

Results From the United States' 2014 Report Card on Physical Activity for Children and Youth

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Background: The National Physical Activity Plan Alliance partnered with physical activity experts to develop a report card that provides a comprehensive assessment of physical activity among United States children and youth. **Methods:** The 2014 U.S. Report Card on Physical Activity for Children and Youth includes 10 indicators: overall physical activity levels, sedentary behaviors, active transportation, organized sport participation, active play, health-related fitness, family and peers, school, community and the built environment, and government strategies and investments. Data from nationally representative surveys were used to provide a comprehensive evaluation of the physical activity indicators. The Committee used the best available data source to grade the indicators using a standard rubric. **Results:** Approximately one-quarter of children and youth 6 to 15 years of age were at least moderately active for 60 min/day on at least 5 days per week. The prevalence was lower among youth compared with younger children, resulting in a grade of D- for overall physical activity levels. Five of the remaining 9 indicators received grades ranging from B- to F, whereas there was insufficient data to grade 4 indicators, highlighting the need for more research in some areas. **Conclusions:** Physical activity levels among U.S. children and youth are low and sedentary behavior is high, suggesting that current infrastructure, policies, programs, and investments in support of children's physical activity are not sufficient.

Keywords: fitness, sedentary, sports, health, policy

There is growing evidence and acceptance among health care professionals that habitual physical activity during childhood and adolescence is essential to achieving optimal health. Previous research has identified beneficial associations between childhood physical activity levels and cardiometabolic disease risk profiles,¹⁻³ glucose metabolism,^{1,4} bone strength,^{2,5,6} mental health,^{7,8} cognitive performance,⁹⁻¹¹ body composition,^{10,12} and motor control.¹³ Despite the documented benefits of physical activity, the majority of children and youth in the United States (U.S.) do not participate in sufficient physical activity to meet the current recommendation that children and youth should achieve at least 60 minutes of moderate-to-vigorous physical activity every day.¹⁴

The National Physical Activity Plan Alliance (www.physicalactivityplan.org) partnered with physical activity and pediatric exercise experts with the common goal of developing a Report Card that provides a comprehensive assessment of physical activity and opportunities to be active among children and youth in the U.S. The

purpose of the 2014 United States Report Card on Physical Activity for Children and Youth (the Report Card) is to assess the levels of physical activity and sedentary behaviors in U.S. children and youth, facilitators and barriers for physical activity, and related health outcomes. Similar to report cards available in other countries, the U.S. edition brings together indicators important to physical activity, establishes a baseline, and highlights opportunities for improvement. The Report Card takes an ecological approach, recognizing that multiple levels of influence, including the individual, environment, behavior and policy settings, collectively affect the physical activity levels of children and youth in the U.S. The purpose of this paper is to summarize the process and results of the 2014 U.S. Report Card.

Methods

The U.S. Report Card Research Advisory Committee (the Committee), a subcommittee of the National Physical Activity Plan Alliance, was convened, and included 11 experts in physical activity and health behaviors from academic institutions across the U.S. The Committee, comprised of volunteers, was responsible for the development of the Report Card, which included identifying indicators, key research papers, and the best available data sources as well as assigning a letter grade to each indicator. An electronic version of the Report Card, including a summary and expanded version is available on the National Physical Activity Plan website (<http://www.physicalactivityplan.org/>).

The Report Card includes 10 indicators related to physical activity: overall physical activity levels, sedentary behaviors, active transportation, organized sport participation, active play, health-related fitness, family and peers, school, community and the built environment, and government strategies and investments. The Committee operationalized each indicator (Table 1), and data from nationally representative surveys were used to provide a compre-

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hensive evaluation of each indicator. Depending on the indicator, the Committee determined which data source was most appropriate and representative for the U.S. population of children and youth. The Committee used the best available data source as the “primary indicator” to inform the grade; “secondary data sources” provided context and clarity on the behaviors. All data were compiled from previously published reports; no new data analyses were performed. Brief descriptions of the primary data sources are provided below (see Table 1):

