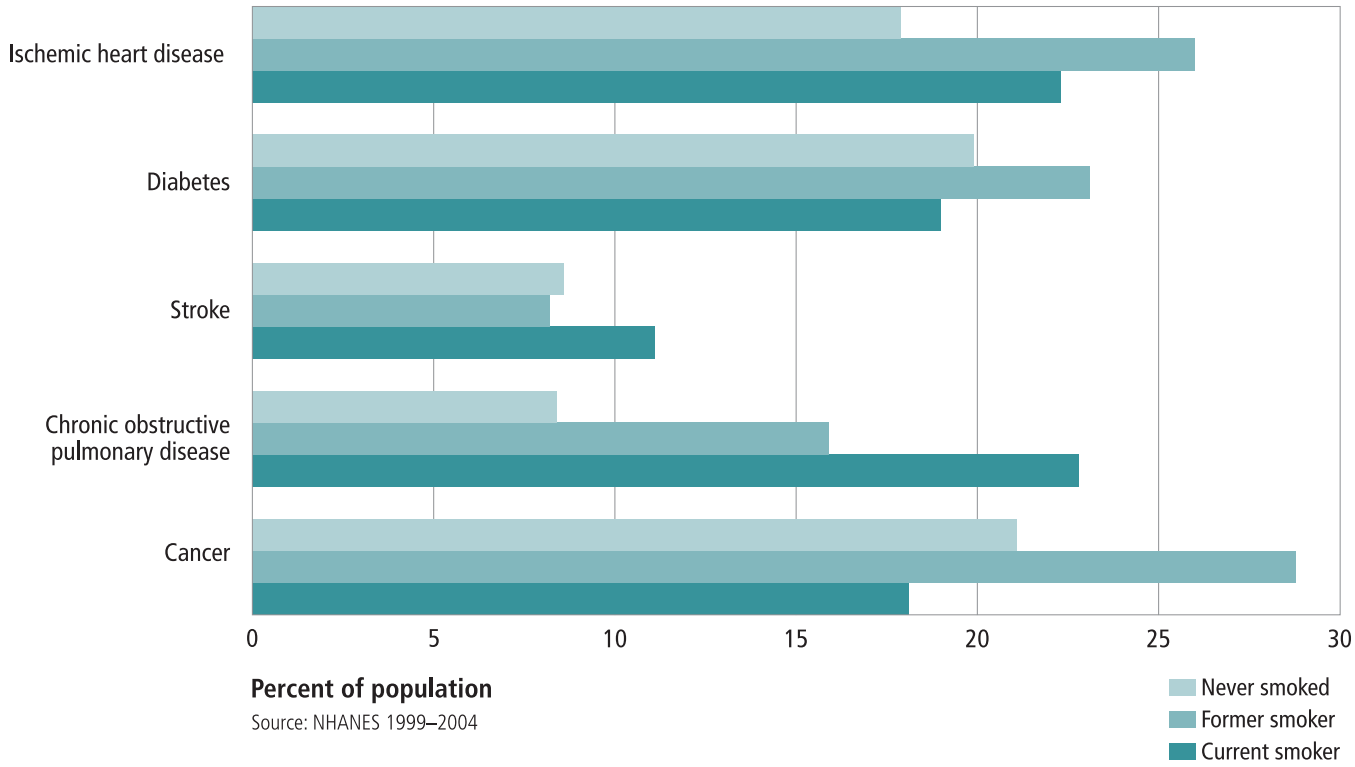
Smoking status among adults aged 65 and older



Percent of population

Source: NHIS 2005

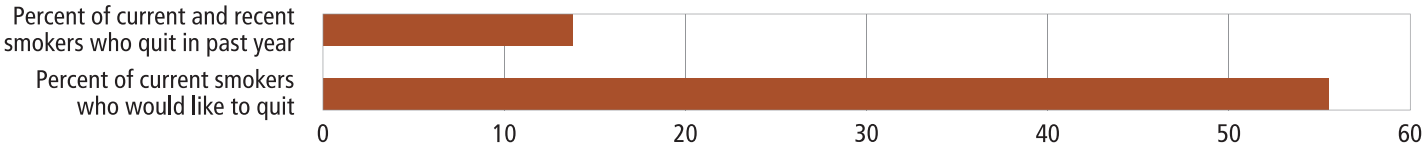
Prevalence of selected conditions among adults aged 65 and older by smoking status



Percent of population

Source: NHANES 1999–2004

Percent of current or recent smokers aged 65 and older who quit smoking last year or would like to quit smoking

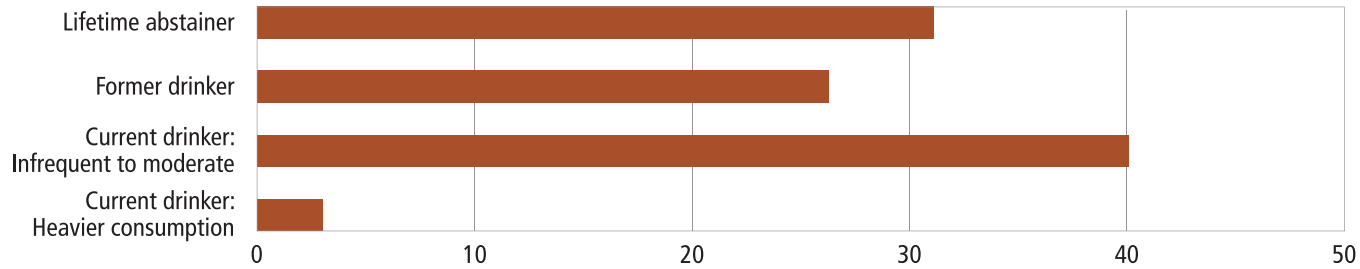


Percent of current or recent smokers

Note: Comparisons of disease prevalence between smokers and nonsmokers are based on survivors, and therefore understate the relative risk of smoking since they do not account for persons who have died from their diseases.

Source: NHIS 2005

Prevalence of alcohol consumption among adults aged 65 and older



Percent of population

Alcohol consumption:
Lifetime abstainer: <12 drinks in lifetime
Former drinker: 0 drinks in past year, ≥12 drinks in lifetime
Current drinker: Infrequent to moderate: ≤2 drinks/day for men, ≤1 drink/day for women
Current drinker: Heavier consumption: Average of >2 drinks/day for men, average of >1 drink/day for women

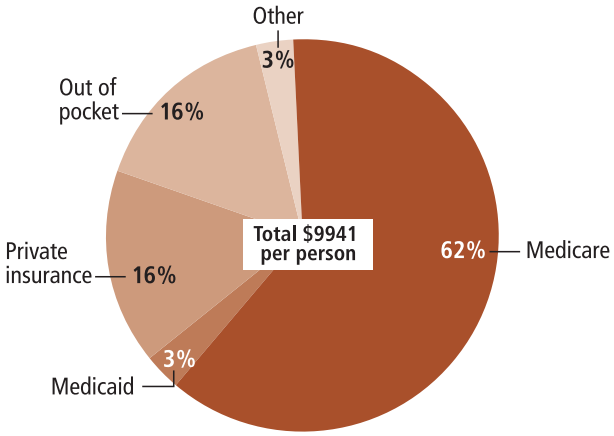
Source: NHIS 2005

Healthcare resource utilization

Healthcare expenditures

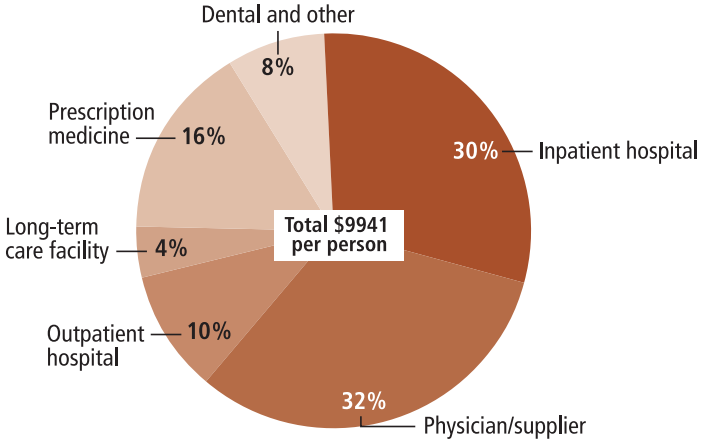
Nearly all persons 65 and older (95% of community-dwelling elders) are enrolled in Medicare, which pays the majority of personal healthcare expenditures among the elderly. Among community-dwelling elders participating in the Medicare program, the average annual healthcare expenditure is $9941 per person. Sixty-two percent is paid by Medicare, and 16% each is paid out-of-pocket and by private insurance. Thirty percent of the average annual healthcare expenditure is for hospital inpatient services, another 32% is for physician outpatient services and medical equipment ordered by physicians.

