

# Let's Go to the Park Today: The Role of Parks in Obesity Prevention and Improving the Public's Health

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## Abstract

Let's go to the park today! This familiar phrase is heard routinely throughout the year in many U.S. households. Access to parks, trails, open spaces, and recreational facilities not only provides increased opportunities for children and adults to play and be physically active, but these venues also influence other behaviors. As the health and wellbeing of our children are impacted by the daily environment in which they live, learn, and play, the use of parks and other recreation spaces as a healthful venue is important to consider in a comprehensive view of childhood and family obesity prevention. This article briefly summarizes some of the obesity-related benefits of parks across the local, state, and national park systems and highlights specific initiatives as examples of the commitment by park agencies to benefit the public's health and play a role in obesity and chronic disease prevention.

## Introduction

In the United States, park systems exist at the local, state, and national level. There are an estimated 12,000 municipal or local (includes counties and special districts) park departments managing 6.0 million acres. There are an estimated 105,000 parks in these municipalities with an estimated reach of 300 million people nationwide.<sup>1</sup> In addition, according to Rails-to-Trails Conservancy, there are 1710 rail trails for a total of 20,409 miles nationwide. State Parks also provide both venues and options for promoting health. The collective impact of the U.S. State Parks is impressive, with more than 7,800 park units, 48,380 miles of trails, 221,000 campsites, and over 8,000 lodges.<sup>2</sup> Of the over 720 million State Park visits annually, approximately 64% include children.<sup>2</sup> In 2010, there were approximately 455,000 local and state employees in parks and recreation according to the U.S. Census Survey of Public Employment and Payroll. The National Park Service (NPS), a bureau within the Department of the Interior, manages 397 national areas, has over 17,000 miles of

trails, employs 22,000 staff, has 221,000 volunteers, and offers activity opportunities and snacks and meals to over 280 million visitors annually, making the NPS a major employer and one of the largest tourist destinations and food providers in the United States.<sup>3,4</sup> The NPS also provides technical assistance programs and pass-through funding to establish local, regional, and state parks, trails, and greenways in all 50 states.

## Health Benefits

Parks and playgrounds are important spaces for children and adults for physical activity and are among ways to create or enhance access to physical activity for Americans. Several studies have shown a positive association between access to parks and physical activity levels.<sup>5,6</sup> Brownson et al. found that approximately 30% of physically active adults reported that they exercised in parks.<sup>7</sup> An observational study of park use by children found that besides active play, about one-third of children took part in walking and 1 in 9 was engaged in vigorous physical activity.<sup>8</sup>

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Research finds that youth without access to opportunities for physical activity during nonschool hours are less likely to be as physically active as their peers, and at least one study shows that by increasing access to places for physical activity, youth not only have higher levels of activity but are less likely to be overweight or obese.<sup>9</sup> Regarding proximity to parks, Cohen et al. found that individuals who lived closer to parks used parks more frequently than those who lived farther from parks.<sup>10</sup> Preliminary evidence also suggests that using parks, playgrounds, and recreation centers may lead to other healthy lifestyle choices, such as using modes of active transportation—like biking or walking to a park location.<sup>11</sup> The percentage of youth with parks or playground areas, community centers, and sidewalks or walking paths and the percentage of census blocks with a park within a half-mile boundary are two measures of access to places for physical activity reported by the CDC. Data compiled by the CDC in its State Indicator Report on Physical Activity, 2010, find that overall 50.0% of youth have parks or playground areas, community centers, and sidewalks or walking paths in their neighborhood and that 20.3% of census blocks have a park within a half-mile boundary.<sup>12</sup>

Although broad in definition, exposure to an environment that emphasizes and supports a more active lifestyle (e.g., bike paths, extended fitness, facility hours, cycling clubs, organized athletic events) was one type of community-based physical activity initiative reviewed for cost-effectiveness. This intervention and others based in communities appeared to reduce disease incidence, to be cost-effective, and, compared with other well-accepted preventive strategies, to offer good value for money. The conclusion of this review was affirmation of support for using community-based interventions as part of public health efforts to promote physical activity.<sup>13</sup>

