



Fostering Physical Activity for Children and Youth: Opportunities for a Lifetime of Health



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Healthy People, Healthy Places

THE CALIFORNIA ENDOWMENT
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Contents

PREFACE	2
INTRODUCTION	4
Physical Activity Rates	4
PURPOSE AND METHODS	6
OPPORTUNITIES FOR IMPROVING PHYSICAL ACTIVITY	7
Physical Activity in Schools	7
<i>Examples of Strategies and Policies</i>	9
<i>Policy Opportunities</i>	10
Physical Activity in Early Childcare and Education Settings	11
<i>Examples of Strategies and Policies</i>	12
<i>Policy Opportunities</i>	13
Physical Activity in Out-of-School-Time Programs	14
<i>After-School Programs</i>	14
<i>Youth Sports and Recreation Programs</i>	14
<i>Examples of Strategies and Policies</i>	15
<i>Policy Opportunities</i>	16
Physical Activity in Communities	17
<i>Active Commuting</i>	18
<i>Examples of Strategies and Policies</i>	18
Safe and Accessible Play Areas	21
<i>Examples of Strategies and Policies</i>	22
Safe Places: Preventing Violence	23
<i>Examples of Strategies and Policies</i>	24
<i>Examples of Physical Activity-Related Violence Prevention</i>	25
<i>Policy Opportunities</i>	26
CONCLUSION	29
NOTES	30

Preface

Physical activity is a cornerstone of health and well-being. Having safe, accessible, and fun options for physical activity is essential to ensuring positive health outcomes among the nation's children and youth. With supportive environments all children and youth can be active in schools, childcare and early childhood education settings, afterschool programs, and communities.

Healthy people require healthy environments. People need their environments to be structured in ways that help them access healthy foods and easily incorporate physical activity into their daily routines. Creating healthy environments cannot be done in isolation by any one organization or field. It requires coordinated and comprehensive efforts by multiple organizations, leaders, fields, and sectors.

As individual funders we have been engaged in different comprehensive efforts to create access to healthy foods and physical activity. Through the Convergence Partnership, a collaboration among funders, we can maximize our impact by coordinating our efforts. The partnership steering committee includes The California Endowment, Kaiser Permanente, Nemours, the Robert Wood Johnson Foundation, the W.K. Kellogg Foundation, and the Kresge Foundation. The Centers for Disease Control and Prevention serves as a critical technical advisor on the steering committee.

Fostering Physical Activity for Children and Youth: Opportunities for a Lifetime of Health was originally developed as an internal learning document for our partnership and now we are pleased to share the findings with the field. It outlines a range of organizational practices and public policies being considered to improve quality and quantity of physical activity among our nation's children and youth. Prevention Institute developed this document based on key informant interviews and a scan of policy and research reports.

This document is part of a larger strategy to identify high-impact approaches that will move us closer to our vision of *healthy people in healthy places*. In addition to this document, the partnership has released other policy briefs on topics such as the built environment and access to healthy food. The partnership has released a comprehensive list of cross-cutting policies, strategies, and programs in the report, *Promising Strategies for Creating Healthy Eating and Active Living Environments*. All of the partnership policy briefs and reports will include information on potential opportunities for accelerating the development of healthy communities.

We will not act alone. We will foster partnerships among community leaders, funders, advocates, and practitioners, and support specific efforts to advance our goals. We are dedicated to encouraging environmental, policy, practice, and organizational changes, with core values grounded in equity and social justice. Motivated by the work currently taking place across the nation, we look forward to supporting the growing movement to create environments that facilitate healthy eating and active living.

We appreciate the participation and input of the diverse group of stakeholders that contributed to creating this policy brief. In particular, we would like to thank the reviewers who participated in providing constructive input during the final stages of the brief, including Sheila Franklin, executive director of the National Coalition for Promoting Physical Activity; Jim Sallis, professor, department of Psychology at San Diego State University; Katie Adamson, director of Health Partnerships and Policy at the YMCA of the USA; Charlene Burgeson, executive director of the National Association for Sport and Physical Education; Steve Fowler, partner at FowlerHoffman; Allison Gertel-Rosenberg at Nemours Foundation; Laura Kettel-Khan at the Centers for Disease Control and Prevention; Brian Raymond at Kaiser Permanente; Marion Standish at The California Endowment; and Fran Smith and Milly Hawk Daniel at PolicyLink. A special thanks to

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Virginia Lee, Leslie Mikkelsen, and Janani Srikantharajah of Prevention Institute for developing the policy brief and for ensuring broad input.

Sincerely,

Convergence Partnership



Introduction

Physical activity is a proven determinant of health. It can encourage the development and maintenance of healthy bones, joints, and muscles.¹ It can control weight, prevent or manage high blood pressure, and reduce depression and anxiety. Physical activity is a fundamental strategy to promote quality of life and to reduce the risk and severity of chronic illnesses. It is also a vital element of maximizing children's educational achievement.

Over the past 30 years in the United States overweight has increased 5 percent among 12- through 19-year-olds, 4 percent among 6- through 11-year-olds, and 3.2 percent among 2- through 5-year-olds.² The increase is particularly evident among African American and Latino adolescents (12-19) where prevalence increased more than 10 percent between 1988-1994 and 1999-2000.³ Several illnesses have been linked to overweight in childhood, type 2 diabetes being key among them, and overweight children are at great risk of becoming overweight adults.⁴ The World Health Organization has declared obesity a global epidemic with far-reaching health implications.⁵ To stem the rise of chronic illnesses, a solid foundation of healthy eating and physical activity must be established at an early age; environments that facilitate healthy lifestyles must also be provided.

Physical activity guidelines recommend that toddlers, preschool-aged children, elementary school-aged children, and adolescents should be physically active every day or nearly every day. The guidelines of the National Association for Sport and Physical Education (NASPE) state that toddlers (ages one to three) should engage in a minimum of 30 minutes of structured physical activity daily, and preschoolers (ages three to five) should accumulate at least 60 minutes of structured physical activity daily.⁶ NASPE also recommends that elementary school-aged children should accumulate 60 minutes of

developmentally and age-appropriate physical activity each day. The U.S. Department of Health and Human Services (HHS) and the U.S. Department of Agriculture (USDA) recommend that young people (ages six to 19) engage in at least 60 minutes of physical activity on most, preferably all, days.⁷

In a systematic literature review of 850 articles, Strong et al. confirmed that 60 minutes of moderate-to-vigorous physical activity are necessary to achieve beneficial health and behavioral outcomes.⁸ These reviewers recognized the importance of environmental settings in promoting activity as well as the need to tailor activity opportunities to children's developmental stage (since physical abilities and skills develop with age). Unstructured, spontaneous free play is also essential to children's overall growth and development.

PHYSICAL ACTIVITY RATES

Participation in physical activity differs across age, gender, race, ethnicity, and socioeconomic status. The National Institutes of Health (NIH) recently released findings from a long-term study of more than 1,000 children from ethnically and economically diverse backgrounds. At age nine, the children averaged three hours of moderate-to-vigorous physical activity every day (including weekdays and weekends). But activity levels dropped sharply as children got older. By age 15, they averaged 49 minutes per weekday and 35 minutes per weekend day, and most failed to meet the recommended daily activity level.⁹ The Youth Risk Behavior Surveillance System (YRBSS) found that only 35.8 percent of youth (grades nine through 12) nationally had been physically active for a total of at least 60 minutes a day on more than five of the seven days preceding the survey.¹⁰

Although physical activity falls off as both boys and girls get older, the decline is far greater among girls. Data from Trost et al. suggest that by fifth grade, boys are nearly

twice as active as girls in moderate-to-vigorous or vigorous physical activities.¹¹ The U.S. Centers for Disease Control and Prevention (CDC) reports that 68.4 percent of ninth-grade girls engage in moderate-to-vigorous physical activity, but by grade 12 that figure drops to 51.7 percent.¹² Explanations and speculations for this difference include body image perceptions,¹³ physical activity choices,¹⁴ and gender norms. Recent studies suggest that—even among strategies that research has shown can lead to increased physical activity among youth—particular interventions are effective only among boys.¹⁵

Promoting physical activity among girls will require creating a nonjudgmental space for activity, noncompetitive options, and models that break the stereotype that physical activity is not feminine. Title IX of the Education Amendments of 1972, which promised equal opportunity for girls to participate in school sports, has led to advances for girls in sports. Girls are still struggling, however, for equity in equipment, facilities, practice times, and the array of programs, compared to boys.¹⁶

The decline in physical activity is most pronounced among young people of color. A 10-year longitudinal study by the National Heart, Lung, and Blood Institute found that while African American girls and white girls had roughly the same rates of physical activity at the start, those rates began to drop at the onset of adolescence, and by age 16 or 17, 56 percent of African American girls and 31 percent of white girls reported no regular leisure-time physical activity.¹⁷ An understanding of the social, cultural, and

environmental differences that either promote or discourage physical activity is important when designing programs. The most successful interventions are tailored to specific populations (e.g., Hispanics and non-Hispanic blacks) through establishing programs in culturally relevant settings, promoting culturally appropriate foods and activities, and engaging the community in developing interventions.¹⁸

Physical activity levels also vary by socioeconomic status.¹⁹ Children with parents who have lower incomes tend to spend more time engaged in sedentary behaviors such as watching television; they also have lower nonschool physical activity levels than children whose parents have higher median incomes.²⁰ These patterns reflect disparities in the environment, such as insufficient facilities, lack of programming, and safety concerns.²¹ It remains unclear whether any one factor (age, gender, race, ethnicity, or socioeconomic status) has a greater influence than another in determining activity levels. Each highlights differences in behavior and health outcomes, and each is important in determining the most effective strategies and policies.

