

1996 Utah Health Status Survey Report

CHRONIC MEDICAL CONDITIONS IN UTAH

**Bureau of Surveillance and Analysis
Office of Public Health Data**



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Bureau of Surveillance and Analysis
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PREFACE

The information in this report is based on data collected in the 1996 Utah Health Status Survey. The survey represents the third of its type, with previous surveys conducted in 1986 and 1991. It provides information on a variety of topics related to health status and health care delivery systems at statewide and health district levels. These topics are presented in separate reports due to be released in 1997 and 1998 under the headings listed below.

Health Insurance Coverage
Health Care Access and Utilization
Health Status in Utah: Medical Outcomes
Study SF-12
Socio-Economic Status and Health
Lifestyle Factors: Alcohol, Tobacco, Exercise,
and 5-A-Day

Chronic Medical Conditions
Cancer Screening
Injuries in Utah
Interpersonal Violence
Hearing, Vision, and Speech Disorders

The survey was funded by a one-time legislative appropriation and was designed, analyzed, and reported by the Utah Department of Health, Bureau of Surveillance and Analysis. The survey sample was designed to be representative of Utahns, and is perhaps best described as a weighted probability sample consisting of approximately 6,300 households disproportionately stratified by twelve local health districts that cover the entire state.

The Gallup Organization conducted the telephone interviews using computer-assisted random digit dialing techniques. In each household, one adult (age 18 or older) was randomly selected to respond to survey questions about themselves, about the household as a unit, or with regard to each household member. In addition to "core" survey questions that were asked of every household, sets of supplemental questions were administered to different subsets of the overall sample. The survey results were weighted to reflect the age, sex, geographic distribution, and Hispanic status of the population. The interview process took place over a three month period from June to August, 1996. The cooperation rate was 66.3%. A detailed description of the methodology can be found in the *Technical Notes* section of this report.

The information in this report can be used to facilitate policy and planning decisions. While it is intended primarily for public health program managers, administrators, and other health care professionals in the public and private health care sectors, the report may also be of interest to anyone wishing to inform themselves on the current health situation in Utah.

INTRODUCTION

Of the ten leading causes of death in the United States in 1990, more than half were chronic diseases, including heart disease, cancers, cerebrovascular disease (also known as stroke), chronic obstructive pulmonary disease, diabetes mellitus, and chronic liver diseases. Heart disease, cancer, and cerebrovascular disease were the first three leading causes of death in the nation (Brownson et al., 1993). Similarly, heart disease, cancer, cerebrovascular disease, and chronic obstructive pulmonary disease are the top four leading causes of death in Utah, respectively (Utah Department of Health, Bureau of Surveillance and Analysis, 1997).

High-quality, population-based surveillance data are critical in planning programs to control chronic diseases and conditions, identifying target populations for those programs, and evaluating the effectiveness of those programs (Utah Department of Health, Division of Community and Family Health Services, Chronic Disease Prevention and Control Team, Cardiovascular Program, 1996). The Utah Health Status Survey (UHSS) conducted in 1986, 1991 and 1996 has been one of the most important data sources for meeting those needs.

This report examines the prevalence in Utah during 1996 of eight chronic diseases or conditions (listed in alphabetical order):

- Alzheimer's disease
- Arthritis
- Asthma
- Chronic obstructive pulmonary disease (COPD) (including chronic bronchitis and emphysema)
- Diabetes
- Heart disease (such as angina, congestive heart failure, and heart attack)
- Hypertension
- Stroke

Most of the data used in this report were from the 1996 UHSS. The 1996 UHSS asked respondents whether any members of their household currently had the chronic diseases or conditions listed above. The actual question wording differed slightly depending on the disease or condition. In the case of Alzheimer's disease, diabetes, heart disease, and stroke, interviewers asked, "Has a medical doctor or other health professional ever told anyone currently living in your household that they have [name of the disease]?" (For heart disease, interviewers further asked: "such as angina, congestive heart failure, or heart attack") For asthma, arthritis, and chronic obstructive pulmonary disease, interviewers asked, "Is anyone living in your household currently under medical care for [name of the disease]?" (For COPD, the interviewer further specified, "such as chronic bronchitis and emphysema?") Respondents who answered "yes" were asked to list the household members who had the disease or condition. Questions regarding hypertension were asked of the survey respondents only. These respondents were randomly selected adult household members. Interviewers asked, "Have you ever been told by a doctor or other health professional you have hypertension, sometimes called high blood pressure?"

The prevalence rates of chronic diseases or conditions were evaluated by selected socio-demographic variables. In addition, comparable data were taken from the 1986 and 1991 UHSS for trend

analyses using the logistic regression model adjusting for age and sex (Hosmer and Lemeshow, 1989). In the 1991 UHSS, questions regarding chronic diseases and conditions were asked in a similar way as the 1986 questions, except that questions regarding high blood pressure were asked of all household members. The 1986 UHSS asked the questions somewhat differently: Instead of asking separate questions for each chronic disease or condition, the interviewer read a list of medical conditions and asked the respondents which household member had the disease or condition, and whether it had been verified by a medical doctor. After reviewing the questionnaires used in the three survey years, we determined that data for arthritis, heart disease, and stroke were comparable across all three survey years of the UHSS, and data for diabetes and asthma were comparable between 1991 and 1996. Therefore we examined trends for arthritis, heart disease and stroke from 1986 and 1991, and compared the prevalence rates of asthma and diabetes between 1991 and 1996. Detailed findings regarding prevalence of chronic diseases and conditions from the 1991 and 1986 UHSS may be found in previously published reports (Utah Department of Health and Utah State University, 1992).

In this report, we did not provide the prevalence estimate of hypercholesterolemia because approximately 28% of the 1996 UHSS participants reported that they had never had their blood cholesterol checked. A more careful examination of the data revealed that persons who had never had their blood cholesterol checked tended to be younger (mean age = 35 years; 71% were less than 40 years old) and healthier (8% rated their own health as “fair” or “poor”), compared with persons who had ever had their blood cholesterol checked (mean age = 48 years; 35% were less than 40 years old; 15% rated their own health as “fair” or “poor”). Therefore, the prevalence estimate of hypercholesterolemia could have been severely biased if we only used data for those who reported having had their blood cholesterol checked.

The 1996 UHSS was conducted by Gallup, Inc., under the guidance of the Bureau of Surveillance and Analysis at the Utah Department of Health. The survey was a telephone survey of civilian, non-institutionalized, Utah residents, utilizing a multi-stage complex sample design. All variance estimates in this report were computed using SUDAAN (Software for the Statistical Analysis of Correlated Data) statistical software to account for the complex nature of the survey design (Levy and Lemeshow, 1991; Shah et al., 1995). The estimated total number of persons in the population with chronic diseases or conditions were computed using the Utah 1996 population, based on data published by the Governor’s Office of Planning and Budget in October 1994 (Governor’s Office of Planning and Budget, 1994). Prevalence estimates with standard errors that were at least 50% of the point estimates were not reported; instead, they are indicated as having “insufficient data to calculate an estimate” in the reference tables. For more information about the design and implementation of the 1996 UHSS, readers may refer to the technical appendix at the end of this report. One point warrants special attention: *Because the survey only recruited non-institutionalized household members, it is likely that the prevalence rates of some chronic diseases and conditions, especially that of Alzheimer’s disease, have been underestimated.* Therefore, we advise readers to exercise caution when interpreting the findings in this report.

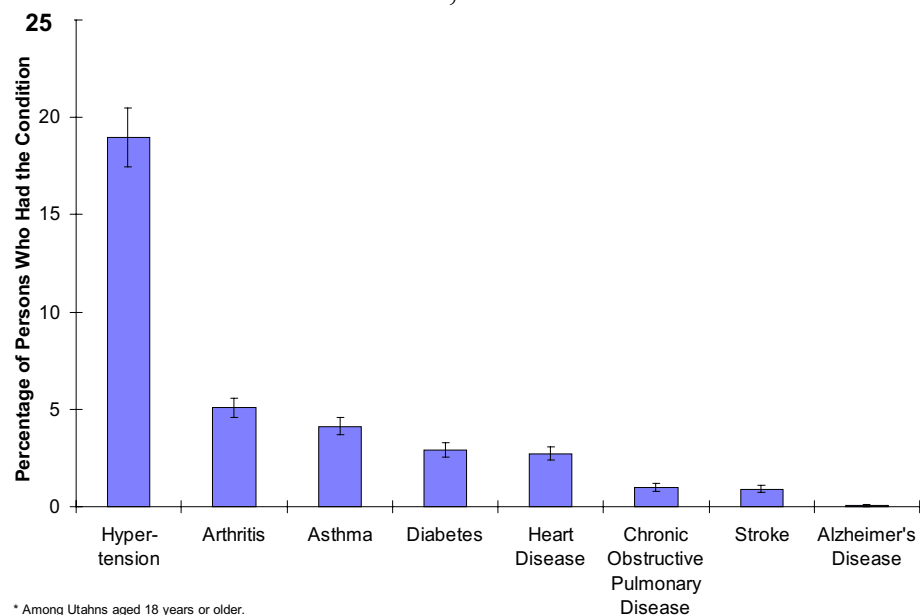
Another caveat is that the UHSS data are cross-sectional. Therefore, causal inferences about the relationships between the prevalence rates of chronic diseases or conditions and the socio-demographic variables examined in this report should be made very cautiously (Rothman, 1986).

SUMMARY OF FINDINGS

- During 1996, it is estimated that:
 - 19.0% (377,700) of Utahns aged 18 years or older had been diagnosed with hypertension.
 - 5.1% (101,000) were under medical care for arthritis;
 - 4.1% (82,100) were under medical care for asthma;
 - 2.9% (57,900) had been diagnosed with diabetes;
 - 2.7% (54,100) had been diagnosed with heart disease;
 - 1.0% (19,600) were under medical care for chronic obstructive pulmonary disease;
 - 0.9% (17,800) had ever been diagnosed as having had a stroke;
 - 0.1% (1,400) of Utahns had been diagnosed with Alzheimer's disease;
- The prevalence rates of most chronic diseases increased with older age among both males and females, with the exception of asthma, which did not steadily increase with age.
- The prevalence rates of most chronic diseases and conditions examined in this report were similar for males and females, with the exception of arthritis, for which females (6.5%, 95% confidence interval: $\pm 0.7\%$) had significantly higher prevalence than males (3.6%, $\pm 0.5\%$).
- The prevalence of most chronic diseases was lower for those who were better educated and who had higher household income. Diabetes, while inversely associated with education, was not associated with household income. The prevalence of hypertension was not associated with either education or household income. This may be partially due to the fact that hypertension must be detected by a medical screening test, and consequently, persons of lower socio-economic status may be less likely to be detected with hypertension.
- All chronic diseases and conditions were more prevalent among persons who had ever smoked cigarettes (defined as persons who had smoked at least 100 cigarettes in their lifetime) than among those who had never smoked (defined as persons who had never smoked or had smoked less than 100 cigarettes in their lifetime), except for Alzheimer's disease for which the data were inadequate. The prevalence rates for heart disease, stroke, chronic obstructive pulmonary disease, diabetes, and arthritis were much higher among those who had smoked than among those who had not.
- From 1986 to 1996, the prevalence of heart disease in Utah declined from 4.4% to 2.7%, and the prevalence of arthritis declined from 9.4% to 5.1%. Both trends were statistically significant. However, no significant decline in the prevalence of stroke was observed between 1986 (1.0%) and 1996 (0.9%).
- Between 1991 and 1996, the prevalence of asthma and diabetes in Utah did not change significantly.

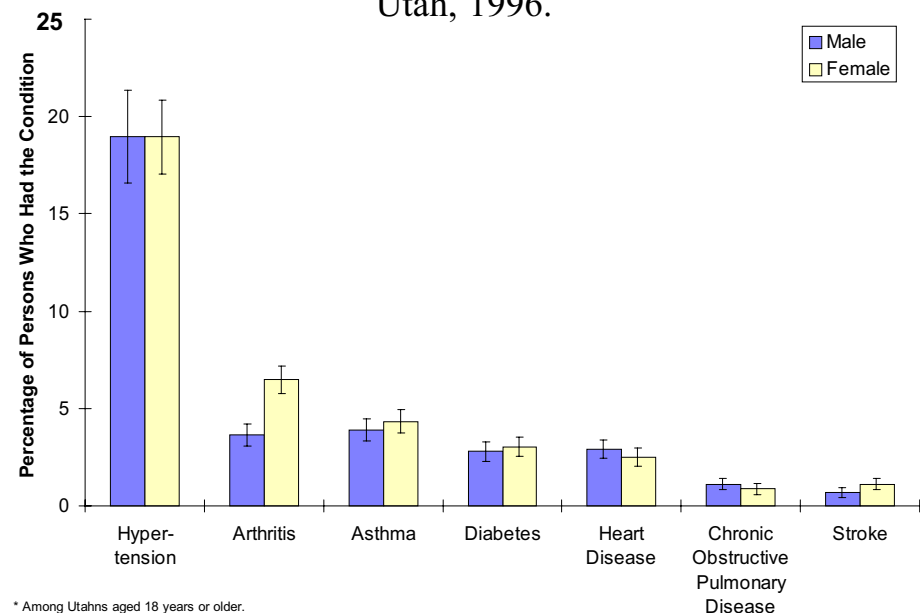
HIGHLIGHTS

Prevalence (%) of Selected Chronic Diseases or Conditions.
Utah, 1996.



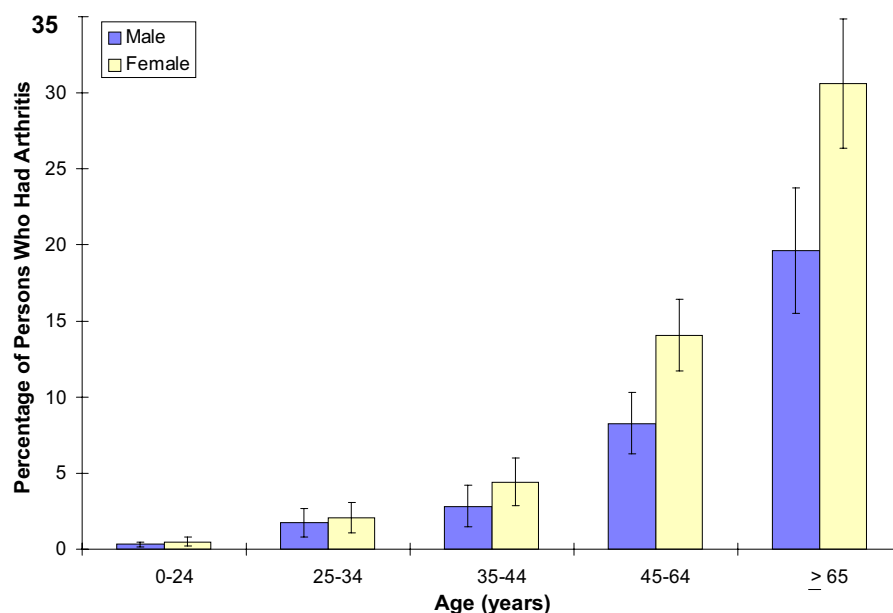
- **During 1996, it is estimated that:**
 - **19.0% of Utahns aged 18 years or older had been diagnosed with hypertension.**
 - **5.1% were under medical care for arthritis;**
 - **4.1% were under medical care for asthma;**
 - **2.9% had been diagnosed with diabetes;**
 - **2.7% had been diagnosed with heart disease;**
 - **1.0% were under medical care for obstructive pulmonary disease;**
 - **0.9% had been diagnosed to ever have suffered a stroke;**
 - **0.1% of Utahns had been diagnosed with Alzheimer's disease.**

Prevalence (%) of Selected Chronic Diseases or Conditions by Sex.
Utah, 1996.



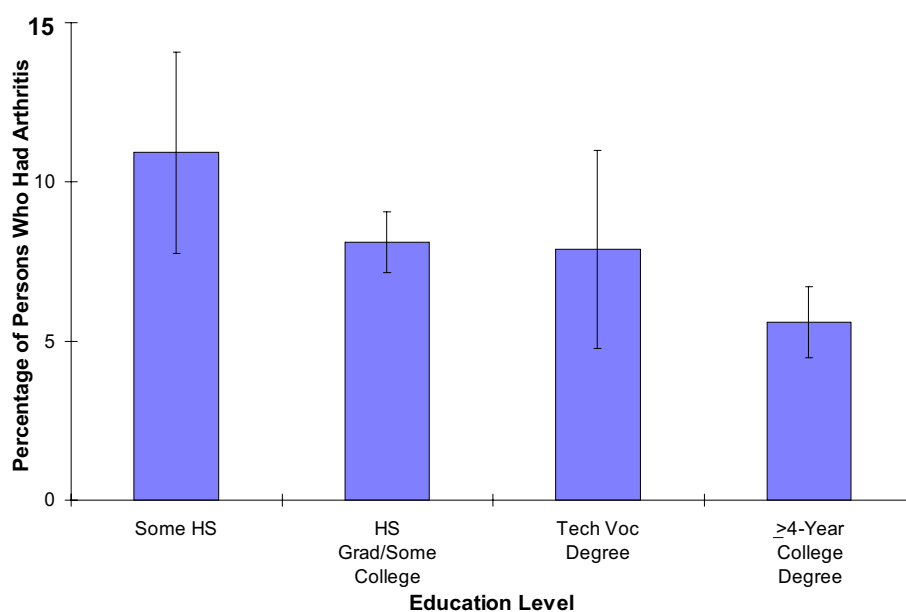
- **The prevalence rates of most chronic diseases or conditions were similar for males and females with the exception of arthritis, for which females had significantly higher prevalence than males.**

Prevalence (%) of Arthritis by Age and Sex. Utah, 1996.



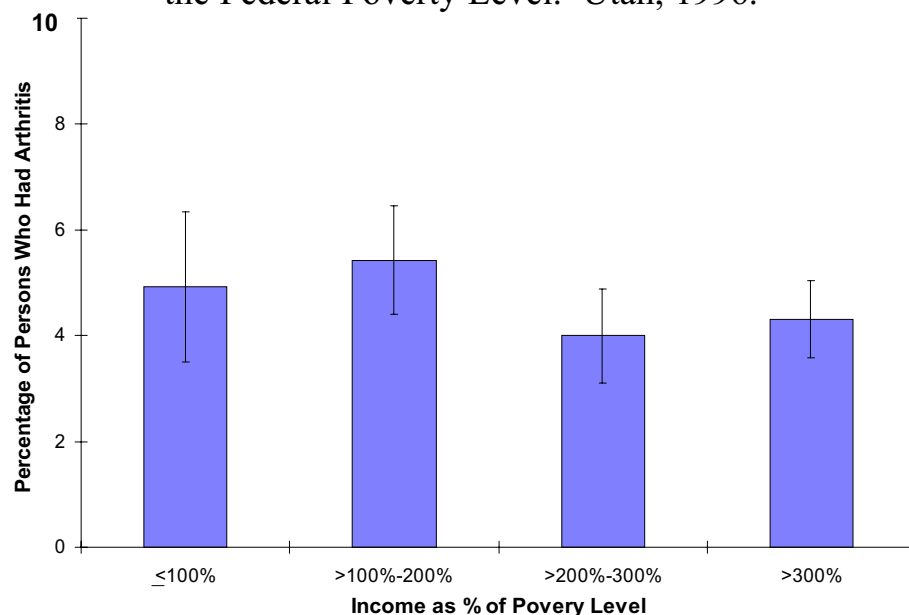
- Among both males and females, the prevalence of arthritis increased with age.
- Females had higher prevalence of arthritis than males in all age groups, although the difference was not statistically significant in younger age groups.

Prevalence (%) of Arthritis by Education Level. Utahns Age 18 Years or Older, 1996.



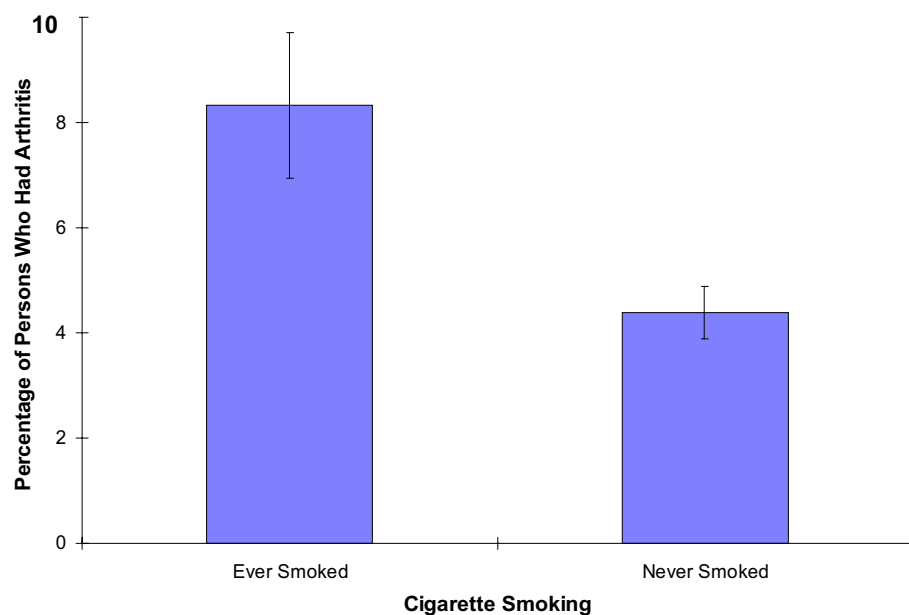
- The prevalence of arthritis was higher among persons with lower educational attainment.

Prevalence (%) of Arthritis by Household Income as a Percentage of the Federal Poverty Level. Utah, 1996.



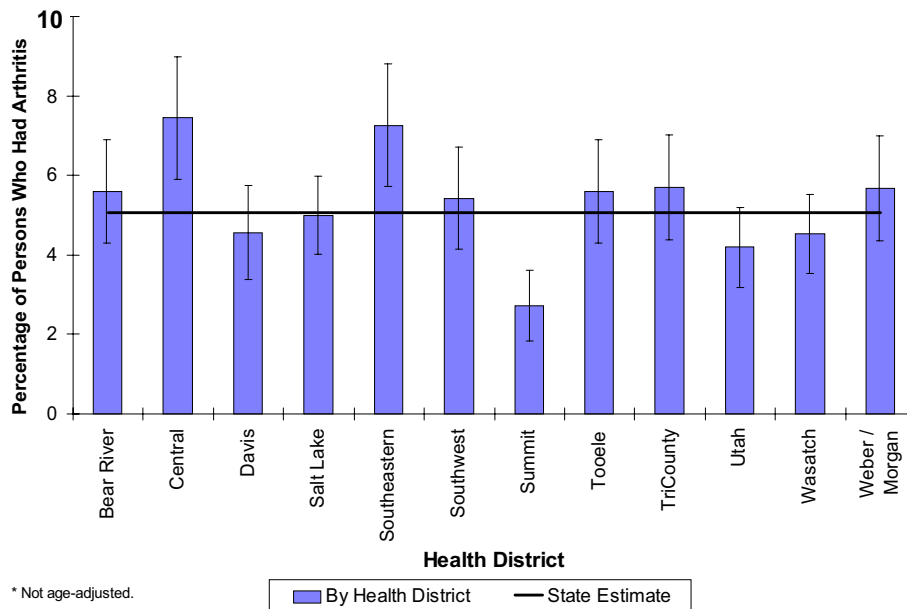
- The prevalence of arthritis was higher among persons whose household income was $\leq 200\%$ of the federal poverty level than persons whose household income was $>200\%$ of the federal poverty level.