- *National Health and Nutritional Examination Survey (NHANES)*: NHANES involves a series of measurements conducted annually by the National Center for Health Statistics (NCHS) and is designed to assess the health and nutritional status of adults and children in the U.S. A nationally-representative sample of approximately 5000 persons living in the U.S. is examined each year. The data included in this report are from youth 6–19 years of age.^{15–19}
- *National Household Travel Survey (NHTS)*: The NHTS is the only nationally representative survey that collects information on American’s transportation patterns to inform national and state transportation programs and policies.²⁰ The most recent NHTS (2008–09) collected data from 150,147 households.²¹
- *National Survey of Children’s Health (NSCH)*: The NSCH is a national survey that is conducted every 4 years by the Maternal and Child Health Bureau within the U.S. Department of Health and Human Services; the last survey cycle was conducted in 2011 to 12. The NSCH collects data on indicators of children’s health including: body mass index (BMI), physical activity, and

screen time, and data are weighted to be representative of the U.S. population of children and youth ages 6–17 years.²²

- *Youth Risk Behavior Surveillance System (YRBSS)*: The YRBSS is a school-based survey conducted by the Centers for Disease Control and Prevention (CDC) under the Division of Adolescent and School Health. The YRBSS is administered every other year and is designed to assess health-risk behaviors among high school students. Survey results are weighted to be representative of high school students in public and private schools throughout the U.S.²³

Selected indicators were based on a similar initiative developed by Active Healthy Kids Canada.²⁴ The Committee reviewed the literature and nationally representative survey databases to identify data sources for each indicator. Following the selection of indicators and data sources, the Committee discussed and reached consensus. Grades were then assigned using the most recent published data available. The grades reflect how well the U.S. is succeeding in providing children and youth opportunities or support for physical activity, while also considering whether disparities are present in each of the indicators (eg, differences associated with socioeconomic status, sex, race/ethnicity). Table 2 presents a general rubric for determining the grade for each indicator, modeled after the Active Healthy Kids Canada initiative. The general rubric was used to assign a preliminary grade based on the data; however, grades were lowered to a “minus” or even a full letter grade in some cases if significant disparities were present in the indicator data. Overall, the Committee spent approximately 1 year developing the Report Card.

Table 1 Grades According to Physical Activity Indicator in the 2014 United States Report Card on Physical Activity for Children and Youth

Indicator	Data source	Primary indicator definition	Grades
Overall Physical Activity Levels	2003-04 NHANES	The proportion of U.S. children and youth attaining 60 or more minutes of moderate-to-vigorous physical activity on at least 5 days per week.	D-
Sedentary Behaviors	2009-10 NHANES	The proportion of U.S. youth engaging in 2 hours or less of screen time per day.	D
Active Transportation	2009 NHTS	The percentage of U.S. children and youth who usually walked or biked to school.	F
Organized Sport Participation	2011 YRBSS	The proportion of U.S. high school students who participated on at least 1 school or community sports team.	C-
Active Play	N/A	The proportion of U.S. children and youth participating in daily, unstructured, unorganized play.	INC
Health-Related Fitness	N/A	The proportion of U.S. youth meeting physical fitness standards.	INC
Family and Peers	N/A	None.	INC
School	2011 YRBSS	The proportion of U.S. high school students who attended at least 1 physical education (PE) class in an average week.	C-
Community and the Built Environment	2011-12 NSCH	The proportion of children and youth living in neighborhoods with at least 1 park or playground area.	B-
Government Strategies and Investments	N/A	Strategies, policies, and investments made by the U.S. federal government toward increasing physical activity levels and developing guidelines recommending healthful amounts of physical activity among American children and youth.	INC

Note. The grade for each indicator is based on the percentage of children and youth meeting a defined benchmark: A is 81%–100%; B is 61%–80%; C is 41%–60%, D is 21%–40%; F is 0%–20%; INC is incomplete data.

Table 2 2014 United States Report Card Grading Rubric

Grade	Definition	Benchmark
A	We are succeeding with a large majority of children and youth.	81–100%
B	We are succeeding with well over half of children and youth.	61–80%
C	We are succeeding with about half of children and youth.	41–60%
D	We are succeeding with less than half, but some, children and youth.	21–40%
F	We are succeeding with very few children and youth.	0–20%
INC	Incomplete. At the present time there is not enough information available for grading.	—

Note. Developed by Active Healthy Kids Canada for the Active Healthy Kids Canada Report Card on Physical Activity for Children and Youth.²⁴

Results

The 2014 United States Report Card is the first annual assessment of physical activity levels and related behaviors of U.S. children and youth, environmental constructs, and investments (Figure 1).

