

## MEASURING PHYSICAL ACTIVITY

Physical activity is a personal behavior that has been shown to have many health benefits. Regular physical activity can substantially reduce the risk of developing high blood pressure, heart disease, diabetes, obesity, colon cancer, and premature death. Physical activity can even improve mental health.<sup>1</sup>

In an attempt to measure physical activity levels in the adult population, the BRFSS has included physical activity questions since the survey began in 1984. The original questions measured leisure-time physical activity only, meaning primarily exercise or sports-related activities. The frequency and duration of the two activities that the respondents reported spending the

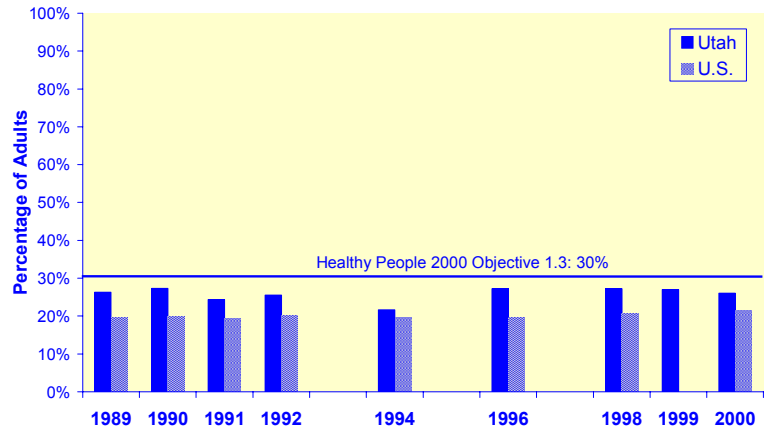
most time doing in the **past month** were added together to measure progress towards Healthy People 2000 Objective 1.3. Adults whose participation was calculated at 30

or more minutes/day on five or more days/week, regardless of intensity, were considered to have met the objective. Adults in the U.S. and in Utah never met the objective (Figure 1).

More recent studies have demonstrated that moderate levels of activity can have a greater health-related benefit than previously realized. Therefore, in 1995, the CDC and the American College of Sports Medicine established new physical activity guidelines that highlight the health value of moderate-intensity physical activity. The new guidelines recommend that all adults perform 30 or more minutes of moderate-intensity physical activity on most, and preferably all, days—either in a single session or “accumulated” in multiple bouts, each lasting at least 8-10 minutes.<sup>2</sup> In response to the updated recommendations, new BRFSS physical activity questions were developed and tested over a number of years.

**HP2000 Objective 1.3:**  
*Increase to at least 30% the proportion of people aged 6 and older who engage regularly, preferably daily, in light to moderate physical activity for at least 30 minutes a day (not age adjusted).*

Figure 1: Percentage of Persons Who Reported Regular Physical Activity\*, Adults Aged 18+, Utah and U.S., BRFSS, 1989-2000



\* Regular Physical Activity is defined as 30 or more minutes per day, 5 or more times per week, regardless of intensity. This measure includes leisure-time physical activities only.

### OLD PHYSICAL ACTIVITY QUESTIONS

**Physical Inactivity:** The next few questions are about exercise, recreation, or physical activities **other than your regular job duties**. During the past month, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?

**Physical Activity:** What type of physical activity or exercise did you spend the most time doing during the past month? (Choose from a list of activities.) If answered walk/run/jog/swim: How far did you walk/run/jog/swim?

How many times per week or per month did you take part in this activity during the past month?

And when you took part in this activity, for how many minutes or hours did you usually keep at it?

What other type of physical activity gave you the next most exercise during the past month? (Choose from the same list of activities.) If answered walk/run/jog/swim: How far did you walk/run/jog/swim?

How many times per week or per month did you take part in this activity during the past month?

And when you took part in this activity, for how many minutes or hours did you usually keep at it?

The new questions were first asked on the BRFSS in 2001. Like the previous questions, they include leisure-time activities, however, they also include household and transportation-related activities. The frequency and duration of moderate and vigorous activities that the respondents reported in a **usual**

**week** were added together to measure progress toward Healthy People 2010 Objective 22-2. If adults were found to participate in moderate physical activities for 30 or more minutes/day on five or more days/week **OR**

*HP2010 Objective 22-2: Increase the proportion of adults who engage regularly, preferably daily, in moderate physical activity for at least 30 minutes per day to 50% (age adjusted to the U.S. 2000 standard population).*

