



# Statistical Notes

From the CENTERS FOR DISEASE CONTROL AND PREVENTION/National Center for Health Statistics

## Operational Definitions for Year 2000 Objectives: Priority Area 1, Physical Activity and Fitness

Yinong Chong, Richard J. Klein, Christine Plepys, and Richard Troiano

### Introduction

*Healthy People 2000*, with its Midcourse Revisions, presents 319 objectives to improve the health of Americans by the year 2000 (1,2). Because these objectives are national, not solely Federal, the achievement of these objectives is dependent in part on the ability of health agencies at all levels of government to assess objective progress. To permit comparison of local and State health data with national data and that of other States and localities, *Healthy People 2000* objective 22.3 targets the development, dissemination, and use of collection methods that improve comparability among data collected by all levels of government. The objective states:

Develop and disseminate among Federal, State, and local agencies procedures for collecting comparable data for each of the year 2000 national health objectives and incorporate these into Public Health Service data collection systems.

Achieving this objective entails determining and defining the information needed to measure progress toward each national health objective. The purpose of this *Statistical Note* is to provide definitions and data collection specifications for objectives in Priority Area 1: Physical Activity and Fitness, 1 of 22 priority areas of *Healthy People 2000*.

**Table 1** is a data comparability worktable presenting the operational definition (numerator and denominator where

applicable) for each objective, national data source, and a brief description of data issues. The text of the report provides more information on the data issues for each objective and the questionnaire items used to measure the objectives as appropriate. Full text of the objectives for Priority Area 1 can be found in [appendix A](#). Additional references for expanded discussions of some of the major data systems are provided in [appendix B](#).

### Objective 1.1: Coronary heart disease deaths

Objective 1.1 is listed here because physical activity has been demonstrated to have protective effects for coronary heart disease. The deaths attributable to coronary heart disease are identified using *Ninth Revision, International Classification of Diseases* (ICD) ICD-9 codes 402, 410-414, and 429.2, and are obtained from the National Vital Statistics System (NVSS) of the National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention (CDC). The ICD-9 codes included in this objective are different from the codes included in the category "diseases of the heart" normally presented in national and international mortality volumes. The mortality rate (deaths per 100,000 population) is calculated by using the midyear U.S. resident population as the denominator. The rate is age adjusted to the 1940 U.S. standard population. The black population is included as a special population target.



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## Objective 1.2: Overweight prevalence

The primary data source for this objective is the National Health and Nutrition Examination Surveys (NHANES) conducted by NCHS, which provides baselines and updates for adults 20–74 years of age and for adolescents 12–19 years of age. Overweight for adults is defined as a body mass index (BMI) at or above the sex-specific 85<sup>th</sup> percentile of the 1976–80 NHANES II reference population (20–29 years of age excluding pregnant women). Overweight for adolescents is defined by the sex- and age-specific 85<sup>th</sup> percentile of the NHANES II reference population (see [table 1](#) for specific BMI cut-off values). For the proposed *Healthy People 2010* objective overweight/obesity is defined as those at or above the 95<sup>th</sup> percentile from the revised CDC/NCHS growth charts. For Cuban, Puerto Rican, and Mexican-American females 20–74 years old, baseline measures are from the Hispanic Health and Nutrition Examination Survey (HHANES), an examination survey targeting the Hispanic population only. Progress for Mexican-American males and females 20–74 years of age is tracked by NHANES III. Baselines and updates for black females 20–74 years old, people with low income (annual family income below the U.S. Bureau of the Census poverty threshold), and people with high blood pressure (blood pressure greater than or equal to 140 mm Hg systolic and/or 90 mm Hg diastolic and/or taking antihypertensive medication) are also provided by NHANES data. NHANES and HHANES use measured weights and heights without shoes to compute BMI (weight in kilograms/height in meters<sup>2</sup>).

Self-reported weights and heights from the National Health Interview Survey (NHIS) conducted by NCHS are used as a secondary data source for updates for Hispanic females 20 years and over and for baseline and updates for people with disabilities 20 years and over. The baseline for American Indians or Alaska Natives is from several tribe-specific studies (3,4,5) and progress is tracked by NHIS. Because the sample size for American Indians/Alaska Natives 20–74 years of age in NHIS is small, the resultant sampling error is large. This large sampling error probably accounts for some of the annual fluctuations in overweight prevalence in this population group.

NHANES and NHIS data show a steady increase in prevalence of overweight. However, the magnitude of the increase observed from the two surveys is different. Comparisons of measured and self-reported heights and weights show that misreports of heights and weights affect the accuracy of the self-reported BMI. Generally, self-reported data from women tend to underestimate overweight and severe overweight, but overestimate underweight. Self-reported data from men underestimate overweight, severe overweight, and underweight (6). Because the data show such different results, self-reported data are used to track the overweight objectives only if measured height and weight data are not available. Any comparisons made regarding trends and prevalence of

overweight between NHIS and NHANES data warrant caution.

Although the objective specifically targets the adult population 20 years and over, most overweight tracking measures are restricted to the age group 20–74 years for the purpose of consistency and comparison with baseline NHANES II data, which did not include subjects 75 years and older.

## Objective 1.3: Light to moderate physical activity

Physical activity as a recognized risk factor for health outcomes was a relatively new concept when the *Healthy People 2000* objectives were being developed, contributing to present difficulties in measuring and tracking some of the objectives that specifically address physical activity. Measurements vary from simple counts of activities to complex formulas used to calculate average kilocalorie expenditure. Because the intent of objective 1.3 is to emphasize the importance of regular physical activities that confer considerable health benefits and are more likely to be adopted and maintained throughout one's lifetime, the intensity of the physical activity is not considered in measuring this objective. Therefore, any activities that require continuous rhythmic muscular movement at least equivalent to sustained walking fit the definition of light to moderate physical activity. This objective is measured by the percent of persons who participated in one physical activity or more for at least 30 minutes per occasion for five times or more or seven times per week or more.

The original baselines published in *Healthy People 2000* are from the Behavioral Risk Factor Surveillance System (BRFSS); the revised baseline from the *Midcourse Review* and updates for the objective are derived from NHIS data. The list of activities asked by NHIS has not been identical from year to year. The 1985 and 1990 surveys did not ask about some activities for people 65 years and over; thus, the data are for people 18–64 years of age. The 1991 and 1995 surveys asked about some different activities than the previous surveys, but people of all age groups were asked the same questions. (See [figure 1](#) for the questions used to assess physical activity.) Because of these differences, data from 1985 and 1990 are not comparable to 1991 and 1995 data.

Although this objective calls for proportion of people 6 years and over who participate in light to moderate physical activities, no data are available for people 6–17 years of age.