Overall Physical Activity: D-

The 2003–04 NHANES¹⁹ was the primary data source for overall physical activity. Approximately one-quarter of children and youth 6–15 years of age were at least moderately active for 60 minutes per day on at least 5 days per week.¹⁹ The prevalence was lower

among youth 12–15 years of age (8.0%) than among children 6–11 years of age (42.0%).¹⁹ The grade of D- was selected because overall approximately 25% of the sample met the physical activity guidelines, and significant age and gender disparities existed. In addition, secondary data sources, the 2009–10 Health-Behavior in School-Aged Children Survey and 2003–06 NHANES, identified differences in the results by sex, age, and ethnicity, with males, younger children, and nonwhite ethnicities being more active than their female, older, and white counterparts.^{15,25}

Sedentary Behaviors: D

The primary data source selected to grade sedentary behavior was the 2009–10 NHANES.²⁶ Approximately half (53.5%) of American children 6–11 years of age reported that they did not exceed the screen time guideline of 2 hours or less per day.^{26–30} Among Hispanic children, 61.7% reported engaging in 2 hours or less of screen time per day, whereas 55.4% of White children and only 36.7% of African American children reported meeting screen time guidelines. In addition, children aged 6 to 8 years reported meeting the guidelines more frequently (59.1%) than those 9–11 years (47.8%).²⁶ Age and ethnic disparities and the overall prevalence of meeting screen time guidelines earned the U.S. a D for sedentary behaviors. Secondary data sources showed similar results; just over one-half the U.S. high school students who participated in the 2011 YRBSS reported meeting screen time guidelines for television watching or computer use.²³

Active Transportation: F

The 2009 NHTS²¹ was chosen by the Committee as the primary data source for active transportation. Only 12.7% of school aged children and youth in the U.S. traveled to school by active means such as walking or biking. Active transportation prevalence was similar among children and youth with 13.1% and 11.8% of children ages 5–11 years and youth ages 12–14 years, respectively, reporting either walking or biking to school. Furthermore, 84.7% of U.S. school-aged children traveled to school by passive means, either personal vehicle (45.3%) or school bus (39.4%).²¹ The grade of F reflects the very low overall prevalence of active transportation among children and youth.

Organized Sport Participation: C-

The Committee selected the 2011 YRBSS²³ as the primary data source for organized sport participation. The data, however, are limited to high school students. Overall, almost 60% of American youth participated on at least 1 school or community sports team.

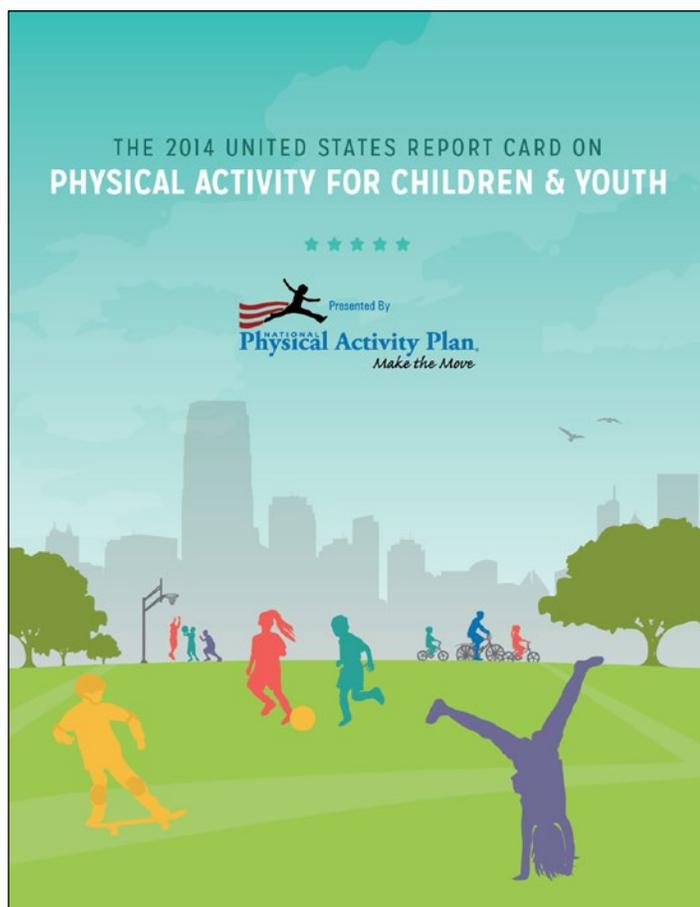


Figure 1 — Front cover of the 2014 U.S. Physical Activity Report Card.