Because children experience opportunities or barriers daily in home, school, and community environments that either promote or inhibit physical activity, this report highlights targeted strategies that can help children achieve the recommended levels of physical activity. It simultaneously promotes healthier environments and behaviors that make physical activity the norm.

Purpose and Methods

Fostering Physical Activity outlines a range of organizational practices and public policies to improve environments for regular physical activity among children and youth. It reflects diverse perspectives of professionals and advocates working on various aspects of physical activity. It was developed for the Convergence Partnership and originally served as a background document to provide an overview of behaviors and factors related to active living among children and youth.

Prevention Institute interviewed key informants and reviewed policy and research reports to capture the breadth of activity-promoting strategies, policies, and policy-related opportunities for creating healthy activity environments, with special attention to low-income communities and communities of color. This report focuses on national- and state-level efforts and opportunities that shape the local reality, satisfying the partnership's request for an area in which *convergence* could add *value*,

especially through efforts that engage the participation of constituencies from multiple sectors and disciplines. Local organizations working to make their communities healthier are also identified.

The key audiences for this report are funders, professionals, and advocates seeking an overarching strategy for addressing physical activity issues. It is also intended for those who have focused on a specific aspect of physical activity and can benefit from understanding the broader array of approaches. Four target areas for physical activity are considered: schools, early childcare and education settings, out-of-school-time programs, and communities (including active commuting, safe and accessible playgrounds, family-centered activities, and safety). This report is structured to provide background information on the status in each area; to identify strategies and policies to effect change; and to highlight key policy opportunities, primarily at the state and federal levels, that promote increased physical activity levels among children and youth.

The Institute of Medicine recommends that schools ensure that all students participate in at least 30 minutes of moderate-to-vigorous physical activity during the school day.

Opportunities for Improving Physical Activity

Engaging in physical activity has a variety of benefits for children and youth, including improved cardiovascular health, management of weight, and reduced feelings of stress and depression.²² Physical activity levels are generally higher among children and youth with confidence in their abilities; physical activity can also have the reciprocal effect of increasing perceptions of competence and self-efficacy and encouraging more activity.²³

Physical Activity in Schools

Schools play a primary role in motivating students and offering opportunities to engage in physical activity and in establishing skills that can be utilized throughout their lifetimes. The Institute of Medicine recommends that schools ensure that all students participate in at least 30 minutes of moderate-to-vigorous physical activity during the school day to help reach the recommended daily levels.²⁴ The National Association for Sport and Physical Education (NASPE) recommends that a comprehensive school physical activity program include high-quality physical education (PE), school-based physical activity opportunities (e.g., breaks from sedentary activities and before- and after-school programs), school employee wellness and involvement, and family and community involvement.²⁵

Some people have expressed concerns that dedicating more time to PE and physical activity may detract from class time for core subjects—presumably resulting in a decline in academic achievement. Research suggests that the opposite is true.²⁶ Nearly a dozen studies have demonstrated that regular participation in physical activity is associated with improved academic performance, including better concentration and classroom behavior.²⁷

PE programs should be the primary means of engaging students in physical activity during the school day. Key characteristics of high-quality PE programs include daily PE (at least 150 minutes per week for elementary school and 225 minutes per week for middle and high school), a curriculum that meets the National Standards for Physical Education, activities of moderate to vigorous intensity, certified PE teachers, appropriate student-teacher ratios, and adequate equipment.²⁸

Students of all ages need daily physical activity to maximize benefits for learning and health, yet access to PE programs declines as students get older. A recent survey found that approximately 87 percent of eighth graders were in schools that required them to participate in PE, declining to 47 percent in the 10th grade, and to a mere 20 percent in the 12th grade.²⁹ Participation in PE also drops with increasing grade level. Nearly 91 percent of eighth graders take PE. This dips to 62 percent in the 10th grade and to 34 percent in the 12th grade.³⁰ Maintaining a requirement for PE through the 12th grade may be a promising approach to keep children physically active at higher rates as they age.

Many schools are struggling to meet just the minimum PE requirements set by states and local school wellness policies. The reasons include inconsistency among school districts in adopting and enforcing PE mandates; insufficient school funding, which determines resources for PE classes; inadequate school facilities; and pressure to focus on academics, especially because of testing requirements of the *No Child Left Behind Act* (NCLB).³¹ These issues particularly affect schools serving low-income neighborhoods and communities of color. Among eighth graders, 75.9 percent of Hispanic students attend schools that require PE, compared with 89.3 percent of white students, and students from low-income families participate in PE at lower rates than more affluent students.³² Because schools are required to perform well on reading and math indicators for continued funding

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through NCLB and because PE is not a core education subject, the academic community continues to perceive PE as less important.³³ Some states and communities, however, are placing new emphasis on PE. In Florida, which passed the *Don Davis Physical Education Act* in 2008, all elementary school students receive 30 minutes of PE five days a week. Beginning in the fall of 2009, middle school students will also have daily PE classes.³⁴

Safe and adequate school PE facilities help children achieve the recommended levels of physical activity. Larger school campuses and areas for physical activity per enrolled student have been associated with higher levels of physical activity among middle school students.³⁵ In an international survey of PE, more than 50 percent of schools in the United States reported their facilities to be inadequate, compared to the global figure of 69 percent.³⁶ Furthermore, low-income communities and communities of color are less likely than affluent and predominantly white communities to have adequate facilities for students. For example, the Bronx Borough President in New York City cited poor facilities—the lack of a gymnasium, no outdoor PE space, and relying on multipurpose rooms instead of gymnasiums—as the main reason why 70 percent of Bronx schools did not meet the PE class-time requirements of New York State.

A high-quality curriculum is essential to a good PE program. Such a curriculum provides instruction that builds motor skills; keeps students interested and active during PE classes; and offers enjoyable activities, such as martial arts, dance, and yoga, that motivate students to be active all their lives. It also builds students' confidence, influences leadership development, promotes cooperation, and instills accountability for behaviors.³⁷ The Coordinated Approach To Child Health (CATCH)³⁸ and Sports, Play, and Active Recreation for Kids (SPARK)³⁹ are two examples of evidence-based PE curricula designed to reinforce positive, healthy behaviors. Evaluations for SPARK have shown that this curriculum

can increase physical activity during PE classes, that it is sustainable, and that it may have favorable effects on academic performance.⁴⁰

While there are challenges to funding them, qualified and well-trained PE teachers are essential to providing high-quality PE programs. The CDC recommends that PE classes be taught by trained specialists.⁴¹ Studies have shown that, compared to classroom teachers who teach PE programs, PE specialists teach longer and higher-quality classes in which students spend more time being physically active.⁴² Moreover, the percentage of moderate-to-vigorous physical activity engaged in by students in PE classes in schools without PE specialists versus schools with specialists is 8.6 percent versus 20.6 percent in elementary schools, and 16.1 percent versus 24.5 percent in middle schools.⁴³ According to the *2006 Shape of the Nation Report: Status of Physical Education in the USA*, 28 states require certification/licensing for those who teach PE in elementary schools, 43 states require it in middle/junior high schools, and 46 states require it in high schools.⁴⁴

To address the challenge of funding PE specialists, some districts maintain one or more specialists at each school site to serve as a resource for other teachers. While it is ideal to have a PE specialist in every PE class, other teachers should be trained to engage students in physical activity if a specialist is not present. State health departments can play an important role on this score. Following a model set by Shasta County in California, the state Department of Public Health sponsored SPARK training for teachers. Schools have subsequently maintained at least one trained staff member on site as a resource for other teachers.

Class size is also an indicator of PE teachers' effectiveness. Large classes make it difficult for teachers to fully engage every student in moderate-to-vigorous physical activity. An acceptable student-to-teacher ratio, similar

to that required for other subjects, is essential to a high-quality PE program. Among the 78.3 percent of schools that require PE, 36 percent had a maximum allowable student-to-teacher ratio for required physical education. The median maximum allowable ratio among these schools was 29.6 students per teacher.⁴⁵ This is a finding from the 2000 School Health Policies and Programs Study (SHPPS), a national survey to assess school health policies and practices at the state, district, school, and classroom levels.

Daily recess, which provides unstructured but supervised play, also helps elementary school children to achieve the recommended levels of physical activity. Recess offers a much-needed change of pace, a chance to decompress, and the time to develop and practice social skills. A few investments such as supplying equipment (jump ropes, balls, and racquets), adding colored markings to playgrounds (for four square and hopscotch), and keeping facilities well-maintained can encourage children to be physically active during recess.⁴⁶ The 2006 SHPPS found that 11.8 percent of states required elementary schools to provide students with regularly scheduled recess, up from 4.1 percent in 2000. Among school districts, 57.1 percent had this requirement in 2006, up from 46.3 percent five years earlier.⁴⁷

For older children and teens, organized sports and activities offer additional opportunities to be physically active. While the CDC has found that 38.5 percent of children ages nine to 13 were involved in organized sports, within that age group, African American and Hispanic children were significantly less likely than their white peers to participate in team or club sports, as were children with parents who had lower incomes and education levels.⁴⁸ These programs must offer equal opportunities to all youth and explore strategies to engage those who otherwise participate at lower rates. Programs should also appeal to students with a broad range of athletic abilities and interests. The Institute of Medicine recommends that

activity opportunities available through the school be expanded to include intramural and interscholastic sports, physical activity clubs, and programs and lessons that meet the needs and interests of all students.⁴⁹

EXAMPLES OF STRATEGIES AND POLICIES

Develop local and state standards that reflect the National Standards for Physical Education

Forty-seven states and the District of Columbia set standards for PE, which include motor/movement skills and physical fitness, knowledge and personal/social responsibility, regular participation in physical activity, and the value of physical activity. However, NASPE and the American Heart Association (AHA) reported in the 2006 *Shape of the Nation Report* that states often leave it to school districts to establish PE requirements. NASPE identified 16 key PE policies and practices that states have interpreted and implemented differently.⁵⁰ States can plan more comprehensively to include a broader range of PE standards. School districts could and should coordinate their standards with those of the state.

