

21. Heart Disease & Stroke

Goal:

Improve cardiovascular health and quality of life through the prevention, detection, and treatment of risk factors; early identification and treatment of heart attacks and strokes; and the prevention of recurrent cardiovascular events.

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Health Goal for the Year 2010: Improve cardiovascular health and quality of life through the prevention, detection, and treatment of risk factors; early identification and treatment of heart attacks and strokes; and prevention of recurrent cardiovascular events.					
	Indicator	Alaska Data Source	U.S. Baseline	Alaska Baseline	Alaska Target Year 2010
1	Reduce coronary heart disease (ICD-10: 120-125) deaths (per 100,000 population).	ABVS	186.4 (2000)	131.5 (1999)	120
	Alaska Native	ABVS		123.3 (1999)	120
2	Increase the proportion of adults aged 18 years and older who are aware of the early warning symptoms and signs of a heart attack and the importance of accessing rapid emergency care by calling 911.	BRFSS (potential)	Developmental	Developmental	10% over baseline
3	Reduce stroke deaths (per 100,000 population).	ABVS	61.8 (1999)	75.4 (1999)	60*
	Alaska Native	ABVS		82.5 (1999)	60*
4	Increase the proportion of adults aged 18 years and older who are aware of the early warning symptoms and signs of a stroke.	BRFSS (potential 2002)	Developmental	Developmental	10% over baseline
5	Reduce the proportion of adults 18 years and older with high blood pressure.	BRFSS	24% (1999)	21% (1999)	16%
6	Increase the proportion of adults aged 18 years and older with high blood pressure whose blood pressure is under control (taking prescribed medicine).	BRFSS (potential)	18% (1988-94) NHANES	Developmental	50%
7	Increase the proportion of adults aged 18 and older who are taking action to help control their blood pressure (e.g., diet, exercise).	BRFSS (potential)	82% (1998) NHIS	Developmental	95%
8	Increase the proportion of adults aged 18 years and older who have had their blood pressure measured within the preceding two years.	BRFSS	95% (1999)	93% (1999)	95%
9	Reduce the proportion of adults aged 18 and older with high total blood cholesterol levels (240mg/dL or greater).	BRFSS	30% (1999)	29% (1999)	17%
10	Increase the proportion of adults aged 18 years and older who have had their blood cholesterol checked within the past 5 years.	BRFSS	69% (1999)	63% (1999)	75%
	Alaska Native	BRFSS		47% (1999)	75%
11	Increase the number of community based cardiovascular health screening and education programs	Health Fair Data Health Promotion		Developmental	

ABVS - Alaska Bureau of Vital Statistics

BRFSS - Alaska Behavioral Risk Factor Surveillance System. All U.S. BRFSS data are age-adjusted to the 2000 population; the Alaska BRFSS data have not been age adjusted, so direct comparisons are not advised. See Technical Notes.

NHANES - National Health and Nutrition Examination Survey

NHIS - National Health Interview Survey

* Revised 10/2/02

Overview

The main forms of cardiovascular disease include coronary heart disease and stroke. Heart disease and stroke are major causes of death, disability, and health care costs in the United States.

Nationally, heart disease is the leading cause of death for all Americans. An estimated twelve million men and women have a history of coronary heart disease (the most common form of heart disease). In 1998, almost 460,000 people died of coronary heart disease (44% of these deaths were from heart attacks). Although death rates from coronary heart disease have declined since the late 1960s, the decline has slowed since 1990. The lifetime risk for developing this disease is very high in the United States. One of every two males and one of every three females aged 40 years and under will develop it sometime in their life.

Nationally, stroke is the third leading cause of death. In the United States, about 600,000 strokes occur each year, resulting in 158,000 deaths.¹

Issues and Trends in Alaska

Heart disease is the second leading cause of death in Alaska, and cerebrovascular disease (most commonly referred to as stroke) is the fourth leading cause of death in Alaska. In 1998, heart disease was the leading cause of death for men and the second leading cause of death for women in Alaska. In 1998, stroke was the second leading cause of death among women and the fifth leading cause of death among men.

In Alaska, in 1998, the age-adjusted death rate (2000 population) for heart disease was less than the United States rate (Figure 21-1).

In Alaska, the death rate for stroke in 1998 was higher than the United States' rate (Figure 21-2).