The prevalence of participation of females (52.6%) was significantly lower than that of males (64.0%). Organized sport participation also differed by race/ethnicity. Among non-Hispanic White males, 64.7% reported participating on a sports team, whereas 67.3% of non-Hispanic African American males and 63.0% of Hispanic males reported participating; 57.1% of non-Hispanic White females, 46.9% of non-Hispanic African American females, and 44.6% of Hispanic females reported participating on at least 1 sports team.²³ Over one-half high school students in the U.S. reported participating on a sports team, but ethnic and sex disparities exist earning the grade of C-. Systematic data are lacking for children.

Active Play: Incomplete

There are currently insufficient nationally representative data to inform the selection of a grade for active play; thus the U.S. receives an incomplete grade. Recess may serve as a proxy for in-school active play. According to a secondary data source, the 2012 School Health Policies and Practices Study, 60% of U.S. school districts required elementary schools to provide regularly scheduled recess.³¹

Health-Related Fitness: Incomplete

Physical activity and physical fitness are not synonymous. Regular physical activity is associated with higher health-related physical fitness and decreased risk of chronic disease. The recently administered NHANES National Youth Fitness Survey³² will provide nationally representative data to grade the health-related fitness indicator in the future. Currently data are insufficient to inform the selection of a grade. The U.S. thus receives an incomplete grade for health-related fitness.

Family and Peers: Incomplete

Child and youth physical activity can be supported by parents and peers through direct/logistic support or through behavior modeling. Direct support may include parents enrolling their child in sports, providing transportation to and from activities, and/or active parental or peer involvement in the activity. Currently, there are insufficient nationally representative data available to inform a grade for family and peers. Therefore, the U.S. receives an incomplete grade. In addition, a primary definition of this indicator is lacking. The specific roles that parents play in influencing physical activity levels are not well understood and likely vary considerably by age of the children, family composition, and other characteristics.

School: C-

The 2011 YRBSS²³ was selected as the primary data source to inform the school grade. Approximately half (51.8%) of American high school students reported attending a physical education (PE) class during an average school week, but participation differed by sex with 56.7% of males reporting attending regular PE classes compared with 46.7% of females. In addition, many high schools throughout the country do not mandate PE for all 4 years, and an age/grade disparity within PE participation is observed. Among grade 9 students, 68.1% reported attending at least 1 PE class in an average week, whereas 54.6% of grade 10 students, 42.9% of grade 11 students, and only 38.5% of grade 12 students reported attending at least 1 PE class per week.²³ Low PE participation and disparities across sex and age earned the U.S. a C-. Data are lacking for elementary- and middle school-aged children.

Community and Built Environment: B-

The Committee chose the 2011–12 NSCH²² as the primary indicator for informing the community and built environment grade. Overall, 84.6% of children and youth aged 6–17 years reported living in neighborhoods with at least 1 park or playground area. The prevalence, however, differed by socioeconomic status as measured relative to the federal poverty level (FPL) earning the U.S. a B-. Approximately 89% of children from a higher socioeconomic status ($\geq 400\%$ FPL) reported living in neighborhoods with parks compared with 81% of children from lower socioeconomic status ($\leq 99\%$ FPL).²² In addition, secondary data showed approximately 87% and 77% report living in safe neighborhoods and neighborhoods with sidewalks, respectively.²²