Average annual healthcare expenditures per person by payment source among community-dwelling Medicare beneficiaries aged 65 and older



Source: MCBS 2003

Average annual healthcare expenditures per person by type of service among community-dwelling Medicare beneficiaries aged 65 and older



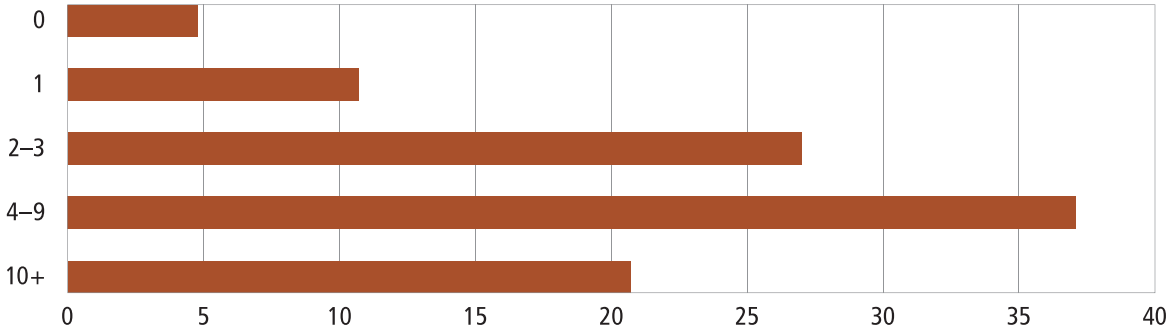
Note: Physician/supplier includes medical equipment and supplies ordered by physicians. Long-term care facility includes short-term stays for rehabilitation purposes.

Source: MCBS 2003

Outpatient healthcare resource utilization

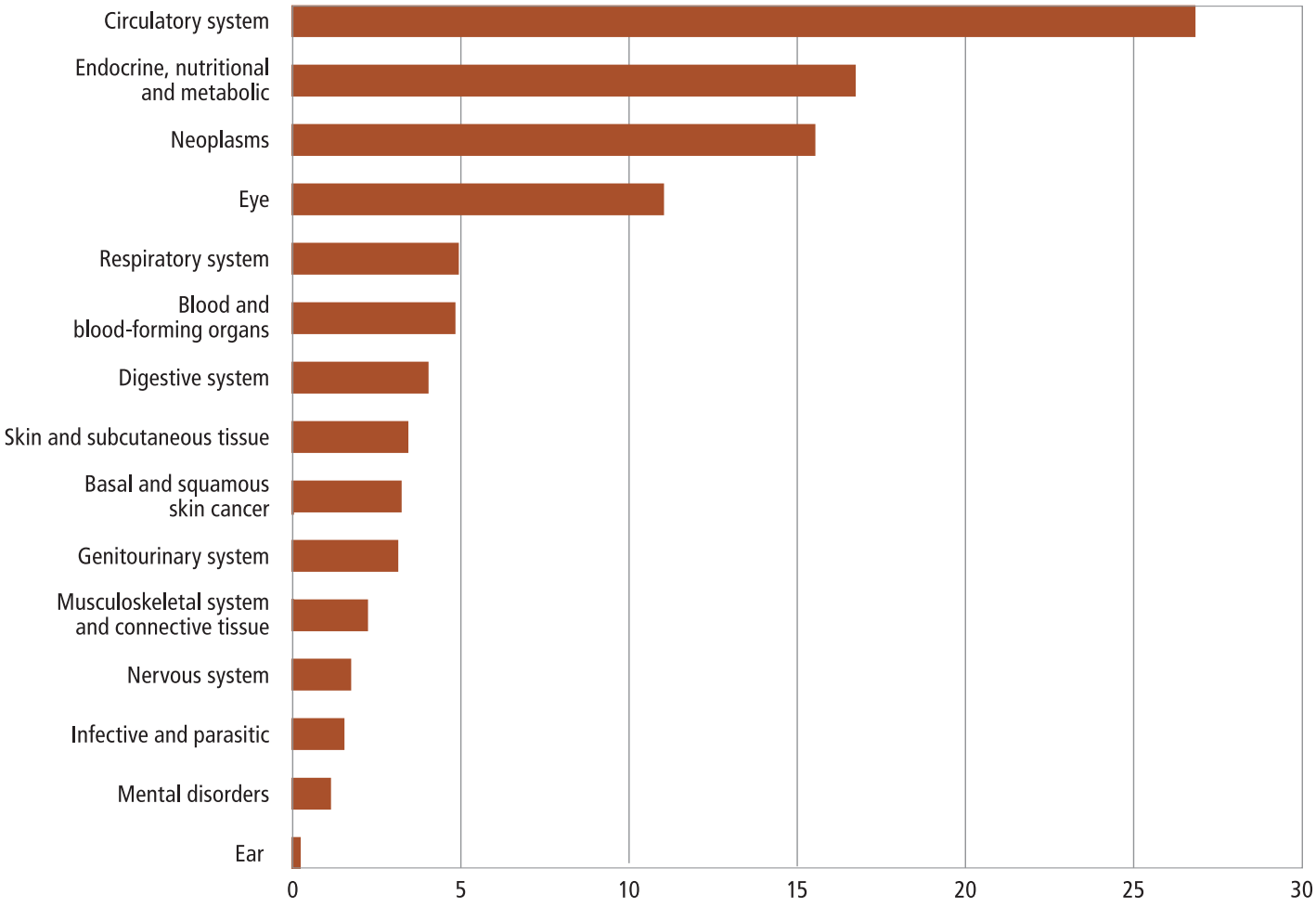
Older adults made 234 million outpatient physician visits in 2004, an average of 6.3 visits per person. Ninety-five percent of elders made at least one physician visit; 21% made 10 visits or more. The leading purpose of visiting physicians is for diagnosis or treatment of circulatory system diseases (27%), followed by endocrine, nutritional, or metabolic diseases (17%) and neoplasms (15%). Blood pressure is measured at 59% of outpatient physician visits. Four percent of older adult have seen a mental health professional in the past 12 months.

Number of physician visits in the past 12 months among adults aged 65 and older



Source: NHANES 1999–2004

Disease or system associated with physician visit among adults aged 65 and older



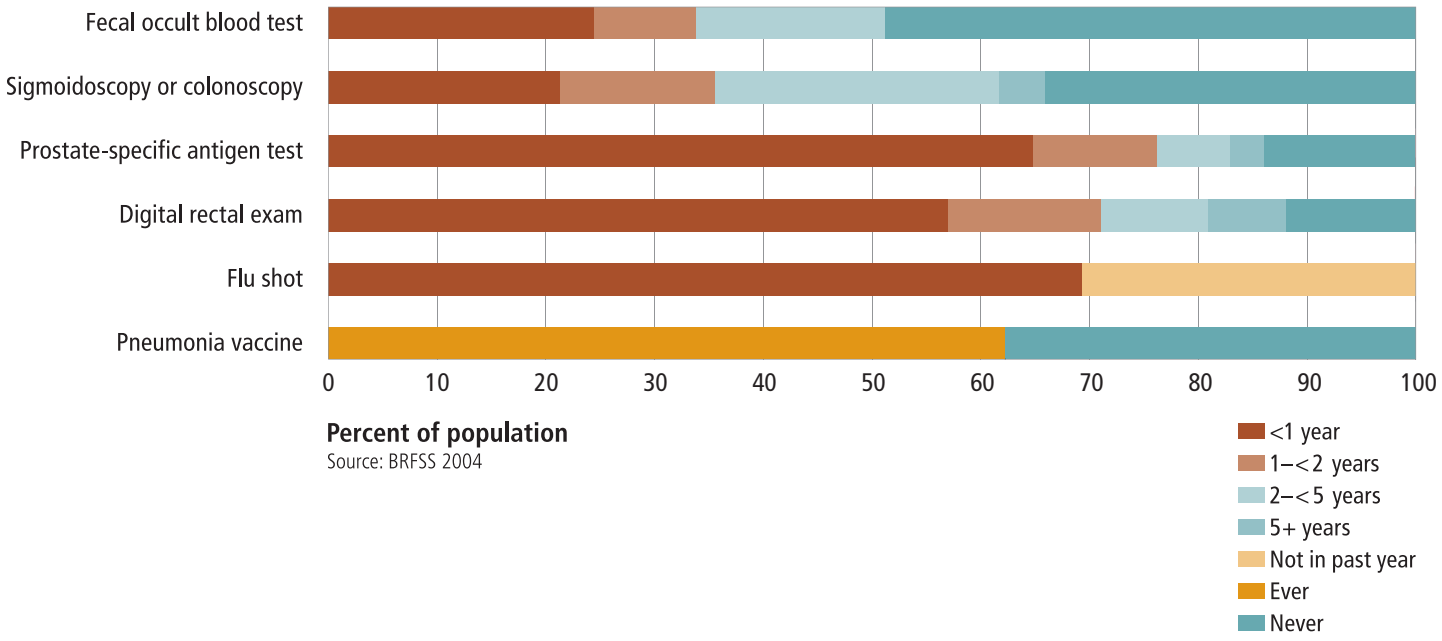
Source: NAMCS 2004

Screening and prevention

Although Medicare covers many screening tests, many older adults are not availing themselves of these benefits. Among older men, only 57% and 65% reported having had a digital rectal exam (DRE) and prostate specific antigen test (PSA), respectively, in the past year, although covered by Medicare on an annual basis. Thirty-four percent of Medicare-eligible men have never had either a colonoscopy or a sigmoidoscopy to screen for colorectal cancer although the tests are covered on a periodic basis. Annual fecal occult blood tests (FOBT) are covered by Medicare, but only 24% of older men had an FOBT in the past year and 49% have never had one. Preventive services covered by Medicare are also underutilized by older men: 31% of older men have not received a flu shot in the past year, and 38% have never had a pneumonia vaccine.

