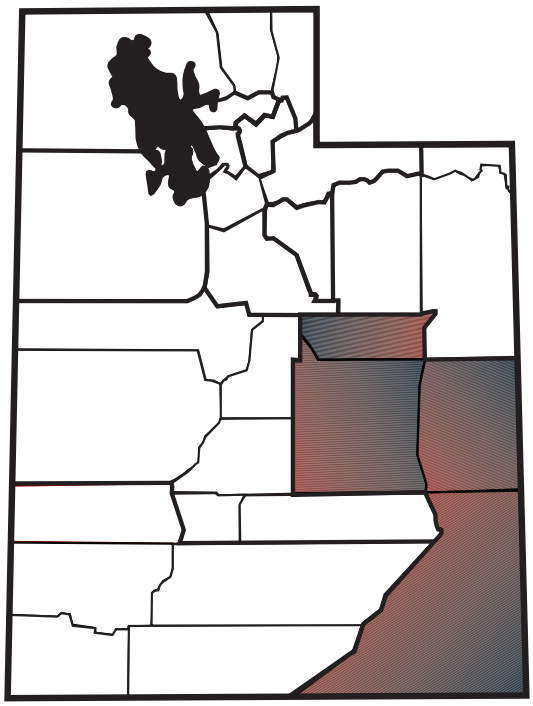
Southeastern Local Health District Report

Inside

Introduction 1
Risk Factors 2
Mortality 5
Pre-transport 6
Hospitalization 7
Sources 8
Appendix A 9



Introduction

Cardiovascular disease is the leading cause of death in the United States and Utah. Cardiovascular disease includes those diseases that affect the heart and blood vessels including coronary heart disease, stroke, congestive heart failure, and hypertension. Several modifiable risk factors contribute to cardiovascular disease including high blood pressure, high blood cholesterol, tobacco use, excessive alcohol consumption, inadequate physical activity, poor nutrition, obesity, and diabetes.

This report examines the burden of cardiovascular disease in Utah and each of Utah's 12 local health districts. The data presented on cardiovascular disease come from several sources including the Utah Behavioral Risk Factor Surveillance System, Utah Death Certificates, and the Utah Hospital Discharge Database.

The data have been divided by geographic area to provide a general overview of health status in each local health district. Local programs will find this information useful when presenting a case for heart disease and stroke prevention in their areas. The information is also useful for program planning, setting priorities, and evaluation.

Heart Disease & Stroke Prevention Program

Table 1.

Demographics, Utah vs Southeastern Health District

Demographic Subgroup	Health District Population: Number of Persons	Health District Population: Distribution	95% Confidence Intervals: Lower	95% Confidence Intervals: Upper	State Population: Number of Persons	State Population: Distribution
Gender						
Males	25,743	49.0%			1,303,786	50.5%
Females	26,743	51.0%			1,278,585	49.5%
Total	52,486	100.0%			2,582,371	100.0%
Age Group						
0 to 4	3,832	7.3%			254,065	9.8%
5 to 17	10,985	20.9%			550,504	21.3%
18 to 49	22,205	42.3%			1,221,336	47.3%
50 or Over	15,464	29.5%			556,466	21.5%
Total	52,486	100.0%			2,582,371	100.0%
Race/Ethnicity						
White	43,857	82.5%			2,241,072	93.8%
Black	141	0.3%			22,534	0.9%
American Indian/Alaskan Native	8,627	16.2%			32,191	1.3%
Asian	192	0.4%			44,608	1.9%
Pacific Islander	8	0.0%			17,368	0.7%
Other	314	0.6%			31,266	1.3%
Total	53,139	100.0%			2,389,039	100.0%
Non-Hispanic	49,407	93.0%			2,135,966	89.4%
Hispanic	3,732	7.0%			253,073	10.6%
Unemployment	1,880	7.8%			56,610	4.7%
Income						
Less Than $20,000	13,200	25.2%	21.7%	29.0%	390,900	15.1%
$20,000-$49,999	24,900	47.5%	43.3%	51.7%	1,054,600	40.8%
$50,000 and Over	14,400	27.4%	24.2%	30.8%	1,136,800	44.0%
Education						
Less Than High School	6,000	11.4%	8.9%	14.5%	183,800	7.1%
H.S. Grad or G.E.D.	17,600	33.6%	29.9%	37.5%	717,500	27.8%
Some Post High School	17,700	33.7%	30.0%	37.7%	870,300	33.7%
College Graduate	11,200	21.3%	18.3%	24.6%	810,700	31.4%
Do Not Have Health Care Coverage	12,500	23.9%	20.7%	27.4%	364,900	14.1%
Unable to Get Health Care Due to Cost	9,200	17.5%	14.6%	20.8%	320,200	12.4%
Report Having "Fair" or "Poor" Health	9,100	17.4%	14.7%	20.5%	347,300	13.5%
Seven or More Days of Poor Mental Health	8,100	15.4%	12.8%	18.4%	392,800	15.2%