## Objective 1.4: Vigorous physical activity

For adults ages 18 years and over, vigorous physical activity is measured in NHIS by the percent of persons who reported one or more of the listed activities performed three times or more per week for at least 20 minutes each time, with an energy expenditure equal to or greater than 50 percent of maximum cardiorespiratory capacity (MCC) (refer to [figure 1](#)). The predicted maximum cardiorespiratory capacity is estimated using age- and sex-based regression

**Figure 1. 1995 National Health Interview Survey physical activity questions**

- In the past 2 weeks, beginning Monday, (date), and ending this past Sunday, (date), have you done any of the following exercises, sports, or physically active hobbies—
  - (1) Walking for exercise?
  - (2) Gardening or yard work?
  - (3) Stretching exercises?
  - (4) Weight lifting or other exercises to increase muscle strength?
  - (5) Jogging or running?
  - (6) Aerobics or aerobic dancing?
  - (7) Riding a bicycle or exercise bike?
  - (8) Stair climbing?
  - (9) Swimming for exercise?
  - (10) Playing tennis?
  - (11) Bowling?\*
  - (12) Playing golf?\*
  - (13) Playing baseball or softball?
  - (14) Playing handball, racquetball, or squash?
  - (15) Skiing? [Downhill? Cross-country? Water?]\*
  - (16) Playing basketball?
  - (17) Playing volleyball?
  - (18) Playing soccer?
  - (19) Playing football?
  - (20) Have you done any (other) exercises, sports, or physically active hobbies in the past 2 weeks? (If yes)—What were they? Anything else?
- How many times in the past 2 weeks did you [go/do] (activity)?
- On the average, about how many minutes did you actually spend (doing) (activity) each time?
- What usually happened to your heart rate or breathing when you [did/went] (activity)?
- Did you have a small, moderate, or large increase, or no increase at all in your heart rate or breathing?

\* Information was not obtained on time spent on activity or increase in heart rate or breathing for these activities.

SOURCE: 1991 and 1995 Supplement Booklets, National Health Interview Survey, National Center for Health Statistics, CDC.

equations. The formula for males is  $MCC=[60-(0.55 \times \text{Age})]/3.5$ ; for females,  $MCC=[48-(0.37 \times \text{Age})]/3.5$ .

To assess metabolic expenditure for each activity, an intensity value (expressed in MET units) is assigned based on the predicted rate of energy expenditure for that activity (7). One MET is defined as the energy expenditure for sitting quietly, which for the average adult is about 1 kilocalorie per kilogram body weight per hour (kcal/kg body wt/hr). The MET value for an activity is the ratio of the metabolic expenditure for that activity divided by the resting metabolic rate (see figure 2 for MET values assigned to specific physical activities). If the MET value of an activity is equal to or greater than 50 percent of a person’s MCC, and the person performs the activity for 20 minutes per occasion or more, that counts as one vigorous physical activity. Again, the list of activities asked by NHIS is not identical from year to year. Please refer to objective 1.3.

Baseline data for students in grades 5–12 (10–17 years of age) are from the first National Children and Youth Fitness Study (NCYFS I) conducted by the Office of Disease Prevention and Health Promotion (ODPHP). Using nationally representative samples, the NCYFS I collected data from students in grades 5–12 from public, private, and parochial schools across the Nation. Although a different term was used, the definition for “appropriate physical activity” adopted by NCYFS I is similar to the definition of “vigorous physical activity” used by the NHIS for adults. It

**Figure 2. MET values for physical activities with increased heart rate or breathing**

Physical activity	Increase in heart rate/breathing		
	Small	Moderate	Large
Walking . . . . .	3.0	3.5	6.5
Gardening/yard work . . . . .	3.0	5.0	6.0
Weight lifting . . . . .	3.0	5.0	7.0
Jogging/running . . . . .	8.0	11.0	13.0
Aerobics/other dancing . . . . .	5.0	6.0	7.0
Bicycle riding . . . . .	4.5	7.5	12.0
Swimming . . . . .	6.0	8.0	10.0
Playing tennis . . . . .	5.0	7.0	9.0
Bowling† . . . . .	---	3.0	---
Playing golf† . . . . .	---	4.5	---
Baseball or softball . . . . .	2.5	5.0	5.0
Handball, racquetball, or squash . . . . .	8.0	12.0	12.0
Skiing . . . . .	7.0	8.0	9.0
Playing basketball . . . . .	6.0	8.0	9.0
Playing volleyball . . . . .	3.0	4.0	8.0
Playing soccer . . . . .	5.0	7.0	10.0
Playing football . . . . .	5.0	8.0	9.0

† Information was not obtained on increase in heart rate or breathing for these activities.

--- Data not available.

SOURCE: Adapted from (1) Stephens T and Craig CL. Fitness and activity measurement in the 1981 Canada Fitness Survey. In: Drury TF, editor. Assessing Physical Fitness and Physical Activity in Population-Based Surveys. National Center for Health Statistics. DHHS Pub. No. (PHS)89-1253. Public Health Service. Washington. U.S. Government Printing Office. 1989; and (2) Ainsworth BE, Haskell WL, Leon AS, Montoye HJ, Sallis JF, Paffenbarger RS. Compendium of physical activities: Classification of energy costs of human physical activities: Medicine and science in sports and exercise. 25(1):71–80. 1993.

referred to appropriate physical activity as “exercise which involves large muscle groups in dynamic movement for periods of 20 minutes or longer, three times or more a week, and which is performed at an intensity requiring 60 percent or greater of an individual’s cardiorespiratory capacity” (8). The term “appropriate physical activity” was used because of the belief that such activity, if performed with sufficient frequency and duration, would yield appropriate cardiorespiratory effect.

NCYFS I posed two series of questions related to appropriate physical activity. First, students were asked to select the 10 activities most frequently performed in a setting other than physical education class. For each of these 10 activities, students were to indicate the seasons in which they participated in the activity the most and, for each season, the frequency and duration of the activity. Second, students were asked, in each of the four seasons, how often they typically participated in physical activities that made them sweat and breathe hard for 20 minutes or more.

The frequency and duration of the top 10 activities for each season were used to compute the total annual activity time, which was divided by 52 to yield a weekly activity time. The intensity of reported activities was imputed based on mean kilocalorie expenditure ratings, similar to the MET’s developed for adults. Unrated activities were assigned a kilocalorie expenditure level based on similarity to rated activities. Over two dozen activities typically requiring an expenditure of at least 7 kilocalories per minute were categorized as vigorous physical activities. Activities in which students commonly engaged, such as basketball, bicycle riding, jogging, and jumping rope, were included

among this high-intensity activity category (9). Because no updates are available from NCYFS surveys, progress has been tracked by the Youth Risk Behavior Survey (YRBS), which is a school-based survey using representative samples of students in grades 9–12 at national, State, and local levels. It is part of the on-going Youth Risk Behavior Surveillance System of the National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP), CDC, that monitors health risk behaviors among youth and young adults. Physical activity is one of the six categories of priority health risk behaviors being monitored (10). In this survey, vigorous physical activity is measured by the percent of students in grades 9–12 who have had at least 20 minutes of hard exercise that made them sweat and breathe heavily 3 days per week or more (see [figure 3](#)).

