

Chronic Disease

Problem:

Premature death and disability from chronic diseases due to unhealthy lifestyles and delayed detection of medical conditions.

More than half of all Americans suffer from one or more chronic diseases.¹ Approximately 70% of all deaths in the U.S. annually are due to chronic disease. It is the leading cause of death in Washington County. Chronic conditions are also a major source of illness, hospitalization, long-term disability and overall health care costs. In 2006, the top five chronic diseases were: cancer, heart disease, stroke, chronic lower respiratory diseases (asthma, emphysema, chronic bronchitis, and chronic obstructive pulmonary disease) and diabetes. Two additional chronic diseases - Alzheimer's Disease and osteoporosis - are growing in number as the population ages² (refer to Aging section).

As the baby boomers begin to turn age 65 in 2011, the number of people with chronic diseases is expected to rise. In a recent survey of Medicare recipients, 87% of those aged 65 and over had 1 or more chronic conditions.¹⁵ The average 75-year-old has three chronic conditions and uses five prescription medications.¹⁴ Treatment and lost economic output due to chronic diseases cost the U.S. 1.3 trillion dollars in 2003.¹

Chronic diseases often result from a lifetime of unhealthy personal behaviors, such as tobacco use, a poor diet, drug and alcohol use and getting little or no daily activity. Currently in Minnesota:

- ◆ 18% of adults are smokers
- ◆ 14% of adults do not participate in any leisure time physical activity
- ◆ 75% of adults consume less than five fruits and vegetables per day
- ◆ 22% of adults have high blood pressure
- ◆ 32% have high cholesterol
- ◆ 62% of adults are overweight or obese
- ◆ 6% of adults have diabetes.

In Washington County, an estimated 19% of adults smoke, 21% have high blood pressure and 62% are overweight or obese.

Exposure to tobacco smoke is the leading risk factor for many chronic diseases and serious illnesses including heart disease, cancer, diabetes, stroke, asthma, low birth weight and Sudden Infant Death Syndrome (SIDS). Lung cancer, once rare among women, has surpassed breast cancer as the leading cause of female cancer death in the U.S., accounting for 25% of all cancer deaths among women. Research suggests that the impact of smoking on lung cancer risk might be greater among women than men and that exposure to secondhand smoke might be associated with increased risk for breast cancer.



Leading Causes of Death in Washington County:

- | | |
|--------------------------------------|---|
| 1. Cancer | 5. Unintentional Injury |
| 2. Heart Disease | 6. Diabetes |
| 3. Chronic Lower respiratory Disease | 7. Alzheimer's Disease |
| 4. Stroke | 8. Suicide, Kidney Disease & Hypertension |

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Cancer is the number one cause of death in Washington County, with colorectal, prostate, breast and lung cancers having the highest incidence rates.³ Not including the most common forms of skin cancer, almost one in two people will have a diagnosis of cancer during their lifetime. A total of 8,660 new cases of cancer were diagnosed among Washington County residents between 1988 and 2002. The overall cancer incidence in the county is comparable to or slightly lower than the statewide average.⁴ Approximately 59% of cancers in Washington County occur among people 65 years and older and nearly 70% of cancer deaths are in this age group.

“While we have no control over risk factors such as age, race and family history, much of our cancer risk is related to factors that we can control, such as life-style factors, including cigarette smoking, heavy drinking, and eating foods that have excess calories, high fat, and low vegetable intake.”¹³

Heart disease was the second leading cause of death in 2006 in both Minnesota and in Washington County. In 2006, heart disease accounted for 20.3% of all deaths in the state and 18.9% of all deaths in the county. About 4 out of 5 heart disease deaths are in people age 65 and over.¹⁶ The major risk factors for heart disease are high blood pressure, smoking, diabetes, overweight and obesity and physical inactivity. On a positive note, Minnesota had the lowest overall heart disease mortality rate in the U.S. in 2006.¹⁶