Sources: Population data from 2006 Governor's Office of Planning and Budget Population Estimates; race/ethnicity data from 2004 U.S. Census Bureau county estimates; unemployment data from 2004 Department of Workforce Services Unemployment Rates; income, education, health status, and health care coverage data from 2003-2005 BRFSS age-adjusted to 2000 population

Risk Factors

Physical Activity

Regular physical activity reduces the risk of cardiovascular disease in general and of coronary heart disease in particular. Adults should get at least 30 minutes of moderate intensity exercise five or more days a week, or at least 20 minutes of vigorous exercise three or more days a week.[1]

Fruits and Vegetables

A diet of five or more servings of fruits and vegetables per day is associated with a reduced risk of coronary heart disease, some types of cancer, diabetes, and other chronic diseases.[2] Fruits and vegetables are low in fat and high in vitamins, minerals and fiber. A healthy diet that includes fruits and vegetables can reduce blood pressure and blood cholesterol levels. In general, a person should eat at least two servings of fruit and three servings of vegetables a day.

Obesity

Obesity is fast approaching smoking as the leading preventable cause of death in the United States. An estimated 300,000 deaths a year can be attributed to obesity. Adults who are overweight or obese are at increased risk of hypertension, high blood cholesterol, type 2 diabetes, coronary heart disease, stroke, and certain forms of cancer.[3,9]

Smoking

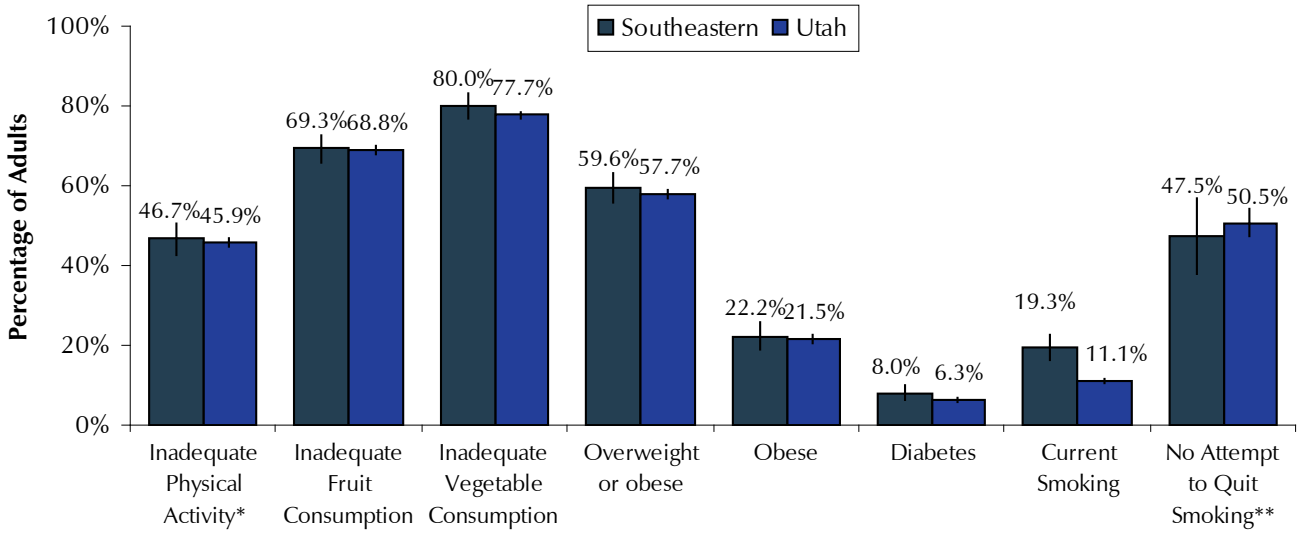
Smoking is the leading preventable cause of death in the United States. Cigarette smoking causes heart disease, chronic lung disease, several kinds of cancer, and other diseases.[4]