Fund school wellness policies

School wellness policies help improve standards for PE and physical activity (e.g., providing adequate time for daily recess that allows moderate-to-vigorous physical activity, improving the quality of PE, and hiring and training qualified PE teachers). These policies are federally mandated but include no funding for implementation or monitoring. Policies need to be adopted at the state level for school districts to receive funds for implementation and monitoring.

Building on its *Comprehensive Health Education Act*, Colorado enacted HB 1224 in April 2008 to encourage school districts to expand their local wellness policies. This legislation calls for the adoption of goals emphasizing healthy choices and lifestyles, including physical

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education, nutrition, and mental health counseling.⁵¹ HB 1224 expands eligibility for state grants that previously supported only classroom-style health education programs, to include school wellness programs and the requirement that every PE teacher be licensed in order to use funds for wellness programs.

Some schools have created school health councils, local district-coordinated councils, or committees to support developing stronger PE and activity policies than the state requires. Some schools utilize the School Health Index, an evidence-based tool developed by the CDC, to assist with physical activity assessments and to establish an action plan for improvement.

Implement comprehensive school physical activity programs

Schools are encouraged to adopt comprehensive physical activity programs,⁵² which include a PE component, opportunities for all students to be physically active during and outside school, employee wellness and involvement, and family and community involvement. Such programs can be established in elementary, middle, and high schools.

Integrate physical activity into academic lessons

There is a growing movement to integrate physical activity into the classroom while recognizing that doing so does not replace PE classes. Classroom lessons can also encourage families to reinforce positive, healthy behaviors learned at school. Harvard University's School of Public Health has developed two such integrated, evidence-based curricula: "Eat Well & Keep Moving," for upper elementary grades,⁵³ and "Planet Health," for middle schools.⁵⁴ Both incorporate physical activity into science, mathematics, language arts, and social science lessons. "Take 10!," produced by the International Life Sciences Institute,⁵⁵ is a classroom-based physical activity program that integrates academic learning objectives and provides 10-minute physical activities for kindergarten to fifth-grade students. The North Carolina State Board

of Education identifies "Energizers,"⁵⁶ classroom-based activities that integrate physical activity with academic concepts, as a means of enabling children to meet the minimum daily physical activity requirement.⁵⁷

POLICY OPPORTUNITIES

PE requirements can be used to increase the time dedicated to physical activity and to improve the quality of that activity. Although some states have strengthened PE requirements, enforcement tends to be lax and in many cases the new requirements still fall short. The *2006 Shape of the Nation Report* concludes, "State physical education requirements are extremely weak ... A vast array of 'loopholes' such as exemptions, waivers, and on-line physical education classes too often eradicate those minimal standards at the local level."⁵⁸ States should not only set PE requirements to signal support for promoting physical activity among children and youth, but also ensure adequate enforcement and accountability.

The federal *Child Nutrition and WIC Reauthorization Act of 2004*⁵⁹ required each local educational agency participating in the USDA's School Nutrition Programs⁶⁰ to establish a local wellness policy by July 2006.⁶¹ Wellness policies allow school districts to assess what they are doing and to bring together diverse groups to examine issues holistically. This requirement offers another mechanism for all schools—even those that did not consider nutrition and physical activity a high priority—to improve PE standards. School wellness policies can also promote funding for school health councils, which engage teachers, parents, students, and school district officials. In practice, however, many districts simply encode existing practices into policy language rather than create and expand innovative approaches, or they adopt vague and nonbinding language that does not ensure effective implementation. One key informant who was interviewed for this report was told, "Most administrators said that once they sent in their wellness policies to the USDA, that was the end of it."

Schools are grappling with this unfunded mandate. Although there have been successes at schools with adequate resources or the political will to dedicate efforts toward wellness, most school districts have not made as much headway. Another interviewee noted that wellness policies have led to a “pockets of excellence” syndrome resulting in one or two stellar environments, rather than ensuring that resources are distributed equitably to create environments of wellness across many school districts. This interviewee added, “That’s why standards and requirements around physical education become so important; otherwise, less-resourced districts won’t be able to do it well.” A state-level policy that allocates funding to school districts is necessary for effective implementation and monitoring. Model policies would provide children with the daily opportunity to engage in a high-quality PE class as well as ensure that their participation meets the minute requirements (30 or 60) set by the local school wellness policy.

The *No Child Left Behind Act* (NCLB) is a key piece of federal legislation that can enhance physical activity in schools and after-school programs. The NCLB Act of 2001 outlined core subjects, but PE was not included among them. Although many advocates want PE to be added to the list of core subjects in the upcoming reauthorization, they recognize that this could reduce funding for other core subjects or create another unfunded mandate. Moreover, many observers believe Congress is unlikely to approve PE as a core subject. Several organizations have made compromises, hoping to get physical activity addressed in the bill. In general, advocates seek improvements in PE standards, support for professional development of PE teachers, and initiatives to integrate physical activity into the school day. As long as physical education is seen as an optional line item rather than as a fundamental part of the curriculum to support academic achievement, PE will continue to face budget cuts.

The *Fitness Integrated with Teaching (FIT) Kids Act* was proposed to improve standards for physical education. Introduced in both the U.S. Senate (S. 634) and House of

Representatives (H.R. 1585) in 2009, this legislation would promote high-quality PE for all public school children and promote physical activity in after-school programs.⁶²

The Carol M. White Physical Education Program (PEP), part of NCLB, awards grants to local education agencies and community-based organizations to initiate, expand, and improve PE programs. While NCLB includes no specific authorization for PEP, the U.S. Department of Education manages the program. Incorporated into NCLB in FY 2001, PEP awarded \$5 million to 18 local education agencies. Congress demonstrated its support for the program by increasing FY 2002 funding tenfold, to \$50 million. From 2005 to 2008, PEP has been funded at approximately \$74 million annually. Physical activity advocates recommend that appropriations remain, minimally, at that level, although most advocates would like to see funding increased, ideally to \$100 million. PEP represents only a sliver of the NCLB’s annual appropriation, which was \$24.5 billion in 2009.⁶³

One additional proposed mechanism to increase physical activity is the *Bullying and Gang Reduction for Improved Education Act* (H.R. 1589), introduced in the U.S. House of Representatives on March 18, 2009. This bill would allow communities to allocate Safe and Drug-Free School and Communities funding to focus on safe routes to school and anti-bullying efforts. (See the “Physical Activity in Communities” section, later in this report, for more details.)

Physical Activity in Early Childcare and Education Settings

As children spend more time in early childcare and pre-schools, these settings have become important venues to introduce and reinforce behaviors that lead to lifelong physical activity. Approximately 60 percent of children

from birth to age five were reported to be in the care of someone other than their parents at least once a week. Among these children, 60 percent were in childcare centers, 35 percent were in the care of relatives, and 22 percent were in nonrelative care arrangements.⁶⁴ These environments significantly impact children's access to and involvement in daily physical activity. Behavior patterns established in childhood tend to carry into adulthood and affect the risk of chronic diseases.⁶⁵ Interventions at early ages are preferable, as preschoolers are more likely than school-age children to change their behaviors.⁶⁶

Structured play is important to ensure that children are active and engaged for a set amount of time each day.⁶⁷ Yet experts agree that structured play alone is not enough.⁶⁸ Unstructured play promotes creativity, relieves stress, and lets children have fun.

Although physical activity is a natural part of play, childcare facilities are not always equipped to provide children with a safe space to be active. Time spent playing outdoors is a major determinant of their physical activity levels, according to a physical activity report by the Robert Wood Johnson Foundation.⁶⁹ The spaces children inhabit strongly shape the developmental experiences they have access to, including the kinds and amounts of physical activity in which they engage. Another consideration is provider expertise. Staff capacity building should include training to competently deliver physical activity program components and to encourage providers to model the healthy behaviors they promote.

EXAMPLES OF STRATEGIES AND POLICIES

Establish state licensing and accreditation requirements/health codes and support implementation of policy change

Licensing and accreditation are potential vehicles to address physical activity in childcare centers and family childcare. Most states' licensing regulations say children should be physically active in childcare but only a few, among them Alaska, Massachusetts, and Delaware, have established time requirements.

Invest in staff wellness and training to support the integration of physical activity

Childcare providers are role models who influence children's attitudes and behaviors. Staff wellness must be promoted; increasing staff knowledge about the relationship between physical activity and health must also be a priority. Programs should provide high-quality training in implementing physical activity curricula and leading structured physical activities.

Provide resources to Head Start programs for physical activity

The national Head Start program promotes school readiness by enhancing social and cognitive development through educational, health, nutritional, and social services for economically disadvantaged children and their families. These services help preschoolers develop the reading and math skills needed to succeed in school.

The Region III Office of the Administration for Children & Families pilot-tested "I Am Moving, I Am Learning" in 17 Head Start programs in Virginia and West Virginia in 2005 and expanded its efforts the following year.⁷⁰ This program focused on the relationship between physical fitness and early learning and furnished grantees with strategies and resources for infusing both high-quality movement activities and healthy eating choices into the curriculum and classroom routines.

Head Start serves nearly 900,000 children and families nationwide so integrating physical activity into its programs is a major strategy for reaching a large number of young children.

