

1996 Utah Health Status Survey Report

LIMITATIONS OF ACTIVITIES IN UTAH

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



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Bureau of Surveillance and Analysis
Office of Public Health Data

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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

The U.S. Public Health Service stresses the need for accurate and timely public health surveillance data to be available in a useable form, and has included surveillance activities among its *Healthy People 2000 National Health Promotion and Disease Prevention Objectives* (U.S. Department of Health and Human Services, 1991). An important use of health data is to assess quality of life as well as length of life.

The limitations of activities questions were developed by the National Center for Health Statistics (NCHS) (National Center for Health Statistics, April 1995) to estimate the “Years of Healthy Life” for a given population. The questions that were excerpted for use in the 1996 Utah Health Status Survey began by screening household members for any sort of limitations in their usual activities. This was accomplished with the following screening question:

The next few questions are about limitations in daily or usual activities for all household members. Are you, or is anyone in your household currently limited in ANY WAY in performing their usual activities because of an impairment or health problem?

If the respondent answered that there was someone in the household who was limited, they were asked to identify which household members were limited. A series of questions was then asked about each person in the household who was reported to have a limitation. Those questions assessed the extent of the household member’s limitation based on their ability to perform their major activity. For persons age 64 and under, the severity of the limitation was classified as either “limited in major activity,” “unable to perform major activity,” or “limited in some other way.” The major activity was age-related. That is, preschoolers were asked about their ability to participate in play activities, school-age children were asked about school activities, and working age adults were asked about work and housekeeping activities. For persons age 65 and over the categories used were “limited in instrumental activities of daily living” (IADL), or “limited in activities of daily living” (ADL). Instrumental activities of daily living were defined as “routine needs, such as everyday household chores, doing necessary business, shopping, or getting around for other purposes.” Activities of daily living (ADL) for persons age 65 and older were defined as, “personal care needs, such as eating, bathing, dressing, or getting around home.”

Note: The methodology developed by NCHS does not begin with a screening question. We believe that our methodology may have underestimated the proportion of people with limitations, perhaps by as much as half, when compared with the results obtained with the NCHS methodology.

The survey also asked, “What is the nature of the impairment or health problem?” That question was asked “open-ended,” that is, the interviewer asked the question, but did not suggest any possible responses. The respondent provided the information, and the interviewer then coded it into one of the pre-coded categories. If he or she could not decide which category to use, the response was recorded verbatim, and later coded into one of the existing categories, made into a new category, or coded as “other.” The list of pre-coded categories was developed using the results of the open-ended responses to the same question on the 1991 survey.

The information in this report is presented in detail in the Reference Tables on pages 13 through 27. The highlights of the findings are presented in graphical form in the Highlights section, beginning on page 1.

The report first presents an overview of people who were reported as having any sort of a limitation. Reference tables 1 and 2 report differences in the likelihood of having a limitation by age and sex, household income, and other demographic variables. Table 3 reports the likelihood of having a limitation for people who also reported having selected chronic medical conditions or injuries, and according to general health status.

The following sections report limitations by demographic, health, and lifestyle variables for each of four age groups. Tables 5, 6, 7, and 8 report limitations by demographic and other variables for children age 17 and under, persons age 18 to 44, age 45 to 64, and age 65 and over. Those tables also report on the severity of the limitation and the nature or cause of the limitation where it was known.

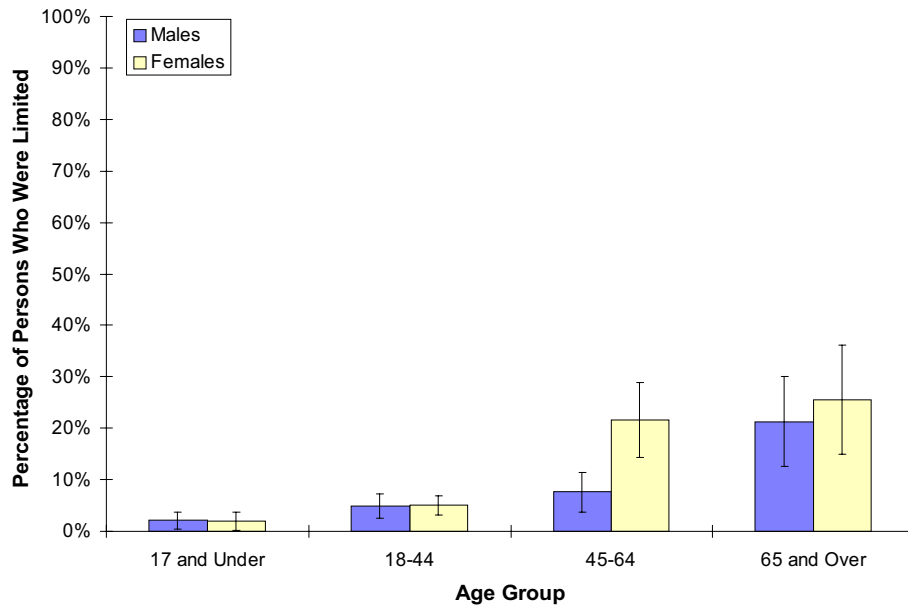
SUMMARY OF FINDINGS

- Overall in 1996, 7.2% of all Utahns were estimated to have some type of limitation of their daily activities. In 1991 the Health Status Survey estimate was 4.9%. The questions asked in the two survey years were virtually identical. Although differences in some aspect of the survey methodology is always a consideration, we believe that the increase in the proportion of persons who are limited is real and was not caused by methodological differences.
- The likelihood of having a limitation in daily or usual activities was greater in the following groups:
 - Persons age 65 and over (24% reported having a limitation),
 - Women age 45 to 64 compared with men the same age (22% versus 8%),
 - Persons in households with less than \$25,000 in annual income (11%),
 - Persons without a high school diploma (15%),
 - Persons in poor overall general health (60%),
 - Persons with chronic medical conditions, especially chronic obstructive pulmonary disease (49%), arthritis (44%) or stroke (43%), and
 - Persons who were injured in the last year (16%).
- Of all age groups, children age 17 and under were the least likely to be reported to have limitations of daily or usual activities (only 2% of all household members in this age group).
 - Of children who were reported to have a limitation, about one-third of them had sustained an injury in the previous 12 months.
 - The most frequently-reported reason for the limitation was a “bone or joint” problem (34% of persons in this age group who were limited).
- About 36,000 young adult Utahns, age 18 to 44 (5% of persons in this age group) were estimated to have a limitation in their daily or usual activities.
 - Almost 2% of persons in this age group were unable to perform their major activities, work or housework.
 - Men and women in this age group were equally likely to have some sort of limitation.
 - Limitations among persons in this age group were most common among those in fair or poor general health (18% were limited) or males who had been injured in the last year (17%).
 - The most common problems reported were bone or joint problems (20% of persons in this age group who were limited), and back or neck problems (14%).
- Over 50,000 middle-aged Utahns, age 45 to 64 (15% of persons in this age group) were estimated to have a limitation in their daily or usual activities.
 - Almost 10% of persons in this age group were unable to perform their major activities, work or housework.
 - Women in this age group were almost three times more likely (22%) than men (8%) to be reported to have a limitation.
 - Almost 78% of persons in this age group who were limited also had a chronic medical condition. Persons with a chronic medical condition made up almost 38,000 of the over 50,000 persons in this age group who were limited.

- Women in this age group who were overweight were more likely to have a limitation in their activities than women who were not overweight (39% compared to 14%).
 - Current smokers were more likely to report a limitation in their daily or usual activities (34% of current smokers were limited).
 - Persons age 45 to 64 who did not get regular exercise were more likely to be limited (20%).
 - Women in this age group who had been injured in the past 12 months were more likely than other women to be limited (52% versus 20%).
 - The most common reasons cited for a limitation were back and neck problems (14%), arthritis and rheumatism (13%), and lung or breathing problems (9%).
- Over 43,000 older Utahns, age 65 and over (24% of persons in that age group) were estimated to have a limitation in their daily or usual activities. The survey included only persons living in households, and did not include institutionalized persons such as those in nursing homes. As a result, this figure underestimates the total percentage of Utahns in this age group who were limited, probably by a large degree.
 - Almost 7% of persons in this age group were unable to perform instrumental activities of daily living (IADL), such as household chores and shopping.
 - Surveyed men and women in this age group were approximately equally likely to have some sort of limitation.
 - Almost 86% of persons in this age group who reported having a limitation also reported having a chronic medical condition.
 - Of all persons in this age group who had been injured in the last year, 70% reported having a limitation in their daily or usual activities. Persons who had been injured, however, made up only 22% of all persons in this age group who had a limitation. One interpretation of this finding is that most limitations in this age group are related to chronic medical conditions, but if a person in this age group is injured, that injury is very likely to lead to a limitation.
 - The most commonly cited reasons for the limitations in this age group were arthritis and rheumatism (31% of limited persons in this age group), “old age” (14%), bone and joint problems (6%) and back or neck problems (6%).

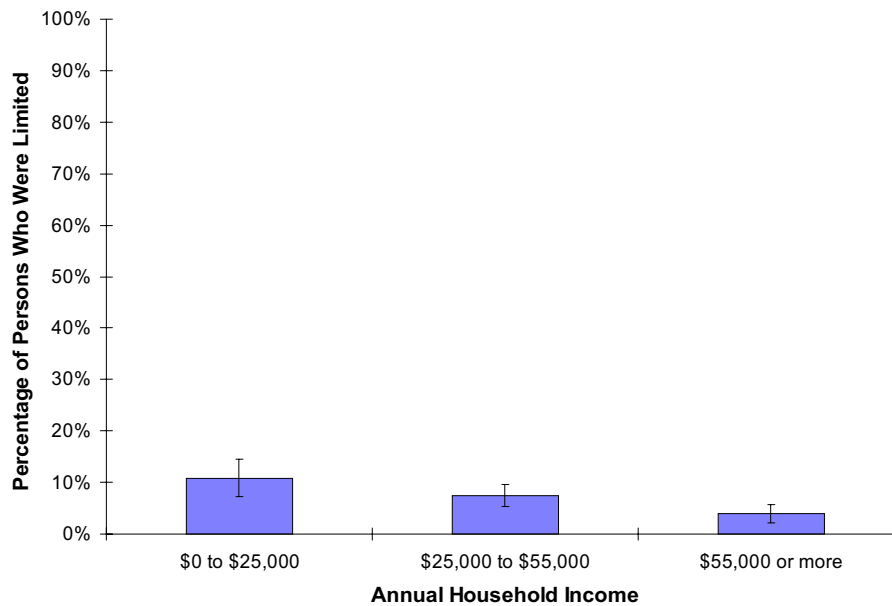
HIGHLIGHTS

Figure 1. Limitations of Daily Activities by Age and Sex.
Utah, 1996.



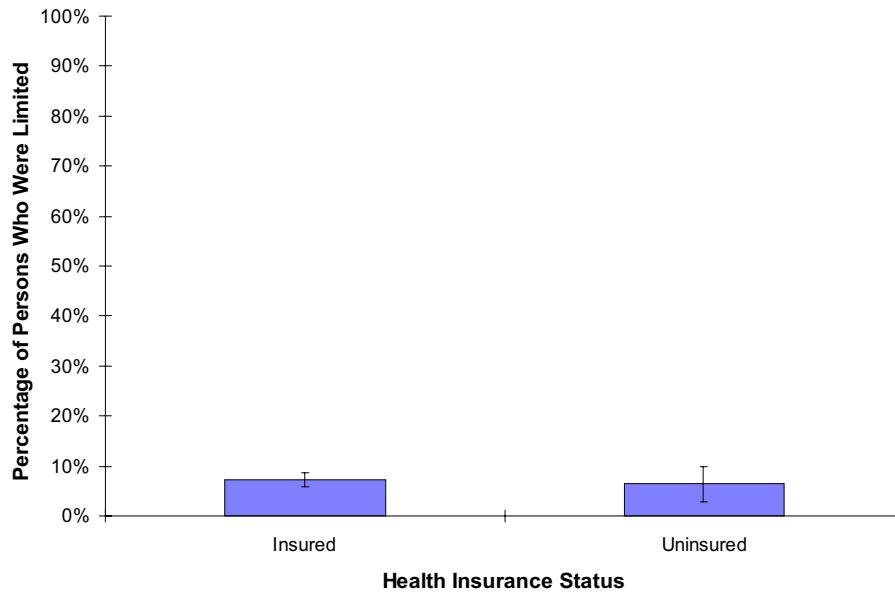
- The likelihood of having a limitation increased with age for both males and females.
- Females age 45-64 were more likely to have a limitation than males of the same age.

Figure 2. Limitations of Daily Activities by Annual Household Income.
Utah, 1996.



- The likelihood of having a limitation decreased with higher household income. This relationship between income level and health is extremely robust, and appears in many other contexts and for many other indicators of health status.