Diabetes

Diabetes is a disease in which blood glucose levels are above normal. Diabetes can cause serious health complications including heart disease, blindness, kidney failure, and lower-extremity amputations. Diabetes is the sixth leading cause of death in the United States and Utah.

Figure 1.

Risk Factors. Percentage of Adults Aged 18 and Over, by Risk Factor, Utah vs Southeastern Health District



Source: BRFSS, Office of Public Health Assessment, Utah Department of Health 2002-2005, Age-adjusted to 2000 population
* Includes 2001 data
** Among adults who smoke

High Blood Pressure

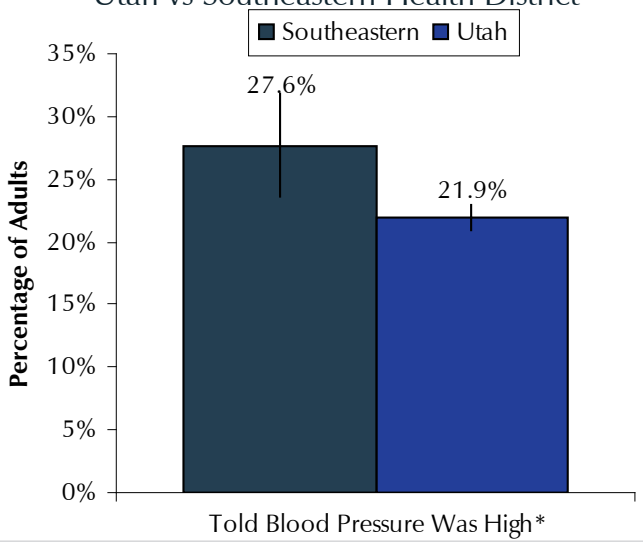
High blood pressure is a leading cause for cardiovascular disease. Hypertension, often called high blood pressure, is having a systolic blood pressure of 140mm Hg and higher or a diastolic blood pressure of 90mm Hg and higher. A person with high blood pressure should be diagnosed by a doctor before concluding that that person has hypertension. Hypertension is related to an increased incidence of heart disease, heart attack, stroke, atherosclerosis, and coronary artery disease. Individuals with high blood pressure should take steps to reduce and control their blood pressure.[7]

High Blood Cholesterol

High levels of cholesterol and triglycerides increase the risk for heart disease. The National Heart, Lung, and Blood institute defines high blood cholesterol as 240 mg/dl or greater and "borderline high" cholesterol as 200 to 239 mg/dl. Cholesterol and other fats can't dissolve in the blood. They have to be transported to and from the cells by special carriers called lipoproteins. There are two types of lipoproteins that are important in our bodies: low-density lipoprotein (LDL), which carries cholesterol to the arteries, and high-density lipoprotein (HDL), which removes cholesterol from the arteries. High levels of LDL and low levels of HDL are related to an increased incidence of heart disease, including heart attack, atherosclerosis, and coronary artery disease. Individuals with high cholesterol should take steps to reduce and control their cholesterol levels.[8]

Figure 2.