According to the 1997 Behavioral Risk Factor Surveillance System (BRFSS), 2.1 percent of adults between the ages of 18 and 64, and 17 percent of adults aged 65 and older, reported being told by their doctor that they had ever had a heart attack. Of Alaskan adults, almost 2 percent between the ages of 18 and 64, and 21 percent of adults aged 65 and older, had been told by their doctor that they had angina and coronary heart disease. Among adults, 65 and older, approximately 4 percent had been told that they had previously had a stroke.

Figure 21-1

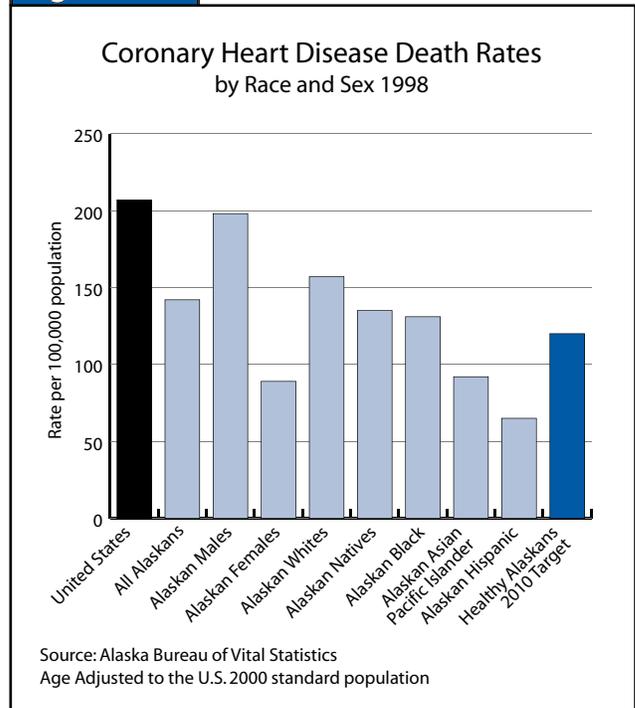
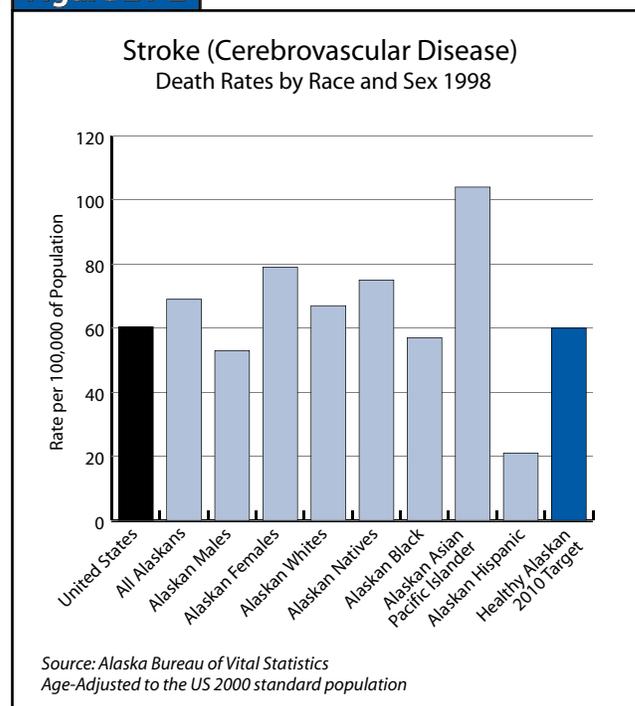


Figure 21-2

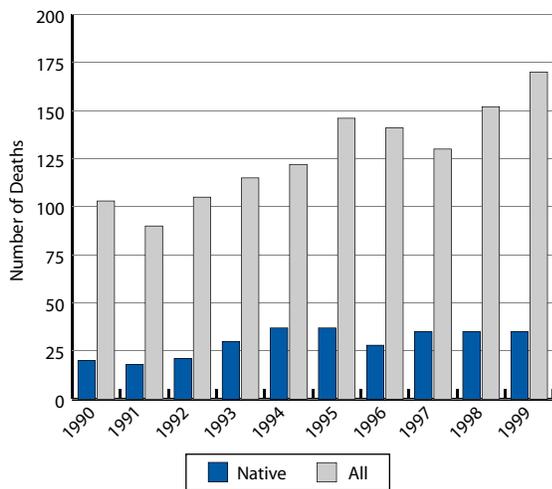


The risk of heart disease and stroke increases with age. As the population of Alaska ages, the number of deaths from heart disease (Figure 21-3) and stroke (Figure 21-4) are expected to increase.