In addition to space for either passive or active recreation, parks were traditionally created to be the “green lungs” of the city.<sup>14</sup> They offer an area in which to experience nature in an urban environment that may not otherwise be present. Spending time in nature has been linked to several health benefits, including reduction in attentional fatigue,<sup>15</sup> and a study by Bodin and Hartig found that running in a park fostered more psychological restoration than did running in an urban environment.<sup>16</sup> Walking in a natural setting has also been shown to alleviate symptoms of mental fatigue more than walking in an urban environment.<sup>17</sup> Nearby nature has been shown to enhance children’s psychological health, and other data suggest that the presence of nearby nature buffers the impact of life stress on rural children and enhances self-worth.<sup>18</sup> Green outdoor activities and greener play areas have also been shown to attenuate attention deficit disorder symptoms and improve concentration.<sup>19</sup>

The nation’s high obesity prevalence and its linkage to poor health outcomes have prompted park and recreation agencies across the nation to work closely with other community leaders to also consider improvements

in access to healthy, affordable, nutritious foods and beverages. Improved diet has the ability to reduce chronic diseases and aid in weight management.<sup>20</sup> Supportive environments where healthier food choices are available can support individuals in making healthier food choices.<sup>20,21</sup> Model policies for concessions and procurement practices for healthy foods and beverages have been developed by parks agencies at various levels, including adaptation of the federal guidelines for concessions and vending.<sup>22</sup> In addition, inclusion of farmers’ markets, taste testings, urban agriculture, and garden space in parks is bringing nutritional education, experiential learning, and healthy food opportunities to children and their families as a way to impact the broader cultural norms around food. Although there are no currently published data linking park food options with dietary behaviors, future studies can address this gap to build evidence in this domain of health. Additional benefits of parks include environmental benefits, hazard mitigation, stress reduction, and social capital that are beyond the scope of this article.

## Barriers to Park Usage: Ensuring Equity for Access and Use

Barriers to park use can take many forms. They may be as simple as lack of awareness that a park exists or as nuanced as culturally inappropriate facilities. Grow noted that, “Not only are youth more likely to go to a recreation site to be physically active if they walk or bike to the site but also walking/biking to sites represents additional physical activity. Conversely, youth who are unable to walk or bike to recreation facilities may be deprived of opportunities for two types of physical activity—active use of the site and active transport to the site.”<sup>11</sup> Therefore, placing parks in locations that support walking access by most residents is desirable. Reducing route distances and improving pedestrian/bike infrastructure are relatively inexpensive ways of increasing park access. The Trust for Public Land used the percent of population who could walk to a park entrance uninterrupted by physical barriers such as highways, train tracks, rivers, and fences via a route that was less than 0.5 mile (approximately a 10-minute walk) as part of their ParkScore methodology and found that the percentage of the population living within a 10-minute walk of a public park ranges from 26% to 97%, with a median of 57%.<sup>23</sup> Entrance locations are critical because someone may live next to a park and due to street patterns, access points, and/or fencing still have to walk long distances before gaining access. The distance people will walk to a park site needs additional research; however, some popular information indicates that it is somewhere between 0.25 and 0.75 of a mile.<sup>23</sup> Shorter walk distances are associated with more frequent park visits.<sup>11</sup> Even when park entrances are located within a reasonable walk distance, they may be located on busy roads or they might lack signs and other signals

that indicate that the park property is open for public use. Knowledge that a park exists, who is welcome, what to bring, and what there is to do are all barriers that can easily be addressed with quality signs and community outreach. Programs that encourage park experiences can both invite people into a site and teach skills that overcome concerns about visits. Fees can be a barrier for many, particularly if they are part of a large family that would otherwise visit the park often. Poor maintenance, vandalism, and crime can make a park visit uncomfortable and even unsafe. Lack of comfortable seating, shade or sun, and drinking water can limit park use. Time can also be a barrier; if it takes a significant part of an already too full day, park visits may become occasional treats instead of a regular part of daily living.

