Promoting Better Health for Young People Through Physical Activity and Sports

A Report to the President From the Secretary of Health and Human Services and the Secretary of Education

Fall 2000

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Promoting Better Health for Young People Through Physical Activity and Sports

Executive Summary

Enhancing efforts to promote participation in physical activity and sports among young people is a critical national priority.

Our nation's young people are, in large measure, inactive, unfit, and increasingly overweight. In the long run, this physical inactivity threatens to reverse the decades-long progress we have made in reducing death from cardiovascular diseases and to devastate our national health care budget. In the short run, physical inactivity has contributed to an unprecedented epidemic of childhood obesity that is currently plaguing the United States. The percentage of young people who are overweight has doubled since 1980.

Physical activity has been identified as one of our nation's leading health indicators in *Healthy People 2010*, the national health objectives for the decade. Enhancing efforts to promote participation in physical activity and sports among young people is a critical national priority. That is why, on June 23, 2000, President Clinton issued an Executive Memorandum directing the Secretary of Health and Human Services and the Secretary of Education to work together to identify and report within 90 days on "strategies to promote better health for our nation's youth through physical activity and fitness." The President concluded his directive: "By identifying effective new steps and strengthening public-private partnerships, we will advance our efforts to prepare the nation's young people for lifelong physical fitness."

To increase their levels of physical activity and fitness, young people can benefit from

- **Families** who model and support participation in enjoyable physical activity.
- **School programs**—including quality, daily physical education; health education; recess; and extracurricular activities—that help students develop the knowledge, attitudes, skills, behaviors, and confidence to adopt and maintain physically active lifestyles, while providing opportunities for enjoyable physical activity.
- **After-school care programs** that provide regular opportunities for active, physical play.
- **Youth sports and recreation programs** that offer a range of developmentally appropriate activities that are accessible and attractive to all young people.

- **A community structural environment** that makes it easy and safe for young people to walk, ride bicycles, and use close-to-home physical activity facilities.
- **Media campaigns** that help motivate young people to be physically active.

Strategies

The following strategies are all designed to promote lifelong participation in enjoyable and safe physical activity and sports.

1. Include education for parents and guardians as part of youth physical activity promotion initiatives.
2. Help all children, from prekindergarten through grade 12, to receive quality, daily physical education. Help all schools to have certified physical education specialists; appropriate class sizes; and the facilities, equipment, and supplies needed to deliver quality, daily physical education.
3. Publicize and disseminate tools to help schools improve their physical education and other physical activity programs.
4. Enable state education and health departments to work together to help schools implement quality, daily physical education and other physical activity programs.
   - With a full-time state coordinator for school physical activity programs.
   - As part of a coordinated school health program.
   - With support from relevant governmental and nongovernmental organizations.
5. Enable more after-school care programs to provide regular opportunities for active, physical play.
6. Help provide access to community sports and recreation programs for all young people.
7. Enable youth sports and recreation programs to provide coaches and recreation program staff with the training they need to offer developmentally appropriate, safe, and enjoyable physical activity experiences for young people.
8. Enable communities to develop and promote the use of safe, well-maintained, and close-to-home sidewalks, crosswalks, bicycle paths, trails, parks, recreation facilities, and community designs featuring mixed-use development and a connected grid of streets.
9. Implement an ongoing media campaign to promote physical education as an important component of a quality education and long-term health.

10. Monitor youth physical activity, physical fitness, and school and community physical activity programs in the nation and each state.

Implementation

Full implementation of the strategies recommended in this report will require the commitment of resources, hard work, and creative thinking from many partners in federal, state, and local governments; nongovernmental organizations; and the private sector. Only through extensive collaboration and coordination can resources be maximized, strategies integrated, and messages reinforced. Development or expansion of a broad, national coalition to promote better health through physical activity and sports is an essential first step toward collaboration and coordination. A foundation to support the promotion of physical activity could complement the work of the coalition and play a critical role in obtaining the resources needed to help our young people become physically active and fit. The 10 strategies and the process for facilitating their implementation described in this report provide the framework for our children to rediscover the joys of physical activity and to incorporate physical activity as a fundamental building-block of their present and future lives.

Introduction

America loves to think of itself as a youthful nation focused on fitness. But behind the vivid media images of robust runners, Olympic Dream Teams, and rugged mountain bikers is the troubling reality of a generation of young people that is, in large measure, inactive, unfit, and increasingly overweight.

The consequences of the sedentary lifestyles lived by so many of our young people are grave. In the long run, physical inactivity threatens to reverse the decades-long progress we have made in reducing death and suffering from cardiovascular diseases. A physically inactive population is at increased risk for many chronic diseases, including heart disease, stroke, colon cancer, diabetes, and osteoporosis. In addition to the toll taken by human suffering, surges in the prevalence of these diseases could lead to crippling increases in our national health care expenditures.

Physical inactivity has contributed to an unprecedented epidemic of childhood obesity that is currently plaguing the United States.

In the short run, physical inactivity has contributed to an unprecedented epidemic of childhood obesity that is currently plaguing the United States. The percentage of young people who are overweight has doubled since 1980.[1] Of children aged 5 to 15 who are overweight, 61% have one or more cardiovascular disease risk factors, and 27% have two or more.[2] The negative health consequences linked to the childhood obesity epidemic include the appearance in the past two decades of a new and frightening public health problem: type 2 diabetes *among adolescents.* Type 2 diabetes was previously so rarely seen in children or adolescents that it came to be called "adult-onset diabetes." Now, an increasing number of teenagers and preteens must be treated for diabetes and strive to ward off the life-threatening health complications that it can cause.

Obesity in adolescence also has been associated with poorer self-esteem and with obesity in adulthood. Among adults today, 25% of women and 20% of men are obese.[3] The total costs of diseases associated with obesity have been estimated at almost $100 billion per year, or approximately 8% of the national health care budget.[4]

In January 2000 the nation issued *Healthy People 2010*,[5] its health objectives for the decade. Unlike previous sets of national health objectives, *Healthy People 2010* included a set of leading health indicators—10 high-priority public health areas for enhanced public attention. The fact that the first leading health indicator is physical activity and the second is overweight and obesity speaks clearly to the national importance of these issues.

Enhancing efforts to promote participation in physical activity and sports among young people is a critical national priority. That is why, on June 23, 2000, President Clinton issued a directive to the Secretary of Health

and Human Services and the Secretary of Education to work together to identify and report within 90 days on "strategies to promote better health for our nation's youth through physical activity and fitness" (Appendix 1*).

The President instructed the Secretaries to include in this report strategies for

- Promoting the renewal of physical education in our schools and the expansion of after-school programs that offer physical activities and sports in addition to enhanced academics and cultural activities.
- Encouraging participation by private-sector partners in raising the level of physical activity and fitness among our young people.
- Promoting greater coordination of existing public and private resources that encourage physical activity and sports.

Furthermore, the President directed the Secretaries to work with the United States Olympic Committee (USOC) and other private and nongovernmental sports organizations, as appropriate. The President concluded his directive by saying: "By identifying effective new steps and strengthening public-private partnerships, we will advance our efforts to prepare the nation's young people for lifelong physical fitness."

*The appendices are available on-line at http://www.cdc.gov/nccdphp/dash/pres_report2000.htm.

Background

Benefits of Physical Activity

The landmark 1996 Surgeon General's report, *Physical Activity and Health,*[6] identified substantial health benefits of regular participation in physical activity, including reducing the risks of dying prematurely; dying prematurely from heart disease; and developing diabetes, high blood pressure, or colon cancer (Appendix 2). When physical inactivity is combined with poor diet, the impact on health is devastating, accounting for an estimated 300,000 deaths per year.[7] Tobacco use is the only behavior that kills more people.

