



Research DIGEST

Published quarterly
by the President's Council
on Fitness, Sports & Nutrition
Rockville, MD

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Author's note:

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the President's Council on Fitness, Sports & Nutrition.

Acknowledgment:

The authors sincerely thank Susan A. Carlson for her excellent editorial assistance.

Healthy People 2020: Physical Activity Objectives for the Future

Introduction

When adults and youth are physically active, they receive many health benefits. Adults who maintain a physically active lifestyle have a lower risk of premature death, heart disease, stroke, hypertension, and cancers of the colon and breast.¹ Regular participation in physical activity also helps people maintain a healthy weight and prevents excess weight gain and can help prevent falls and preserve functional health among older adults.¹

Physically active youth, compared to inactive youth, have higher levels of cardiorespiratory fitness and stronger muscles. They also typically have less body fat, stronger bones, and less anxiety and depression.¹ Youth who are active on a regular basis have a greater chance of being physically active as adults. Regular physical activity makes it less likely that chronic disease risk factors will develop during their formative years and more likely that they will grow up to be healthy adults.¹

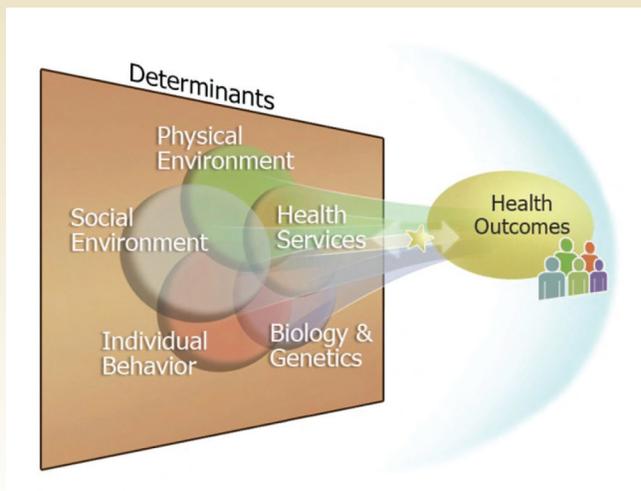
Because of the well-documented benefits of physical activity for youth and for adults, physical activity is an important health objective in the *Healthy People* initiative. *Healthy People* is the name of the initiative the U.S. Department of Health and Human Services uses to develop and track national health objectives. Health objectives are developed both for the entire U.S. population and for subpopulations such as racial or ethnic groups, age groups, or groups differing by level of educational attainment or disability status. Physical activity was one of 28 focus areas included in *Healthy People 2010 (HP 2010)* and one of *Healthy People's* 10 Leading Health Indicators, major health concerns which can be measured by ongoing data collection.² The recognition of physical activity as a Leading Health Indicator illustrates its importance both to public health and to individual health.



"Healthy People 2020 includes new objectives for elementary school recess, physically active environments, and policies promoting physical activity in child-care settings. Importantly, the Healthy People 2020 objectives are now consistent with the 2008 Physical Activity Guidelines for Americans. As the Healthy People 2020 objectives are disseminated, it is vital for schools, businesses, and organizations in our communities to work together in a coordinated effort to improve population levels of physical activity."

Figure 1. Overview of *Healthy People 2020*

A society in which all people live long, healthy lives



Overarching Goals

- Attain high quality, longer lives free of preventable disease, disability, injury, and premature death
- Achieve health equity, eliminate disparities, and improve the health of all groups
- Create social and physical environments that promote good health for all
- Promote quality of life, healthy development, and healthy behaviors across all stages of life.

Source: www.healthypeople.gov/2020/Consortium/HP2020Framework.pdf

The *Healthy People 2020* (HP 2020) objectives serve as a benchmark by which to measure progress in meeting health goals during the decade from 2010 to 2020. They also serve as a promotional tool to encourage collaboration among public and private sectors to facilitate progress, guide individuals toward making informed health decisions, and measure the impact of prevention activities.³ Specifically, the HP 2020 physical activity objectives provide targets for behavioral, environmental, and policy approaches to increase physical activity across multiple sectors of society such as health care, education, and public health.⁴ This review will describe each of the physical activity objectives, with an emphasis on those that have been revised or newly developed for HP 2020.

The purposes of this review, therefore, are to provide:

- (1) an overview of the *Healthy People* process as it relates to the development of the physical activity objectives, (2) a status report of progress made in meeting the previous HP 2010 physical activity objectives, (3) a description of the HP 2020 physical activity objectives, and (4) a description of ongoing efforts to improve physical activity levels in the U.S. population.

Overview of the *Healthy People* Process as It Relates to the Development of the Physical Activity Objectives

For the past three decades, the *Healthy People* initiative has provided 10-year health objectives for the nation on a variety of health topics. These objectives have sought to improve the health of all Americans as well as to provide benchmarks and to monitor progress on key indicators of health throughout each decade. *Healthy People 2010* was reviewed previously.⁵

Historically, *Healthy People* objectives have been introduced at the beginning of each decade (e.g., in 1990 for *Healthy People 2000*) with the goal that the target for each objective would represent the expected improvement that would occur during the next 10 years. Therefore, HP 2020 provides targets for objectives that are expected to be achieved by the year 2020. Examples of specific topic areas in HP 2020 include health behaviors like physical activity, disease outcomes like diabetes, and at-risk groups like older adults.³ Physical activity has been included in *Healthy People* since 1990.