POLICY OPPORTUNITIES

Formally adopting curricula that require physical activity for set amounts of time each day is an example of how policies are being instituted to integrate physical activity in early childcare and education settings. For example, the SPARK Early Childhood curriculum was developed for Head Start, public and private preschools, daycare and childcare providers, and WIC agencies. It provides moderate-to-vigorous-intensity, academically integrated, enjoyable activities that enhance motor development and school readiness skills in children ages three to five. Some Head Start centers use “Healthy Start” and “Animal Trackers” curricula.⁷¹ In New Mexico, Animal Trackers has been used to add 50 minutes per week of structured activity and is especially popular among Native American Head Start centers. “Color Me Healthy,” another good curriculum to increase the activity levels and improve the diets of children ages four to five, was developed through a partnership between the North Carolina Cooperative Extension and the North Carolina Division of Public Health.⁷²

Head Start serves nearly 900,000 children and families nationwide so integrating physical activity into its programs is a major strategy for reaching a large number of young children. To reauthorize the Head Start program, the *Improving Head Start for School Readiness Act of 2007* was passed in December 2007. The act authorized \$7.35 billion for fiscal year 2008, \$7.65 billion for fiscal year 2009, and \$8 billion for fiscal year 2010. Unfortunately, the 2008 appropriations for Head Start fell below the authorized level, to \$6.88 billion. Increasing funding for Head Start programs is vital to ensure that the needs of all Head Start children are met. In a good sign, Congress and the Obama administration included \$5 billion for early learning programs in the *American Recovery and Reinvestment Act of 2009*, including funding for Head Start, Early Head Start, childcare, and programs for children with special needs. Furthermore, federal Head

Start Performance Standards delineate the requirements to promote physical development among students and learning goals for children related to physical activity. Ensuring that Head Start programs meet or exceed these standards will help meet the daily recommended levels of physical activity for Head Start children.

Childcare licensing requirements and state and city health codes are also mechanisms to introduce or improve physical activity standards. One interviewee argued, “If you’re going to license preschools and daycare, these programs need to ensure that healthy lifestyles are supported. There are good daycare facilities where I see the staff pushing kids on little trolleys for their afternoon walk. They should be walking. Toddlers through first grade are the priority.” In one successful policy example, the New York City Board of Health amended its health code in 2006 to include stricter guidelines for high-quality physical activity and to limit television viewing at all of the city’s public and private group daycare services. New York has invested money in building childcare provider capacity as well.

Other effective examples: The Pinellas County License Board in Florida requires childcare programs to provide at least 30 minutes of physical activity five days a week in order to be licensed. Alaska and Delaware mandate that children engage in 20 minutes of moderate-to-vigorous physical activity for every three hours that childcare centers and family childcare homes are open. Massachusetts requires 30 minutes of daily physical activity for all children in family childcare homes and recently proposed an increase to 60 minutes in such facilities. Childcare licensing requirements in 17 states regulate screen time in childcare centers; 15 states regulate screen time in family childcare homes.⁷³

Studies have revealed that adolescents are more likely to be active if parents or siblings are active.

Physical Activity in Out-of-School-Time Programs

For school-age children, out-of-school-time programs offer opportunities to reinforce the physical activity skills learned during the school day. Such programs include: school-age childcare, parks and recreation programs, community-based programs, school-based before- and after-school programs, and youth sports. As out-of-school-time programs develop programming, they should consider that parents and other family members influence and shape the physical activity habits of children. Studies have revealed that adolescents are more likely to be active if parents or siblings are active.⁷⁴ Physical activity could increase by engaging family members in activities. Additionally, strategies to promote physical activity during out-of-school time must be geographically relevant and must consider the impact that rural, suburban, and urban environments have on the infrastructure and opportunities that are available.

AFTER-SCHOOL PROGRAMS

About 25 percent of low- and moderate-income children ages five to 14 regularly participate in after-school programs.⁷⁵ Children may spend up to four hours a day in after-school programs; thus, these programs can have an enormous influence on behavior. Many institutional settings standardize sedentary behavior by allowing only desk work. Instead, programs should make physical activity an integral component. Research has shown that interventions aimed at decreasing sedentary activity have resulted in increased physical activity.⁷⁶ Beyond the health benefits, research suggests that regular physical activity may improve learning and school achievement.⁷⁷ CATCH Kids Club, an after-school pilot program adapted from CATCH, found that students responded well to the movement components and that the program boosted physical activity levels.⁷⁸

Parks and recreation departments are the largest public providers of opportunities for after-school physical activity. After-school programs, such as those provided by parks and recreation departments, need adequate resources and funding to do a good job.⁷⁹ Many programs confront challenges similar to those facing childcare settings, such as inadequate staff training and limited space for physical activity. After-school programs are also frequently regarded as extensions of the school day and are pressured to focus on academic development. In many programs, children spend most of their time doing homework at a desk, working on a computer, having a snack, or participating in crafts or table games.⁸⁰ Model programs should also include physical activity.

Despite these challenges, after-school programs offer great potential to support physical activity. The California Adolescent and Fitness Program (CANFit), a statewide nonprofit organization, recommends that after-school programs provide at least 30 minutes daily of moderate physical activity—including games, sports, and dance.⁸¹ After-school programs also can reach a greater number of low-income children, particularly in rural communities, where a larger percentage of children live in poverty than in nonrural settings. After-school programs also provide physical activity opportunities for children who may be hard to reach otherwise.⁸²

Transportation is sometimes a barrier to reaching after-school programs, particularly if distances make walking or biking unrealistic. Federal, state, and local assistance programs can provide funding support to mitigate transportation barriers. Even when assistance programs are limited, public-private partnerships may be a means of making after-school programs more accessible.⁸³

YOUTH SPORTS AND RECREATION PROGRAMS

Youth sports and recreation programs (often offered through after-school programs) are key community-

focused strategies to increase physical activity among young people outside the school day. Given the decline of free play in children's lives, structured programs can address parental concerns about leaving children on their own or about the safety of neighborhood streets. High-quality programming (1) provides developmentally appropriate activities for children and youth, (2) offers a wide range of opportunities that attract diverse participants, (3) integrates principles of positive youth development, and (4) builds knowledge and skills.⁸⁴ Such programs, which engage children in moderate-to-vigorous physical activity several times a week, would help increase overall activity levels.

Many organized athletic sports programs are provided by the YMCA (the largest private nonprofit provider of youth sports), community centers, local parks and recreation departments (the largest public providers), and nationally affiliated sports organizations. These programs allow youth to be active through structured practices and competitions. These venues may also offer noncompetitive activities such as swimming, martial arts, aerobics, dance, and weight training. As previously noted, introducing lifestyle activities early in childhood can establish patterns that will carry into adulthood. In general, such programs provide access to social networks as well as to physical space for activities.⁸⁵ These activities, like martial arts, also help children to strengthen their self-regulation abilities—among them goal setting, self-monitoring, and working to overcome challenges.⁸⁶

Several barriers prevent youth from fully benefiting from organized youth sports and recreational activities.⁸⁷ Many public recreation programs are short on funding and staff and rely heavily on volunteers.⁸⁸ A study in San Diego County reported that the number of paid staff was a significant predictor of the number of youth involved in these programs.⁸⁹ Beyond financing, some programs offer only a limited selection of sports, which does not meet the needs of young people who are less skilled, less

physically fit, or uninterested in team sports. Programs must also consider the needs of youth with disabilities.⁹⁰ Among other barriers: no money for equipment or transportation; and insufficient parental support, encouragement, and involvement, which especially affect children from low-income urban communities, rural areas, and single-parent families. Such support may also be lacking in families where both parents must work. Nationally, low-income adolescents are less likely to participate in organized sports than higher-income youth.⁹¹

EXAMPLES OF STRATEGIES AND POLICIES

Increase funding for integrating physical activity into the 21st Century Community Learning Centers program

The U.S. Department of Education awards grants to community learning centers that improve the education, health, social services, cultural, and recreational needs of communities. These centers provide after-school programs and, often, summer programs.

The 21st Century Community Learning Centers (CCLC) program is the federal government's largest after-school funding source. There's a strong push among organizations and advocates to make physical activity an allowable expense and to strengthen the language by including physical activity in this program. Since its inception in 1998, the 21st CCLC program has targeted grant-making to urban and rural communities. Currently one-third of community learning centers are in rural communities, making the reach of these programs geographically diverse.⁹²

Provide state funding for after-school programs

Few state-level resources are dedicated to physical activity in out-of-school-time programs. Model programs exist, but more funding is needed. One strategy is establishing voluntary guidelines for the basic elements of physical activity programs and staff competencies, giving providers flexibility instead of a mandate.

As a model, California Proposition 49, *The After School Education and Safety Program Act of 2002*, established grants up to \$112,500 for elementary schools and up to \$150,000 for middle/high schools and increased state grant funds for before- and after-school programs.

Establish policies for improving the quality of and access to affordable extracurricular youth sports

Very little federal legislation addresses improvements in extracurricular youth sports. The first-ever youth sports legislative package was introduced in the House of Representatives by Congressman Mike McIntyre, founder and chairman of the Congressional Youth Sports Caucus, in 2007. While this package has not been reintroduced, it includes a number of elements that should be considered as future legislative options to support extracurricular youth sports. The 2007 bill included activity-related legislation such as HR 442, establishing a National Youth Sports Week; the *Play Every Day Act*, HR 2045; the *High School Athletics Accountability Act of 2007*, HR 901; and the *Personal Health Investment Today Act of 2007*, HR 245. This package also includes \$100 million for the Land and Water Conservation Fund, \$73 million for the Carol M. White Physical Education program (PEP), and \$18 million for the National Youth Sports Program.