Prevalence (%) of Arthritis by Cigarette Smoking Status. Utah, 1996.



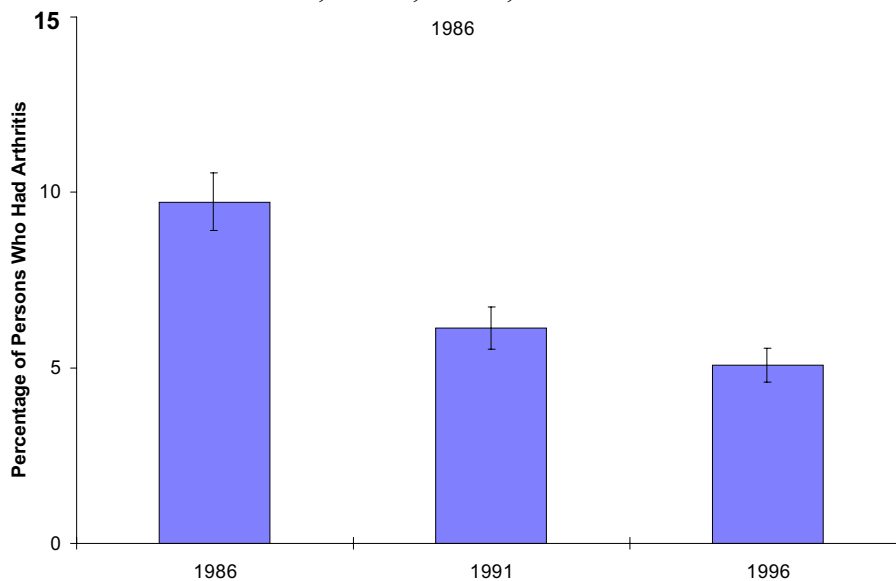
- The prevalence of arthritis was significantly higher among those who had ever smoked cigarettes compared with those who had never smoked.

Prevalence (%)* of Arthritis by Local Health District.
Utah, 1996.



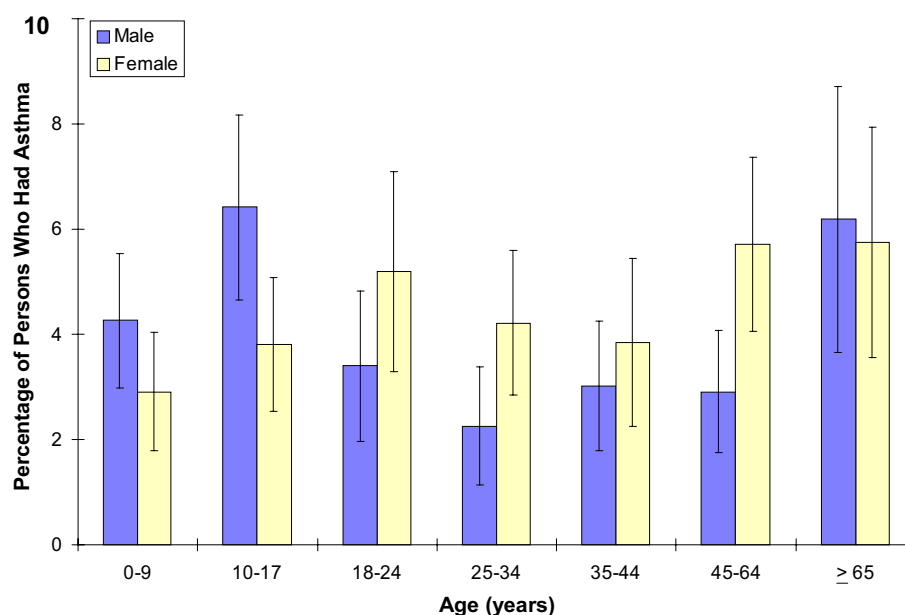
- The prevalence of arthritis was highest in Central Health District, and lowest in Summit Health District. This pattern did not change significantly after controlling for age.

Prevalence (%) of Arthritis.
Utah, 1986, 1991, and 1996.



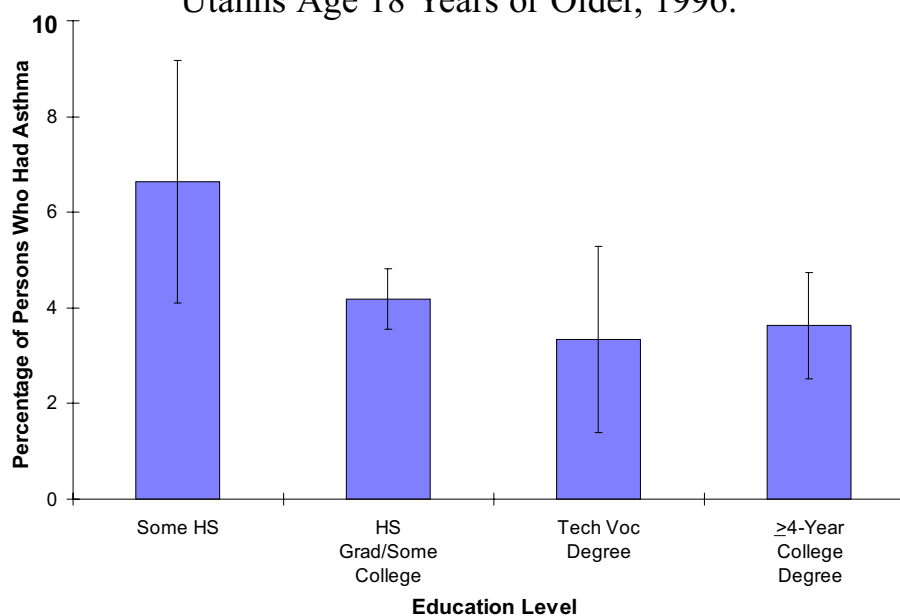
- The prevalence of arthritis decreased significantly from 1986 to 1996 ($p < 0.01$ on trends test using the logistic regression model). This decrease remained statistically significant after controlling for age and sex.

Prevalence (%) of Asthma by Age and Sex. Utah, 1996.



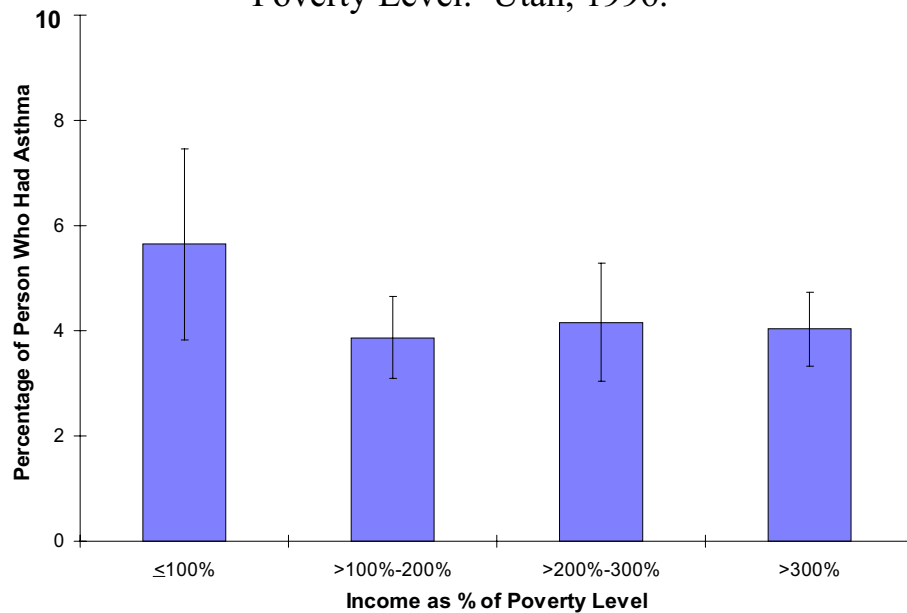
- Males in the youngest age groups (0-9 and 10-17 years) had higher prevalence of asthma than their female counterparts, whereas mid-aged women tended to have higher prevalence compared with men of the same age.
- The pattern of asthma prevalence by age differed from that of most other chronic diseases and conditions, for which prevalence rates steadily increase with age.

Prevalence (%) of Asthma by Education Level. Utahns Age 18 Years or Older, 1996.



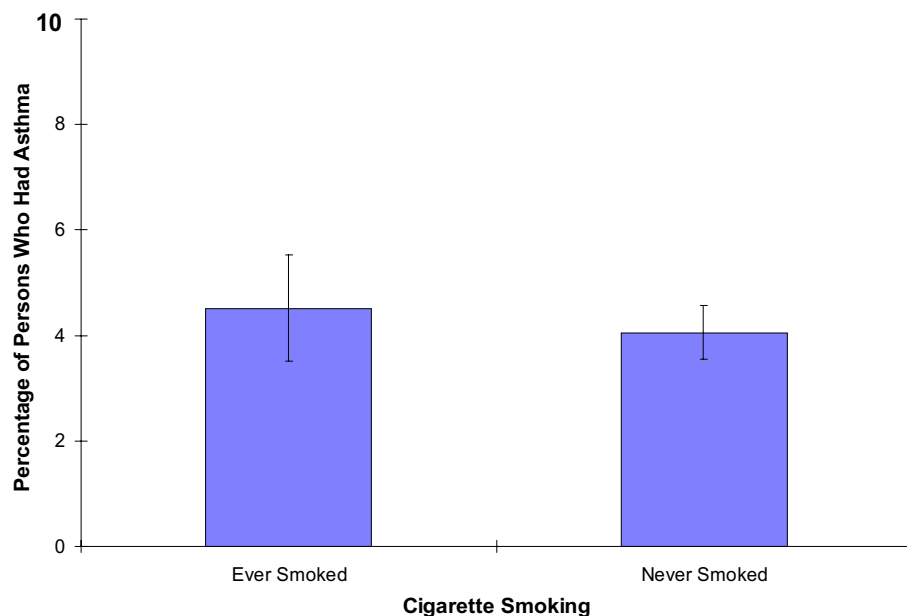
- The prevalence of asthma was lower for those with more formal education.

Prevalence (%) of Asthma by Household Income as a Percentage of the Federal Poverty Level. Utah, 1996.



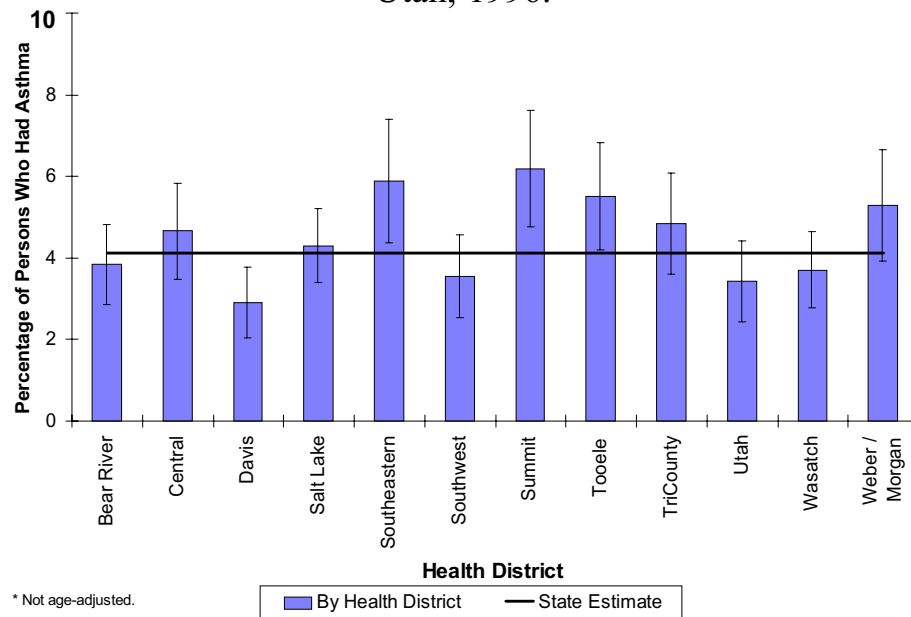
- The prevalence of asthma appeared to be higher among persons who lived at or below the federal poverty level than among those who lived above the poverty line. This difference was not statistically significant, however.

Prevalence (%) of Asthma by Cigarette Smoking Status. Utah, 1996.



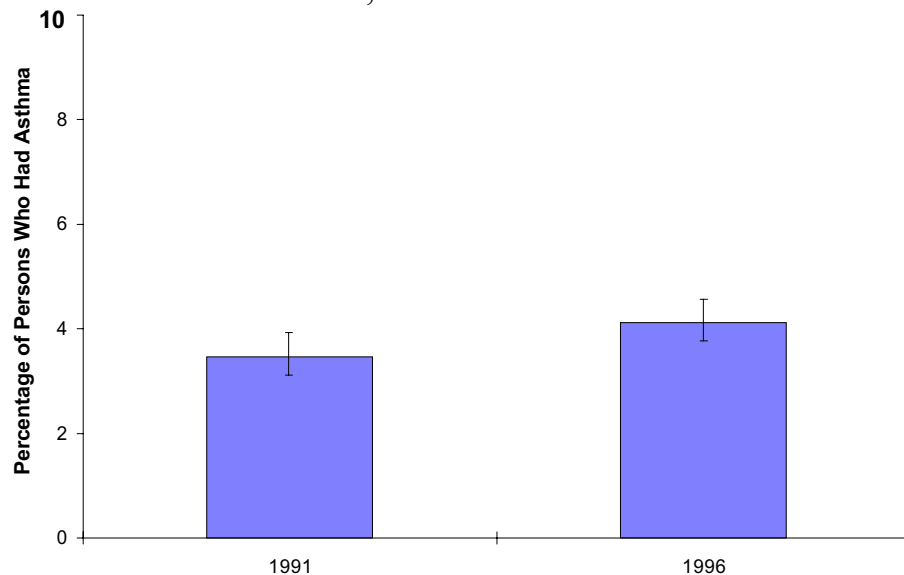
- The prevalence of asthma was slightly higher among those who had ever smoked cigarettes, but this difference was not statistically significant.

Prevalence (%)* of Asthma by Local Health District.
Utah, 1996.



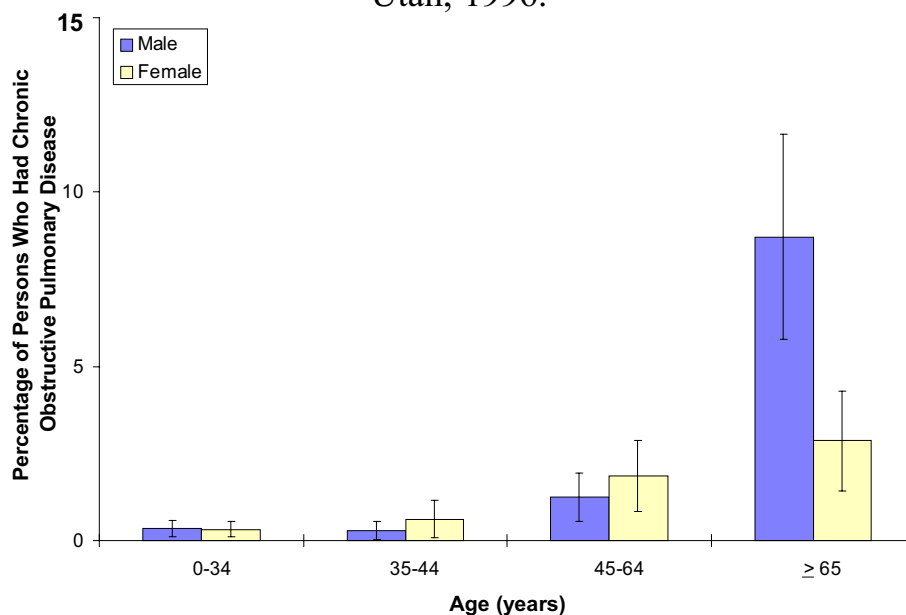
- The prevalence of asthma was highest in Summit Health District, and lowest in Davis Health District. This pattern did not change significantly after controlling for age.

Prevalence (%) of Asthma.
Utah, 1991 and 1996.



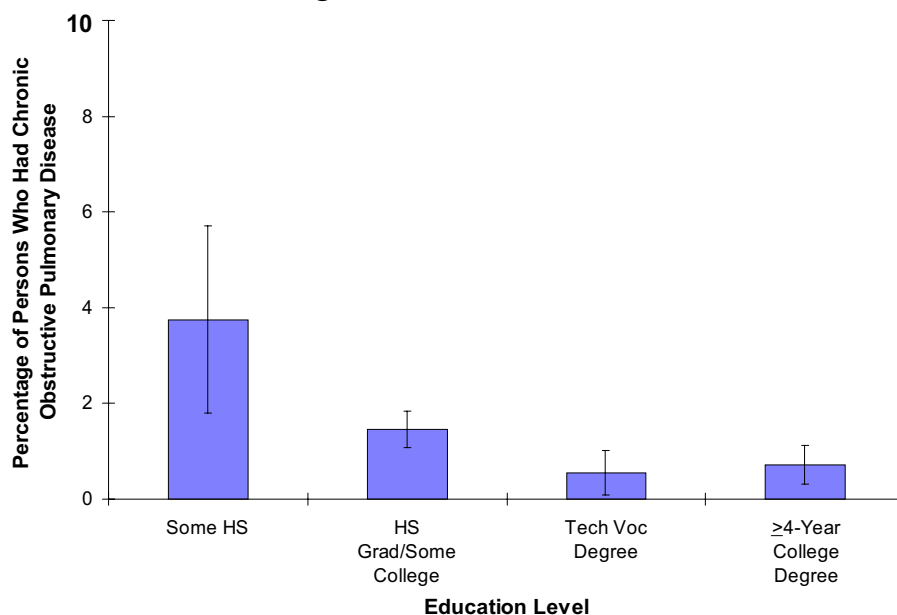
- Between 1991 and 1996, the prevalence of asthma appeared to have increased slightly, but this increase was not statistically significant.

Prevalence (%) of Chronic Obstructive Pulmonary Disease by Age and Sex.
Utah, 1996.



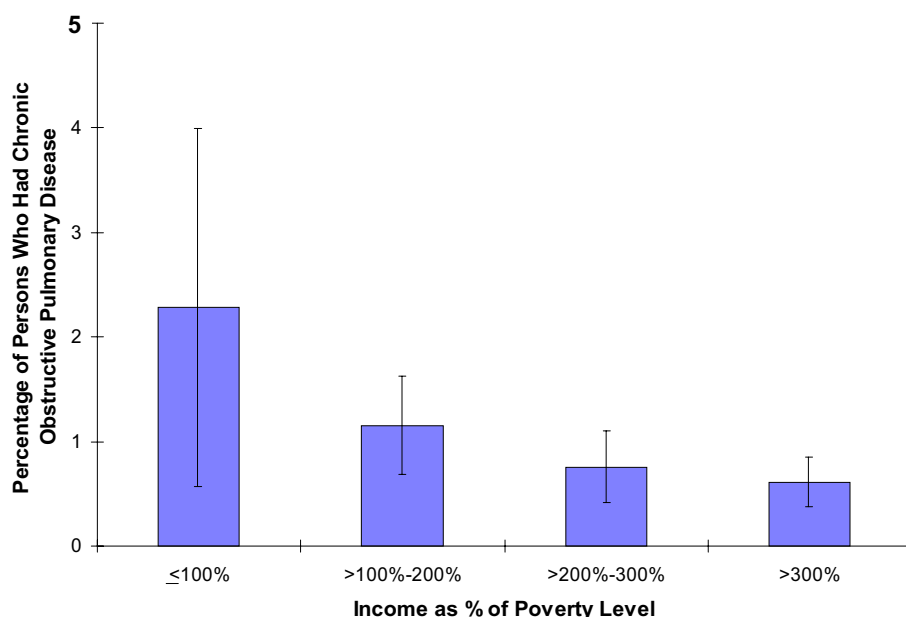
- The prevalence of chronic obstructive pulmonary disease, or COPD, was similar for males and females in most age groups, but was much higher for males over the age of 65 years.
- The prevalence of chronic obstructive pulmonary disease increased with older age among both males and females.

Prevalence (%) of Chronic Obstructive Pulmonary Disease by Education Level.
Utahns Age 18 Years or Older, 1996.



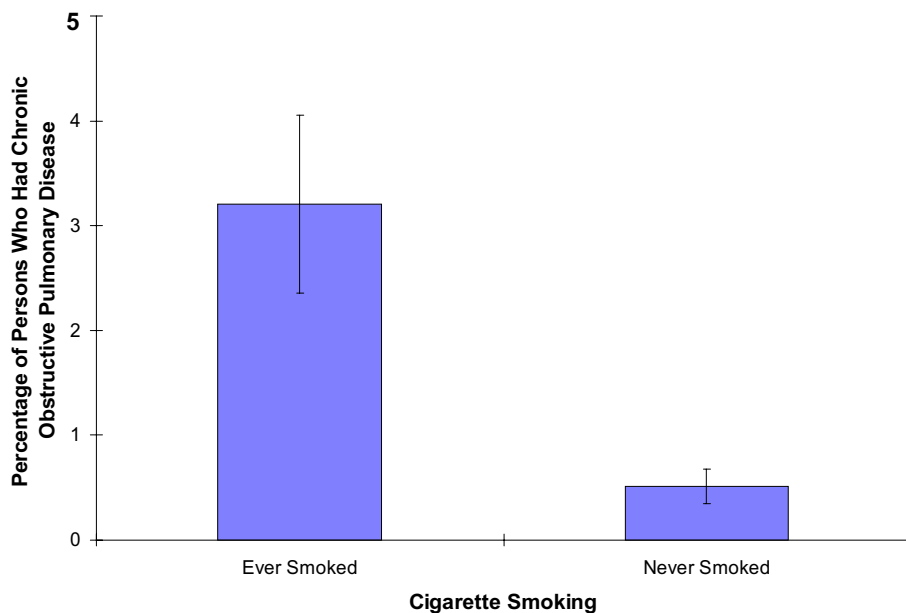
- The prevalence of chronic obstructive pulmonary disease was inversely correlated with educational attainment.

Prevalence (%) of Chronic Obstructive Pulmonary Disease by Household Income as a Percentage of the Federal Poverty Level. Utah, 1996.