The Surgeon General's report made clear that the health benefits of physical activity are not limited to adults. Regular participation in physical activity during childhood and adolescence

- Helps build and maintain healthy bones, muscles, and joints.
- Helps control weight, build lean muscle, and reduce fat.
- Prevents or delays the development of high blood pressure and helps reduce blood pressure in some adolescents with hypertension.
- Reduces feelings of depression and anxiety.

Through its effects on mental health, physical activity may help increase students' capacity for learning.

Although research has not been conducted to conclusively demonstrate a direct link between physical activity and improved academic performance, such a link might be expected. Studies have found participation in physical activity increases adolescents' self-esteem and reduces anxiety and stress.[6] Through its effects on mental health, physical activity may help increase students' capacity for learning. One study found that spending more time in physical education did not have harmful effects on the standardized academic achievement test scores of elementary school students; in fact, there was some evidence that participation in a 2-year health-related physical education program had several significant favorable effects on academic achievement.[8]

Participation in physical activity and sports can promote social well-being, as well as physical and mental health, among young people. Research has shown that students who participate in interscholastic sports are less likely to be regular and heavy smokers or use drugs,[9] and are more likely to stay in school and have good conduct and high academic achievement.[10] Sports and physical activity programs can introduce young people to skills such as teamwork, self-discipline, sportsmanship, leadership, and socialization. Lack of recreational activity, on the other hand, may contribute to making young people more vulnerable to gangs, drugs, or violence.

One of the major benefits of physical activity is that it helps people improve their physical fitness. Fitness is a state of well-being that allows people to perform daily activities with vigor, participate in a variety of physical activities, and reduce their risks for health problems. Five basic components of fitness are important for good health: cardiorespiratory endurance, muscular strength, muscular endurance, flexibility, and body composition (percentage of body fat). A second set of attributes, referred to as sport- or skill-related physical fitness, includes power, speed, agility, balance, and reaction time. Although skill-related fitness attributes are not essential for maintaining physical health, they are important for athletic performance or physically demanding jobs such as military service and emergency and rescue service.

How Much Physical Activity and Fitness Do Young People Need?

The Surgeon General's report on physical activity and health[6] concluded that

- People who are usually inactive can improve their health and well-being by becoming even moderately active on a regular basis.
- Physical activity need not be strenuous to achieve health benefits.
- Greater health benefits can be achieved by increasing the amount (duration, frequency, or intensity) of physical activity.

Rigorous scientific reviews have led to two widely accepted sets of developmentally appropriate recommendations —one for adolescents, the other for elementary school-aged children—for how much and what kinds of physical activity young people need. The International Consensus Conference on Physical Activity Guidelines for Adolescents[11] issued the following recommendations:

- All adolescents should be physically active daily, or nearly every day, as part of play, games, sports, work, transportation, recreation, physical education, or planned exercise, in the context of family, school, and community activities.
- Adolescents should engage in three or more sessions per week of activities that last 20 minutes or more at a time and that require moderate to vigorous levels of exertion.

The developmental needs and abilities of younger children differ from those of adolescents and adults. The National Association for Sport and Physical Education (NASPE) has issued physical activity guidelines for elementary school-aged children[12] that recommend the following:

- Elementary school-aged children should accumulate at least 30 to 60 minutes of age-appropriate and developmentally appropriate physical activity from a variety of activities on all, or most, days of the week.
- An accumulation of more than 60 minutes, and up to several hours per day, of age-appropriate and developmentally appropriate activity is encouraged.
- Some of the child's activity each day should be in periods lasting 10 to 15 minutes or more and include moderate to vigorous activity. This activity will typically be intermittent in nature, involving alternating moderate to vigorous activity with brief periods of rest and recovery.
- Children should not have extended periods of inactivity.

Healthy People 2010,[5] the national initiative that established health objectives for the first decade of this century, includes objectives to increase levels of moderate and vigorous physical activity among adolescents, to increase the proportion of trips made by walking and bicycling, and to decrease the amount of time young people spend watching television (see Appendix 3).

Furthermore, *Healthy People 2010* includes participation in physical activity as one of the nation's 10 leading health indicators. Of the two objectives that will be used to measure progress in meeting this indicator, one targets adolescents:

> Increase the proportion of adolescents who engage in vigorous physical activity that promotes cardiorespiratory fitness 3 or more days per week for 20 or more minutes per occasion.

Healthy People 2010 does not specify national objectives related to youth fitness, in part because there is no scientific consensus on which of the various existing fitness tests and classification standards to use. However, there is widespread agreement that fitness tests should emphasize health-related fitness components and that standards for interpreting test results should be based on the relationship between physical activity and health rather than on the results of other students (i.e., norms). This will give all children and adolescents the opportunity to experience success, reinforce the link between fitness and health, and emphasize that one can be fit without being an elite athlete.

The importance of physical activity is reinforced in the 2000 version of the *Dietary Guidelines for Americans,*[13] which forms the basis of all federal nutrition education and promotion activities. One of the guidelines advises Americans to "be physically active each day"; children and teens are advised to aim for at least 60 minutes of moderate physical activity most days of the week, preferably daily.

How Active and Fit Are Our Children and Adolescents?

Available data indicate that young children are among the most active of all segments of the population, but physical activity levels begin to decline as children approach their teenage years and continue to decline throughout adolescence. Even among children and adolescents, however, a substantial proportion of the population does not meet recommended levels of participation in physical activity. The Centers for Disease Control and Prevention's (CDC's) Youth Risk Behavior Surveillance System (YRBSS; Appendix 4) collects data on participation in physical activity from a nationally representative sample of students in grades 9–12. YRBSS data for 1999[14] show that, among U.S. high school students:

- More than one in three (35%) do not participate regularly in vigorous physical activity.
- Regular participation in vigorous physical activity drops from 73% of 9th grade students to 61% of 12th grade students.
- Nearly half (45%) do not play on any sports teams during the year.
- Nearly half (44%) are not even enrolled in a physical education class; enrollment in physical education drops from 79% in 9th grade to 37% in 12th grade.
- Only 29% attend daily physical education classes, a dramatic decline from 1991, when 42% of high school students did so.

National transportation surveys have found that walking and bicycling by children aged 5–15 dropped 40% between 1977 and 1995.[15] More than one-third (37%) of all trips to school are made from one mile away or less, but only 31% of these trips are made by walking.[16] Although an estimated 38 million young people participate in youth sports programs, participation declines substantially as children progress through adolescence.[17] One study found that attrition from youth sports programs was occurring among 10-year-olds and peaked among 14–15-year-olds.[17]

Walking and bicycling by children aged 5-15 dropped 40% between 1977 and 1995.