There are 42 topic areas encompassing 1,412 objectives and sub-objectives in HP 2020. Each objective has a reliable data source, baseline measure, and target for specific improvements to be achieved by the year 2020. The objectives comprise intersecting areas of health represented by the social ecological model⁶ and include individual behaviors, genetics, and social and physical environments (Figure 1). Many objectives focus on interventions that are designed to reduce or eliminate illness, disability, and premature death among individuals and communities. Others focus on broader issues such as eliminating health disparities, addressing social determinants of health, improving access to quality health care, strengthening public health services, and improving the availability and dissemination of health-related information.³

The development of *Healthy People* objectives requires coordination among many federal agencies. Draft objectives for HP 2020 were prepared by experts from multiple lead federal agencies as part of the HP 2020 Physical Activity Work Group. The proposed objectives were then made available for public comment and reviewed by the Federal Interagency Workgroup, which used a set of selection criteria to choose the final objectives.

The Centers for Disease Control and Prevention (CDC), in partnership with the President's Council on Physical Fitness, Sports & Nutrition worked with representatives from other federal agencies to formulate the objectives for the physical activity topic area for *HP 2020*. The availability of periodic and recent nationally representative data were necessary for the inclusion of an objective. Public comments provided further guidance for the final objectives. The *HP 2020* default target of 10% relative beneficial change was used most commonly to set each objective.

Meeting the *HP 2010* Physical Activity Objectives: How Far Have We Come?

Distance from the Healthy People 2010 Targets

HP 2010 included 15 physical activity objectives.² The objectives generally fell into two groupings: physical activity behaviors, and policies to support physical activity. Physical activity behaviors targeted by *HP 2010* included reducing the prevalence of no leisure-time physical activity (adults only), increasing aerobic physical activity (adults and youth), muscle strengthening (adults only), and walking and bicycling for transport (adults and youth). Increasing participation in physical education classes and decreasing time spent viewing television were also included for youth only.

Table 1 shows the *HP 2010* behavioral objectives, the most recent prevalence estimate (available at www.healthypeople.gov/2010), the target for 2010, and the distance (in percentage points) from the target. Distance from the target (in percentage points) was calculated as the target (%) minus the prevalence (%). The United States has not yet reached the *HP 2010* target for any of the behavioral objectives. As shown in Table 1, the gap between the current prevalence and the 2010 target ranges from -1.6 percentage points for bicycling for transport in adults (objective PA-22.15a) to -20 percentage points for daily physical education (objective PA-22.9).

The *HP 2010* policy objectives show a similar pattern in meeting the targets (Table 2). None of the targets was achieved and the distances from the targets range from -1.5 percentage points for having a daily physical education requirement in middle/junior high schools (objective PA-22.08a) to -29 percentage points for worksite physical activity programs (objective PA-22.13).

Change Over the Decade

Tables 1 and 2 paint a somewhat dismal picture of how the United States has not yet achieved the targets set forth by *HP 2010*. In addition to the targets, it is also important to consider how population trends have changed over the decade for each objective. When examining the percentage point change per year over the decade, however, the adult objectives for no leisure-time physical activity, muscle strengthening, walking for transport in adults and adolescents, and adolescent participation in daily

physical education and television viewing all show beneficial changes over time. The United States is, therefore, making progress in many of the objectives, although not at the rate needed to achieve the targets set by *HP 2010* (Table 3).

Healthy People 2020 Physical Activity Objectives

Criteria for Inclusion of an Objective

Having reliable, nationally representative data sources to track the metrics associated with physical activity is necessary and precluded some topics from being considered as possible objectives. The *HP2020* Physical Activity Workgroup discussed several important and novel topics only to learn that a suitable data source was unavailable. For example, improving the environment for physical activity is a recommended strategy,⁷ although there is currently no acceptable national data source that tracks individual access to green spaces or parks. The same is true for physical activity in the workplace, where no current nationally representative data source is available.

Physical Activity Objectives

Overview

The *HP 2020* objectives assess physical activity behavior as well as the environments and policies that help to support participation in physical activity. Of the 15 objectives, nine are related to improving physical activity behavior. Three of the nine behavioral objectives target adults and six target youth (Table 4). The objectives will be measurable using nationally representative data sources that will provide baseline and follow-up data throughout the decade. Objectives that are not currently measurable with a nationally representative data source are deemed developmental. Developmental objectives are expected to have a nationally representative data source available at some point in the decade.

The target for most of the *HP 2020* objectives was based on a 10% relative improvement (Table 4). The target-setting method for *HP 2020* was different and more conservative than the approach used in *HP 2010*. The target-setting method used for nearly all of the physical activity objectives in *HP 2010* was the "better than the best" method. This method set a target as better than the best minimum level achieved for the objective previously by any racial or ethnic group.²

In *HP 2020*, the 10% relative improvement method was not appropriate for every objective, however. In particular, it was considered inappropriate for objectives where the baseline prevalence was either very low or very high, such as the objective for no more than 2 hours/day of computer use among preschool children, where the baseline prevalence was 97.4% (objective PA-8.3.1). For such objectives, an alternate target was developed or the target was not set.