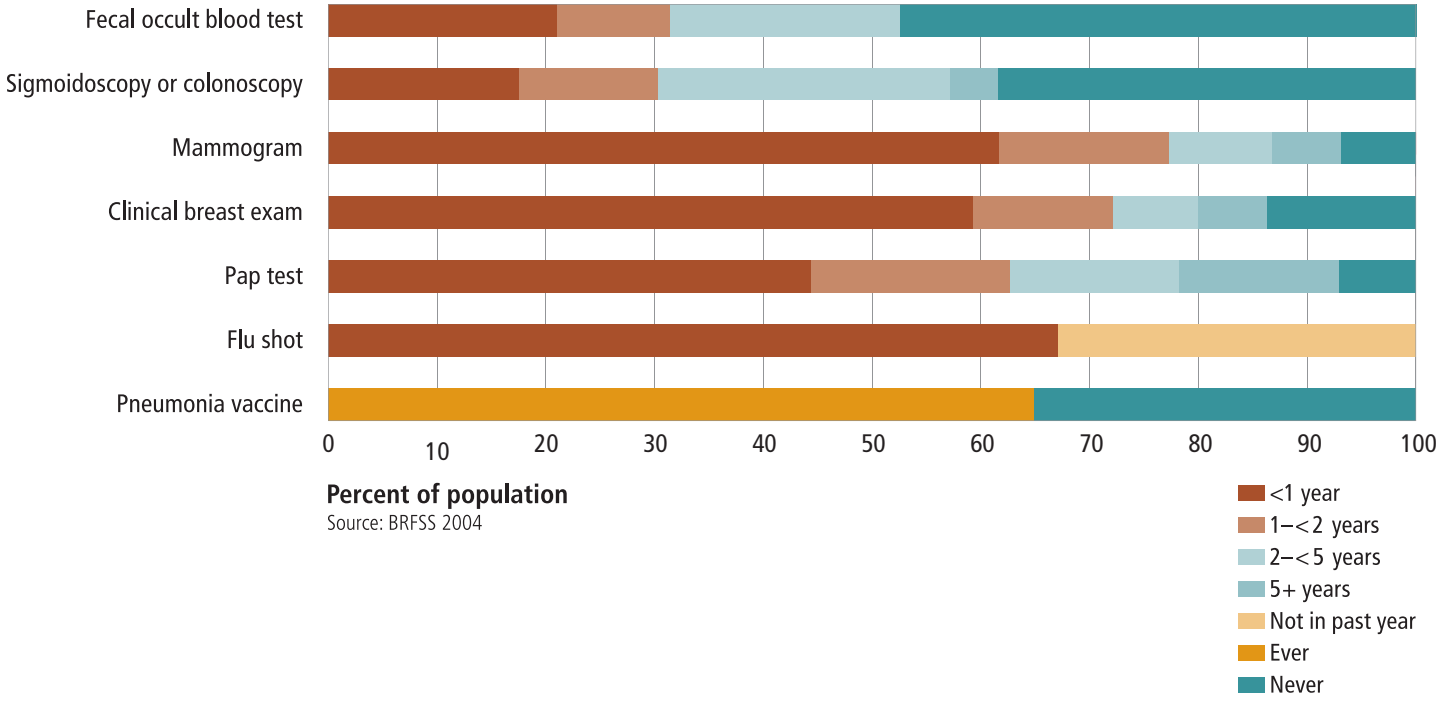
Similar to men, Medicare-eligible women are not tapping into Medicare screening and prevention benefits. Although annual mammograms are covered, only 62% of women aged 65 years and older have had mammography in the past year. Periodic sigmoidoscopy and colonoscopy tests are covered by Medicare, yet 38% of Medicare-eligible women have never had either of these screening tests. Fecal occult blood tests are covered annually, yet only 21% of older women had an FOBT in the past year and 48% have never had this test. Women are also not availing themselves of preventive services covered by Medicare: 33% of older women have not received a flu shot in the past year, and 35% have never had a pneumonia vaccine.

Most recent screening tests and immunizations among men aged 65 and older



Source: BRFSS 2004

Most recent screening tests and immunizations among women aged 65 and older



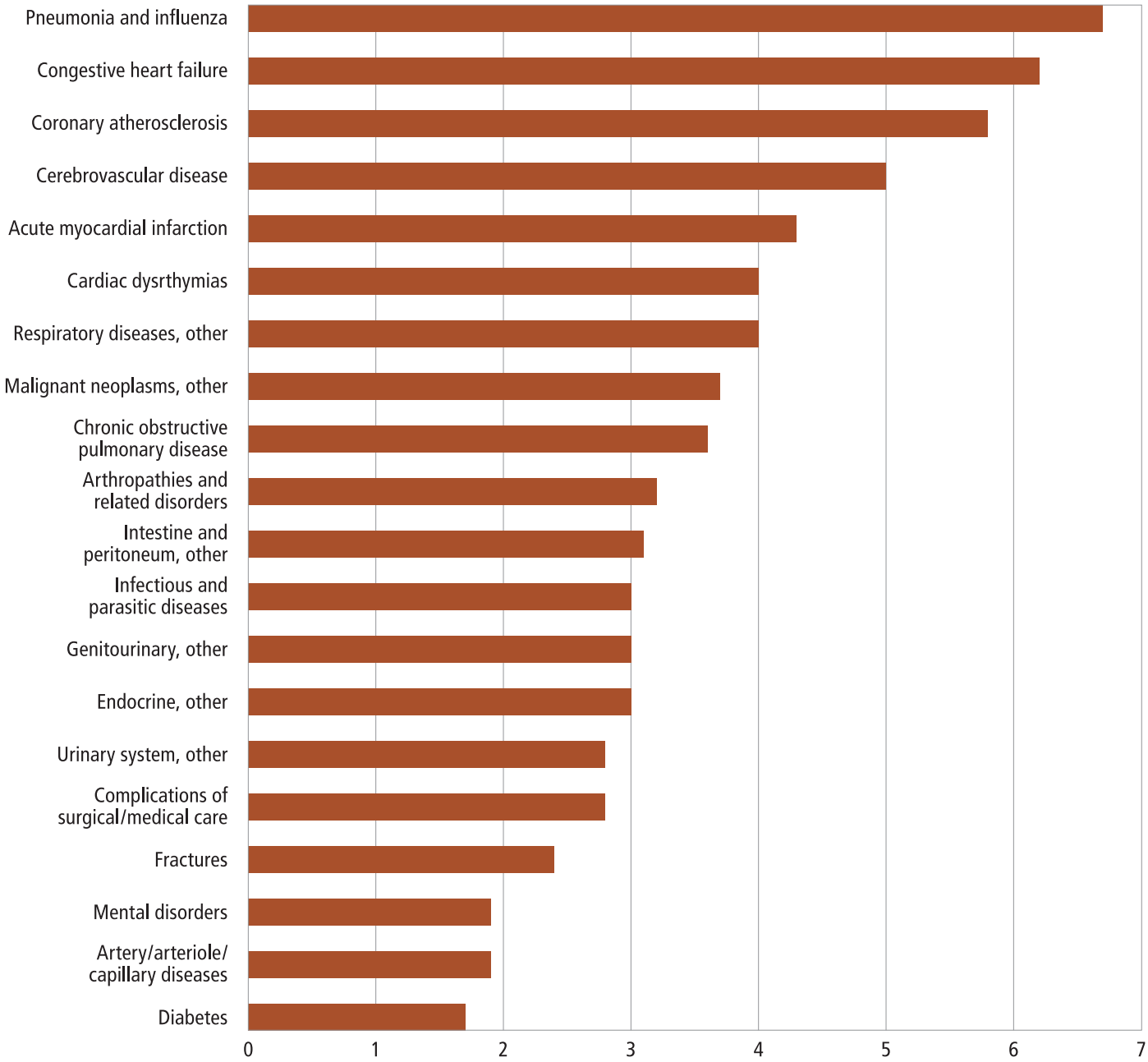
Source: BRFSS 2004

Hospitalization

Eighteen percent of adults aged 65 and older had a hospital stay in the past year. The most frequent hospital discharge diagnosis among older men and older women is pneumonia and influenza, accounting for 7% and 6% of all discharges, respectively, followed by congestive heart failure, accounting for 6% of total discharges for both genders. The third most frequent hospital discharge diagnosis among older men is coronary atherosclerosis, 6%, and among older women, fractures, 5%.

Among both older men and women, the mean hospital length of stay is 5.6 days. A higher percentage of men than women are discharged home (62% vs 56%), and a lower percentage of men are discharged to a long-term care facility (16% vs 22%).