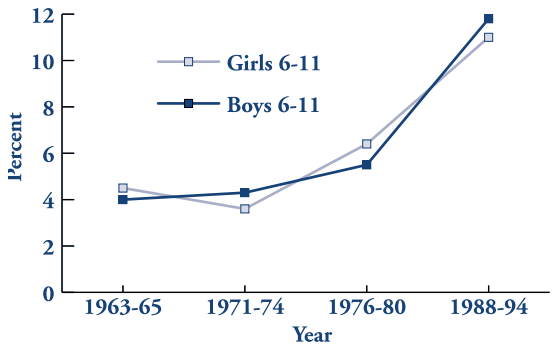
One factor contributing to low levels of physical activity among young people might be the many hours that they spend doing sedentary activities, most notably using electronic media. A 1999 national survey found that young people aged 2–18 spend, on average, over 4 hours a day watching television, watching videotapes, playing video games, or using a computer. Most of this time—2 hours and 46 minutes per day, on average—is spent watching television. One-third of children and adolescents watch television for more than 3 hours a day, and nearly one-fifth (17%) watch more than 5 hours of television a day.[18]

Physical inactivity has contributed to the 100% increase in the prevalence of childhood obesity in the United States since 1980. According to the National Health and Nutrition Examination Survey (NHANES), between

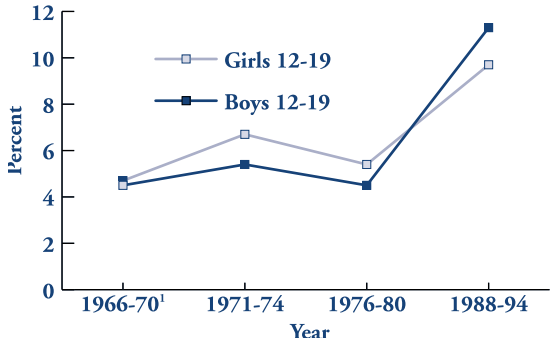
1976–1980 and 1988–1994, the percentage of U.S. adolescents (aged 12–19) who were overweight increased from 5.4% to 9.7% of girls and 4.5% to 11.3% of boys. The changes among young children (ages 6–11) in the same period were similar, rising from 6.4% to 11.0% of girls and from 5.5% to 11.8% of boys.[1]

The last nationally representative study of youth fitness was conducted in the mid-1980s, but it did not classify children and adolescents based on whether or not they met health-related fitness standards. However, fitness tests administered throughout California in 1999 found that only about one in five students in the fifth, seventh, and ninth grades met the standards for all health-related fitness components and that more than 40% did not meet the minimum fitness standard for cardiorespiratory endurance.[19]

Percentage of Children Aged 6–11 Who Are Overweight, By Sex



Percentage of Adolescents Aged 12–19 Who Are Overweight, By Sex



[1]Data for 1966–70 are for adolescents 12–17, not 12–19 years.

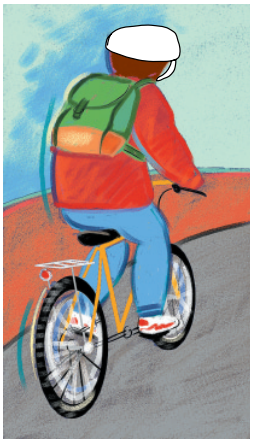
NOTE: Overweight is defined as body mass index (BMI) at or above the sex- and age-specific 95th percentile cutoff points from the revised CDC Growth Chart: United States.

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, Division of Health Examination Statistics. Unpublished data.

How Our Society Discourages Physical Activity

Behavior is shaped, in large measure, by one's environment. Our young people live in a social and physical environment that makes it easy to be sedentary and inconvenient to be active. Developments in our culture and society over the past few decades that have discouraged youth physical activity include the following:

- Community design centered around the automobile has discouraged walking and bicycling and has made it more difficult for children to get together to play.
- Increased concerns about safety have limited the time and areas in which children are allowed to play outside.
- New technology has conditioned our young people to be less active, while new electronic media (e.g., video and computer games, cable and satellite television) have made sedentary activities more appealing.
- States and school districts have reduced the amount of time students are required to spend in physical education classes, and many of those classes have so many students that teachers cannot give students the individual attention they need.
- Communities have failed to invest adequately in close-to-home physical activity facilities (e.g., parks, recreation centers).



Strategies for Promoting Participation in Physical Activity and Sports Among Young People

Children and adolescents in the United States *canno*t become more physically active and fit if they don't have a wide range of accessible, safe, and affordable opportunities to be active. However, opportunities alone are not enough: In 21st century America, physical activity is, for the most part, a *voluntary* behavior. Our young people, therefore, *will not* increase their levels of physical activity and fitness unless they are sufficiently motivated to do so. Their motivation to be active will depend on the degree to which they find their physical activity experiences to be *enjoyable.* Enjoyment of physical activity, in turn, will be influenced by the extent to which young people

- Can choose to engage in sports and recreational activities that are most appealing to them.
- Are taught necessary skills.
- Develop confidence in their physical abilities.
- Are guided by competent, knowledgeable, and supportive adults.
- Are supported by cultural norms that make participation in physical activity desirable.

To obtain the opportunities and motivation that will enable them to increase their levels of physical activity and fitness, young people can benefit from

- **Families** who model and support participation in enjoyable physical activity.
- **School programs**—including quality, daily physical education; health education; recess; and extracurricular activities—that help students develop the knowledge, attitudes, skills, behaviors, and confidence to adopt and maintain physically active lifestyles, while providing opportunities for enjoyable physical activity.
- **After-school care programs** that provide regular opportunities for active, physical play.
- **Youth sports and recreation programs** that offer a range of developmentally appropriate activities that are attractive to all young people.
- **A community structural environment** that makes it easy and safe for young people to walk, ride bicycles, and use close-to-home physical activity facilities.
- **Media campaigns** that increase the motivation of young people to be physically active.

The strategies presented in this report are designed to promote lifelong participation in enjoyable and safe physical activity. Special efforts must be made to ensure that programs are responsive to those in greatest need, including girls and racial/ethnic minorities.

Girls are significantly less likely than boys to participate regularly in vigorous physical activity and on sports teams. Among high school students in 1999, 57% of girls participated regularly in vigorous physical activity compared with 72% of boys, and 49% of girls played on a sports team compared with 62% of boys.[14] Despite the tremendous gains girls have made in sports participation during the last 30 years—no doubt due, in large measure, to the 1972 Title IX legislation that prohibited sex discrimination in school athletics—the ratio of female to male participants in interscholastic sports is still only 3:5.[17] Girls join organized sports programs at later ages than boys and drop out at younger ages.[17]

In its 1997 report, *Physical Activity and Sport in the Lives of Girls,*[20] the President's Council on Physical Fitness and Sports (PCPFS) concluded that physical activity has an increasingly important role in the lives of girls, because of both its physical and emotional health benefits. Strategies to increase the amount of physical activity for boys and girls will need to be different, because girls tend to prefer different types of physical activity and pursue it for different reasons than do boys. Since girls are more likely to have lower self-esteem related to their physical capabilities, programs that serve girls should provide instruction and experiences that increase their confidence, offer ample opportunities for participation, and establish social environments that support involvement in a range of physical activities.

Resources must be invested in creative, culturally sensitive, linguistically appropriate programs to give all young Americans the opportunities and motivation they need to become more active.

Among high school students in 1999, whites were significantly more likely than blacks to report regular participation in physical activity (67% vs. 56%) and more likely than Hispanics to play on sports teams in and out of school (57% vs. 51%).[14] Establishing a physically active lifestyle in adolescence is particularly important for African-Americans and Hispanics, because African-American and Hispanic adults are at increased risk for physical inactivity, obesity, and diabetes; African-American adults also are at increased risk for death from heart disease.[5] Resources must be invested in creative, culturally sensitive, linguistically appropriate programs to give all young Americans the opportunities and motivation they need to become more active.

Implementation

Implementing strategies to promote youth participation in physical activity and sports will require the commitment of resources from federal, state, and local governments and the private sector, as well as close collaboration among health, education, and youth-serving organizations. National efforts

to implement and sustain activities to promote youth participation in physical activity and sports would benefit from the establishment or enhancement of a coordinating mechanism, such as a national coalition. To measure the progress of a national initiative and guide its management, national systems should be supported to monitor youth physical activity and fitness and programs designed to promote youth physical activity. To help inform policymakers about the importance of this issue, researchers need to document the effects of participation in physical activity, and sports, and physical education on desired public health and social outcomes, particularly improved academic performance and reductions in youth violence.