The National Alliance for Youth Sports, in cooperation with the National Recreation and Park Association (NRPA), offers recommendations to communities that are planning and operating youth sports programs. Their recommendations: appointing a trained youth sports administrator to oversee children's sports; training volunteer sports administrators on the proper operation of a program; and establishing behavior codes for parents serving as coaches.

Offer physical activity programming that encourages family participation

Parental support is an important contributor to a child's involvement in physical activities.⁹³ Programs that engage

parents and children can strongly impact children's habits. The YMCA and NRPA offer programming that encourages family involvement.

Schools understand the importance of family support and involvement as well; some teachers assign physical activity-related homework that requires shared activities among children and their families.⁹⁴

POLICY OPPORTUNITIES

There seems to be less organizing and advocacy for policy approaches to increasing physical activity in after-school programs (compared to other arenas such as school and the community). "One of the biggest problems is that there isn't the necessary advocacy; when you look for organizations that are making the push, they just don't exist," remarked one of the key informants interviewed. Yet, promising opportunities in this venue do exist. Out-of-school-time program strategies include providing time for both structured and unstructured physical activity; encouraging enjoyable, noncompetitive activities; reducing television and computer use; training providers; and promoting staff wellness (physically active staff are more likely to engage in the activity with the children and encourage them to be more active).

The YMCA of the USA—as we mentioned, the leading private nonprofit provider of after-school programs—has revamped after-school programming. Children can participate in physical activity through the Pioneering Healthier Communities programs. Several YMCA sites utilize CATCH Kids Club. A representative at the YMCA explained, "Programs [like CATCH Kids Club] turn into policy when they are implemented in all after-school programs." The YMCA of Rochester, New York, and the YMCA of Delaware exemplify this type of policy change. In Clearwater, Florida, the two leading operators of after-school programs decided to provide all enrolled children with 30 minutes of physical activity each day.

This shift spurred the county licensing board to require all after-school programs in Pinellas County (which includes Clearwater) to provide at least 30 minutes of activity, five days a week, in order to be licensed.⁹⁵

The leading public provider, NRPA, offers a variety of programs at parks and recreation centers across the country. Additionally, NRPA's "Step Up to Health... It Starts In Parks" initiative works with communities to develop technical assistance resources, national partnerships, and research projects that support parks and recreation leadership.

The Boys and Girls Clubs of America have programs geared towards youth sports, such as baseball, football, and basketball.

Action for Healthy Kids, through its program, "Re-Charge!: Energizing After-school," gets kids physically active and teaches them skills and information that can carry over to the rest of their lives.⁹⁶

CANfit provides training and technical assistance to organizations working on improving physical activity and nutrition in low-income communities of color and has useful resources for after-school programs that are utilized around the country.

Lastly, the Center for Collaborative Solutions recently released a guide, *Developing Exemplary Practices in Nutrition, Physical Activity and Food Security in Afterschool Programs*, designed to help program leaders and their partners systematically and effectively strengthen their programs to combat the obesity epidemic.⁹⁷

The 21st Century Community Learning Centers initiative is the only federal funding source dedicated exclusively to after-school programs. It was funded at \$1.1 billion in 2008 and \$1.1 billion in 2009, below the \$2.5 billion authorized by the *No Child Left Behind Act* (NCLB).

Advocates also seek amendments to the reauthorization of the 21st CCLC that allow funds to be used for physical

activity-related expenses, enhanced program sustainability, and increased investments in quality.

Although PEP money is allocated mainly to PE in schools, it is another potential mechanism for funding after-school programs. In 2002, Congress authorized the Department of Education to expand the scope of PEP to include community-based organizations as potential recipients; advocates are also working to include parks and recreation departments. (See "Policy Opportunities" in the "Physical Activity in Schools" section for more details about PEP.)

Physical Activity in Communities

Communities that support walking, bicycling, and active play afford more opportunities for children to be physically active. The design of communities—neighborhoods, cities, transportation systems, parks, trails, and other public recreational facilities—affects people's ability to reach the recommended levels of physical activity.⁹⁸ Strategies that support active play concentrate mainly on creating and enhancing parks and playgrounds, making these areas safe, and offering activity programming. Community program strategies should focus on planning and operating programs that help children to achieve the national recommendations for physical activity. One way to reduce the need for new construction is to extend the use of existing facilities, for example, by making school facilities available to community members after school hours.

Another strategy for increasing daily physical activity includes child-friendly land use and transportation planning, such as complete streets and Safe Routes to School infrastructure improvements (discussed below), which allow children to walk and bike around communities safely. Equally important is protecting children from traffic injuries and from violence.

ACTIVE COMMUTING

Walking and bicycling to school and to other neighborhood destinations (e.g., recreational centers and parks) allow children to be physically active through their daily routines. Studies have documented that walking or biking to school helps children to meet their daily physical activity requirements.⁹⁹ However, the percentage of students who walk or bike to and from school has declined precipitously over the past three decades, according to a 2003 report by the Environmental Protection Agency.¹⁰⁰ The Institute of Medicine estimates that 30 years ago, two-thirds of American children walked to school each day, while fewer than one in five children walks or bikes to school today.¹⁰¹ Active commuting to school is particularly challenging when students live farther from their schools. Students in rural areas in particular, have been shown to use less active modes of transportation.¹⁰² Among other obstacles: parents' and children's concerns about safety related to traffic, crime, bullying, or violence; and school policies that prohibit walking or biking on specified routes or on school premises.¹⁰³

Although traffic-related pedestrian deaths for children have declined over the past decade,¹⁰⁴ pedestrian injury is still the second-leading cause of injury-related death in the United States among children ages five to 14.¹⁰⁵ Furthermore, while rates of pedestrian fatalities and injuries have decreased for all children, American Indian, Alaskan Native, African American, and Hispanic children continue to have higher pedestrian fatality rates than do white children.¹⁰⁶ While traffic crashes with pedestrians are most likely in urban areas, the percentage of rural fatalities relative to the total number of rural pedestrian crashes has more than doubled.¹⁰⁷ This is likely due to built environment characteristics such as minimal or no sidewalks, walking trails, or shoulders to separate pedestrians from moving vehicles as well as higher vehicle speeds found on rural roads.¹⁰⁸ Changes to the built environment offer a promising strategy to increase safe physical activity in rural communities.

Research suggests that efforts to (1) improve the built environment, (2) implement traffic calming techniques, (3) locate schools close to students' homes, and (4) increase parental accompaniment can encourage more children to walk and bike to school.¹⁰⁹ Built environment improvements such as changes in street and sidewalk design to increase the separation between vehicles and children as well as to slow traffic are key strategies for reducing traffic-related injuries.

EXAMPLES OF STRATEGIES AND POLICIES

Promote active transportation policies, including infrastructure improvements and programming, to encourage bicycling and walking

"Complete streets" is a regulatory strategy to address the needs of pedestrians and bicyclists. Complete streets policies ensure that walking and biking infrastructure is incorporated into all road projects, from street design to roadway construction to routine maintenance and repair. The policies also support traffic calming measures such as widening sidewalks, raising medians, and narrowing roadways, as well as placing bus stops in safe, convenient locations.¹¹⁰ In March 2009, two comprehensive complete streets bills were introduced in Congress: the *Complete Streets Act of 2009* (HR 1443) in the House of Representatives and the *Complete Streets Act of 2009* (S 584) in the Senate. These bills build on successful state and local policies to define effective complete streets policies at the national level; authorize needed research; and disseminate best practices. Complete streets policies, which are critical for improving street design and for the safety of children walking or biking to school, are a primary injury-prevention strategy as well as a means to promote physical activity.

The federal surface transportation bill offers opportunities to secure federal funding for transportation options that promote physical activity. The \$286.4 million bill,

Authorization of a new transportation bill is a tremendous opportunity to secure additional funds for new and existing programs that support safe physical activity.

passed in 2005 as the *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users* (SAFETEA-LU), authorized federal programs for highways and roadways, traffic safety, and public transportation through September 2009.

Authorization of a new transportation bill is a tremendous opportunity to secure additional funds for new and existing programs that support safe physical activity. The funding can be used to promote interconnected systems of safe and accessible trails, paths, and public transportation to encourage bicycling and walking. Representative James Oberstar (D-MN), chairman of the House Transportation and Infrastructure Committee, released the long-anticipated first draft of the Surface Transportation authorization bill to replace the expiring SAFETEA-LU legislation in June 2009. The bill includes an increase in investment in public transportation from current funding levels, increased latitude to metropolitan areas to make decisions about how to best spend transportation funds, and ongoing support for effective programs that support physical activity such as Safe Routes to School and Transportation Enhancements. The inclusion of language about the public health and safety implications of transportation policy and a new Office of Livability, are praiseworthy and unprecedented. This new emphasis will require coordination of safety, housing, climate and environment, energy, and physical activity goals in transportation policy and planning processes. For a comprehensive analysis of the health and equity impacts of transportation policies and opportunities in the authorization of a new federal bill, visit the transportation toolkit developed by the Convergence Partnership at: www.convergencepartnership.org.

In 2000, the U.S. Department of Transportation advised that states receiving federal funds should incorporate bicycling and walking facilities into all transportation projects. Fewer than half the states, regrettably, followed this recommendation. While transportation projects

have traditionally focused on the needs of car and truck travelers, 21st century challenges—oil shortages, climate change, unacceptable rates of traffic injuries and deaths, as well as the growing burden of chronic illnesses—will require greater attention to active, sustainable, affordable, safe, and convenient transportation options, including walking, bicycling, and public transportation.

