

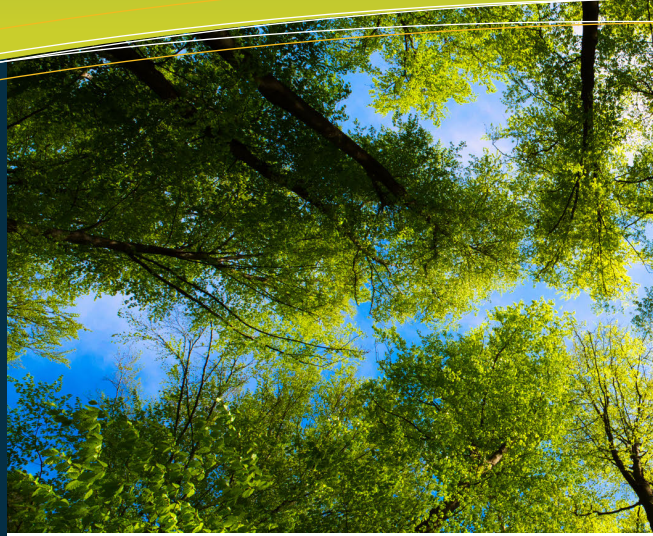
The National Association of Social Workers

750 First Street NE

Suite 800

Washington, DC 20002-4241

SocialWorkers.org



Carrie Dorn, MPA, LMSW

Senior Practice Associate

cdorn.nasw@socialworkers.org

Environmental Health Inequities: A Social Work Perspective

Health is affected by the convergence of environmental, lifestyle, and genetic factors. Experts now agree that at least eighty percent of health outcomes are determined by circumstances outside of medical services (Magnon 2017). These factors are commonly referred to as the *social determinants*. The *social determinants of health* encompass the environment, socioeconomic factors, individual health behaviors, and health care access, all which interact to drive health outcomes (Magnon 2017). Social work's person-in-environment perspective takes these biopsychosocial factors into account to inform practice, and social workers have expertise in addressing social needs (National Academies of Sciences, Engineering, and Medicine 2019).

The social determinants are drivers of "health inequities - the unfair and avoidable differences in health status observed within and between countries" (World Health Organization 2018, para. 2). In the United States, communities of color experience a disproportionate burden of

chronic disease and racial and ethnic health disparities persist (National Academies of Sciences, Engineering, and Medicine 2019; CDC 2013). Understanding the spectrum of environmental factors that influence health is critical to creating a more just, healthier society.

Social Work Perspective

The social work profession has traditionally focused on psychosocial and economic factors that affect individuals and communities. However, in recent decades, social work practitioners and researchers have brought attention to the importance of the natural environment. Social work scholars have described an ecosocial work perspective, which values the ecological environment and recognizes that the well-being of all people is linked to it (Powers, Schmitz, Moritz 2019; Powers and Rinkel 2018). This framework can be applied by social workers in all settings and roles. Social workers have engaged in efforts to bring these issues to the forefront of social work practice and gained interest in climate change policy and advocacy on a local, state, and national level.

Social work organizations have also responded to the opportunity to increase awareness and competency about environmental issues. The

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National Association of Social Workers (NASW) published an Environment Policy to guide professional practice. The Environment Policy describes NASW's positions on mitigating the harmful effects of climate change and advancing these objectives through the social work profession. NASW elevated Environmental Justice to be one of the organization's social justice priorities, joined in partnership with interprofessional coalitions, and in 2021 called on national leaders to declare the climate crisis a health priority in the *Blueprint of Federal Social Policy Priorities: Recommendations to the Biden-Harris Administration and Congress*.

In the education space, an increasing number of social work programs are providing learning opportunities for social workers to develop expertise on environmental issues through coursework and certificate programs. Beginning in 2015, the Council on Social Work Education (CSWE) included environmental justice in the Educational Policy and Accreditation Standards (EPAS), which outline competencies for social work education programs. CSWE's Committee on Environmental Justice developed a *Curricular Guide for Environmental Justice* with resources for academic programs to integrate environmental topics into their curriculum. Through the Grand Challenges for Social Work Initiative, the American Academy of Social Work and Social Welfare (AASWSW) supported the development of a call to action, "Create Social Responses to a Changing Environment." In publications and policy recommendations, this initiative identifies pathways for social workers to enhance capacity to lead efforts to address climate change in practice, policy, and research over the next decade (Kemp et al. 2015). The International Federation of Social Workers has a Climate Justice Program to educate social workers and offers resources including workbooks on "Promoting Community & Environmental Sustainability: A Workbook for Global Social Workers & Educators."

