

Improving Health and Wellness through Access to Nature

Related APHA Policy Statements

APHA Policy Statement 20079 – Building a Public Health Infrastructure for Physical Activity Promotion. In: American Public Health Association

APHA Policy Statement 200712 – Toward a Healthy, Sustainable Food System. In: American Public Health Association

APHA Policy Statement 200619 – Urgent Call for a Nationwide Public Health Infrastructure and Action to Reverse the Obesity Epidemic

APHA Policy Statement 2005-8 – Supporting the WHO Global Strategy on Diet, Physical Activity and Health

APHA Policy Statement 2004-04 – Creating Policies on Land Use and Transportation Systems that Promote Public Health

APHA Policy Statement 2004-02 – Reducing Health Disparities in People with Disabilities through Improved Environmental Programmatic and Service Access.

APHA Policy Statement 2000-13 – Resolution on Overweight in Childhood. In: American Public Health Association

APHA Policy Statement 7228 – Land Use Policy Statement

APHA Policy Statement 7629 – Environmental Health Planning

Abstract

People of all ages and abilities enjoy higher levels of health and well-being when they have nature nearby in parks, gardens, greenways, naturalized schoolyards and playgrounds, and natural landscaping around homes and workplaces. Access to nature has been related to lower levels of mortality and illness, higher levels of outdoor physical activity, restoration from stress, a greater sense of well-being, and greater social capital. Natural elements that promote well-being include trees, diverse vegetation, local biodiversity, water features, parks, natural playscapes, and community and school gardens. The integration of nature into towns and cities has secondary benefits that contribute to better health and more sustainable societies. Trees and vegetation capture carbon dioxide and mitigate global warming. They buffer noise, offer shade, reduce the effect of heat islands, and trap particulates and other airborne pollutants. Parks and other natural areas filter groundwater, reduce stormwater runoff, and prevent combined sewer overflows, improving the functioning of both public and private water systems. In order to promote people-nature contact across American communities, public health practitioners and policymakers should form alliances with parks departments, planning and design departments, housing agencies, greening and garden organizations, cooperative extension services, school districts, and nature centers to prioritize access to natural areas, productive landscapes, and other green spaces for people of all ages, income levels, and abilities. Moreover, public health officials, physicians, nurse practitioners, and other health professionals should advise patients and the public at large about the benefits of green exercise, personal and community gardening, and nature-based play and recreation.

Problem Statement

This policy statement describes connections between nearby green spaces and cognitive, emotional, and physical health outcomes. As listed above, several APHA policy statements have addressed obesity, physical activity, and diet-related diseases, as well as land use and health connections. This policy statement strongly reaffirms APHA's commitment to those policies and thus does not aim to restate their content. It focuses attention on evidence that access to safe, natural settings has a positive influence on health and well-being, increasing the likelihood of walking and other forms of physical activity, fostering social connections, and reducing stress and illness.^[1-8] Many studies also show that direct experiences of nature form a foundation for a sense of stewardship and active care for the environment, which is vital for the protection of a life-sustaining planet now and in the future.^[9] People evolved in natural environments, but urbanization, the industrialization of agriculture, and a shift to sedentary indoor lifestyles have distanced many people from nature, depriving them of the positive health benefits associated with natural light, green views, local biodiversity, natural landscapes, and gardens and parks near their homes, schools, and workplaces. Low-income and ethnic communities are most likely to lack these resources.^[10] A rapidly growing body of evidence establishes that protecting and restoring access to nature in different spheres of people's lives, among those of all ages, social groups, and abilities, can alleviate some of the most important problems in public health, including obesity, stress, social isolation, injury, and violence.

Proposed Recommendations Statement

People of all ages and abilities enjoy higher levels of health and well-being when they have nature nearby in parks, gardens, greenways, naturalized schoolyards and playgrounds, and natural landscaping around homes and workplaces.^[11] Access to nature has been related to lower levels of mortality and illness, higher levels of outdoor physical activity, restoration from stress, a greater sense of well-being, and greater social capital. Natural elements that promote well-being include trees, diverse vegetation, local biodiversity, water features, parks, natural playscapes, community gardens, and school gardens. Given the importance of contact with nature for well-being, the American Public Health Association supports the protection and restoration of nature in the environments where people live, work, and play, at every scale from building sites to large regional park systems and ecologically sustainable rural areas.