Death rates from **cardiovascular disease (CVD)** have been declining overall in the U.S. and in Minnesota during the last several years. Though this rate has dropped faster in Minnesota than in any other state, it remains a serious health care issue because of the high personal and financial costs of CVD in its chronic form.⁷

While the CVD mortality rate has been declining in Minnesota, not all populations have experienced the same decline. American Indians in Minnesota experience a heart disease mortality rate that is 34% higher than the white population. The heart disease and stroke mortality rates in American Indians living in Minnesota and Wisconsin are the highest among all American Indians in the United States.⁷ Stroke deaths are significantly higher in African Americans than whites in Minnesota. Diabetes is a major risk factor for heart disease and affects a much larger percentage of American Indians than whites; 17% and 5% respectively.⁷

Chronic lower respiratory diseases include asthma, emphysema, chronic bronchitis, and chronic obstructive pulmonary disease. This group of diseases is the fourth leading cause of death in both Minnesota and in the U.S. In Washington County, chronic lower respiratory disease was the third leading cause of death in 2006, accounting for 5.6% of all deaths.

Asthma is a common chronic disease characterized by inflammation and narrowing of the airways, affecting 255,000 adults in Minnesota. It results in missed days from school and work, interrupted sleep and limited physical activity. Fifteen percent of Minnesota adults with asthma visited the emergency room or urgent care at least once in the past year. Asthma hospitalizations are highest among children under the age of five, with boys having the highest rates of hospitalization. Between 1998 and 2003, statewide hospitalization rates remained stable, though rates in the seven-county metro area were higher than in any other region of the state. The prevalence of current asthma among persons of all ages remained about the same from 2001 to 2006.⁴

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Almost 8% of Minnesota children ages 0-17 are reported to have asthma, which is about 98,000 children statewide, or an estimated 4,700 children in Washington County.

Chronic obstructive pulmonary disease (COPD) is a term referring to two lung diseases, chronic bronchitis and emphysema. They both block airflow and interfere with normal breathing. An estimated 4% of Minnesotans have COPD. While males continue to have a higher death rate from COPD, females are closing the gap, possibly due to increased rates of females who smoke. White Minnesotans had the highest death rates due to COPD, followed by Native Americans.⁸ COPD is a significant cause of hospitalization in the senior population, with an average per person cost of hospitalization at \$17,066.⁸ Almost 40% of hospitalizations in Washington County in 2005 for persons 65 and older were due to respiratory system diseases.⁹

In 2006, **stroke** was the third leading cause of death in the state and the fourth leading cause of death in the county, accounting for 6% of deaths in the state and 5.4% of county deaths. Stroke is also a leading cause of serious long-term disability. The risk of stroke more than doubles each decade after the age of 55. Nearly three-quarters of all strokes occur in people over the age of 65. Unavoidable risk factors include age, sex, race/ethnicity and family history. In Minnesota between 1991 and 2005, the overall stroke death rate dropped approximately 27%.

Diabetes is the sixth leading cause of death in both Minnesota and in Washington County (following unintentional injury). The risk of cardiovascular disease and stroke is two to four times higher in people with diabetes. One in four Minnesotans either has diabetes or is at high risk of developing it. Each year in the state, over 27,000 cases are newly diagnosed.¹⁰ In 2006, an estimated 5.7% of the adult population in the state and 4.9% of the adult metro-area population had diabetes.

Minnesota does not have a system for monitoring diabetes in children and adolescents, but estimates derived from national data suggest 1,500 to more than 2,400 Minnesota youth under 18 years of age have diabetes.¹⁰ Diabetes contributed to 3,995 deaths last year in Minnesota and of these, it was the direct cause of 1,259 deaths.