Government Strategies and Investments: Incomplete

Although the U.S. government has established or continued programs and policies aimed at improving physical activity levels of children and youth, the Committee assigned an incomplete grade as there are currently no data or benchmark to inform a grade. Notable initiatives include the 2008 Physical Activity Guidelines for Americans,¹⁴ the former Communities Putting Prevention to Work and Community Transformation Grant Programs,³³ the Federal Safe Routes to School Program,³⁴ Let's Move,³⁵ NHANES National Youth Fitness Survey,³² and the President's Council on Fitness, Sports, and Nutrition.³⁶

Discussion

Overall Physical Activity

Cardiovascular and metabolic health benefits associated with habitual physical activity vary across the activity intensity spectrum; higher intensity activities, such as playing basketball and jogging, are associated with greater health benefits than those at lower energy intensities, such as walking. A longitudinal study found that youths who remained active during a 6-year follow-up period had more favorable cardiometabolic risk profiles than those remaining inactive.³⁷ More active boys had significantly lower insulin and triglyceride concentrations, decreased adiposity and a more beneficial ratio of HDL to total cholesterol than inactive boys. Girls who remained active had lower triglycerides and adiposity than inactive girls.³⁷ Results from The European Youth Heart Study¹ also showed significant correlations between physical activity and cardiovascular and metabolic disease risk factors.

Approximately one-quarter of U.S. children and youth 6–15 years of age meet the 2008 Physical Activity Guidelines for Americans recommendation of at least 60 minutes of moderate-to-vigorous physical activity per day.^{14,19} The grade of D- indicates that the majority of American children and youth do not meet physical activity recommendations and reflects age and gender differences in physical activity participation. Data for the primary indicator were obtained from 2003–04 NHANES¹⁹ and were collected objectively using accelerometers. Recently released results from the combined 2012 NHANES and NHANES National Youth Fitness Survey corroborated these findings.³⁸ In the more recent report, 24.8% of youth 12–15 years of age reported obtaining 60 minutes of moderate-to-vigorous physical activity every day.³⁸

Sedentary Behaviors

Sedentary behavior is emerging as an important, independent chronic disease risk factor. A recent publication defined seden-

tary behavior as “any waking behaviour characterized by energy expenditure ≤ 1.5 metabolic equivalents (METs) while in a sitting or reclining posture.”³⁹ Operationally, sedentary behavior has been defined as the amount of time spent at low activity counts on an accelerometer, such as < 100 counts/min.⁴⁰ Estimates from NHANES¹⁵ accelerometry data indicated that American children and youth spend over 7 hours being sedentary, and children spend more time being sedentary as they get older. Given the lack of a specific guideline for overall sedentary behavior, the Report Card Research Advisory Committee used total screen time as the primary indicator. For many years, the American Academy of Pediatrics (AAP) recommended that children should watch no more than 2 hours of quality television programming each day.⁴¹ In 2011, the National Heart, Lung and Blood Institute and the AAP reaffirmed this recommendation, expanding the scope from television to include all screen time.^{27–29} Screen time data for grading this indicator were obtained from the 2009–10 NHANES²⁶ and were collected by adult proxy report. Overall, approximately one-half of American children 6–11 years of age met the guidelines for screen time, but due to significant ethnic and age disparities, the Committee assigned a grade of D.²⁶

Active Transportation

School-aged children and youth who travel to school by active means accumulate more physical activity and have better cardiorespiratory, morphological, metabolic, and muscular fitness profiles than those who travel by passive means.^{42–44} NHANES data⁴² suggest U.S. students would accumulate an extra 4.5 minutes of moderate-to-vigorous physical activity each day if they spent 30 minutes per day actively commuting to and from school. Since 1969, the proportion of elementary and middle school students walking or biking to school fell 35 percentage points, from 47.7% to 12.7%.²¹ The distance from a child’s home to school is a strong determinant of active transportation. Children living within a quarter mile of their school are 14 times more likely to walk to school than are children living greater than 1 mile away from their school.²¹ Unfortunately, many students face long trips not possible by active means. According to the 2009 NHTS, nearly half (49.8%) of U.S. students live farther than 2 miles away from their school.²¹ In addition to living near school, the presence of sidewalks, bike lanes, and traffic calming mechanisms, such as crosswalks and traffic signals, can also increase active transportation to school among students.⁴⁵

Organized Sport Participation

Participating on a community or school sports team is an opportunity that can increase physical activity and the prevalence of children and youth who meet physical activity guidelines. Data have shown youth sports can be a significant source of physical activity, contributing 23%–60% of children’s daily moderate-to-vigorous activity.^{46,47} The data to inform the grade for sports participation were obtained from the YRBSS.²³ While more than one-half of American youth participated on at least 1 organized school or community sports team, the prevalence of sports participation among females was significantly lower than that among males and also differed across ethnic groups, warranting the Committee to assign a grade of C-.²³ In addition, the grade for organized sport participation was based solely on participation among U.S. high school students and does not reflect participation rates among younger children who may have more opportunities to participate in community sports.