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Figure 21-3

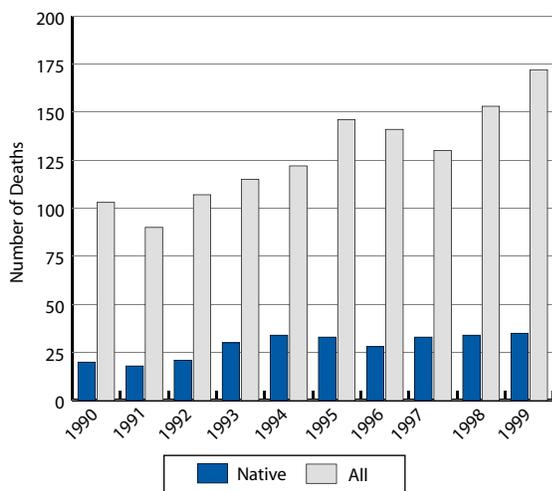
**Coronary (Ischemic) Heart Disease Deaths,
Alaska Natives and All Alaskans: 1990-1999**



Source: Alaska Bureau of Vital Statistics

Figure 21-4

**Cerebrovascular Disease (Stroke) Deaths
Alaska Natives and All Alaskans: 1990-1999**



Source: Alaska Bureau of Vital Statistics

Cardiovascular disease is not only a disease of the aged. Nationally, an estimated 45 percent of all heart attacks occur among people aged less than 65 years. In Alaska, 35 percent of all coronary heart disease deaths occur among people under age 65.

Risk Factors for Heart Disease and Stroke

Many Alaskans are currently at risk for developing cardiovascular disease due to such risk factors as smoking, overweight, poor diet, sedentary lifestyle, high blood pressure and cholesterol, and lack of preventive health screening.

Smokers' risk of heart attack is more than twice that of nonsmokers. Chronic exposure to environmental tobacco smoke (second-hand smoke) also increases the risk of heart disease. Cigarette smoking is also an important risk factor for stroke. High blood pressure increases the risk of stroke and heart attack. High blood pressure is the most important controllable risk factor for stroke. Effective treatment of high blood pressure appears to be a key reason for the decline in the death rates for stroke. After high blood pressure, heart disease is the most important risk factor for stroke. Heart attack is also the major cause of death among survivors of stroke. The risk of stroke for someone who has already had one is many times that of a person who has not.

The risk of coronary heart disease rises as blood cholesterol levels increase. According to the National Cholesterol Education Program, all adults aged 20 years and older should have their cholesterol levels checked at least once every five years to help them take action to prevent or lower their risk of coronary heart disease. Lifestyle changes that prevent or lower high blood cholesterol include eating a diet low in fat, increasing physical activity, and reducing excess weight.

Desirable blood cholesterol levels are under 200 mg/dL. Any cholesterol level of 200 mg/dL or more increases the risk of heart disease. A level of 240 mg/dL or greater is "high" blood cholesterol. A person with this level has more than twice the risk of heart disease compared to someone whose cholesterol is 200 mg/dL. About one out of every five American adults has high blood cholesterol. Of adults in Alaska who had their cholesterol checked, 29 percent reported it was high as reported on the 2001 BRFSS.

Diabetes is an independent risk factor for stroke and is strongly correlated with high blood pressure. Diabetes seriously increases the risk of developing cardiovascular disease. Nearly 4 percent of Alaskan adults interviewed in the Behavioral Risk Factor Surveillance Survey in 1999 reported that they had diabetes.

Lack of physical activity is also a risk factor for coronary heart disease. Regular physical activity is im-

portant in preventing cardiovascular disease. Even modest levels of low-intensity physical activity are beneficial if done regularly and long term. Physical activity can help control blood cholesterol, diabetes, and obesity as well as help to lower blood pressure. In 1998, about half of Alaskan adults had a sedentary lifestyle, and almost one quarter reported no leisure time physical activity.

People who have excess body fat are more likely to develop heart disease and stroke even if they have no other risk factors. Overweight and obesity is rapidly increasing in Alaska and nationwide. The proportion of Alaskan adults that was overweight and obese increased from 48 percent in 1991 to 61 percent in 1999.