These activities represent an awareness that social work practice (micro, mezzo and macro), education, and research cannot exclude the impact of the natural environment. Social workers should integrate knowledge about the health consequences of environmental factors to assess and address problems that present for individuals, families, and communities. Consideration of environmental factors can help individuals connect their own experiences and challenges with

behavioral health conditions, complex medical issues, and economic and social needs to larger trends. Social workers can also engage in partnership with communities around advocacy efforts to support policies that advance environmental justice.

In this document, the connection between human health and features of the environment—weather, air, water and soil, food, and neighborhoods—will be demonstrated through examples of communities that are most affected. To work toward comprehensive solutions to reduce health disparities, it is important to be aware of the relationship between health outcomes and the multitude of environmental factors that shape them.

Environmental Inequities

People living in neighborhoods with less wealth and social capital have greater risks of experiencing environmental injustices. In the 1980s Dr. Benjamin Chavis, introduced the term *environmental racism* to describe the disproportionate impact of environmental hazards in one community of color (Bullard et al. 2014). The principle of *environmental racism* is exemplified in a seminal study that examines the location of hazardous waste sites in the United States over thirty years and finds a pattern of locating waste facilities in areas where poor people and people of color live (Mohai and Saha 2015). The report finds a strong correlation between the racial composition of neighborhoods and location of hazardous waste sites and suggests that vulnerable communities are specifically targeted; residents may not act to oppose ecological hazards because of the perceived lack of power to influence land use decisions (Mohai and Saha 2015; Institute of Medicine 1999). Another cause of environment inequity is the prioritization of economic interests over the health and well-being of residents.

A defined goal of the United States government is to strive for *environmental justice*. This term was adopted in 1992 when the Environmental Protection Agency (EPA) created the Environment Equity Work Group and issued the first recommendations for reducing environmental disparities by race and class (Bullard et al. 2014). *Environmental justice* or *environmental equity* is defined as the "fair treatment and meaningful involvement of all people regardless of race, ethnicity, income, national origin, or educational level with respect to the development, implementation, and enforcement of environmental

laws, regulations, and policies” (U.S. EPA 2021; Institute of Medicine 1999, 1). In 1994, President Clinton issued an Executive Order directing federal agencies to fully integrate this principle into their strategic plans (Bullard et al. 2014; Institute of Medicine 1999). Although inequities in enforcement of environment regulations remain a problem across the U.S., more than 25 years later, environmental justice continues to be a key element of policy decisions. Through the EPA, national standards are determined and enforced to reduce the burden of environmental harm to communities (U.S. EPA 2021). While progress has been made, it is critical that environmental justice be prioritized on the national agenda.

Through executive actions and a legislative agenda, the Biden Administration has taken significant steps to address climate change and promote environmental health (Biden 2022). On January 20, 2021, President Biden issued an Executive Order, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis. The directive outlines the administration’s planned actions to integrate climate considerations into national and foreign policy, review related regulations and policies issued in the previous four years, and commit to reducing emissions (Executive Order 13990 2021). In August 2021, the U.S. Department of Health and Human Services created the Office of Climate Change and Health Equity with a mission to pursue environmental justice, address health disparities exacerbated by climate change, and enhance community health and resilience through policy. The Inflation Reduction Act was

signed into law by President Biden in August 2022, with \$369 billion dedicated to accelerating investment in clean energy, reducing pollution, strengthening community resilience, and supporting community-led initiatives in areas that are disproportionately affected by climate change. (White House 2022).

Weather

Extreme weather events can strain the capacity of under-resourced communities and vulnerable populations. For example, in extreme heat, children and older adults, those who work outdoors and individuals who do not have access to air conditioning or cooling centers, are at greater risk for heat-related illness like dehydration and heatstroke (EPA 2016). Climate change is intensifying the frequency and strength of extreme weather events. During the summer of 2022, significant weather events across the country resulted in extreme heat, wildfires, heavy rain and flooding, and drought in other regions, with severe health and socioeconomic consequences (National Oceanic and Atmospheric Administration 2022).