Active Play

Research provides evidence that children engage in more moderate-to-vigorous intensity physical activity during free play than during organized activities.^{48–50} For example, children’s moderate-to-vigorous physical activity levels during outdoor organized activities were, on average, 55% lower than when children were engaged in unorganized outdoor activities.⁴⁸ The children spent approximately 53% of free play time engaged in moderate-to-vigorous activity compared with only 20% of organized play time.⁴⁸ The incomplete grade represents a lack of nationally representative data assessing how much time children and youth in the U.S. spend engaging in active play.

Health-Related Fitness

According to the Bouchard and Shephard model, “health-related fitness refers to those components of fitness that are affected favorably or unfavorably by habitual physical activity and are related to health status”.⁵¹ The 5 components of health-related fitness are metabolic, morphological, motor, muscular, and cardiorespiratory.⁵¹ Each component is important for children to maintain optimal health throughout their lifetime as the components of fitness tend to track from childhood into adulthood. Although health-related fitness is an important indicator among children and youth, the incomplete grade indicates that there are insufficient recent data available to inform a grade against a meaningful benchmark.

The NHANES National Youth Fitness Survey³² was conducted among U.S. children and youth aged 3–15 years during 2012. It is the first national fitness survey conducted in over 25 years and consisted of participant interviews and fitness tests. These data will expand the current fitness research base and help illuminate potential relationships among physical activity, health-related fitness, and disease risk factors in U.S. children and youth. In addition, the cardiorespiratory fitness data will provide evidence to grade the health-related fitness indicator in future Report Cards. At the time of publication, these data were not yet published.

Family and Peers

Parents can support their children’s participation in physical activities by providing direct/logistic support or through behavior modeling. Direct support includes parents enrolling their child in sports programs, providing transportation to and from activities, or active parental involvement in the activity.⁵² Behavior modeling occurs when parents show or encourage their children to be active through their own behavior; for example, by participating in daily physical activities or sports.⁵² The grade of incomplete represents a lack of nationally representative data on family and peer support for childhood physical activity. In addition, the Committee was unable to operationalize an indicator with a clear definition because the current evidence base is inconsistent on how parental or peer group behaviors influence children’s physical activity levels. Secondary evidence from the 2010 National Youth Physical Activity and Nutrition Survey⁵³ indicates that 60%–75% of parents encourage their children to be physically active either by being a spectator or providing transportation to physical activity venues. However, only 48.5% of parents reported being active with their child. Results from the same study provide some evidence that adult support for physical activity resulted in a greater odds of the children meeting physical activity recommendations (OR = 1.09, $P < .001$).⁵³

School

School-based PE is strongly recommended by the Task Force on Community Preventive Services as a strategy to increase physical activity levels among school-aged children and youth.^{54,55} According to the 2011 YRBSS,²³ slightly more than half of American high school students attended PE class, but PE participation differs by age and sex, constituting a grade of C-. In addition, secondary data indicate that adolescents who participate in PE have greater odds of meeting physical activity guidelines than those who do not.²³ Currently, 90%–94% of U.S. school districts require elementary, middle, and high schools to teach PE;³¹ however, offering PE classes is not synonymous with student enrollment in PE classes, especially during the high school years. PE participation is highest among students in 9th grade, decreases among 10th and 11th grade students, and is lowest among 12th-grade students.²³ The difference in participation across school grades may be due in part to the fact that many U.S. schools do not mandate PE courses for all grades. In addition to the grade disparity, PE participation also differs by sex with males more likely to attend regular PE classes than females.²³