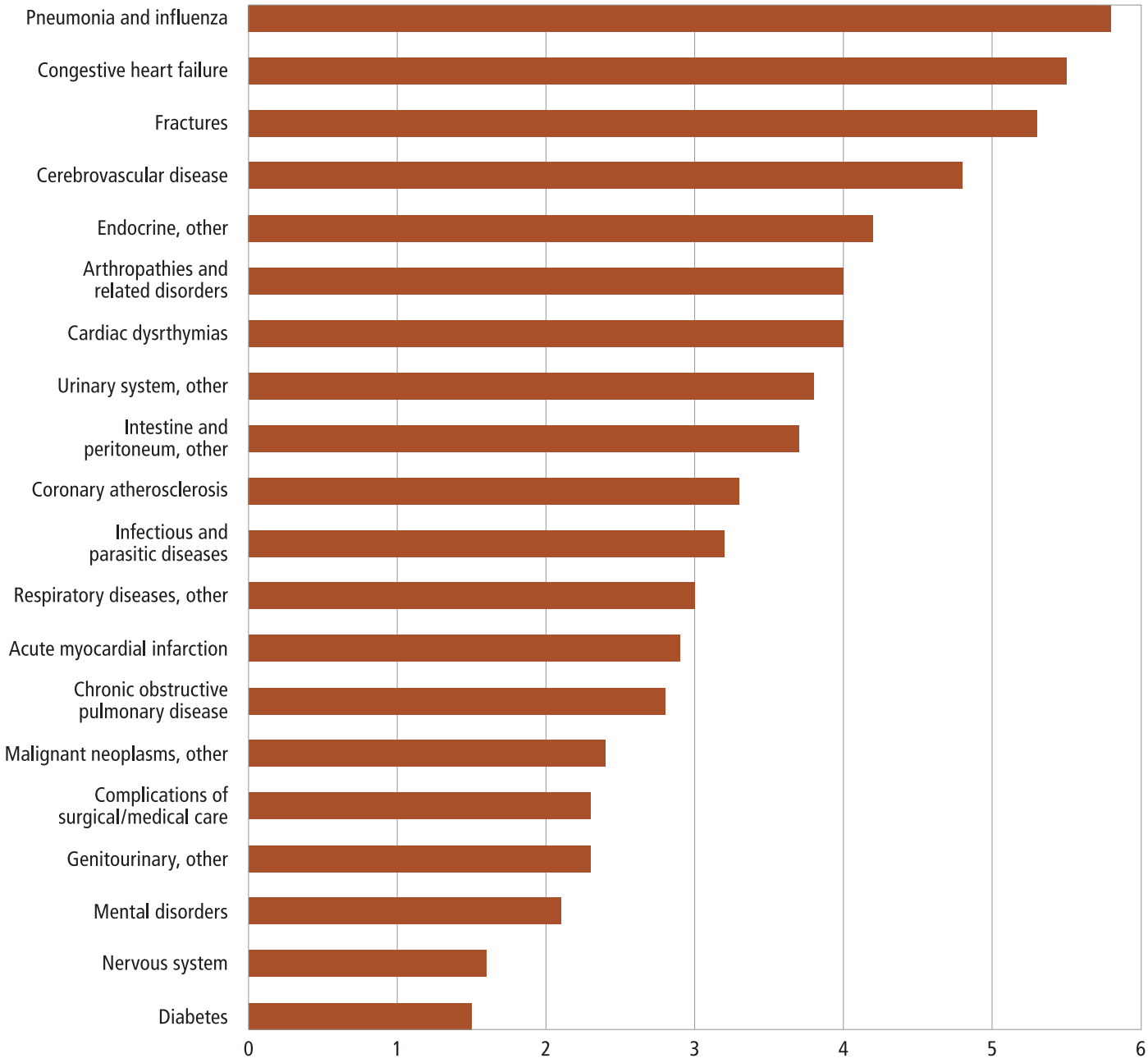
Most frequent reasons for hospitalization among men aged 65 and older



Percent of hospital discharges

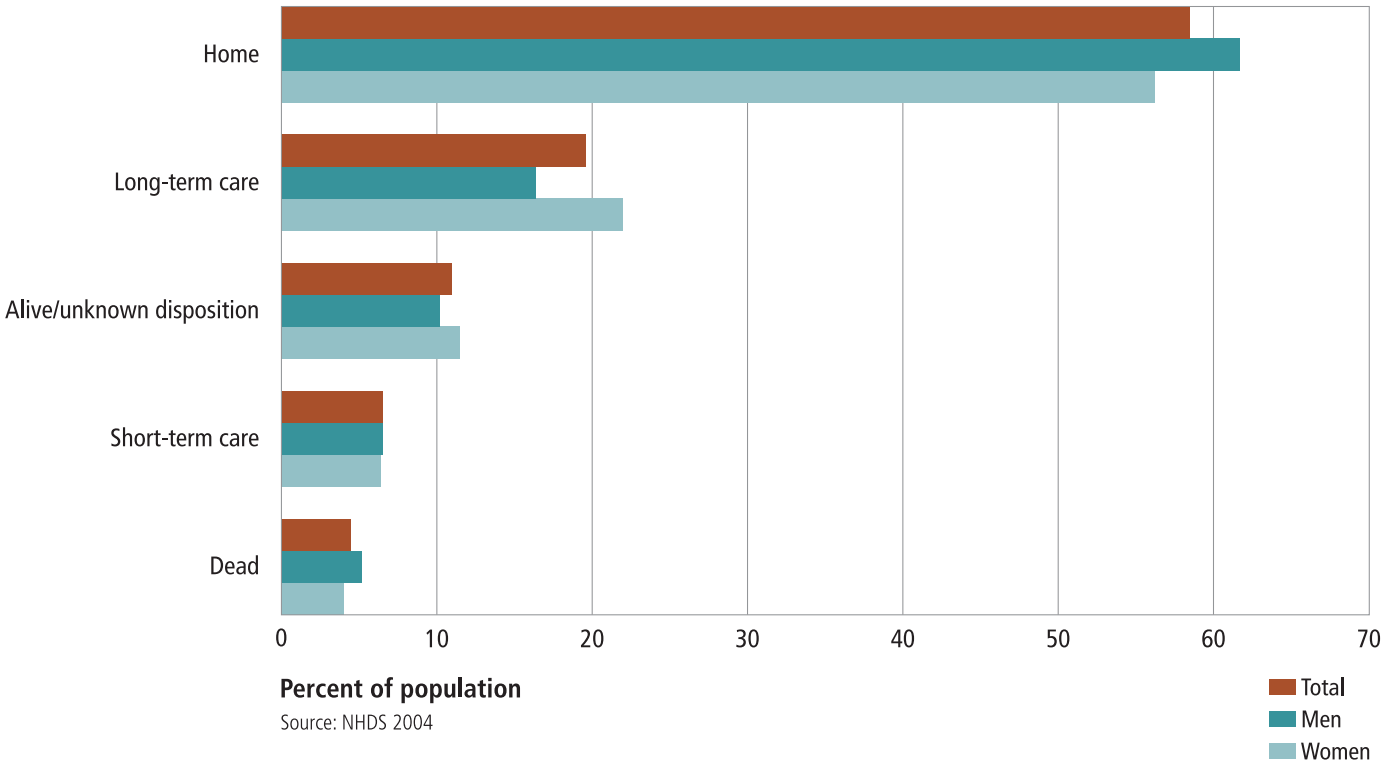
Source: NHDS 2004

Most frequent reasons for hospitalization among women aged 65 and older



Source: NHDS 2004

Hospital discharge status among adults aged 65 and older by gender



Source: NHDS 2004

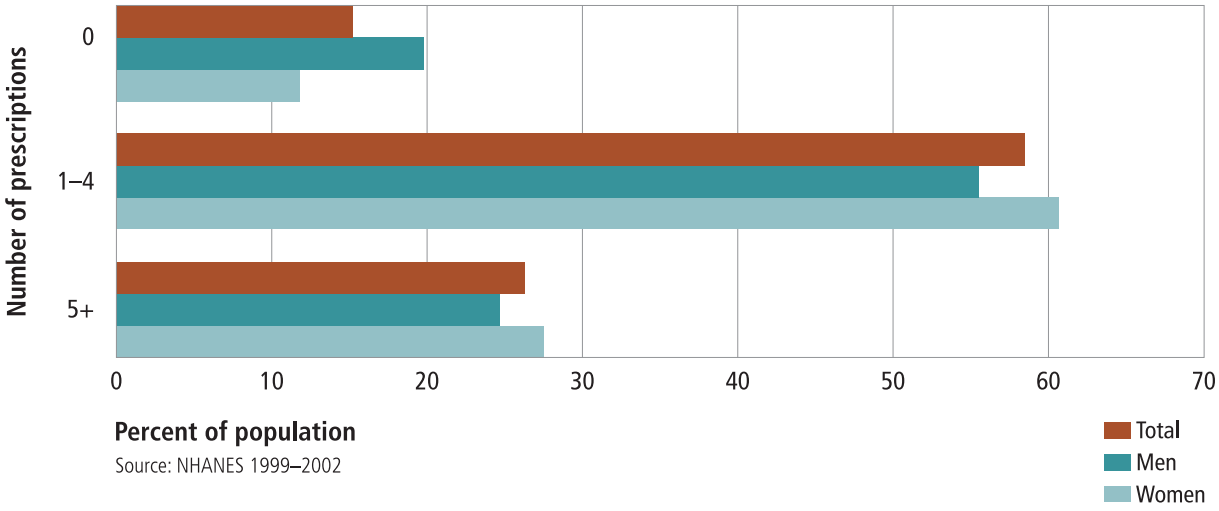
Medication use

Eighty-five percent of adults aged 65 and older take at least one prescription medicine, with more women taking medicine than men (88% vs 80%). The majority of older adults take one to four prescriptions (61% of women and 56% of men), and about one-fourth take five or more (27% of women and 25% of men). The median number of prescriptions among older adults is two.