Alaska Native people report a higher prevalence of risk factors for cardiovascular disease. Among Alaska Native adults in 1999, 42 percent were current smokers; 52 percent had not had their cholesterol checked in the past five years; 24 percent had been told they had high blood pressure; 4 percent had been told they had diabetes. In addition, 34 percent were overweight, and 3 percent were obese. In 1998, 32 percent of Alaska Native adults reported no leisure time physical activity.⁴

Risk Factors Among Youth

According to the Alaska Youth Risk Behavior Survey 1999, many young people are developing behaviors that could lead to cardiovascular disease. In 1999, 34 percent of high school students were current smokers and 19 percent smoked cigarettes frequently. Among 7th and 8th graders, 21 percent were current smokers and almost 7 percent smoked cigarettes frequently.

Over 7 percent of high school students were overweight and 15 percent were at risk for becoming overweight. Among Alaska middle school students, over 9 percent were overweight and over 20 percent were at risk for becoming overweight.

Current Strategies and Resources

Cardiovascular disease can be prevented or delayed through healthy lifestyles such as eliminating the use of tobacco, eating a heart healthy diet, being physically active everyday, maintaining desirable weight, and managing stress. Preventive health check ups for blood pressure and blood cholesterol levels and controlling high blood pressure and high cholesterol are

also important. Opportunities exist within communities, schools, worksites, and health care sites to prevent cardiovascular disease through community based health promotion programs as well as through the development of health communication messages and strategies.

In 1996, the Alaska Department of Health and Social Services Division of Public Health initiated a statewide effort to address cardiovascular disease prevention. In conjunction with the American Heart Association, Alaska Affiliate, Alaska Health Fair Inc. and many individuals and representatives from other agencies and organizations, a statewide Cardiovascular Disease Prevention Plan was developed and completed in 1998.

The purpose of Take Heart Alaska, A Cardiovascular Disease Prevention Plan for Alaska was “to provide overall guidance to communities, worksites, schools, health care providers, public health leaders, and others interested in improving cardiovascular health in Alaska and improving the systems to carry out that mission as well as to provide the impetus for action.”⁵

The overall goal of the plan is “to increase heart health among all Alaskans through advocating for individual and community-based commitment to healthy lifestyles and improving access to preventive services.” The Take Heart Alaska plan has identified the following priorities:

- To develop improved leadership, coordination and collaboration in Alaska in order to identify resources and improve advocacy for cardiovascular health.
- To ensure that Alaskans living in rural areas have access to cardiovascular disease prevention activities.
- To improve the ability of all Alaskans to eat a healthy diet, engage in sufficient physical activity, live tobacco-free, and obtain needed preventive health services.
- To develop and expand Alaska’s capacity for making data about cardiovascular disease available and easily understood.
- To ensure the distribution of heart healthy information to the public and to health care providers.

At the present time there is no comprehensive State of Alaska cardiovascular health program. However, cardiovascular health activities and program development exists within the Division of Public Health, Section of Community Health and Emergency Services with support from federal funds (Centers for

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Disease Control and Prevention, Preventive Health and Health Services Block Grant). One of the current activities includes the coordination of the statewide Take Heart Alaska Coalition, which formed as a result of the prevention planning process.

Collaboration also exists among related prevention programs within the Division of Public Health such as Tobacco, Nutrition, Diabetes, new programs of Arthritis and Physical Activity and related coalitions including the Alaska Tobacco Control Alliance, Alaskans Promoting Physical Activity, Eat Smart Alaska!, and the state Diabetes Coalition.

Alaska Health Fair Inc., a private non-profit organization and a grantee of the Division of Public Health, Community Health and Emergency Services, provides the largest population based health screening and health education effort statewide. It serves over 30,000 Alaskans each year and performs approximately 10,000 comprehensive cardiac risk profile blood tests per year.

Reducing deaths from cardiovascular disease also depends on trained and prepared first responders to heart attacks and other cardiovascular emergencies. The sooner cardiopulmonary resuscitation (CPR) is given to a person in cardiac arrest or ventilation is given for respiratory arrest, the greater the chances of survival. The American Red Cross and the American Heart Association conduct CPR training in Alaska.

In Alaska, the Division of Public Health, Section of Community Health and Emergency Medical Services oversees training and certification of Emergency Trauma Technicians and Medical Technicians. One of the goals of the state is to increase the proportion of persons who have access to rapidly responding pre-hospital emergency medical services by developing early defibrillation programs in all communities that meet the American Heart Association's criteria.