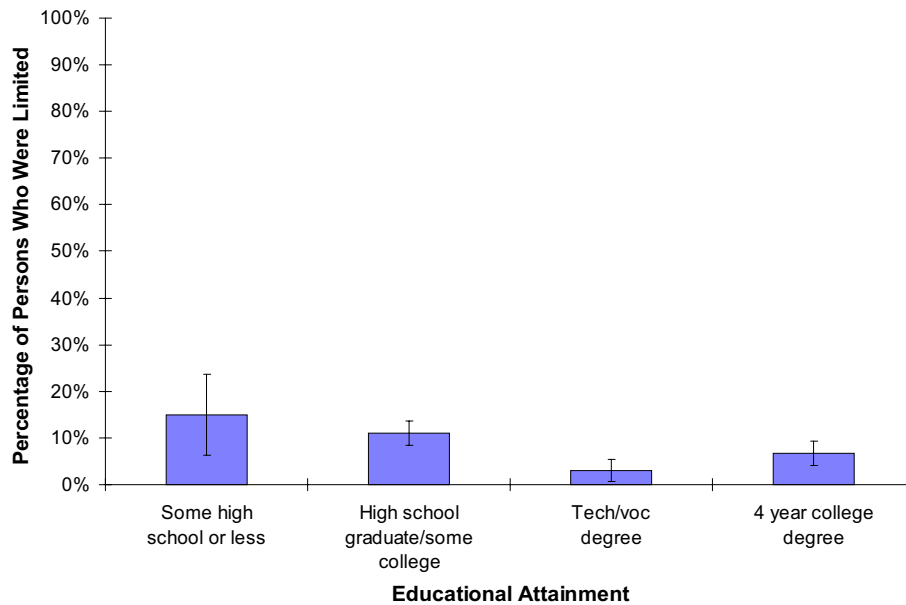
Figure 3. Limitations of Daily Activities by Health Insurance Status.
Utah, 1996.



Note: Health insurance was defines as any type of public or private health insurance coverage, including Medicaid or Medicare.

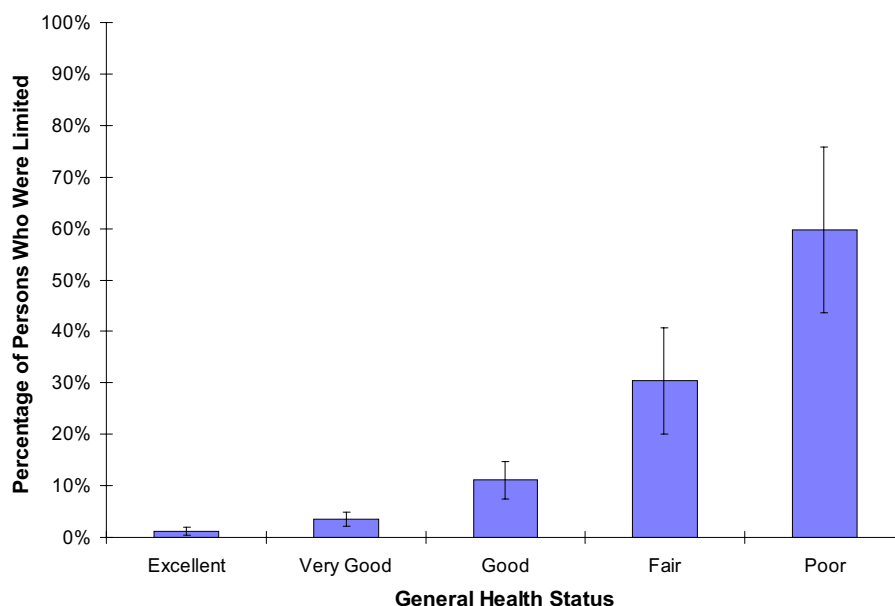
- **There was virtually no difference in the likelihood of limitation for persons with and without health insurance. What little difference there was was explained by age differences between the two groups.**

Figure 4. Limitations of Daily Activities by Educational Attainment.
Utah, 1996.



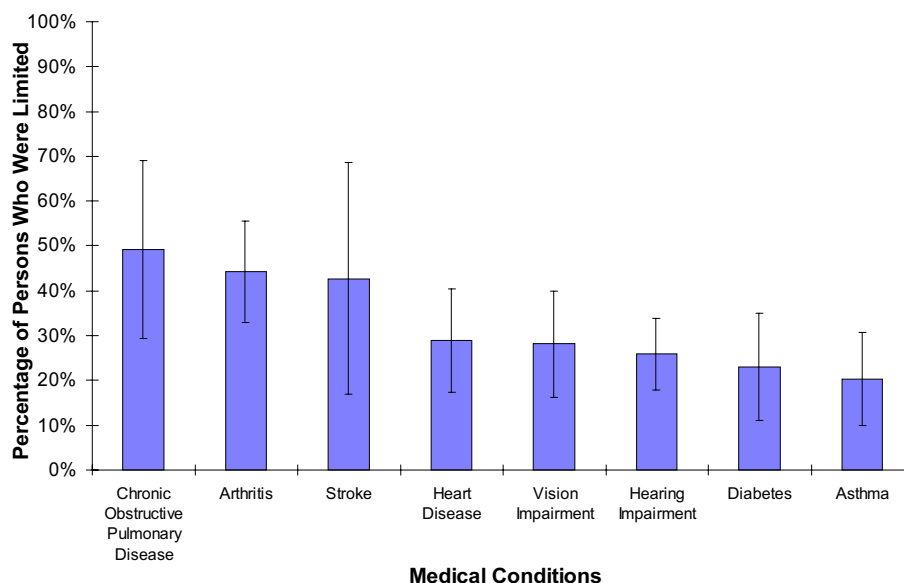
- **The likelihood of having a limitation decreased with higher educational attainment. This is also a robust pattern that appears for many indicators of health status.**

Figure 5. Limitations of Daily Activities by Reported General Health Status. Utah, 1996.



- As would be expected, those who reported that their general health status was fair or poor also tended to report having limitations of daily activities.

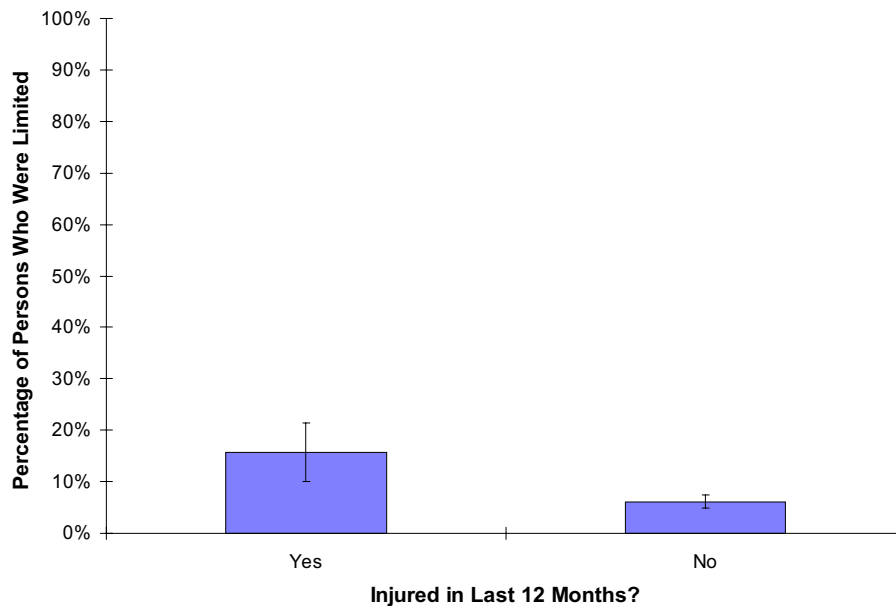
Figure 6. Limitations of Daily Activities for Persons With Medical Conditions. Utah, 1996.



Note: Vision impairment was defined as "serious difficulty seeing, even while wearing glasses or contact lenses."

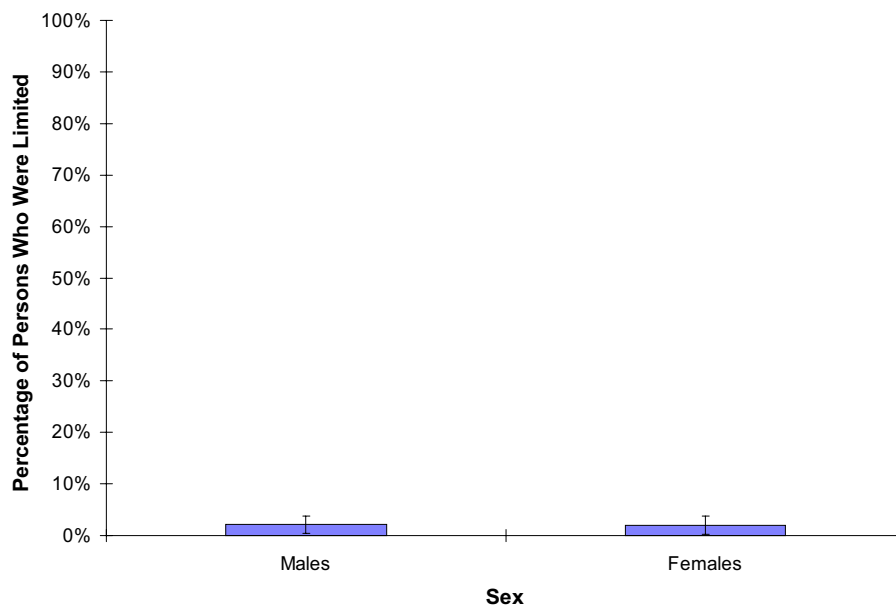
- Chronic obstructive pulmonary disease, arthritis, and stroke were the conditions most strongly associated with limitations of activities.
- Since arthritis and hearing impairment were the most common medical conditions, those two conditions accounted for the largest numbers of persons with limitations, compared with the other chronic conditions listed here.

Figure 7. Limitations of Daily Activities by Occurrence of an Injury in the Last 12 Months. Utah, 1996.



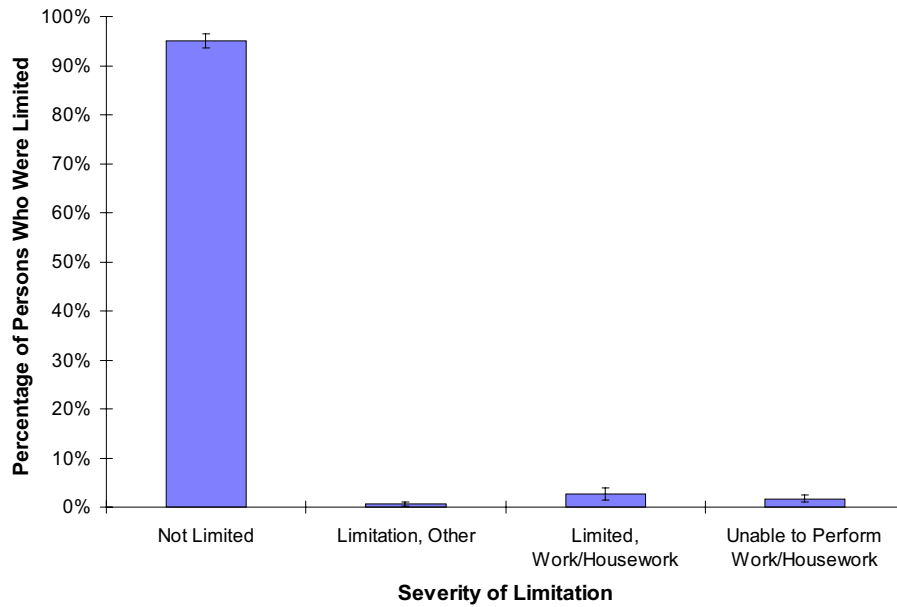
- **Persons who were injured in the previous 12 months were almost three times as likely to have limitations in their activities compared with those who did not suffer an injury.**

Figure 8. Limitations of Daily Activities by Sex. Utahns Age 17 or Younger, 1996.



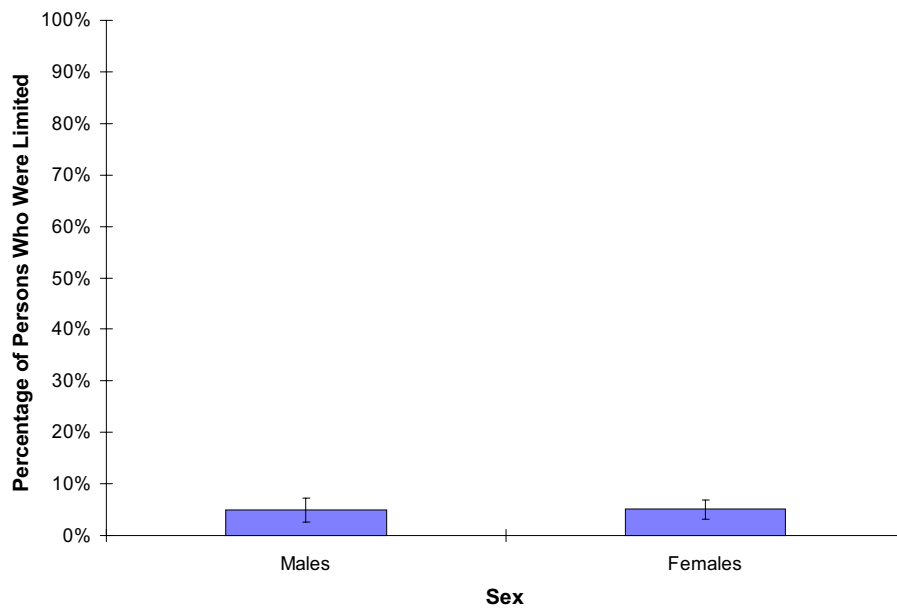
- **Children (age 17 or younger) had a relatively low prevalence (2%) of limitations of activities.**
- **Of children who were reported to have limitations of activities, about a third of them had an injury in the previous 12 months, and about a third of them also had a chronic medical condition. The most common medical condition among all children was asthma.**

Figure 9. Severity of Limitations of Daily Activities.
Utahns Age 18 to 44, 1996.