While parks and recreational facilities are commonly found throughout communities, park access, attributes, conditions, and use vary across different groups and populations.<sup>24</sup> Data find that certain racial and ethnic groups have significantly poorer access to green spaces.<sup>24</sup> In addition, poor access is often present in socioeconomically disadvantaged areas. Disparities in park distribution and park access affect the ability of these populations to use the facilities and also limit their opportunity to meet daily recommended levels of physical activity. Disadvantaged communities may be particularly vulnerable to many barriers, but steps can be taken. At the neighborhood level interventions such as park events, cleanup days, guided walks, organized classes and club meetings, and maps highlighting access to a park have been used to improve the quality of a park site and increase awareness of the opportunities it presents. At the jurisdiction level, maps, signs (directing people to parks, identifying entrances, and information about amenities), web pages, volunteer coordination and support, cleanups and renovations, community policing and neighborhood watch programs, development regulations that support reduced entry distances, and park visibility may reduce barriers to park use. An economic research synthesis report and fact sheet put forth by Active Living Research has among their findings that open spaces, such as parks, can have a positive effect on nearby residential property values and can lead to higher property tax revenues for local governments (provided municipalities are not subject to caps on levies).<sup>25,26</sup> Thus, improving open spaces in urban areas has the potential to benefit those communities who have the most to gain.

Local parks are focusing efforts to improve access and increase park use by providing safer and more affordable public transportation options, minimizing environmental safety concerns, and improving poorly maintained facilities. In Florida, for example, Miami Dade County developed an Open Space Master Plan that ensures that every resident is within a 5-minute walking or biking distance from a neighborhood park, recreation center, civic space, etc. In Hawaii, a community is expanding the bus service at night and on the weekends to allow community residents to get to and from parks safely. A rural community

in South Dakota leveraged state funds to make trails more attractive, easier to navigate, and more accessible with bike racks and trails markers that include maps and other information. Parks are overcoming access barriers in disadvantaged areas in numerous ways and also developing joint use agreements that provide shared use and access to facilities such as schools and parks after regular hours. These initiatives can help ensure that parks are not only used by those who are currently healthy, thus trying to maintain health, but also those struggling with chronic physical and mental health conditions who can benefit from regular park use.

## Health Highlight—Physical Activity Initiatives

Park agencies are focusing their efforts on improving conditions of their parks to increase park use. In Davenport, Iowa, a team of community leaders and stakeholders, led by the Davenport Parks and Recreation Department, increased usage of parks and trails by placing signage along recreational trails with a goal of increasing physical activity in the city's 50 parks and over 15 miles of walking and biking trails.<sup>27</sup> In Louisville, Kentucky, a team of community leaders are working to both expand and improve upon existing trails as part of the Louisville Loop, a shared-use, 100-mile path. Currently, the most underused sections of the loop are in economically underserved areas. The team has also increased use by improving signage along the loop, providing transportation to and from the loop, increasing access, and improving safety, with the goals of providing transport to services such as health and social service organizations located along the loop as well as for recreational usage.

On January 1, 2012, the National Association of State Park Directors (NASPD), as part of its commitment to promote healthy lifestyles, launched America's State Parks First Day Hikes, inviting people to start the year off with physical activity and a connection to nature by participating in one of 400 guided hikes across the country on New Year's Day. Over 14,000 people hiked over 30,000 miles from Florida to Alaska and Maine to California. The majority of hikes were moderate, approximately 2 miles in length, appealing to a wide audience, yet some hikes were more challenging for the adventurous. Hikes ranged from a few participants to over 500 visitors at Ka Iwi Scenic Shoreline State Park, where visitors hiked up the summit of Makapu'u to conduct a Hawaiian sunrise oli (chant) as the sun rose on New Year's morning. Nationwide, participants expressed their enthusiasm and gratitude for this experience, which connected them to nature and fostered physical activity.

Healthy Parks Healthy People US, a program of the NPS, aims to increase public recognition of parks and public lands (including state, local, and regional park and trail systems, and public lands) as places for the promotion of physical, mental, and social health.<sup>28</sup> The NPS is engaged in

a broad array of partnership efforts and coalitions to deliver health promotion projects, programs, and events in parks and communities across the country. The Healthy Parks Healthy People US program focuses on a 5-year goal to expand the health community's use of parks as a healing tool and increase citizen recognition of the value of parks to improve health and well-being by establishing 50 formal partnerships with health and medical providers and large employers across the country.<sup>28</sup> An example of one of these partnerships is the Tu Parque, Tu Salud (Your Park, Your Health) partnership project with the American Heart Association (AHA) and NPS Gateway National Recreation Area (NRA) in New York City. Six bilingual college students were hired for part-time internships that included a 3-week immersion focusing on an introduction to Gateway NRA, the NPS, and AHA principles that stress the importance of a healthy lifestyle. Interns facilitated outdoor recreation activities and educated the public about the connection between parks and fitness and designed strategies for outreach based on personal experience and knowledge of their local communities. Through the summer experience, interns became "trusted advocates" in their communities. They shared what they learned about the overall benefits of outdoor exercise, free and fun activities at Gateway NRA, and developing healthier eating habits with people of all ages.