In addition to having a direct positive impact on well-being, the integration of nature into towns and cities and the protection of biodiversity in rural areas have many secondary benefits that contribute to better health and more sustainable societies. Trees and vegetation capture carbon dioxide and mitigate global warming. They buffer noise, offer shade, reduce the effects of heat islands, and trap particulates and other airborne pollutants. Parks and other natural areas filter groundwater, reduce stormwater runoff, and prevent combined sewer overflows, improving the functioning of both public and private water systems. Areas planted with trees and vegetation absorb water and control erosion, reducing the frequency and severity of floods and mitigating desertification. Natural areas create habitats for biodiversity, providing not only a reservoir of resources for human use but also places where people can feel a sense of wonder and connection with the larger web of life.

The American Public Health Association has been active on environmental issues that affect the public's health, including chemical, radiation, and biological agents. APHA has also been active on issues related to the built environment and the important role of land use planning in shaping health. There has been a strong emphasis on injury prevention, including violence and its interplay with transportation and community environments. This policy statement adds to this body of work by reviewing the mounting scientific evidence connecting nature to social and physical well-being and identifying specific recommendations to influence future policy and related actions at multiple levels of government.

The nature-health connection: People of all ages are more likely to use open spaces with trees, increasing opportunities for social interaction and for children's supervised play.^[12] Teenagers value natural areas as places for adventurous play and hanging out with friends, younger children value them for exploration and creative social play, and older adults value these areas for walking, enjoying scenery, and meeting friends.^[8,13] Among public housing residents, having green views predicts a stronger sense of community and more social ties with neighbors; also, greener surroundings are associated with a greater sense of safety as well as fewer reported crimes.^[14,15] Participation in community gardens is associated with reduced social isolation, a sense of collective efficacy, and increased social networks, social involvement, and neighborhood attachment.^[16-19]

In large epidemiological studies that control for income and other potential confounding factors, living in green areas or in walking distance of green spaces is associated with lower levels of mortality and morbidity.^[20-24] Benefits include lower rates of heart disease, stroke, obesity, stress, and depression and better coping with stressful events. Specifically, contact with nature contributes to the regulation of the hypothalamic pituitary adrenal system,^[25] and walking in nature is associated with better immune system functioning in the form of increased numbers of natural killer (NK) cells, increased NK cell activity, and increased levels of intracellular anti-cancer proteins.^[26] Living in a greener environment is positively related to better perceived health in addition to fewer health problems.^[27]

Although physical activity promotes health whether people engage in it indoors or outdoors, a number of studies connect "green exercise" outdoors in nature with greater feelings of enjoyment, energy, vitality, restoration, and self-esteem.^[22,28,29] The presence of nature has this effect independent of levels of physical activity and social interaction. Several factors affect park use and appreciation, including distance, size, attractiveness, and level of biodiversity.^[6] Across socioeconomic levels, people are more likely to walk and be physically active if they live near parks.^[6,30] Well-designed greenways and trails encourage walking, active recreation, and active commuting to work. Finally, research has shown a 2-fold increase in fruit and vegetable consumption among people who participate in community gardens relative to those who do not garden.^[17]

When people have trees and other vegetation around their homes, they report a greater sense of well-being and greater satisfaction with where they live.^[31,32] Many studies associate access to nature through trees, water features, neighborhood parks, or forested areas with reduced levels of stress, whether stress is measured physiologically or by self-report.^[5,8,33,34] When people have green views or spend time outdoors in nature, they perform better on tasks that require focused attention.^[5,7] When residents of public housing have views of trees rather than entirely built surroundings, they show greater capacity to cope with stress, better conflict management, and lower levels of family aggression.^[8,35,36] In addition, measures derived from a mobile electroencephalographic (EEG) headset indicate that when people move from built urban streets into urban green space, they experience real-time drops in frustration, engagement, and excitement and an increase in meditative calm.^[37]