Key programs that currently support physical activity through SAFETEA-LU include Safe Routes to School, which enables and encourages children to walk and bike to school; the Surface Transportation Program (STP), which supports the majority of bridge and roadway projects but has the potential to direct greater resources to walking, bicycling, and public transportation projects; the Transportation Enhancements Program, a program within STP and a popular source of funds for local bicycle and pedestrian infrastructure, such as trails and paths; The Congestion Mitigation and Air Quality (CMAQ) Improvement Program which supports efforts to reduce transportation-related air pollution; the Non-Motorized Transportation Pilot Program, which has awarded four communities with funds to promote active transportation; the Recreational Trails Program, which provides funds to states to develop and maintain trails; and the few programs that support public transportation, the largest of which is the Urban Area Formula Grants Program.¹¹¹

Ensure that children can walk and bicycle safely to school
“Safe Routes to School”—the national effort to ensure that children can walk and bike safely to school—includes both infrastructure and non-infrastructure (educational) programs. As of January 1, 2009, all 50 states and the District of Columbia have obligated funds for Safe Routes to School programs. A state example, the California Safe Routes to School Program, has provided more than \$40 million to municipalities and counties for implementation and evaluation. A local success is the Marin County (California) Safe Routes to School Program, which

achieved a 64 percent increase in walking trips, a 114 percent increase in biking trips, and a 91 percent increase in carpooling school trips over a two-year period.¹¹²

The Safe Routes to School National Partnership (SRTSNP)—a network of more than 350 nonprofit organizations, government agencies, schools, and professionals—works to increase support and funding for Safe Routes to School federally. The group also provides information, resources, and models to state and local agencies. In 2007, the SRTSNP initiated the State Network Project to establish Safe Routes to School networks in nine states and the District of Columbia. The project brings together people from diverse fields to work with state departments of transportation to increase physical activity among students and promote walking and biking to school.

Form walking clubs and walking school buses

Walking school buses, wherein one or more adults accompany groups of children as they walk to and from school, are becoming increasingly popular. Among communities using this approach are Arlington and Attleboro, Massachusetts; Clearwater, Florida; Somerville, New Jersey; Portland, Oregon; Indiana, Pennsylvania; Seattle, Washington; and Rapid City, South Dakota.¹¹³ In Chicago, the Active Living by Design partnership, of which The Logan Square Neighborhood Association was a lead partner, began a walking school bus program in 2006.¹¹⁴ The program collaborated with two public schools (Ames Middle School and McAuliffe Elementary School) and expanded to more elementary schools after its first year of success.

An adaptation of the walking school bus model in rural areas is to have school buses drop off students near a school site (approximately one-half mile away) and have an adult lead the students in a walk to school. This approach may not be the best option in all communities, especially those with safety and crime concerns. Such

programs have also found it challenging to maintain a corps of parent volunteers.

Renovate or rebuild schools in neighborhoods so students can easily walk or bicycle; locate new schools in areas that are easily accessible by walking, bicycling, and public transit

Over the past half-century, the trend has been to build larger schools on larger sites farther away from the neighborhoods they serve. This is a consequence of the relatively low cost of land in outlying or undeveloped areas, the ability to purchase and build on large swaths, and the aging of neighborhood schools. Moreover, many states must contend with minimum acreage requirements for school sites, challenging them to assess local needs and locate schools accordingly. There is a disincentive to retrofit or renovate schools because of the two-thirds rule: if the cost of renovating a school exceeds a certain percentage of new construction costs, the district is advised to build a new school. Where a school is located, of course, affects the ability of students, parents, teachers, and administrators to walk or bicycle to it.

In 2007, the Environmental Protection Agency (EPA) announced, “Reducing the Environmental and Health Impacts of School Siting,” a grants program to (1) document and analyze state-level school siting policies that create barriers to walking or biking to school and (2) help overcome challenges to health, smart growth, and environmental quality. At the state level, policies can require school districts to partner with local governments, community residents, and city planners to develop community-centered schools on smaller sites.

Removing acreage requirements for construction of small community-centered schools would also promote walking and bicycling. At the federal level, school facilities planning guidelines could encourage or require consideration of the health impact (e.g., air quality and physical activity) and the preservation of neighborhood schools.

A national study concluded that areas with higher poverty tend to have the fewest green spaces, parks, sports areas, public pools, beaches, and walking and biking paths.

Incorporate physical activity components into the Safe and Drug-Free School and Communities Act (SDFSCA)

The Safe and Drug-Free School and Communities Act (authorized by NCLB) became effective in July 2002. The primary purposes of its State Grants program are to authorize activities designed to prevent school violence and youth drug use and to help schools and communities create safe, disciplined, and drug-free environments that support student academic achievement.

These state grants programs through SDFSCA are pieces of a larger effort targeting low-income communities. The proposed *Bullying and Gang Reduction for Improved Education Act* (HR 1589), introduced in 2009, would expand SDFSCA to incorporate a broader set of activities to foster healthy and physically active children and youth. The proposed legislation can increase physical activity opportunities by: promoting safe passage to and from schools on foot and by bicycle; supporting programs outlined in the Safe Routes to School program; encouraging participation in regular physical activity; and developing skills that promote lifelong physical activity habits.

Safe and Accessible Play Areas

Outdoor environments have been associated with higher levels of physical activity than indoor ones.¹¹⁵ Playgrounds, in particular, encourage physical activity and unstructured play. Playgrounds offer the additional benefit of serving infants, toddlers, and older children. Safety and easy access to playgrounds help increase physical activity.

Parental anxiety about neighborhood safety correlates with lower levels of physical activity among children.¹¹⁶ Parents in low-income communities tend to perceive higher levels of neighborhood crime than parents in moderate- to high-income neighborhoods.

A longstanding safety concern is neglected equipment. A comparison between low-income and high-income neighborhoods in New York City revealed disparities in equipment maintenance; playgrounds in low-income neighborhoods had more hazards overall.¹¹⁷

The U.S. Consumer Product Safety Commission (CPSC) issued its first guidelines for playground safety in 1981. A decade later, it issued the *CPSC Handbook for Public Playground Safety*, which provided criteria for measuring the safety of playground equipment; the commission has revised the book since that 1991 edition.¹¹⁸ California is the only state requiring that a trained inspector scrutinize the safety of playgrounds. Other states require inspection of playgrounds, but none requires using a Certified Playground Safety Inspector (CPSI) to ensure that the inspectors meet a consistent standard. CPSI is recognized as the most comprehensive certification for public playground safety and is offered through the NRPA's National Playground Safety Institute.¹¹⁹

Lower socioeconomic status has also been linked to limited outdoor play resources. A Los Angeles Health Survey revealed that one out of four children under age five does not have easy access to parks or playgrounds, and one-third of parents living at the federal poverty level do not live near a safe play area.¹²⁰ Because children's physical activity levels are associated with the number of play areas near their homes and the amount of time they spend in those play spaces, community infrastructure for outdoor play must be available.¹²¹

A national study concluded that areas with higher poverty tend to have the fewest green spaces, parks, sports areas, public pools, beaches, and walking and biking paths.¹²²

Public playgrounds, youth organizations, schools, and YMCAs are more likely to be located in higher socioeconomic status, low-minority communities.¹²³

The Play Across Boston project developed an assessment

The fear of violence—real or perceived—can make parents and guardians more apt to keep their children indoors rather than playing outdoors, even in nearby parks.

tool in 1999 for documenting youth sports and physical activity resources in Boston. The project found that low-income neighborhoods had poorer quality playgrounds than middle- and high-income neighborhoods.¹²⁴ Since then, communities in and around Boston have adopted the methodology to reduce disparities in playground access while successfully helping children achieve recommended physical activity levels.

EXAMPLES OF STRATEGIES AND POLICIES

Establish joint use agreements

Joint use agreements can take many forms, but most relevant to physical activity is opening public schools and facilities for public use. Examples include agreements to open school playgrounds and gymnasiums to local residents and arrangements that allow schools without playgrounds to use city parks.

The Schoolyard Project, run by the Tulane University School of Public Health, studied the effects of opening a schoolyard on weekday afternoons and Saturdays in a low-income, urban neighborhood. The study revealed an increase in children playing outdoors and being physically active. Results suggest that providing that safe play space spurred active play in the surrounding neighborhood.¹²⁵

In a joint use agreement between the City of San Carlos, California, and the San Carlos Elementary School District, school facilities are open to city residents outside of school hours, and city facilities are available to the district for recreation programs. The agreement grants the city use of school district facilities after school, on evenings, on weekends, and on nonschool days. The school district can use all city gymnasiums, multipurpose rooms, classrooms, athletic fields, and playgrounds. The arrangement formally recognizes that community recreation promotes and preserves health, cultivates good citizenship, and contributes to educational goals.

Even when joint use agreements are on the books, concerns often surface about liability, cleanliness, maintenance, and security. Implementing agreements may be challenging, particularly in low-income neighborhoods, but many communities are working to overcome such obstacles.

Ensure that land use and transportation planning supports physical activity

Children—and adults—tend to be more active in walkable neighborhoods. Child-friendly planning considers the need for complete streets in areas where children are walking or biking to school, and near playgrounds, parks, and other destinations. As previously mentioned, complete streets bills were introduced in the House and the Senate, respectively, in March 2009. (See “Examples of Strategies and Policies” in the “Physical Activity in Communities” section for more details about complete streets.)