**Figure 3. Youth Risk Behavior Survey question on vigorous physical activity for students in grades 9–12**

- On how many days of the past 7 days did you exercise or participate in sports activities for at least 20 minutes that made you sweat and breathe hard, such as basketball, jogging, swimming laps, tennis, fast bicycling, or similar aerobic activities? (Reporting options: 0–7 days a week.)

SOURCE: 1993, 1995, and 1997 Youth Risk Behavior Survey, National Center for Chronic Disease Prevention and Health Promotion, CDC.

NCYFS and YRBS are not comparable. The NCYFS measure involves calculation of energy expenditure, whereas the YRBS measure is based on awareness of sweating and rapid heart beat. Further, the weekly activity time in NCYFS was computed based on measured activity level for each of the four seasons, whereas YRBS measure uses a reference period of the past 7 days without considering seasonal variations. Also, NCYFS asked for activities performed *outside* of physical education classes, but YRBS does not make such specification.

Data from NCYFS suggest that physical activities vary considerably by seasons, and that most physical activities of children and adolescents are organized by communities such as churches, parks and recreation programs, local sports teams, and private organizations (11). These data indicate that it is important to monitor trends and patterns of participation in physical activity in addition to school physical education programs, and that continued attention should be given to tracking seasonality in physical activities. Subpopulations targeted by this objective include lower-income people, blacks, and Hispanics.

### Objective 1.5: Sedentary lifestyle

For persons 18 years and over, sedentary lifestyle is measured by the percent of people who reported no leisure-time physical activities in NHIS. For this objective, the same set of physical activity questions for objectives 1.3 and 1.4 is used (refer to [figure 1](#)). A problem with this definition is that people who report no leisure-time physical activity may not necessarily have a sedentary lifestyle, because their jobs may require regular or vigorous physical activity. NHIS has asked about hard physical work required

on the job, but the question was not included when measuring this objective. No data are available for children 6–17 years of age.

Special population targets include people 65 years and over, people with disabilities, lower-income people, blacks, Hispanics, and American Indians or Alaska Natives.

### Objective 1.6: Muscular strength, endurance, and flexibility

Regular performance of physical activities that enhance and maintain muscular strength, endurance, and flexibility generally requires participation in a variety of physical activities because few activities will satisfy all three factors. However, scoring parameters for strength, endurance, and flexibility are not yet available. Until research into these areas can provide such measures, this objective is tracked using data from NHIS on an activity that increases muscular strength (weight lifting) and an activity that increases flexibility (stretching). For the years 1985 and 1990, people 65 years and over were not asked the weight-lifting questions; thus, weight-lifting data are shown for ages 18–64 years for comparability across all 3 years (1990, 1991, and 1995).

For students in grades 9–12, self-reported data from the YRBS are used to measure the percent of students who participated in stretching exercises performed 4 days per week or more and the percent of students who performed strengthening exercises 4 days per week or more (see [figure 4](#)).

**Figure 4. Youth Risk Behavior Survey questions on muscular strength, endurance, and flexibility**

- On how many days of the past 7 days did you do exercises to strengthen or tone your muscles, such as push-ups, sit-ups, or weight lifting?
- On how many days of the past 7 days did you do stretching exercises, such as toe touching, knee bending, or leg stretching?

SOURCE: 1993, 1995, and 1997 Youth Risk Behavior Survey, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Objective 1.6 targets the population 6 years and over, but no data are available for children 6–13 years of age.

### Objective 1.7: Sound weight loss practices among overweight people 12 years and over

This objective is monitored with NHIS data to estimate the proportion of overweight people who are currently trying to lose weight by eating fewer calories and exercising more. The 1985 and 1990 NHIS questionnaires asked respondents who reported they were trying to lose weight specifically if they were eating fewer calories to lose weight and if they were increasing their physical activity to lose weight with two separate questions (see [figure 5](#)). Respondents who answered “yes” to both questions constitute the numerator, while the respondents whose BMI met the definition of overweight is the denominator (see [table 1](#) for BMI reference values and the definition of overweight in the text for objective 1.2).

**Figure 5. 1985 and 1990 National Health Interview Survey questions on weight loss practices**

- Are you now trying to lose weight?
- Are you eating fewer calories to lose weight?
- Have you increased your physical activity to lose weight?

SOURCE: 1985 Health Promotion and Disease Prevention Supplement, National Health Interview Survey, National Center for Health Statistics, CDC.

In the 1991, 1993, and 1995 NHIS surveys, eating fewer calories and exercising more were among a list of possible choices for losing weight (see figure 6) in response to the weight-loss question. Respondents were asked this list only if they reported trying to lose weight or stay about the same weight. Similar to the earlier surveys, the objective is tracked by the percent of overweight people who reported using weight-losing methods by eating fewer calories and exercising more. Despite the attempt to link diet and exercise together as a measure of sound weight-loss practices, an assessment of the quality of dietary practices has not yet been coupled with a measure of regular physical activity. This measurement should be considered as a proxy.

**Figure 6. 1991, 1993, and 1995 National Health Interview Survey questions on weight loss practices**

- Are you NOW trying to lose weight, gain weight, stay about the same or are you not trying to do anything about your weight? — Lose weight; Gain weight; Stay about the same; Not trying to do anything.

If trying to lose weight or stay about the same:

- Are you currently doing any of these things to control your weight? —
  - (1) Joined a weight loss program.
  - (2) Eating fewer calories.
  - (3) Eating special products, such as canned or powdered food supplements.
  - (4) Exercising more.
  - (5) Fasting for 24 hours or longer.
  - (6) Skipping meals.
  - (7) Taking diet pills.
  - (8) Taking laxatives.
  - (9) Taking water pills or diuretics.
  - (10) Vomiting.
  - (11) Eating less fat [not in 1991].
  - (12) Something else-Specify.
  - (00) Nothing.

SOURCE: 1991, 1993, and 1995 Supplement Booklets, National Health Interview Survey, National Center for Health Statistics, CDC.

**Objective 1.8: Daily school physical education**

A point of concern for physical education (PE) at school is that PE classes are not held with adequate frequency. Daily classes are strongly recommended. This objective stresses the daily participation of PE class by tracking those students who reported participating in PE class 5 days a week at school. Three different data sources have been used to monitor this objective. Baseline data for students in grades 1–12 were derived from two surveys: NCYFS I for students in grades 5–12 and NCYFS II for grades 1–4 (see objective 1.4 for a description of these surveys). Both studies found that 36 percent of students participated in PE classes daily. Therefore, a combined baseline of 36 percent for grades 1–12 was possible. However, the frequency of PE class participation varied considerably by sex and grade in the NCYFS data.

This objective is tracked with data from two other surveys, because no updates are available from NCYFS. YRBS is used to track progress for students in grades 9–12. The measurement from YRBS monitors percent of students who participate in PE class daily at school (see figure 7).