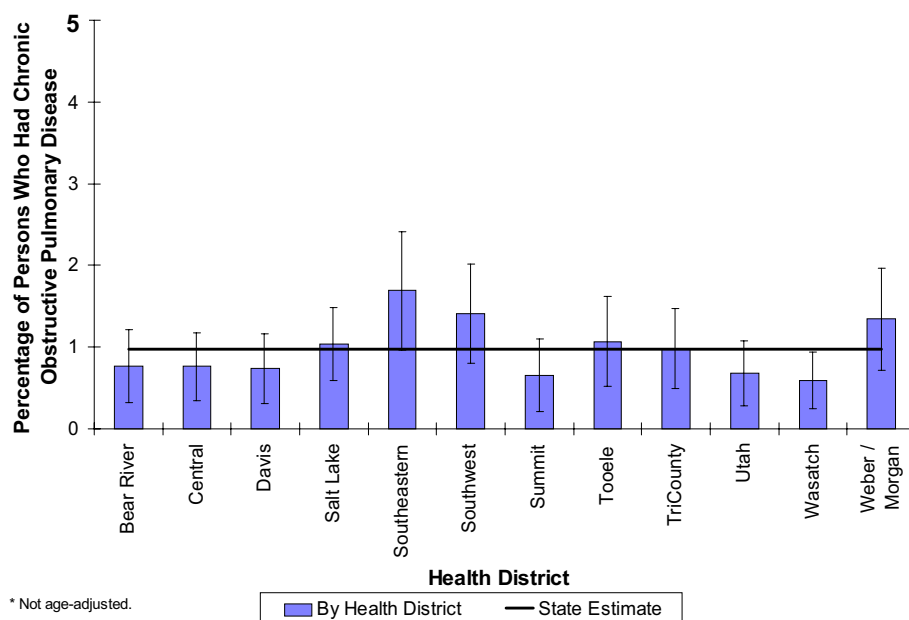
- The prevalence of chronic obstructive pulmonary disease decreased steadily as household income (as a percentage of the federal poverty level) increased.

Prevalence (%) of Chronic Obstructive Pulmonary Disease by Cigarette Smoking Status. Utah, 1996.



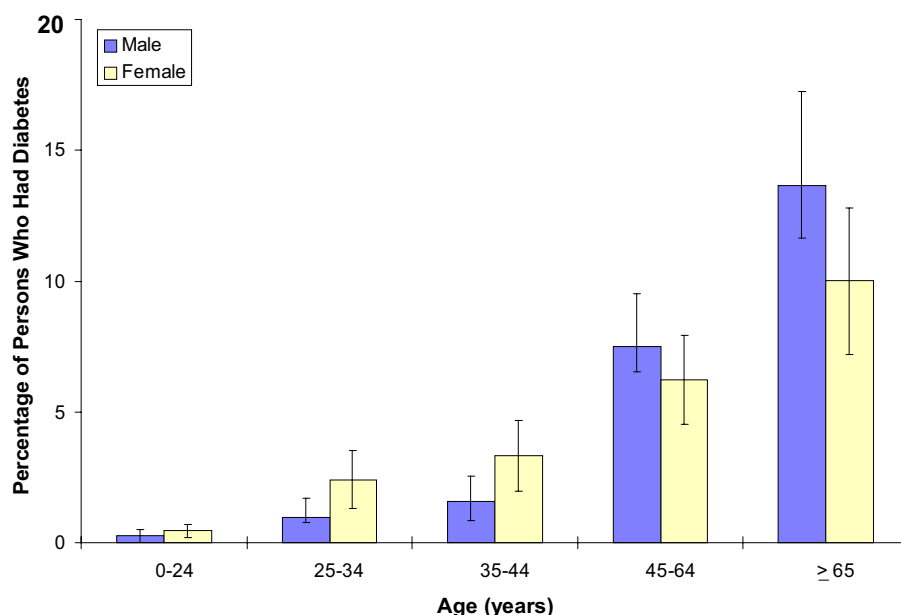
- The prevalence of chronic obstructive pulmonary disease was significantly higher among those who had ever smoked cigarettes.

Prevalence (%)* of Chronic Obstructive Pulmonary Disease by Local Health District.
Utah, 1996.



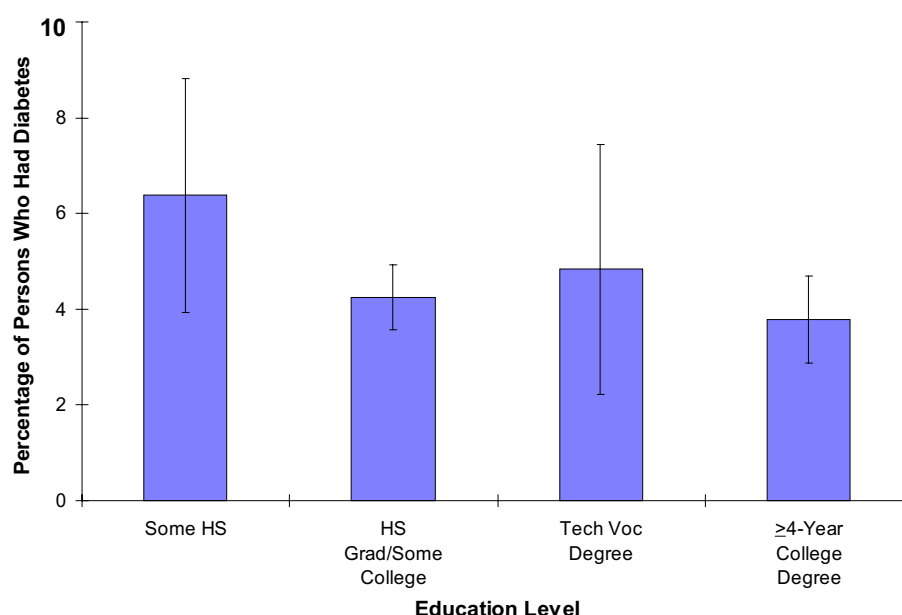
- The prevalence of chronic obstructive pulmonary disease was highest in Southeastern Health District, and lowest in Wasatch Health District. This pattern did not change significantly after controlling for age.

Prevalence (%) of Diabetes by Age and Sex.
Utah, 1996.



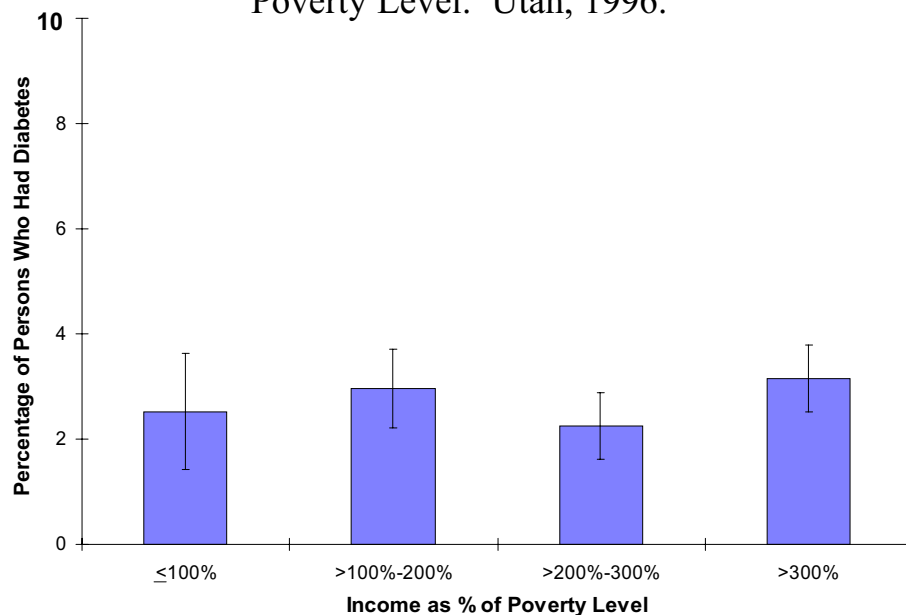
- The prevalence of diabetes increased with age among both males and females.
- Males appeared to have higher prevalence of diabetes in older age groups, whereas females tended to have higher prevalence in younger age groups.
- The higher prevalence among young females may be partly due to pregnancy-induced diabetes. Additionally, women of child-bearing age who have asymptomatic diabetes are more likely to be detected during pregnancy check-ups, than are men of the same age.

Prevalence (%) of Diabetes by Education Level.
Utahns Age 18 Years or Older, 1996.



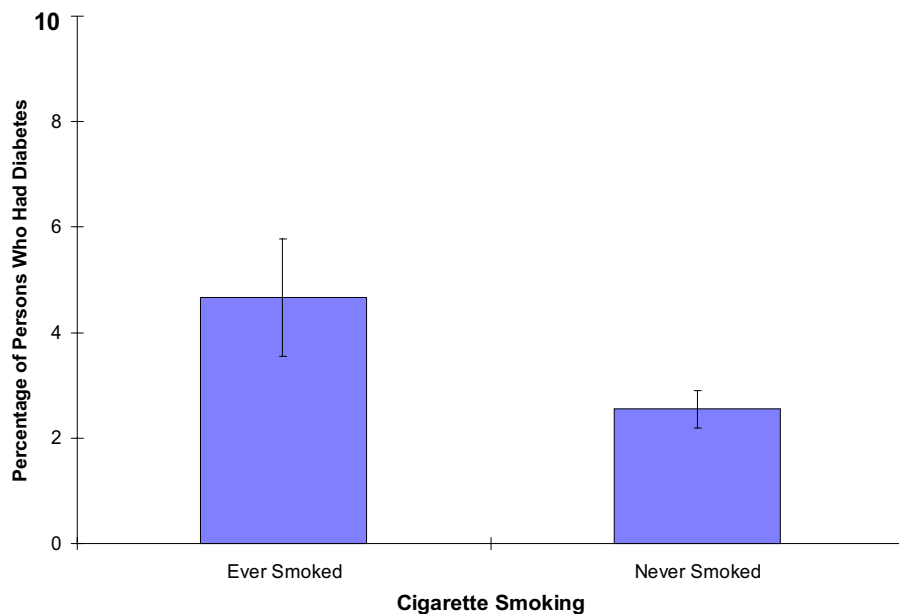
- The prevalence of diabetes appeared to be inversely correlated with educational attainment.

Prevalence (%) of Diabetes by Household Income as a Percentage of the Federal Poverty Level. Utah, 1996.



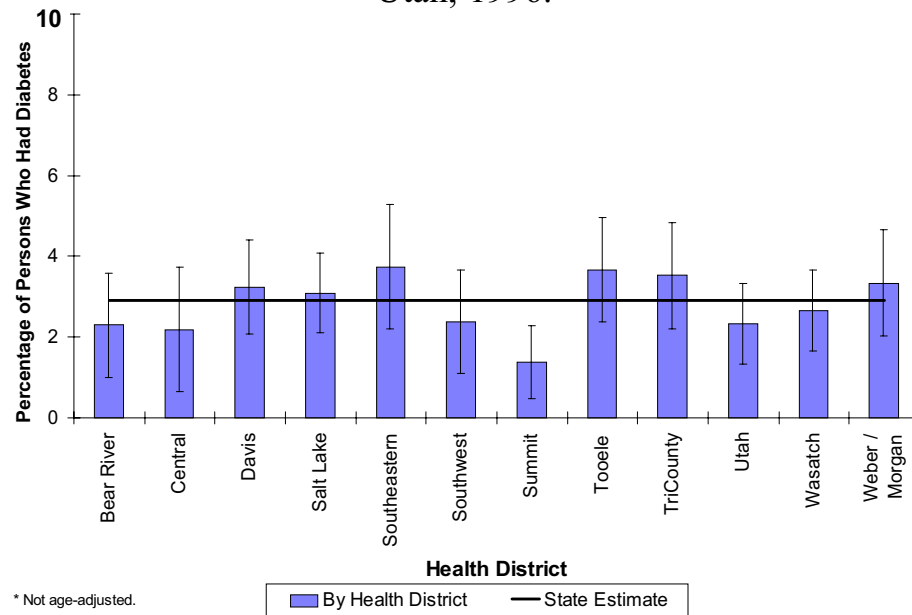
- The prevalence of diabetes was not correlated with household income (as a percentage of the federal poverty level).

Prevalence (%) of Diabetes by Cigarette Smoking Status. Utah, 1996.



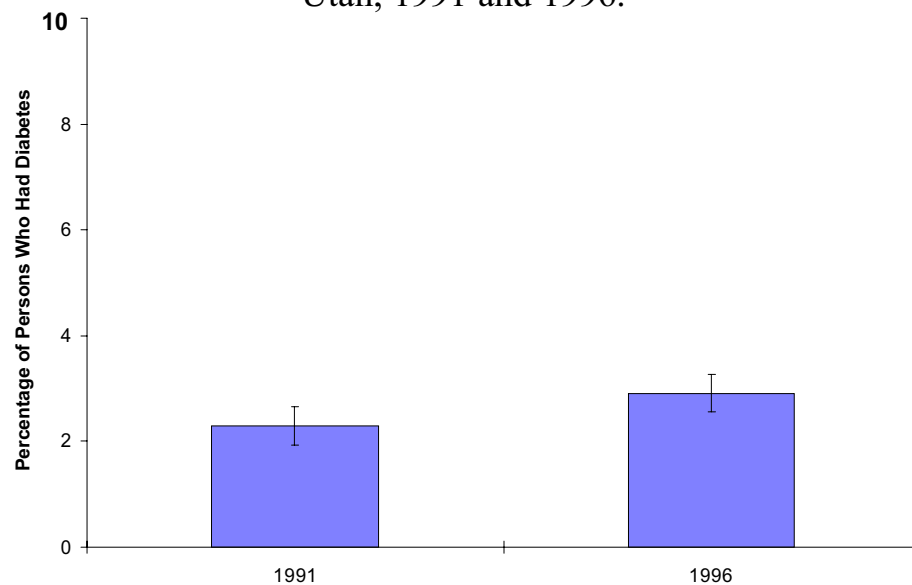
- The prevalence of diabetes was significantly higher among ever smokers than among never smokers.

Prevalence (%)* of Diabetes by Local Health District.
Utah, 1996.



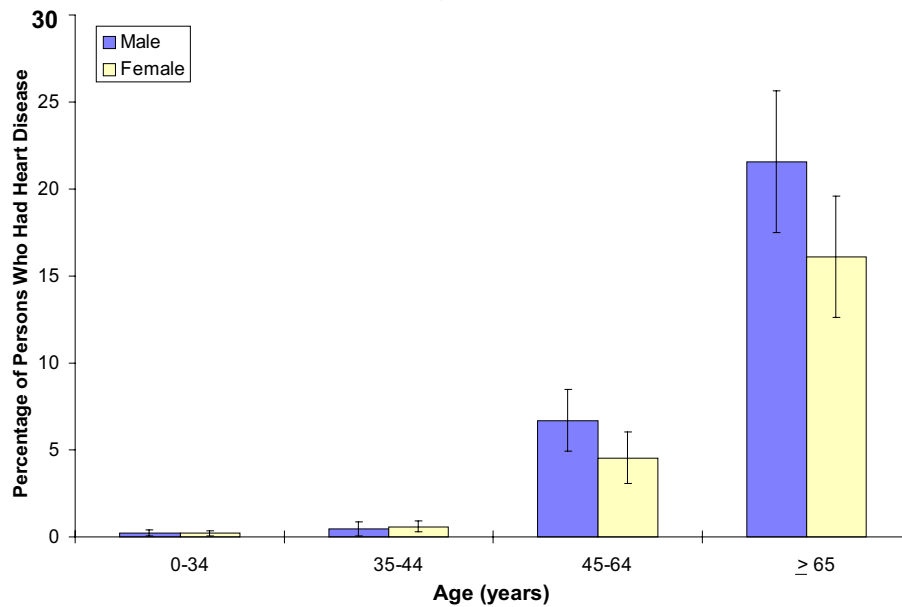
- The prevalence of diabetes was highest in Southeastern and Tooele Health Districts, and lowest in Summit Health District. This pattern did not change significantly after controlling for age.

Prevalence (%) of Diabetes.
Utah, 1991 and 1996.



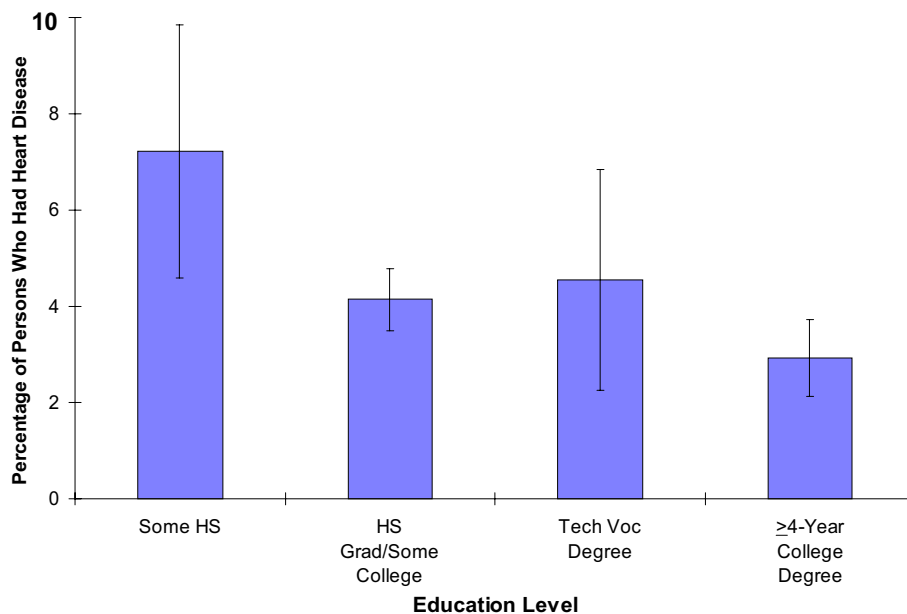
- The prevalence of diabetes appeared to have increased somewhat from 1991 to 1996, but that change was not statistically significant.

Prevalence (%) of Heart Disease by Age and Sex.
Utah, 1996.



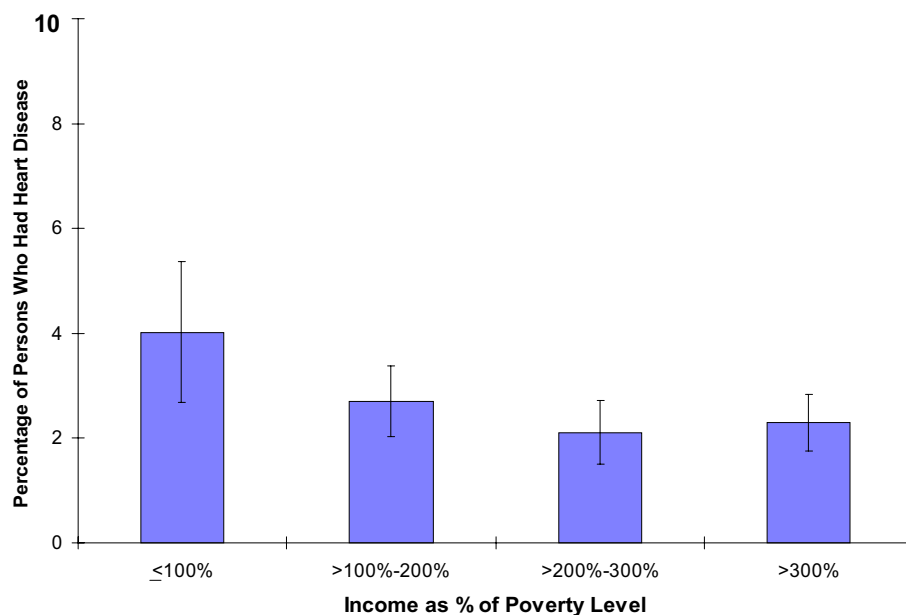
- The prevalence of heart disease increased with age among both males and females. In older age groups, men appeared to have higher prevalence of heart disease than women. However, the difference was not statistically significant in any individual age group.

Prevalence (%) of Heart Disease by Education Level.
Utahns Age 18 Years or Older, 1996.



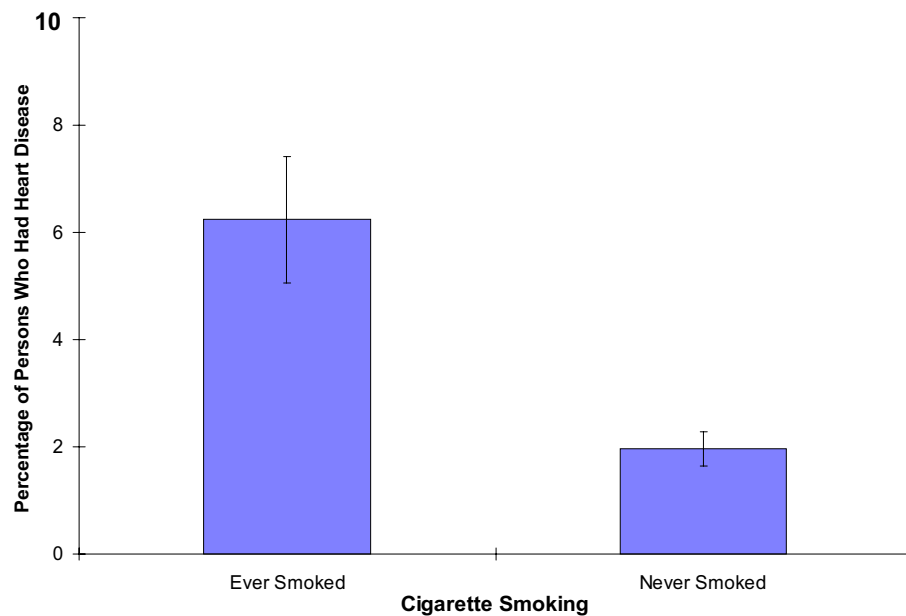
- Heart disease appeared to be inversely correlated with educational attainment.

Prevalence (%) of Heart Disease by Household Income as a Percentage of the Federal Poverty Level. Utah, 1996.



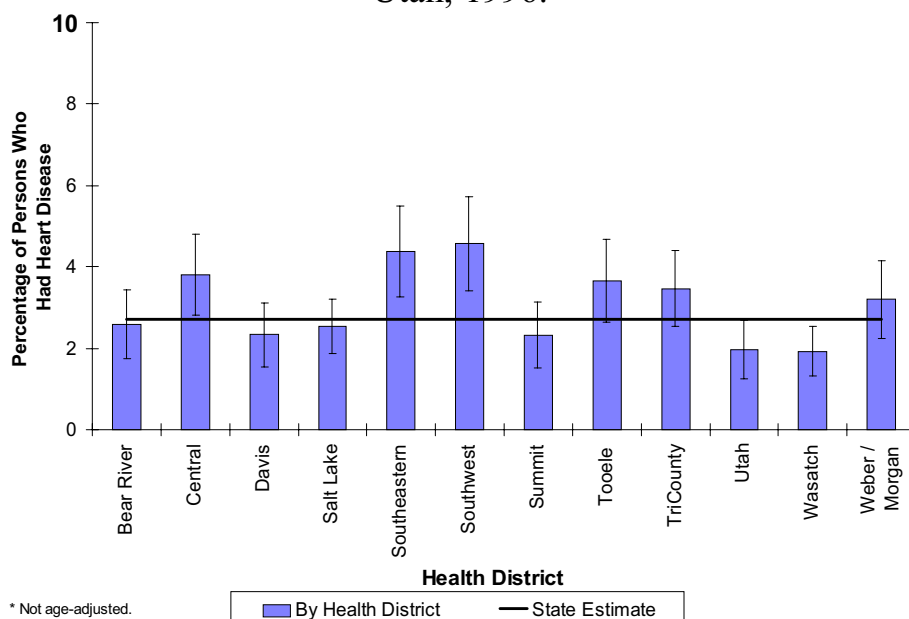
- Heart disease prevalence decreased as household income (as a percentage of the federal poverty level) increased.