Support action included in the Promoting Lifelong Active Communities Every Day Act (the Play Every Day Act)

The *Play Every Day Act* (HR 2045 and S 651), introduced in Congress in 2007, would help communities to achieve the national recommendation of at least 60 minutes of physical activity every day for children and families. The legislation would require federal agencies to support the development of a Community Play Index to assist communities in identifying strengths and gaps in policies and programs for physical activity. The bill also would provide funding for high-quality play pilot sites. The bill did not pass in either the House of Representatives or the Senate and was not reintroduced in 2008 or 2009. However, an opportunity remains to revive the bill in future legislative cycles.

The Partnership for Play Every Day, a coalition of 50 nonprofit groups, corporations, and federal agencies, is promoting the message that all children and youth (especially those from disadvantaged communities) should engage in at least 60 minutes of physical activity every day.¹²⁶

Increase federal funding sources for parks, playgrounds, and open space

The U.S. Department of the Interior assists cities and urban counties with rehabilitating recreation facilities through the Urban Park and Recreation Recovery (UPARR) program, established in 1978. The program authorized \$725 million for matching grants and technical assistance to economically distressed communities, but it has not been funded since 2002. The program is an important source of funding to establish and care for, as one urban park advocate said, the “park at the end of your street.” It needs to be reinvested to become a meaningful vehicle for planning and revitalizing urban parks.

The federal Land and Water Conservation Fund (LWCF) awards money to states and local governments to conduct planning; purchase green space; and develop and maintain local, state, and national outdoor recreation areas. Between 1965 and 2005 LWCF granted 40,400 grants to match state and local government investments for a total of \$7.4 billion.¹²⁷ The LWCF is a high-priority federal funding resource for creating and improving parks. Since 1964, its funding has averaged approximately \$100 million per year.¹²⁸ Funding is divided into two streams: state grants and federal acquisition funds. The Statewide Technical Assistance Program gives state agencies seed or match money to acquire or develop land and facilities that provide or support public outdoor recreation. Given that most money for state and local parks is received through public financing (e.g., bonds), state and local agencies can potentially match money that comes from the federal level. Creating state-funded land and water conservation programs is another possible strategy to ensure that state and local entities receive adequate funding. In 2009, Congress appropriated \$19 million with an additional \$8 million supplement authorized by the *Gulf of Mexico Energy Security Act*, for a total of \$27 million to go to States, Territories, and the District of Columbia.

Offer parks and recreation programming that supports physical activity

Parks and recreation programs (swimming and youth sports, for example) draw neighbors to parks. Programming also increases park safety, as parks are typically safer when more people use them. Lack of structured programming often leads to misuse of parks. Community-based organizations, local parks and recreation departments, and local health departments generally offer programming that is considered both active (physical activity programming) and passive (e.g., health information or an activity such as a chess club).

Safe Places: Preventing Violence

Community experience has lifted up the need to address concerns about violence when launching efforts to promote physical activity. The fear of violence—real or perceived—can make parents and guardians more apt to keep their children indoors rather than playing outdoors, even in nearby parks. When fear of violence affects adult behavior and the overall community—that is, fewer people on the streets, in parks, or on public transportation—this affects the behavior of children and youth. While it is not clear to what *extent* violence influences physical activity, research shows that violence or fear of violence sometimes impedes activity levels, especially among populations that are more vulnerable to violence such as children, women, people with disabilities, and older adults.¹²⁹

Violence strikes at the core of many low-income communities and exacerbates health inequities, undermining efforts to improve both physical activity and eating behaviors. The perception of violence has been shown to discourage physical activity more than actual crime rates and neighborhood quality do.¹³⁰ When females view their community as violent, their physical activity decreases.¹³¹ The same holds true of parental fears; perception of

While violence is one of the nation's largest expenditures after the fact (e.g., spending on prisons, medical expenditures for treatment, and legal costs), it has been difficult to foster and sustain investments to address violence before it occurs.

safety is a stronger indicator than is access to spaces and facilities in determining how much physical activity children engage in outside school.¹³²

The perception of violence can alter walking patterns and discourage people from shopping in their neighborhoods. This may have implications not only for residents' ability to be active in the course of their daily routines, but also for their ability to eat healthfully. According to Yancey and Kumanyika, less time spent outdoors not only displaces physical activity but also increases television viewing and, thereby, exposure to ethnically targeted commercials for fast food and fatty and/or sugary snacks.¹³³ High levels of television viewing are consistently correlated with unhealthy eating behaviors, further impacting family health.¹³⁴ Efforts to improve access to healthy food and healthy eating in all neighborhoods are undermined if residents believe that shopping locally exposes them to potential violence.

At the same time, violence hurts the overall business climate. Developing stores and services within walking distance is critical for increasing daily physical activity. Yet perceptions of community violence discourage businesses from opening and limits the hours stores keep. A report by the Center for Food and Justice cites actual and perceived crime as one of several reasons for a lack of supermarkets in low-income communities: corporations believe that "shrink" (lost revenue due to employee theft, backdoor receiving errors, and customer shoplifting) will be greater in high-violence areas; store owners are also required to pay higher insurance rates and find it more difficult to secure bank loans when attempting to locate in neighborhoods with more crime.¹³⁵ When fewer businesses are open, there is less foot traffic, increasing the likelihood of crime and violent incidents, and making it even harder for the remaining businesses to thrive, thereby contributing to a downward development cycle.

As efforts to promote healthy eating and active living have

gained ground around the country, the need to address violence and the barriers it poses to healthy behaviors has emerged as a major priority. As practitioners and advocates work to promote physical activity, they must collaborate with those concerned about violence, as well as about food access, to address community safety.

EXAMPLES OF STRATEGIES AND POLICIES

Community strategies addressing the potential interplay between physical activity and violence fit within the broader context of community violence prevention work. Understanding this broad context is vital. After a period of some lassitude, interest in violence prevention seems to be reemerging. As previously described, violence prevention is key to ensuring that efforts to *improve* the built environment to support physical activity actually *result* in increased activity.

While violence is one of the nation's largest expenditures *after the fact* (e.g., spending on prisons, medical expenditures for treatment, and legal costs), it has been difficult to foster and sustain investments to address violence *before* it occurs. Violence is often seen as intractable because its prevention is rarely approached with the commitment and attention required for long-term success, generation after generation. For the most part, we as a society have treated violence as a criminal justice issue for perpetrators or turned to law enforcement to solve the problem. The role of health practitioners has been limited largely to treating the trauma—an expensive task. Healthcare providers frequently witness a vicious cycle, as the same victims and perpetrators return to the system for care.

A cadre of community activists, survivors, and family members, and some health and political leaders, is advancing the notion that violence is a learned behavior and thus can be unlearned—or discouraged in the first place. Law enforcement professionals are joining those who are increasingly insisting that we cannot arrest our

way out of the problem of violence, affirming that *preventing* violence requires collaboration and involvement of others, in addition to law enforcement.

Violence is preventable, but the problem has many complex dimensions and causes. No single program can address them all; it requires resources, people, leadership, and commitment from multiple sectors. Increasing attention to violence and investments in preventing it are yielding significant results. Epidemic rates of violence fell in the United States in the early 1990s with investment in multifaceted approaches. The so-called “Boston Miracle”—a community collaboration—demonstrated a drop in youth homicides from one per month to zero homicides for more than three years.¹³⁶ The Chicago CeaseFire initiative demonstrated significant reductions in violence while providing living-wage jobs for local residents.¹³⁷ There have also been broad-scale initiatives—most notably, The California Wellness Foundation’s 10-year Violence Prevention Initiative, which embraced a public health approach to youth violence prevention and had a major impact across the state. In addition, the Institute for Community Peace (formerly the National Funding Collaborative on Violence Prevention) has served as a national resource center on violence prevention and peace promotion.¹³⁸ Unfortunately and paradoxically, when violence rates fall, investment in prevention falls with them.

The evidence base for effective violence prevention strategies is growing; and there is renewed interest. The Surgeon General’s report on youth violence delineated many programs that can play a role in preventing violence, and cities are increasingly looking at comprehensive prevention initiatives.¹³⁹ The CDC’s UNITY (Urban Networks to Increase Thriving Youth through violence prevention) project has created a road map of the nine elements needed for an effective community-wide strategy.¹⁴⁰ UNITY city representatives have also identified key strategies that would support violence prevention efforts in cities: positive early childcare and education, positive

social and emotional development, parenting skills, mentoring, high-quality after-school programming, youth leadership, mental health services, family support services, conflict resolution and interruption, successful reentry support, social connections in neighborhoods, quality secondary and post-secondary education, and economic development.

Improving the built environment also contributes to violence prevention. Eliminating symbols of blight—broken windows, vacant lots, brownfields, and abandoned houses and cars—and adding amenities—good lighting, trees, public art, and benches—helps to encourage people to frequent an area and can foster a sense of safety.

EXAMPLES OF PHYSICAL ACTIVITY-RELATED VIOLENCE PREVENTION

While physical activity-related efforts should complement broader violence prevention strategies, it is neither realistic nor appropriate for overarching violence prevention to be the core work of most healthy eating and active living coalitions and leaders. Yet violence prevention efforts targeted towards enhancing physical activity should be studied and offered as exemplars to communities. Following are examples of effective initiatives.