Data are also being tracked for middle/junior high and senior high school students using the School Health Policies and Programs Study (SHPPS) conducted by the NCCDPHP at CDC (see figure 8). For junior high schools, the objective tracks separately the participation of students with 1 year or 2 years of PE; for senior high schools, the objective monitors separately those with 1 year, 2 years, or 3 years of PE classes. YRBS and SHPPS are not directly comparable; SHPPS obtains information from schools or physical education teachers to assess daily PE class participation of the students in specified grades, whereas YRBS questions students directly.

**Figure 7. Youth Risk Behavior Survey question on daily school physical education**

- In an average week when you are in school, on how many days do you go to physical education (PE) classes?

SOURCE: 1993, 1995, and 1997 Youth Risk Behavior Survey, National Center for Chronic Disease Prevention and Health Promotion, CDC.

**Figure 8. School Health Policies and Programs Study questions on daily school physical education**

- During *required* physical education courses, how many *days per week* do students attend class?
  - (1) 1 day
  - (2) 2 days
  - (3) 2 days per week/3 days the next
  - (4) 3 days
  - (5) 4 days
  - (6) 5 days
  - (7) Differs by grade—GO ON TO NEXT QUESTION

- How many days per week do students attend required physical education courses *by grade* in your school?

	Days per week
(1) 6th grade . . . . .	_____
(2) 7th grade . . . . .	_____
(3) 8th grade . . . . .	_____
(4) 9th grade . . . . .	_____
(5) 10th grade . . . . .	_____
(6) 11th grade . . . . .	_____
(7) 12th grade . . . . .	_____

SOURCE: 1994 School Health Policies and Programs Study, National Center for Chronic Disease Prevention and Health Promotion, CDC.

**Objective 1.9: Active physical education class time**

The amount of actual activity time in PE class per week may be a more important indicator than frequency of PE classes because classes vary in length from 20 minutes to over an hour. Objective 1.9 specifically targets the time spent in school physical education classes devoted to activities that may be readily carried into adulthood because their performance requires only one or two people. The proxy measure for this objective is the percent of class time spent in actual physical activities such as walking, swimming, bicycling, jogging, and racquet sports. Data are derived from three different sources for specified target populations.

The 1983 baseline data show the percent of physical education class time spent in physical activities for students of all grades. These data were obtained in special research studies (12).

Updates for students in grades 9–12 are from YRBS data. There are two measures: The percent of students in grades 9–12 who exercised in physical education class at least 21 minutes for three to five times a week, and the percent who exercised at least 30 minutes for one time per week or more. YRBS measures are derived from two questions: PE class time spent on actively exercising (see figure 9) and the frequency of PE classes per week (see figure 7 above).

**Figure 9. Youth Risk Behavior Survey question on active education class time**

- During an average physical education (PE) class, how many minutes do you spend actually exercising or playing sports?
  - I do not take PE.
  - Less than 10 minutes.
  - 10 to 20 minutes.
  - 21 to 30 minutes.
  - More than 30 minutes.

SOURCE: 1993, 1995, and 1997 Youth Risk Behavior Survey, National Center for Chronic Disease Prevention and Health Promotion, CDC.

A second update data source is SHPPS. Data for 1995 from SHPPS measures the proportion of physical education teachers devoting class time to five specific activities: Jogging, tennis, aerobic dance, walking, or swimming. Altogether, 86 activities were listed on a handcard presented to PE classroom teachers, but only five of the activities were used to measure this objective. These activities were chosen because they can be readily carried into adulthood. Each of the five activities is tracked separately (see figure 10).

**Figure 10. School Health Policies and Programs Study questions on active education class time**

- Looking at Handcard #2, which is in alphabetical order, please tell me the major activities, by number, that you taught in your course. By major activities, I mean those on which you spent the majority of your class periods. **THEN ASK:** Approximately how many class periods did you spend on each major activity? **RECORD THE NUMBER (1–86) OF EACH MAJOR ACTIVITY COVERED IN COLUMN 1. RECORD THE NUMBER OF CLASS PERIODS FOR EACH ACTIVITY IN COLUMN 2. THEN ASK:** Did you cover any other activities that aren't listed? **RECORD FOR (87) OTHER IN COLUMN 1 AND NUMBER OF CLASS PERIODS IN COLUMN 2.**

(1)	(2)
ACTIVITY NUMBER	NUMBER OF CLASS PERIODS
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
87. Other topics (specify):	_____
_____	_____
_____	_____

SOURCE: 1994 School Health Policies and Programs Study, National Center for Chronic Disease Prevention and Health Promotion, CDC.

## Objective 1.10: Worksite fitness programs

The 1985 baseline and 1992 tracking data for this objective are measured by the percent of worksites offering employer-sponsored fitness programs in the past 12 months, such as special events or competition, individual testing and counseling, group classes or workshops, exercise equipment or facilities, and subsidized memberships (see figure 11). The target population for the 1985 and 1992 National Survey of Worksite Health Promotion Activities (NSWHPA) was all worksites in the private sector with 50 employees or more, which represented over 50 percent of the workforce (13). Worksites, as opposed to companies, were selected as the unit of data collection because many large companies have different activities at different worksites. The telephone survey sample was drawn separately for worksites with 50–99 employees and for worksites with 100 employees or more, using the December 1984 Dun and Bradstreet list of businesses as the sampling frame.

This objective targets only the proportion of worksites offering any worksite fitness programs. The overall quality of these programs/activities is not addressed by this measure, even though NSWHPA also collected detailed information on the fitness activities, such as source of the program, budget, and use of outside providers. Moreover, only worksites in the private sector were studied, which leaves out the country's largest employer—Government agencies at all levels. No data source has been identified to track worksite programs sponsored by Government agencies.

In 1995 an update of the proportion of worksites offering group classes, workshops, or lectures was provided by the Business Responds to AIDS Benchmark Survey, conducted by the National Center for HIV, STD, and TB Prevention, CDC (see figure 12). Telephone survey methodology similar to that used by NSWHPA was used.

**Figure 11. 1992 National Survey of Worksite Health Promotion Activities questions on worksite facilities, information, and activities to promote exercise and physical fitness**

- During the past 12 months, did this worksite offer:
  - A locker room with showers?
  - An indoor area set aside specifically for exercise and physical fitness activities?
  - Aerobic exercise equipment such as stationary cycles, stairmasters, or indoor running tracks?
  - Strength training equipment?
  - Outdoor facilities such as a jogging trail?
  - Fitness evaluations or testing?
  - Individual counseling?
  - Group classes, workshops, lectures, or special events?
  - Recreational programs such as softball teams?
  - Formal fitness challenges or campaigns?
  - Resource materials such as posters, brochures, pamphlets, or videos?

SOURCE: 1992 National Survey of Worksite Health Promotion Activities. Office of Disease Prevention and Health Promotion.

**Figure 12. 1995 Business Responds to AIDS Benchmark Survey questions on worksite health promotion or wellness programs addressing physical activity and fitness**

- First, we'll ask about health promotion or wellness programs. By this we mean formal, planned sessions that address any health-related issue and that are offered on a regular basis.
- During the past 12 months, has your company offered any health promotion or wellness programs?