Income is not related to use of prescription medicine, with 16% of lower income, 15% of middle income, and 15% of higher income elders not using prescription medicines. Instead, medication use is associated with health status. The 10% of the population with no chronic conditions uses, on average, less than one prescription medication, while at the other extreme, the 9% of older adults with more than 5 chronic conditions uses an average of 6.6 prescription medications.

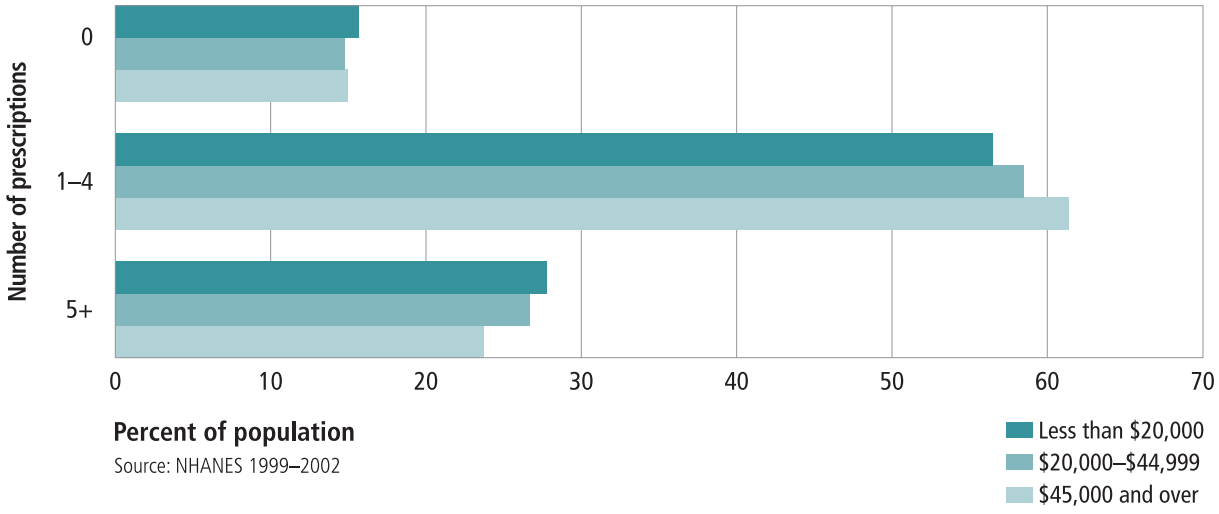
Older adults are also large consumers of over-the-counter pain medicine, with daily use reported by 34% of women and 39% of men.

Number of prescription medications taken by adults aged 65 and older by gender



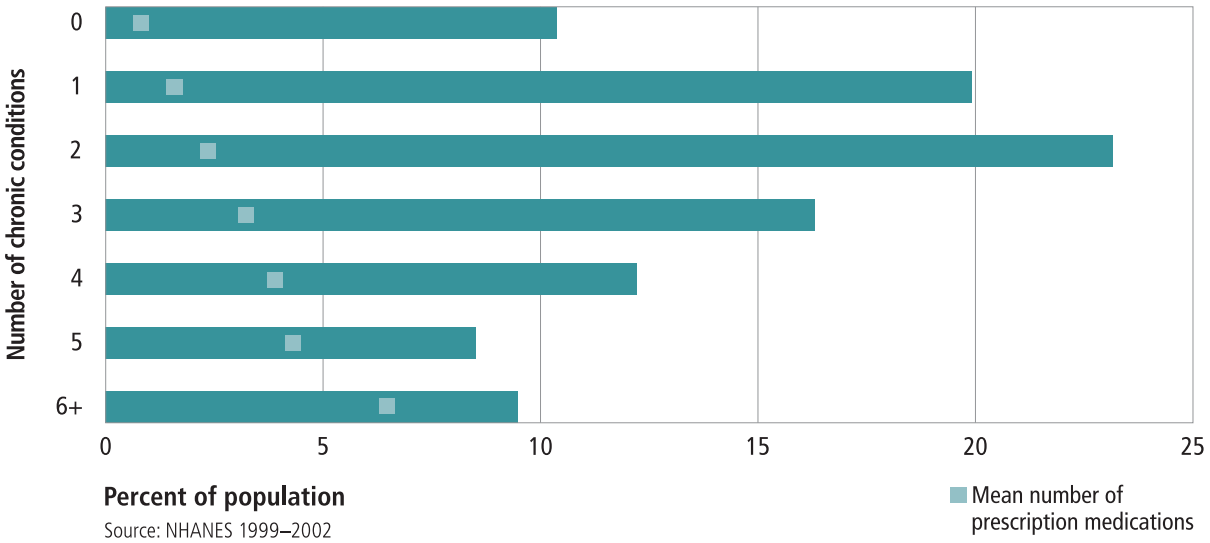
Source: NHANES 1999–2002

Number of prescription medications taken by adults aged 65 and older by income



Source: NHANES 1999–2002

Number of prescription medications taken by adults aged 65 and older by number of diagnosed chronic conditions



Source: NHANES 1999–2002

Appendix I: Methods

Data sources

National Health and Nutrition Examination Survey (NHANES), 1999–2004

US Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Health Statistics

The National Health and Nutrition Examination Survey (NHANES) is a sample survey designed to obtain nationally representative information on the health and nutrition of the civilian, non-institutionalized population of the United States. NHANES 1999–2004 is an aggregation of the three most recent releases of NHANES (1999–2000, 2001–2002, and 2003–2004). The total population of adults 20 years and older sampled across the three cycles is 14,213, including 3,810 persons aged 65 years and older.

Health, United States, 2005

National Center for Health Statistics
Health, United States, 2005
With Chartbook on Trends in the Health of Americans.
Hyattsville, Maryland, 2005.

National Health Interview Survey (NHIS), 2002–2005

US Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Health Statistics

NHIS is a nationally representative interview survey based on a sample of the non-institutionalized US population, including approximately 30,000 persons over the age of 20. Surveys in the series have been conducted annually since 1957, with the last major restructuring occurring in 1997. The survey consists of personal interviews in a population-based national sample. The numbers of sample adults aged 20 and older are: 30,236 (NHIS 2002), 30,033 (NHIS 2003), 30,717 (NHIS 2005). Sample sizes are as follows for persons aged 65 and older: 5860 (NHIS 2002), 6078 (NHIS 2005). NHIS 2002 was used for insomnia, sleepiness, and vision problems other than blindness. NHIS 2005 was used for ADLs, IADLs, and associated conditions, blindness, smoking, alcohol consumption, and screening exams.

US Population Estimates for 2005

US Census Bureau
Population Division
Demographic Internet Staff
http://www.census.gov/popest/estimates.php
Accessed on 8/15/06

The Population Estimates Program of the US Census Bureau publishes annual intercensal estimates of the total resident population by demographic characteristics (age, sex, race, and Hispanic origin) for the nation, states and counties. The reference date for estimates is July 1.

Compressed Mortality File (CMF), 1990–2003

US Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Health Statistics

Compressed Mortality File (CMF) is published by the US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. CMF is a national mortality database derived from the US records of deaths (death certificates) since 1979. Crude death rates and age-adjusted death rates can be calculated. Death rates shown in this fact book are age-adjusted to the 2000 US standard population. Diagnostic classifications are based on the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) for years 1990 through 1998, and ICD-10 for years 1999 through 2003. Web site http://wonder.cdc.gov/<http://wonder.cdc.gov/> Accessed: November 9, 2006.

Behavioral Risk Factor Surveillance System (BRFSS), 2004

US Department of Health and Human Services
Centers for Disease Control and Prevention

The BRFSS is an ongoing system of surveys conducted by state health departments in cooperation with the CDC. The methods used are generally comparable from state to state and from year to year, allowing states to compare their risk factor prevalence with national data and monitor the effects of interventions over time. The national probability sample interviews are conducted by telephone, and interview questions cover selected health issues and preventive health measures. Sample size for 2004 is 290,632 adults aged 20 and older, with 67,173 adults aged 65 and older. This dataset was used for analysis of screening variables.