Diabetes disproportionately affects older people in Minnesota, and age disparities in diagnosed diabetes are growing. From 1994 to 2000, diagnosed diabetes rates increased 60% among Minnesotans 45 to 64 years of age and 44% among Minnesotans 65 years of age and older. Diabetes rates are similar among men and women.⁴ Minnesota data on the prevalence of diabetes by race, ethnicity, and national origin is limited. However, large disparities exist in diabetes prevalence for African Americans and American Indians living in Minnesota. There is also evidence that new immigrants to Minnesota, such as Hmong and Somalis, face increased risk for diabetes.⁴ Diabetes prevalence and risk may also be increasing among Minnesota's Hispanic/Latino Americans. American Indians not only have the highest rates of diabetes in Minnesota, but diabetes prevalence is increasing among American Indian children, adolescents and young adults.

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Early detection and screening for chronic disease

Significant reductions in disability and premature mortality can be achieved by addressing the underlying causes of cardiovascular disease, cancer and diabetes, and by improving detection and treatment of diseases in their early stage. Cancers that can be detected by screening account for half of all new cancer cases and the five-year survival rate for these cancers is about 84%. If all of these cancers were diagnosed through regular screening, the five-year survival rate would increase to almost 95%. Currently, routine screening is recommended for cervical, breast, and colorectal cancers; hypertension, and lipid disorders; obesity and tobacco use.⁶

Early detection has been shown to decrease disease and death for several of Minnesota's most commonly occurring cancers³ through the following procedures:

- ◆ Fecal occult blood testing, sigmoidoscopy, barium enema and colonoscopy
- ◆ Mammography and advances in breast cancer treatment
- ◆ Screening and early detection of cervical cancer using Pap test and appropriate follow-up care
- ◆ Prostate specific antigen (PSA) screening

Although cancer screening has increased in Minnesota, one-third to one-half of those over age 50 are not routinely screened for breast cancer. African American and American Indian women are less likely to survive breast and cervical cancer due to later screening and diagnosis, and possibly the level of care. Many women who are eligible for free mammograms and Pap tests are not receiving this service. National data indicate that about half of the women diagnosed with invasive cervical cancer have never been screened, and older women are the least likely to be screened.³

Early detection of chronic conditions has the potential to alter the history of the disease. For cardiovascular disease and diabetes, screening for risk or early symptoms of disease can reduce incidence and mortality through recommendations for altered lifestyles, drug interventions and treatments. Tests to assess disease risk include blood pressure screening, total cholesterol, HDLs, LDLs, triglycerides, blood glucose, weight, tobacco use, and physical activity. Periodic screening in high-risk clients has been shown to decrease heart attack and stroke, and reduce the progression of micro vascular disease in diabetes.^{17,18}

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Community Feedback

Ninety percent of residents taking the on-line community health assessment survey indicated that chronic disease (including cancer, heart disease, diabetes, high blood pressure and stroke) was a concern for the county. Respondents also listed cancer in adults as a major concern (46%).

The assessment surveys and various community focus groups indicated that chronic diseases in all ages will be one of the most important health issues facing Washington County in the next five years. For example:

- ◆ School nurses spoke of the emerging trend of type 1 diabetes in children. They also mentioned the desire for high blood pressure screening in schools to be as common as screening for scoliosis.
- ◆ The Community Health Action Team expressed concern about diabetes in particular but also about the prevalence of chronic diseases in all ages.
- ◆ Concerns about asthma, type 2 diabetes, and the rising costs of health care due to childhood obesity trends were expressed from the Chemical Health Action Collaborative.
- ◆ Users of the Washington County Women, Infant and Children (WIC) program expressed concerns about cancer, diabetes running in the family, asthma, and high blood pressure.