SOURCE: 1995 Business Responds to AIDS Benchmark Survey, National Center for HIV, STD, and TB Prevention, CDC.

**Objective 1.11: Community fitness facilities**

This objective intends to increase community availability and accessibility of physical activity and fitness facilities such as hiking, biking, and fitness trails, public swimming pools, and acres of park and recreation open space. The 1986 baseline data derive from the Municipal and County Park and Recreation Study conducted by the National Recreation and Park Association (14). No data for tracking progress are available.

**Objective 1.12: Clinician counseling about physical activity**

This objective measures clinician counseling of patients on physical activity. The baseline on the proportion of sedentary patients counseled is from a survey of the American College of Physicians (ACP). This survey, which was administered in 1988 only, was a random stratified sample of ACP members drawn from 21 geographic regions yielding an initial sample of 1,251 internists.

Updates for monitoring this objective are obtained from the Primary Care Provider Surveys (PCPS), Office of Public Health and Science, Office of Disease Prevention and Health Promotion. The sampling frame for internists in the 1992 PCPS also contained a random stratified sample of ACP members, but was drawn from four geographic regions with oversampling of female members, yielding an initial sample of 1,200 internists. Additional provider groups sampled in the 1992 PCPS included the American Academy of Family Physicians, the American Academy of Pediatricians, the American College of Obstetricians and Gynecologists, and the National Association of Nurse Practitioners.

Data on assessment and inquiry about exercise habits and counseling on formulation of an exercise plan are provided by the 1992 PCPS (see figure 13). The five primary care professional associations compiled and analyzed the data. The measures are the proportion of providers, broken out by provider type, who reported providing recommended services to 81 to 100 percent of their patients. Because the providers sampled were members of selected professional organizations, the data may not be representative of all primary care providers. Response rates across provider groups were varied, ranging from 50 to 80 percent (15). Data were based on self-report; therefore, services provided may be lower than what was reported by the clinicians participating in PCPS (15).

PCPS, with some modification, was readministered in 1998 through the coordination of the American College of

Preventive Medicine. Response rates were very low; updates were only obtained for the provision of exercise counseling services for 81 to 100 percent of their patients by nurse practitioners.

**Figure 13. 1992 Primary Care Provider Surveys questions on clinician counseling about physical activity**

Counseling/Treatment

Please answer the following questions about patients' receipt of counseling/treatment services in terms of the percentage of your patients *who need the interventions*, not the percentage of your total patient population. For example, only 20 percent of your total population may receive counseling about smoking; however, this 20 percent may represent 85 percent of your patients who smoke. Therefore, the proper answer would be 80 to 100 percent (based on 85 percent).

Please place an "X" in the box that best estimates the percentage of your current patients (for whom you are the primary care provider) who routinely receive each service. Please note that these services need not be provided by you personally, but can be provided by your office staff or another health care professional.

For all ages unless otherwise specified:

■ Inquiry about physical exercise habits

- 0–20 percent
- 21–40 percent
- 41–80 percent
- 81–100 percent
- Not applicable.

■ Formulation of an exercise plan

- 0–20 percent
- 21–40 percent
- 41–80 percent
- 81–100 percent
- Not applicable.

SOURCE: 1992 Primary Care Provider Surveys, Office of Public Health and Science, Office of Disease Prevention and Health Promotion.

**Objective 1.13: People with self-care problems**

Objective 1.13 was added as a shared objective with objective 17.3 during the 1995 midcourse modifications because physical activity can help older adults maintain their abilities to perform self-care activities, thereby preserving their independence. This objective tracks the proportion of persons 65 years and over who reported having difficulty in performing two daily living activities or more.

The 1984–85 baseline figures for this objective were derived by combining estimates for the noninstitutionalized population from the 1984 NHIS Supplement on Aging (SOA) with data for those in nursing homes from the 1985 National Nursing Home Survey (NNHS). The 1984 SOA asked about seven specific personal care activities, also referred to as activities of daily living (ADL's) for persons 65 years and over. Because of the way the questions were asked on NNHS, only the five ADL's shown in figure 14 were used for this objective. The numerator included respondents to SOA who said they had "any difficulty" performing at least two ADL's plus patients for whom administrators reported to NNHS as "receiving assistance" with at least two ADL's (figure 13). The denominator for the baseline was the civilian, noninstitutionalized population 65 years and over plus the nursing home population 65 years and over. The update for this objective is derived from

combined data from the 1994 NHIS Second Supplement on Aging (SOA II) and data from the 1995 NNHS using the same questions as were used for the baseline. However, because of the way data were collected in SOA II, the 1994–95 update is for persons 70 years and over. The 1984–85 data have also been computed for ages 70 years and over to provide a comparison with the 1994–95 update.

**Figure 14. Questions on self-care problems**

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National Health Interview Survey questions:

- Because of health or a physical problem, do you have ANY difficulty—
  - (1) Bathing or showering?
  - (2) Dressing?
  - (3) Eating?
  - (4) Getting in and out of bed or chairs?
  - (5) Using the toilet, including getting to the toilet?

National Nursing Home Survey questions:

- Does \_\_\_\_\_ receive any assistance in—
  - (1) Bathing or showering?
  - (2) Dressing?
  - (3) Eating?
  - (4) Transferring in and out of bed or chair?
  - (5) Using the toilet room?

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SOURCE: 1984 and 1994 Supplements on Aging, National Health Interview Survey, and the 1985 and 1995 National Nursing Home Surveys, National Center for Health Statistics, CDC.