Families

Families play a critical role in shaping a child's physical activity experiences. Opportunities and motivation to be physically active begin in the home. Studies have found that adolescents are more likely to be active if their parents or siblings are active; their parents support their participation in physical activities; and they have access to convenient play spaces, sports equipment, and transportation to sports and recreation programs.[6]

Strategy 1: Include education for parents and guardians as part of youth physical activity promotion initiatives.

Parents and guardians can

- Encourage their children to be active on a regular basis.
- Be physically active role models.
- Set limits on the amount of time their children spend watching television and playing video or computer games.
- Plan and participate in family activities that include physical activity (e.g., walking or bicycling together instead of driving, doing active chores like vacuuming and mowing the lawn, playing outside) and include physical activity in family events such as birthday parties, picnics, and vacations.
- Facilitate participation by their children in school and community physical activity and sports programs.
- Advocate for quality school and community physical activity programs.

Physical education teachers, health education teachers, coaches, and recreation program staff should encourage and enable family involvement in their programs. For example, teachers can assign physical activity-related homework to students that must be done with their families and provide flyers designed for parents that contain information and strategies for promoting physical activity within the family. Coaches and recreation program staff can involve parents in booster clubs and give them advice

on how to help their children stay active and fit. Media campaigns to promote youth physical activity should include messages targeting parents and guardians.

A particularly important channel for educating parents and guardians and their children about youth physical activity is the primary health care provider. Physicians, nurses, and others who provide health services to young people should assess physical activity patterns among their patients, counsel them about physical activity, and refer them to appropriate physical activity programs. Health care providers also should encourage parents to be role models for their children, plan physical activities that involve the whole family, and discuss with their children the value of physical activity.

School Programs

Schools provide many opportunities for young people to engage in physical activity and can play an important role in motivating young people to stay active. As detailed in CDC's *Guidelines for School and Community Programs to Promote Lifelong Physical Activity Among Young People* (Appendix 5),[21] a comprehensive approach to promoting physical activity through schools includes

- Quality, daily physical education.
- Classroom health education that complements physical education by giving students the knowledge and self-management skills needed to maintain a physically active lifestyle and to reduce time spent on sedentary activities such as watching television (Appendix 6).
- Daily recess periods for elementary school students, featuring time for unstructured but supervised play (Appendix 7).
- Extracurricular physical activity programs, especially inclusive, intramural programs and physical activity clubs (e.g., dance, hiking, yoga) that (1) feature a diverse selection of competitive and noncompetitive, structured and unstructured activities, (2) meet the needs and interests of all students with a wide range of abilities, particularly those with limited athletic skills, and (3) emphasize participation and enjoyment without pressure (Appendix 8).

Because school staff members spend a great deal of time with students and have considerable influence over students, they can be powerful role models for physical activity. Although schools cannot dictate the personal behaviors of staff members, they can make it easier for staff to become physical activity role models by sponsoring school-site health promotion programs. School staff also can play an important role in promoting youth physical activity by disseminating information about community-based sports and recreation programs to students and by helping these programs gain access to school facilities outside of school hours.

Quality Physical Education

Physical education is at the core of a comprehensive approach to promoting physical activity through schools. All children, from prekindergarten through grade 12, should participate in quality physical education classes every school day. Physical education helps students develop the knowledge, attitudes, skills, behaviors, and confidence needed to be physically active for life, while providing an opportunity for students to be active during the school day (Appendix 9). Leading professionals in the field of physical education have developed a new kind of physical education that is fundamentally different from the stereotypical "roll out the balls and play" classes of decades past that featured little meaningful instruction and lots of humiliation for students who were not athletically coordinated. Professional associations, academic experts, and many teachers across the country are promoting and implementing quality physical education programs (Appendix 10) that emphasize participation in lifelong physical activity among all students.

All children, from prekindergarten through grade 12, should participate in quality physical education classes every school day.

Quality physical education is not a specific curriculum or program; it reflects, instead, an instructional philosophy that emphasizes

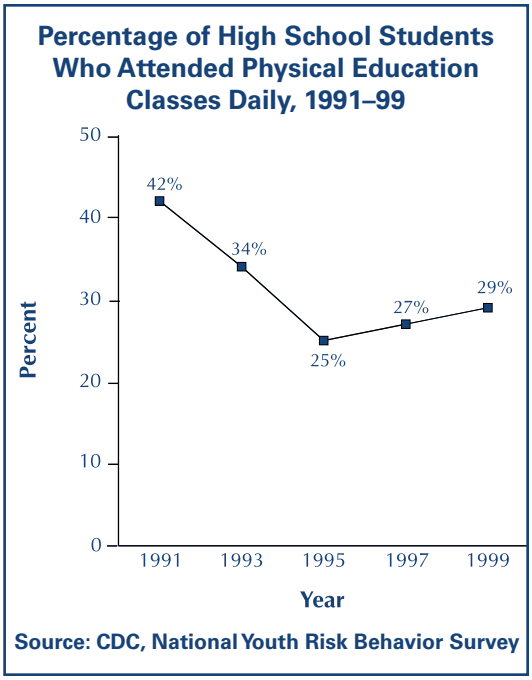
- Providing intensive instruction in the motor and self-management skills needed to enjoy a wide variety of physical activity experiences, including competitive and noncompetitive activities.
- Keeping all students active for most of the class period.
- Building students' confidence in their physical abilities.
- Influencing moral development by providing students with opportunities to assume leadership, cooperate with others, and accept responsibility for their own behavior.
- Having fun!

The importance of making physical education fun was illustrated by a national survey of students in grades 4–12, which found that enjoyment of physical education class was one of the most powerful factors associated with participation in physical activity outside of school.[22]

Quality physical education is more than just fun, however; it is also a serious academic discipline. Physical education and health education are recognized as important components of the education curricula.[23] *The National Standards for Physical Education*[24] explicitly identifies what students should know and be able to do as a result of a quality physical education program (Appendix 11). These standards provide a framework that can be used to design, implement, and evaluate physical education curricula.

To cover the necessary instructional components (Appendix 12) and to provide opportunities for adequate skill practice and health-enhancing

physical activity, quality physical education should be offered every day to all students from prekindergarten through grade 12. Unfortunately, most U.S. students do not participate in daily physical education, and the proportion of students with daily physical education has been declining over time.[14] In 1994, only 17% of middle/junior high schools and 2% of high schools required physical education 5 days per week each year.[25] The majority of high school students take physical education for only 1 year between 9th and 12th grades.[26] *Healthy People 2010*[5] includes objectives for increasing the percentage of schools offering, and the percentage of students participating in, daily physical education classes (Appendix 3).



Illinois is the only state that currently requires daily physical education in every grade, K–12, but it allows many schools to be exempted from this requirement (Appendix 13).[26] The majority of states allow students to replace physical education courses with other experiences, including varsity athletics, ROTC, and marching band;[25] this deprives students of the important learning experiences they can have in quality physical education. As one educator has written, exempting students from physical education because of their extracurricular activities is like exempting students from language arts requirements because they're on the debate team or from science requirements because they're in the astronomy club.[27] Students should not be exempted from physical education courses because they participate in an extracurricular program.

Strategy 2: Help all children, from prekindergarten through grade 12, to receive quality, daily physical education. Help all schools to have certified physical education specialists; appropriate class sizes; and the facilities, equipment, and supplies needed to deliver quality, daily physical education.