Doctor-diagnosed High Blood Pressure. Percentage of Adults Aged 18 and Over, Utah vs Southeastern Health District

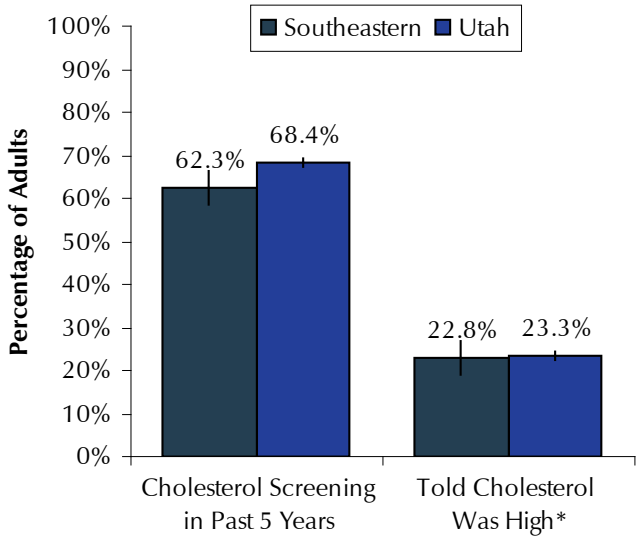


Source: BRFSS, Office of Public Health Assessment, Utah Department of Health 2003-2005, Age-adjusted to 2000 population

* Respondents who were told they had high blood pressure during pregnancy were excluded from the population

Figure 3.

Doctor-diagnosed High Cholesterol. Percentage of Adults Aged 18 and Over, Utah vs Southeastern Health District



Source: BRFSS, Office of Public Health Assessment, Utah Department of Health 2003-2005, Age-adjusted to 2000 population

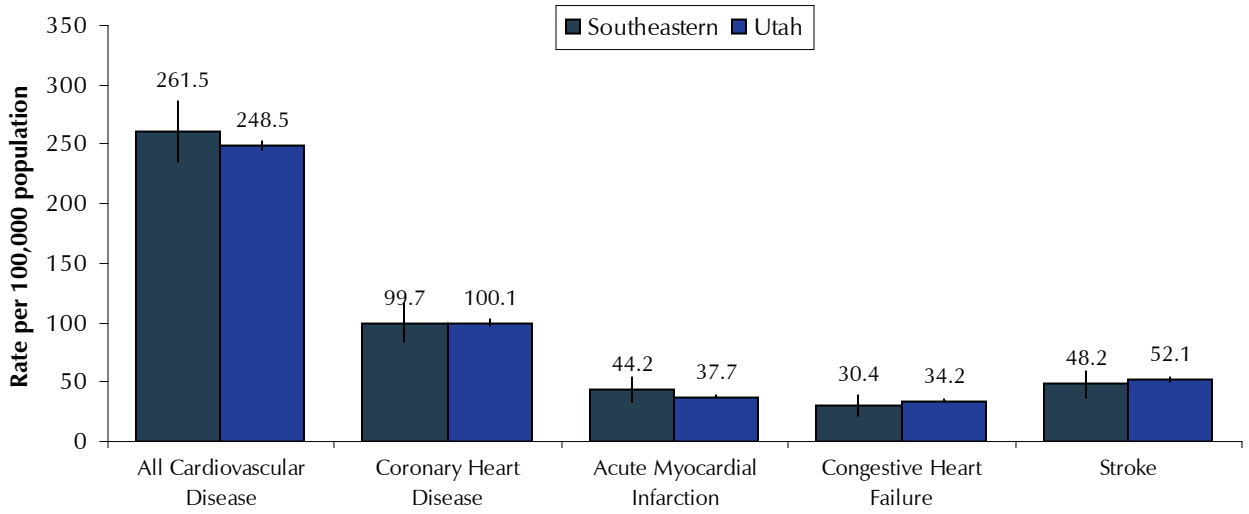
* Percentage of all respondents, results should not be interpreted as prevelance of high cholesterol.