Prevalence (%) of Heart Disease by Cigarette Smoking Status. Utah, 1996.



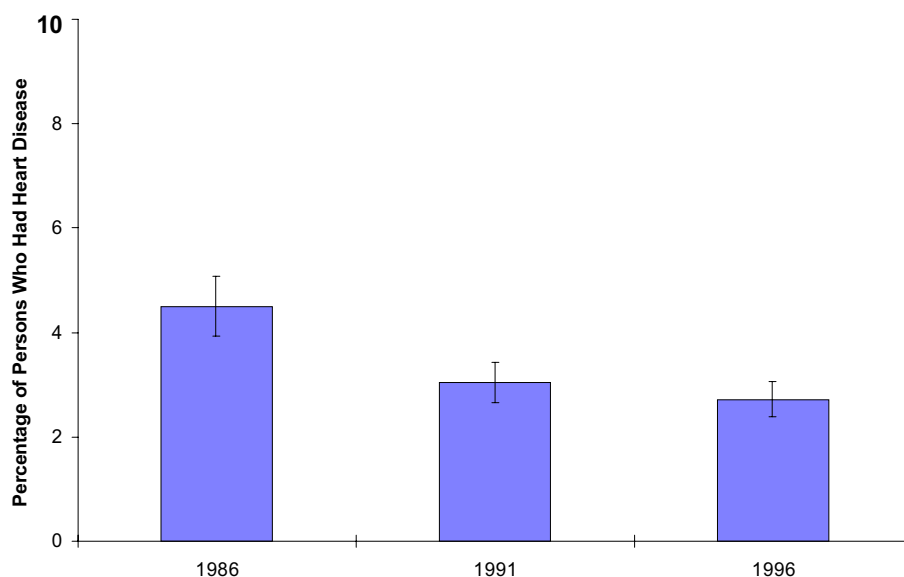
- The prevalence of heart disease was significantly higher among those who had ever smoked cigarettes.

Prevalence (%)* of Heart Disease by Local Health District.
Utah, 1996.



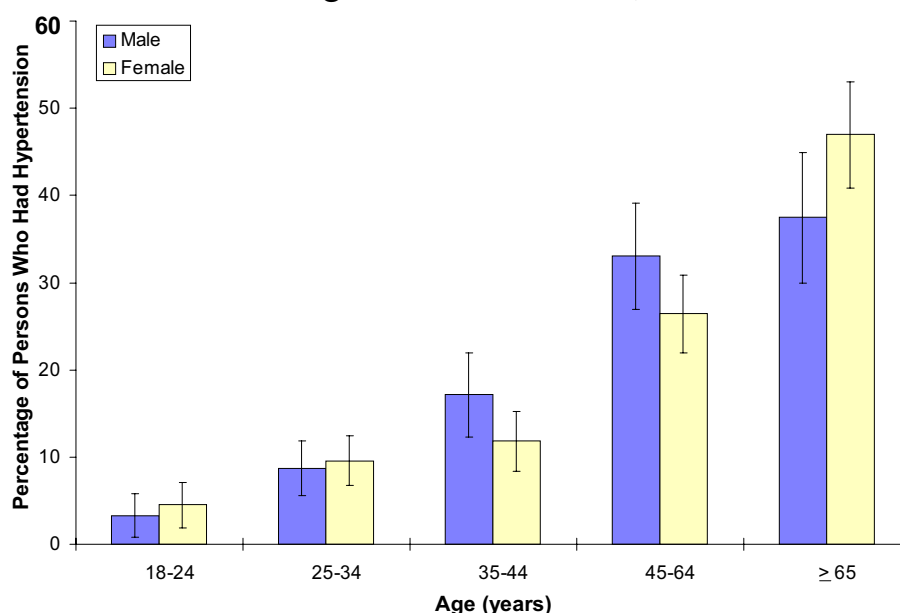
- The prevalence of heart disease was highest in Southwest Health District, and lowest in Wasatch Health District. This pattern did not change significantly after controlling for age.

Prevalence (%) of Heart Disease.
Utah, 1986, 1991, and 1996.



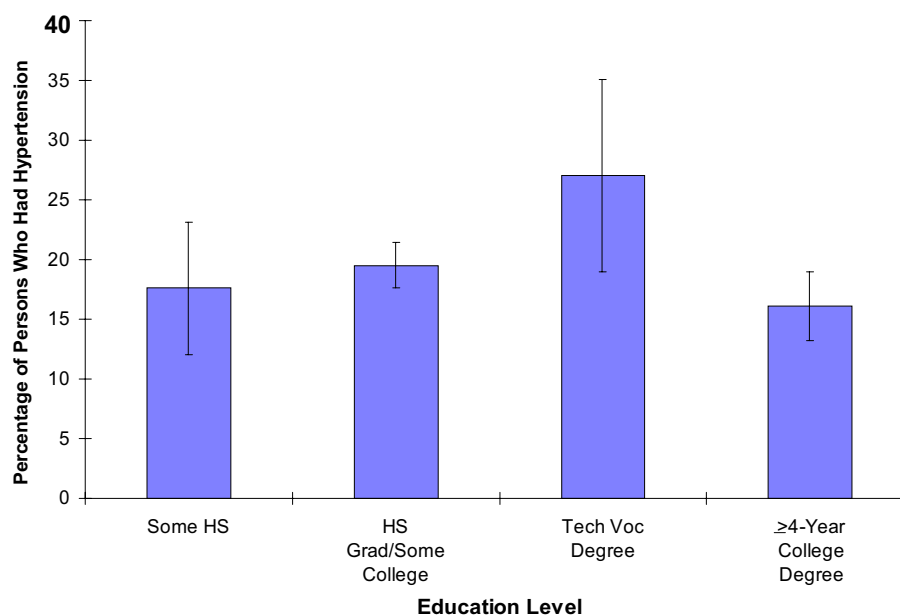
- The prevalence of heart disease decreased significantly from 1986 to 1996 ($p < 0.01$ on trends test using the logistic regression model). This decrease remained statistically significant after controlling for age and sex.

Prevalence (%) of Hypertension by Age and Sex.
Utahns Age 18 Years or Older, 1996.



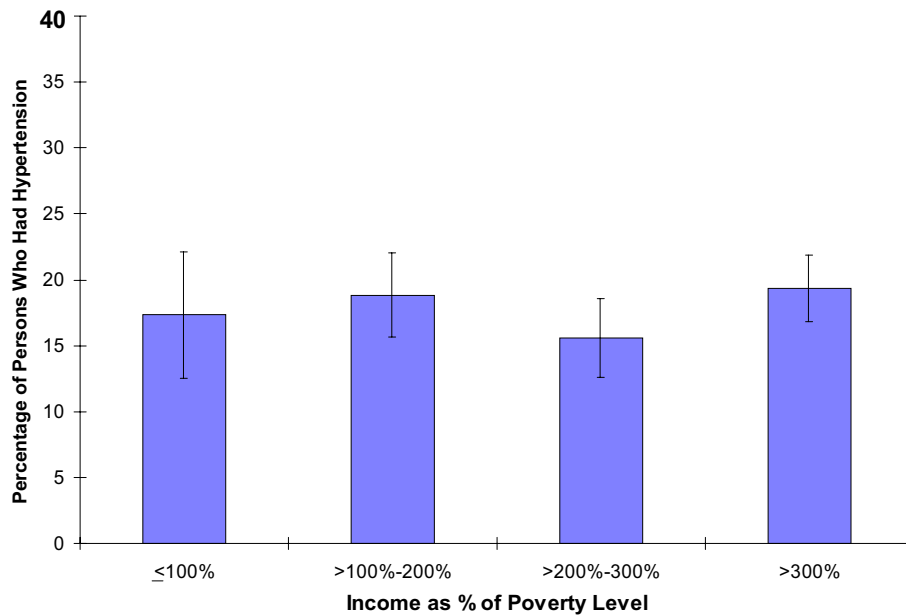
- Among both men and women, the prevalence of hypertension increased with age.

Prevalence (%) of Hypertension by Education Level.
Utahns Age 18 Years or Older, 1996.



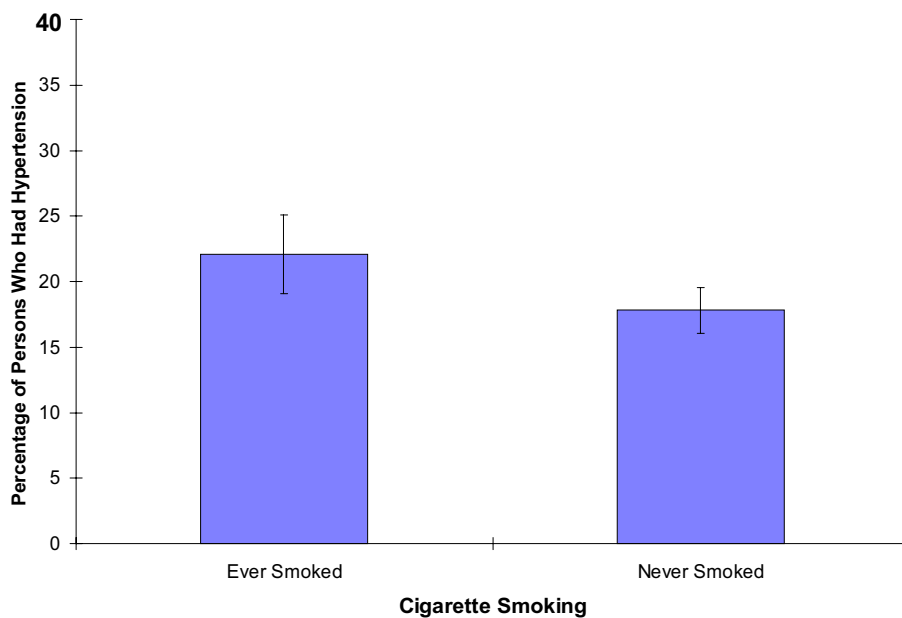
- Hypertension prevalence did not decrease with increasing educational attainment as was true for most other chronic conditions. This may be at least in part because medical screening is needed to detect this asymptomatic condition, and hence persons of lower socioeconomic status are less likely to be detected with the condition.

Prevalence (%) of Hypertension by Household Income as a Percentage of the Federal Poverty Level. Utahns Age 18 Years or Older, 1996.



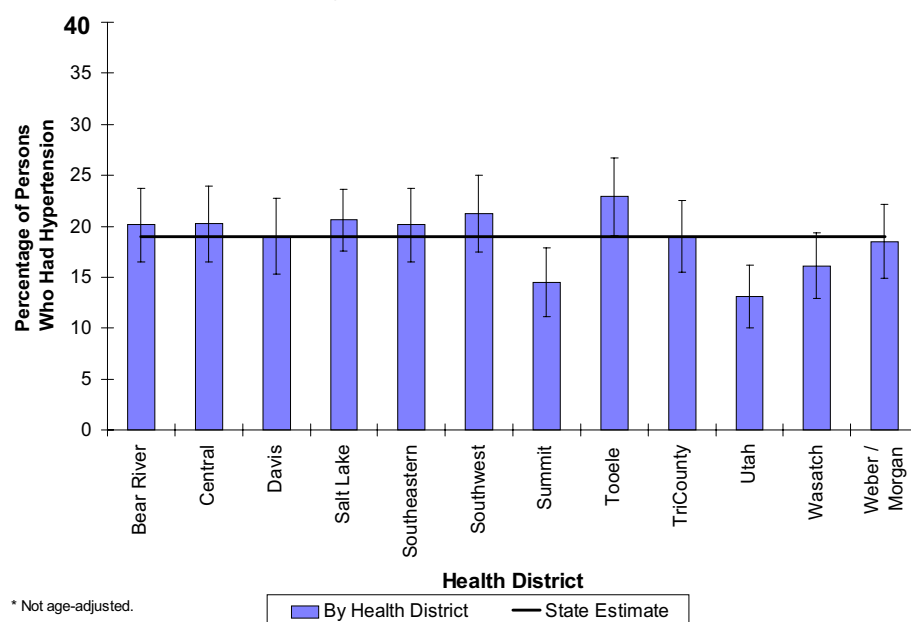
- Prevalence of hypertension was not correlated with household income (as a percentage of the federal poverty level).

Prevalence (%) of Hypertension by Cigarette Smoking Status. Utahns Age 18 Years or Older, 1996.



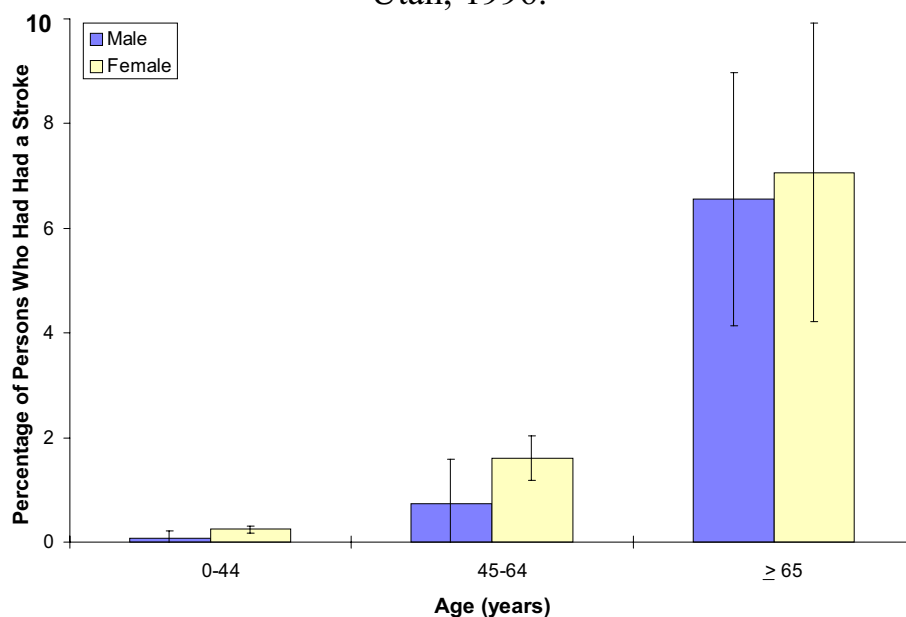
- The prevalence of hypertension was slightly higher among those who had ever smoked cigarettes, but this difference was not statistically significant.

Prevalence (%)* of Hypertension by Local Health District.
Utahns Age 18 Years or Older, 1996.



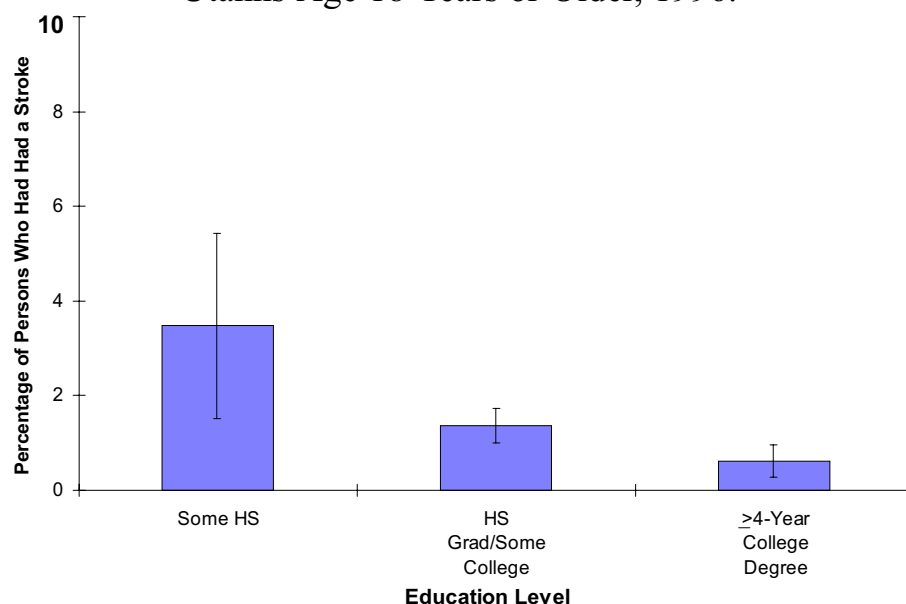
- The prevalence of hypertension was highest in Tooele Health District, and lowest in Utah Health District. This pattern did not change significantly after controlling for age.

Prevalence (%) of Stroke by Age and Sex.
Utah, 1996.



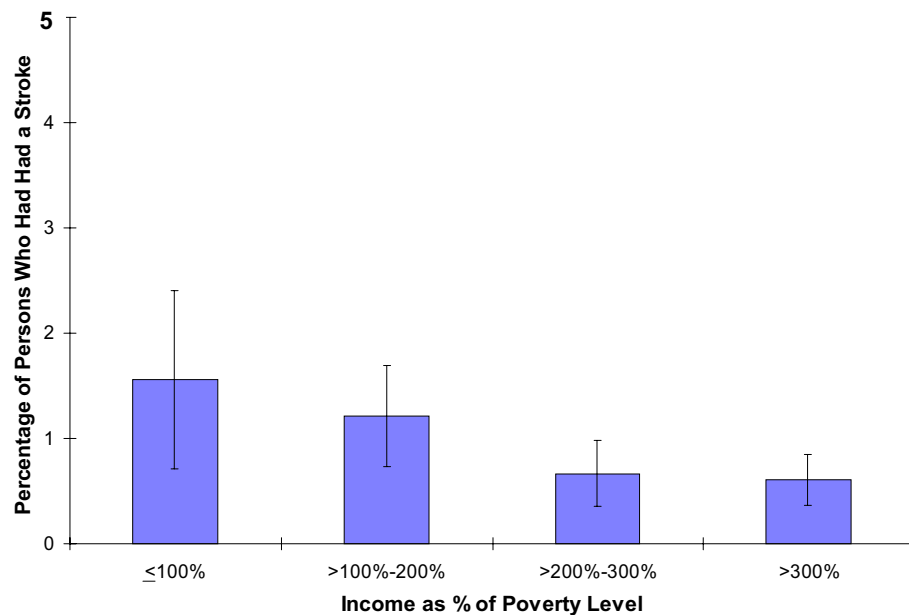
- The age-specific prevalence of stroke was similar between males and females in all age groups.
- Among both males and females, the prevalence of stroke increased with age.

Prevalence (%) of Stroke by Education Level.
Utahns Age 18 Years or Older, 1996.



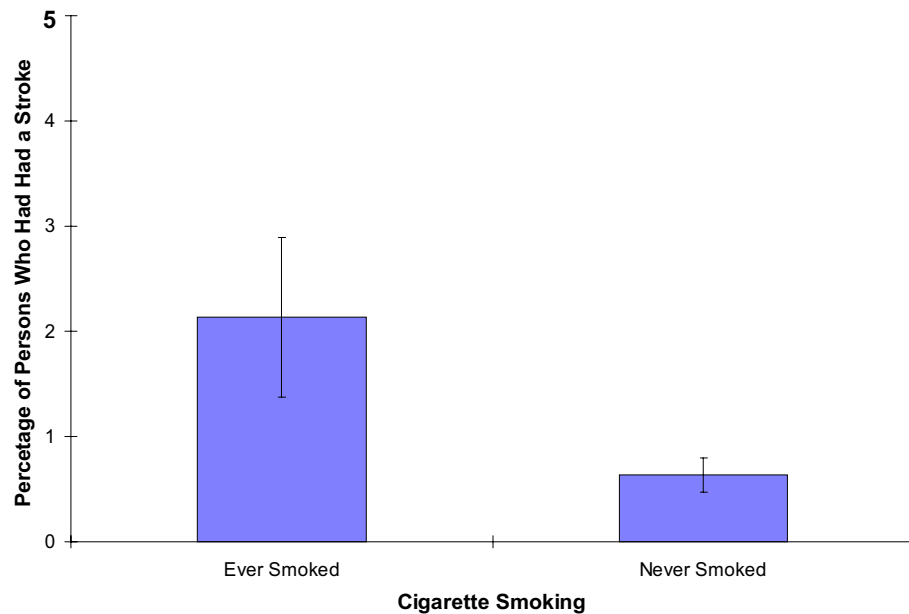
- The prevalence of stroke was inversely correlated with educational attainment.

Prevalence (%) of Stroke by Household Income as a Percentage of the Federal Poverty Level. Utah, 1996.



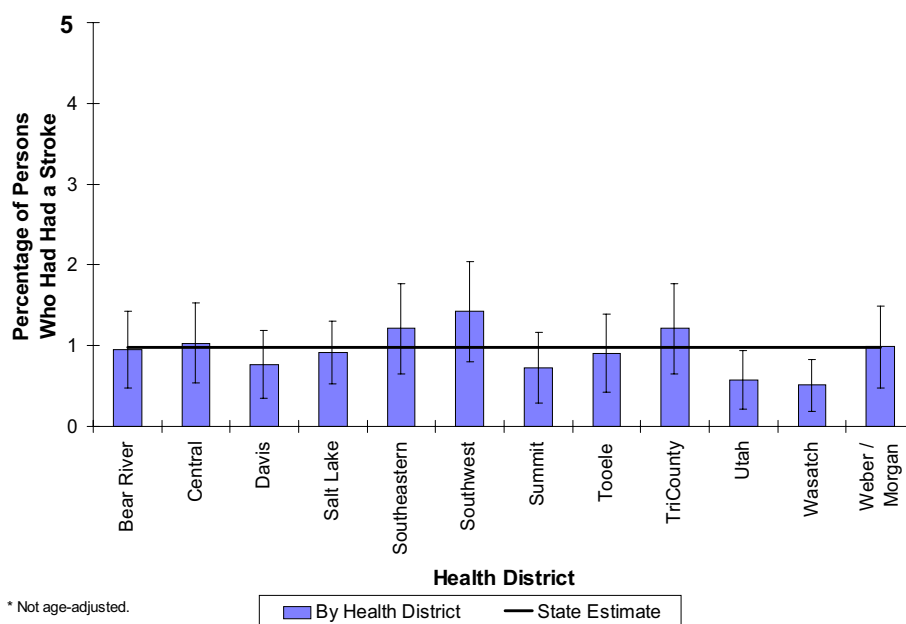
- The prevalence of stroke was inversely correlated with household income (as a percentage of the federal poverty level).

Prevalence (%) of Stroke by Cigarette Smoking Status. Utah, 1996.