**Table 1. Status of Healthy People 2010 Objectives:
Prevalence, Target, and Distance from the Target for Selected Physical Activity and Television Viewing Behaviors**

PA Objective	Description	Prevalence (%)	Target (%)	Distance from target (%) ^a
	Adults			
22.1	No leisure-time physical activity Proportion of adults who engage in no leisure-time physical activity	36	20	-16 ^b
22.2	Aerobic Proportion of adults who engage regularly, preferably daily, in moderate intensity physical activity ≥30 minutes/day	32	50	-18
22.4	Strength Proportion of adults who perform physical activities that enhance muscular strength and endurance ≥2 days/week	22	30	-8
22.14 ^a	Walking for transport Proportion of trips (1 mile or less) made by walking	21	25	-4
22.15 ^a	Bicycling for transport Proportion of trips (5 miles or less) made by bicycling	0.4	2.0	-1.6
	Adolescents			
22.6	Aerobic Proportion of adolescents who engage in moderate intensity physical activity for at least 30 minutes on 5 or more of the previous 7 days	26	35	-9
22.9	Physical education (daily) Proportion of adolescents who participate in daily school physical education	33	50	-17
22.14 ^b	Walking for transport Proportion of trips to school (1 mile or less) made by walking	36	50	-14
22.15 ^b	Bicycling for transport Proportion of trips to school (2 miles or less) made by bicycling	1.5	5	-3.5
22.11	Television viewing Proportion of adolescents who view television 2 or fewer hours on a school day	67	75	-8

Note: For full description of the objectives, see www.healthypeople.gov/2010.

^a Distance from the target (in percentage points) was calculated as the prevalence (%) minus the target (%). Estimates generated from data obtained at <http://wonder.cdc.gov>; accessed June 13, 2011.

^b Distance from the target for the no leisure-time physical activity objective is expressed as a negative number because the target has not yet been reached. The distance between the current prevalence and the target is 16 percentage points.

HP 2010 provided a good base from which to develop the *HP 2020* objectives. Based on the Federal Interagency Workgroup's recommendations, each *HP 2010* objective either was dropped, retained, or modified. New objectives were developed that emphasize policy approaches to promoting physical activity in schools and child-care settings and to supporting development of policies to improve the built environment so that physical activity becomes an easier choice.

Retained Objectives

Four objectives from *HP 2010* were retained for *HP 2020* (Table 5). The long-standing objective for “no leisure-time physical activity” has been a physical activity objective since 1990. This objective tracks the proportion of the U.S. adult population that did not participate in leisure-time physical activity in the past 2 weeks, using the National Health Interview Survey.

Two objectives for physical education were retained from *HP 2010* for *HP 2020* (Table 5). Having physical education requirements for elementary, middle, and high schools and for the proportion of

students that participate in daily school physical education have been retained as objectives for *HP 2020*. Both of these objectives point to the need for quality physical education programs for U.S. youth.

Having access to facilities is an important strategy to promote physical activity.⁹ Therefore, the objective for schools to provide access to their physical activity spaces and facilities outside of school hours was retained in *HP 2020*. Retained objectives for physical education and for school facilities are collected via the School Health Policies and Programs Study (SHPPS), a school policy surveillance system that collects information from states, districts, schools, and classrooms every six years.¹⁰ The next round of SHPPS will be conducted in 2012.

Modified Objectives

The release of the 2008 *Physical Activity Guidelines for Americans*⁸ influenced the modification of the *HP 2020* objectives for physical activity behavior in adults (objectives PA-1 and PA-2) and in youth (objective PA-3). The objectives for physical activity behavior in

Table 2. Status of Healthy People 2010 Objectives: Prevalence, Target, and Distance from the Target for Physical Activity Policies

PA Objective	Description	Prevalence (%)	Target (%)	Distance from target (%) ^a
22.13	Worksite physical activity program Proportion of worksites offering employer-sponsored physical activity and fitness programs	46	75	-29
22.12	Access to school physical activity facilities Proportion of the Nation's public and private schools that provide access to their physical activity spaces and facilities for all persons outside of normal school hours	28.8	50	-21.2
22.8 ^a	Middle/junior high school Proportion of the Nation's public and private schools that require daily physical education for middle and junior high schools	7.9	9.4	-1.5
22.8 ^b	High school Proportion of the Nation's public and private schools that require daily physical education for senior high schools	2.1	14.5	-12.4

Note: For full description of the objectives, see www.healthypeople.gov/2010.

^a Distance from the target (%) was calculated as the prevalence (%) minus the target (%). Estimates generated from data obtained at <http://wonder.cdc.gov>; accessed June 13, 2011.

youth and adults are now consistent with the physical activity guidelines. A brief description of the guidelines for adults and for youth is presented below.

Current Physical Activity Guidelines for Adults

The four key guidelines for adults are shown in Table 6. Generally, the guidelines recommend avoiding inactivity since some health benefits are gained with even small amounts of physical activity. Aerobic and muscle-strengthening activities, however, comprise the key types of activities specified in the guidelines. Fully meeting the guidelines requires doing both aerobic and muscle strengthening activities as illustrated by objective PA-2.4 (Tables 4 and 5).

Aerobic Physical Activity Guidelines

The guidelines recommend that to achieve substantial health benefits, a person should undertake 150 minutes per week of moderate-intensity activity, 75 minutes per week of vigorous-intensity activity, or an equivalent combination of both. To achieve more extensive health benefits, a person should perform 300 or more minutes per week of moderate-intensity activity, 150 minutes per week of vigorous-intensity activity, or an equivalent combination of both. Although both moderate- and vigorous-intensity activities count toward meeting the aerobic guidelines, time spent in vigorous-intensity activity counts roughly twice that spent in moderate-intensity activity; for example, engaging in 150 minutes of vigorous-intensity activity is equivalent to engaging in 300 minutes of moderate-intensity activity. Healthy adults who find it difficult to meet the guidelines because of time constraints may wish to substitute vigorous-intensity aerobic activity for some moderate-intensity aerobic activity.