Mortality

Cardiovascular disease is the leading cause of death in the United States and in Utah. Cardiovascular disease includes a wide variety of diseases including coronary heart disease, stroke, congestive heart failure, and hypertension. Almost 4,000 Utahans die each year from cardiovascular disease, which accounts for 30% of all deaths in Utah. Heart disease and stroke are also the leading causes of disability in the country.[5]

Figure 4.

Mortality. Rate per 100,000 Population, by Cause of Death, Utah vs Southeastern Health District



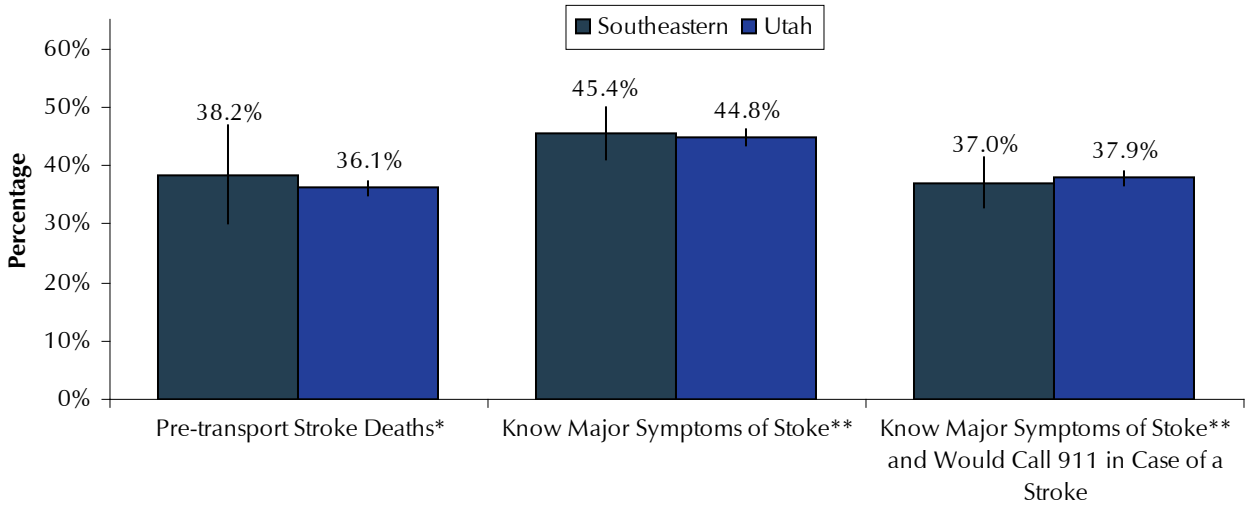
Source: Utah Death Certificate Database, Office of Vital Records, Utah Department of Health 2002-2004, Age-adjusted to 2000 population
ICD-10 Codes : See appendix A

Pre-transport

Early access to medical services is critical in determining the outcome of a stroke or heart attack. Only a small percent of patients who could benefit from treatments like clot-dissolving therapy or defibrillation actually receive treatment early enough for them to work.[5] Individuals who do not recognize the signs and symptoms of a heart attack or stroke are less likely to receive the treatment they need before it's too late. The best strategy is to be aware of the early warning signs and respond to them by calling 911 immediately.

Figure 5.