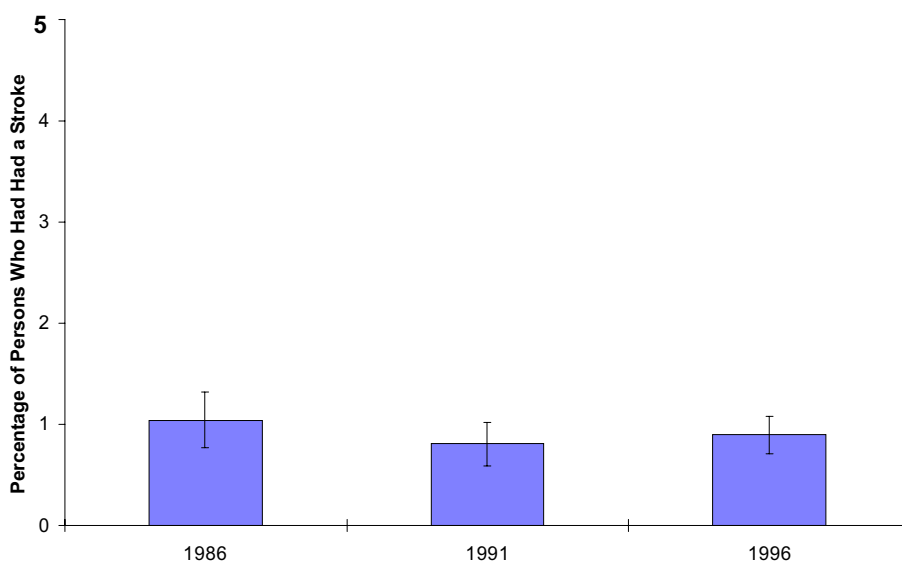
- The prevalence of stroke was significantly higher among those who had ever smoked cigarettes.

Prevalence (%)* of Stroke by Local Health District.
Utah, 1996.



- The prevalence of stroke was highest in Southwest Health District, and lowest in Wasatch Health District. This pattern did not change significantly after controlling for age.

Prevalence (%) of Stroke.
Utah, 1986, 1991, and 1996.



- There was no significant change in the prevalence of stroke from 1986 to 1996 ($p = 0.12$ on trends test using the logistic regression model).

REFERENCE TABLES

Table 1. Prevalence (%) of Selected Chronic Diseases or Conditions.
Utah, 1996.

Disease or Condition	%	95% CI ¹	# of Persons Affected ²
Hypertension ³	19.0	± 1.5	377,700
Arthritis	5.1	± 0.5	101,000
Asthma	4.1	± 0.4	82,100
Diabetes	2.9	± 0.4	57,900
Heart Disease	2.7	± 0.3	54,100
Chronic Obstructive Pulmonary Disease	1.0	± 0.2	19,600
Stroke	0.9	± 0.2	17,800
Alzheimer's Disease	0.1	± 0.1	1,400

1 CI = Confidence Interval.

2 Rounded to the nearest hundred. Numbers do not sum to the total because of missing values on the grouping variables.

3 Adults only

Table 2. Prevalence (%) of Selected Chronic Diseases or Conditions by Sex.
Utah, 1996.

Disease or Condition	Males			Females		
	%	95% CI ¹	# of Persons Affected ²	%	95% CI ¹	# of Persons Affected ²
Hypertension ³	19.0	± 2.4	187,200	18.9	± 1.9	190,500
Arthritis	3.6	± 0.5	35,900	6.5	± 0.7	65,100
Asthma	3.9	± 0.6	38,600	4.3	± 0.6	43,500
Diabetes	2.8	± 0.5	27,400	3.0	± 0.5	30,500
Heart Disease	2.9	± 0.5	28,800	2.5	± 0.5	25,300
Chronic Obstructive Pulmonary Disease	1.1	± 0.3	10,900	0.9	± 0.3	8,700
Stroke	0.7	± 0.2	6,700	1.1	± 0.3	11,200

1 CI = Confidence Interval.

2 Rounded to the nearest hundred. Numbers do not sum to the total because of missing values on the grouping variables.

3 Adults only

Table 3. Prevalence (%) of Alzheimer's Disease by Age.
Utah, 1996.

Demographic Subgroup	%	95% CI ¹	Number Persons Affected ²
Overall	0.1	± 0.1	1,400
Age			
0-59	***	± ***	***
≥ 60	0.6	± 0.4	1,400

1 CI = Confidence Interval.

2 Rounded to the nearest hundred. Numbers do not sum to the total because of missing values on the grouping variables.

*** Insufficient data to calculate an estimate.

Table 4. Prevalence (%) of Arthritis by Selected Socio-Demographic Variables.
Utah, 1996.

Demographic Subgroup	%	95% CI ¹	# Persons Affected ²
Overall	5.1	± 0.5	101,000
Age			
0-24	0.4	± 0.2	3,600
25-34	1.9	± 0.7	5,700
35-44	3.6	± 1.1	10,400
45-64	11.3	± 1.7	37,100
≥ 65	25.7	± 3.0	48,000
Sex by Age			
Male	3.6	± 0.5	35,900
0-24	0.3	± 0.2	1,400
25-34	1.7	± 0.9	2,600
35-44	2.8	± 1.4	4,000
45-64	8.3	± 2.0	13,400
≥ 65	19.6	± 4.1	15,900
Female	6.5	± 0.7	65,100
0-24	0.5	± 0.3	2,100
25-34	2.1	± 1.0	3,100
35-44	4.4	± 1.6	6,400
45-64	14.1	± 2.4	23,400
≥ 65	30.6	± 4.3	32,300
Ethnicity			
Hispanic	2.4	± 1.4	2,700
Non-Hispanic	5.2	± 0.5	98,600
Education (Age ≥ 18)			
Some HS	10.9	± 3.1	9,100
HS Grad/Some College	8.1	± 1.0	65,500
Tech Voc Degree	7.9	± 3.1	5,500
≥ 4 -Year College Degree	5.6	± 1.1	21,300
Employment Status (Age ≥ 18)			
Full Time	3.8	± 0.7	28,700
Part Time	6.2	± 1.8	11,100
Retired	23.5	± 3.0	41,700
Keeping House	7.3	± 2.0	9,300
Student	***	\pm ***	***
Other	17.9	± 5.1	10,600
Marital Status (Age ≥ 18)			
Married	7.5	± 0.9	69,200
Divorced / Separated	9.8	± 2.5	11,700
Widowed	25.6	± 5.1	15,400
Never Married	2.1	± 0.8	5,100
Income % of Poverty Level			
$\leq 100\%$	4.9	± 1.4	7,000
$>100\%$ -200%	5.4	± 1.0	29,500
$>200\%$ -300%	4.0	± 0.9	21,400
$>300\%$	4.3	± 0.7	33,300
Type of Dwelling			
House	5.2	± 0.6	83,400
Apartment	2.7	± 1.1	5,400
Condominium	7.7	± 3.4	4,700
Mobile Home	7.4	± 2.4	5,600
Other	2.6	± 2.2	1,000
Residence			
Wasatch Front	4.9	± 0.6	75,000
Non-Wasatch Front	5.7	± 0.6	26,000
Cigarette Smoking³			
Ever Smoked	8.3	± 1.4	29,300
Never Smoked	4.4	± 0.5	71,800

1 CI = Confidence Interval.

2 Rounded to the nearest hundred. Numbers do not sum to the total because of missing values on the grouping variables.

3 Ever Smoker = Had smoked ≥ 100 cigarettes; Never Smoker = Had never smoked 100 cigarettes.

*** Insufficient data to calculate an estimate.

Table 5. Prevalence (%) of Asthma by Selected Socio-Demographic Variables.
Utah, 1996.

Demographic Subgroup	%	95% CI ¹	# Persons Affected ²
Overall	4.1	± 0.4	82,100
Age			
0-9	3.6	± 0.9	12,300
10-17	5.1	± 1.1	15,800
18-24	4.3	± 1.3	10,600
25-34	3.2	± 0.9	9,600
35-44	3.4	± 1.0	9,900
45-64	4.4	± 1.1	14,400
≥ 65	5.9	± 1.7	11,100
Sex by Age			
Male	3.9	± 0.6	38,600
0-9	4.3	± 1.3	7,500
10-17	6.4	± 1.8	10,100
18-24	3.4	± 1.4	4,000
25-34	2.3	± 1.1	3,400
35-44	3.0	± 1.2	4,300
45-64	2.9	± 1.2	4,700
≥ 65	6.2	± 2.5	5,000
Female	4.3	± 0.6	43,500
0-9	2.9	± 1.1	4,800
10-17	3.8	± 1.3	5,700
18-24	5.2	± 1.9	6,600
25-34	4.2	± 1.4	6,200
35-44	3.8	± 1.6	5,600
45-64	5.7	± 1.6	9,500
≥ 65	5.8	± 2.2	6,100
Ethnicity			
Hispanic	5.0	± 2.2	5,600
Non-Hispanic	4.1	± 0.5	76,200
Education (Age ≤ 18)			
Some HS	6.6	± 2.5	5,600
HS Grad/Some College	4.2	± 0.6	33,800
Tech Voc Degree	3.3	± 1.9	2,300
≥ 4 -Year College Degree	3.6	± 1.1	13,800
Employment Status (Age ≤ 18)			
Full Time	3.6	± 0.6	26,900
Part Time	2.9	± 1.0	5,200
Retired	6.6	± 1.7	11,800
Keeping House	3.6	± 1.6	4,600
Student	6.8	± 4.4	3,400
Other	7.0	± 3.3	4,100
Marital Status (Age ≤ 18)			
Married	3.5	± 0.5	32,000
Divorced / Separated	6.2	± 2.3	7,400
Widowed	6.7	± 2.9	4,000
Never Married	4.9	± 1.5	11,800
Income % of Poverty Level			
$\leq 100\%$	5.6	± 1.8	8,000
$> 100\%$ -200%	3.9	± 0.8	21,100
$> 200\%$ -300%	4.2	± 1.1	22,200
$> 300\%$	4.0	± 0.7	31,200
Type of Dwelling			
House	4.2	± 0.5	67,000
Apartment	3.7	± 1.3	7,400
Condominium	1.8	± 1.5	1,100
Mobile Home	7.0	± 2.5	5,300
Other	3.4	± 2.9	1,300
Residence			
Wasatch Front	4.0	± 0.6	62,200
Non-Wasatch Front	4.4	± 0.5	20,000
Cigarette Smoking³			
Ever Smoked	4.5	± 1.0	15,900
Never Smoked	4.1	± 0.5	66,500

1 CI = Confidence Interval.

2 Rounded to the nearest hundred. Numbers do not sum to the total because of missing values on the grouping variables.

3 Ever smoker = Had smoked ≥ 100 cigarettes; Never Smoker = Had never smoked 100 cigarettes.

Table 6. Prevalence (%) of Chronic Obstructive Pulmonary Disease by Selected Socio-Demographic Variables. Utah, 1996.

Demographic Subgroup	%	95% CI ¹	# Persons Affected ²
Overall	1.0	± 0.2	19,600
Age			
0-34	0.3	± 0.2	4,000
35-44	0.4	± 0.3	1,300
45-64	1.6	± 0.6	5,200
≥ 65	5.5	± 1.5	10,200
Sex by Age			
Male	1.1	± 0.3	10,900
0-34	0.3	± 0.2	2,100
35-44	0.3	± 0.3	400
45-64	1.2	± 0.7	2,000
≥ 65	8.7	± 2.9	7,000
Female	0.9	± 0.3	8,700
0-34	0.3	± 0.2	1,900
35-44	0.6	± 0.5	900
45-64	1.9	± 1.0	3,100
≥ 65	2.9	± 1.4	3,000
Ethnicity			
Hispanic	***	\pm ***	***
Non-Hispanic	1.0	± 0.2	18,800
Education (Age ≤ 18)			
Some HS	3.7	± 2.0	3,100
HS Grad/Some College	1.5	± 0.4	11,700
Tech Voc Degree	0.6	± 0.5	400
≥ 4 -Year College Degree	0.7	± 0.4	2,700
Employment Status (Age < 18)			
Full Time	0.5	± 0.2	3,500
Part Time	0.8	± 0.6	1,400
Retired	4.9	± 1.4	8,700
Keeping House	1.0	± 0.9	1,200
Student	***	\pm ***	***
Other	5.9	± 2.8	3,400
Marital Status (Age ≤ 18)			
Married	1.1	± 0.3	10,100
Divorced / Separated	2.5	± 1.4	3,000
Widowed	5.0	± 2.6	3,000
Never Married	0.7	± 0.6	1,800
Income % of Poverty Level			
$\leq 100\%$	2.3	± 1.7	3,300
$> 100\%$ - 200%	1.2	± 0.5	6,300
$> 200\%$ - 300%	0.8	± 0.3	4,000
$> 300\%$	0.6	± 0.2	4,700
Type of Dwelling			
House	0.8	± 0.2	13,500
Apartment	0.9	± 0.6	1,800
Condominium	***	\pm ***	***
Mobile Home	2.6	± 1.6	2,000
Other	***	\pm ***	***
Residence			
Wasatch Front	1.0	± 0.3	14,800
Non-Wasatch Front	1.0	± 0.2	4,800
Cigarette Smoking³			
Ever Smoked	3.2	± 0.9	11,300
Never Smoked	0.5	± 0.2	8,400

1 CI = Confidence Interval.

2 Rounded to the nearest hundred. Numbers do not sum to the total because of missing values on the grouping variables.

3 Ever Smoker = Had smoked ≥ 100 cigarettes; Never Smoker = Had never smoked 100 cigarettes.

*** Insufficient data to calculate an estimate.

Table 7. Prevalence (%) of Diabetes by Selected Socio-Demographic Variables.
Utah, 1996.

Demographic Subgroup	%	95% CI ¹	# Persons Affected ²
Overall	2.9	± 0.4	57,900
Age			
0-24	0.4	± 0.2	3,200
25-34	1.7	± 0.7	5,100
35-44	2.4	± 0.8	7,000
45-64	6.8	± 1.3	22,400
≥ 65	11.6	± 2.2	21,700
Sex by Age			
Male	2.8	± 0.5	27,400
0-24	0.3	± 0.2	1,300
25-34	1.0	± 0.7	1,500
35-44	1.6	± 1.0	2,300
45-64	7.5	± 2.0	12,100
≥ 65	13.6	± 3.6	11,000
Female	3.0	± 0.5	30,500
0-24	0.4	± 0.3	2,000
25-34	2.4	± 1.1	3,500
35-44	3.3	± 1.4	4,800
45-64	6.2	± 1.7	10,400
≥ 65	10.0	± 2.8	10,600
Ethnicity			
Hispanic	4.8	± 2.2	5,300
Non-Hispanic	2.8	± 0.4	52,700
Education (Age ≤ 18)			
Some HS	6.4	± 2.4	5,300
HS Grad/Some College	4.3	± 0.7	34,300
Tech Voc Degree	4.8	± 2.6	3,400
≥ 4 -Year College Degree	3.8	± 0.9	14,400
Employment Status (Age ≤ 18)			
Full Time	2.9	± 0.6	22,000
Part Time	2.4	± 1.0	4,200
Retired	11.2	± 2.1	20,100
Keeping House	5.4	± 1.8	6,800
Student	***	\pm ***	***
Other	6.7	± 3.0	3,900
Marital Status (Age ≤ 18)			
Married	4.7	± 0.7	43,300
Divorced / Separated	3.6	± 1.6	4,300
Widowed	11.4	± 3.9	6,900
Never Married	1.2	± 0.6	2,800
Income % of Poverty Level			
$\leq 100\%$	2.5	± 1.1	3,600
$>100\%$ -200%	3.0	± 0.7	16,100
$>200\%$ -300%	2.3	± 0.6	12,000
$>300\%$	3.2	± 0.6	24,400
Type of Dwelling			
House	2.8	± 0.4	44,700
Apartment	3.0	± 1.2	6,000
Condominium	3.8	± 2.4	2,300
Mobile Home	6.1	± 2.7	4,600
Other	0.7	± 0.7	300
Residence			
Wasatch Front	3.0	± 0.4	46,100
Non-Wasatch Front	2.6	± 0.3	11,900
Cigarette Smoking³			
Ever Smoked	4.7	± 1.1	16,400
Never Smoked	2.5	± 0.4	41,800

1 CI = Confidence Interval.

2 Rounded to the nearest hundred. Numbers do not sum to the total because of missing values on the grouping variables.

3 Ever Smoker = Had smoked ≥ 100 cigarettes; Never Smoker = Had never smoked 100 cigarettes.

*** Insufficient data to calculate an estimate.

Table 8. Prevalence (%) of Heart Disease by Selected Socio-Demographic Variables.
Utah, 1996.

Demographic Subgroup	%	95% CI ¹	# Persons Affected ²
Overall	2.7	± 0.3	54,100
Age			
0-34	0.2	± 0.1	2,600
35-44	0.5	± 0.3	1,500
45-64	5.6	± 1.2	18,200
≥ 65	18.5	± 2.6	34,600
Sex by Age			
Male	2.9	± 0.5	28,800
0-34	0.2	± 0.2	1,300
35-44	0.5	± 0.4	700
45-64	6.7	± 1.8	10,800
≥ 65	21.6	± 4.1	17,400
Female	2.5	± 0.5	25,300
0-34	0.2	± 0.1	1,300
35-44	0.6	± 0.3	900
45-64	4.6	± 1.5	7,600
≥ 65	16.1	± 3.5	17,000
Ethnicity			
Hispanic	0.9	± 0.8	1,000
Non-Hispanic	2.8	± 0.4	53,100
Education (Age ≤ 18)			
Some HS	7.2	± 2.6	6,000
HS Grad/Some College	4.1	± 0.6	33,400
Tech Voc Degree	4.6	± 2.3	3,200
≥ 4 -Year College Degree	2.9	± 0.8	11,200
Employment Status (Age ≤ 18)			
Full Time	1.4	± 0.4	10,500
Part Time	2.3	± 1.0	4,000
Retired	17.6	± 2.5	31,300
Keeping House	2.5	± 1.2	3,100
Student	***	\pm ***	***
Other	8.3	± 3.4	4,900
Marital Status (Age ≤ 18)			
Married	3.9	± 0.6	35,700
Divorced / Separated	4.1	± 1.6	4,900
Widowed	19.6	± 4.7	11,800
Never Married	0.5	± 0.4	1,300
Income % of Poverty Level			
$\leq 100\%$	4.0	± 1.3	5,700
$> 100\%$ -200%	2.7	± 0.7	14,700
$> 200\%$ -300%	2.1	± 0.6	11,300
$> 300\%$	2.3	± 0.5	17,800
Type of Dwelling			
House	2.7	± 0.4	42,900
Apartment	2.0	± 0.9	4,100
Condominium	4.0	± 2.7	2,500
Mobile Home	4.3	± 1.8	3,200
Other	2.9	± 2.3	1,100
Residence			
Wasatch Front	2.5	± 0.4	38,200
Non-Wasatch Front	3.5	± 0.4	15,900
Cigarette Smoking³			
Ever Smoked	6.2	± 1.2	22,000
Never Smoked	2.0	± 0.3	32,200

1 CI = Confidence Interval.

2 Rounded to the nearest hundred. Numbers do not sum to the total because of missing values on the grouping variables.

3 Ever Smoker = Had smoked ≥ 100 cigarettes; Never Smoker = Had never smoked 100 cigarettes.

*** Insufficient data to calculate an estimate.

Table 9. Prevalence (%) of Hypertension by Selected Socio-Demographic Variables.
Utahns Age 18 Years or Older, 1996.

Demographic Subgroup	%	95% CI ¹	# Persons Affected ²
Overall	18.8	± 1.5	375,300
Age			
18-24	3.8	± 1.8	9,400
25-34	9.2	± 2.1	27,300
35-44	14.5	± 3.0	41,900
45-64	29.6	± 3.8	97,000
≥ 65	42.9	± 4.8	80,000
Sex by Age			
Male	18.9	± 2.4	186,500
18-24	3.3	± 2.5	3,900
25-34	8.7	± 3.2	13,100
35-44	17.2	± 4.8	24,600
45-64	33.0	± 6.1	53,300
≥ 65	37.5	± 7.5	30,300
Female	18.8	± 1.9	188,800
18-24	4.5	± 2.6	5,700
25-34	9.6	± 2.8	14,100
35-44	11.8	± 3.4	17,100
45-64	26.4	± 4.5	43,800
≥ 65	47.0	± 6.1	49,600
Ethnicity			
Hispanic	14.5	± 6.4	10,300
Non-Hispanic	19.1	± 1.6	243,100
Education (Age ≤18)			
Some HS	17.6	± 5.5	15,300
HS Grad/Some College	19.5	± 1.9	160,500
Tech Voc Degree	27.0	± 8.1	18,600
≥4-Year College Degree	16.1	± 2.9	58,800
Employment Status (Age ≤18)			
Full Time	16.3	± 2.1	120,500
Part Time	10.9	± 3.1	20,400
Retired	40.5	± 4.6	75,500
Keeping House	14.6	± 4.3	18,800
Student	8.7	± 7.8	3,500
Other	25.1	± 8.1	15,100
Marital Status (Age ≤18)			
Married	20.9	+ 2.0	191,700
Divorced / Separated	22.2	+ 4.8	27,100
Widowed	36.2	+ 6.6	19,900
Never Married	5.8	+ 2.1	14,400
Income % of Poverty Level			
≤100%	17.3	± 4.8	14,400
>100%-200%	18.8	± 3.2	61,100
>200%-300%	15.6	± 3.0	52,400
>300%	19.4	± 2.5	116,100
Type of Dwelling			
House	19.5	+ 1.8	207,200
Apartment	15.5	+ 4.1	23,100
Condominium	14.2	+ 6.3	7,400
Mobile Home	22.9	+ 6.8	12,600
Other	11.5	+ 6.9	2,800
Residence			
Wasatch Front	18.5	± 1.9	192,000
Non-Wasatch Front	20.0	± 1.6	61,100
Cigarette Smoking³			
Ever Smoked	22.1	± 3.0	81,300
Never Smoked	17.8	± 1.8	173,600

1 CI = Confidence Interval.

2 Rounded to the nearest hundred. Numbers do not sum to the total because of missing values on the grouping variables.

3 Ever Smoker = Had smoked ≥ 100 cigarettes; Never Smoker = Had never smoked 100 cigarettes.

Table 10. Prevalence (%) of Stroke by Selected Socio-Demographic Variables.
Utah, 1996.