Nature-health connections across the life span and social groups: Research indicates that unstructured outdoor activities in natural areas may improve children's health by increasing physical activity, reducing stress, and reducing symptoms of attention disorders.^[38,39] Children show higher levels of physical activity outdoors versus indoors, whether outdoor play areas are built or natural; however, children with access to safe green spaces, park playgrounds, and recreational facilities are more likely to be physically active and have a healthy weight than those who lack these resources.^[40] Among low-income children, higher levels of neighborhood greenness are associated with a more stable body mass index.^[41] On naturalized school grounds, children are reported to be

more physically active.^[42] Play in natural areas in childhood is associated with seeking natural environments for restoration and recreation in adulthood and with stewardship behaviors to protect the environment.^[9,43] Several studies—spanning the preschool years, middle childhood, and adolescence—associate green views or activity in green spaces with more focused attention, better coping with stressful life events, better moods, higher academic achievement,^[44–49] and, among children diagnosed with attention deficit hyperactivity disorder, reduced symptoms.^[31,38,39,43] Children have lower levels of asthma when they live in neighborhoods with more trees.^[50]

Elderly residents report stronger feelings of well-being when they have a garden view from their apartments.^[51] When elders have access to gardening or time to rest in a garden, they show a reduced risk of developing dementia and improved mental functioning.^[52,53] Alzheimer's patients who can go into a garden at different times of the day show improved group interaction, reduced agitation, and less wandering.^[54] Older adults who spend longer durations of time in a park or perceive health-related benefits from their park activity show reduced blood pressure.^[55] Walkable green space is associated with greater longevity in older people.^[24]

Patients who have views of nature from their hospital windows have been found to recover from surgery more quickly and need less pain medication.^[56] Gardens in hospitals provide patients and their families with the stress-reducing benefits of exposure to nature and spaces for social interaction and exercise.^[57] In addition, prisoners with views of nature report less illness.^[58] The more nature contact that employees describe in their workplace, the less they report stress and health complaints.^[59]

Research demonstrates that contact with nature benefits people of all ages, income groups, and abilities; according to some studies, however, low-income groups show greater health benefits from living near green spaces than high-income groups—perhaps because they are more dependent on local environmental resources.^[23] Therefore, ensuring access to green spaces in low-income neighborhoods and for people of all abilities appears a promising approach to reducing health inequalities, increasing longevity, and improving health behaviors.^[60,61] In urban areas, higher levels of nearby vegetation and vacant lot greening are associated with fewer aggressive acts against partners and lower rates of crime, including gun assaults, robbery, and burglary.^[14,36,62,63] The distribution of green spaces, however, is inequitable, with low-income communities and communities of color often lacking safe, well-landscaped, and well-maintained neighborhood parks.^[10,56] For example, schools in low-income minority neighborhoods are less likely to have school gardens, and in particular large, well-resourced gardens, than schools in high-income neighborhoods.^[64] In places where people have fewer resources, there is limited access to safe and open green spaces where people can walk, jog, or play with children, and thus there are fewer opportunities to meet daily recommended levels of physical activity.^[10,65] More than half of adults with disabilities (impairments and/or activity limitations) do not engage in any leisure-time physical activity, in part because of barriers related to the built and natural environment.^[66]

For many indigenous peoples, connection to ancestral lands is essential for well-being. Recognizing the importance of this connection, the United Nations Declaration on the Rights of Indigenous Peoples (www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf) specifies their rights to maintain their spiritual relationship with their traditional lands and waters; conserve their medicinal plants, animals, and minerals; and incorporate these practices into their self-determination of their health programs.

Opposing Arguments/Evidence

The research cited above addresses alternative points of view related to the value of green spaces and natural landscaping for health. It might be objected that people with higher levels of income can afford greener neighborhoods with more green resources, higher quality outlets for healthy food and health care, and more opportunities for exercise. To avoid self-selection and the potential confounding effect of income, pioneering research on the relationship between contact with nature and health investigated residents of Chicago public housing who were similar socially and economically and who were assigned to their housing unit by housing authority staff in a process that was effectively random assignment.^[12,14,35,67] The only factor that varied was whether the area around their identical buildings was landscaped or covered in asphalt. A similar strategy was used in biomarker research conducted in a public housing area in Scotland.^[25] In hospital and prison studies, people with similar health conditions have been assigned by chance to rooms with or without green views.^[56,58] Other studies cited here have controlled for the effects of income or other potential confounding factors by comparing access to nature in homogeneous populations or through statistical controls.