Qualified and appropriately trained physical education teachers are the most essential ingredient of a quality physical education program. Unfortunately, many schools do not have qualified professionals teaching physical education. Only certified physical education teachers should be given the responsibility of teaching the skills and providing the motivation our young people need to adopt and maintain a physically active lifestyle. However, only seven states require physical education courses to be taught by certified physical education specialists in all grades. All the other states allow classroom teachers, without any required training in physical education, to teach some physical education courses.[26] Studies have found that, compared with classroom teachers, physical education specialists teach longer and higher quality classes in which students spend more time being physically active.[21,28]

It must be noted, however, that some certified physical education teachers have not received the state-of-the-art training, either through undergraduate teacher training programs or at professional staff development sessions, that is needed to teach quality physical education. National standards are helpful in describing what a beginning physical education teacher should know and be able to do (Appendix 14).[29] These standards can guide physical education teacher preparation programs and the physical education teacher certification process. Additional resources are needed to effectively disseminate these standards to colleges, universities, and school districts across the nation.

A 1994 national survey found that only half of the nation's school districts had offered any staff development opportunities in physical education during the 2 years before the survey.[25] Efforts to provide staff development for physical educators should be intensified, and guidelines for offering quality professional staff development sessions should be developed.

To provide quality physical education for all students, schools must be able to provide adapted physical education for students with disabilities. The regulations implementing the Individuals with Disabilities Education Act (IDEA) mandate that physical education services, specially designed if necessary, must be made available to every child with a disability receiving a free and appropriate public education. Each child with a disability must be afforded the opportunity to participate in the regular physical education program available to nondisabled children unless the child is enrolled full time in a separate facility or the child needs specially designed physical education, as prescribed in the child's individualized education program. The *Adapted Physical Education National Standards*[30] (Appendix 15) provide guidance on how physical educators can accommodate the needs of students with disabilities, and a national examination exists to certify adapted physical education teachers.

Physical education should have the same class sizes as other subjects.

The large class sizes with which physical educators are often confronted are a key barrier to the implementation of quality physical education. Physical education should have the same class sizes as other subjects. Quality physical education must cover a great deal of content, and physical educators cannot do their jobs effectively or have enough time to work with individual students if classes are overcrowded. As one physical educator has said, "Try teaching English with 72 kids!"[27]

Even the best physical education teachers in the world will find it difficult to keep their students active during most of a physical education class if they don't have adequate amounts of equipment and supplies. Many schools don't have enough equipment or supplies to keep all their students active during physical education class; consequently, many students waste valuable time standing in line and watching others play while they wait for a turn. Support for the purchase of physical education equipment and supplies is an urgent priority for many of the nation's schools.

Strategy 3: Publicize and disseminate tools to help schools improve their physical education and other physical activity programs.

In recent years, federal agencies and national organizations have developed a large number of practical tools that can help schools improve their physical education and other physical activity programs. These tools include

- *Guidelines for School and Community Programs to Promote Lifelong Physical Activity Among Young People* (CDC; Appendix 5).[21]
- *School Health Index for Physical Activity and Healthy Eating: A Self-Assessment and Planning Guide* (CDC; Appendix 16).[31]
- *Moving into the Future: National Standards for Physical Education* (NASPE; Appendix 11).[24]
- *Adapted Physical Education National Standards* (National Consortium for Physical Education and Recreation for Individuals with Disabilities; Appendix 15).[30]
- *National Standards for Beginning Physical Education Teachers* (NASPE; Appendix 14).[29]
- *Concepts of Physical Education: What Every Student Needs to Know* (NASPE).[32]
- *Fit, Healthy, and Ready to Learn: A School Health Policy Guide* (National Association of State Boards of Education; Appendix 17).[27]
- *Physical Fitness Demonstration Centers* (PCPFS; Appendix 18).
- *Programs That Work* (CDC; Appendix 19).
- *Quality Coaches, Quality Sports: National Standards for Athletic Coaches* (NASPE).[33]
- *Guidelines for School Intramural Programs* (National Intramural Sports Council; Appendix 20).[34]
- *The NSACA Standards for Quality School-Age Care* (National School-Age Care Alliance; Appendix 21).[35]
- *Developmentally Appropriate Practice in Movement Programs for Young Children, Ages 3–5* (NASPE).[36]

Many school administrators and educators do not have these materials, and only modest efforts have been made to disseminate them. Relevant Department of Health and Human Services agencies, working in close collaboration with the Department of Education, state and local agencies, and nongovernmental organizations, should implement an ongoing marketing initiative to systematically distribute these resources to the nation's educators at the school district and school levels. Staff development must be provided to ensure the effective use of these tools.

One of the best ways to promote the widespread use of innovative practices and build support for quality school initiatives is to identify model programs that allow educators to learn from the successes of their peers. Two existing federal programs could be expanded to identify model programs:

- PCPFS's *Physical Fitness Demonstration Centers* (Appendix 18) initiative recognizes individual schools that do an outstanding job of emphasizing the physical fitness component of physical education, as determined by state departments of education according to criteria developed in cooperation with PCPFS. Expanding this initiative to more schools in more states would facilitate the dissemination of innovative practices.
- CDC's *Programs That Work* initiative (Appendix 19) identifies curricula with credible evidence of effectiveness in reducing health risk behaviors among young people. Training on implementing these curricula is provided for interested educators from state and local education agencies, departments of health, and national non-governmental organizations. To date, curricula have been identified that address tobacco-use prevention and HIV, sexually transmitted diseases (STDs), and pregnancy prevention. Expanding this initiative to include programs that promote physical activity would help states and school districts make more informed curricular decisions.

Perhaps the most urgently needed tool that has not yet been developed is a standardized assessment of student performance in physical education. Such a tool would measure achievement in knowledge, motor skills, and self-management skills. It could

- Help educators monitor and improve the quality of physical education programs.
- Provide a means of holding programs accountable.
- Enable physical education to be included among the subjects on which students are tested as part of the state education assessments that are increasingly driving school management decisions.

Without the data on student performance that such a tool could provide, physical education will continue to be relegated to a low priority in school reform efforts.

Most states have not developed assessments of student performance in physical education and have not included physical education among the subjects that all schools must assess. NASPE has developed materials that could guide an assessment process, and several states have independently begun to develop their own assessments. These efforts should be supported and final products should be widely disseminated by relevant Department

of Health and Human Services agencies, in collaboration with the Department of Education, state and local agencies, and nongovernmental organizations.

Strategy 4: Enable state education and health departments to work together to help schools implement quality, daily physical education and other physical activity programs

- ***With a full-time state coordinator for school physical activity programs.***
- ***As part of a coordinated school health program.***
- ***With support from relevant governmental and nongovernmental organizations.***

Without a qualified, dedicated person coordinating efforts in each state, a national initiative to promote physical activity among young people will inevitably fall through the cracks . . .

Most states do not have physical education specialists at their state education agencies who can provide technical assistance to help schools implement quality physical education. A full-time coordinator for school physical activity programs in each state would play an important role in implementing the essential staff development, resource dissemination, student assessment, monitoring, and evaluation recommendations made in this report. He or she would also guide efforts to collaborate with and reinforce the complementary initiatives of relevant governmental and nongovernmental organizations (e.g., Governor's or State Council for Physical Fitness and Sports, American Heart Association, state affiliate of the American Alliance for Health, Physical Education, Recreation, and Dance). Without a qualified, dedicated person coordinating efforts in each state, a national initiative to promote physical activity among young people will inevitably fall through the cracks and fail to get the statewide attention needed to make a difference.

To maximize impact and efficiency, physical activity efforts should be integrated within a state's coordinated school health program. Other components of such a program include health education; nutrition services; health services; counseling, psychological, and social services; parent and community involvement; health promotion for staff; and a healthy school environment.

In fiscal year 2000, CDC funded 21 states to establish and run statewide programs for coordinated school health (Appendix 22). Funding is provided for program directors in the state education and health agencies, but not for a state school physical activity coordinator. With additional resources, this initiative could be expanded to support the remaining states and to include a physical activity coordinator in each state.