Demographic Subgroup	%	95% CI ¹	# Persons Affected ²
Overall	0.9	± 0.2	17,800
Age			
0-44	0.2	± 0.1	2,400
45-64	1.2	± 0.5	3,900
≥ 65	6.8	± 1.8	12,800
Sex by Age			
Male	0.7	± 0.2	6,700
0-44	0.1	± 0.1	600
45-64	0.7	± 0.4	1,200
≥ 65	6.6	± 2.9	5,300
Female	1.1	± 0.3	11,200
0-44	0.2	± 0.1	1,800
45-64	1.6	± 0.8	2,700
≥ 65	7.1	± 2.4	7,500
Ethnicity			
Hispanic	***	\pm ***	***
Non-Hispanic	0.9	± 0.2	17,500
Education (Age ≤ 18)			
Some HS	3.5	± 2.0	2,900
HS Grad/Some College	1.4	± 0.4	11,000
Tech Voc Degree	***	\pm ***	***
≥ 4-Year College Degree	0.6	± 0.3	2,400
Employment Status (Age ≤ 18)			
Full Time	0.4	± 0.2	2,800
Part Time	0.3	± 0.3	500
Retired	5.5	± 1.6	9,800
Keeping House	0.3	± 0.2	400
Student	***	\pm ***	***
Other	7.1	± 3.4	4,200
Marital Status (Age ≤ 18)			
Married	1.3	± 0.3	11,700
Divorced / Separated	1.9	± 1.2	2,200
Widowed	5.0	± 2.4	3,000
Never Married	***	\pm ***	***
Income % of Poverty Level			
$\leq 100\%$	1.6	± 0.8	2,200
$>100\%$-200%	1.2	± 0.5	6,600
$>200\%$-300%	0.7	± 0.3	3,600
$>300\%$	0.6	± 0.2	4,700
Type of Dwelling			
House	0.8	± 0.2	12,700
Apartment	1.2	± 0.8	2,400
Condominium	1.4	± 1.4	900
Mobile Home	2.1	± 1.5	1,600
Other	***	\pm ***	***
Residence			
Wasatch Front	0.8	± 0.2	12,900
Non-Wasatch Front	1.1	± 0.2	4,900
Cigarette Smoking³			
Ever Smoked	2.1	± 0.8	7,500
Never Smoked	0.6	± 0.2	10,400

1 CI = Confidence Interval.

2 Rounded to the nearest hundred. Numbers do not sum to the total because of missing values on the grouping variables.

3 Ever Smoker = Had smoked ≥ 100 cigarettes; Never Smoker = Had never smoked 100 cigarettes.

*** Insufficient data to calculate an estimate.

State of Utah
Local Health Departments

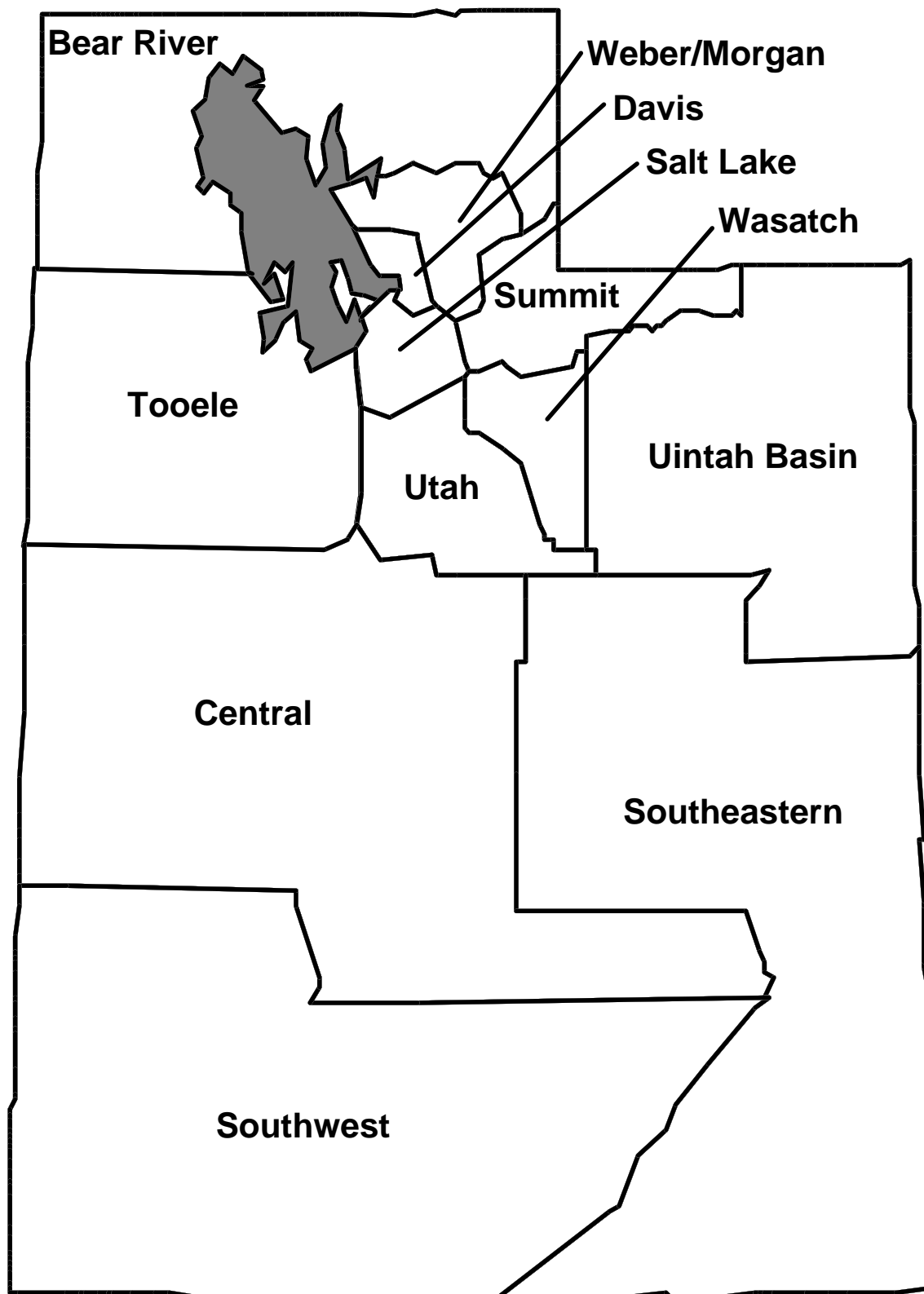


Table 11. Prevalence (%)* of Selected Chronic Diseases or Conditions
by Local Health District. Utah, 1996.

Health District	Arthritis		Asthma		Diabetes		Heart Disease	
	% 95% CI ¹	Age-adj % ²	% 95% CI ¹	Age-adj % ²	% 95% CI ¹	Age-adj %	% 95% CI ¹	Age-adj % ²
Bear River	5.6 ± 1.3	6.1	3.8 ± 1.0	3.9	2.3 ± 0.7	2.5	2.6 ± 0.9	2.8
Central	7.5 ± 1.5	6.3	4.7 ± 1.2	4.6	2.2 ± 0.7	1.9	3.8 ± 1.0	3.0
Davis	4.6 ± 1.2	4.9	2.9 ± 0.9	3.1	3.2 ± 0.9	3.5	2.3 ± 0.8	2.5
Salt Lake	5.0 ± 1.0	5.2	4.3 ± 0.9	4.4	3.1 ± 0.7	3.1	2.5 ± 0.7	2.7
South East	7.3 ± 1.5	6.7	5.9 ± 1.5	5.8	3.7 ± 1.0	3.5	4.4 ± 1.1	4.1
South West	5.4 ± 1.3	4.7	3.5 ± 1.0	3.6	2.4 ± 0.7	2.1	4.6 ± 1.2	3.8
Summit	2.7 ± 0.9	3.0	6.2 ± 1.4	6.4	1.4 ± 0.6	1.4	2.3 ± 0.8	2.7
Tooele	5.6 ± 1.3	5.3	5.5 ± 1.3	5.6	3.7 ± 1.0	3.5	3.6 ± 1.0	3.5
Uinta	5.7 ± 1.3	5.7	4.8 ± 1.2	5.0	3.5 ± 0.9	3.4	3.5 ± 0.9	3.4
Utah	4.2 ± 1.0	5.4	3.4 ± 1.0	3.6	2.3 ± 0.7	3.0	2.0 ± 0.7	2.6
Wasatch	4.5 ± 1.0	4.4	3.7 ± 0.9	3.6	2.7 ± 0.7	2.6	1.9 ± 0.6	1.9
Weber / Morgan	5.7 ± 1.3	5.3	5.3 ± 1.4	5.3	3.3 ± 1.0	3.1	3.2 ± 1.0	2.8

Table 11. (continued)

Health District	Hypertension		Chronic Obstructive Pulmonary Disease		Stroke	
	% 95% CI ¹	Age-adj % ²	% 95% CI ¹	Age-adj % ²	% 95% CI ¹	Age-adj % ²
Bear River	20.1 ± 3.7	20.5	0.8 ± 0.4	0.8	1.0 ± 0.5	1.0
Central	20.2 ± 3.7	17.4	0.8 ± 0.4	0.7	1.0 ± 0.5	0.7
Davis	19.0 ± 3.7	19.3	0.7 ± 0.4	0.9	0.8 ± 0.4	0.8
Salt Lake	20.6 ± 3.0	20.3	1.0 ± 0.4	1.1	0.9 ± 0.4	1.0
South East	20.1 ± 3.6	18.8	1.7 ± 0.7	1.6	1.2 ± 0.6	1.1
South West	21.2 ± 3.8	19.6	1.4 ± 0.6	1.1	1.4 ± 0.6	1.2
Summit	14.5 ± 3.4	14.7	0.7 ± 0.4	0.6	0.7 ± 0.4	0.8
Tooele	22.9 ± 3.8	22.2	1.1 ± 0.5	1.0	0.9 ± 0.5	0.9
Uinta	19.0 ± 3.5	17.7	1.0 ± 0.5	1.0	1.2 ± 0.6	1.2
Utah	13.1 ± 3.1	16.1	0.7 ± 0.4	0.9	0.6 ± 0.4	0.8
Wasatch	16.1 ± 3.2	16.0	0.6 ± 0.4	0.6	0.5 ± 0.3	0.5
Weber / Morgan	18.5 ± 3.6	17.5	1.3 ± 0.6	1.3	1.0 ± 0.5	0.9

1 CI = confidence interval

2 Age-adjusted prevalence using Utah state population during 1996 as standard.

Table 12a. Prevalence of Selected Chronic Diseases or Conditions by Age and Sex.
Bear River Health District, 1996.

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Arthritis				
Total	5.6 ±	1.3	6,800	122,319
Sex: Male	3.7 ±	1.4	2,300	60,854
Female	7.5 ±	1.9	4,600	61,465
Age: 0-24	*** ±	***	***	58,466
25-34	1.7 ±	1.6	300	18,452
35-44	3.4 ±	2.4	600	16,699
45-64	12.4 ±	4.2	2,200	17,844
65+	34.7 ±	8.4	3,800	10,858
Asthma				
Total	3.8 ±	1.0	4,700	122,319
Sex: Male	4.7 ±	1.5	2,900	60,854
Female	2.9 ±	1.1	1,800	61,465
Age: 0-9	3.5 ±	2.0	800	22,879
10-17	3.5 ±	2.1	700	19,408
18-24	5.3 ±	3.1	900	16,179
25-34	3.0 ±	2.2	600	18,452
35-44	3.7 ±	2.4	600	16,699
45-64	4.4 ±	2.7	800	17,844
65+	4.2 ±	3.2	500	10,858
Chronic Obstructive Pulmonary Disease				
Total	0.8 ±	0.4	900	122,319
Sex: Male	1.1 ±	0.7	600	60,854
Female	*** ±	***	***	61,465
Age: 0-34	*** ±	***	***	76,918
35-44	*** ±	***	***	16,699
45-64	*** ±	***	***	17,844
65+	4.8 ±	3.4	500	10,858
Diabetes				
Total	2.3 ±	0.7	2,800	122,319
Sex: Male	1.9 ±	0.9	1,100	60,854
Female	2.7 ±	1.1	1,700	61,465
Age: 0-24	*** ±	***	***	58,466
25-34	*** ±	***	***	18,452
35-44	*** ±	***	***	16,699
45-64	7.4 ±	3.4	1,300	17,844
65+	8.2 ±	4.3	900	10,858

Table 12a. (continued)

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Heart Disease				
Total	2.6 ±	0.9	3,200	122,319
Sex: Male	2.6 ±	1.1	1,600	60,854
Female	2.5 ±	1.1	1,600	61,465
Age: 0-34	0.4 ±	0.4	300	76,918
35-44	1.9 ±	1.9	300	16,699
45-64	4.5 ±	2.9	800	17,844
65+	16.1 ±	6.6	1,800	10,858
Hypertension (Age ≥ 18)				
Total	20.1 ±	3.7	24,600	122,319
Sex: Male	14.9 ±	5.3	9,100	60,854
Female	25.1 ±	5.0	15,400	61,465
Age: 18-24	5.8 ±	5.1	900	16,179
25-34	8.7 ±	5.2	1,600	18,452
35-44	14.7 ±	7.4	2,500	16,699
45-64	36.2 ±	9.7	6,500	17,844
65+	40.0 ±	11.1	4,300	10,858
Stroke				
Total	1.0 ±	0.5	1,200	122,319
Sex: Male	0.5 ±	0.5	300	60,854
Female	1.4 ±	0.8	900	61,465
Age: 0-44	*** ±	***	***	93,617
45-64	1.8 ±	1.8	300	17,844
65+	5.8 ±	3.8	600	10,858

1 CI = Confidence Interval.

2 Rounded to the nearest hundred. Numbers do not sum to the total because of missing values on the grouping variables.

*** Insufficient data to calculate an estimate.

Table 12b. Prevalence of Selected Chronic Diseases and Conditions by Age and Sex.
Central Health District, 1996.

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Arthritis				
Total	7.5 ±	1.5	4,400	58,640
Sex: Male	5.1 ±	1.6	1,500	28,870
Female	9.7 ±	2.2	2,900	29,770
Age: 0-24	*** ±	***	***	27,538
25-34	*** ±	***	***	6,477
35-44	5.0 ±	3.4	400	7,195
45-64	12.5 ±	3.8	1,200	9,515
65+	31.1 ±	7.1	2,500	7,915
Asthma				
Total	4.7 ±	1.2	2,700	58,640
Sex: Male	4.5 ±	1.4	1,300	28,870
Female	4.8 ±	1.5	1,400	29,770
Age: 0-9	2.4 ±	1.6	200	8,918
10-17	3.9 ±	2.0	400	10,596
18-24	7.3 ±	5.5	600	8,024
25-34	4.6 ±	3.1	300	6,477
35-44	2.7 ±	2.2	200	7,195
45-64	4.8 ±	2.5	500	9,515
65+	8.6 ±	4.3	700	7,915
Chronic Obstructive Pulmonary Disease				
Total	0.8 ±	0.4	400	58,640
Sex: Male	0.9 ±	0.7	300	28,870
Female	0.6 ±	0.5	200	29,770
Age: 0-34	*** ±	***	***	34,015
35-44	*** ±	***	***	7,195
45-64	1.5 ±	1.3	100	9,515
65+	3.2 ±	2.4	300	7,915
Diabetes				
Total	2.2 ±	0.7	1,300	58,640
Sex: Male	2.2 ±	1.0	600	28,870
Female	2.2 ±	1.0	700	29,770
Age: 0-24	*** ±	***	***	27,538
25-34	*** ±	***	***	6,477
35-44	*** ±	***	***	7,195
45-64	3.9 ±	2.2	400	9,515
65+	6.8 ±	3.7	500	7,915

Table 12b. (continued)

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Heart Disease				
Total	3.8 ±	1.0	2,200	58,640
Sex: Male	3.6 ±	1.3	1,000	28,870
Female	4.0 ±	1.4	1,200	29,770
Age: 0-34	*** ±	***	***	34,015
35-44	*** ±	***	***	7,195
45-64	4.7 ±	2.4	500	9,515
65+	22.8 ±	5.8	1,800	7,915
Hypertensionn (Age ≥18)				
Total	20.2 ±	3.7	11,800	58,640
Sex: Male	18.9 ±	6.0	5,400	28,870
Female	21.4 ±	4.6	6,400	29,770
Age: 18-24	*** ±	***	***	8,024
25-34	10.7 ±	6.8	700	6,477
35-44	10.5 ±	6.8	800	7,195
45-64	21.4 ±	6.8	2,000	9,515
65+	44.9 ±	9.9	3,600	7,915
Stroke				
Total	1.0 ±	0.5	600	58,640
Sex: Male	0.5 ±	0.5	200	28,870
Female	1.5 ±	0.8	500	29,770
Age: 0-44	*** ±	***	***	41,210
45-64	1.5 ±	1.5	100	9,515
65+	4.7 ±	2.9	400	7,915

1 CI = Confidence Interval.

2 Rounded to the nearest hundred. Numbers do not sum to the total because of missing values on the grouping variables.

*** Insufficient data to calculate an estimate.

Table 12c. Prevalence of Selected Chronic Diseases and Conditions by Age and Sex.
Davis Health District, 1996.

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Arthritis				
Total	4.6 ±	1.2	10,000	219,915
Sex: Male	4.0 ±	1.4	4,500	110,187
Female	5.1 ±	1.6	5,600	109,728
Age: 0-24	*** ±	***	***	101,219
25-34	*** ±	***	***	32,991
35-44	3.3 ±	2.3	1,100	32,691
45-64	10.6 ±	4.4	3,900	36,763
65+	24.1 ±	8.3	3,900	16,251
Asthma				
Total	2.9 ±	0.9	6,400	219,915
Sex: Male	2.7 ±	1.1	2,900	110,187
Female	3.2 ±	1.2	3,500	109,728
Age: 0-9	1.5 ±	1.2	600	36,952
10-17	3.5 ±	2.3	1,300	37,864
18-24	*** ±	***	***	26,403
25-34	1.9 ±	1.7	600	32,991
35-44	3.4 ±	2.4	1,100	32,691
45-64	3.3 ±	2.2	1,200	36,763
65+	7.2 ±	4.5	1,200	16,251
Chronic Obstructive Pulmonary Disease				
Total	0.7 ±	0.4	1,600	219,915
Sex: Male	0.7 ±	0.6	700	110,187
Female	0.8 ±	0.6	900	109,728
Age: 0-34	*** ±	***	***	134,210
35-44	*** ±	***	***	32,691
45-64	*** ±	***	***	36,763
65+	7.7 ±	4.8	1,300	16,251
Diabetes				
Total	3.2 ±	0.9	7,100	219,915
Sex: Male	3.1 ±	1.2	3,400	110,187
Female	3.4 ±	1.3	3,700	109,728
Age: 0-24	*** ±	***	***	101,219
25-34	2.6 ±	2.4	900	32,991
35-44	2.3 ±	2.0	800	32,691
45-64	8.8 ±	3.3	3,200	36,763
65+	12.0 ±	6.0	1,900	16,251

Table 12c. (continued)

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Heart Disease				
Total	2.3 ±	0.8	5,100	219,915
Sex: Male	3.0 ±	1.2	3,300	110,187
Female	1.7 ±	0.9	1,900	109,728
Age: 0-34	*** ±	***	***	134,210
35-44	*** ±	***	***	32,691
45-64	4.0 ±	2.4	1,500	36,763
65+	17.3 ±	6.7	2,800	16,251
Hypertension (Age ≥18)				
Total	19.0 ±	3.7	41,800	219,915
Sex: Male	19.4 ±	5.9	21,600	110,187
Female	18.6 ±	4.7	20,400	109,728
Age: 18-24	6.8 ±	6.2	1,800	26,403
25-34	10.3 ±	6.5	3,400	32,991
35-44	13.3 ±	6.4	4,400	32,691
45-64	25.7 ±	8.8	9,400	36,763
65+	47.7 ±	12.6	7,700	16,251
Stroke				
Total	0.8 ±	0.4	1,700	219,915
Sex: Male	0.6 ±	0.5	600	110,187
Female	1.0 ±	0.6	1,000	109,728
Age: 0-44	0.5 ±	0.4	800	166,901
45-64	*** ±	***	***	36,763
65+	4.3 ±	3.6	700	16,251

1 CI = Confidence Interval.

2 Rounded to the nearest hundred. Numbers do not sum to the total because of missing values on the grouping variables.

*** Insufficient data to calculate an estimate.

Table 12d. Prevalence of Selected Chronic Diseases and Conditions by Age and Sex.
Salt Lake Health District, 1996.

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Arthritis				
Total	5.0 ±	1.0	41,100	823,411
Sex: Male	3.7 ±	1.1	15,100	407,624
Female	6.2 ±	1.4	26,000	415,787
Age: 0-24	*** ±	***	***	346,792
25-34	1.8 ±	1.2	2,200	124,317
35-44	3.4 ±	2.2	4,600	133,015
45-64	10.7 ±	3.2	15,500	144,728
65+	26.7 ±	6.5	19,900	74,559
Asthma				
Total	4.3 ±	0.9	35,400	823,411
Sex: Male	3.9 ±	1.1	16,000	407,624
Female	4.7 ±	1.2	19,400	415,787
Age: 0-9	4.3 ±	1.9	5,800	136,233
10-17	5.5 ±	2.3	6,700	121,807
18-24	4.6 ±	3.0	4,100	88,752
25-34	3.8 ±	1.8	4,700	124,317
35-44	3.0 ±	1.8	4,000	133,015
45-64	4.3 ±	2.0	6,300	144,728
65+	6.3 ±	3.6	4,700	74,559
Chronic Obstructive Pulmonary Disease				
Total	1.0 ±	0.4	8,600	823,411
Sex: Male	1.2 ±	0.6	4,800	407,624
Female	0.9 ±	0.6	3,800	415,787
Age: 0-34	0.6 ±	0.4	2,900	471,109
35-44	*** ±	***	***	133,015
45-64	1.6 ±	1.2	2,300	144,728
65+	5.2 ±	3.3	3,900	74,559
Diabetes				
Total	3.1 ±	0.7	25,400	823,411
Sex: Male	3.3 ±	1.0	13,300	407,624
Female	2.9 ±	1.0	12,200	415,787
Age: 0-24	*** ±	***	***	346,792
25-34	2.0 ±	1.4	2,500	124,317
35-44	1.8 ±	1.4	2,400	133,015
45-64	7.6 ±	2.5	11,000	144,728
65+	12.6 ±	4.9	9,400	74,559

Table 12d. (continued)

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Heart Disease				
Total	2.5 ±	0.7	20,900	823,411
Sex: Male	2.5 ±	0.9	10,200	407,624
Female	2.6 ±	0.9	10,700	415,787
Age: 0-34	*** ±	***	***	471,109
35-44	*** ±	***	***	133,015
45-64	5.4 ±	2.2	7,800	144,728
65+	18.5 ±	5.5	13,800	74,559
Hypertension (Age ≥18)				
Total	20.6 ±	3.0	169,500	823,411
Sex: Male	20.7 ±	4.7	84,300	407,624
Female	20.5 ±	3.9	85,200	415,787
Age: 18-24	3.7 ±	3.5	3,300	88,752
25-34	8.8 ±	4.0	11,000	124,317
35-44	14.9 ±	5.5	19,900	133,015
45-64	33.6 ±	7.4	48,600	144,728
65+	45.0 ±	10.1	33,600	74,559
Stroke				
Total	0.9 ±	0.4	7,500	823,411
Sex: Male	0.7 ±	0.5	2,900	407,624
Female	1.1 ±	0.6	4,600	415,787
Age: 0-44	*** ±	***	***	604,124
45-64	0.9 ±	0.9	1,400	144,728
65+	9.1 ±	4.2	6,800	74,559

1 CI = Confidence Interval.

2 Rounded to the nearest hundred. Numbers do not sum to the total because of missing values on the grouping variables.

*** Insufficient data to calculate an estimate.

Table 12e. Prevalence of Selected Chronic Diseases and Conditions by Age and Sex.
Southeastern Health District, 1996.