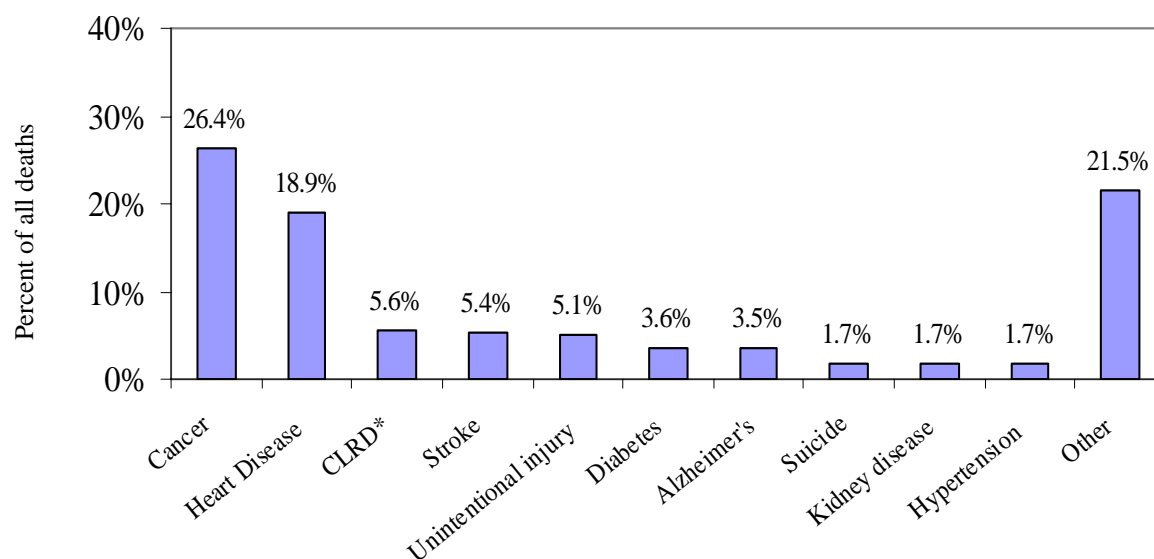
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Key Data

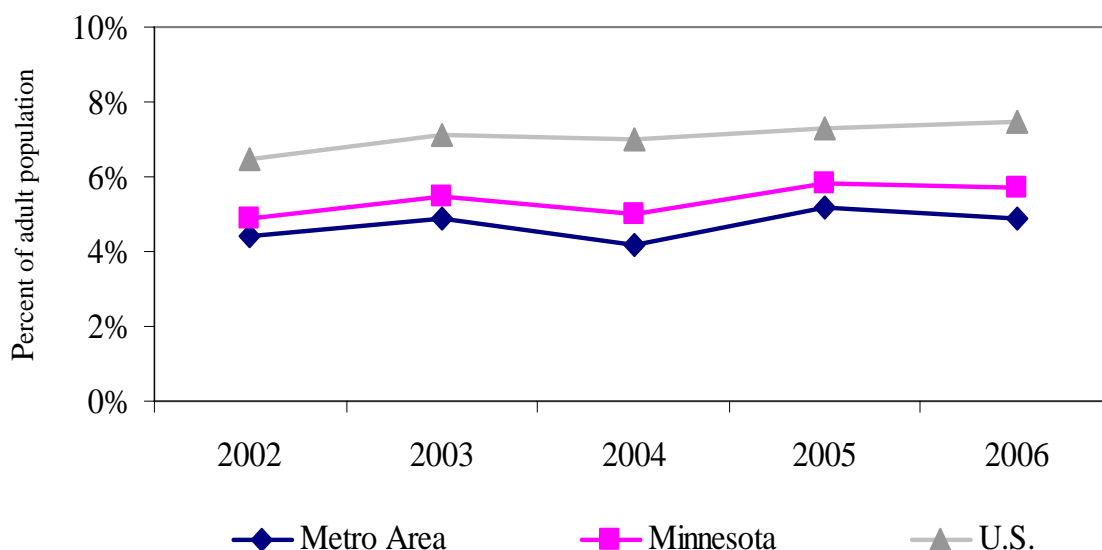
Figure 1. **Leading Causes of Death, Washington County, 2006**



* CLRD = Chronic Lower Respiratory Disease

Source: Minnesota Department of Health, Minnesota County Health Tables, Mortality

Figure 2. **Adults with Diabetes, U.S., Minnesota and Washington County, 2002-2006**



Source: Center for Disease Control, Behavioral Risk Factor Surveillance System

Percent of adults told by their doctor that they have diabetes. Washington County is included in Metro Area estimates. County-specific data is not available.