Community and Built Environment

The built, or physical, environment can facilitate physical activity, improve health-related fitness, and decrease body fatness among children and youth in many ways, for example, by providing convenient access to parks or recreation centers and safe sidewalks to actively transport to and from nearby locations.^{54,56,57} Evidence suggests parks and other outdoor recreation sites are second only to schools as the setting where children and youth are most active,^{58,59} and numerous studies have shown higher physical activity levels among children and youth living near parks or recreation centers.^{57–61} According to the 2011–12 NSCH,²² the large majority of American children and youth report living in neighborhoods with at least 1 park or playground area. However, significant disparities exist by ethnicity and socioeconomic status, earning the U.S. a B-.²² The grade for Community and Built Environment is based solely on the presence of parks or playgrounds and does not reflect park accessibility, usage, or availability of quality programming, which are important determinants of a park's ability to promote activity among children. In addition, there are no national datasets that address other potentially important aspects of the built and physical activity environment (eg, sidewalk availability, bicycle paths).

Government Strategies and Investments

The U.S. receives an incomplete grade for government strategies and investments because there are no benchmarking data available. Policy changes and investment in physical activity research, guideline development, and infrastructure can have profound effects on physical activity and healthy behaviors of Americans. The Committee chose 6 notable initiatives established or continued by U.S. governmental institutions to examine in the Report Card:

- The 2008 Physical Activity Guidelines for Americans,¹⁴ released by the U.S. Department of Health and Human Services, were the first comprehensive evidence-based physical activity guidelines for Americans issued by the U.S. government. These guidelines included the recommendation that children and youth should obtain at least 60 minutes of moderate-to-vigorous physical activity every day.
- The CDC's Community Transformation Grant Program³³ provides support for policy, systems, and environment change

that focus on community health and wellness, including those that promote active living and healthy eating.

- The Federal Safe Routes to School (SRTS) Program,³⁴ administered by the U.S. Department of Transportation's Federal Highway Administration, aims to empower states and communities to establish programs and projects that make actively commuting to school safe and routine for children and youth. In 2012, the Transportation Alternatives Program was established widening the scope of physical activity-friendly projects eligible for funding.
- Let's Move!³⁵ was introduced and implemented by First Lady Michelle Obama in 2010. Its mission is to solve the problem of childhood obesity in the U.S. in a single generation. One of Let's Move's 5 goals is to increase physical activity among children and youth
- The NHANES National Youth Fitness Survey³² was conducted by the National Center for Health Statistics and designed to assess physical activity and fitness levels as well as healthy behaviors among children and youth in the U.S.
- The President's Council on Fitness, Sports, & Nutrition,³⁶ administered by U.S. Department of Health and Human Services, strives to educate and motivate all Americans to live healthy lifestyles, including habitual physical activity and good nutrition.

Limitations

Although the grades in the Report Card are based on the best available data, there are research and evidence gaps. Currently, there are no recommendations for limiting total sedentary time to benchmark against. The Committee chose to use total screen time as a proxy for sedentary behavior; however, this may underestimate the total amount of time spent in sedentary pursuits. In addition, with the proliferation of multimedia devices, screen time is becoming more difficult to assess. Related to this point, there is a need for additional research into the influences and measurement of active play, family and peer groups on physical activity levels. The Committee was unable to grade health-related fitness, but the NHANES National Youth Fitness Survey will soon provide data to inform the grade in later reports. The YRBSS data for organized sports team participation were limited to high school youth. Evidence is needed for sports participation among children as they may have more opportunities for community sports than high school students. Note, however, sport becomes more selective or exclusive with increasing age of participants. In addition, the community and built environment indicator is based on the presence of parks, but the presence of parks does not necessarily mean the parks are fully functional or are being used to promote active living. More information is required on the quality of the park infrastructure and the availability of programming and activities in the parks.

Conclusion

Physical activity levels among children and youth in the U.S. are low, and sedentary behavior is high. It seems apparent that the current infrastructure, policies, programs, and investments in support of physical activity in children and youth are inadequate. This is evidenced by the low Report Card grades, most of which are Cs and Ds. In addition, there is a need for additional research into the determinants of regular physical activity to develop effective strate-

gies for increasing physical activity and healthy behaviors among children and youth in the U.S. Strategies should aim to address the disparities across sex, race/ethnicity, age, and socioeconomic status when present.

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