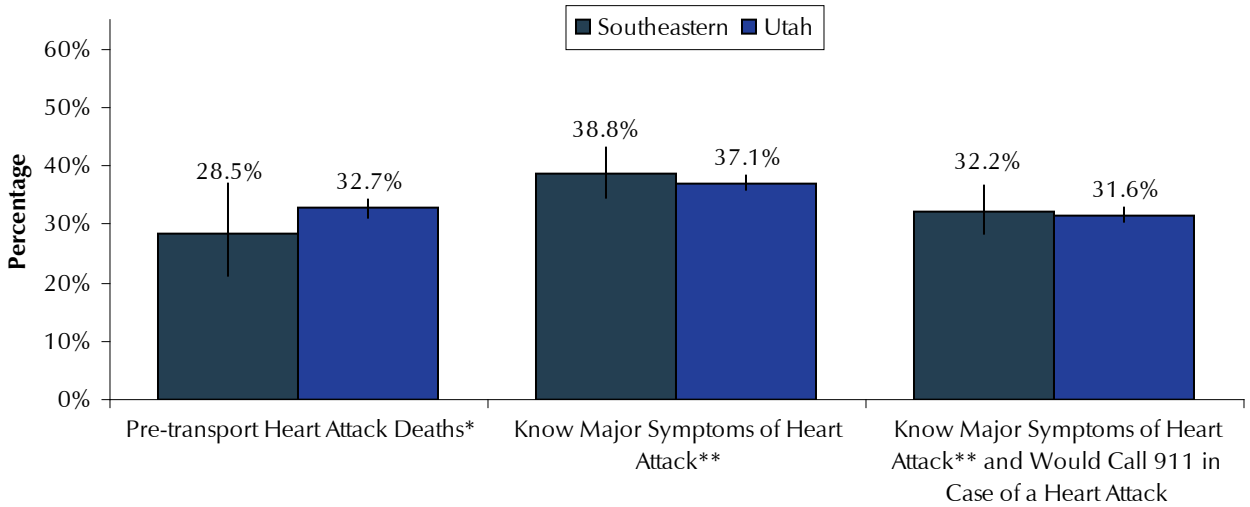
Pre-transport Death and Knowledge of Signs and Symptoms of Stroke.
Utah vs Southeastern Health District



Sources: * Utah Death Certificate Database, Office of Vital Records, Utah Department of Health 1999-2004, Age-adjusted to 2000 population; defined as the percentage of stroke deaths that occur before transport to an emergency department
** BRFSS, Office of Public Health Assessment, Utah Department of Health 2001-2005, Age-adjusted to 2000 population; defined as the percentage of adults 18 and over who could to identify all 5 of the major symptoms of stroke

Figure 6.

Pre-transport Death and Knowledge of Signs and Symptoms of Heart Attack.
Utah vs Southeastern Health District



Sources: * Utah Death Certificate Database, Office of Vital Records, Utah Department of Health 1999-2004, Age-adjusted to 2000 population; defined as the percentage of heart attack deaths that occur before transport to an emergency department
** BRFSS, Office of Public Health Assessment, Utah Department of Health 2001-2005, Age-adjusted to 2000 population; defined as the percentage of adults 18 and over who could identify all 5 of the major symptoms of heart attack

Hospitalization

In 2004 the United States spent over $225 billion on cardiovascular disease. Almost half of those costs were spent on hospitalization.[6]

Table 2.

Average and Total Hospitilization Costs for Primary Diagnosis, Utah vs Southeastern Health District

	Southeastern Health District			Utah		
Condition	Average Hospitilization Cost per Diagnosis	Average Total Annual Cost	Percent of Cost Paid by Government	Average Hospitilization Cost per Diagnosis	Average Total Annual Cost	Percent of Cost Paid by Government
All Cardiovascular Disease	$18,368.05	$10,084,058.67	73.0%	$22,545.81	$445,738,091.00	67.6%
Coronary Heart Disease	$24,284.66	$5,067,398.67	66.0%	$28,346.39	$212,777,462.67	63.4%
Acute Myocardial Infarction	$26,718.26	$2,030,587.33	69.4%	$30,802.51	$84,214,063.33	61.4%
Congestive Heart Failure	$10,657.31	$973,367.67	94.5%	$15,843.41	$46,616,597.33	79.7%
Stroke	$11,290.77	$846,808.00	72.7%	$15,214.63	$49,442,462.00	69.5%

Source: Utah Inpatient Hospital Discharge Data, Office of Health Care Statistics, Utah Department of Health, 2002-2004; Government costs include Medicaid, Medicare, CHIP, Worker's Compensation, and Other Government

Table 3.