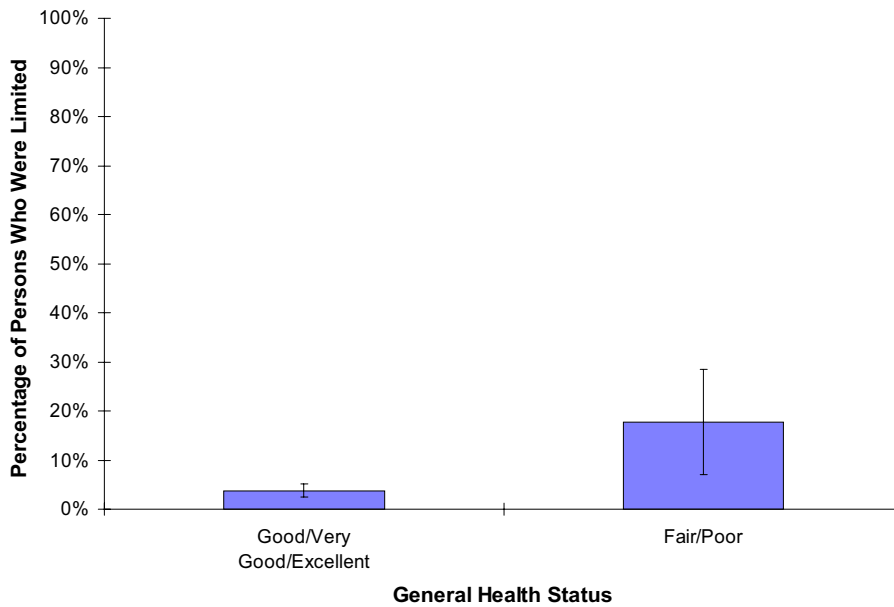
- **Of all young adults in Utah, age 18 to 44, an estimated 4.9% were limited in their daily activities in one way or another. Over 36,000 young adults were limited in their primary activities, or unable to carry them out altogether.**

Figure 10. Limitations of Daily Activities by Sex.
Utahns Age 18 to 44, 1996.



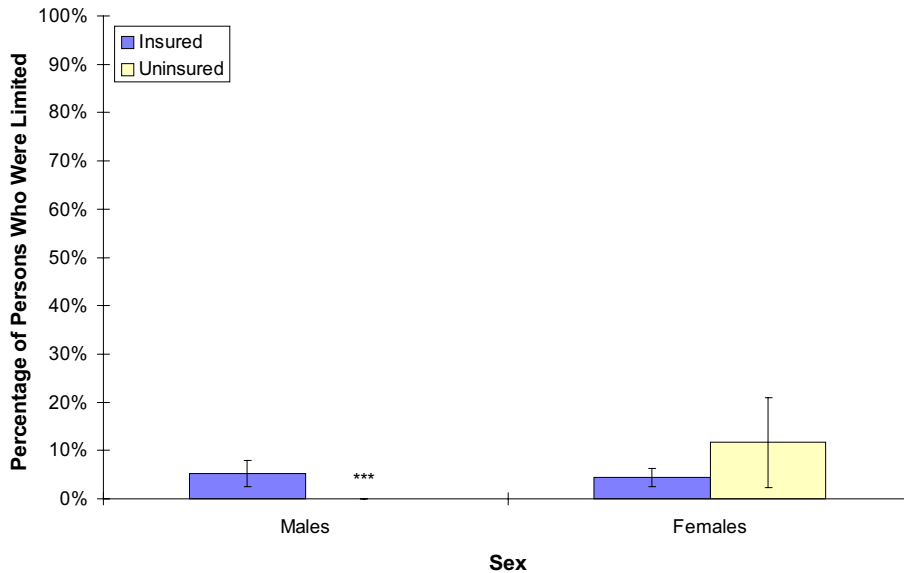
- **Men and women in this age group were about equally likely to have limitations of activities.**

Figure 11. Limitations of Daily Activities by Reported General Health Status.
Utahns Age 18 to 44, 1996.



- **Over one-sixth of those who reported having fair or poor general health also reported having a limitation.**

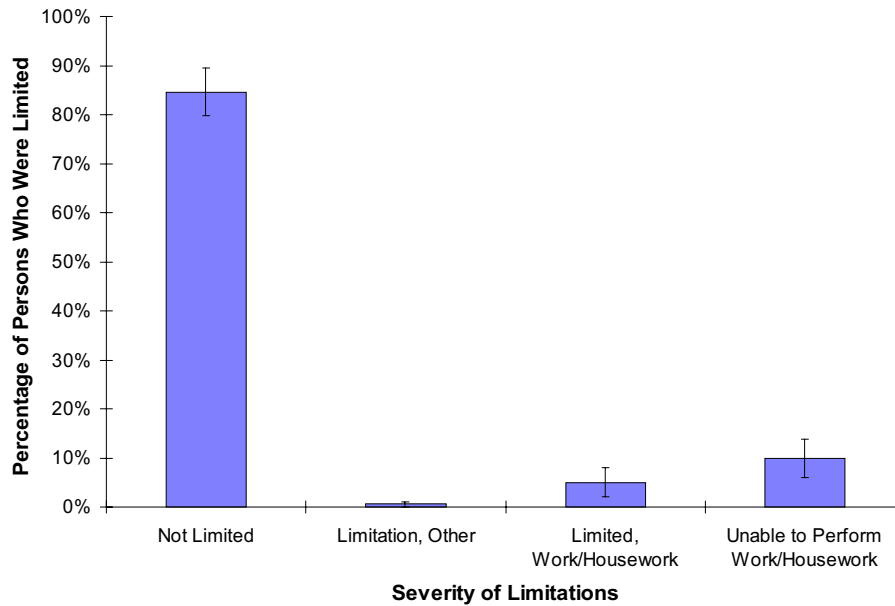
Figure 12. Limitations of Daily Activities by Insurance Status and Sex.
Utahns Age 18 to 44, 1996.



Note: Health insurance was defined as any type of public or private health insurance coverage, including Medicaid or Medicare.
*** Sample size insufficient to produce population estimates

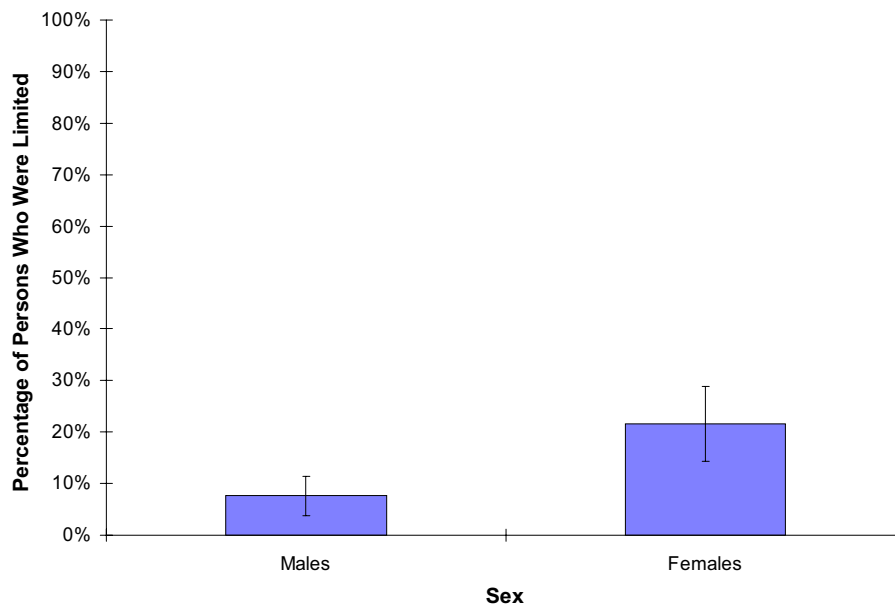
- **Females in this age group who had no health insurance appear to be more likely to have some limitation of their activities, although the small number of uninsured females made this estimate imprecise.**

Figure 13. Severity of Limitations of Daily Activities.
Utahns Age 45 to 64, 1996.



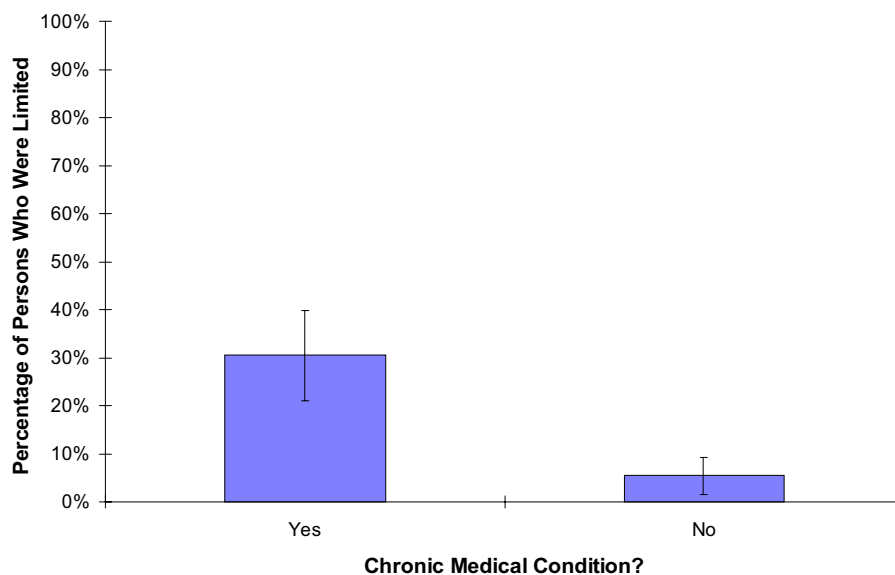
- An estimated 15% of middle-aged Utahns, age 45 to 64, had a limitation of their daily activities.
- Over 50,000 Utahns in this age group were limited in their daily or usual activities.

Figure 14. Limitations of Daily Activities by Sex.
Utahns Age 45 to 64, 1996.



- Females in this age group were almost three times as likely as males to have some limitation in their daily activities.

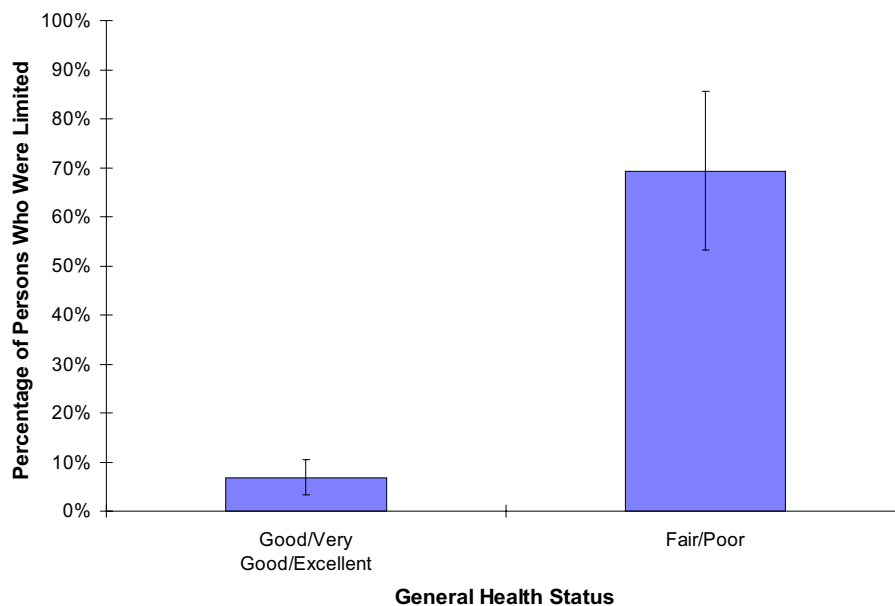
Figure 15. Limitations of Daily Activities by Presence of a Chronic Medical Condition. Utahns Age 45 to 64, 1996.



Note: Medical conditions include Alzheimer's disease, asthma, diabetes, obstructive pulmonary disease, arthritis, stroke, heart disease, and hearing, vision, or speech impairment.

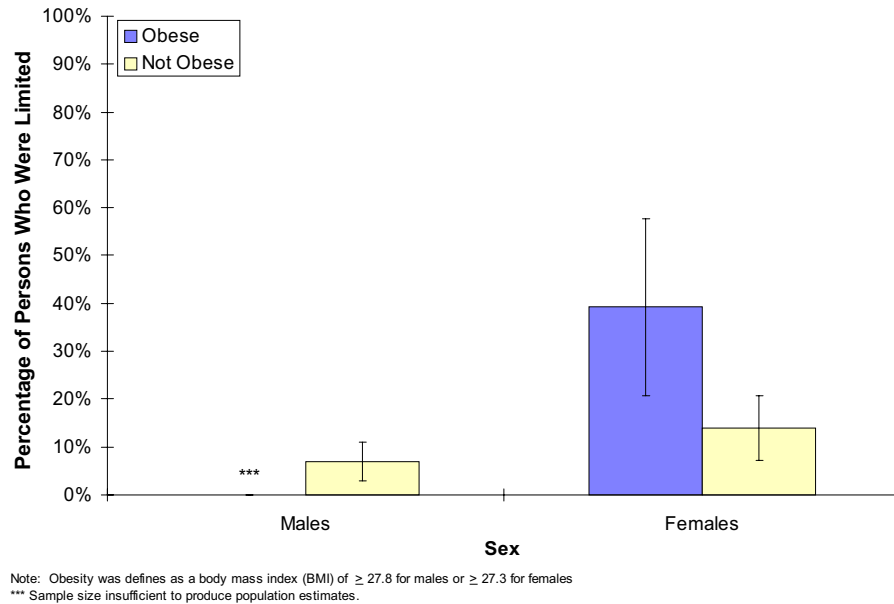
- An estimated 31% of persons in this age group with a chronic medical condition were reported to have limitations in their daily activities.
- The most common medical condition in this age group was arthritis.