The President's reauthorization proposal for the Elementary and Secondary Education Act includes funding for demonstration projects that would

implement effective policies and programs to promote lifelong physical activity and healthy lifestyles among young people. This initiative also would support funding for

- Training school personnel on how to provide instructional programs to promote enjoyable lifelong physical activity among children and adolescents.
- Capacity-building activities to expand existing state and local coordinated school health programs to promote healthy lifestyles among children and adolescents.
- Providing school staff with continuing education opportunities related to physical activity and coordinated school health programs.

After-School Care Programs

With nearly two-thirds of school-aged children and adolescents living with a single employed parent or two parents who are both employed,[37] the need for programs to take care of children outside of school hours is great. Almost 30% of public schools and 50% of private schools offered before- and/or after-school care in 1993–1994.[38] Many out-of-school programs are now taking care of students before school, after school, and during weekends, school holidays, and summer vacation. These programs are often called Expanded Learning Opportunities, Extra Learning Opportunities, or Community Learning Centers to make the point that they build on what students have learned during the school day and provide enrichment activities based on a student's strengths or interests. These programs offer a variety of activities, including sports, free play, dance, art, tutoring or homework help, mentoring, and community service. A 1999 Department of Justice report concluded that after-school recreation programs may be a promising approach to preventing delinquency and crime.[39]

After-school care programs can provide substantial amounts of health-enhancing physical activity and opportunities to practice skills taught in physical education courses.

Strategy 5: Enable more after-school care programs to provide regular opportunities for active, physical play.

After-school care programs can provide substantial amounts of health-enhancing physical activity and opportunities to practice skills taught in physical education courses. *The NSACA Standards for Quality School-Age Care*[35] calls upon programs to offer children "regular opportunities for active, physical play" (Appendix 21).

The U.S. Department of Education's 21st Century Community Learning Centers Program provides grants to inner-city and rural communities to offer school-based expanded learning opportunities, including before-school, after-school, weekend, and summer programming. Funding for the program increased from $40 million in 1998 to $453 million in 2000; 2,253 communities applied for grants in FY 2000, and 903 grants were awarded, serving 650,000 children in approximately 3,600 public schools.

Although most of the 21st Century Community Learning Centers include some kind of recreational activities, after-school care programs need guidelines, training, technical assistance, and financial incentives to help them provide physical activity opportunities that are developmentally appropriate, safe, and enjoyable. Physical activity can be more strongly encouraged through this program, which should be expanded to meet the tremendous need for after-school services in communities nationwide.

Youth Sports and Recreation Programs

Youth sports and recreation programs are one of the primary approaches through which communities can increase physical activity and fitness among young people. Youth sports refers to organized athletic programs that provide a systematic sequence of practices and contests for children and adolescents. These programs are typically sponsored by nationally affiliated sports organizations (e.g., Amateur Athletic Union, Little League Baseball, United States Tennis Association, United States Youth Soccer Association), community centers (e.g., YMCA, YWCA), and local recreation departments. Youth sports experiences differ greatly in competitive level, length of season, cost to competitors, qualifications of coaches and officials, and skill levels of athletes. Community centers and recreation departments also offer recreation programs that are not competitive, such as instruction (e.g., in swimming or martial arts), group activities (e.g., aerobics workouts), access to fitness equipment (e.g., weight lifting, stationary bicycles), and "open gym" (e.g., running on a track, shooting baskets).

Communities should support and coordinate youth sports and recreation programs so that they provide a variety of sport and recreational activities that meet the needs of all young people, regardless of age, sex, race/ethnicity, or ability. Programs that only offer a limited set of team sports and do not also provide noncompetitive, lifetime fitness and recreational activities (e.g., running, bicycling, dancing, swimming) do not adequately serve the many young people who are less skilled, less physically fit, or not attracted to team sports. Communities also must develop and offer adapted sports and recreation programs that meet the needs of young people with disabilities.

Strategy 6: Help provide access to community sports and recreation programs for all young people.

Although sports and recreation programs for young people exist in most communities, it is extremely difficult to start and even more difficult to sustain these programs in certain communities, such as public housing and inner-city neighborhoods, Native American lands, and rural areas.[17,21] The nation should ensure that all young people, irrespective of their family's income or the community in which they live, have access to youth

sports and recreation programs and the equipment and supplies needed to participate in such programs.

Many young people are not able to participate in youth sports and recreation programs because they have no means, or no safe means, of getting to the programs from home or school and getting home afterwards. Sports and recreation program directors cite this transportation problem as one of the most critical barriers to youth participation in their programs. Transportation difficulties affect a wide variety of young people, including those who live in low-income, urban communities and those who live in rural areas, as well as those who are part of single-parent families and those who have two parents who work outside the home. This barrier should be overcome to make sports and recreation programs accessible for all of our young people.

Community recreation programs have attempted to address the transportation problem in a number of ways, including

- Having the public bus system take children to local swimming pools at no charge.
- Purchasing buses to transport children to and from program activities.
- Taking vans with physical activity equipment (i.e., mobile recreation units) into neighborhoods that do not have access to physical activity facilities.
- Establishing sports leagues near public housing communities to eliminate the need for transportation.

Training for coaches should emphasize teaching young people . . . about responsibility, leadership, nonviolent conflict resolution, sportsmanship, integrity, and cooperation.

Strategy 7: Enable youth sports and recreation programs to provide coaches and recreation program staff with the training they need to offer developmentally appropriate, safe, and enjoyable physical activity experiences for young people.

The quality of any youth sports and recreation experience depends on the competence and supportiveness of its adult program leaders, particularly the coaches. Approximately 2.5 million adults generously volunteer their time each year as coaches of youth sports teams. The commitment of these individuals provides a vital source of support for our young people. However, many coaches have no formal education in coaching techniques, first aid, injury prevention, or emergency care.[17] A variety of excellent sport-specific training programs and standards for coaches, as well as *National Standards for Athletic Coaches,*[33] are available.

Training for coaches should emphasize teaching young people not only about sports skills and lifetime physical activity, but also about responsibility, leadership, nonviolent conflict resolution, sportsmanship, integrity, and cooperation. It is important that all youth coaches be offered and

encouraged to take formal educational courses offered by local recreation departments or sports-specific organizations. Better-trained coaches will enhance enjoyment of the team sports experience for young people, increase retention rates among participants, and help to reduce sports-related injuries.

Community Structural Environment

A community structural environment that supports physical activity is one with

- An abundance of accessible, well-lit, and safe sidewalks, bicycle paths, trails, and crosswalks to facilitate walking and bicycling.
- Sports and recreation facilities that are close to the homes of most residents, well-maintained, and safe.
- Programs in place to motivate community members to walk, bicycle, and use the sports and recreation facilities.

Strategy 8: Enable communities to develop and promote the use of safe, well-maintained, and close-to-home sidewalks, crosswalks, bicycle paths, trails, parks, recreation facilities, and community designs featuring mixed-use development and a connected grid of streets.

Research has found that moderate physical activity, such as walking and bicycling, offers substantial health benefits.[6] Walking is, in many ways, an ideal form of physical activity. It's easy to do, requires no special skills or equipment, can be done by the vast majority of the population with little risk of injury, and is functional: It gets us places. Unfortunately, young people today do not have the opportunities for walking that previous generations had. Since the late 1940s, community and transportation development practices have focused on increasing the efficiency of automobile use. Sidewalks, bicycle paths, and crosswalks are practically nonexistent in many communities developed since the 1960s.

A small increase in the percentage of trips that are walked rather than driven could result in significant public health benefits.