Muscle Strengthening Guideline

Muscle-strengthening activities enhance both skeletal and muscle mass, strength, power, and neuromuscular activation.¹ For these reasons, muscle strengthening is an important physical activity guideline for adults (Table 6). Adults should strengthen all seven muscle groups (legs, hips, back, chest, abdomen, shoulders, and arms) on at least 2 days of the week. The guidelines do not specify that muscle strengthening be undertaken on nonconsecutive days.

Current Physical Activity Guidelines for Children and Adolescents

The key guidelines for children and adolescents are shown in Table 6. Consistent with other recommendations for youth,¹¹ the guidelines recommend at least 60 minutes each day of aerobic physical activity for children and adolescents. A unique aspect of the youth guideline is inclusion of a 3-day/week goal for children and adolescents to perform muscle strengthening, bone-strengthening, and vigorous-intensity aerobic physical activities. However, unlike for adults, participating in daily

physical activity is a guideline for children and adolescents. Activities that are appropriate for a child's age and that are enjoyable should be encouraged.⁸

TV Viewing and Computer Use

The television-viewing objective of *HP 2010* was modified for *HP 2020* to be more comprehensive and to achieve recommendations for TV viewing as well as for computer use among youth (Table 5). The American Academy of Pediatrics recommends that children aged <2 years view no TV, and that children aged ≥2 years should view ≤2 hours per day of quality TV programming.¹² Three data sources are used to track this objective among youth ranging from aged 2 years through 12th grade (Table 5).

There is no current recommendation for time spent using the computer or playing computer games among youth. To set the target for this objective the *HP2020* Physical Activity Workgroup recommended a goal of ≤2 hours per day (Table 5). Reducing time spent using the computer for non-school work is the goal of this objective.

Physician Counseling

Primary care providers are among the best positioned in the health care system to provide preventive services such as screening, referral, and counseling related to physical activity. Clinical organizations recommend counseling about physical activity or exercise for adults in the primary care setting. The American College of Preventive Medicine, for example, recommends counseling healthy adults about physical activity for primary disease prevention.¹³ Earlier joint recommendations for physical activity from CDC and the American College of Sports Medicine advised physicians to routinely counsel their patients on physical activity.¹⁴ The National Committee for Quality Assurance also recommended a HEDIS measure for older adults assessment of the percentage of Medicare members aged ≥65 years of age who had a doctor's visit in the past 12 months and who received advice to start, increase, or maintain their level of exercise or physical activity.¹⁵

The *HP 2010* objective regarding physician counseling was developmental and sought to increase the proportion of adults appropriately counseled about physical activity (objective PA-1.3a).² The modified *HP 2020* objective seeks to increase office visits that include physicians counseling children and adults, including those with cardiovascular disease, diabetes, or hyperlipidemia. This objective is particularly timely given the recent interest in programs that promote counseling about physical activity, such as *Exercise is Medicine* from the American College of Sports Medicine.¹⁶

**Table 3. Decade Change in *Healthy People 2010* Objectives:
Change from Baseline to Current Year for Physical Activity and Television Viewing Behaviors**

PA Objective	Brief Description	Baseline Prevalence (%)	Follow-up prevalence (%)	Baseline year	Follow-up year	Prevalence change from baseline (%) ^a	Prevalence change/year (%) ^b
22.1	No leisure-time physical activity ^c Proportion of adults who engage in no leisure-time physical activity	40	36	1997	2008	-4	-0.4
22.2	Aerobic Proportion of adults who engage regularly, preferably daily, in moderate intensity physical activity ≥30 minutes/day	32	32	1997	2008	0	0.0
22.4	Strength Proportion of adults who perform physical activities that enhance muscular strength and endurance ≥2 days/week	18	22	1998	2008	+4	+0.4
22.14 ^a	Walking for transport Proportion of trips (1 mile or less) made by walking	17	21	1995	2001	+4	+0.7
22.15 ^a	Bicycling for transport Proportion of trips (5 miles or less) made by bicycling	0.6	0.4	1995	2001	-0.2	-0.03
22.6	Aerobic Proportion of adolescents who engage in moderate intensity physical activity for at least 30 minutes on 5 or more of the previous 7 days	27	26	1999	2007	-1	-0.1
22.9	Daily physical education participation Proportion of adolescents who participate in daily school physical education	29	33	1999	2009	+4	+0.4
22.14 ^b	Walking for transport Proportion of trips to school (1 mile or less) made by walking	31	36	1995	2001	+5	+0.8
22.15 ^b	Bicycling for transport Proportion of trips to school (2 miles or less) made by bicycling	2.4	1.5	1995	2001	-0.9	-0.2
22.11	Television viewing Proportion of adolescents who view television 2 or fewer hours on a school day	57	67	1999	2009	+10	+1.0

Note: For full description of the objectives, see www.healthypeople.gov/2010.

^a Prevalence change from baseline estimated as follow-up prevalence minus baseline prevalence (data from <http://wonder.cdc.gov/scripts/broker.exe>; accessed April 29, 2011).

^b Prevalence change / year estimated as change in prevalence divided by change in follow-up time. Except for objective PA-22.1, no leisure-time physical activity, a plus sign (+) in this column indicates a beneficial change while a minus sign (-) indicates a negative change.

^c For objective PA-22.1, no leisure-time physical activity, a negative change from baseline (%) and change per year (%) reflects a beneficial change in the prevalence over time.