Average and Total Hospitilization Costs for Any Diagnosis,* Utah vs Southeastern Health District

	Southeastern Health District			Utah		
Condition	Average Hospitilization Cost per Diagnosis	Average Total Annual Cost	Percent of Cost Paid by Government	Average Hospitilization Cost per Diagnosis	Average Total Annual Cost	Percent of Cost Paid by Government
All Cardiovascular Disease	$15,267.15	$26,564,849.00	73.7%	$18,264.67	$1,201,212,464.67	68.3%
Coronary Heart Disease	$17,957.79	$9,781,010.00	77.0%	$20,710.43	$407,463,960.00	71.4%
Acute Myocardial Infarction	$28,000.70	$2,604,065.67	70.8%	$31,635.96	$115,439,636.00	65.1%
Congestive Heart Failure	$16,430.10	$8,050,748.33	87.8%	$20,690.93	$306,446,464.00	81.0%
Stroke	$13,521.52	$1,816,390.33	70.9%	$17,720.93	$106,502,764.33	70.6%

Source: Utah Inpatient Hospital Discharge Data, Office of Health Care Statistics, Utah Department of Health, 2002-2004; Government costs include Medicaid, Medicare, CHIP, Worker's Compensation, and Other Government
* Defined as mention in either primary or secondary diagnoses codes

Table 4.

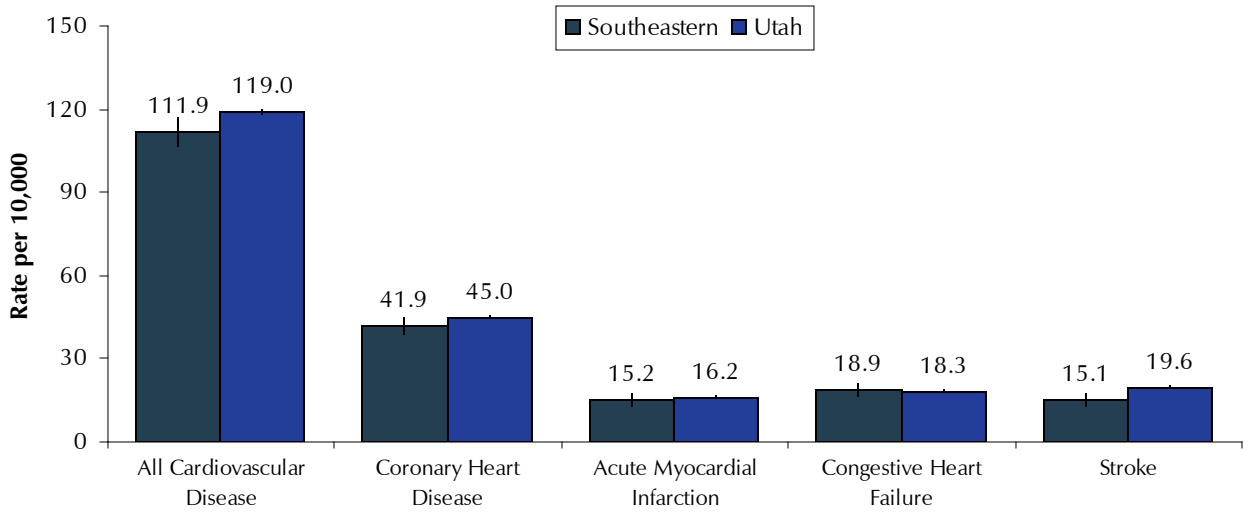
Per Capita Costs for Cardiovascular Disease, Utah vs Southeastern Health District