Figure 16. Limitations of Daily Activities by Reported General Health Status. Utahns Age 45 to 64, 1996.



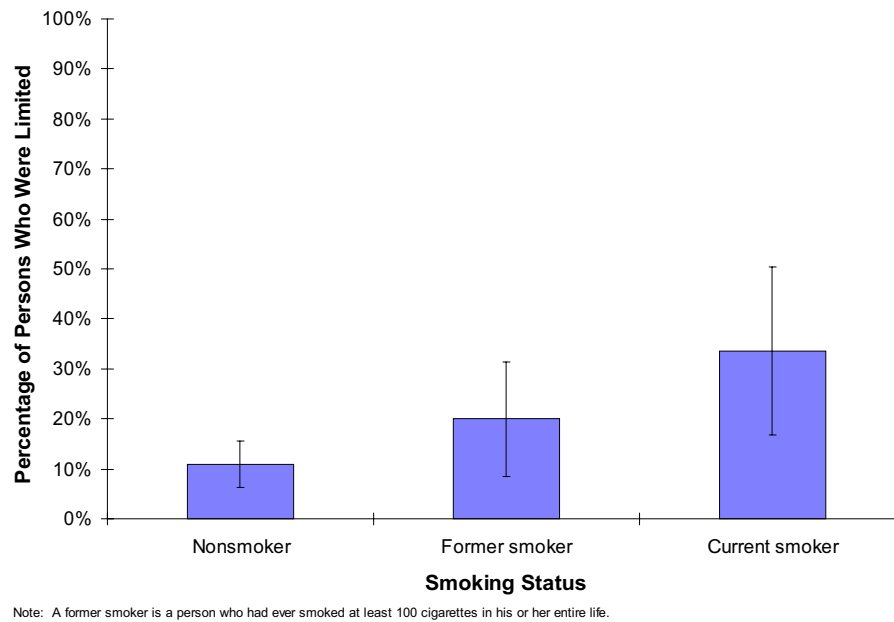
- Persons in this age group who were reported to be in fair or poor health were 10 times more likely to have limitations in their daily activities.
- Thirty-nine percent of those who had limitations reported their health status as good, very good, or excellent.

Figure 17. Limitations of Daily Activities by Obesity and Sex.
Utahns Age 45 to 64, 1996.



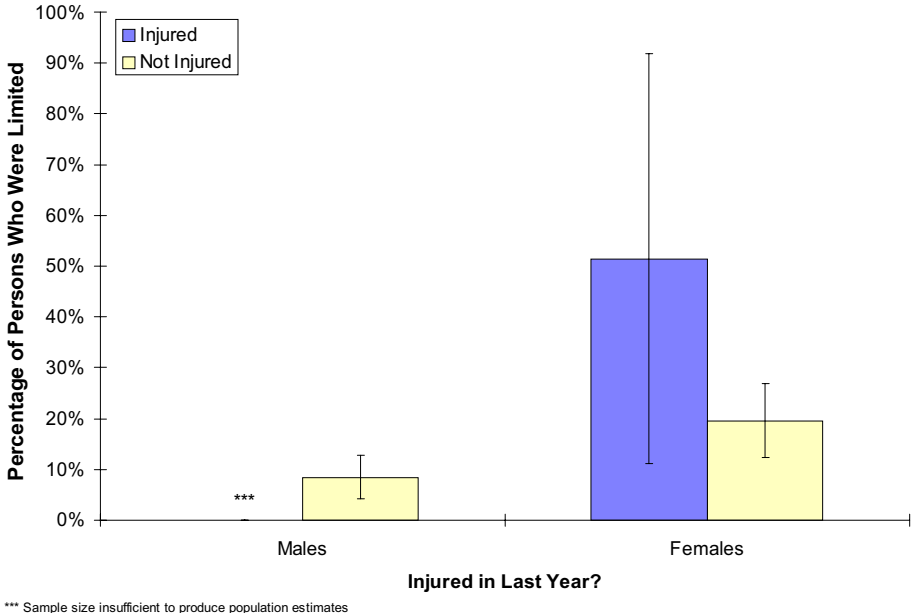
- **Females who were overweight were much more likely than males or other females to report limitation in their activities.**

Figure 18. Limitations of Daily Activities by Cigarette Smoking Status.
Utahns Age 45 to 64, 1996.



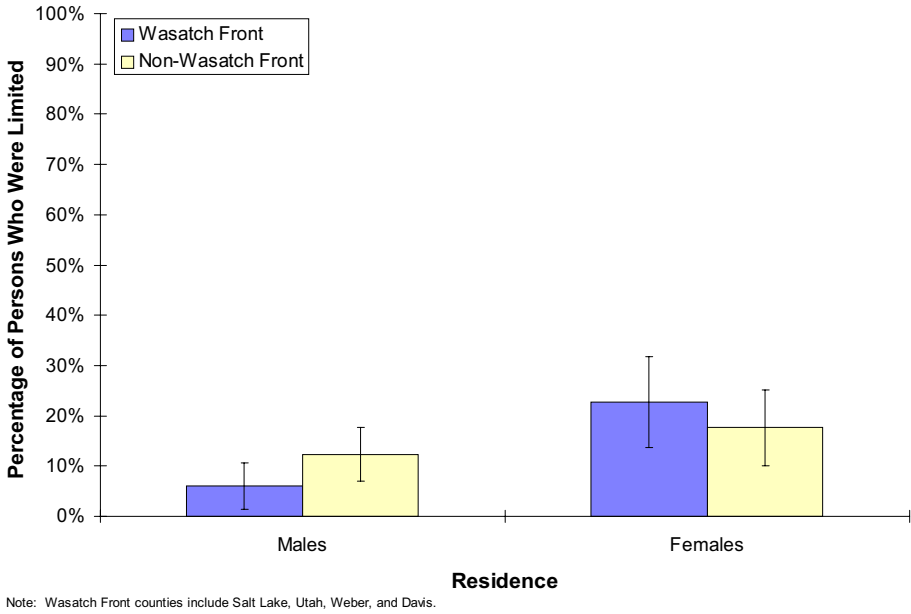
- **Smoking appears to be strongly related to activities limitation in this age group.**

Figure 19. Limitations of Daily Activities by Incidence of Injury in the Last 12 Months and Sex. Utahns Age 45 to 64, 1996.



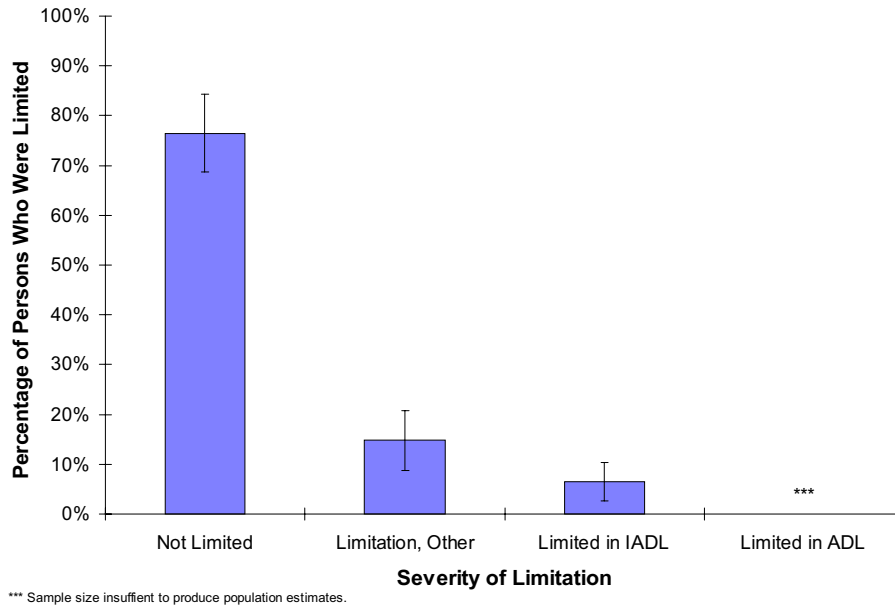
- **Females who were injured in the previous 12 months were more likely than males or other females to report limitations in their activities.**

Figure 20. Limitations of Daily Activities by Wasatch Front Residence and Sex. Utahns Age 45 to 64, 1996.



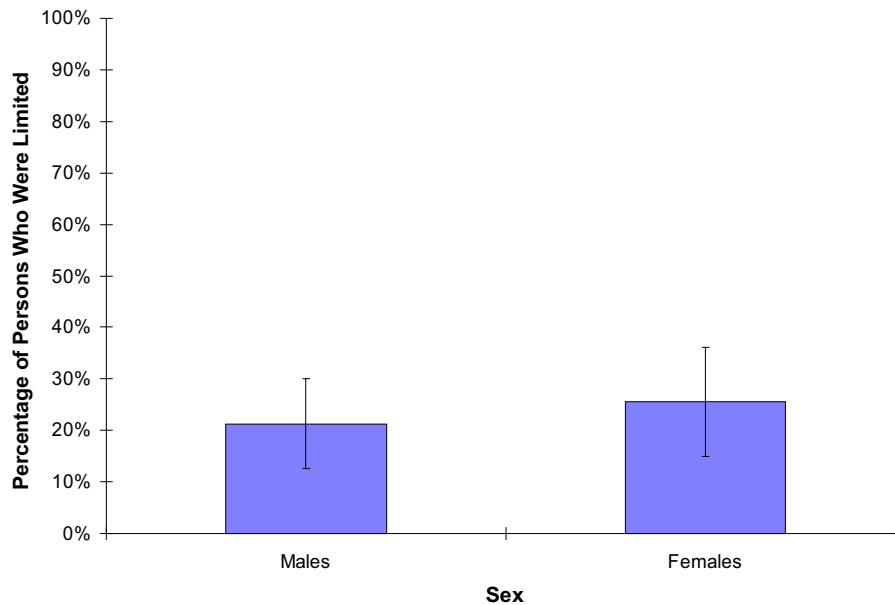
- **Along the Wasatch Front females were more likely than males to have had limitations of activities.**
- **Wasatch Front females accounted for almost two-thirds of all persons in this age group who have limitations of activities.**

Figure 21. Severity of Limitations of Daily Activities.
Utahns Age 65 and Older, 1996.



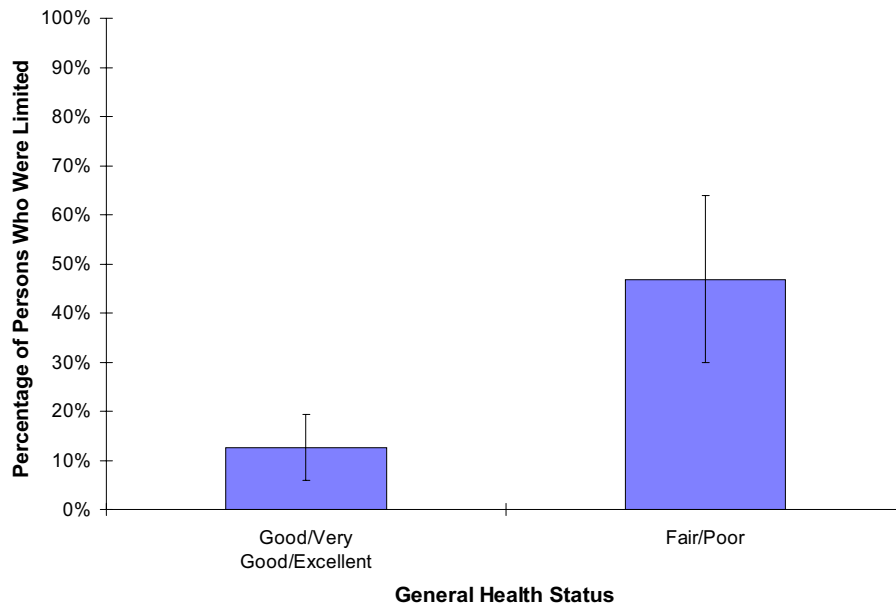
- **Almost a quarter of all Utahns age 65 or over have some sort of activity limitation. Over 12,000 Utahns in this age group are estimated to be limited in their instrumental activities of daily living, such as household chores, business, and shopping.**

Figure 22. Limitations of Daily Activities by Sex.
Utahns Age 65 and Over, 1996.