Nearly 25% of the trips made from home in our nation cover a distance less than one mile, but 75% of those trips are made by automobile.[15] A small increase in the percentage of trips that are walked rather than driven could result in significant public health benefits. Research has found that people walk more when they live in communities that have greater housing and population density and more street connectivity (i.e., streets lead to other streets and stores, rather than just ending in cul-de-sacs).[40] Research also shows that people are more active in neighborhoods that are perceived as safe and that have recreational facilities nearby.[41]

Communities need funding, guidelines, model programs, and ongoing technical assistance to implement these strategies. Departments of transportation, city planning, parks and recreation, law enforcement, public

health, and education all should collaborate in these efforts. Department of Health and Human Services agencies can support studies that examine the effects of community infrastructure changes on physical activity, physical fitness, environmental quality, and social connectedness. Such studies will provide valuable information that can be used to document the importance of having a community infrastructure that supports physical activity.

One existing mechanism for promoting walking, bicycling, and accessible recreation facilities is the CDC's Active Community Environments initiative (Appendix 23). This initiative has focused on helping communities to promote walking to school (Appendix 24) and to develop close-to-home parks and recreational facilities.

One of the major barriers to youth participation in physical activity is a lack of access to sports and recreation facilities.[42] Increased access to school facilities would, therefore, help facilitate increases in physical activity among young people. School districts should work with youth sports and recreation programs to take maximum advantage of school facilities for the benefit of children, adolescents, and the community as a whole.

Media Campaigns

Young people today belong to a multimedia generation. The average child spends more than 4 hours a day using electronic media.[18] Although this staggering amount of media use poses certain problems, it also creates an opportunity: Young people are a willing audience that can be reached through a variety of media. Communicating to young people through an ongoing, well-designed multimedia campaign can play an important role in increasing their motivation to be physically active.

Strategy 9: Implement an ongoing media campaign to promote physical education as an important component of a quality education and long-term health.

This campaign must take advantage of all that communication and marketing experts have learned about how to develop effective mass media messages. Testing messages for appeal and appropriateness with different groups is essential, as is involving young people in all aspects of campaign planning and implementation. Special efforts should be made to reach out to those population segments in greatest need, including girls and members of racial/ethnic minority groups. Culturally and linguistically appropriate messages should be designed for these groups and delivered through targeted communication channels. Communication to parents, educators, and health care professionals also should be a central part of this campaign.

While the campaign should take advantage of traditional media (e.g., television and radio ads), it should also target the new media (e.g., Internet-based

activities) that are so popular with young people. The same integrated communication tactics that are employed by leading marketers (e.g., movie promotion campaigns using ads, news media outreach, events, and appropriate product tie-ins) might be tried. A national media campaign should be integrated with state and local efforts.

A national media campaign should be integrated with state and local efforts.

The USOC can play a valuable role in this initiative by identifying and coordinating the participation of Olympic and Paralympic athletes in public appearances and advertisements promoting physical fitness. In addition, the PCPFS should work with professional sports leagues to mount a targeted effort to promote quality, daily physical education in our nation's schools.

Monitoring Youth Physical Activity and Fitness and School and Community Programs

The nation needs an ongoing mechanism for measuring progress in promoting youth physical activity and fitness and in providing the school- and community-based programs that will make this possible. In addition, research should be conducted to document the effects of participation in physical activity, sports, and physical education on desired public health and social outcomes, including improved academic performance and reductions in youth violence.

Strategy 10: Monitor youth physical activity, physical fitness, and school and community physical activity programs in the nation and each state.

An existing monitoring system, CDC's Youth Risk Behavior Surveillance System (YRBSS), monitors health risk behaviors, including physical inactivity, among representative samples of high school students across the nation, in most states, and in many large cities. Reports are issued every other year (Appendix 4). YRBSS data are used to monitor Healthy People objectives, as well as state and local initiatives. The YRBSS should be maintained and expanded to include more states and cities.

No national health objectives relate to youth physical fitness, in part because no system exists to monitor youth physical fitness. Fitness was last measured in a nationally representative sample of young people in 1984 and 1986, through the National Children and Youth Fitness Study.[43,44] That study provided a wealth of data on youth fitness and enabled scientists to establish age- and sex-specific health-related fitness norms. A new, ongoing national fitness monitoring system would enable us to document changes in the fitness status of American youth, establish national objectives for youth fitness, and measure progress in meeting those objectives. Measuring youth fitness requires the administration by trained personnel of a variety of tests to assess the various components of health-related physical fitness. Because of the relative complexity of such a study, data should be collected at 5-year intervals.

An existing monitoring system, CDC's School Health Policies and Programs Study (SHPPS) (Appendices 25 and 26), provides nationally representative information about physical activity policies and programs at the state, district, and school levels, as well as nationally representative data on physical education classes. Data were collected in 1994 and 2000. SHPPS should be maintained and a simpler monitoring mechanism put in place to collect data on representative samples of schools in each state.

All advocates of physical activity for young people would benefit from well-implemented studies that document the effects of physical education and other physical activity programs on youth physical activity and fitness levels and other desired social outcomes. Information from these kinds of studies could help policymakers appreciate the importance of these programs. In particular, research is needed to document the effects of participation in physical activity, sports, and physical education on academic performance and youth violence.

Schools and community organizations often lack the technical expertise needed to evaluate the effectiveness of their programs. Schools and communities need guidelines, materials, and ongoing technical assistance to help them appropriately document outcomes generated by their initiatives.

A Call to Action

Full implementation of the strategies recommended in this report will require the commitment of resources, hard work, and creative thinking from many partners in federal, state, and local governments; nongovernmental organizations; and the private sector. Only through extensive collaboration and coordination can resources be maximized, strategies integrated, and messages reinforced.

The following actions should be taken to facilitate the process of implementing the 10 strategies identified in this report:

- The federal government will convene a working group to develop a detailed implementation plan to promote physical activity among young people. The Secretary of Health and Human Services, in collaboration with the Secretary of Education, will bring together key players from national, state, and local levels and from the public and the private sectors to work together to achieve the strategies recommended in this report (Appendix 27).
- National nongovernmental organizations and the private sector should work together to develop or expand a national coalition to promote physical activity and a foundation to support its efforts.
- National, state, and local leaders should encourage concerned citizens to work together to establish state and local councils or coalitions to promote physical activity among young people.
- The President, the Secretary of Health and Human Services, the Secretary of Education, and the nation's governors and mayors should educate the American public in general, and educational policymakers in particular, about the importance of having all children participate in quality, daily physical education.

The Secretary of Health and Human Services and the Secretary of Education can facilitate progress in efforts to promote youth physical activity by providing annual reports to the President on actions taken to implement the strategies identified in this report.

Development or expansion of a broad, national coalition to promote better health through physical activity and sports is an important first step toward collaboration and coordination. An effective national coalition will draw public attention to the need for action, educate the public and policymakers about the strategies recommended in this report, and develop coordinated initiatives to implement the strategies. A number of national coalitions currently exist to promote physical activity or fitness (Appendix 28), and a merger of these, or an intensive expansion of participation in one of them, would initiate a national coordinating mechanism. Among

the organizations that should be added to such a national coalition are the USOC and the professional sports leagues. A foundation to support promotion of physical activity could complement the work of the coalition and play a critical role in obtaining the resources needed to help our young people become physically active and fit.

Physical activity is crucial to our health, happiness, and well-being. The staggering consequences of decreases in physical activity are clear: soaring rates of obesity and diabetes, potential future increases in heart disease, and devastating increases in health care costs. We now have the opportunity to reshape our sedentary society into one that facilitates and promotes participation in physical activity during childhood, throughout adolescence, and into adulthood. The 10 strategies and the process for facilitating their implementation described in this report provide the foundation for our children to rediscover the joys of physical activity and to incorporate physical activity as a fundamental building-block of their present and future lives.