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Arthritis				
Total	7.3 ±	1.5	3,900	53,533
Sex: Male	6.0 ±	1.8	1,600	26,275
Female	8.5 ±	2.0	2,300	27,258
Age: 0-24	0.8 ±	0.7	200	24,046
25-34	*** ±	***	***	6,151
35-44	5.2 ±	2.8	400	7,581
45-64	18.0 ±	4.8	1,700	9,593
65+	26.9 ±	8.3	1,700	6,162
Asthma				
Total	5.9 ±	1.5	3,100	53,533
Sex: Male	5.9 ±	2.0	1,500	26,275
Female	5.9 ±	2.0	1,600	27,258
Age: 0-9	5.9 ±	2.8	500	8,443
10-17	7.2 ±	4.3	600	8,923
18-24	12.2 ±	6.5	800	6,680
25-34	2.6 ±	2.5	200	6,151
35-44	2.6 ±	2.0	200	7,581
45-64	5.4 ±	2.6	500	9,593
65+	6.0 ±	4.0	400	6,162
Chronic Obstructive Pulmonary Disease				
Total	1.7 ±	0.7	900	53,533
Sex: Male	2.4 ±	1.1	600	26,275
Female	1.1 ±	0.7	300	27,258
Age: 0-34	*** ±	***	***	30,197
35-44	*** ±	***	***	7,581
45-64	2.4 ±	1.9	200	9,593
65+	9.0 ±	4.9	600	6,162
Diabetes				
Total	3.7 ±	1.0	2,000	53,533
Sex: Male	3.4 ±	1.3	900	26,275
Female	4.1 ±	1.5	1,100	27,258
Age: 0-24	*** ±	***	***	24,046
25-34	*** ±	***	***	6,151
35-44	3.6 ±	2.4	300	7,581
45-64	6.7 ±	2.9	600	9,593
65+	15.2 ±	5.9	900	6,162

Table 12e. (continued)

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Heart Disease				
Total	4.4 ±	1.1	2,300	53,533
Sex: Male	5.0 ±	1.6	1,300	26,275
Female	3.8 ±	1.4	1,000	27,258
Age: 0-34	*** ±	***	***	30,197
35-44	2.3 ±	1.8	200	7,581
45-64	6.9 ±	3.0	700	9,593
65+	26.6 ±	7.4	1,600	6,162
Hypertension (Age ≥18)				
Total	20.1 ±	3.6	10,700	53,533
Sex: Male	17.6 ±	5.4	4,600	26,275
Female	22.4 ±	4.9	6,100	27,258
Age: 18-24	7.8 ±	7.4	500	6,680
25-34	6.3 ±	4.7	400	6,151
35-44	20.7 ±	7.8	1,600	7,581
45-64	21.4 ±	6.8	2,000	9,593
65+	46.0 ±	11.2	2,800	6,162
Stroke				
Total	1.2 ±	0.6	600	53,533
Sex: Male	1.0 ±	0.7	300	26,275
Female	1.4 ±	0.9	400	27,258
Age: 0-44	*** ±	***	***	37,778
45-64	1.8 ±	1.6	200	9,593
65+	7.4 ±	4.1	500	6,162

1 CI = Confidence Interval.

2 Rounded to the nearest hundred. Numbers do not sum to the total because of missing values on the grouping variables.

*** Insufficient data to calculate an estimate.

Table 12f. Prevalence of Selected Chronic Diseases and Conditions by Age and Sex.
Southwest Health District, 1996.

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Arthritis				
Total	5.4 ±	1.3	6,000	111,139
Sex: Male	3.2 ±	1.3	1,700	54,567
Female	7.6 ±	1.9	4,300	56,572
Age: 0-24	*** ±	***	***	48,051
25-34	2.6 ±	2.6	400	15,456
35-44	6.5 ±	3.5	900	13,485
45-64	8.3 ±	3.5	1,400	17,097
65+	21.8 ±	5.9	3,700	17,050
Asthma				
Total	3.5 ±	1.0	3,900	111,139
Sex: Male	3.2 ±	1.3	1,700	54,567
Female	3.9 ±	1.4	2,200	56,572
Age: 0-9	2.5 ±	1.9	400	17,736
10-17	6.0 ±	3.3	1,000	17,205
18-24	*** ±	***	***	13,110
25-34	2.3 ±	2.2	400	15,456
35-44	3.0 ±	2.3	400	13,485
45-64	5.3 ±	2.8	900	17,097
65+	4.8 ±	2.9	800	17,050
Chronic Obstructive Pulmonary Disease				
Total	1.4 ±	0.6	1,600	111,139
Sex: Male	2.1 ±	1.0	1,100	54,567
Female	0.8 ±	0.6	400	56,572
Age: 0-34	*** ±	***	***	63,507
35-44	*** ±	***	***	13,485
45-64	1.6 ±	1.5	300	17,097
65+	7.2 ±	3.6	1,200	17,050
Diabetes				
Total	2.4 ±	0.7	2,600	111,139
Sex: Male	2.4 ±	1.1	1,300	54,567
Female	2.3 ±	1.1	1,300	56,572
Age: 0-24	*** ±	***	***	48,051
25-34	*** ±	***	***	15,456
35-44	2.6 ±	2.3	300	13,485
45-64	4.9 ±	2.6	800	17,097
65+	9.2 ±	3.7	1,600	17,050

Table 12f. (continued)

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Heart Disease				
Total	4.6 ±	1.2	5,100	111,139
Sex: Male	5.4 ±	1.7	2,900	54,567
Female	3.8 ±	1.3	2,100	56,572
Age: 0-34	*** ±	***	***	63,507
35-44	*** ±	***	***	13,485
45-64	9.2 ±	3.6	1,600	17,097
65+	21.0 ±	5.5	3,600	17,050
Hypertension (Age ≥18)				
Total	21.2 ±	3.8	23,500	111,139
Sex: Male	20.3 ±	5.7	11,100	54,567
Female	22.0 ±	5.0	12,400	56,572
Age: 18-24	*** ±	***	***	13,110
25-34	13.1 ±	7.7	2,000	15,456
35-44	17.4 ±	8.1	2,400	13,485
45-64	26.8 ±	8.4	4,600	17,097
65+	42.7 ±	9.3	7,300	17,050
Stroke				
Total	1.4 ±	0.6	1,600	111,139
Sex: Male	1.4 ±	0.8	800	54,567
Female	1.4 ±	0.8	800	56,572
Age: 0-44	*** ±	***	***	76,992
45-64	2.5 ±	1.9	400	17,097
65+	7.2 ±	3.7	1,200	17,050

1 CI = Confidence Interval.

2 Rounded to the nearest hundred. Numbers do not sum to the total because of missing values on the grouping variables.

*** Insufficient data to calculate an estimate.

Table 10g. Prevalence of Selected Chronic Diseases and Conditions by Age and Sex.
Summit Health District, 1996.

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Arthritis				
Total	2.7 ±	0.9	600	22,414
Sex: Male	1.4 ±	0.8	200	11,356
Female	4.1 ±	1.5	500	11,058
Age: 0-24	*** ±	***	***	9,009
25-34	*** ±	***	***	3,498
35-44	2.2 ±	1.7	100	4,245
45-64	4.0 ±	2.2	200	4,249
65+	18.4 ±	7.9	300	1,413
Asthma				
Total	6.2 ±	1.4	1,400	22,414
Sex: Male	5.9 ±	1.8	700	11,356
Female	6.5 ±	2.1	700	11,058
Age: 0-9	4.7 ±	3.2	200	3,318
10-17	7.1 ±	3.4	200	3,466
18-24	12.2 ±	6.8	300	2,225
25-34	4.7 ±	2.9	200	3,498
35-44	5.9 ±	2.6	300	4,245
45-64	6.1 ±	2.9	300	4,249
65+	4.6 ±	3.8	100	1,413
Chronic Obstructive Pulmonary Disease				
Total	0.7 ±	0.4	100	22,414
Sex: Male	*** ±	***	***	11,356
Female	0.8 ±	0.7	100	11,058
Age: 0-34	*** ±	***	***	12,507
35-44	*** ±	***	***	4,245
45-64	*** ±	***	***	4,249
65+	*** ±	***	***	1,413
Diabetes				
Total	1.4 ±	0.6	300	22,414
Sex: Male	1.2 ±	0.8	100	11,356
Female	1.6 ±	0.9	200	11,058
Age: 0-24	*** ±	***	***	9,009
25-34	*** ±	***	***	3,498
35-44	1.6 ±	1.5	100	4,245
45-64	1.8 ±	1.6	100	4,249
65+	6.0 ±	5.2	100	1,413

Table 12g. (continued)

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Heart Disease				
Total	2.3 ±	0.8	500	22,414
Sex: Male	2.9 ±	1.2	300	11,356
Female	1.7 ±	1.0	200	11,058
Age: 0-34	*** ±	***	***	12,507
35-44	1.4 ±	1.3	100	4,245
45-64	2.8 ±	1.9	100	4,249
65+	21.8 ±	8.0	300	1,413
Hypertension (Age ≥18)				
Total	14.5 ±	3.4	3,200	22,414
Sex: Male	13.0 ±	4.8	1,500	11,356
Female	16.0 ±	4.6	1,800	11,058
Age: 18-24	*** ±	***	***	2,225
25-34	4.9 ±	3.9	200	3,498
35-44	7.5 ±	4.3	300	4,245
45-64	22.7 ±	7.9	1,000	4,249
65+	41.7 ±	13.1	600	1,413
Stroke				
Total	0.7 ±	0.4	200	22,414
Sex: Male	0.8 ±	0.7	100	11,356
Female	0.6 ±	0.6	100	11,058
Age: 0-44	*** ±	***	***	16,752
45-64	*** ±	***	***	4,249
65+	6.0 ±	4.4	100	1,413

1 CI = Confidence Interval.

2 Rounded to the nearest hundred. Numbers do not sum to the total because of missing values on the grouping variables.

*** Insufficient data to calculate an estimate.

Table 12h. Prevalence of Selected Chronic Diseases and Conditions by Age and Sex.
Tooele Health District, 1996.

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Arthritis				
Total	5.6 ±	1.3	1,500	26,934
Sex: Male	4.6 ±	1.6	600	13,497
Female	6.6 ±	1.9	900	13,437
Age: 0-24	0.8 ±	0.7	100	11,593
25-34	*** ±	***	***	3,414
35-44	5.1 ±	2.8	200	3,652
45-64	11.8 ±	4.0	600	5,348
65+	23.9 ±	7.4	700	2,927
Asthma				
Total	5.5 ±	1.3	1,500	26,934
Sex: Male	6.0 ±	1.9	800	13,497
Female	5.1 ±	1.6	700	13,437
Age: 0-9	4.4 ±	2.9	200	4,018
10-17	5.4 ±	2.5	200	4,427
18-24	4.5 ±	3.3	100	3,148
25-34	9.8 ±	4.1	300	3,414
35-44	5.4 ±	3.2	200	3,652
45-64	4.1 ±	2.6	200	5,348
65+	5.4 ±	3.8	200	2,927
Chronic Obstructive Pulmonary Disease				
Total	1.1 ±	0.5	300	26,934
Sex: Male	0.9 ±	0.7	100	13,497
Female	1.3 ±	0.8	200	13,437
Age: 0-34	*** ±	***	***	15,007
35-44	*** ±	***	***	3,652
45-64	*** ±	***	***	5,348
65+	5.5 ±	3.8	200	2,927
Diabetes				
Total	3.7 ±	1.0	1,000	26,934
Sex: Male	3.7 ±	1.4	500	13,497
Female	3.6 ±	1.4	500	13,437
Age: 0-24	*** ±	***	***	11,593
25-34	2.5 ±	1.9	100	3,414
35-44	2.1 ±	1.8	100	3,652
45-64	8.3 ±	3.3	400	5,348
65+	13.8 ±	5.8	400	2,927

Table 12h. (continued)

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Heart Disease				
Total	3.6 ±	1.0	1,000	26,934
Sex: Male	3.5 ±	1.3	500	13,497
Female	3.8 ±	1.5	500	13,437
Age: 0-34	0.4 ±	0.4	100	15,007
35-44	2.8 ±	2.5	100	3,652
45-64	6.6 ±	3.0	400	5,348
65+	19.1 ±	6.6	600	2,927
Hypertension (Age ≥18)				
Total	22.9 ±	3.8	6,200	26,934
Sex: Male	19.1 ±	5.5	2,600	13,497
Female	26.5 ±	5.4	3,600	13,437
Age: 18-24	9.4 ±	6.5	300	3,148
25-34	15.8 ±	6.9	500	3,414
35-44	17.3 ±	7.5	600	3,652
45-64	32.6 ±	8.6	1,700	5,348
65+	38.8 ±	11.4	1,100	2,927
Stroke				
Total	0.9 ±	0.5	200	26,934
Sex: Male	0.7 ±	0.6	100	13,497
Female	1.1 ±	0.8	200	13,437
Age: 0-44	0.4 ±	0.4	100	18,659
45-64	2.0 ±	1.6	100	5,348
65+	3.0 ±	2.8	100	2,927

1 CI = Confidence Interval.

2 Rounded to the nearest hundred. Numbers do not sum to the total because of missing values on the grouping variables.

*** Insufficient data to calculate an estimate.

Table 12i. Prevalence of Selected Chronic Diseases and Conditions by Age and Sex.
TriCounty Health District, 1996.

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Arthritis				
Total	5.7 ±	1.3	2,200	38,523
Sex: Male	4.0 ±	1.4	800	19,091
Female	7.3 ±	1.8	1,400	19,432
Age: 0-24	*** ±	***	***	18,402
25-34	3.3 ±	2.6	100	4,365
35-44	5.7 ±	3.4	300	5,495
45-64	11.2 ±	4.0	700	6,623
65+	25.5 ±	8.0	900	3,638
Asthma				
Total	4.8 ±	1.2	1,900	38,523
Sex: Male	5.2 ±	1.6	1,000	19,091
Female	4.4 ±	1.6	900	19,432
Age: 0-9	5.9 ±	2.9	400	6,380
10-17	4.7 ±	2.5	400	7,483
18-24	7.8 ±	4.7	400	4,539
25-34	*** ±	***	***	4,365
35-44	3.9 ±	2.6	200	5,495
45-64	4.1 ±	2.4	300	6,623
65+	8.2 ±	4.3	300	3,638
Chronic Obstructive Pulmonary Disease				
Total	1.0 ±	0.5	400	38,523
Sex: Male	1.2 ±	0.7	200	19,091
Female	0.8 ±	0.6	200	19,432
Age: 0-34	*** ±	***	***	22,767
35-44	*** ±	***	***	5,495
45-64	2.1 ±	1.6	100	6,623
65+	3.6 ±	3.1	100	3,638
Diabetes				
Total	3.5 ±	0.9	1,400	38,523
Sex: Male	3.2 ±	1.2	600	19,091
Female	3.8 ±	1.4	700	19,432
Age: 0-24	0.6 ±	0.6	100	18,402
25-34	2.1 ±	2.0	100	4,365
35-44	3.1 ±	2.5	200	5,495
45-64	8.8 ±	3.2	600	6,623
65+	10.3 ±	5.1	400	3,638

TriCounty Health District was formerly known as Uintah Basin Health District.

Table 12i. (continued)

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Heart Disease				
Total	3.5 ±	0.9	1,300	38,523
Sex: Male	3.6 ±	1.3	700	19,091
Female	3.4 ±	1.3	700	19,432
Age: 0-34	*** ±	***	***	22,767
35-44	*** ±	***	***	5,495
45-64	6.8 ±	2.9	400	6,623
65+	21.3 ±	6.2	800	3,638
Hypertension (Age ≥18)				
Total	19.0 ±	3.5	7,300	38,523
Sex: Male	14.0 ±	4.8	2,700	19,091
Female	23.8 ±	5.0	4,600	19,432
Age: 18-24	*** ±	***	***	4,539
25-34	9.1 ±	5.8	400	4,365
35-44	15.3 ±	7.5	800	5,495
45-64	27.4 ±	7.4	1,800	6,623
65+	39.2 ±	10.9	1,400	3,638
Stroke				
Total	1.2 ±	0.6	500	38,523
Sex: Male	0.9 ±	0.6	200	19,091
Female	1.5 ±	0.9	300	19,432
Age: 0-44	*** ±	***	***	28,262
45-64	2.6 ±	1.8	200	6,623
65+	7.5 ±	4.5	300	3,638

1 CI = Confidence Interval.

2 Rounded to the nearest hundred. Numbers do not sum to the total because of missing values on the grouping variables.

*** Insufficient data to calculate an estimate.

Table 12j. Prevalence of Selected Chronic Diseases and Conditions by Age and Sex.
Utah County Health District, 1996.

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Arthritis				
Total	4.2 ±	1.0	13,200	316,160
Sex: Male	1.9 ±	0.9	3,000	155,853
Female	6.4 ±	1.7	10,300	160,307
Age: 0-24	*** ±	***	***	163,745
25-34	2.9 ±	1.9	1,500	52,626
35-44	2.6 ±	2.3	900	35,673
45-64	13.2 ±	4.3	5,400	41,004
65+	24.5 ±	8.6	5,700	23,112
Asthma				
Total	3.4 ±	1.0	10,800	316,160
Sex: Male	3.8 ±	1.5	5,900	155,853
Female	3.1 ±	1.2	5,000	160,307
Age: 0-9	3.2 ±	1.9	2,100	65,338
10-17	3.5 ±	2.2	1,600	45,364
18-24	2.2 ±	1.9	1,200	53,043
25-34	3.0 ±	1.9	1,600	52,626
35-44	3.4 ±	2.7	1,200	35,673
45-64	3.4 ±	2.3	1,400	41,004
65+	8.5 ±	6.2	2,000	23,112
Chronic Obstructive Pulmonary Disease				
Total	0.7 ±	0.4	2,100	316,160
Sex: Male	0.8 ±	0.6	1,200	155,853
Female	0.6 ±	0.5	900	160,307
Age: 0-34	*** ±	***	***	216,371
35-44	*** ±	***	***	35,673
45-64	1.9 ±	1.8	800	41,004
65+	4.8 ±	4.1	1,100	23,112
Diabetes				
Total	2.3 ±	0.7	7,400	316,160
Sex: Male	1.4 ±	0.8	2,200	155,853
Female	3.3 ±	1.2	5,200	160,307
Age: 0-24	0.7 ±	0.6	1,100	163,745
25-34	*** ±	***	***	52,626
35-44	3.8 ±	2.8	1,400	35,673
45-64	4.7 ±	2.7	1,900	41,004
65+	13.4 ±	6.3	3,100	23,112

Table 12j. (continued)

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Heart Disease				
Total	2.0 ±	0.7	6,200	316,160
Sex: Male	2.0 ±	1.0	3,200	155,853
Female	1.9 ±	1.1	3,100	160,307
Age: 0-34	*** ±	***	***	216,371
35-44	*** ±	***	***	35,673
45-64	6.0 ±	3.0	2,400	41,004
65+	15.5 ±	7.4	3,600	23,112
Hypertension (Age ≥18)				
Total	13.1 ±	3.1	41,600	316,160
Sex: Male	17.2 ±	5.5	26,800	155,853
Female	9.4 ±	3.3	15,100	160,307
Age: 18-24	*** ±	***	***	53,043
25-34	7.4 ±	4.5	3,900	52,626
35-44	15.6 ±	8.7	5,500	35,673
45-64	21.8 ±	8.4	8,900	41,004
65+	39.5 ±	13.6	9,100	23,112
Stroke				
Total	0.6 ±	0.4	1,800	316,160
Sex: Male	0.5 ±	0.5	800	155,853
Female	0.7 ±	0.5	1,100	160,307
Age: 0-44	*** ±	***	***	252,044
45-64	*** ±	***	***	41,004
65+	5.9 ±	4.6	1,400	23,112

¹ CI = Confidence Interval.

² Rounded to the nearest hundred. Numbers do not sum to the total because of missing values on the grouping variables.

*** Insufficient data to calculate an estimate.

Table 12k. Prevalence of Selected Chronic Diseases and Conditions by Age and Sex.
Wasatch Health District, 1996.

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Arthritis				
Total	4.5 ±	1.0	600	12,214
Sex: Male	2.6 ±	1.0	200	6,116
Female	6.4 ±	1.7	400	6,098
Age: 0-24	*** ±	***	***	5,580
25-34	*** ±	***	***	1,676
35-44	2.1 ±	1.9	<50	1,700
45-64	9.1 ±	3.1	200	2,085
65+	26.6 ±	6.2	300	1,173
Asthma				
Total	3.7 ±	0.9	500	12,214
Sex: Male	4.1 ±	1.3	300	6,116
Female	3.3 ±	1.2	200	6,098
Age: 0-9	1.0 ±	1.0	<50	2,055
10-17	5.8 ±	3.0	100	2,055
18-24	4.1 ±	3.1	100	1,470
25-34	*** ±	***	***	1,676
35-44	4.1 ±	2.6	100	1,700
45-64	3.9 ±	2.1	100	2,085
65+	6.6 ±	3.4	100	1,173
Chronic Obstructive Pulmonary Disease				
Total	0.6 ±	0.4	100	12,214
Sex: Male	0.6 ±	0.5	<50	6,116
Female	0.5 ±	0.5	<50	6,098
Age: 0-34	*** ±	***	***	7,256
35-44	*** ±	***	***	1,700
45-64	*** ±	***	***	2,085
65+	3.4 ±	2.6	<50	1,173
Diabetes				
Total	2.7 ±	0.7	300	12,214
Sex: Male	2.0 ±	0.9	100	6,116
Female	3.4 ±	1.2	200	6,098
Age: 0-24	0.9 ±	0.7	100	5,580
25-34	2.0 ±	1.8	<50	1,676
35-44	*** ±	***	***	1,700
45-64	5.7 ±	2.6	100	2,085
65+	8.2 ±	3.8	100	1,173

Table 12k. (continued)

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Heart Disease				
Total	1.9 ± 0.6		200	12,214
Sex: Male	2.6 ± 1.0		200	6,116
Female	1.2 ± 0.7		100	6,098
Age: 0-34	*** ± ***		***	7,256
35-44	*** ± ***		***	1,700
45-64	2.9 ± 1.7		100	2,085
65+	11.9 ± 4.3		100	1,173
Hypertension (Age ≥18)				
Total	16.1 ± 3.2		2,000	12,214
Sex: Male	15.4 ± 4.8		900	6,116
Female	16.7 ± 4.2		1,000	6,098
Age: 18-24	*** ± ***		***	1,470
25-34	8.3 ± 5.2		100	1,676
35-44	12.2 ± 6.6		200	1,700
45-64	23.4 ± 7.4		500	2,085
65+	38.2 ± 9.8		400	1,173
Stroke				
Total	0.5 ± 0.3		100	12,214
Sex: Male	0.6 ± 0.5		<50	6,116
Female	0.5 ± 0.4		<50	6,098
Age: 0-44	*** ± ***		***	8,956
45-64	1.3 ± 1.2		<50	2,085
65+	3.0 ± 2.4		<50	1,173

1 CI = Confidence Interval.

2 Rounded to the nearest hundred. Numbers do not sum to the total because of missing values on the grouping variables.

*** Insufficient data to calculate an estimate.

Table 121. Prevalence of Selected Chronic Diseases and Conditions by Age and Sex.
Weber/Morgan Health District, 1996.