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Figure 3.

**Number of Deaths Caused by Cancer, By Age
Washington County, 2003-2006**

Age Range	2003	2004	2005	2006
Age < 25	2	2	5	1
Age 25-44	17	7	16	7
Age 45-64	93	75	69	79
Age 65-74	68	65	66	86
Age 75+	<u>130</u>	<u>96</u>	<u>142</u>	<u>108</u>
All ages	310	245	298	281
Total number of deaths (all causes)	1,097	1,068	1,121	1,063
Percent of deaths attributed to cancer	28.3%	22.9%	26.6%	26.4%
Rank of Cancer as a cause of death	1	1	1	1

Source: Minnesota Department of Health, Minnesota County Health Tables—Mortality

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Key Data

Figure 4.

Number and Percent* of Cancer Deaths by Primary Cancer Type and Sex, Washington County, Three year period: 2002-2004

	Number	Percent*
<u>Breast cancer</u>		
men	1	0.2%
women	62	15.3%
<u>Colon & rectum cancer</u>		
men	41	9.1%
women	41	10.1%
<u>Lung cancer</u>		
men	120	26.7%
women	100	24.7%
<u>Prostate</u>		
men	39	8.7%
<u>Other cancer</u>		
men	249	55.3%
women	202	49.9%
<u>Total number of cancer deaths</u>		
men	450	52.6%
women	405	47.4%
Total	855	100%

* Percent = the number of specific cancer cases diagnosed in men or women as a percent of total cancer cases diagnosed for that gender.

Source: Minnesota Department of Health, Minnesota County Health Tables - Mortality

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Key Data

Figure 5.

Deaths from Heart Disease by Gender, Washington County, 2002-2006

Year	Male			Female		
	Number of Deaths	Crude Death Rate*	Age-Adjusted Death Rate*	Number of Deaths	Crude Death Rate*	Age-Adjusted Death Rate*
2002	89	85.1	178.9	83	78.6	109.9
2003	122	114.9	205.6	92	85.7	112.2
2004	107	99.0	178.9	95	87.5	115.8
2005	113	102.7	202.6	98	88.8	114.1
2006	109	97.2	167.8	92	81.5	110.9

Source: Minnesota Department of Health, Vital statistics Report for Washington County generated 10-6-08

*Crude death rate: Number of deaths per 100,000 population

*Age-adjusted death rate: Number of deaths per 100,000 population, adjusted for differences in ages

Figure 6.

Deaths from Stroke by Gender, Washington County, 2002-2006

Year	Male			Female		
	Number of Deaths	Crude Death Rate*	Age-Adjusted Death Rate*	Number of Deaths	Crude Death Rate*	Age-Adjusted Death Rate*
2002	24	22.9	56.6	41	38.8	53.5
2003	28	26.4	49.7	44	41.0	50.5
2004	27	25.0	56.7	42	38.7	52.6
2005	31	28.2	59.9	37	33.5	43.0
2006	21	18.7	38.1	36	31.9	43.1

Source: Minnesota Department of Health, Vital statistics Report for Washington County generated 10-6-08

*Crude death rate: Number of deaths per 100,000 population

*Age-adjusted death rate: Number of deaths per 100,000 population, adjusted for differences in ages

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Key Data

Figure 7.

Deaths from Chronic Lower Respiratory Disease by Gender, Washington County, 2002-2006

Year	Male			Female		
	Number of Deaths	Crude Death Rate*	Age-Adjusted Death Rate*	Number of Deaths	Crude Death Rate*	Age-Adjusted Death Rate*
2002	29	27.7	57.8	31	29.3	40.6
2003	37	34.8	68.9	32	29.8	41.6
2004	27	25.0	52.7	31	28.5	38.0
2005	25	22.7	45.8	29	26.3	35.0
2006	22	19.6	36.1	38	33.7	42.7

Source: Minnesota Department of Health, Vital statistics Report for Washington County generated 10-6-08