Currently, programs for improving cardiovascular health in Alaska are constrained due to lack of dedicated funding (state or federal) for core capacity staff, program development, and implementation of recommended strategies at the state level.^{6,7,8}

Building and strengthening partnerships is one of the current assets for improving cardiovascular health in Alaska. Potential exists for increased collaboration with Public Health Nursing and Diabetes programs, as well as for expansion of federally funded Breast and Cervical Cancer Early Detection Programs in Alaska

to include cardiovascular health screening (Wise Woman Program). In addition, there is potential for the enhancement and further utilization of community based health promotion programs for cardiovascular screening and education.

The high prevalence of risk factors for cardiovascular disease in Alaska Natives has led to several tribal health initiatives to study risk and protective factors. The Alaska Native Medical Center and the Norton Sound Health Corporation, for example, are participating in a major study on the genetics of coronary artery disease and the impact of infectious agents on heart disease and stroke in Alaska Natives.

With increased resources and efforts in Alaska, heart disease and stroke can be prevented or controlled through the prevention of risk factors, the promotion of healthy lifestyles, early detection and treatment of disease, trained first responders and rapid emergency care.

Data Issues and Needs

Risk factor data is available from the Behavioral Risk Factor Surveillance System and the Youth Risk Behavior Survey. Statewide hospital discharge data is needed to understand the incidence of heart disease and stroke in Alaska. Support and use of National Registry of Myocardial Infarction data could inform policy for better prevention initiatives and for evaluation efforts. Ongoing assessments of community based programs, school health programs, worksite programs, and health care providers on preventive counseling are needed.

Related Focus Areas

A variety of objectives in other Healthy Alaskans chapters are linked to objectives in Heart Disease and Stroke.

- Physical Activity
- Nutrition
- Tobacco
- Environmental Health
- Diabetes
- Disability

Increasing physical activity and fitness would decrease the future prevalence of heart disease and stroke. Good nutrition is one of the most important

factors to reduce chances of having heart disease or a stroke. Reducing or eliminating tobacco use further reduces the number of deaths from heart disease or stroke. People with existing heart disease will benefit from a cleaner environment with less air pollution, as described in Environmental Health. People with diabetes are more likely to have high blood pressure or develop heart disease, so reducing the number of people with diabetes will decrease the number of heart disease deaths. High blood pressure can be a serious limitation or disability for many people, thus connecting Heart Disease and Stroke to Disability and Secondary Conditions.

Endnotes

¹ U.S. Department of Health and Human Services. Healthy People 2010. 2nd ed. Washington, DC: U.S. Government Printing Office, November 2000.

² Centers for Disease Control and Prevention, American heart month, Morbidity and Mortality Weekly Report Feb. 16, 2001; Vol.50/No.6 www.cdc.gov/mmwr/mmwr_wk.htm

³ Alaska Bureau of Vital Statistics. Alaska Bureau of Vital Statistics 1998 Annual Report, June 2000.

⁴ Alaska Department of Health and Social Services, Alaska Division of Public Health, Section of Community Health and Emergency Medical Services. Alaska Behavioral Risk Factor Surveillance System, unpublished 1997 and 1999 data.

⁵ Alaska Department of Health and Social Services. Take Heart Alaska A Cardiovascular Disease Prevention Plan, October, 1998.

⁶ National Institutes of Health, National Heart Lung and Blood Institute, 1996.

⁷ Alaska Department of Health and Social Services, Alaska Division of Public Health, Section of Community Health and Emergency Medical Services. Alaska Behavioral Risk Factor Surveillance System, 2000.

⁸ Alaska Department of Health and Social Services, Division of Public Health, and Department of Education, Division of Teaching and Learning Support. Alaska Youth Risk Behavior Survey 1999.

References and Sources

Alaska

Alaskans Promoting Physical Activity

www.chems.alaska.gov/takeheart/appa.htm

DHSS: Section of Epidemiology Cardiovascular Disease Program

www.epi.hss.state.ak.us/programs/chronic/cardio.stm

National

American Heart Association

www.americanheart.org

National Heart, Lung, and Blood Association

www.nhlbi.nih.gov/index.htm

Act in Time to Heart Attack Signs

www.nhlbi.nih.gov/actintime/

Chapter Notes