## Health Highlight—Nutritious, Tasty Food Initiatives

Parks can also play a role in ensuring that children and families have access to healthy, nutritious, tasty foods and beverages. Over a year ago, vending machines at the Arlington County Department of Parks, Recreation and Cultural Resources in Virginia, contained the typical assortment of snacks: Chips, cookies, sodas, and candy high in calories, added sugars, and solid fats. Today, vending machines managed by the Department of Parks, Recreation and Cultural Resources must comply with a healthy vending policy implemented in September, 2010, that requires food and beverages sold to meet specific nutrition standards. The City of Jackson Recreation and Parks Department in Tennessee led and aided efforts to improve the availability of healthy foods in underserved population areas, including launching an assessment to examine healthy food availability and pricing at area stores, public and active transportation options to and from these locations, and in rejuvenation of its farmer's market, which now averages between 2000 and 3000 customers.<sup>27</sup> The success of the market caused available vendor spaces to sell quickly, but rather than turn away farm vendors, they will be directed to off-site "mobile markets" that travel to underserved communities and sell fresh produce. The City also plans to offer electronic benefit transfer sales at the farmer's market to make healthy foods more easily accessible and affordable to low-income and elderly customers.

Since the inception of its Healthy Foods Initiative in 2006, California State Parks has required and supported participation for its concessioners and partners in the program. Developed to provide visitors with healthier food options, and to encourage improvement of diets and the health of Californians, concessioners were asked to provide affordable, appealing, high-quality, pure, and organic foods at all State Park venues. Working closely with the program, ARAMARK, concessioner for the Asilomar Conference Grounds, has implemented a food and beverage program built around a sustainable supply chain of local, seasonal, and organic produce. Once procured, ingredients are minimally processed and prepared to retain the fresh flavors and health benefits. To support changing tastes and dietary needs, whole grains and alternative proteins have been incorporated into daily menus, providing a variety of food options for those on restricted diets. Completion of a total kitchen remodel in January, 2012, created a demonstration area where cooking classes and food demonstrations will connect park visitors with the knowledge and tools needed to prepare healthy foods at home. For both California State Parks and ARAMARK, equally as important as the food and its preparation is visitor education. Exhibits illustrate why seasonal, local, and organic food is served at the historic Crocker Dining Hall and which produce is currently in season. One of the main goals of the program is to demonstrate how through personal choices park goers can support their own health as well as the health of the environment. In addition to California, other state park healthier food initiatives include South Dakota and Delaware. For example, the Delaware Department of Natural Resources and Environmental Control, partially supported by the CDC's Communities Putting Prevention to Work State and Territorial initiative, developed an initiative called "Munch Better at Delaware State Parks" to provide healthier choices for visitors to state parks.<sup>29</sup>

In April, 2011, as part of the national Healthy Parks Healthy People initiative, NPS Director Jon Jarvis announced a new service-wide Healthy Foods Strategy to "ensure access to healthy, sustainable and high-quality food at reasonable prices" and to serve as a model for other parks.<sup>28</sup> The CDC and the NPS Healthy Foods Evaluation is a collaboration to provide baseline data on food, beverages, and drinking water availability, pricing, and promotion that will inform NPS.<sup>30</sup> The NPS has approximately 600 concessioners at more than 120 sites. Concessioners provide visitors with food, lodging, transportation, shops, and other services. They employ approximately 25,000 people, and are therefore an important ally in making changes to the food offerings in the national park units.<sup>2,3</sup>

It also should be noted that in addition to specific nutrition initiatives highlighted here, park and recreation agencies are the second largest public feeder of U.S. children, behind schools; park and recreation agencies serve approximately 560,000,000 meals to children through summer and afterschool programs each year.<sup>1</sup>