**Table 1. Objective definitions, data sources, and issues for Healthy People 2000 priority area 1**

Objective	Measure	Operational definition		Healthy People 2000 data source	Data issues
		Numerator	Denominator		
<p><b>1.1 Coronary heart disease deaths</b></p> <p>– <i>Special population:</i> a. Black</p>	Rate per 100,000 population	Deaths from coronary heart disease  ICD–9 codes 402, 410–414, and 429.2.	Midyear U.S. resident population.	NVSS, CDC, NCHS	Data are age adjusted to the 1940 U.S. standard population.  The ICD–9 codes included in this objective are different from the codes included in the category “diseases of the heart” normally presented in national and international mortality volumes.
<p><b>1.2 Overweight prevalence</b></p> <p>– Adults 20–74 years Males Females</p> <p>– Adolescents 12–19 years</p> <p>– <i>Special populations:</i> a. Low-income females 20–74 years b. Black females 20–74 years c. Hispanic females 20–74 years Mexican American females 20–74 years Cuban females 20–74 years Puerto Rican females 20–74 years d. American Indians/Alaska Natives 20 years and over e. People with disabilities 20 years and over f. Females with high blood pressure 20–74 years g. Males with high blood pressure 20–74 years h. Mexican American males 20–74 years</p>	Percent	<p>Persons of specified groups whose body mass index (BMI = weight in kilograms/height in meters<sup>2</sup>) is at or above the following reference values:</p> <p>Overweight in men 20 years and over: BMI ≥ 27.8 kg/m<sup>2</sup></p> <p>Overweight in women 20 years and over: BMI ≥ 27.3 kg/m<sup>2</sup></p> <p>Overweight in boys 12–14 years of age: BMI ≥ 23.0 kg/m<sup>2</sup> 15–17 years of age: BMI ≥ 24.3 kg/m<sup>2</sup> 18–19 years of age: BMI ≥ 25.8 kg/m<sup>2</sup></p> <p>Overweight in girls 12–14 years of age: BMI ≥ 23.4 kg/m<sup>2</sup> 15–17 years of age: BMI ≥ 24.8 kg/m<sup>2</sup> 18–19 years of age: BMI ≥ 25.7 kg/m<sup>2</sup></p>	Civilian, noninstitutionalized U.S. population of interest.	<p>1.2, 1.2a, b, f, g: NHANES, CDC, NCHS</p> <p>1.2c: Baseline for Cuban, Puerto Rican and Mexican American females: HHANES, CDC, NCHS; updates for Mexican American females: NHANES III, CDC, NCHS; data for Hispanic females: NHIS, CDC, NCHS</p> <p>1.2d: Baseline: IHS, OPEL, PSD; updates: NHIS, CDC, NCHS</p> <p>1.2e: NHIS, CDC, NCHS</p> <p>1.2h: Baseline: HHANES, CDC, NCHS; updates: NHANES III, CDC, NCHS</p>	<p>Data are for the civilian, noninstitutionalized U.S. population only.</p> <p>The primary data source is NHANES, which provides measured heights and weights. When measured data are not available, self-reported heights and weights from NHIS and other sources are used. Self-reported data are not comparable to measured data.</p> <p>Data on persons 74 years and over are available from NHANES III but not in previous surveys. For comparability, most of the measures are restricted to 20–74 years of age.</p> <p>Lower income is defined as annual family income less than \$20,000 for a family of four members.</p>
<p><b>1.3 Moderate physical activity</b></p> <p>– People 6 years and over</p> <p>– People 18–74 years five times per week or more seven times per week or more</p> <p>– <i>Special populations:</i> a. Hispanics 18 years and over. five times per week or more</p>	Percent	<p>Persons 18–74 aged years whose reported sum of all physical activities lasted at least 30 minutes per occasion for five times a week or more or seven times a week or more.</p> <p>(See figure 1 for a complete list of activities.)</p>	Civilian, noninstitutionalized U.S. population.	NHIS, CDC, NCHS	<p>Data are for the civilian noninstitutionalized U.S. population 18 years and over.</p> <p>For years 1985 and 1990, the survey limited the list of activities for ages 65–74 years.</p> <p>The list of activities asked in 1985 and 1990 is different from the list asked in 1991, 1993, and 1995. Intensity of specific activities is not considered.</p>

**Table 1. Objective definitions, data sources, and issues for Healthy People 2000 priority area 1—Con.**

Objective	Measure	Operational definition		Healthy People 2000 data source	Data issues
		Numerator	Denominator		
<b>1.4 Vigorous physical activity</b> – Children and adolescents 10–17 years (grades 5–12)  – Students in grades 9–12  – People 18 years and over – <i>Special populations:</i> a. Lower-income people 18 years and over b. Blacks 18 years and over c. Hispanics 18 years and over	Percent	Students in grades 5–12 who participated in physical activity for at least 20 minutes three times a week or more with an intensity of 60 percent or greater of an individual’s cardiorespiratory capacity.	Number of students in grades 5–12.	For grades 5–12 (10–17 years): NCYFS I, OASH, ODPHP	Baseline data for children ages 10–17 years are from NCYFS I; no updates are available for this age group.  Updates for students in grades 9–12 from the YRBS are not comparable.
		Students in grades 9–12 who had activities that made them sweat and breathe hard at least 20 minutes per occasion 3 days per week or more.	Number of students in grades 9–12.	For grades 9–12: YRBS, CDC, NCCDPHP	Data on younger ages (6–9 years) are not yet available.  The list of activities asked in 1985 and 1990 is different from the list asked in 1991, 1993, and 1995.
		People 18 years and over who reported participating in one or more of the listed activities three times per week or more for at least 20 minutes per occasion with a kilo-calorie value equal to or greater than 50 percent of predicted maximum cardiorespiratory capacity.  <i>(See text for MCC computation.)</i>	Civilian, non-institutionalized U.S. population.	For ages 18 years and over: NHIS, CDC, NCHS  <i>(See figure 2 for a complete list of activities and their MET values.)</i>	Lower income is defined as annual family income less than \$20,000.  Data for people 18 years and over are for the civilian, noninstitutionalized population.
<b>1.5 Sedentary lifestyle</b> – People 6 years and over  – People 18 years and over  – <i>Special populations:</i> a. People 65 years and over b. People with disabilities c. Lower-income people d. Blacks 18 years and over e. Hispanics 18 years and over f. American Indians/ Alaska Natives 18 years and over	Percent	Persons 18 years and over who reported no leisure-time physical activity.	Civilian, noninstitutionalized U.S. population.	NHIS, CDC, NCHS	Data are for the civilian, noninstitutionalized population 18 years and over.  Data do not include physical activity performed on the job.  Lower income is defined as annual family income less than \$20,000.
<b>1.6 Muscular strength, endurance, and flexibility</b> – People 6 years and over Students in grades 9–12 • Stretching four times per week or more • Strengthening four times per week or more  – People 18–64 years. • Weight lifting • Stretching	Percent	Students in grades 9–12 who reported strengthening or stretching exercises 4 days per week or more.	Number of students in grades 9–12.	For grades 9–12: YRBS, CDC, NCCDPHP	Data are not available for ages 6–13 years. For ages 18–64 years, data are for the civilian, noninstitutionalized population only.  Scoring parameters for muscular endurance and flexibility are not yet available; thus, this objective is measured by reported activities on weight lifting and stretching for adults, and strengthening and stretching exercises for students in grades 9–12.
		People 18–64 years who reported weight lifting or stretching exercises	Civilian, noninstitutionalized U.S. population 18–64 years.	For people 18–64 years: NHIS, CDC, NCHS	