Table 4. Current Estimates and Targets for Measurable *Healthy People 2020* Objectives for Physical Activity

Objective	<i>Healthy People 2020</i> objective	Prevalence (%)	Target (%)
PA-1	No leisure-time physical activity	36.2	32.6
PA-2	Meeting federal guidelines for physical activity (adults)		
PA-2.1	Aerobic physical activity (minimum) ^a	43.5	47.9
PA-2.2	Aerobic physical activity (additional) ^b	28.4	31.3
PA-2.3	Muscle strengthening ^c	21.9	24.1
PA-2.4	Aerobic and muscle strengthening	18.2	20.1
PA-3	Meeting federal guidelines for physical activity (adolescents)		
PA-3.1	Aerobic physical activity ^d	18.4	20.2
PA-3.2	Muscle strengthening	n/a	n/a
PA-3.3	Aerobic and muscle strengthening	n/a	n/a
PA-4	Public and private schools that require physical education		
PA-4.1	Elementary	3.8	4.2
PA-4.2	Middle and junior high schools	7.9	8.6
PA-4.3	Senior high schools	2.1	2.3
PA-5	Daily physical education (adolescents)	33.3	36.6
PA-6	Regularly scheduled elementary school recess		
PA-6.1	States that require elementary school recess ^e	7 states	17 states
PA-6.2	School districts that require elementary school recess	57.1	62.8
PA-7	School districts that require elementary school recess (time)	61.5	67.7
PA-8	Do not exceed recommended limits for screen time (children/adolescents)		
PA-8.1	No television or videos (children aged 0–2 years)	40.6	44.7
PA-8.2	Television, videos, or video games for no more than 2 hours/day		
PA-8.2.1	Children aged 2–5 years	75.6	83.2
PA-8.2.2	Children and adolescents aged 6–14 years	78.9	86.8
PA-8.2.3	Adolescents in grades 9–12	67.2	73.9
PA-8.3	Children and adolescents ages 2 years to 12th grade who use a computer or play computer games outside of school for no more than 2 hours/day		
PA-8.3.1	Children aged 2–5 years	97.4	Not determined ^f
PA-8.3.2	Children and adolescents aged 6–14 years	93.3	100.0
PA-8.3.3	Adolescents in grades 9–12	75.1	82.6
PA-9	States with licensing regulations for physical activity in child care		
PA-9.1	Programs providing large muscle or gross motor activity, development, and/or equipment ^e	25 states	35 states
PA-9.2	Require children to engage in vigorous or moderate physical activity ^e	3 states	13 states
PA-9.3	Require minutes of physical activity per day or by length of time ^e	1 state	11 states

Table 4, (including key) continued on following page.

Table 4, continued from previous page.

Objective	Healthy People 2020 objective	Prevalence (%)	Target (%)
PA-10	Public and private schools that provide access to their physical activity spaces and facilities for all persons outside of normal school hours	28.8	31.7
PA-11	Physician office visits that include counseling or education related to physical activity		
PA-11.1	Office visits made by patients with a diagnosis of cardiovascular disease, diabetes, or hyperlipidemia	13.0	14.3
PA-11.2	Physician visits made by all child and adult patients	7.9	8.7

Note: Target setting method is set for 10 percent improvement, unless otherwise noted.

n/a = Data are not currently available.

^a Aerobic physical activity of at least moderate intensity ≥ 150 minutes/week, or 75 minutes/week of vigorous intensity, or an equivalent combination.

^b Adults who engage in aerobic physical activity of at least moderate intensity ≥ 300 minutes/week, or ≥ 150 minutes/week of vigorous intensity, or an equivalent combination.

^c Adults who perform muscle-strengthening activities on 2 or more days/week.

^d Adolescents who perform ≥ 60 minutes (1 hour) of physical activity daily.

^e One state per year for each measure.

^f This measure is being tracked for informational purposes. If warranted, a target will be set during the decade.

New Objectives

Recess

In addition to providing an environment for physical activity, participation in elementary school recess provides opportunities for children to enhance cooperation and negotiation skills and improve attentiveness and concentration in the classroom.

Improvement in the skills that enhance learning, such as on-task behavior,¹⁷ have been associated with improvements in learning and, therefore, in academic achievement.^{17,18}

For these reasons, two objectives for elementary school recess were introduced in *HP 2020*. Elementary school recess programs will be evaluated, first, by the proportion of states and school districts that have regularly scheduled recess, and, second, by how many students spend an appropriate amount of time in recess. For *HP 2020*, policies about elementary school recess will be assessed at the state and district level using SHPPS.

Physical Activity in the Child-Care Setting

Many U.S. children are cared for using non-parental child-care arrangements. In 2001, 60% of children younger than 5 years of age, more than 12 million infants, toddlers, and preschool children, spent at least one day per week in child care. Participation in child care increases with age, from 40% of children younger than 1 year of age to 82% at 5 years of age. The source of child care changes with age; older children tend to be cared for by unrelated providers or in center-based care facilities.¹⁹

Variations in physical activity levels have been associated with different types of child-care arrangements; higher levels of physical activity are associated with preschools having policies encouraging physical activity participation²⁰ and more environmental supports for physical activity (e.g., fixed playground equipment, large playgrounds).²¹ The child-care environment provides opportunities for young children and adolescents to engage in physical activities in a regulated setting.²²

Child care as a setting is ideal for improving young children's physical activity habits by providing activity-friendly environments and by educating children, parents, and child-care staff about the importance of physical activity. In each of the 50 states and the District of Columbia, licensed child-care facilities are governed by an agency responsible for enforcement of state regulations,²³ though regulations regarding physical activity requirements in child care vary substantially by state.

Kaphingst and Story (2009) reported on child-care regulations in the 50 states as they relate to physical activity.²² The initial assessment of physical activity policies was conducted in 2006 and, from their findings, three *HP 2020* objectives were developed to monitor the number of states with licensing regulations for physical activity provided in child care (see PA-9 in Table 5). These baseline data will be used as a benchmark to monitor the number of states with child-care licensing regulations related to key aspects of physical activity for young children.