The National Ambulatory Medical Care Survey (NAMCS), 2004

US Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Health Statistics

The National Ambulatory Medical Care Survey (NAMCS) is a national survey designed to meet the need for objective, reliable information about the provision and use of ambulatory medical care services in the United States. Findings are based on a sample of visits to nonfederally employed office-based physicians who are primarily engaged in direct patient care. Physicians in the specialties of anesthesiology, pathology, and radiology are excluded

from the survey. The survey was conducted annually from 1973 to 1981, in 1985, and annually since 1989. The sample size for 2004 was 21,023 visits by adults aged 20 and older, with 7086 visits by adults aged 65 and older.

The Medicare Current Beneficiary Survey (MCBS), 2003

US Department of Health and Human Services
Centers for Medicare and Medicaid Services (CMS)
Office of Strategic Planning

The Medicare Current Beneficiary Survey (MCBS) is a continuous, multipurpose survey of a nationally representative sample of aged, disabled, and institutionalized Medicare beneficiaries. MCBS, which is sponsored by the Centers for Medicare & Medicaid Services (CMS), is the only comprehensive source of information on the health status, health care use and expenditures, health insurance coverage, and socioeconomic and demographic characteristics of the entire spectrum of Medicare beneficiaries. The sample for MCBS is drawn from the CMS Medicare enrollment file. Medicare enrollment files also provide mailing addresses for the sample. Newly eligible beneficiaries are added to the sample once a year; deaths in the sample are handled by interviewing designated proxies.

The National Hospital Discharge Survey (NHDS), 2004

US Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Health Statistics

The National Hospital Discharge Survey, which has been conducted annually since 1965, is a national probability survey of inpatients discharged from non-Federal short-stay hospitals in the United States. The NHDS collects data from a sample of more than 300,000 inpatient records acquired from a national sample of about 500 hospitals. Data are available on patient characteristics including age, race, and sex; administrative information including patient disposition, expected sources of payment, and source of admission; and medical information including diagnoses and procedures. The 2004 version of NHDS was used to support selected analysis in this report. Sample size for 2004 is: 292,965 records for adults aged 20 and older, including 120,740 records for adults aged 65 and older.

National Comorbidity Survey-Replication (NCS-R), 2001–2003

National Institute of Mental Health
National Institute on Drug Abuse
Substance Abuse and Mental Health Services Administration
Robert Wood Johnson Foundation
John W. Alden Trust

The baseline National Comorbidity Survey (NCS), fielded from 1990 to 1992, was a nationally representative mental health survey using a fully structured research diagnostic interview to assess the prevalences and correlates of DSM-III-R disorders. An NCS Replication survey (NCS-R) was carried out between 2001–2003 in a new national sample of 10,000 respondents to obtain more information about a number of topics either not covered in the baseline NCS or covered in less depth. Prevalence estimates from NCS-R data use the DSM-IV criteria.

Definitions

Disease and risk factor definitions

Body Mass Index (BMI): BMI was calculated as weight in kilograms divided by the square height in meters, based on measurements during the NHANES survey.

- Underweight: A person was classified as underweight if his/her BMI was less than 18.5.
- Normal weight: A person was classified as normal weight if his/her BMI was greater than or equal to 18.5 and less than 25.0.
- Overweight: A person was classified as overweight if his/her BMI was greater than or equal to 25.0 and less than 30.0.
- Obese: A person was classified as obese if his/her BMI was greater than or equal to 30.0.

Diabetes: Persons were classified as having diabetes if they reported in the NHANES interview having been told by a physician they have diabetes, or if their fasting plasma glucose was greater than or equal to 126 mg/dL. The morning examination subset of the NHANES sample was used to ensure the validity of the fasting plasma glucose test data. Persons with diabetes were considered diagnosed if they reported in the NHANES interview having been told by a physician that they have diabetes. Persons were classified as having undiagnosed diabetes if they tested positive but reported no previous diagnosis.

Dyslipidemia: Persons were classified as having dyslipidemia if they reported in the NHANES interview taking an antilipidemic drug, or if their LDL cholesterol exceeded the appropriate risk-based threshold established in the ATP III guidelines. For persons with coronary heart disease (CHD) or diabetes, or two or more risk factors plus a 10 year CHD risk of greater than 20%, the LDL cholesterol threshold is 100; for persons without CHD but with 2 or more risk factors, it is 130; and for persons without CHD and fewer than 2 risk factors it is 160. They were considered diagnosed if they reported in the NHANES interview having been told by a physician they have high cholestrol. Persons were classified as having undiagnosed dyslipidemia if they tested positive but reported no previous diagnosis.

Hypertension: Persons were classified as having hypertension if the average of their blood pressure measurements at the time of the NHANES examination was greater than or equal to 140 mmHg systolic, or greater than or equal to 90 mmHg diastolic, or they reported taking antihypertensive medication. Persons with hypertension who reported in the NHANES interview having been told by a physician they have hypertension were classified as diagnosed. Persons were classified as having undiagnosed hypertension if they tested positive but reported no previous diagnosis.

Metabolic Syndrome: According to ATP III criteria, the metabolic syndrome was identified by the presence of three or more of these components: central obesity as measured by waist circumference (men greater than 40 inches, women greater than 35 inches); triglycerides greater than or equal to 150 mg/dL; HDL cholesterol (men less than 40 mg/dL, women less than 50 mg/dL); blood pressure greater than or equal to 130/85 mmHg; fasting glucose greater than or equal to 110 mg/dL. NHANES is the source used to calculate the metabolic syndrome.

Behavioral risk factors

Alcohol Consumption: Alcohol consumption was based on NHIS definitions: heavier consumption (an average of more than 2 drinks per day for men, or more than 1 drink per day for women); infrequent to moderate (2 or fewer drinks per day for men, 1 or fewer

drinks per day for women); former drinker (no drinks in the past year, but 12 or more in lifetime); lifetime abstainer (less than 12 drinks in lifetime).

Exercise: Exercise behavior was captured by questions asking the frequency of moderate or vigorous exercise. Responses were categorized into three groups: none, 1 to 2 times per week, and 3 or more times per week.

Obesity: Persons were classified as obese if their body mass index (BMI) (weight in kilograms divided by height in meters squared) was greater than or equal to 30.0.

Smoking: Smoking status was defined based on responses to the NHIS interview:

- **Current smoker:** A person who smokes "every day" or "some days" and who has smoked at least 100 cigarettes in his or her lifetime.
- **Former smoker:** A person who is not a current smoker, but has smoked at least 100 cigarettes in his or her lifetime.
- **Never smoked:** A person who has not smoked more than 100 cigarettes in his or her lifetime.
- **Recent smoker:** A person who has smoked in the last 12 months.

Medical conditions, screening and preventive services (from NHANES, NHIS, NCS-R, BRFSS)

Self-reported in NHANES or NHIS in response to the following questions:

For medical conditions—"Have you ever been told by a doctor or other health professional that you have X?", with these exceptions:

Chronic obstructive pulmonary disease (NHANES): Persons who reported being told by a doctor or other health professional that they had emphysema or chronic bronchitis.

Chronic obstructive pulmonary disease (NHIS): Persons who were told that they ever had emphysema or that they had chronic bronchitis in the past 12 months.

Ischemic heart disease (NHANES/NHIS): Persons who reported being told by a doctor or other health professional that they had a heart attack (also called myocardial infarction), or that they had angina (also called angina pectoris), or that they had coronary heart disease.

For cancers—"Have you ever been told by a doctor or other health professional that you had cancer or a malignancy of any kind?"

Depression: The NCS-R survey classifies a person as depressed if the pattern of responses to questions eliciting information on symptoms satisfies DSM-IV diagnostic criteria for depression.

Self-reported in BRFSS in response to the following questions:

Clinical breast exam: Persons were classified as receiving a clinical breast exam if they gave a positive response to the question, "A clinical breast exam is when a doctor, nurse, or other health professional feels the breasts for lumps. Have you ever had a clinical breast exam?"

Digital rectal exam: Persons were classified as receiving a digital rectal exam if they gave a positive response to the question, "A digital rectal exam is an exam in which a doctor, nurse, or other health professional places a gloved finger into the rectum to feel the size, shape, and hardness of the prostate gland. Have you ever had a digital rectal exam?"

Fecal occult blood test: Persons were classified as receiving a fecal occult blood test if they gave a positive response to the question, "A fecal occult blood test is a test that may use a

special kit at home to determine whether the stool contains blood. Have you ever had this test using a home kit?"

Flu shot: Persons were classified as receiving a flu shot if they gave a positive response to the question, "During the past 12 months, have you had a flu shot?"

Mammogram: Persons were classified as receiving a mammogram if they gave a positive response to the question, "A mammogram is an x-ray of each breast to look for breast cancer. Have you ever had a mammogram?"

Pap test: Persons were classified as receiving a pap test if they gave a positive response to the question, "A Pap test is a test for cancer of the cervix. Have you ever had a Pap test?" Women with a hysterectomy were excluded.

Pneumococcal vaccine: Persons were classified as receiving a pneumococcal vaccine if they gave a positive response to the question, "Have you ever had a pneumonia shot? This shot is usually given only once or twice in a person's lifetime and is different from the flu shot. It is also called the pneumococcal vaccine."