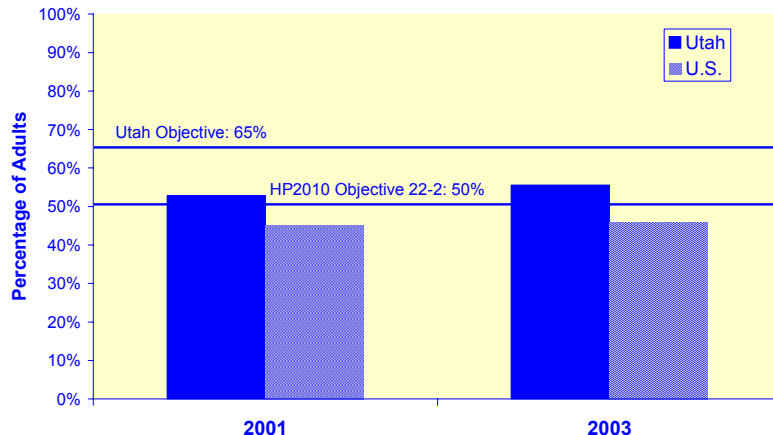
vigorous physical activities for 20 or more minutes/day on three days/week, they met the new objective. Since Utah adults have already met the national objective, the Utah Department of Health has set a Utah-specific objective of 65% for this measure (Figure 2).

Because of the changes to the 2001 BRFSS physical activity questions, the apparent increase in the proportion of adults who met physical activity recommendations in 2001 most probably does not reflect an actual increase in physical activity. First, the new 2001 lifestyle activity questions covered more activity domains. Second, the new questions asked about activities in a usual week rather than reporting the top two activities during the preceding month. Finally, in 2001, respondents were asked specifically to recall moderate- and vigorous-intensity activities separately, thereby increasing the potential to recall lower-intensity activities.

In 2003, the percentage of Utah adults who met the new moderate physical activity recommendation varied by sex and age. The percentage decreased significantly with age for both sexes (Figure 3).

A new question regarding work-related activity was included along with the new physical activity questions. Of the 65% of Utah adults who said they were employed for wages or self-employed,

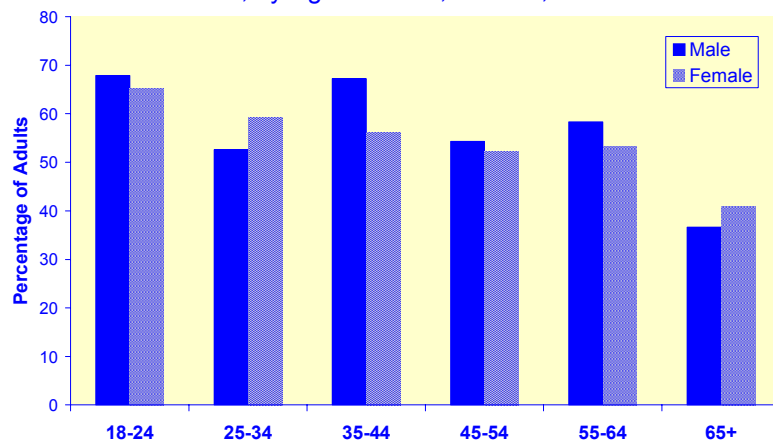
Figure 2: Age-adjusted Percentage\* of Persons Who Reported Recommended Physical Activity\*\*, Adults Aged 18+, Utah & U.S., BRFSS, 2001 & 2003



\* Age adjusted to the U.S. 2000 standard population.

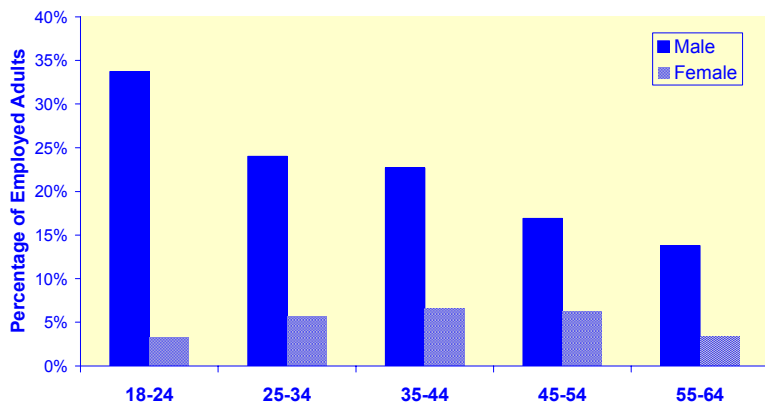
\*\* Recommended Physical Activity is defined as moderate physical activity for 30 or more minutes per day, five or more days per week or vigorous physical activity for 20 or more minutes per day, three or more days per week. This measure includes leisure-time, household, and transportation-related physical activities.

Figure 3: Percentage of Persons Who Reported Recommended Physical Activity\*, Utah Adults Aged 18+, by Age and Sex, BRFSS, 2003



\* Recommended Physical Activity is defined as moderate physical activity for 30 or more minutes per day, five or more days per week or vigorous physical activity for 20 or more minutes per day, three or more days per week. This measure includes leisure-time, household, and transportation-related physical activities.

Figure 4: Percentage of Employed Persons Who Reported Doing Mostly Heavy Labor While at Work, Utah Adults Aged 18-64, BRFSS, 2003



66% reported mostly sitting or standing at work, 18% mostly walked at work and 15% did mostly heavy labor or physically demanding work. Men were much more likely than women to report doing mostly heavy labor or physically demanding work (Figure 4).