**Table 1. Objective definitions, data sources, and issues for Healthy People 2000 priority area 1—Con.**

Objective	Measure	Operational definition		Healthy People 2000 data source	Data issues
		Numerator	Denominator		
<b>1.7 Sound weight loss practices among overweight people 12 years and over</b> – Overweight males 18 years and over  – Overweight females 18 years and over  – <i>Special populations:</i> a. Overweight Hispanic males 18 years and over b. Overweight Hispanic females 18 years and over	Percent	Overweight persons (defined by BMI as in objective 1.2) who report currently trying to lose or control weight by eating fewer calories and exercising more.	Overweight people as defined by BMI.  (See objective 1.2 for definition.)	NHIS, CDC, NCHS	Data are for the civilian, noninstitutionalized U.S. population only.  Questions for 1985 and 1990 differ from questions asked in 1991, 1993, and 1995.  This measure is a proxy for “sound” weight loss practices.
<b>1.8 Daily school physical education</b> – Students in grades 1–12  – Students in middle/junior high schools  – Students in senior high schools	Percent	Students in specified grades who attended physical education daily at school.	Number of students in specified grades.	Baseline for grades 1–12: NCYFS I & II: OASH, ODPHP  Updates for grades 9–12: YRBS, CDC, NCCDPHP  Updates for middle/junior high or senior high schools: SHPPS, CDC, NCCDPHP	No updates are available for grades 1–12 from NCYFS.  YRBS and NCYFS are based on student respondents. SHPPS uses school or physical education teacher respondents.
<b>1.9 Active physical education class time</b> – All students  – Students in grades 9–12  – Physical education teachers	Percent	Physical education class time students spent in activities such as walking, swimming, biking, jogging, and racquet sports.	Total class time spent on physical education in school.	Baseline for all students: Siedentop D. Teaching Skills in Physical Education. Palo Alto, CA, Mayfield. 1983  Updates for grades 9–12: YRBS, CDC, NCCDPHP  For physical education teachers: SHPPS, CDC, NCCDPHP	No updates available except for students in grades 9–12.
<b>1.10 Worksite fitness programs</b> – 50–99 employees – 100–249 employees – 250–749 employees – 750 employees and more	Percent	Worksites offering employer-sponsored physical activity and fitness programs.	All worksites surveyed by number of employees.	NSWHPA, OPHS, ODPHP  (See text for programs and activities.)	Worksites, as opposed to companies, were selected as the point of data collection.  The target population was worksites in the private sector with 50 employees or more.

**Table 1. Objective definitions, data sources, and issues for Healthy People 2000 priority area 1—Con.**

Objective	Measure	Operational definition		Healthy People 2000 data source	Data issues
		Numerator	Denominator		
<b>1.11 Community fitness facilities</b> – Hiking, biking, and fitness trail miles  – Public swimming pools  – Acres of park and recreation open space	Number of facilities per specified populations:  Number of trail miles per 10,000 people  Number of pools per 25,000 people  Number of acres per 1,000 people	Number of specified fitness facilities available in the communities.	Population of the communities.	McDonald BL and Cordell HK. Local Opportunities for Americans: Final Report of the Municipal and County Park and Recreation Study, Alexandria, VA: National Recreation and Park Association. 1988	No data source has been identified to update the baseline.
<b>1.12 Clinician counseling about physical activity</b> – Inquiry about exercise habits  – Counseling on exercise plan	Percent	Number of clinicians within a specific discipline who reported providing assessment and counseling to 81 to 100 percent of their patients routinely.	Number of clinicians within a specific discipline.	1988 baseline: American College of Physicians Membership Survey of Prevention Practices in Adult Medicine.  1992 baseline and 1998 update: PCPS, OPHS, ODPHP	Data were collected from five separate surveys with various response rates. It is not possible to combine data from five clinician groups into one category.
<b>1.13 People with self-care problems</b> – People 65 years and over  – <i>Special populations:</i> a. People 85 years and over b. Blacks 65 years and over	Rate per 1,000 population.	People 65 years and over who reported having difficulty in performing two self-care activities or more plus people 65 years and over in nursing homes who reported receiving assistance with two self-care activities or more.	Number of people in the civilian, non-institutionalized population 65 years and over plus the number of people in the nursing home population.	NHIS, CDC, NCHS NNHS	Data from the 1984 NHIS were combined with data for the nursing home population from the 1985 NNHS. Data from the 1994 NHIS for 70 years and over were combined with data for the nursing home population from the 1995 NNHS. The 1984–85 data have also been computed for those 70 years and over to provide a comparison.

**Data system abbreviations:**

HHANES	Hispanic Health and Nutrition Examination Survey
NCYFS	National Children and Youth Fitness Study
NHANES	National Health and Nutrition Examination Survey
NHIS	National Health Interview Survey
NNHS	National Nursing Home Survey
NVSS	National Vital Statistics System
NSWHPA	National Survey of Worksite Health Promotion Activities
PCPS	Primary Care Provider Surveys
SHPPS	School Health Policies and Programs Study
YRBS	Youth Risk Behavior Survey

**Agency abbreviations:**

BHPR	Bureau of Health Professions
CDC	Centers for Disease Control and Prevention
IHS	Indian Health Service
NCCDPHP	National Center for Chronic Disease Prevention and Health Promotion
NCHS	National Center for Health Statistics
NCHSTP	National Center for HIV, STD, and TB Prevention
OPHS	Office of Public Health and Science
ODPHP	Office of Disease Prevention and Health Promotion
OPEL	Office of Program Evaluation and Legislation
PSD	Program Statistics Division

**Other acronyms:**

BMI	Body Mass Index
MCC	Maximum cardiorespiratory capacity
MET	Energy expenditure for sitting quietly (see text for <a href="#">objective 1.4</a> )

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## APPENDIX A: Physical Activity and Fitness Objectives

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**1.1\*:** Reduce coronary heart disease deaths to no more than 100 per 100,000 people.

**Duplicate objectives: 2.1, 3.1, and 15.1**

**1.1a\*:** Reduce coronary heart disease deaths among blacks to no more than 115 per 100,000.

**Duplicate objectives: 2.1a, 3.1a, and 15.1a**

**1.2\*:** Reduce overweight to a prevalence of no more than 20 percent among people aged 20 and older and no more than 15 percent among adolescents aged 12–19 years.

NOTE: For people aged 20 years and older, overweight is defined as body mass index (BMI) equal to or greater than 27.8 for men and 27.3 for women. For adolescents, overweight is defined as BMI equal to or greater than 23.0 for males aged 12–14 years, 24.3 for males aged 15–17, 25.8 for males aged 18–19, 23.4 for females aged 12–14, 24.8 for females aged 15–17 years, and 25.7 for females aged 18–19 years. The values for adolescents are the modified age- and sex-specific 85<sup>th</sup> percentile values of the 1976–80 National Health and Nutrition Examination Survey (NHANES II). BMI is calculated by dividing weight in kilograms by the square of height in meters. The cut points used to define overweight approximate the 120 percent of desirable body weight definition used in the 1990 objectives.