PSA test: Persons were classified as receiving a PSA test if they gave a positive response to the question, "PSA test is a blood test used to check men for prostate cancer. Have you ever had a PSA test?"

Sigmoidoscopy and colonoscopy: Persons were classified as receiving a sigmoidoscopy or colonoscopy if they gave a positive response to the question, "Sigmoidoscopy and colonoscopy are exams in which a tube is inserted in the rectum to view the colon for signs of cancer or other health problems. Have you ever had either of these exams?"

Time since test: Based on the categorized responses to the BRFSS question, "How long has it been since you had your last __ test (ie, fecal occult blood test, sigmoidoscopy or colonscopy, prostate-specific antigen test, digital rectal exam)?"

- Within the past year (anytime less than 12 months ago)
- Within the past 2 years (1 year but less than 2 years)
- Within the past 3 years (2 years but less than 3 years)
- Within the past 5 years (3 years but less than 5 years)
- 5 or more years ago
- Ever
- Never

Other definitions

Disease or condition rates

Prevalence percentage: Persons with the disease or condition (diagnosed plus undiagnosed) as a percentage of a population.

Awareness percentage: Persons diagnosed with the disease or condition as a percentage of prevalent cases.

Treatment percentage: Persons being treated for the disease or condition (ie, taking prescription medicine), as a percentage of prevalent cases.

Control among treated percentage: Persons with the disease or condition who are controlled at or below the appropriate treatment goal, as a percentage of treated cases.

- Goal attainment for treatment of dyslipidemia follows the National Cholesterol Education Program (NCEP) Adult Treatment Panel (ATP) III guidelines and is based on LDL. The percentage at goal are persons with dyslipidemia who are controlled at or below the appropriate ATP-III treatment goal, as a percentage of treated cases. For persons with coronary heart disease (CHD) or diabetes, or two or more risk factors plus a 10 year CHD risk of greater than 20%, the LDL cholesterol threshold is 100; for persons without CHD but with 2 or more risk factors, it is 130; and for persons without CHD and fewer than 2 risk factors it is 160.
- Goal attainment for treatment of hypertension is based on the Seventh Report of the Joint National Committee (JNC) on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7). The percentage at goal are persons with hypertension who are controlled at or below the JNC 7 treatment goal of systolic blood pressure less than 140 mmHg, and diastolic blood pressure less than 90 mmHg, as a percentage of treated cases.
- Goal attainment for treatment of diabetes is based on the American Diabetes Association (ADA) recommendations. The percentage at goal are persons with diabetes who are controlled at or below the ADA recommended target goal of HbA1c of < 7.0%, as a percentage of treated cases.

Functional limitations

Activities of daily living (ADL) are related to personal care and include bathing or showering, dressing, getting in or out of bed or a chair, using the toilet, and eating. Persons were considered to have an ADL limitation if they reported being limited in performing personal care needs due to a physical, mental, or emotional problem.

Instrumental activities of daily living (IADL) are related to independent living and include preparing meals, managing money, shopping for groceries or personal items, performing light or heavy housework, and using a telephone. Persons were considered to have an IADL limitation if they reported being limited in handling routine IADL activities due to a physical, mental, or emotional problem.

Symptoms

Blindness (NHIS): Persons who reported that they are blind or unable to see at all.

Dizziness, Balance, Falling (NHANES): Persons who reported dizziness, difficulty with balance, and difficulty with falling, respectively, in the past 12 months.

Excessive sleepiness (NHIS): Persons who reported having excessive sleepiness in the past 12 months.

Hearing (NHANES): Persons were asked to describe their hearing without a hearing aid as "good", "little trouble", "lot of trouble", or "deaf".

Hearing aid usage (NHANES): Persons were asked if they have ever worn a hearing aid. Those who had ever worn a hearing aid were asked if they have worn it in the past 12 months.

Insomnia (NHIS): Persons who reported having regular insomnia or trouble sleeping in the past 12 months.

Joint pain (NHANES): Persons who reported having had pain, aching, stiffness, or swelling in or around a joint during the past 12 months.

Location of joint pain (NHANES): Persons who reported joint(s) affected by pain, aching, stiffness, or swelling during the past 12 months.

Memory loss or confusion (NHANES): Persons who reported that they were limited in any way because of difficulty remembering or because they experienced periods of confusion.

Neck, low back pain, and severe headaches or migraines (NHANES): Persons who reported having had pain that lasted a whole day or more during the past three months.

Sadness (NHIS): Persons who responded "a lot" or "some" to the question "We just talked about a number of feelings (sad, nervous, restless or fidgety, hopeless, that everything was an effort, or worthless) you had during the past 30 days. Altogether, how much did these feelings interfere with your life or activities: a lot, some, a little, or not at all?"

Seen a mental health professional (NHANES): Persons who gave a positive response to the question, "Have you seen or talked to a mental health professional such as a psychologist, psychiatrist, psychiatric nurse or clinical social worker about your health in past 12 months?"

Urinary incontinence (NHANES): Persons who reported leakage or loss of even a small amount of urine during physical activities in the past 12 months.

Vision problems (cataracts, macular degeneration, glaucoma, and diabetic retinopathy) (NHIS): Persons who have ever been told by a doctor or other health professional that they have the condition.

Diagnostic classification used in mortality and hospitalization charts

Clinical classification codes from the International Classification of Diseases (ICD), 9th Revision, Clinical Modification (ICD-9-CM) and 10th Revision (ICD-10)

Diagnosis		ICD-9-CM code	ICD-10 code
Cancer	Total malignant neoplasms (excludes basal and squamous skin cancers)	140-239 (excludes 173)	C00-C97 (excludes C44)
	Breast		C50
	Colon and rectum		C18-C21
	Leukemia		C91-C95
	Lung and bronchus		C33-C34
	Malignant neoplasms, other	410-152, 155-161, 163-173, 179-196, 197.1-197.2, 197.4. 196.6-198.7, 198.82-208. 230-233	C00-C17, C22-C24,C26-C32, C35-C60, C62-C90, C96-C97
	Non-Hodgkin lymphoma		C82-C85
	Ovary		C56
	Pancreas		C25
	Prostate		C61
Diseases of the circulatory system	Total circulatory system diseases		I00-I99
	Acute myocardial infarction	410	
	Cardiac dysrthymias	427	
	Cerebrovascular diseases	430-438	I60-I69
	Congestive heart failure	428.0	
	Coronary atherosclerosis	414.0	
	Diseases of the heart	390-398, 402, 404, 410-429	I00-I09, I11, I13, I20-I51
	Diseases of arteries, arterioles, and capillaries	440-449	I70-I79
	Ischemic heart diseases		I20-I25
	Other forms of heart disease		I30-I52
	Pulmonary heart disease and diseases of pulmonary circulation		I26-I28
Other diagnoses	Accidents		V01-X59, Y85-Y86
	Alzheimer's disease		G30
	Arthropathies and related disorders	710-719	
	Chronic lower respiratory diseases		J40-J47
	Chronic obstructive pulmonary disease	490-492, 494, 496	
	Complications of surgical/medical care	996-999	
	Diabetes mellitus	250	E10-E14
	Endocrine, other	240-249, 251-279	
	Fractures	800-829, 733.14	
	Genitourinary, other	580-589, 600-629	
	Infectious and parasitic diseases	001-139	
	Influenza and pneumonia	480-487	J10-J18
	Intestine and peritoneum, other	560-569	
	Mental disorders	290-319	
	Nephritis		N00-N07, N17-N19, N25-N27
	Nervous system	320-389	
	Respiratory diseases, other	460-479, 495, 500-519	
	Septicemia		A40-A41
	Urinary system, other	590-599	

Diagnostic classifications used in physician visit charts

Disease module	NAMCS 2004 code
Basal and squamous skin cancer	2110
Blood and blood-forming organs	2250-2299
Circulatory system	2500-2599
Digestive system	2650-2699
Ear	2450-2499
Endocrine, nutritional, and metabolic	2200-2249
Eye	2400-2449
Genitourinary system	2700-2799
Infective and parasitic	2001-2099
Mental disorders	2300-2349
Musculoskeletal system and connective tissue	2900-2949
Neoplasms	2100-2109, 2111-2199
Nervous system	2350-2399
Respiratory system	2600-2649
Skin and subcutaneous tissue	2800-2899

Source: NAMCS 2004: National Ambulatory Medical Care Survey 2004

Appendix II: Data tables

Prevalence rates (percent)

Adults aged 65 and older					
Condition			**Total**	**Men**	**Women**
Hypertension	Prevalence		70.8	63.0	76.6
	Diagnosed		53.7	48.1	57.9
	Undiagnosed		17.0	14.9	18.6
	Awareness		75.9	76.3	75.7
	Treatment		69.3	70.2	68.8
	Control		48.8	57.9	42.9
Dyslipidemia	Prevalence		60.3	62.3	58.7
	Diagnosed		39.6	36.8	41.7
	Undiagnosed		20.7	25.5	16.9
	Awareness		65.7	59.1	71.1
	Treatment		43.2	40.9	45.1
	Control		64.9	62.9	66.4
Diabetes	Prevalence		21.2	23.3	19.5
	Diagnosed		15.1	14.8	15.3
	Undiagnosed		6.1	8.5	4.2
	Awareness		71.4	63.6	78.5
	Treatment		50.9	45.1	56.2
	Control		51.4	53.2	49.9
Comorbid hypertension and dyslipidemia	Prevalence	Diagnosed for both HTN and HL	24.0	21.6	25.9
		Not diagnosed for HTN, HL, or both	20.9	22.3	19.8
	Awareness	Awareness among those with comorbid hypertension and dyslipidemia	53.5	49.1	56.7
	Treatment	Treated for both hypertension and dyslipidemia	36.9	37.3	36.7
	Control	Controlled for both hypertension and dyslipidemia	40.7	45.3	37.0