*Crude death rate: Number of deaths per 100,000 population

*Age-adjusted death rate: Number of deaths per 100,000 population, adjusted for differences in ages

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Community Assets

- ◆ The Washington County Department of Public Health & Environment has been addressing this problem over the past several years at several worksites and in schools.
- ◆ The Worksite Health Partnerships, Community Health Action Team, worksite wellness programs, park and recreation departments, and community education, promote fitness and nutrition activities for employees in worksites and through community events in the county.
- ◆ Communities in Washington County have many parks, fitness clubs, and grocery stores to provide opportunities for education and environmental supports that encourage healthy choices.
- ◆ Access exists to multiple health care providers and services.
- ◆ Higher incomes and higher education rates for county residents generally lead to better health care.

Community Gaps and Risks

- ◆ Primary prevention for chronic disease has long been underfunded. All school districts in the county have policies in place that begin to address the risk factors for chronic diseases now being seen in childhood. These areas are under-supported by some staff and administration due to the importance of academics and limited budgets.
- ◆ Though parents are somewhat involved in making positive changes for children, there is not enough collaboration between businesses, public health, and other key stake holders to support schools.
- ◆ The increasing number of new immigrants and different ethnic and cultural groups poses other challenges for disease prevention in a healthcare system that may not be prepared for these new populations. These groups may also have limited access to facilities, healthy foods, and health insurance.
- ◆ Seniors have special needs that may not be met by existing community resources or by the current health care system, such as accessible and affordable exercise and nutrition classes for those over age 65.

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Summary

Chronic diseases are the leading cause of death in Washington County. These diseases often occur as a result of a lifetime of unhealthy personal behaviors, such as tobacco use, a poor diet, and getting little or no daily activity. However, genetic and social factors are also determinants of preventing, diagnosing and managing chronic diseases. The primary chronic diseases are cancer, heart disease, stroke, chronic lower respiratory diseases (asthma, emphysema, chronic bronchitis, and chronic obstructive pulmonary disease), and diabetes. As the population ages, the number of people with chronic disease will continue to increase. Seventy percent of all deaths in the U.S. annually are due to chronic disease, accounting for more than 83% of the 1.4 trillion spent on health care every year.

Sources

- ¹ “An Unhealthy America: The Economic Burden of Chronic Disease”, The Milken Institute, October 2007
- ² Centers for Disease Control
- ³ Minnesota Department of Health, Minnesota Cancer Surveillance System, Epidemiology Report, 2007
- ⁴ Minnesota Department of Health, Center for Health Statistics, 2007
- ⁵ Minnesota Cancer Facts and Figures, American Cancer Society, 2006
- ⁶ American Heart Association, 2005
- ⁷ Minnesota Heart Disease and Stroke Prevention Plan 2004-2010, The Burden of Cardiovascular Diseases in Minnesota
- ⁸ American Lung Association. Rate of .96 per 1000 = nearly 1 in 1,000 people age 45 and older.
- ⁹ Minnesota Hospital Association
- ¹⁰ “Diabetes in Minnesota”, Minnesota Department of Health, 2008
- ¹¹ National Osteoporosis Foundation, 2008
- ¹² Alzheimer’s Disease Facts and Figures; Lifetime risk, 2008
- ¹³ Cancer Incidence in Dakota and Washington Counties, Minnesota Cancer Surveillance System Epidemiology Report, 2007, Minnesota Department of Health
- ¹⁴ The State of Aging and Health in America, 2004, Merck Institute of Aging and Health. www.cdc.gov/aging
- ¹⁵ Partnership for Solutions (2004). Chronic conditions: making the care for opening care. John Hopkins University/Robert Wood Johnson Foundation.
- ¹⁶ Minnesota Department of Health, MDH Fact Sheet, heart Disease in Minnesota, Minnesota heart Disease and Stroke Prevention Unit
- ¹⁷ American Academy of Family Physicians
- ¹⁸ American Diabetes Association