**Duplicate objectives: 2.3, 15.10, and 17.12**

**1.2a\*:** Reduce overweight to a prevalence of no more than 25 percent among low-income women aged 20 years and older.

**Duplicate objectives: 2.3a, 15.10a, and 17.12a**

**1.2b\*:** Reduce overweight to a prevalence of no more than 30 percent among black women aged 20 years and older.

**Duplicate objectives: 2.3b, 15.10b, and 17.12b**

**1.2c\*:** Reduce overweight to a prevalence of no more than 25 percent among Hispanic women aged 20 years and older.

**Duplicate objectives: 2.3c, 15.10c, and 17.12c**

**1.2d\*:** Reduce overweight to a prevalence of no more than 30 percent among American Indians and Alaska Natives.

**Duplicate objectives: 2.3d, 15.10d, and 17.12d**

**1.2e\*:** Reduce overweight to a prevalence of no more than 25 percent among people with disabilities.

**Duplicate objectives: 2.3e, 15.10e, and 17.12e**

**1.2f\*:** Reduce overweight to a prevalence of no more than 41 percent among women with high blood pressure.

**Duplicate objectives: 2.3f, 15.10f, and 17.12f**

**1.2g\*:** Reduce overweight to a prevalence of no more than 35 percent among men with high blood pressure.

**Duplicate objectives: 2.3g, 15.10g, and 17.12g**

**1.2h\*:** Reduce overweight to a prevalence of no more than 25 percent among Mexican-American men.

**Duplicate objectives: 2.3h, 15.10h, and 17.12h**

**1.3\*:** Increase to at least 30 percent the proportion of people aged 6 years and older who engage regularly, preferably daily, in light to moderate physical activity for at least 30 minutes per day.

NOTE: Light to moderate physical activity is activity that requires sustained, rhythmic muscular movements and is at least equivalent to sustained walking. Maximum heart rate equals roughly 220 beats per minute minus age. Examples may include walking, swimming, cycling, dancing, gardening, and yardwork, various domestic and occupational activities, games, and other childhood pursuits.

**Duplicate objectives: 15.11 and 17.13**

**1.3a\*:** Increase to at least 25 percent the proportion of Hispanics aged 18 years and older who engage in light to moderate physical activity for at least 30 minutes per day five times per week or more.

**Duplicate objectives: 15.11a and 17.13a**

**1.4:** Increase to at least 20 percent the proportion of people aged 18 years and older and to at least 75 percent the proportion of children and adolescents aged 6–17 years who engage in vigorous physical activity that promotes the development and maintenance of cardiorespiratory fitness 3 days per week or more for 20 minutes per occasion or more.

NOTE: Vigorous physical activities are rhythmic, repetitive physical activities that use large muscle groups at 60 percent of maximum heart rate for age or more. An exercise heart rate of 60 percent of maximum heart rate for age is about 50 percent of maximal cardiorespiratory capacity and is sufficient for cardiorespiratory conditioning. Maximum heart rate equals roughly 220 beats per minute minus age.

**1.4a:** Increase to at least 12 percent the proportion of lower-income people aged 18 years and older (annual family income less than \$20,000) who engage in vigorous physical activity that promotes the development and maintenance of cardiorespiratory fitness 3 days per week or more for 20 minutes per occasion or more.

**1.4b:** Increase to at least 17 percent the proportion of blacks aged 18 years and older who engage in vigorous physical activity that promotes the development and maintenance of cardiorespiratory fitness 3 days per week or more for 20 minutes per occasion or more.

**1.4c:** Increase to at least 17 percent the proportion of Hispanics aged 18 years and older who engage in vigorous physical activity that promotes the development and maintenance of cardiorespiratory fitness 3 days per week or more for 20 minutes per occasion or more.

**1.5: Reduce to no more than 15 percent the proportion of people aged 6 years and older who engage in no leisure-time physical activity.**

NOTE: For this objective, people with disabilities are people who report any limitation in activity due to chronic conditions.

**1.5a:** Reduce to no more than 22 percent the proportion of people aged 65 years and older who engage in no leisure-time physical activity.

**1.5b:** Reduce to no more than 20 percent the proportion of people with disabilities who engage in no leisure-time physical activity.

**1.5c:** Reduce to no more than 17 percent the proportion of lower-income people aged 18 years and older (annual family income less than \$20,000) who engage in no leisure-time physical activity.

**1.5d:** Reduce to no more than 20 percent the proportion of blacks aged 18 years and older who engage in no leisure-time physical activity.

**1.5e:** Reduce to no more than 25 percent the proportion of Hispanics aged 18 years and older who engage in no leisure-time physical activity.

**1.5f:** Reduce to no more than 21 percent the proportion of American Indians/Alaska Natives aged 18 and older who engage in no leisure-time physical activity.

**1.6: Increase to at least 40 percent the proportion of people aged 6 years and older who regularly perform physical activities that enhance and maintain muscular strength, muscular endurance, and flexibility.**

**1.7\*:** Increase to at least 50 percent the proportion of overweight people aged 12 and older who have adopted sound dietary practices combined with regular physical activity to attain an appropriate body weight.

**Duplicate objective: 2.7**

**1.7a\*:** Increase to at least 24 percent the proportion of overweight Hispanic males aged 18 years and older who have adopted sound dietary practices combined with regular physical activity to attain an appropriate body weight.

**Duplicate objective: 2.7a**

**1.7b\*:** Increase to at least 22 percent the proportion of overweight Hispanic females aged 18 years and older who have adopted sound dietary practices combined with regular physical activity to attain an appropriate body weight.

**Duplicate objective: 2.7b**

**1.8: Increase to at least 50 percent the proportion of children and adolescents in 1st–12th grade who participate in daily school physical education.**

**1.9: Increase to at least 50 percent the proportion of school physical education class time that students spend being physically active, preferably engaged in lifetime physical activities.**

NOTE: Lifetime activities are activities that may be readily carried into adulthood because they generally need only one or two people. Examples include swimming, bicycling, jogging, and racquet sports. Also counted as lifetime activities are vigorous social activities such as dancing. Competitive group sports and activities typically played only by young children such as group games are excluded.

**1.10: Increase the proportion of worksites offering employer-sponsored physical activity and fitness programs as follows:**

<u>Worksites with</u>	<u>2000 target (percent)</u>
50–99 employees	20
100–249 employees	35
250–749 employees	50
750 employees or more	80

**1.11: Increase community availability and accessibility of physical activity and fitness facilities as follows:**

**Hiking, biking, and fitness trail miles: 1 per 10,000 people**

**Public swimming pools: 1 per 25,000 people**

**Acres of park and recreation open space: 4 per 1,000 people (250 people per managed acre)**

**1.12: Increase to at least 50 percent the proportion of primary care providers who routinely assess and counsel their patients regarding the frequency, duration, type, and intensity of each patient's physical activity practices.**

**1.13\*:** Reduce to no more than 90 per 1,000 people the proportion of all people aged 65 years and older who have difficulty in performing two personal care activities or more, thereby preserving independence.

NOTE: Personal care activities are bathing, dressing, using the toilet, getting in and out of bed or chair, and eating.

**Duplicate objective: 17.3 and age-related objective for people 65 years of age and over**

**1.13a\*:** Reduce to no more than 325 per 1,000 people the proportion of all people aged 85 years and older who have difficulty in performing two personal care activities or more, thereby preserving independence.

**Duplicate objective: 17.3a**

**1.13b\***: Reduce to no more than 98 per 1,000 people the proportion of blacks aged 65 years and older who have difficulty in performing two personal care activities or more, thereby preserving independence.

**Duplicate objective: 17.3b**

**\*Duplicate objective.**

## Appendix B

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