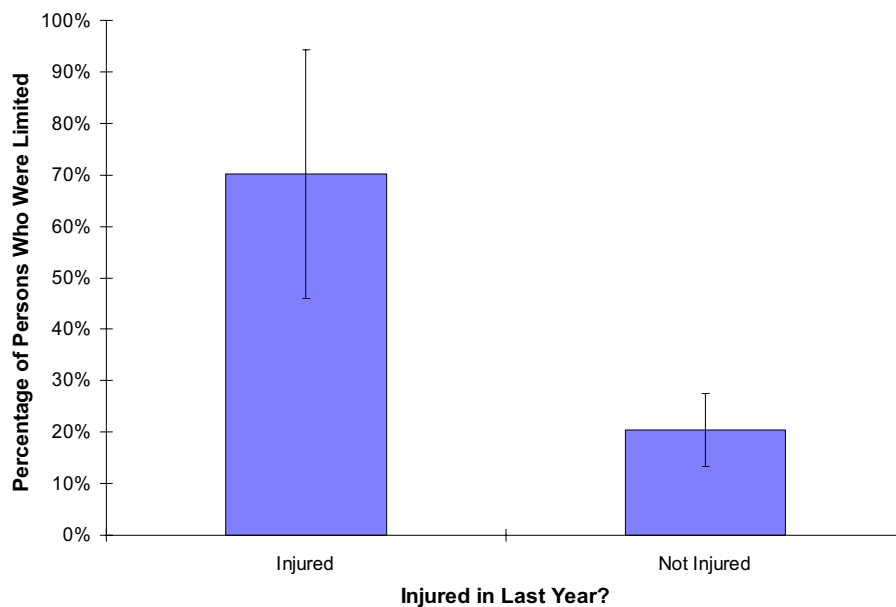
- **In this age group, men and women were about equally likely to have some limitation in their activities.**

Figure 23. Limitations of Daily Activities by Reported General Health Status. Utahns Age 65 and Older, 1996.



- **Almost half of the persons in this age group who were reported to be in fair or poor health also reported having limitations in their daily activities.**

Figure 24. Limitations of Daily Activities by Occurrence of an Injury in the Last 12 Months. Utahns Age 65 and Over, 1996.



- **Seventy percent of persons in this age group who were injured in the previous 12 months reported having limitations in their activities. This was estimated to account for almost 10,000 Utahns.**

REFERENCE TABLES

**Table 1. Limitations of Activities of Daily Living
by Sex and Age. Utah 1991 and 1996.**

| | Utah Population Distribution | | Survey Estimates of Utahns Whose Activities Were Limited | | |
|-----------------------------|---------------------------------|-----------------------------------|---|-------------------------------------|--|
| | Percentage Distribution | Number of Persons ¹ | Percentage of Persons Who Were Limited ² | Number of Persons ^{1,3} | Percentage Distribution of Limited Persons by Category |
| 1991 Population | 100.0% | 1,775,500 | 4.9% ± 0.5% | 87,000 | 100.0% |
| 1996 Population | 100.0% | 1,991,800 | 7.2% ± 1.3% | 142,800 | 100.0% |
| Year by Sex | | | | | |
| 1991 - Males | 49.5% | 879,300 | 4.7% ± 0.7% | 41,000 | 47.1% |
| 1991 - Females | 50.5% | 896,200 | 5.1% ± 0.7% | 46,000 | 52.9% |
| Total | 100.0% | 1,775,500 | 4.9% ± 0.5% | 87,000 | 100.0% |
| 1996 - Males | 49.5% | 986,400 | 5.5% ± 1.5% | 54,400 | 38.1% |
| 1996 - Females | 50.5% | 1,005,400 | 8.8% ± 2.0% | 88,300 | 61.9% |
| Total | 100.0% | 1,991,800 | 7.2% ± 1.3% | 142,800 | 100.0% |
| Year by Age | | | | | |
| 1991 - 17 and Under | 34.6% | 614,400 | 1.6% ± 0.5% | 10,100 | 11.2% |
| 1991 - 18-44 | 41.2% | 732,000 | 4.4% ± 0.8% | 32,100 | 35.5% |
| 1991 - 45-64 | 14.8% | 263,500 | 9.1% ± 1.7% | 24,100 | 26.7% |
| 1991 - 65 and Over | 9.3% | 165,600 | 14.5% ± 2.7% | 24,000 | 26.6% |
| Total | 100.0% | 1,775,500 | 4.9% ± 0.5% | 87,000 | 100.0% |
| 1996 - 17 and Under | 32.6% | 648,600 | 2.0% ± 1.2% | 13,000 | 8.8% |
| 1996 - 18-44 | 41.6% | 829,300 | 4.9% ± 1.5% | 41,000 | 27.6% |
| 1996 - 45-64 | 16.4% | 327,400 | 15.4% ± 4.9% | 50,600 | 34.1% |
| 1996 - 65 and Over | 9.4% | 186,500 | 23.5% ± 7.8% | 43,800 | 29.5% |
| Total | 100.0% | 1,991,800 | 7.2% ± 1.3% | 142,800 | 100.0% |
| Year by Sex and Age | | | | | |
| 1991 - Males 17 and Under | 31.4% | 315,300 | 2.1% ± 0.8% | 6,500 | 7.2% |
| 1991 - Males 18-44 | 36.1% | 363,200 | 3.9% ± 1.0% | 14,200 | 15.8% |
| 1991 - Males 45-64 | 12.9% | 129,300 | 9.3% ± 2.7% | 12,100 | 13.4% |
| 1991 - Males 65 and Over | 7.1% | 71,500 | 14.0% ± 3.8% | 10,000 | 11.1% |
| 1991 - Females 17 and Under | 29.7% | 299,100 | 1.2% ± 0.6% | 3,500 | 3.9% |
| 1991 - Females 18-44 | 36.7% | 368,800 | 4.8% ± 1.2% | 17,800 | 19.8% |
| 1991 - Females 45-64 | 13.3% | 134,200 | 8.9% ± 2.2% | 12,000 | 13.3% |
| 1991 - Females 65 and Over | 9.4% | 94,100 | 14.9% ± 3.8% | 14,000 | 15.5% |
| Total | 100.0% | 1,775,500 | 4.9% ± 0.5% | 87,000 | 100.0% |
| 1996 - Males 17 and Under | 33.1% | 332,900 | 2.1% ± 1.7% | 6,900 | 4.7% |
| 1996 - Males 18-44 | 40.9% | 411,300 | 4.8% ± 2.3% | 19,900 | 13.6% |
| 1996 - Males 45-64 | 16.1% | 161,400 | 7.6% ± 3.8% | 12,200 | 8.3% |
| 1996 - Males 65 and Over | 8.0% | 80,900 | 21.3% ± 8.7% | 17,200 | 11.8% |
| 1996 - Females 17 and Under | 31.4% | 315,700 | 1.9% ± 1.8% | 6,100 | 4.2% |
| 1996 - Females 18-44 | 41.6% | 418,100 | 5.0% ± 1.8% | 21,000 | 14.4% |
| 1996 - Females 45-64 | 16.5% | 166,000 | 21.7% ± 7.3% | 36,000 | 24.6% |
| 1996 - Females 65 and Over | 10.5% | 105,600 | 25.5% ± 10.6% | 26,900 | 18.4% |
| Total | 100.0% | 1,991,800 | 7.2% ± 1.3% | 142,800 | 100.0% |

1 Rounded to the nearest 100 persons.

2 Plus or minus 95% confidence interval

3 Figures in these columns may not sum to the totals because of missing values on the grouping variables.

**Table 2. Health Problems Associated With Activity Limitations.
Utah 1996.**

| | Survey Estimates for Persons With Limitations of Activities | |
|---|--|----------------|
| | Percentage of Limited Persons Reporting Problem ^{1,2} Number of Persons ³ | |
| | | |
| Arthritis/Rheumatism | 13.8% ± 6.2% | 19,700 |
| Back or Neck Problem(s) | 10.5% ± 5.1% | 15,000 |
| Bone/Joint Problem(s) | 10.1% ± 5.5% | 14,400 |
| Lung/Breathng Problem(s) | 8.8% ± 4.9% | 12,600 |
| Heart, Circulatory System | 4.8% ± 3.7% | 6,900 |
| Cancer | 4.4% ± 4.3% | 6,300 |
| Knee Problem(s) | *** ± *** | *** |
| "Old Age" | *** ± *** | *** |
| Mental Health Problem(s) | *** ± *** | *** |
| Problem(s) from Stroke | *** ± *** | *** |
| Traumatic Brain Injury | *** ± *** | *** |
| Lupis | *** ± *** | *** |
| Eye/Vision Problem(s) | *** ± *** | *** |
| Developm Disability | *** ± *** | *** |
| Pregnant | *** ± *** | *** |
| Multiple Sclerosis | *** ± *** | *** |
| Diabetes | 0.9% ± 0.9% | 1,300 |
| Nerve Damage | *** ± *** | *** |
| Surgery | *** ± *** | *** |
| Walking Problem | *** ± *** | *** |
| Spinal Cord Injury | *** ± *** | *** |
| Hearing Impairment | *** ± *** | *** |
| Allergies | *** ± *** | *** |
| Other (List) | 22.5% ± 7.6% | 32,100 |
| Total Number of Persons With Limitations of Daily Activities | | <u>142,800</u> |

1 Respondents listed only the primary impairment or health problem.

2 Plus or minus 95% confidence interval

3 Rounded to the nearest 100 persons.

*** Sample size insufficient to produce population estimates.

**Table 3. Limitations of Activities of Daily Living
by Selected Demographic Subgroups. Utah 1996.**

| | Utah Population Distribution | | Survey Estimates of Utahns Whose Activities Were Limited | | | |
|--|---------------------------------|-----------------------------------|---|-------------------------------------|--|--------|
| | Percentage Distribution | Number of Persons ¹ | Percentage of Persons Who Were Limited ² | Number of Persons ^{1,3} | Percentage Distribution of Limited Persons by Category | |
| Annual Household Income | | | | | | |
| \$0 to \$25,000 | 19.3% | 385,100 | 10.9% | ± 3.7% | 41,900 | 29.7% |
| \$25,000 to \$55,000 | 50.6% | 1,008,100 | 7.5% | ± 2.2% | 75,300 | 53.4% |
| \$55,000 or more | 30.1% | 598,600 | 4.0% | ± 1.7% | 23,700 | 16.8% |
| Total | 100.0% | 1,991,800 | 7.2% | ± 1.3% | 142,800 | 100.0% |
| Household Poverty Status | | | | | | |
| 0% to 100% of Poverty | 7.1% | 142,000 | 11.1% | ± 6.4% | 15,800 | 100.0% |
| 101% to 200% of Poverty | 27.3% | 543,200 | 7.0% | ± 2.5% | 38,100 | 27.1% |
| 201% to 300% of Poverty | 26.8% | 533,500 | 5.8% | ± 2.4% | 30,900 | 22.0% |
| 301% of Poverty or Higher | 38.8% | 773,100 | 7.2% | ± 2.4% | 55,700 | 39.6% |
| Total | 100.0% | 1,991,800 | 7.2% | ± 1.3% | 142,800 | 100.0% |
| Health Insurance Status | | | | | | |
| Insured | 90.5% | 1,802,000 | 7.3% | ± 1.4% | 131,900 | 91.6% |
| Uninsured | 9.5% | 189,820 | 6.4% | ± 3.5% | 12,100 | 8.4% |
| Total | 100.0% | 1,991,800 | 7.2% | ± 1.3% | 142,800 | 100.0% |
| Hispanic Status | | | | | | |
| Hispanic | 5.8% | 115,500 | 4.8% | ± 4.4% | 5,600 | 3.9% |
| Non-Hispanic | 94.2% | 1,876,300 | 7.3% | ± 1.4% | 137,700 | 96.1% |
| Total | 100.0% | 1,991,800 | 7.2% | ± 1.3% | 142,800 | 100.0% |
| Educational Attainment (adults age 18+) | | | | | | |
| Some high school or less | 6.4% | 86,200 | 14.9% | ± 8.7% | 12,900 | 10.0% |
| High school graduate/some col | 59.9% | 804,200 | 11.0% | ± 2.7% | 88,500 | 68.6% |
| Tech/voc degree | 5.2% | 69,400 | 3.0% | ± 2.4% | 2,100 | 1.6% |
| 4 year college degree | 28.5% | 383,400 | 6.7% | ± 2.6% | 25,500 | 19.8% |
| Total | 100.0% | 1,343,200 | 9.9% | ± 1.9% | 132,600 | 100.0% |
| Employment Status (adults age 18+) | | | | | | |
| Employed full time | 55.8% | 749,300 | 5.7% | ± 1.9% | 42,800 | 32.3% |
| Employed part time | 13.2% | 177,700 | 7.3% | ± 4.0% | 12,900 | 9.7% |
| Retired | 13.3% | 178,100 | 20.8% | ± 6.5% | 37,000 | 27.9% |
| Keeping house | 9.4% | 125,600 | 9.8% | ± 5.3% | 12,300 | 9.3% |
| Student is primary role | 3.9% | 53,000 | *** | ± *** | *** | *** |
| Other | 4.4% | 59,500 | 42.9% | ± 14.8% | 25,500 | 19.2% |
| Total | 100.0% | 1,343,200 | 9.9% | ± 1.9% | 132,600 | 100.0% |
| Wasatch Front Residence³ | | | | | | |
| Wasatch Front | 77.3% | 1,539,600 | 6.8% | ± 1.7% | 103,900 | 72.8% |
| Non-Wasatch Front | 22.7% | 452,200 | 8.6% | ± 1.7% | 38,800 | 27.2% |
| Total | 100.0% | 1,991,800 | 7.2% | ± 1.3% | 142,800 | 100.0% |