In addition to physical and medical risks, there are mental health implications for people who experience natural disasters such as hurricanes, tornadoes, earthquakes, and wildfires. Preparing for and responding to weather events can contribute to mental health issues like chronic stress, anxiety, and depression (EPA 2016). The immediate impact of natural disasters may include post-traumatic stress disorder and feelings of loss and grief. In a study of predominantly African American, low-income mothers who experienced

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Hurricane Katrina in 2005, traumas related to the storm activated chronic, long-term psychological distress (Paxson et al. 2012). Mental health consequences related to having a home damaged, or the death of a friend or loved one, lingered for more than four years for some participants. Reduced risk for psychological distress was associated with good mental health prior to the hurricane, higher income, and social supports, highlighting the importance of strong community connectedness as a protective factor (Paxson et al. 2012).

In September 2022, Hurricane Fiona hit Puerto Rico, causing widespread flooding, damage, and power outages across the island. Five years earlier in September 2017, Hurricane Maria, a category four storm, caused devastation in Puerto Rico. Existing socioeconomic, political and environmental factors exacerbated vulnerabilities for particular communities (Hayward et al. 2019). In the aftermath of the storm, communities were left without electricity, safe transportation, access to food and water, or medical care. It is estimated that there were over 1,400 related deaths from the storm and over half a million property owners had damage to homes (Nevares 2018). Extensive damage to the electric grid and the island's infrastructure compelled families to leave their homes and relocate to other cities in Puerto Rico or the U.S. mainland, causing disruption among communities, school, and employment (Nevares 2018). Others, who were unable to leave or chose to stay, faced a daunting rebuilding effort amidst uncertainty. Local organizations and community members mobilized to meet the immediate needs of residents without securing support from government institutions (Hayward et al. 2019). For under-resourced communities often affected by extreme weather, investment in emergency preparedness is necessary to anticipate the social, emotional, and financial stressors during the immediate response and aftermath of an event.

Air

Exposure to air pollution is associated with negative health consequences, though scientific understanding of the specific mechanisms of interaction between air quality and chronic diseases is still developing (Gern 2010; Institute of Medicine 1999). Air pollution comes from motor vehicles and industrial processes that use fossil fuels (including oil, coal, natural gas) and release carbon monoxide and nitrous oxides into

the air. A recent study examined a significant link between air pollution and diabetes (Bowe et al. 2018). Particles in the air are inhaled into the lungs, then enter the bloodstream and cause a variety of responses in the heart, lungs, kidneys, and other organs. Air pollution has adverse health effects even at low levels and ultimately contributes to disease burden and mortality (Brumberg et al. 2021; Bowe et al. 2018).

In the U.S., people of color are more likely to live in counties that do not meet air quality standards (Brumberg et al. 2021; Institute of Medicine 1999). Children living in urban areas experience higher rates of asthma and respiratory conditions from both outdoor and indoor pollutants, like tobacco smoke and pest allergens (Gern 2010; Institute of Medicine 1999). Exposure can start in-utero and impact health and growth, including immune system development and adverse birth outcomes (Brumberg et al. 2021; Gern 2010). Newer research is also showing the negative effect of air pollution on brain development in babies and children (Brumberg et al. 2021).

An illustrative example of toxic air pollution comes from a region known as "Cancer Alley," in Louisiana, comprising low-income, African American communities situated along the Mississippi River. Alongside these communities, there is a high concentration of industrial plants and refineries. Over decades, many residents found employment at these facilities and community members became accustomed to soot and odors that seemed to be related to various skin and respiratory illnesses (Blackwell, Drash and Lett 2017). Industries disputed the toxicity of chemicals released into the air, specifically chloroprene, a chemical used to make rubber, even though the EPA determined the chemical to be hazardous at high levels and related to medical side effects and cancers (Blackwell, Drash and Lett 2017). Residents share accounts of frequent cancer diagnoses and deaths that affect whole families and neighborhoods. The EPA acknowledges the high risk of carcinogen exposure in the area, and residents have brought a class action lawsuit against the industries because of chloroprene levels up to 100 times higher than the EPA's level of acceptability (Blackwell, Drash and Lett 2017). In 2021, a UN panel of human rights experts called for a stop to the expansion of chemical facilities in "Cancer Alley" and an end to environmental

racism in the region. (United Nations Human Rights 2021).