A second alternative explanation might be that what matters in these studies is people's level of exercise, regardless of where it occurs. Studies have addressed this alternative point of view in two ways. Several studies that have experimentally compared the effects of exercise indoors or in outdoor built settings with the effects of green exercise in natural areas have shown that people usually report a greater sense of well-being or exhibit greater concentration or restoration after green exercise.^[28,29,37] Many studies involve passive exposure to nature through window views or simulated exposure via videos or still images, without the element of physical activity.^[5,32,45,49] When people are experimentally exposed to scenes of nature versus built environments, they show decreased stress and report greater well-being. Although images of nature have been found to have positive effects, experiments that manipulate exposure to simulated nature versus actual natural landscapes demonstrate greater recovery from stress and greater feelings of energy after contact with actual nature.^[29,68]

The presence of parks may not guarantee their use. Activities in parks may be harmful to safety and well-being if the parks are not heavily used, attract illicit activity, and/or are poorly maintained. Research shows that park programming and relationships with park staff may encourage park use.^[69] In addition, understanding

neighborhood social contexts where people live is critical to promoting safe outdoor play and positive and lasting engagement with natural environments.^[70]

It might be claimed that it is impractical to provide access to nature as a routine component of people's lives, in part because of resource constraints facing municipalities nationwide. Although it may be unrealistic to introduce large park systems where they are lacking or to give everyone wilderness experiences, research shows that a number of affordable actions can make a significant difference for people's health and well-being: planting trees; greening vacant lots and alleys;^[62] creating greenways for pedestrians and cyclists; maintaining existing parks; cultivating gardens in communities, schools, hospitals, and group homes; and bringing potted plants indoors.^[71]

Action Steps

For all of the above reasons, access to nature represents an important approach to promote healthy and active lifestyles across the life span. Therefore, APHA urges public health practitioners, policymakers, community-based and environmental justice groups, and researchers to advance policy and planning activities that incorporate or address the following objectives in relevant legislation, land-use planning guidance, or public health priority-setting regulations:

1. Land use decisions should prioritize access to natural areas, productive landscapes, and other green spaces for people of all ages, income levels, and abilities.
2. Public health officials, physicians, nurse practitioners, and other health professionals should advise patients and the public at large about the benefits of green exercise, personal and community gardening, and nature-based play and recreation and form alliances with parks departments, departments of planning and design, area aging agencies, greening and garden organizations, cooperative extension services, school districts, and nature centers to increase access to green spaces where people live, work, and play and to raise awareness about their value.
3. Access to green spaces as part of livable communities and urban design and planning should include coordinated and cooperative strategies with the partners described above and should include universal design that serves the needs of all users seamlessly and as invisibly as possible.
4. Partnerships to increase access to natural settings should include efforts to clean up and green vacant lots and contaminated areas in order to transform areas associated with danger and crime into natural and safe environments.
5. Park and recreation funding, through public agencies or public-private partnerships, should be allocated for the construction of parks, gardens, and other outdoor active environments, as well as safety features (e.g., safe playgrounds) in areas that currently lack these resources, and funds for the maintenance of existing parks should be protected or enhanced. In addition, there should be an emphasis on safe walkable and bikable areas.
6. Tree planting and natural landscaping should be promoted around homes, schools, workplaces, hospitals, prisons, and other institutions. Citizens should be encouraged to participate in creating and sustaining these environmental changes.
7. Schoolyards and the play areas of child care centers should include natural landscaping and school gardens, and contact with nature should be promoted through place-based education and adequate periods for safe outdoor recess.
8. Community gardens should be considered as a primary and permanent open space option as part of master planning efforts; gardens should be developed as part of land planning processes rather than as an afterthought in neighborhood redevelopment projects.
9. Trails and greenways should be networked to provide for safe active commuting to work, school, and services as well as recreation areas, with a particular emphasis on safe walking and biking.
10. Hospitals, assisted living facilities, nursing homes, and institutions that care for people with mental illness should provide access to healing gardens and other natural settings.
11. Education and training programs for health professionals, community leaders, students, educators, community residents, and others should include information on the importance of promoting nature contact through green surroundings and active programs and investing in safety to prevent violence, unintentional injuries, and falls.

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