**Table 5. *Healthy People 2020 Objectives:*
Retained, Modified from *Healthy People 2010*, and New Objectives**

Objective	Description	Baseline (%)	Target (%)	Data Source
Retained from <i>Healthy People 2010</i>				
PA-1	Reduce proportion of adults who engage in no leisure-time physical activity	36.2	32.6	NHIS
PA-4	Increase the proportion of the nation's public and private schools that require daily physical education for all students			SHPPS
	PA-4.1 Elementary schools	3.8	4.2	
	PA-4.2 Middle schools	7.9	8.6	
	PA-4.3 High schools	2.1	2.3	
PA-5	Increase the proportion of adolescents who participate in daily school physical education	33.3	36.6	SHPPS
PA-10	Increase the proportion of the nation's public and private schools that provide access to their physical activity spaces/facilities for all persons outside of normal school hours	28.8	31.7	SHPPS
Modified from <i>Healthy People 2010</i>				
PA-2	Increase the proportion of adults that meet current Federal physical activity guidelines for aerobic physical activity and for muscle-strengthening activity			NHIS
	PA-2.1 Aerobic physical activity—moderate 150 min/wk or vigorous 75min/wk	43.5	47.9	
	PA-2.2 Aerobic physical activity—moderate more than 300 min/wk or vigorous more than 150 min/wk	28.4	31.3	
	PA-2.3 Muscle-strengthening activity 2 days/wk	21.9	24.1	
	PA-2.4 Both aerobic and muscle-strengthening activity	18.2	20.1	
PA-3	Increase the proportion of adolescents that meet current physical activity guidelines for aerobic physical activity and for muscle-strengthening activity			YRBSS
	PA-3.1 Aerobic physical activity	18.4	20.2	
	PA-3.2 Muscle-strengthening activity (Developmental)	n/a	n/a	
	PA-3.2 Aerobic and muscle-strengthening activity (Developmental)	n/a	n/a	

Table 5, continued on following page.

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Objective	Description	Baseline (%)	Target (%)	Data Source
PA-8	Increase the proportion of children and adolescents that do not exceed recommended limits for screen time			
	PA-8.1 Increase the proportion of children 0-2 who view no television or videos on an average weekday	40.6	44.7	NSCH
	PA-8.2 Increase proportion of children and adolescents 2 years–12th grade who view television, videos, or play video games for no more than 2 hours/day			
	2–5 years (PA-8.2.1)	75.6	83.2	NHANES
	6–14 years (PA-8.2.2)	78.9	86.8	NSCH
	9–12th grades (PA-8.2.3)	67.2	73.9	YRBS
	PA 8.3 Increase the proportion of children and adolescents ages 2 years–12th grade who use a computer or play computer games outside of school (for non-school work) for no more than 2 hours a day			
2–5 years (PA-8.3.1)	97.4	n/a	NHANES	
6–14 years (PA-8.3.2)	93.3	100.0	NSCH	
9th–12th grades (PA-8.3.3)	75.1	82.6	YRBS	
PA-11	Increase the proportion of physician office visits that include counseling or education related to physical activity			NAMCS
	PA-11.1 Patients with a diagnosis of cardiovascular disease, diabetes, or hyperlipidemia	13.0	14.3	
	PA-11.2 All child or adult patients	7.9	8.7	
PA-12	Increase the proportion of employed adults who have access to and participate in employer-based exercise facilities and exercise programs (Developmental)	n/a	n/a	Not yet identified
PA-13	Increase the proportion of trips made by walking (Developmental)			NHTS
	PA-13.1 Adults aged 18 years and older trips of 1 mile or less	n/a	n/a	
	PA-13.2 Children and adolescents aged 5 to 15 years trips to school of 1 mile or less	n/a	n/a	
PA-14	Increase the proportion of trips made by bicycling (Developmental)			NHTS
	PA-14.1 Adults aged 18 years and older trips of 5 miles or less	n/a	n/a	
	PA-14.2 Children and adolescents aged 5 to 15 years trips to school of 2 miles or less	n/a	n/a	

Table 5, continued on following page.

Table 5, continued from previous page.

Objective	Description	Baseline (%)	Target (%)	Data Source
New for Healthy People 2020				
PA-6	Increase regularly scheduled elementary school recess			SHPPS
	PA-6.1 Number of states that require regularly scheduled recess	7 states	17 states	
	PA-6.2 Proportion of school districts that require regularly scheduled recess	57.1	62.8	
PA-7	Increase the proportion of school districts that require or recommend an appropriate period of time for elementary school recess	61.5	67.7	SHPPS
PA-9	Increase the number of states with licensing regulations for physical activity provided in child care			National Research Center for Health and Safety in Early Child Care and Education
	PA-9.1 Require activity programs providing large muscle or gross motor activity, development and/or equipment	25 states	35 states	
	PA-9.2 Require children to engage in vigorous or moderate physical activities	3 states	13 states	
	PA-9.3 Require number of minutes of physical activity per day or by length of time in care	1 state	11 states	
PA-15	(Developmental) Increase legislative policies for the built environment that enhance access to and availability of physical activity opportunities			CDC, Division of Nutrition, Physical Activity and Obesity legislative database
	PA-15.1 Community-scale policies	n/a	n/a	
	PA-15.2 Street-scale policies	n/a	n/a	
	PA-15.3 Transportation and travel policies	n/a	n/a	

NHIS = National Health Interview Survey; SHPPS = School Health Policies and Programs Study; YRBSS = Youth Risk Behavior Surveillance System; n/a = not currently available; NSCH = National Survey of Children's Health; NHANES = National Health and Nutrition Examination Survey; NAMCS = National Ambulatory Medical Care Survey; NHTS = National Household Travel Survey.