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Arthritis				
Total	5.7 ±	1.3	10,600	186,609
Sex: Male	5.0 ±	1.7	4,600	92,137
Female	6.3 ±	1.8	6,000	94,472
Age: 0-24	0.9 ±	0.8	700	78,335
25-34	*** ±	***	***	27,510
35-44	3.7 ±	2.7	1,000	26,809
45-64	12.5 ±	4.5	4,100	32,546
65+	21.8 ±	6.6	4,700	21,409
Asthma				
Total	5.3 ±	1.4	9,900	186,609
Sex: Male	4.0 ±	1.5	3,600	92,137
Female	6.6 ±	2.1	6,200	94,472
Age: 0-9	4.3 ±	2.6	1,300	29,777
10-17	8.6 ±	3.9	2,400	27,971
18-24	7.2 ±	4.5	1,500	20,587
25-34	2.8 ±	2.2	800	27,510
35-44	5.1 ±	3.6	1,400	26,809
45-64	6.1 ±	3.1	2,000	32,546
65+	*** ±	***	***	21,409
Chronic Obstructive Pulmonary Disease				
Total	1.3 ±	0.6	2,500	186,609
Sex: Male	1.1 ±	0.8	1,100	92,137
Female	1.5 ±	1.0	1,500	94,472
Age: 0-34	*** ±	***	***	105,845
35-44	*** ±	***	***	26,809
45-64	2.5 ±	1.9	800	32,546
65+	4.5 ±	3.1	1,000	21,409
Diabetes				
Total	3.3 ±	1.0	6,200	186,609
Sex: Male	3.5 ±	1.4	3,200	92,137
Female	3.2 ±	1.3	3,000	94,472
Age: 0-24	*** ±	***	***	78,335
25-34	2.1 ±	2.0	600	27,510
35-44	4.4 ±	3.2	1,200	26,809
45-64	5.8 ±	2.9	1,900	32,546
65+	11.5 ±	4.8	2,500	21,409

Table 121. (continued)

	%	95% CI ¹	# Persons Affected ²	Number of Persons in Population Subgroup
Heart Disease				
Total	3.2 ±	1.0	6,000	186,609
Sex: Male	4.0 ±	1.4	3,600	92,137
Female	2.5 ±	1.2	2,300	94,472
Age: 0-34	*** ±	***	***	105,845
35-44	*** ±	***	***	26,809
45-64	6.2 ±	2.9	2,000	32,546
65+	17.7 ±	6.1	3,800	21,409
Hypertension				
Total	18.5 ±	3.6	34,600	186,609
Sex: Male	18.0 ±	5.6	16,500	92,137
Female	19.1 ±	4.7	18,000	94,472
Age: 18-24	*** ±	***	***	20,587
25-34	11.4 ±	6.3	3,100	27,510
35-44	10.2 ±	6.1	2,700	26,809
45-64	30.3 ±	8.9	9,900	32,546
65+	35.8 ±	10.0	7,700	21,409
Stroke				
Total	1.0 ±	0.5	1,800	186,609
Sex: Male	*** ±	***	***	92,137
Female	1.4 ±	0.9	1,400	94,472
Age: 0-44	0.4 ±	0.4	600	132,654
45-64	*** ±	***	***	32,546
65+	4.2 ±	2.9	900	21,409

1 CI = Confidence Interval.

2 Rounded to the nearest hundred. Numbers do not sum to the total because of missing values on the grouping variables.

*** Insufficient data to calculate an estimate.

Table 13. Profile of Persons¹ With Selected Chronic Diseases or Conditions.
State of Utah, 1996.

	Alzheimer's Disease		Arthritis		Asthma		Chronic Obstructive Pulmonary Disease	
	%	N ²	%	N ²	%	N ²	%	N ²
Total	100.0	1,400	100.0	101,000	100.0	82,100	100.0	19,600
Sex								
Male	40.5	600	35.5	35,900	47.0	38,600	55.5	10,900
Female	59.5	800	64.5	65,100	53.0	43,500	44.5	8,700
Age								
0-17	***	***	1.1	1,100	33.2	27,800	10.3	2,100
18-24	***	***	2.3	2,500	11.9	10,600	***	***
25-34	***	***	5.8	5,700	11.9	9,600	5.6	1,100
35-44	***	***	10.0	10,400	11.7	9,900	6.4	1,300
45-64	***	***	37.7	37,100	18.0	14,400	27.1	5,200
≥ 65	86.1	1,300	42.3	48,200	12.0	11,200	46.3	10,200
Income % of Poverty Level								
≤ 100%	***	***	7.7	7,000	9.7	8,000	17.8	3,300
> 100%- 200%	***	***	32.4	29,500	25.5	21,000	34.2	6,300
> 200%- 300%	***	***	23.4	21,400	26.9	22,200	22.1	4,000
> 300%	***	***	36.5	33,300	37.8	31,200	25.9	4,700
Health Insurance Coverage								
Yes	100.0	1,400	95.1	95,600	94.0	77,200	92.5	18,200
No	***	***	4.9	4,900	6.0	5,000	7.5	1,500
Education Level (Age 18+)								
Some HS	***	***	9.0	9,100	10.0	5,600	17.1	3,100
HS Grad/Some College	***	***	64.6	65,500	60.9	33,800	65.4	11,700
Tech Voc Degree	***	***	5.4	5,500	4.2	2,300	2.2	400
4-Year College Degree	***	***	21.0	21,300	24.9	13,800	15.3	2,700
Five a Day (Age 18+)³								
Yes	***	***	18.4	21,500	10.4	6,600	14.9	2,400
No	***	***	81.6	95,100	89.6	56,700	85.1	13,800
Cigarette Smoking								
Current Smoker	***	***	10.9	11,000	7.4	6,100	22.8	4,500
Former Smoker	***	***	18.1	18,300	11.9	9,800	34.5	6,800
Never Smoker	***	***	71.0	71,800	80.7	66,500	42.7	8,400
Exercise (Age >6)⁴								
Yes	***	***	40.8	42,300	44.2	33,500	29.4	5,800
No	***	***	59.2	61,300	55.8	42,300	70.6	13,900
Obesity⁵								
Yes	***	***	40.8	54,000	29.5	25,500	36.3	9,000
No	***	***	59.2	78,400	70.5	61,100	63.7	15,900

Table 13. (continued)

	Heart Disease		Diabetes		Hypertension (Age ≥18)		Stroke	
	%	N ²	%	N ²	%	N ²	%	N ²
Total	100.0	54,100	100.0	57,900	100.0	377,700	100.0	17,800
Sex								
Male	53.2	28,800	47.3	27,400	48.8	187,200	37.4	6,700
Female	46.8	25,300	52.7	30,500	51.2	190,500	62.6	11,200
Age								
0-17	2.0	1,100	2.4	1,400	***	***	3.3	600
18-24	1.9	1,100	3.0	1,900	3.7	9,400	***	***
25-34	0.8	400	8.9	5,100	10.9	27,300	4.8	800
35-44	2.8	1,500	11.8	7,000	16.6	41,900	5.1	900
45-64	34.6	18,200	39.7	22,400	40.0	97,000	22.6	3,900
≥ 65	57.0	34,800	33.4	21,800	28.9	80,000	63.7	12,800
Income % of Poverty Level								
≤ 100%	11.5	5,700	6.4	3,600	5.9	14,300	13.0	2,200
101-200%	29.7	14,700	28.8	16,100	25.0	62,400	38.6	6,600
201-300%	22.8	11,300	21.4	12,000	21.5	52,500	20.8	3,600
>300%	36.1	17,800	43.5	24,400	47.6	116,200	27.5	4,700
Health Insurance Coverage								
Yes	95.8	51,800	91.7	53,500	91.3	234,200	93.6	16,400
No	4.2	2,300	8.3	4,800	8.7	22,400	6.4	1,100
Education Level								
Some HS	11.2	6,000	9.2	5,300	6.1	15,300	17.0	2,900
HS Grad/Some College	62.1	33,400	59.8	34,300	63.4	160,500	64.5	11,000
Tech Voc Degree	5.9	3,200	5.9	3,400	7.3	18,600	***	***
4-Year College Degree	20.8	11,200	25.1	14,400	23.2	58,800	13.9	2,400
Five a Day (Age 18+)³								
Yes	22.9	14,200	21.7	15,200	15.1	38,500	26.2	3,500
No	77.1	47,900	78.3	54,900	84.9	216,700	73.8	9,900
Cigarette Smoking								
Current Smoker	9.4	5,100	9.6	5,600	10.8	27,400	16.3	2,900
Former Smoker	31.1	16,900	18.6	10,800	20.9	53,900	25.7	4,600
Never Smoker	59.5	32,200	71.8	41,800	68.3	173,600	58.0	10,400
Exercise (Age >6)⁴								
Yes	43.9	24,000	39.2	23,200	47.2	119,700	31.3	5,700
No	56.1	30,800	60.8	36,000	52.8	134,000	68.7	12,500
Obesity⁵								
Yes	37.4	27,000	52.9	39,000	45.5	114,600	36.7	8,500
No	62.6	45,100	47.1	34,800	54.5	137,200	63.3	14,700

1 This table presents, for each condition, the percentage of people with that condition who are in each of the selected demographic groups. For example, 40.5% of persons with Alzheimer's disease are males.

2 N = Estimated number of persons with the chronic disease (rounded to the nearest hundred). Numbers do not sum to the total because of missing values on the grouping variables.

3 Based on the question, "If a serving is about a half a cup, how many servings of fruits or vegetables would you say you eat on a typical day?" "Yes" indicates individuals who eat 5 or more servings of fruits or vegetables each day.

4 Vigorous exercise (which increases heart and breathing rates a lot faster than normal) for 20 minutes at least three times a week.

5 Based on the criteria specified in the Healthy People 2000 Guidelines (U.S. Public Health Service, 1990). Caution should be exercised with these estimates because 30.1% of the respondents had missing value for this variable.

*** Insufficient data to calculate an estimate.

Table 14. Prevalence (%) of Arthritis, Asthma, Diabetes, Heart Disease, and Stroke.
State of Utah, 1986, 1991, and 1996.

	1986		1991		1996	
	%	95% CI ¹	%	95% CI ¹	%	95% CI ¹
Arthritis	9.7 ± 0.8		6.1 ± 0.6		5.1 ± 0.5	p<0.01 ²
Asthma			3.5 ± 0.5		4.1 ± 0.4	n.s.
Diabetes			2.3 ± 0.4		2.9 ± 0.4	n.s.
Heart Disease	4.5 ± 0.6		3.0 ± 0.4		2.7 ± 0.3	p<0.01 ²
Stroke	1.0 ± 0.3		0.8 ± 0.2		0.9 ± 0.2	n.s. ²

1 CI = Confidence Interval.

2 Trends test using logistic regression, controlling for age and sex.

p<0.01 - statistically significant change over time.

n.s. - no statistically significant change over time.

TECHNICAL NOTES

General Technical Background to the 1996 Health Status Survey

Introduction

The purpose of this section is to provide the reader with a general methodological overview of the project. Persons interested in obtaining additional or more detailed information may contact:

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Sample Design

The 1996 Utah Health Status Survey represents the third such survey; previous surveys were conducted in 1986 and 1991. The statistical estimates in this report are based on *1996 Utah Health Status Survey* data.

The sample was a **complex survey sample** designed to be representative of all Utahns. It is best described as a weighted probability sample of approximately 6,300 households disproportionately stratified by twelve local health districts that cover the entire state. Five hundred household interviews were conducted in each health district, except Salt Lake City/County Health District, in which eight hundred household interviews were conducted in order to increase the precision of statewide estimates.

A **single stage, non-clustered, equal probability of selection telephone calling design** was used to generate telephone numbers, more specifically referred to as the *Casady-Lepkowski* (1993) calling design. This method begins by building a *base sampling frame* consisting of all possible telephone numbers from all working prefixes in Utah. Telephone numbers are arranged sequentially into groups of 100 by selecting all telephone numbers within an area code and prefix, plus the first and second digits of the suffix (e.g., 801-538-10XX represents a group that includes all 100 phone numbers between 801-538-1000 and 801-538-1099). Each group of 100 telephone numbers is classified as either high density (at least one residential listing) or low density (no listed residential phone numbers in the group). All low density groups are removed, and high density groups are retained. Telephone numbers are randomly selected from the high-density list. This sampling design ensures that both listed and unlisted phone numbers are included in the sample.

The survey interview was conducted with **one randomly-selected adult** (age 18 or older) in each household. To select this person, Gallup interviewers collected household membership information from the household contact person (the person who answered the telephone). One household member was then selected at random from the list of all household members age 18 or over. Survey questions were then asked about either, 1) all household members, 2) the survey respondent only, 3) a randomly selected adult or child household member (selected using the same method as was used to select the respondent), or 4) the household as a whole. Thus, the survey sample varies, depending on the within-household reference sample that was used for each set of survey questions. Each within-household reference sample has known probabilities of selection and can be generalized to the Utah population.

Survey Data Collection

The Utah Department of Health contracted with The Gallup Organization to collect the survey data. Gallup incorporated the telephone survey instrument into a **computer-assisted random digit dialing software program**, called SURVENT. Interviews were conducted by trained interviewers in a supervised environment across six sites. Interviews were conducted in Spanish when appropriate.

Computer-assisted telephone interviewing was chosen as the method of data collection for several reasons. First, it yields higher response rates, thus resulting in a more representative sample and reducing the amount of bias inherent in mail survey response rates. Second, it helps reduce non-sampling error by standardizing the data collection process. Data-entry errors are reduced because interviewers are not allowed to enter non-valid codes. It was also efficient because it allowed interviewers to enter responses directly into the database.

The survey questionnaire was divided into *core* and *supplemental modules*. Core questions were asked of all households in the sample. Table 1 describes the types of “core” questions that were asked, and about whom they were asked. Notice that *not all questions were asked with regard to everyone in the household*.

Table 1.
CORE MODULE QUESTIONS

<u>Question Topic</u>	<u>Within-Household Reference Sample</u>
Demographic characteristics	All household members
Presence of chronic medical condition	All household members
Health insurance status	All household members
Injury incidence/safety issues	All household members
Lifestyle (smoking, drinking, exercise)	All household members
Subjective mental/physical health (SF12)	Respondent only (randomly-selected adult)
Health screening exam usage	Respondent only (randomly-selected adult)
Access to care/primary provider	Randomly-selected household member of any age
Household-level demographic characteristics	The household as a whole

In addition to the core survey questions (above), one of six different *supplemental modules* was administered to primarily non-overlapping randomly-assigned subsets of (approximately 1,000) households. Table 2 shows the types of questions asked in the supplemental module questions, and about whom they were asked.

Table 2.
SUPPLEMENTAL MODULE QUESTIONS

<u>Type of Question</u>	<u>Within-Household Reference Sample</u>
Limitations of activities	All household members
Migration	Respondent only (randomly-selected adult)
Health Plan Consumer Satisfaction	Respondent only (randomly-selected adult)
Fertility	Respondent or spouse only
Health Care Utilization	Randomly-selected household member of any age
Interpersonal violence	The household as a whole

*Note: All supplemental module questions were asked only of a subset of households.

While both core and supplemental modules yielded sufficient sample sizes to construct state-level estimates for the Utah population, the information collected from supplemental modules was not intended for use in district-level analyses.

Cooperation rate

The interview process took place over a three month period (from June to August, 1996), and resulted in a cooperation rate of 66.3%. If necessary, up to nine telephone attempts were made to contact a selected household. After a randomly-selected survey respondent was identified, up to nine attempts were made to conduct the interview with that person.

Weighting and Estimation Methods

Post-survey weighting adjustments were made so that the Health Status Survey findings could be more accurately generalized to Utah's population. Two types of post-survey weighting adjustments were made, one that adjusted for random sampling variation, and one that adjusted for disproportionate sampling (such as the over-sampling of smaller local health districts across the state). Although the two types of adjustment are distinct conceptually, they were accomplished in a single step.

The post-survey weighting adjustments weighted the sample to be proportionately consistent with the age, sex, geographic, and Hispanic status distribution of the 1996 Utah population. Utah population estimates by sex, single year of age, and county of residence were provided by the Utah Governor's Office of Planning and Budget (GOPB) (the estimates used were those compiled in 1994). Estimates of Utah's Hispanic population for 1996 were derived by calculating the average annual rate of increase of Hispanic persons for each health district using data from 1990 to 1994 Bureau of the Census reports, and then projecting those increases to 1996 GOPB local health district population counts. Total state estimates for Hispanic persons were calculated by summing across local health districts.

The post-survey weighting variables adjusted for the following factors:

1. The number of **phones** in the household.
2. The total **number of persons in the household** to which the data will be generalized (1 for questions that were asked about every household member, the number of adults in the household for questions that were asked only of the respondent, the number of persons in the household for questions that were asked of a randomly-selected household member).
3. The proportion of **Hispanic persons** in each local health district.
4. The **age and sex** distribution of each local health district.
5. The probabilities of selection for each **local health district**.

Population count estimates. Once a percentage was calculated for a variable of interest (e.g., the percentage uninsured) using appropriately weighted survey data, a population count (N) to which the percentage applied was estimated. In some cases analyses referenced certain age or sex groups, Hispanic persons or combinations of Utah counties. These total population group counts were readily available from the sources described earlier. However, for other groups where population counts were largely unavailable (e.g., analyses that examined the distribution of adult males by marital status), the population counts were estimated. This was achieved by multiplying the appropriate 1996 population total for that group (from 1996 GOPB estimates) by a proportion obtained from a frequency distribution or cross tabulation analysis of survey data. For instance, to calculate a population count for adult males who were married, the population of adult males from GOPB was multiplied by percentage of married adult males in the 1996 Utah Health Status Survey sample. Thus, any population count estimates not derived directly from existing age, sex, Hispanic status or county population estimates were derived from 1996 Health Status Survey data, and must be considered estimates.

Missing Values. Another consideration that affected the presentation of the population estimates in table format was the inclusion or exclusion of missing values (“don’t know” and “refused to answer”). Population percentage estimates were calculated after removing the “don’t know” and “refused to answer” responses from the denominator. This, in effect, assumed that persons who gave these answers were distributed identically on the variable of interest to those who gave a valid answer to that variable. For instance, that among those who did not know whether they were insured, we assumed that 90.47% of them were insured and 9.53% were not insured -- percentages identical to those found among the sample members who answered the question with a valid response.

Removing the missing cases from an analysis is rather simple and straightforward for analyses of a single variable. However, when one variable is cross-tabulated by another variable, all missing cases from both variables must be removed from the analysis. Removing the missing cases in itself is not a problem. However, a problem is encountered when a population estimate for a given variable, such as the percentage of all Utahns that have health insurance, differs slightly from an analysis of “all Utahns” versus an analysis of “all Utahns by age group.” This is because the missing cases on the age variable have been removed from one analysis and not from another. Since the percentage of all Utahns that have health insurance was calculated on slightly different samples, the resulting percentage estimates are slightly different. This problem was resolved by reporting the best population estimate available for any given population subgroup. For instance, in the table of insurance rates for all Utahns by age, the population estimate from an analysis that includes Utahns of all ages, regardless of whether they reported missing values on the age variable has been substituted for the original total row in that table. The only drawback to this strategy is that the population count figures for Utahns with and without health insurance in tables like the “Utahns by Age Group” table do

not sum to the same number derived from the analysis of all Utahns regardless of whether they had missing values on the age variable. As a result, the tables appear as though they do not “add up.”

Limitations and Other Special Considerations

Estimates developed from the sample may differ from the results of a complete census of all households in Utah due to two types of error, sampling and non-sampling error. Each type of error is present in estimates based on a survey sample. Good survey design and data collection techniques serve to minimize both sources of error.

Sampling error refers to random variation that occurs because only a subset of the entire population is sampled and used to estimate the finding in the entire population. It is often mis-termed “margin of error” in popular use. Sampling error is expressed as a *confidence interval*. The 95% confidence interval (calculated as 1.96 times the standard error of a statistic) indicates the range of values within which the statistic would fall 95% of the time if the researcher were to calculate the statistic (e.g., a percentage) from an infinite number of samples of size n drawn from the same base population. It is typically expressed as the “plus or minus” term, as in the following example:

“The percentage of those polled who said they would vote for Bill Clinton was 52%, plus or minus 2%.”

Because local health districts were disproportionately stratified and then weighted to reflect the Utah population, the sample was considered a complex survey sample design. Estimating the sampling error for a complex survey design requires special statistical techniques, derived from the standard error for each estimate. SUDAAN software (Research Triangle Institute) was chosen to estimate the standard errors of the survey estimates because it employs a statistical routine (Taylor-series expansion) that accounts for the complex survey design.

Figures in this report include bars showing this estimated confidence interval around the parameter estimate. In cases where the confidence interval was greater in magnitude than the estimate, the estimate was not given. Estimates were not computed where the sample denominators were less than $n=50$. Readers should note that we have always presented the confidence interval as though it were symmetric, that is, of equal value both above and below (plus and minus) the estimate. It is often the case, however, that a confidence interval will be nonsymmetric. This occurs when the distribution is positively or negatively skewed, such as when a percentage is close to 0% or 100%. However, because the software program we use provides only symmetric confidence intervals, we are unable to provide the asymmetric estimates.

Non-sampling error also exists in survey estimates. Sources of non-sampling error include idiosyncratic interpretation of survey questions by respondents, variations in interviewer technique, household non-response to questions, coding errors, and so forth. No specific efforts were made to quantify the magnitude of non-sampling error.

Comparability with other surveys is an issue with all surveys. Differences in survey design, survey questions, estimation procedures, the socio-demographic and economic context, and changes in the structure and financing of the health care delivery system may all affect comparison between the 1996 Utah Health Status Survey and other surveys, including those conducted by the U.S. Bureau of the Census, the Behavioral Risk Factor Surveillance System surveys, and previous Utah Department of Health, Health Status Surveys.

Telephone surveys exclude certain population segments from the sampling frame, including persons in group living quarters (e.g., military barracks, nursing homes) and households without telephones. At the time of the 1990 Decennial Census, only four percent of Utah households were without telephone service. Typically, telephone surveys are biased because telephone households under-represent lower income and certain minority populations. In addition, studies have shown that non-telephone households tend to have lower rates of health care utilization (especially dental care), poorer health habits and health status, and lower rates of health insurance coverage (Thornberry and Massey, 1988).

Despite these overall disparities between telephone and non-telephone households, new survey research (Keeter, 1995) suggests that a similarity exists between data from non-telephone households and telephone households that experienced an interruption in service over the past 12 months. This similarity exists because many, if not most, households currently without telephones did have service in the recent past, and will have service again in the future. Therefore, certain households with telephones (those that had a recent interruption in service) are representative of “nonphone” households, allowing health status survey estimates that have been corrected for telephone noncoverage bias to be produced where indicated.

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