Source: NHANES 1999–2004

Prevalence rates (percent)

Adults aged 65 and older			
Condition	Total	Men	Women
Arthritis	52.2	42.1	59.7
Ischemic heart disease (acute myocardial infarction, angina or coronary heart disease)	21.4	26.6	17.5
Total malignant neoplams	17.8	20.1	16.1
Osteoporosis	16.6	3.7	26.3
Ulcer	14.9	15.6	14.3
Chronic obstructive pulmonary disease (emphysema, chronic bronchitis)	12.7	10.6	14.3
Prostate cancer	—	10.4	—
Asthma	9.5	6.5	11.8
Depression	9.3	4.9	12.6
Stroke	8.7	8.8	8.6
Congestive heart failure	8.3	9.3	7.6
Breast cancer	—	—	6.9
Colorectal cancer	2.3	2.7	2.0

Source: NHANES 1999–2000 (ulcer)
NHANES 1999–2004 (all other conditions)

Prevalence rates (percent)

Adults aged 65 and older				
Functional limitations		**Total**	**Men**	**Women**
Need help with personal care (ADLs—Activities of Daily Living)		6.2	4.2	7.7
Need help with routine needs (IADLs—Instrumental Activities of Daily Living)		13.1	8.4	16.6
Vision problems	Cataracts	41.2	35.6	45.4
	Glaucoma	7.8	7.2	8.3
	Macular degeneration	5.5	4.5	6.2
	Diabetic retinopathy	2.0	1.7	2.3
	Blindness	1.2	0.8	1.5
Hearing status	Self-reported good hearing	52.4	44.3	58.4
	Ever worn a hearing aid	15.0	20.6	10.9
	Used hearing aid in past 12 months	12.6	16.6	9.7
	Self-reported deaf	1.0	1.1	.09

Functional limitations			**Total**
Percent requiring help with personal care (ADLs) by chronic condition	Stroke		19.5
	Diabetes		10.9
	Ischemic heart disease		10.0
	Chronic obstructive pulmonary disease		9.5
	Colorectal cancer		7.6
	Arthritis		7.4
	Total malignant neoplasms		7.3
	Ulcer		7.2
	Asthma		6.7
Vision problems by diabetes status	Cataracts	Diabetes	50.6
		No diabetes	39.4
	Glaucoma	Diabetes	11.8
		No diabetes	7.1
	Macular degeneration	Diabetes	4.8
		No diabetes	5.6
	Diabetic retinopathy	Diabetes	11.0
	Blindness	Diabetes	1.3
		No diabetes	1.2

Source: NHIS 2002 (cataracts, glaucoma, macular degeneration, diabetic retinopathy)
NHANES 1999–2004 (hearing), NHIS 2005 (all other conditions)

Prevalence rates (percent)

Adults aged 65 and older				
Symptom		**Total**	**Men**	**Women**
Urinary incontinence		34.4	17.5	47.0
Psychological	Insomnia	19.5	14.9	23.0
	Excessive sleepiness	10.5	11.1	10.0
	Sadness	10.5	8.9	11.6
	Memory loss or confusion	8.1	7.1	8.8
Mobility	Balance	22.6	18.7	25.5
	Dizziness	22.4	18.0	25.8
	Falling	10.7	8.9	12.0
Pain	Joint	54.8	48.9	59.2
	Lower back	38.2	32.8	42.3
	Neck	18.6	15.4	20.9
	Severe headaches	9.8	6.3	12.3
Location of joint pain	Knee	30.5	25.6	34.2
	Finger	20.8	16.1	24.3
	Shoulder	17.2	16.9	17.5
	Ankle	14.4	11.5	16.4
	Hip	13.3	10.5	15.4
	Wrist	8.1	6.2	9.5
	Elbow	6.0	6.1	6.0
	Toe	4.9	4.0	5.6

Source: NHANES 1999–2004 (mobility symptoms, urinary incontinence, pain symptoms)
NHIS 2005 (sadness, memory loss), 2002 (insomnia, excessive sleepiness)

Prevalence rates (percent)

Adults aged 65 and older			
Symptom			Total
Joint pain by obesity, arthritis status	Knee	Obese	40.9
		Not obese	26.2
		Arthritis	45.4
		No arthritis	14.2
	Finger	Obese	22.9
		Not obese	19.7
		Arthritis	31.7
		No arthritis	9.1
	Shoulder	Obese	21.0
		Not obese	15.6
		Arthritis	25.5
		No arthritis	8.2
	Ankle	Obese	21.3
		Not obese	11.1
		Arthritis	20.3
		No arthritis	7.8
	Hip	Obese	15.7
		Not obese	12.2
		Arthritis	19.8
		No arthritis	6.3
	Wrist	Obese	7.9
		Not obese	8.0
		Arthritis	12.2
		No arthritis	3.6
	Elbow	Obese	7.8
		Not obese	5.1
		Arthritis	9.0
		No arthritis	2.8
	Toe	Obese	6.9
		Not obese	4.1
		Arthritis	7.7
		No arthritis	1.9

Source: NHANES 1999–2004

Prevalence rates (percent)

Adults aged 65 and older			
Metabolic syndrome, body mass index, and behavioral risk factors			Total
Metabolic syndrome			47.5
Body mass index	Underweight		1.6
	Normal weight		29.4
	Overweight		39.6
	Obese		29.3
Alcohol consumption	Non-drinkers	Lifetime abstainer	31.1
		Former drinker	25.8
	Drinkers	Current drinker: infrequent or moderate	40.1
		Current drinker: heavier consumption	3.0
Exercise (Frequency per week)	None		53.7
	1 to 2		10.0
	3 or more		36.3
Smoking	Never smoked		52.0
	Former smoker		39.5
	Current smoker		8.6
Smoking/quitting	Percent of current and recent smokers who quit last year		13.5
	Percent of current smokers who would like to quit		55.5

Source: NHIS 2005 (smoking, alcohol consumption), NHANES 1999–2004 (all other condition)

Prevalence rates (percent)

Adults aged 65 and older		
Chronic conditions by obesity status		Total
Metabolic syndrome	Obese	70.1
	Not obese	38.2
Hypertension	Obese	78.0
	Not obese	67.2
Dyslipidemia	Obese	65.4
	Not obese	59.2
Diabetes	Obese	30.2
	Not obese	17.9

Chronic conditions by smoking status		Total
Ischemic heart disease	Never smoked	17.9
	Former smoker	26.0
	Current smoker	22.3
Diabetes	Never smoked	19.9
	Former smoker	23.1
	Current smoker	19.0
Stroke	Never smoked	8.6
	Former smoker	8.2
	Current smoker	11.1
Any cancer	Never smoked	21.1
	Former smoker	28.8
	Current smoker	18.1
Chronic obstructive pulmonary disease	Never smoked	8.4
	Former smoker	15.9
	Current smoker	22.8

Chronic conditions by smoking status		Total	Men	Women
Chronic obstructive pulmonary disease	Never smoked	8.4	4.6	9.9
	Former smoker	15.9	12.2	21.4
	Current smoker	22.8	20.4	25.2
Emphysema	Never smoked	1.5	1.8	1.3
	Former smoker	9.0	7.5	11.1
	Current smoker	14.4	16.6	12.1
Chronic bronchitis	Never smoked	7.2	2.9	9.0
	Former smoker	10.1	6.7	14.9
	Current smoker	11.1	7.8	14.6

Source: NHANES 1999–2004

Adults aged 65 and older		
Outpatient visits		**Total**
Percent who had doctor visits in past year	None	4.8
	1	10.5
	2 to 3	27.0
	4 to 9	37.1
	10 or more	20.7
Disease or system associated with physician visit (percent of physician visits)	Circulatory system	26.8
	Endocrine, nutritional, and metabolic	16.7
	Neoplasms	15.5
	Eye	11.0
	Respiratory system	4.9
	Blood and blood-forming organs	4.8
	Digestive system	4.0
	Skin and subcutaneous tissue	3.4
	Basal and squamous skin cancer	3.2
	Genitourinary system	3.1
	Musculoskeletal system and connective tissue	2.2
	Nervous system	1.7
	Infective and parasitic	1.5
	Mental disorders	1.1
	Ear	0.2

Source: NHANES 1999–2004 (number of physician visits), NAMCS 2004 (condition associated with physician visit)

U.S. Pharmaceuticals

PG008515
© 2007 Pfizer Inc. All rights reserved.
23324CON

Printed in USA/January 2007