Dropped Objective

Specific health benefits of flexibility activities have not been determined and it is unclear whether they reduce the risk of injury.⁸ Therefore, the flexibility objective from *HP 2010* was dropped from *HP 2020*.⁸

Developmental Objectives

The identification of an objective as developmental indicates the need for the area to be placed on the national agenda for data collection. Future *Healthy People* committees may choose to incorporate these objectives when additional evidence and data sources become available. The developmental objectives described below promote physical activity opportunities across diverse settings and a broad range of interventions. *HP 2020* developmental objectives for physical activity can be grouped into three main areas: (1) legislative policies to improve the built environment, (2) walking or bicycling for transportation, and (3) worksite physical activity opportunities.

Policies to Improve the Built Environment

Those people who live in activity-friendly environments tend to be more physically active. Comprehensive reviews of policy and environmental approaches to promote physical activity have identified strategies that improve physical activity at the community level.^{7,24} These strategies include improving access to facilities that support physical activity and enhancing community- and street-scale urban design and land use policies. Therefore, monitoring policies to improve the environment for physical activity is a public health priority.⁴

Policy interventions that seek to improve the built environment can have a broad reach, produce systematic change, be sustainable over time, and complement individual- and population-level approaches.²⁴⁻²⁶ These approaches can occur at the local, state, or national level. While many policy and environmental initiatives occur locally, comprehensive tracking systems have yet to be developed at this level.²⁷ However, state-level legislation can be tracked, and verifying that legislation is enacted can be a means of monitoring the activity of environmental initiatives within the 50 states.

CDC's Division of Nutrition, Physical Activity, and Obesity maintains a database of state-level legislation related to physical activity programs and promotion. Legislative information, including bill status (i.e., enacted, dead, pending), bill number, and year for each bill, is gathered from several sources. Full text versions of relevant legislative bills from each state legislature's Web page are available on CDC's Nutrition, Physical Activity, and Obesity legislative database at <http://apps.nccd.cdc.gov/DNPAleg/>. The database also includes state-level environmental and policy interventions.

In *HP 2020*, the goal of objective PA-15 is to monitor legislative policies that enhance access to and availability of physical activity opportunities in the environment. Once the data on legislative

policies have been collected and summarized, it will be possible to monitor policies that promote community- and street-scale approaches to improving physical activity as well as those that promote active transportation (Table 5).

Active Transportation

Walking and bicycling for transportation are enjoyable forms of transportation that can be used by both children and adults.²⁸ A variety of environmental and community design features have been shown to influence walking and biking for transportation, including demographic characteristics, population density, connectivity, mixture of land uses, safety, street-scale design, distances to schools and physical activity facilities, and neighborhood aesthetics and topography.^{25,29,30} With increasing costs of motorized transportation, continued emphasis on ecologically friendly environments, and policy and environmental interventions to increase opportunities for active transportation, it will be important to monitor how modes of transportation may evolve, especially for short distances traveled.

As part of *HP 2020*, the National Household Travel Survey will be used to monitor objectives PA-13 and PA-14 that assess walking and bicycling for transportation, if the survey is implemented during the decade (Table 5). Baseline estimates for the active transportation objectives were not available from the most recent administration of the survey when *HP 2020* was published; therefore, these objectives were deemed developmental.

Worksite

U.S. working adults spend an average of 5–8 hours per day at work, so worksite policies can strongly influence adult physical activity.³¹ Evidence from worksite wellness programs, including physical activity promotion, show improvements in health and reductions in absenteeism and sick leave, and may generate a return on investment.³² The *HP 2020* developmental objective (PA-12) promoting physical activity at the worksite seeks to “increase the proportion of employed adults who have access to and participate in employer-based exercise facilities and exercise programs.”

Several evidence-based environmental and policy approaches to increasing physical activity have been outlined in the *Guide to Community Preventive Services*.⁷ A number of these recommendations can be applied to worksites. These recommendations include the creation or expansion of access to places for physical activity (e.g., walking trails, fitness facility access) supported by informational messaging and the placement of point-of-decision prompts (e.g., motivational signs) at stairwells or elevators that encourage the use of stairs. The *Guide to Community Preventive Services* also has recommended worksite intervention strategies that can be implemented as part of programs for obesity prevention and control.³³ These approaches include informational, educational, behavioral, and social strategies, in addition to policy and environmental strategies such as targeting employees, co-workers, and employees' families and friends.

In previous years, the National Worksite Health Promotion Survey has provided information on worksite wellness programs such as how to access worksite physical activity facilities and programs.³⁴ The survey, however, was last conducted in 2004 and there are no current plans for a follow-up survey. Using a previously-developed employee supplement to the National Health Interview Survey has been proposed as a way to acquire national estimates on worksite physical activity, although an ongoing system for data collection would be preferred.

Topics Missing from Healthy People 2020

The *HP2020* Physical Activity Workgroup discussed including additional topic areas, such as other employer-sponsored physical activity, fitness promotion programs, incentives to encourage use of active transportation options, and insurance plans that provide physical activity incentives. However, the lack of appropriate data sources led to their exclusion as *HP 2020* objectives.

This highlights the importance of current *Healthy People* data sources and of supporting strategic data collection in priority topic areas.