	Southeastern Health District	Utah
Amount Spent Per Capita on Prevention	$1.40	$0.21
Hospitilization Costs Per Capita (Primary Diagnosis)	$190.67	$184.67
Hospitilization Costs Per Capita (Any Diagnosis)*	$502.29	$497.66

Sources: Prevention costs calculated using local health department contract summary data Fiscal Year 2006, Heart Disease and Stroke Prevention Program; Hospitilization costs calculated from Utah Inpatient Hospital Discharge Data, Office of Health Care Statistics, Utah Department of Health, 2002-2004
* Defined as mention in either primary or secondary diagnoses codes

Figure 7.

Hospitilization Rates. Rate per 10,000 Population, by Primary Diagnosis, Utah vs Southeastern Health District



Source: Utah Inpatient Hospital Discharge Data, Office of Health Care Statistics, Utah Department of Health, 2002-2004, Age-adjusted to 2000 population
ICD-9 Codes : See appendix A

Sources

1. U.S. Department of Health and Human Services. Physical Activity and Health: A Report of the Surgeon General. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion 1996.

2. U.S. Department of Health and Human Services and U.S. Department of Agriculture. Dietary Guidelines for Americans, 2005. 6th Edition, Washington, DC: U.S. Government Printing Office, January 2005.

3. U.S. Department of Health and Human Services. The Surgeon General's callto action to prevent and decrease overweight and obesity. [Rockville, MD]: U.S. Department of Health and Human Services, Public Health Service, Office of the Surgeon General; [2001]. Available from: U.S. GPO, Washington.

4. U.S. Department of Health and Human Services. The Health Benefits of Smoking Cessation. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. DHHS Publication No. (CDC) 90-8416. 1990.

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

6. National Heart, Lung, and Blood Institute. Morbidity & mortality: 2004 chart book on cardiovascular, lung, and blood diseases. U.S. Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute; 2004.

7. Sheridan S, Pignone M, Donahue K. Screening for High Blood Pressure: A Review of the Evidence for the U.S. Preventive Services Task Force. Am J Prev Med. 2003;25:151–158.

8. Pignone MP, Phillips CJ, Atkins D, Teutsch SM, Mulrow CD, Lohr KN. Screening and treating adults for lipid disorders. Am J Prev Med. 2001;20:77-89.

9. Allison DB, Fontaine KR, Manson JE, Stevens J, VanItallie TB. Annual deaths attributable to obesity in the United States. JAMA 1999 Oct 27;282(16):1530-8.

Appendix A

The International Classification of Diseases, Ninth and Tenth Revisions, Clinical Modification (ICD-9-CM and ICD-10 CM) were used to identify the specific disease categories in this report. The following ICD-9 or ICD-10 codes have been grouped together to determine rates for the specific conditions included in this report.

ICD-9 and ICD-10 Codes by Cause

Condition/Procedure	Type of Data	ICD-9 Codes	ICD-10 Codes
All Cardiovascular Disease	Mortality	390-448	I00-I78, G45
	Hospital Discharge	390-448	
Coronary Heart Disease	Mortality	402, 410-414, 429.2	I11, I20-I25
	Hospital Discharge	402, 410-414, 429.2	
Acute Myocardial Infarction	Mortality	410	I21-I22
	Hospital Discharge	410	
Congestive Heart Failure*	Mortality	428.0, 428.1, 428.9	I50.0, I50.1, I50.9
	Hospital Discharge	428.0, 428.1, 428.9, 398.91**	
Stroke	Mortality	430-438	I60-I69
	Hospital Discharge	430-438	

* According to guidelines governing the writing of cause-of-death statements, congestive heart failure should not be listed as an underlying cause of death and, therefore, these data should be interpreted with caution.
** Mortality data were not coded to the fifth digit and, therefore, ICD-9 code 398.91 was not included in the definition of congestive heart failure when analyzing mortality data.

Notes

Notes