What amount of physical activity is adequate to promote health? There remains much controversy around this question. The CDC Nutrition and Physical Activity Program recommends that adults should strive to meet either of the following physical activity recommendations: moderate-intensity physical activities for at least 30 minutes on five or more days of the week or vigorous-intensity physical activity three or more days per week for 20 or more minutes per occasion.<sup>3</sup>

### ***SUMMARY OF PHYSICAL ACTIVITY RECOMMENDATIONS FROM THE SURGEON GENERAL'S REPORT***

- All people over the age of two years should accumulate at least 30 minutes of endurance-type physical activity, of at least moderate intensity, on most—preferably all—days of the week.
- Additional health and functional benefits of physical activity can be achieved by adding more time in moderate-intensity activity or by substituting more vigorous activity.
- Persons with symptomatic CVD, diabetes, or other chronic health problems who would like to increase their physical activity should be evaluated by a physician and provided an exercise program appropriate for their clinical status.
- Previously inactive men over 40, women over age 50, and people at high risk for CVD should first consult a physician before embarking on a program of vigorous physical activity to which they are unaccustomed.
- Strength-developing activities should be performed at least twice per week. At least 8-10 strength-developing exercises that use the major muscle groups of the legs, trunk, arms, and shoulders should be performed at each session, with one or two sets of 8-12 repetitions of each exercise.

### ***NEW PHYSICAL ACTIVITY QUESTIONS***

**Physical Inactivity:** During the past 30 days, **other than your regular job**, did you participate in any physical activities or exercise such as running, calisthenics, golf, gardening, or walking for exercise?

**Work-related Activity:** When you are at work, which of the following best describes what you do: 1) mostly sitting or standing, 2) mostly walking, or 3) mostly heavy labor or physically demanding work?

**Physical Activity:** We are interested in two types of physical activity, vigorous and moderate. Vigorous activities cause large increases in breathing or heart rate while moderate activities cause small increases in breathing or heart rate.

Now thinking about the moderate physical activities you do (when you are not working) in a usual week, do you do moderate activities for at least 10 minutes at a time, such as brisk walking, bicycling, vacuuming, gardening, or anything else that causes small increases in breathing or heart rate?

How many days per week do you do these moderate activities at least 10 minutes at a time?

On days when you do moderate activities for at least 10 minutes at a time, how much total time per day do you spend doing these activities?

Now thinking about the vigorous physical activities you do (when you are not working) in a usual week, do you do vigorous activities for at least 10 minutes at a time, such as running, aerobics, heavy yard work, or anything else that causes large increases in breathing or heart rate?

How many days per week do you do these vigorous activities at least 10 minutes at a time?

On days when you do vigorous activities for at least 10 minutes at a time, how much total time per day do you spend doing these activities?

### **References**

1. CDC. Physical Activity and Health: report of the Surgeon General. Atlanta, Georgia: U.S. Department of Health and Human Services, CDC, 1996.
2. Pate RR, Pratt M, Blair SN, Haskell WL, Macera CA, Bouchar C, et al. Physical activity and public health: a recommendation from the Centers for Disease Control and Prevention and the American College of Sports Medicine. *Journal of the American Medical Association* 1995;273:402-407.
3. *Physical Activity Recommendations*, Retrieved July 21, 2004, from Centers for Disease Control and Prevention Web site: <http://www.cdc.gov/nccdphp/dnpa/physical/recommendations/index.htm>



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RETURN SERVICE REQUESTED

The Utah Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing effort by the Utah Department of Health in conjunction with the U.S. Centers for Disease Control and Prevention (CDC) to assess the prevalence of and trends in health-related behaviors in the non-institutionalized Utah adult population aged 18 years and older. The survey is supported in part by funds from Cooperative Agreement No. U58/CCU800572 from the CDC. Data are collected monthly from a random telephone sample of adults living in households with telephones. Utah has participated in the BRFSS continuously since 1984.

The BRFSS questionnaire is modified each year by the CDC in collaboration with participating state agencies. The questionnaire has three parts. The first part is a core set of questions that is asked by all states. The second part consists of a series of topical modules developed by the CDC. States have the option of adding modules as they wish. Utah has used several of the CDC modules. The final part of the questionnaire consists of questions designed and administered by individual states to address issues of local concern. These have been revised annually in Utah to maximize the survey's ability to address the needs of Utah's health programs.

Participants in the Utah BRFSS are asked about a wide variety of behaviors such as seat belt use, exercise, tobacco and alcohol consumption, health services utilization and basic demographic information. Participation in the BRFSS is completely anonymous and voluntary. Prior to analysis, BRFSS data are weighted so that the findings can be generalized to the Utah adult population. The Utah Department of Health would like to thank the citizens of Utah who have participated in this survey.

For more information about the Utah BRFSS, contact the Utah BRFSS Coordinator at the Utah Department of Health at (801) 538-6434. You may also visit the Utah Department of Health's website, at: <http://ibis.health.utah.gov>.

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