Promoting Safety through Liquor Store Closures

Safe communities are essential to promoting recreation and active transportation among residents. Parents who fear for their children’s safety are less apt to promote outdoor physical activity, including walking between destinations. In the early 1990s, the South Los Angeles (LA) Community Coalition led a campaign to shut down liquor stores because community members were concerned about crime and the impact of so many liquor stores in the area. In three years, the coalition used zoning and related regulations to prevent the reopening of 24 liquor stores that had burned down during the civil unrest in 1992 and to shut down nearly 200 additional liquor stores

in south LA. Evaluators have documented an average 27 percent reduction in violent crime/felonies, drug-related felonies or misdemeanors, and vice (e.g., prostitution) within a four-block radius of each liquor store that was closed.¹⁴¹ The impact that is perhaps most salient to residents in the short-term is a feeling that the neighborhood is a safer, more pleasant place to be. “People primarily talk about safety and peace after closures occur,” said Marqueece Harris-Dawson, executive director of the Community Coalition. “And they say things like, ‘Now, I feel safe walking out in the morning’.”¹⁴²

Transforming Schoolyards into Vibrant Community Spaces

In May 2007, Mayor Michael Bloomberg announced his PlaNYC 2030 framework for revitalizing the city of New York. The plan recognized that many neighborhoods, particularly those with the most vulnerable residents, had few open spaces accessible to the entire community. Thus, PlaNYC 2030 calls for the opening of 290 schoolyards to community residents during hours when school is not in session, i.e., joint use of school facilities. Sunset Park, a rapidly growing urban neighborhood with many recent immigrant residents, has a community school which was an optimal candidate for a joint use agreement. However the community felt that the drugs, gangs and violence, crime, and teens hanging out in the streets made the open spaces unsafe and presented major barriers to implementing a successful joint use agreement. Over a five-year period, community organizers from the Center for Family Life worked with marginalized youth and other local residents to renovate the schoolyard with a new turf field and play spaces and to establish programs such as athletics, gardens, and youth internships. The schoolyard now serves as the community hub for after-school programs, out-of-school time physical activity, and youth mentorship and leadership development efforts. The “community plaza,” as the schoolyard came to be known, can be a model for areas where real and perceived violence are barriers

to transforming underused schoolyards into safe open spaces for community use.¹⁴³

Building Violence Prevention into Safe Routes to School Improvements

Safe Routes to School (SRTS) programs make walking and bicycling conditions safer, more accessible, and more convenient for children and their families. The New Jersey Department of Transportation (NJDOT) is carrying out an Urban Demonstration Project in Newark, Trenton, and Camden to identify barriers to applying for and implementing SRTS programs in urban communities. NJDOT engaged students, school officials, and neighborhood partners to develop a needs assessment and a transportation plan that prioritized safe walking and bicycling. Through the community assessment process, NJDOT identified violence and crime, blighted buildings, and traffic safety as key concerns to address in the final package of infrastructure and programming improvements. The SRTS program in New Jersey will benefit from this process tremendously as the NJDOT moves forward in ensuring all communities, particularly low-income communities and communities of color, benefit from safe and accessible places to walk and bicycle.

POLICY OPPORTUNITIES

Leading organizations working in out-of-school environments voice the need for more efforts to increase physical activity among children in the context of family and community environments. “There is so much focus on schools, but we also need to look at what happens outside the schools,” noted one interviewee.

National initiatives such as the YMCA’s Pioneering Healthy Communities Program; CDC’s Strategic Alliance for Health; and Action Communities for Health, Innovation & Environmental Change (ACHIEVE) encourage and support communities in implementing effective strategies to promote healthier lifestyles. Another

One advocate referred to the Play Every Day Act as one of the “closest things to creating an environment where families can be active together.”

national initiative, Active Living by Design, focuses on increasing physical activity through community design, public policies, and communications strategies. Local groups can implement such priority strategies because they are poised with the capacity, reach, and expertise.¹⁴⁴

In terms of federal policies, the *Play Every Day Act* would support communities by helping to develop a community index tool that assesses which policies and programs in the community support daily high-quality physical activity among children and families. Though this legislation did not pass in 2007 when it was last introduced in Congress, there is an opportunity to revive the bill in future legislative cycles to support pilot programs that utilize findings from the index to establish model communities of play. One advocate referred to the *Play Every Day Act* as one of the “closest things to creating an environment where families can be active together.”

Improving access to high-quality parks, particularly to playgrounds, is a key strategy to engage children and families in outdoor physical activity. Inadequate funding, lack of facilities, and safety concerns pose barriers to park access, especially for low-income communities of color. Urban Park and Recreation Recovery (UPARR) and Land and Water Conservation Fund (LWCF) are two federal programs supporting parks; although most of the advocacy around these programs comes from environmental groups, some physical activity-focused advocates recognize their importance in creating environments for physical activity.

Activity programming is also important for engaging children and youth. Local parks and recreation departments play a major role in providing physical activity programming, especially for low-income families. (Policies and strategies for activity programming can be found in a previous section, “Physical Activity in Out-of-School-Time Programs.”)

The built environment is a critical consideration when

creating a healthy community that supports physical activity among children and youth. Noted one observer: “Many of the problems are that there’s nowhere to have physical activity. In underserved populations it’s not enough to say in this neighborhood there are X number of parks. If those parks have needles and trash, then that’s not a playground. If you can’t walk to school because there’s violence in the neighborhood, then how do you get physical activity? Safety and land use are important considerations.”

Key strategies for creating a child-friendly community include building or revitalizing compact, mixed-use neighborhoods; providing shared spaces for physical activity (e.g., playgrounds, walking paths, and schools that can be used after hours); and completing streets to accommodate children to walk or bike to schools, playgrounds, parks, and other places. In rural areas, where people are geographically spread out, strategies to bring residents together (e.g., walking clubs) and to provide physical activity opportunities at places where residents already congregate (e.g., shopping malls, health centers, and parks and playgrounds) can be effective.

A growing number of states are discussing or implementing school siting strategies and policies. These have promise, but to date little legislation has been introduced.

The Safe Routes to School National Partnership and supporters have successfully advocated for \$612 million for the first national Safe Routes to School program through SAFETEA-LU (authorized from 2005 to 2009). In FY2009, annual funding for the Safe Routes to School program was \$183 million. The funds, from SAFETEA-LU, are distributed to each state department of transportation. The law provides funding for roads, pathways, or trails near schools; the creation of state-level SRTS coordinator positions; and a national SRTS clearinghouse. Funding distributed to state programs should be used strategically to foster effective programs and to demonstrate the value

and continued need for Safe Routes to School programs. Because of numerous funding requests from state departments of transportation, the Safe Routes to School National Partnership is advocating that the new multiyear federal transportation bill expand annual funding for Safe Routes to School programs. Some advocates also see the potential to use the safe routes notion as a building block for complete streets by supporting campaigns for safe routes to healthcare, public transit, food, and parks.

The time is ripe to consider strategies for redirecting some federal transportation dollars to active transportation. At \$67 billion in 2008, investment in transportation programs is the sixth-largest expenditure by the U.S. government. Because federal transportation funding flows largely to state departments of transportation, they have generally decided how the money is invested; metropolitan and local areas have substantially less control over such spending. To shift federal funding from large investments in highways and motorized travel infrastructure to infrastructure for walking, bicycling, and public transportation, leadership must come from diverse arenas—city planning, transportation, public health, housing, and economic development—as well as from advocates for healthy foods, the environment, and social justice. The Transportation for America Coalition brings together a broad constituency of advocates to advance an agenda that will respond to the urgent needs of the current transportation system in the federal bill's reauthorization process and integrate health, safety, and environmental protection more centrally in this process. This effort, led by Reconnecting America and Smart Growth America, has focused on the health outcomes of transportation policy. Advocates at the federal, state, and local levels must promote opportunities for physical activity as a more prominent concern in the federal bill; they must coalesce to ensure continued funding for key programs and provisions as well as support for promising new ideas.

Communities engaged in promoting physical activity are seeking help to address the barriers that violence poses to their efforts. This presents a rich opportunity to align the concerns of physical activity leaders with the concerns of organizations and elected officials working to reduce violence. Increasingly, members of Congress and several mayors are promoting an urban agenda that seeks to improve the quality of life for all residents by emphasizing violence prevention, education, neighborhood improvement, and economic development. In June 2008, the U.S. Conference of Mayors adopted a resolution calling youth violence a public health crisis and urged the federal government, states, and cities to recognize youth violence as a public health epidemic that requires a sustained, multifaceted approach focused on prevention.¹⁴⁵ This is where physical activity advocates, including public health leaders, can lend their much-needed credibility to violence prevention strategies. Our nation spends large sums of money on violence, particularly on its aftermath; thus, strategies that focus on preventing violence could ultimately save money as well as lives.

One of the most immediate arenas for action at the local level is to blend efforts to create a pedestrian-, bike-, and activity-friendly built environment with violence prevention strategies. While the knowledge base is growing, one needed element is to analyze the ways that decisions in diverse sectors—planning and zoning, transportation, economic development, housing, public health, education, and law enforcement—affect efforts to foster an activity-friendly environment and prevent violence. City councils can adopt a cross-cutting framework that includes the prevention of violence as local policy and can assess new proposals against that framework to determine what, and what not, to support. This effort will be more effective if there is a clear accountability plan in place for implementation.

Conclusion

Improving opportunities for physical activity in schools, in early childhood and after-school settings, and in communities is critical to improving the health of children and youth. Lifestyle patterns are shaped in early development, making it vital to foster healthy behaviors around eating and physical activity when children are young. *Fostering Physical Activity* has presented a range of strategies and policies to create environments that encourage and support active living among young people and their families. While the movement is growing and showing promise, policies and organizational practices at local, state, and national levels need to be greatly strengthened.

Physical activity must become a *national* priority if we want to prevent children from developing diet- and activity-related diseases later in life. As efforts to improve physical activity increase, diverse sectors such as education, parks and recreation, land use planning, and transportation must engage and forge effective partnerships that bring together varied, yet intersecting, interests.

Ultimately, the convergence of efforts, agendas, and partnerships will achieve the desired result: building healthy communities where all children can engage in physical activity, have access to healthy foods, and find opportunities to thrive and prosper.

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