## Economic Constraints and Linkages to Partners with Similar Missions

Despite the many benefits, it is important to be transparent about the financial situation of many parks and recreation programs. The report “Financing the Future: The Critical Role of Parks in Urban and Metropolitan Infrastructure” describes the significant competition among different public services for tax funds, *e.g.*, parks, police, and fire services.<sup>31</sup> This funding crisis has led to a widespread discussion about the future role of parks and recreation programs and questions of how they should be funded. The report points out that parks and recreation professionals are contemplating how to fund their operations in a time of fiscal constraint. Ideas include using volunteers, charging fees, soliciting donations from private individuals and corporations, and other alternative methods of resources. These ideas are balanced though with how certain approaches might create equity issues between families who can afford to pay and those who cannot.

Even in times of perceived prosperity, there has been a call for the potential societal (personal and public) benefit of using public lands, such as the state parks for the public’s health.<sup>32</sup> Partnerships with federal agencies, public health departments, corporations, healthcare providers and insurers, civic organizations, community-based organizations, schools, health foundations, international organizations, and others are being pursued by park agencies. These partners, who are often already active obesity coalition members, are important sources for resources but also for practical ideas and collaboration. Some private companies are realizing that for a very minimal investment in staffing and related resources, they can partner with nearby parks to offer their employees outdoor gymnasiums, personalized to their needs through programs and targeted information. Health providers and insurers are also funding changes to the built environment to promote healthy park visits as well as working with parks in providing “park prescriptions” (patient referrals to local parks and trails). For example, park agencies and doctors are starting to collaborate on programs like New Mexico’s “Prescription Trails,” which identify walking and wheelchair rolling routes that are both safe and accessible to patients and families to promote healthy lifestyles.<sup>33</sup> To encourage appropriate levels of physical activity, healthcare providers assess their patients for readiness to start or maintain a walking program and then write tailored prescriptions based on their current physical condition. Walking programs can contribute to the treatment and prevention of a number of chronic conditions such as diabetes, depression and high blood pressure. Prescription Trails currently has programs in Albuquerque, Las Cruces, and Santa Fe, each of which has active coalitions that support the local program. Each coalition has developed a collection of tools to help patients fill their prescriptions, including a Prescription Trails walking guide booklet to local “approved” parks and trails, with photos and detailed information about park locations, amenities, and trail ratings. Prescription Trails is a multiagency partnership managed by New Mexico Health Care Takes on Diabetes, a coalition of

30 healthcare organizations. Local participating organizations include the Albuquerque Alliance for Active Living, Bernalillo County, the City of Albuquerque, the National Park Service, New Mexico State Parks, and the New Mexico Department of Health. Similarly, Georgia State Parks and the Georgia Association of Physician Assistants recently launched a park prescription program.<sup>34</sup> Future evaluations will determine the effectiveness of these programs.

A Healthy Parks Healthy People coalition entitled “Healthy Parks Healthy People Greater Washington DC Area” has been created. The DC coalition brings together the resources, collective energy, and expertise of the NPS, DC Department of Health, National Association of Community Health Centers, DC Primary Care Association, Unity Health Care, Children’s National Medical Center, the National Environmental Education Foundation, HHS, American Academy of Pediatrics, DC Chapter, and Blue Ridge Parkway Foundation’s “Kids in Parks/Track Trails Program,”<sup>35</sup> to promote 330 parcels of green space in DC—national park, city park/recreation center/playground, church, and school grounds as places for people to derive health and wellness benefits through physical activity in the outdoors and contact with nature.

All of these budding efforts are opportunities for evaluation and consideration for scalability to other parks and communities across the country. In addition, they add to the spectrum of activities that can be aligned with existing efforts and plans. These include strategies for the parks, recreation, fitness, and sports sector of the National Physical Activity Plan, Let’s Move Outside, and the White House Task Force Report on Childhood Obesity including increasing access to healthy foods in venues including parks.<sup>36–38</sup>

## Conclusion

In summary, parks can play an important role in the enhancement of opportunities for physical activity and good nutrition for obesity prevention among children and adults. In addition, they are living laboratories for demonstrating how open spaces can contribute to health broadly on an ongoing and routine basis and how access to shared parks resources and quality park programs can be optimized for community benefit and for visitors and local residents of all ages.

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## Author Disclosure Statement

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