Ideas for new objectives were also proposed during the *HP 2020* public comment period. These ideas included measuring per capita availability of parks and green spaces, and examining whether to withhold physical education or recess as punishment in school. Another suggestion was for an objective to increase the proportion of schools that require newly hired physical education staff to have undergraduate or graduate training in physical education. This is similar to an objective for health education included in the early and middle childhood topic area.³

Broadening the scope of objectives to include other age groups has been recommended. For example, it was suggested that physical activity behavior in youth (PA-5) include not only high school youth but all children and adolescents. The Youth Risk Behavior

Table 6. Physical Activity Guidelines for Adults and for Children and Adolescents, 2008 Physical Activity Guidelines for Americans

Adults

- All adults should avoid inactivity. Some physical activity is better than none, and adults who participate in any amount of physical activity gain some health benefits.
- For substantial health benefits, adults should engage in at least 150 minutes (2 hours and 30 minutes) a week of moderate-intensity aerobic physical activity, or 75 minutes (1 hour and 15 minutes) a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. Aerobic activity should be performed in episodes of at least 10 minutes, preferably spread throughout the week.
- For additional and more extensive health benefits, adults should increase their aerobic physical activity to 300 minutes (5 hours) a week of moderate-intensity aerobic physical activity, or 150 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate-and vigorous-intensity activity. Additional health benefits are gained by engaging in physical activity beyond this amount.
- Adults should perform muscle-strengthening activities that are moderate or high intensity and involve all major muscle groups on 2 or more days a week, because these activities provide additional health benefits.

Children and Adolescents

- Children and adolescents should perform 60 minutes (1 hour) or more of physical activity daily.
- Aerobic: Most of the 60 or more minutes a day should be either moderate- or vigorous-intensity aerobic physical activity; vigorous-intensity physical activity must be included at least 3 days a week.
- Muscle-strengthening: As part of their 60 or more minutes of daily physical activity, children and adolescents should include muscle-strengthening physical activity on at least 3 days of the week.
- Bone-strengthening: As part of their 60 or more minutes of daily physical activity, children and adolescents should include bone-strengthening physical activity on at least 3 days of the week.
- It is important to encourage young people to participate in physical activities that are appropriate for their age, that are enjoyable, and that offer variety.

Note: From the 2008 *Physical Activity Guidelines for Americans*; available at www.health.gov/paguidelines.⁸

Surveillance System, which surveys adolescents in grades 9–12, is the data source used to track progress for that objective. At this time, there is no national survey that measures participation among children below grade 9.

Ongoing Efforts to Improve Physical Activity in the U.S.: How Is the United States Going to Meet the *Healthy People 2020* Targets?

With fewer than 20% of adults meeting guidelines for aerobic and muscle strengthening activities³⁵ and a similarly low percentage of youth meeting guidelines for aerobic physical activities, a multidisciplinary approach is needed to effect real change in physical activity behaviors. The National Physical Activity Plan (www.physicalactivityplan.org) provides an excellent framework along with strategies and specific tactics for action.⁴ Schools, businesses, local governments, and member organizations can play a role in developing policies and programs that will increase physical activity by effecting changes in how we teach and learn, our modes of transportation, how our communities are designed, and what our communities look like. When undertaken across communities nationwide, the strategies and actions identified in the plan will help us, over time, to move the meter on the *HP 2020* objectives.

In the meantime, efforts such as the First Lady's *Let's Move* initiative are getting more Americans moving.³⁶ Through efforts such as *Let's Move Outside*, *Let's Move Indian Country*, and *Let's Move Cities and Towns*, government offices and partners at all levels are working in communities across the country to promote physical activity. The Communities Putting Prevention to Work program seeks to “impact the nation's health by reducing chronic diseases related to obesity and tobacco using a prescribed set of effective strategies to build public health policies, strengthen the community environment to support health, and establish successful and sustainable interventions over the long term.”³⁷ Affiliated communities are funded through a 2-year cooperative agreement. While the goals are to reduce obesity and tobacco use, many funded communities are targeting physical activity behaviors.

Lastly, CDC's coordinated school health strategy is a recommended way to improve students' health and learning in our nation's schools.³⁸ CDC has proposed a framework for planning and coordinating school health activities centering around eight critical, interrelated components, including physical education. CDC currently provides funding for 22 state education agencies and one tribal government to help schools use the coordinated school health approach to promote physical activity and nutrition and to prevent tobacco use among students.

As a final example of government initiatives that can facilitate multi-sector collaboration, the *State Indicator Report on Physical Activity, 2010* provides a snapshot of environmental and policy supports in each state that impact individual physical activity behaviors.⁹ State and local governments, with help from partners, can identify strengths and weaknesses in promoting physical activity and work to address areas in need.

Conclusions

Progress in meeting the targets for the *HP 2010* physical activity objectives fell short during the past decade, although there were promising trends for several objectives. Improvements to the *HP 2020* objectives include the addition of new objectives for elementary school recess and for policies promoting physical activity in child-care settings. Objectives to monitor policies that support creating environments for physical activity, although developmental, are also included in *HP 2020*. Most important from a public health standpoint, the *HP 2020* objectives for physical activity behaviors are now consistent with the *2008 Physical Activity Guidelines for Americans*.⁸

It is our hope that as the *HP 2020* objectives disseminate into the schools, businesses, and organizations in our communities, there will be an interest in working across sectors to effect real change in physical activity behaviors. The National Physical Activity Plan⁴ (www.physicalactivityplan.org) provides an excellent framework, along with strategies and specific tactics for action. The health benefits of physical activity have been well documented. A concerted effort will be needed to meet the *HP 2020* physical activity objectives this decade.

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