1 Rounded to the nearest 100 persons.

2 Plus or minus 95% confidence interval

3 Figures in these columns may not sum to the totals because of missing values on the grouping variables.

4 Wasatch Front counties include Salt Lake, Utah, Weber, and Davis.

*** Sample size insufficient to produce population estimates.

**Table 4. Limitations of Activities of Daily Living
by Selected Medical Conditions. Utah 1996.**

| | Utah Population Distribution | | Survey Estimates of Utahns Whose Activities Were Limited | | |
|--|---------------------------------|-----------------------------------|---|-------------------------------------|--|
| | Percentage Distribution | Number of Persons ¹ | Percentage of Persons Who Were Limited ² | Number of Persons ^{1,3} | Percentage Distribution of Limited Persons by Category |
| General Health Status | | | | | |
| Excellent | 39.4% | 784,400 | 1.2% ± 0.8% | 9,600 | 6.7% |
| Very Good | 30.6% | 609,300 | 3.5% ± 1.3% | 21,400 | 14.9% |
| Good | 21.4% | 426,900 | 11.1% ± 3.6% | 47,500 | 33.1% |
| Fair | 6.4% | 127,100 | 30.4% ± 10.4% | 38,600 | 26.9% |
| Poor | 2.2% | 44,100 | 59.7% ± 16.1% | 26,300 | 18.3% |
| Total | 100.0% | 1,991,800 | 7.2% ± 1.3% | 142,800 | 100.0% |
| Chronic Obstructive Pulmonary Disease⁴ | | | | | |
| Yes | 1.0% | 19,600 | 49.2% ± 19.9% | 9,600 | 6.8% |
| No | 99.0% | 1,972,200 | 6.6% ± 1.3% | 131,000 | 93.2% |
| Total | 100.0% | 1,991,800 | 7.2% ± 1.3% | 142,800 | 100.0% |
| Arthritis | | | | | |
| Yes | 5.1% | 101,000 | 44.2% ± 11.3% | 44,700 | 31.0% |
| No | 94.9% | 1,890,800 | 5.3% ± 1.1% | 99,500 | 69.0% |
| Total | 100.0% | 1,991,800 | 7.2% ± 1.3% | 142,800 | 100.0% |
| Stroke | | | | | |
| Yes | 0.9% | 17,800 | 42.8% ± 25.9% | 7,600 | 5.3% |
| No | 99.1% | 1,974,000 | 6.9% ± 1.3% | 135,400 | 94.7% |
| Total | 100.0% | 1,991,800 | 7.2% ± 1.3% | 142,800 | 100.0% |
| Heart Disease | | | | | |
| Yes | 2.7% | 54,100 | 28.9% ± 11.6% | 15,600 | 10.9% |
| No | 97.3% | 1,937,700 | 6.6% ± 1.3% | 126,900 | 89.1% |
| Total | 100.0% | 1,991,800 | 7.2% ± 1.3% | 142,800 | 100.0% |
| Vision Impairment⁵ | | | | | |
| Yes | 3.1% | 61,300 | 28.2% ± 11.9% | 17,300 | 12.1% |
| No | 96.9% | 1,930,500 | 6.5% ± 1.3% | 125,900 | 87.9% |
| Total | 100.0% | 1,991,800 | 7.2% ± 1.3% | 142,800 | 100.0% |
| Hearing Impairment | | | | | |
| Yes | 8.2% | 163,700 | 25.9% ± 7.9% | 42,300 | 29.7% |
| No | 91.8% | 1,828,100 | 5.5% ± 1.1% | 100,000 | 70.3% |
| Total | 100.0% | 1,991,800 | 7.2% ± 1.3% | 142,800 | 100.0% |
| Diabetes | | | | | |
| Yes | 2.9% | 57,900 | 23.0% ± 12.0% | 13,300 | 9.2% |
| No | 97.1% | 1,933,900 | 6.8% ± 1.3% | 130,500 | 90.8% |
| Total | 100.0% | 1,991,800 | 7.2% ± 1.3% | 142,800 | 100.0% |
| Asthma | | | | | |
| Yes | 4.1% | 82,100 | 20.3% ± 10.3% | 16,700 | 11.7% |
| No | 95.9% | 1,909,700 | 6.6% ± 1.3% | 126,000 | 88.3% |
| Total | 100.0% | 1,991,800 | 7.2% ± 1.3% | 142,800 | 100.0% |

Table 4. (Continued)

| | Population Distribution of Utahns | | Survey Estimates of Utahns Whose Activities Were Limited | | |
|---------------------------|--------------------------------------|-----------------------------------|---|-------------------------------------|---|
| | Percentage Distribution | Number of Persons ¹ | Percentage of Persons Who Were Limited | Number of Persons ^{1,2} | Percentage Distribution Across Categories |
| Injured in Last 12 Months | | | | | |
| Yes | 10.4% | 208,100 | 15.7% ± 5.7% | 32,600 | 22.9% |
| No | 89.6% | 1,783,700 | 6.1% ± 1.3% | 109,500 | 77.1% |
| Total | 100.0% | 1,991,800 | 7.2% ± 1.3% | 142,800 | 100.0% |

1 Rounded to the nearest 100 persons.

2 Plus or minus 95% confidence interval

3 Figures in these columns may not sum to the totals because of missing values on the grouping variables.

4 Chronic obstructive pulmonary disease includes chronic bronchitis and emphysema.

5 Vision impairment was defined as "serious difficulty seeing, even while wearing glasses or contact lenses."

Table 5. Activity Limitations Among Children
by Selected Demographic Subgroups, Utahns Age 17 or Younger, 1996.

| | Utah Population Distribution | | Survey Estimates of Utahns Whose Activities Were Limited | | | |
|--|------------------------------|--------------------------------|--|--------|----------------------------------|--|
| | Percentage Distribution | Number of Persons ¹ | Percentage of Persons Who Were Limited ² | | Number of Persons ^{1,3} | Percentage Distribution of Limited Persons by Category |
| Severity of Limitation | | | | | | |
| Not Limited | | | | | 635,600 | 98.0% |
| Limitation, Other Limited, Play/School Unable, Play/School | | | | | 8,400 | 1.3% |
| | | | | | *** | *** |
| | | | | | *** | *** |
| Total | | | | | 648,600 | 100.0% |
| Sex | | | | | | |
| Males | 51.3% | 332,900 | 2.1% | ± 1.7% | 6,900 | 53.1% |
| Females | 48.7% | 315,700 | 1.9% | ± 1.8% | 6,100 | 46.9% |
| Total | 100.0% | 648,600 | 2.0% | ± 1.2% | 13,000 | 100.0% |
| Chronic Medical Condition⁴ | | | | | | |
| Yes | 8.0% | 51,800 | 7.7% | ± 7.6% | 4,000 | 30.1% |
| No | 92.0% | 596,800 | 1.6% | ± 1.2% | 9,300 | 69.9% |
| Total | 100.0% | 648,600 | 2.0% | ± 1.2% | 13,000 | 100.0% |
| General Health Status | | | | | | |
| Good/Very Good/Excellent | 97.2% | 630,500 | 1.7% | ± 1.2% | 10,800 | 83.1% |
| Fair/Poor | 2.8% | 18,100 | *** | ± *** | *** | *** |
| Total | 100.0% | 648,600 | 2.0% | ± 1.2% | 13,000 | 100.0% |
| Annual Household Income | | | | | | |
| \$0 to \$25,000 | 16.6% | 107,500 | *** | ± *** | *** | *** |
| \$25,000 to \$55,000 | 52.5% | 340,200 | 2.7% | ± 2.2% | 9,300 | 71.5% |
| \$55,000 or more | 31.0% | 200,900 | *** | ± *** | *** | *** |
| Total | 100.0% | 648,600 | 2.0% | ± 1.2% | 13,000 | 100.0% |
| Health Insurance Status | | | | | | |
| Insured | 91.4% | 593,000 | 2.1% | ± 1.3% | 12,700 | 97.7% |
| Uninsured | 8.6% | 55,600 | *** | ± *** | *** | *** |
| Total | 100.0% | 648,600 | 2.0% | ± 1.2% | 13,000 | 100.0% |
| Gets Regular Exercise (age 6 and over)⁵ | | | | | | |
| Yes | 41.0% | 266,200 | 2.3% | ± 2.1% | 6,000 | 37.3% |
| No | 59.0% | 382,400 | 2.6% | ± 2.4% | 10,100 | 62.7% |
| Total | 100.0% | 648,600 | 2.0% | ± 1.2% | 13,000 | 100.0% |
| Injured in Last Year | | | | | | |
| Injured | 10.4% | 67,700 | 7.1% | ± 6.7% | 4,800 | 37.2% |
| Not Injured | 89.6% | 580,900 | 1.4% | ± 1.1% | 8,100 | 62.8% |
| Total | 100.0% | 648,600 | 2.0% | ± 1.2% | 13,000 | 100.0% |
| Wasatch Front Residence⁶ | | | | | | |
| Wasatch Front | 77.0% | 499,100 | 2.1% | ± 1.6% | 10,500 | 80.8% |
| Non-Wasatch Front | 23.0% | 149,500 | 1.7% | ± 1.0% | 2,500 | 19.2% |
| Total | 100.0% | 648,600 | 2.0% | ± 1.2% | 13,000 | 100.0% |

Table 5. (Continued)

| | Population Distribution of Utahns | | Survey Estimates of Utahns Whose Activities Were Limited | | |
|--------------------------|--------------------------------------|-----------------------------------|---|-------------------------------------|---|
| | Percentage Distribution | Number of Persons ¹ | Percentage of Persons Who Were Limited | Number of Persons ^{1,2} | Percentage Distribution Across Categories |
| Primary Problem | | | | | |
| Arthritis/Rheumatism | | | | *** | *** |
| Cancer | | | | *** | *** |
| Bone/Joint Problem(s) | | | | 4,400 | 33.8% |
| Hearing | | | | *** | *** |
| Lung/Breathng Problem(s) | | | | *** | *** |
| Pregnant | | | | *** | *** |
| Multiple Sclerosis | | | | *** | *** |
| Allergies | | | | *** | *** |
| Other (List) | | | | *** | *** |
| Total | | | | 13,000 | 100.0% |

1 Rounded to the nearest 100 persons.

2 Plus or minus 95% confidence interval

3 Figures in these columns may not sum to the totals because of missing values on the grouping variables.

4 Conditions include Alzheimer's disease, arthritis, asthma, chronic obstructive pulmonary disease, diabetes, heart disease, stroke, and hearing, vision and speech impairments.