References

1. National Center for Health Statistics. Health, United States, 2000. With adolescent health chartbook. Table 69, updated on 07/27/00. Online at http://www.cdc.gov/nchs/products/pubs/pubd/hus/tables/2000/updated/00hus69.pdf.
2. Freedman DS, Dietz WH, Srinivasan SR, Berenson GS. The relation of overweight to cardiovascular risk factors among children and adolescents: the Bogalusa heart study. Pediatrics 1999;103:1175–82
3. Flegal KM, Carroll MD, Kuczmarski RJ, Johnson CL. Overweight and obesity in the United States: prevalence and trends, 1960-1994. International Journal of Obesity 1998;22(1):39–47.
4. Wolf AM, Colditz GA. Current estimates of the economic cost of obesity in the United States. Obesity Research 1998;6(2):97–106.
5. U.S. Department of Health and Human Services. *Healthy people 2010*: understanding and improving health. Washington, DC: U.S. Department of Health and Human Services, Government Printing Office, 2000.
6. U.S. Department of Health and Human Services. Physical activity and health: a report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 1996.
7. McGinnis JM, Foege WH. Actual causes of death in the United States. Journal of the American Medical Association 1993;270(18):2207–12.
8. Sallis JF, McKenzie TL, Kolody B, Lewis M, Marshall S, Rosengard P. Effects of health-related physical education on academic achievement: project SPARK. Research Quarterly for Exercise and Sport 1999;70(2):127–34.
9. Escobedo LG, Marcus SE, Holtzman D, Giovino GA. Sports participation, age at smoking initiation and the risk of smoking among US high school students. Journal of the American Medical Association 1993;269:1391–5.
10. Zill N, Nord CW, Loomis LS. Adolescent time use, risky behavior and outcomes: an analysis of national data. Rockville, MD: Westat, 1995.
11. Sallis JF, Patrick K. Physical activity guidelines for adolescents: consensus statement. Pediatric Exercise Science 1994;6:302–14.
12. Corbin CB, Pangrazi RP. Physical activity for children: a statement of guidelines. Reston, VA: National Association for Sport and Physical Education, 1998.

13. U.S. Department of Agriculture and U.S. Department of Health and Human Services. Nutrition and your health: dietary guidelines for Americans (5th ed). Washington, DC: U.S. Department of Agriculture and U.S. Department of Health and Human Services, Government Printing Office, 2000.

14. Centers for Disease Control and Prevention. Youth risk behavior surveillance—United States, 1999. Morbidity & Mortality Weekly Report 2000;49(SS-5):1–94.

15. Nationwide Personal Transportation Survey. U.S. Department of Transportation, Federal Highway Administration, Research and Technical Support Center, Lantham, MD: Federal Highway Administration, 1997.

16. Calculations from the 1995 Nationwide Personal Transportation Survey (S. Ham, unpublished data, 2000).

17. Seefeldt VD, Ewing ME. Youth sports in America: an overview. President's Council on Physical Fitness and Sports Research Digest 1997;2(11):1–12.

18. Kaiser Family Foundation. Kids & media @ the new millenium [monograph]. Menlo Park, CA: Kaiser Family Foundation, November 1999.

19. California Department of Education, Standards and Assessment Division. California physical fitness test 1999: report to the governor and legislature. Sacramento, CA: California Department of Education, 1999.

20. The President's Council on Physical Fitness and Sports. Physical activity and sport in the lives of girls: physical and mental health dimensions from an interdisciplinary approach. Washington, DC: President's Council on Physical Fitness and Sports, 1997.

21. Centers for Disease Control and Prevention. Guidelines for school and community programs to promote lifelong physical activity among young people. Morbidity & Mortality Weekly Report 1997;46(RR-6):1–36.

22. Sallis JF, Prochaska JJ, Taylor WC, Hill JO, Geraci JC. Correlates of physical activity in a national sample of girls and boys in grades 4 through 12. Health Psychology 1999;18:410–5.

23. Johnson J, Deshpande C. Health education and physical education: disciplines preparing students as productive, healthy citizens for the challenges of the 21st century. Journal of School Health 2000;70(2):66–8.

24. National Association for Sport and Physical Education. Moving into the future: national standards for physical education. Reston, VA: National Association for Sport and Physical Education, 1995.

25. Centers for Disease Control and Prevention. Physical education. From CDC's 1994 School Health Policies and Programs Study [fact sheet]. Atlanta, GA: Centers for Disease Control and Prevention, 1999.

26. National Association for Sport and Physical Education. Shape of the nation report: a survey of state physical education requirements. Reston, VA: National Association for Sport and Physical Education, 1998.

27. National Association of State Boards of Education. Fit, healthy and ready to learn: a school health policy guide; Part I: physical activity, healthy eating and tobacco-use prevention. Alexandria, VA: National Association of State Boards of Education, 2000.

28. Sallis JF, McKenzie TL, Alcaraz JE, Kolody B, Faucette N, Hovell M. The effects of a 2-year physical education program (SPARK) on physical activity and fitness in elementary school students. American Journal of Public Health 1997;87:1328–34.

29. Beginning Teacher Standards Task Force of the National Association for Sport and Physical Education. National standards for beginning physical education teachers. Reston, VA: National Association for Sport and Physical Education, 1995.

30. National Consortium for Physical Education and Recreation for Individuals with Disabilities. Adapted physical education national standards. Champaign, IL: Human Kinetics, 1995.

31. Centers for Disease Control and Prevention. School health index for physical activity and healthy eating: a self-assessment and planning guide. Atlanta, GA: Centers for Disease Control and Prevention, 2000.

32. Mohnsen B (ed). Concepts of physical education: what every student needs to know. Reston, VA: National Association for Sport and Physical Education, 1998.

33. National Association for Sport and Physical Education. Quality coaches, quality sports: national standards for athletic coaches. Reston, VA: National Association for Sport and Physical Education, 1995.

34. National Intramural Sports Council. Guidelines for school intramural programs. Reston, VA: National Association for Sport and Physical Education, 1995.

35. National School-Age Care Alliance. The NSACA standards for quality school-age care. Boston: National School-Age Care Alliance, 1998.

36. National Association for Sport and Physical Education. Developmentally appropriate practice in movement programs for young children ages 3–5. Reston, VA: National Association for Sport and Physical Education, 1994.

37. U.S. Bureau of the Census, March 1998 CPS, P20-514, Table 6, 1998. Online at http://www.census.gov/prod/99pubs/p20-514u.pdf.

38. DeAngelis K, Rossi R. Schools serving family needs: extended-day programs in public and private schools. Washington, DC: National Center for Education Statistics, 1997.

39. Catalano RF, Loeber R, McKinney KC. School and community interventions to prevent serious and violent offending. Juvenile Justice Bulletin, October 1999:1–12.

40. Rutherford GS, McCormack E, Wilkinson M. Travel aspects of urban form: implications from an analysis of two Seattle area travel diaries. Presented at the TMIP Conference on Urban Design, Telecommunications and Travel Forecasting. 1998.

41. Centers for Disease Control and Prevention. Neighborhood safety and the prevalence of physical inactivity—selected states, 1996. Morbidity & Mortality Weekly Report 1999;48(7):143–146.

42. Carnegie Council on Adolescent Development. A matter of time: risk and opportunity in the out-of-school hours. Recommendations for strengthening community programs for youth. New York, NY: Carnegie Corporation of New York, 1994.

43. U.S. Department of Health and Human Services. National children and youth fitness study. Journal of Physical Education, Recreation, and Dance 1985;56:44–90.

44. U.S. Department of Health and Human Services. National children and youth fitness study II. Journal of Physical Education, Recreation, and Dance 1987;58:49–96.