5 Regular exercise was defined as vigorous exercise lasting for 20 minutes or more at least three times per week.

6 Wasatch Front counties include Salt Lake, Utah, Weber, and Davis.

*** Sample size insufficient to produce population estimates.

**Table 6. Activity Limitations Among Younger Adults
by Selected Demographic Subgroups, Utahns Age 18 to 44, 1996.**

| | Utah Population Distribution | | Survey Estimates of Utahns Whose Activities Were Limited | | | |
|--|---------------------------------|-----------------------------------|---|---------|-------------------------------------|--|
| | Percentage Distribution | Number of Persons ¹ | Percentage of Persons Who Were Limited ² | | Number of Persons ^{1,3} | Percentage Distribution of Limited Persons by Category |
| Severity of Limitation | | | | | | |
| Not Limited | | | | | 788,300 | 95.1% |
| Limitation, Other | | | | | 4,600 | 0.6% |
| Limited, Work/Housework | | | | | 22,100 | 2.7% |
| Unable to Perform Work/Housework | | | | | 14,300 | 1.7% |
| Total | | | | | 829,300 | 100.0% |
| Sex | | | | | | |
| Males | 49.6% | 411,300 | 4.8% | ± 2.3% | 19,900 | 48.7% |
| Females | 50.4% | 418,100 | 5.0% | ± 1.8% | 21,000 | 51.3% |
| Total | 100.0% | 829,300 | 4.9% | ± 1.5% | 41,000 | 100.0% |
| Chronic Medical Condition⁴ | | | | | | |
| Yes | 15.1% | 125,500 | 16.5% | ± 7.7% | 20,700 | 48.1% |
| No | 84.9% | 703,800 | 3.2% | ± 1.2% | 22,300 | 51.9% |
| Total | 100.0% | 829,300 | 4.9% | ± 1.5% | 41,000 | 100.0% |
| General Health Status | | | | | | |
| Good/Very Good/Excellent | 93.2% | 772,800 | 3.8% | ± 1.4% | 29,300 | 74.6% |
| Fair/Poor | 6.8% | 56,500 | 17.7% | ± 10.7% | 10,000 | 25.4% |
| Total | 100.0% | 829,300 | 4.9% | ± 1.5% | 41,000 | 100.0% |
| Obesity⁵ | | | | | | |
| Obese | 20.4% | 169,300 | 6.2% | ± 4.3% | 10,500 | 25.2% |
| Not Obese | 79.6% | 660,000 | 4.7% | ± 1.7% | 31,200 | 74.8% |
| Total | 100.0% | 829,300 | 4.9% | ± 1.5% | 41,000 | 100.0% |
| Annual Household Income | | | | | | |
| \$0 to \$25,000 | 18.6% | 154,300 | 4.0% | ± 2.6% | 6,100 | 14.4% |
| \$25,000 to \$55,000 | 51.7% | 428,900 | 5.6% | ± 2.3% | 24,000 | 56.6% |
| \$55,000 or more | 29.7% | 246,100 | 5.0% | ± 3.1% | 12,300 | 29.0% |
| Total | 100.0% | 829,300 | 4.9% | ± 1.5% | 41,000 | 100.0% |
| Health Insurance Status | | | | | | |
| Insured | 86.8% | 719,500 | 4.8% | ± 1.6% | 34,600 | 83.4% |
| Uninsured | 13.2% | 109,800 | 6.3% | ± 4.6% | 6,900 | 14.4% |
| Total | 100.0% | 829,300 | 4.9% | ± 1.5% | 41,000 | 100.0% |
| Health Insurance Status by Sex | | | | | | |
| Males - Insured | 42.9% | 355,400 | 5.2% | ± 2.7% | 18,500 | 45.1% |
| Males - Uninsured | 7.2% | 60,100 | *** | ± *** | *** | *** |
| Females - Insured | 43.9% | 364,100 | 4.4% | ± 1.8% | 16,100 | 39.3% |
| Females - Uninsured | 6.0% | 49,700 | 11.7% | ± 9.4% | 5,800 | 14.1% |
| Total | 100.0% | 829,300 | 4.9% | ± 1.5% | 41,000 | 100.0% |
| Educational Attainment (adults age 18+) | | | | | | |
| Some high school or less | 5.8% | 48,200 | *** | ± *** | *** | *** |
| High school graduate/some col | 62.4% | 517,300 | 6.1% | ± 2.2% | 31,300 | 76.3% |
| Tech/voc degree | 5.0% | 41,500 | *** | ± *** | *** | *** |
| 4 year college degree | 26.8% | 222,300 | 4.1% | ± 2.3% | 9,200 | 22.4% |
| Total | 100.0% | 829,300 | 4.9% | ± 1.5% | 41,000 | 100.0% |
| Employment Status (adults age 18+) | | | | | | |
| Employed full time | 63.8% | 529,500 | 4.7% | ± 2.0% | 24,800 | 58.8% |
| Employed part time | 16.1% | 133,400 | 3.3% | ± 2.8% | 4,400 | 10.4% |
| Other | 20.1% | 166,500 | 7.8% | ± 3.8% | 13,000 | 30.8% |
| Total | 100.0% | 829,300 | 4.9% | ± 1.5% | 41,000 | 100.0% |

Table 6. (Continued)

| | Population Distribution of Utahns | | Survey Estimates of Utahns Whose Activities Were Limited | | | |
|--------------------------------------|-----------------------------------|--------------------------------|--|---------|----------------------------------|---|
| | Percentage Distribution | Number of Persons ¹ | Percentage of Persons Who Were Limited | | Number of Persons ^{1,2} | Percentage Distribution Across Categories |
| Alcohol Consumption | | | | | | |
| Nondrinker | 72.5% | 601,200 | 4.7% | ± 1.5% | 28,100 | 68.5% |
| Moderate drinker | 25.4% | 210,600 | 4.9% | ± 3.5% | 10,400 | 25.4% |
| Heavy drinker (>60 drnks/mo.) | 2.1% | 17,500 | *** | ± *** | *** | *** |
| Total | 100.0% | 829,300 | 4.9% | ± 1.5% | 41,000 | 100.0% |
| Cigarette Smoking | | | | | | |
| Nonsmoker | 76.6% | 635,100 | 4.7% | ± 1.6% | 30,100 | 72.9% |
| Former smoker | 9.7% | 80,700 | 9.2% | ± 8.1% | 7,400 | 17.9% |
| Current smoker | 13.7% | 113,500 | 3.4% | ± 2.8% | 3,800 | 9.2% |
| Total | 100.0% | 829,300 | 4.9% | ± 1.5% | 41,000 | 100.0% |
| Gets Regular Exercise ⁶ | | | | | | |
| Yes | 48.1% | 398,800 | 4.8% | ± 2.2% | 19,100 | 46.6% |
| No | 51.9% | 430,500 | 5.1% | ± 2.1% | 21,900 | 53.4% |
| Total | 100.0% | 829,300 | 4.9% | ± 1.5% | 41,000 | 100.0% |
| Injured in Last Year | | | | | | |
| Injured | 12.0% | 99,700 | 14.5% | ± 7.6% | 14,400 | 35.6% |
| Not Injured | 88.0% | 729,600 | 3.6% | ± 1.2% | 26,000 | 64.4% |
| Total | 100.0% | 829,300 | 4.9% | ± 1.5% | 41,000 | 100.0% |
| Injured in Last Year by Sex | | | | | | |
| Males - Injured | 7.3% | 60,600 | 17.1% | ± 11.9% | 10,400 | 52.5% |
| Males - Not Injured | 42.8% | 354,700 | 2.6% | ± 1.5% | 9,400 | 47.5% |
| Females - Injured | 4.7% | 39,100 | 10.2% | ± 6.9% | 4,000 | 19.2% |
| Females - Not Injured | 45.2% | 374,900 | 4.5% | ± 1.9% | 16,800 | 80.8% |
| Total | 100.0% | 829,300 | 4.9% | ± 1.5% | 41,000 | 100.0% |
| Wasatch Front Residence ⁷ | | | | | | |
| Wasatch Front | 78.6% | 652,000 | 4.1% | ± 1.8% | 27,000 | 65.5% |
| Non-Wasatch Front | 21.4% | 177,400 | 8.0% | ± 2.4% | 14,200 | 34.5% |
| Total | 100.0% | 829,300 | 4.9% | ± 1.5% | 41,000 | 100.0% |
| Primary Problem | | | | | | |
| Arthritis/Rheumatism | | | | | *** | *** |
| Back or Neck Problem(s) | | | | | 5,800 | 14.2% |
| Cancer | | | | | *** | *** |
| Bone/Joint Problem(s) | | | | | 8,400 | 20.4% |
| Heart Problem(s) | | | | | *** | *** |
| Lung/Breathng Problem(s) | | | | | *** | *** |
| Mental Health | | | | | *** | *** |
| Walking Prob | | | | | *** | *** |
| Knee Problem(s) | | | | | *** | *** |
| Pregnant | | | | | *** | *** |
| Multiple Sclerosis | | | | | *** | *** |
| Lupis | | | | | *** | *** |
| Surgery | | | | | *** | *** |
| Allergies | | | | | *** | *** |
| Other (List) | | | | | 13,700 | 33.5% |
| Total | | | | | 41,000 | 100.0% |

1 Rounded to the nearest 100 persons.

2 Plus or minus 95% confidence interval

3 Figures in these columns may not sum to the totals because of missing values on the grouping variables.

4 Conditions include Alzheimer's disease, arthritis, asthma, chronic obstructive pulmonary disease, diabetes, heart disease, stroke, and hearing, vision and speech impairments.

5 Obesity was defined as a body mass index (BMI) of >=27.8 for males and >=27.3 for females.

6 Regular exercise was defined as vigorous exercise lasting for 20 minutes or more at least three times per week.

7 Wasatch Front counties include Salt Lake, Utah, Weber, and Davis.

*** Sample size insufficient to produce population estimates.

**Table 7. Activity Limitations Among Middle-Aged Adults
by Selected Demographic Subgroups, Utahns Age 45 to 64, 1996.**

| | Utah Population Distribution | | Survey Estimates of Utahns Whose Activities Were Limited | | | |
|---|---------------------------------|-----------------------------------|---|-------------------------------------|--|--|
| | Percentage Distribution | Number of Persons ¹ | Percentage of Persons Who Were Limited ² | Number of Persons ^{1,3} | Percentage Distribution of Limited Persons by Category | |
| Severity of Limitation | | | | | | |
| Not Limited | | | | 276,800 | 84.6% | |
| Limitation, Other | | | | 1,900 | 0.6% | |
| Limited, Work/Housework | | | | 16,200 | 5.0% | |
| Unable to Perform Work/Housework | | | | 32,400 | 9.9% | |
| Total | | | | 327,400 | 100.0% | |
| Sex | | | | | | |
| Males | 49.3% | 161,400 | 7.6% ± 3.8% | 12,200 | 25.3% | |
| Females | 50.7% | 166,000 | 21.7% ± 7.3% | 36,000 | 74.7% | |
| Total | 100.0% | 327,400 | 15.4% ± 4.9% | 50,600 | 100.0% | |
| Chronic Medical Condition ⁴ | | | | | | |
| Yes | 38.0% | 124,400 | 30.5% ± 9.4% | 37,900 | 77.5% | |
| No | 62.0% | 203,000 | 5.4% ± 3.9% | 11,000 | 22.5% | |
| Total | 100.0% | 327,400 | 15.4% ± 4.9% | 50,600 | 100.0% | |
| General Health Status | | | | | | |
| Good/Very Good/Excellent | 86.6% | 283,600 | 6.9% ± 3.7% | 19,600 | 39.2% | |
| Fair/Poor | 13.4% | 43,800 | 69.4% ± 16.1% | 30,400 | 60.8% | |
| Total | 100.0% | 327,400 | 15.4% ± 4.9% | 50,600 | 100.0% | |
| Obesity ⁵ | | | | | | |
| Obese | 31.8% | 104,100 | 23.8% ± 12.5% | 24,800 | 50.5% | |
| Not Obese | 68.2% | 223,300 | 10.9% ± 4.3% | 24,300 | 49.5% | |
| Total | 100.0% | 327,400 | 15.4% ± 4.9% | 50,600 | 100.0% | |
| Obesity by sex | | | | | | |
| Males - Obese | 16.8% | 55,100 | *** ± *** | *** | *** | |
| Males - Not Obese | 32.1% | 105,100 | 7.0% ± 4.0% | 7,400 | 14.6% | |
| Females - Obese | 15.0% | 49,000 | 39.3% ± 18.5% | 19,200 | 37.9% | |
| Females - Not Obese | 36.1% | 118,200 | 13.9% ± 6.7% | 16,400 | 32.4% | |
| Total | 100.0% | 327,400 | 15.4% ± 4.9% | 50,600 | 100.0% | |
| Annual Household Income | | | | | | |
| \$0 to \$25,000 | 15.3% | 50,200 | 37.0% ± 18.7% | 18,600 | 36.5% | |
| \$25,000 to \$55,000 | 45.9% | 150,300 | 17.4% ± 8.5% | 26,200 | 51.5% | |
| \$55,000 or more | 38.8% | 126,900 | 4.8% ± 3.2% | 6,100 | 12.0% | |
| Total | 100.0% | 327,400 | 15.4% ± 4.9% | 50,600 | 100.0% | |
| Health Insurance Status | | | | | | |
| Insured | 93.3% | 305,600 | 15.2% ± 5.1% | 46,400 | 92.1% | |
| Uninsured | 6.7% | 21,800 | 18.4% ± 15.2% | 4,000 | 7.9% | |
| Total | 100.0% | 327,400 | 15.4% ± 4.9% | 50,600 | 100.0% | |
| Educational Attainment (adults age 18+) | | | | | | |
| Some high school or less | 5.4% | 17,600 | 44.8% ± 27.1% | 7,900 | 15.1% | |
| High school graduate/some col | 53.1% | 173,900 | 19.0% ± 7.2% | 33,000 | 63.2% | |
| Tech/voc degree | 5.7% | 18,800 | 6.7% ± 6.7% | 1,300 | 2.5% | |
| 4 year college degree | 35.8% | 117,100 | 8.5% ± 5.5% | 10,000 | 19.2% | |
| Total | 100.0% | 327,400 | 15.4% ± 4.9% | 50,600 | 100.0% | |
| Employment Status (adults age 18+) | | | | | | |
| Employed full time | 61.9% | 202,800 | 8.4% ± 4.8% | 17,100 | 33.9% | |
| Employed part time | 10.7% | 35,000 | 22.8% ± 15.8% | 8,000 | 15.9% | |
| Other | 27.4% | 89,600 | 28.2% ± 10.7% | 25,300 | 50.2% | |
| Total | 100.0% | 327,400 | 15.4% ± 4.9% | 50,600 | 100.0% | |
| Alcohol Consumption | | | | | | |
| Nondrinker | 75.1% | 245,900 | 17.8% ± 5.9% | 43,800 | 86.6% | |
| Moderate drinker | 22.5% | 73,600 | 8.3% ± 6.7% | 6,100 | 12.1% | |
| Heavy drinker (>60 drnks/mo.) | 2.4% | 7,800 | *** ± *** | *** | *** | |
| Total | 100.0% | 327,400 | 15.4% ± 4.9% | 50,600 | 100.0% | |

Table 7. (Continued)

| | Population Distribution of Utahns | | Survey Estimates of Utahns Whose Activities Were Limited | | | |
|--------------------------------------|-----------------------------------|--------------------------------|--|---------|----------------------------------|---|
| | Percentage Distribution | Number of Persons ¹ | Percentage of Persons Who Were Limited | | Number of Persons ^{1,2} | Percentage Distribution Across Categories |
| Cigarette Smoking | | | | | | |
| Nonsmoker | 68.2% | 223,200 | 10.9% | ± 4.6% | 24,400 | 48.0% |
| Former smoker | 19.3% | 63,200 | 20.0% | ± 11.4% | 12,600 | 24.8% |
| Current smoker | 12.5% | 41,000 | 33.6% | ± 16.8% | 13,800 | 27.2% |
| Total | 100.0% | 327,400 | 15.4% | ± 4.9% | 50,600 | 100.0% |
| Gets Regular Exercise ⁶ | | | | | | |
| Yes | 42.1% | 137,800 | 9.7% | ± 5.3% | 13,400 | 26.3% |
| No | 57.9% | 189,600 | 19.8% | ± 7.0% | 37,600 | 73.7% |
| Total | 100.0% | 327,400 | 15.4% | ± 4.9% | 50,600 | 100.0% |
| Injured in Last Year | | | | | | |
| Injured | 9.0% | 29,300 | *** | ± *** | *** | *** |
| Not Injured | 91.0% | 298,100 | 14.9% | ± 5.0% | 44,300 | 87.5% |
| Total | 100.0% | 327,400 | 15.4% | ± 4.9% | 50,600 | 100.0% |
| Injured in Last Year by Sex | | | | | | |
| Males - Injured | 4.7% | 15,400 | *** | ± *** | *** | *** |
| Males - Not Injured | 42.5% | 139,100 | 8.4% | ± 4.3% | 11,700 | 23.1% |
| Females - Injured | 4.3% | 14,000 | 51.5% | ± 40.3% | 7,200 | 14.2% |
| Females - Not Injured | 48.5% | 158,900 | 19.6% | ± 7.2% | 31,200 | 61.7% |
| Total | 100.0% | 327,400 | 15.4% | ± 4.9% | 50,600 | 100.0% |
| Wasatch Front Residence ⁷ | | | | | | |
| Wasatch Front | 77.5% | 253,800 | 15.5% | ± 6.1% | 39,400 | 78.0% |
| Non-Wasatch Front | 22.5% | 73,600 | 15.1% | ± 5.1% | 11,100 | 22.0% |
| Total | 100.0% | 327,400 | 15.4% | ± 4.9% | 50,600 | 100.0% |
| Wasatch Front Residence | | | | | | |
| Males - Wasatch Front | 36.2% | 118,700 | 6.0% | ± 4.7% | 7,200 | 14.7% |
| Males - Non-Wasatch Front | 10.9% | 35,800 | 12.4% | ± 5.3% | 4,400 | 9.0% |
| Females - Wasatch Front | 41.2% | 134,900 | 22.8% | ± 9.0% | 30,700 | 62.7% |
| Females - Non-Wasatch Front | 11.6% | 38,000 | 17.6% | ± 7.6% | 6,700 | 13.7% |
| Total | 100.0% | 327,400 | 15.4% | ± 4.9% | 50,600 | 100.0% |
| Primary Problem | | | | | | |
| Arthritis/Rheumatism | | | | | 6,600 | 13.0% |
| Back or Neck Problem(s) | | | | | 6,900 | 13.7% |
| Cancer | | | | | *** | *** |
| Developmental Disability | | | | | *** | *** |
| Diabetes | | | | | *** | *** |
| Eye/Vision Problem(s) | | | | | *** | *** |
| Bone/Joint Problem(s) | | | | | *** | *** |
| Heart Problem(s) | | | | | *** | *** |
| Lung/Breathing Problem(s) | | | | | 4,400 | 8.6% |
| Mental Health Problem(s) | | | | | *** | *** |
| Spinal Cord | | | | | *** | *** |
| Problem(s) from Stroke | | | | | *** | *** |
| Traumatic Brain Injury | | | | | *** | *** |
| Knee Problem(s) | | | | | *** | *** |
| Multiple Sclerosis | | | | | *** | *** |
| Lupis | | | | | *** | *** |
| Nerve Damage | | | | | *** | *** |
| Other (List) | | | | | 12,200 | 24.2% |
| Total | | | | | 50,600 | 100.0% |

1 Rounded to the nearest 100 persons.

2 Plus or minus 95% confidence interval

3 Figures in these columns may not sum to the totals because of missing values on the grouping variables.

4 Conditions include Alzheimer's disease, arthritis, asthma, chronic obstructive pulmonary disease, diabetes, heart disease, stroke, and hearing, vision and speech impairments.

5 Obesity was defined as a body mass index (BMI) of >=27.8 for males and >=27.3 for females.

6 Regular exercise was defined vigorous exercise lasting for 20 minutes or more at least three times per week.

7 Wasatch Front counties include Salt Lake, Utah, Weber, and Davis.

**Table 8. Activity Limitations Among the Elderly
by Selected Demographic Subgroups, Utahns Age 65 or Older, 1996.**

| | Utah Population Distribution | | Survey Estimates of Utahns Whose Activities Were Limited | | | |
|--|---------------------------------|-----------------------------------|---|---------|-------------------------------------|--|
| | Percentage Distribution | Number of Persons ¹ | Percentage of Persons Who Were Limited ² | | Number of Persons ^{1,3} | Percentage Distribution of Limited Persons by Category |
| Severity of Limitation | | | | | | |
| Not Limited | | | | | 142,700 | 76.5% |
| Limitation, Other | | | | | 27,500 | 14.8% |
| Limited in IADL ⁴ | | | | | 12,100 | 6.5% |
| Limited in ADL ⁵ | | | | | *** | *** |
| Total | | | | | 186,500 | 100.0% |
| Sex | | | | | | |
| Males | 43.4% | 80,900 | 21.3% | ± 8.7% | 17,200 | 39.0% |
| Females | 56.6% | 105,600 | 25.5% | ± 10.6% | 26,900 | 61.0% |
| Total | 100.0% | 186,500 | 23.5% | ± 7.8% | 43,800 | 100.0% |
| Chronic Medical Condition⁶ | | | | | | |
| Yes | 65.6% | 122,300 | 30.7% | ± 10.1% | 37,500 | 85.6% |
| No | 34.4% | 64,200 | *** | ± *** | *** | *** |
| Total | 100.0% | 186,500 | 23.5% | ± 7.8% | 43,800 | 100.0% |
| General Health Status | | | | | | |
| Good/Very Good/Excellent | 70.8% | 132,000 | 12.7% | ± 6.8% | 16,700 | 39.6% |
| Fair/Poor | 29.2% | 54,500 | 46.9% | ± 17.0% | 25,500 | 60.4% |
| Total | 100.0% | 186,500 | 23.5% | ± 7.8% | 43,800 | 100.0% |
| Obesity⁷ | | | | | | |
| Obese | 28.5% | 53,100 | 33.3% | ± 15.5% | 17,700 | 40.8% |
| Not Obese | 71.5% | 133,400 | 19.3% | ± 8.9% | 25,700 | 59.2% |
| Total | 100.0% | 186,500 | 23.5% | ± 7.8% | 43,800 | 100.0% |
| Annual Household Income | | | | | | |
| \$0 to \$25,000 | 45.3% | 84,500 | 27.0% | ± 13.0% | 22,800 | 52.1% |
| \$25,000 to \$55,000 | 44.0% | 82,100 | 23.7% | ± 14.5% | 19,500 | 44.5% |
| \$55,000 or more | 10.7% | 19,900 | *** | ± *** | *** | *** |
| Total | 100.0% | 186,500 | 23.5% | ± 7.8% | 43,800 | 100.0% |
| Health Insurance Status | | | | | | |
| Insured | 98.8% | 184,200 | 23.3% | ± 7.9% | 43,000 | 98.2% |
| Uninsured | 1.2% | 2,300 | *** | ± *** | *** | *** |
| Total | 100.0% | 186,500 | 23.5% | ± 7.8% | 43,800 | 100.0% |
| Educational Attainment (adults age 18+) | | | | | | |
| Some high school or less | 10.1% | 18,800 | 28.3% | ± 19.6% | 5,300 | 12.1% |
| High school graduate/some col | 63.2% | 117,900 | 24.2% | ± 11.0% | 28,600 | 65.3% |
| Tech/voc degree | 5.1% | 9,500 | *** | ± *** | *** | *** |
| 4 year college degree | 21.6% | 40,300 | 18.8% | ± 14.8% | 7,600 | 17.4% |
| Total | 100.0% | 186,500 | 23.5% | ± 7.8% | 43,800 | 100.0% |
| Employment Status (adults age 18+) | | | | | | |
| Employed full time | 6.1% | 11,300 | 10.3% | ± 15.9% | 1,200 | 2.8% |
| Employed part time | 5.1% | 9,400 | 15.2% | ± 28.6% | 1,400 | 3.2% |
| Other | 88.9% | 165,700 | 24.7% | ± 8.3% | 40,800 | 94.0% |
| Total | 100.0% | 186,500 | 23.5% | ± 7.8% | 43,800 | 100.0% |
| Alcohol Consumption | | | | | | |
| Nondrinker | 84.3% | 157,300 | 23.7% | ± 8.5% | 37,300 | 85.2% |
| Moderate drinker | 14.5% | 27,100 | 21.7% | ± 15.7% | 5,900 | 13.5% |
| Heavy drinker (>60 drnks/mo.) | 1.1% | 2,100 | *** | ± *** | *** | *** |
| Total | 100.0% | 186,500 | 23.5% | ± 7.8% | 43,800 | 100.0% |

Table 8. (Continued)

| | Population Distribution of Utahns | | Survey Estimates of Utahns Whose Activities Were Limited | | |
|--------------------------------------|--------------------------------------|-----------------------------------|---|-------------------------------------|---|
| | Percentage Distribution | Number of Persons ¹ | Percentage of Persons Who Were Limited | Number of Persons ^{1,2} | Percentage Distribution Across Categories |
| Cigarette Smoking | | | | | |
| Nonsmoker | 73.5% | 137,100 | 26.5% ± 9.2% | 36,400 | 83.1% |
| Former smoker | 20.8% | 38,700 | 18.2% ± 12.7% | 7,100 | 16.2% |
| Current smoker | 5.7% | 10,600 | *** ± *** | *** | *** |
| Total | 100.0% | 186,500 | 23.5% ± 7.8% | 43,800 | 100.0% |
| Gets Regular Exercise ⁸ | | | | | |
| Yes | 44.9% | 83,800 | 19.9% ± 12.7% | 16,700 | 38.2% |
| No | 55.1% | 102,700 | 26.3% ± 10.3% | 27,000 | 61.8% |
| Total | 100.0% | 186,500 | 23.5% ± 7.8% | 43,800 | 100.0% |
| Injured in Last Year | | | | | |
| Injured | 7.6% | 14,200 | 70.1% ± 24.2% | 9,900 | 22.0% |
| Not Injured | 92.4% | 172,300 | 20.4% ± 7.1% | 35,200 | 78.0% |
| Total | 100.0% | 186,500 | 23.5% ± 7.8% | 43,800 | 100.0% |
| Wasatch Front Residence ⁹ | | | | | |
| Wasatch Front | 72.2% | 134,700 | 24.6% ± 11.1% | 33,200 | 75.1% |
| Non-Wasatch Front | 27.7% | 51,700 | 21.2% ± 6.7% | 11,000 | 24.9% |
| Total | 100.0% | 186,500 | 23.5% ± 7.8% | 43,800 | 100.0% |
| Primary Problem | | | | | |
| Arthritis/Rheumatism | | | | 13,800 | 31.4% |
| Back or Neck Problem(s) | | | | 2,500 | 5.8% |
| Cancer | | | | *** | *** |
| Diabetes | | | | *** | *** |
| Eye/Vision Problem(s) | | | | *** | *** |
| Bone/Joint Problem(s) | | | | *** | *** |
| Heart Problem(s) | | | | 2,700 | 6.1% |
| Lung/Breathing Problem(s) | | | | *** | *** |
| Mental Health Problem(s) | | | | *** | *** |
| Problem(s) from Stroke | | | | *** | *** |
| Traumatic Brain Injury | | | | *** | *** |
| Walking Problem(s) | | | | *** | *** |
| Knee Problem(s) | | | | *** | *** |
| "Old Age" | | | | 6,300 | 14.4% |
| Surgery | | | | *** | *** |
| Other (List) | | | | 3,100 | 7.1% |
| Total | | | | 43,800 | 100.0% |

1 Rounded to the nearest 100 persons.

2 Plus or minus 95% confidence interval

3 Figures in these columns may not sum to the totals because of missing values on the grouping variables.

4 Instrumental Activities of Daily Living (IADL) are routine activities such as household chores, business, shopping, getting around.

5 Activities of Daily Living (ADL) are personal care activities such as eating, bathing, dressing, or getting around the home.

6 Conditions include Alzheimer's disease, arthritis, asthma, chronic obstructive pulmonary disease, diabetes, heart disease, stroke, and hearing, vision and speech impairments.

7 Obesity was defined as a body mass index (BMI) of ≥ 27.8 for males and ≥ 27.3 for females.

8 Regular exercise was defined as vigorous exercise lasting for 20 minutes or more at least three times per week.

9 Wasatch Front counties include Salt Lake, Utah, Weber, and Davis.

*** Sample size insufficient to produce population estimates.

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:

Bureau of Surveillance and Analysis
Office of Public Health Data
Utah Department of Health
PO Box 142101
Salt Lake City, UT 84114-2101
Phone: (801) 538-6108
E-mail: hlhda.phdata@state.ut.us

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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