Water & Soil

Both manmade and natural events can put the water supply at risk and compromise soil safety. Aging infrastructure and utility systems are vulnerable to environmental hazards, especially when safety standards are not rigorously or equitably enforced. For example, illegal dumping and improper disposal of waste can lead chemicals to seep into the soil and impact the water supply (Lewis, Hoover and MacKenzie 2017). Heavy rains can cause flooding of rivers and reservoirs and increase the risk of waterborne bacteria and contamination of drinking water (EPA 2016). In August 2022 in Jackson, Mississippi, severe rain and flooding affected operations at a water treatment plant with longstanding problems, and left residents without safe running water for weeks. In Flint, Michigan in 2014, a decision to change the town's water source resulted in discolored, hazardous, lead-contaminated water flowing into the homes of residents. This public health crisis continued for more than two years before it gained national attention and was classified as a state of emergency so that federal resources could be mobilized.

In the U.S., communities on tribal lands have long had challenges maintaining water systems that meet the Safe Drinking Water Act health standards (EPA 2018). Between 2016 and 2017, the EPA found that sixty-five public water systems serving Native American and Alaska Native communities were out of compliance, and nine and a half percent of tribal drinking water systems had health-based violations (EPA 2018). Many tribal communities have been host to drilling or mining industry sites, leading to contamination of water sources with arsenic, uranium or other metals (Lewis, Hoover and MacKenzie 2017). In North Dakota, a top producer of oil is located on the Fort Berthold Indian Reservation. While industry thrived and created millions of dollars of economic benefits for the communities of the Mandan, Hidatsa and Arikara Nation, associated environmental hazards also accumulated with hundreds of spills and leaks of the gas and oil pipelines (Al Jazeera America 2014). In 2014, a large spill of wastewater pollutants leaked into the reservoir, destroying the surrounding vegetation, and the community demanded action (EPA 2018; Al Jazeera America 2014). Through an administrative settlement with the corporation,

community members and government officials worked together to access funding for cleanup and to implement an ongoing system of monitoring water standards (EPA 2018).

With greater awareness of potential environmental hazards, other communities have opposed gas and oil production. One example that has been widely covered is the mobilization of people at the Standing Rock Sioux Reservation in North Dakota, who organized to publicly oppose pipelines (Lewis, Hoover and MacKenzie 2017). Through protests and the U.S. court system, the tribe continues to fight against operation of the pipeline while an evaluation of its environmental impact by the Biden administration is pending (Wallace 2021).

Food

The way in which food is accessed daily is a critical component of the environment, and climate change is affecting food security. Human health is impacted by multiple processes, from agriculture and food production, to transport and retail availability. Convenient access to local stores that carry nutrient-rich, healthy food has a positive impact on health and chronic disease (CDC 2013). Interventions at the federal and local level in recent years have sought to ameliorate access to healthy foods in low-income rural and urban areas.

Methods to grow and ship food products can influence food safety and susceptibility to food-related illnesses (EPA 2016). The EPA determines standards for safe use of, and acceptable levels of exposure to, pesticides in food products. Children, pregnant women, and breastfeeding women are particularly vulnerable to direct exposure to toxins and pesticides in food and water (Rogge and Combs-Orme 2003). Children, because of their size and weight, developing bodies, and hand-to-mouth activity, are at greater risk when encountering hazards in their environments (Rogge and Combs-Orme 2003). New research from the American Academy of Pediatrics also points to an emerging understanding of the risks of chemical exposure from food additives, like coloring and flavoring, and food packaging (Trasande et al. 2018). Chemicals currently used in food can interrupt normal endocrine and thyroid activity in children (Trasande et al. 2018). Evidence continues to underscore the importance of access to non-processed foods like fresh fruits, vegetables, and whole grains.

Federal programs that support low-income families, including Supplemental Nutrition Assistance Program (SNAP) and the Special Supplemental Nutrition Assistance Program for Women, Infants and Children (WIC), enhance food access and resources to purchase healthy foods.

In an analysis of more than 100 urban areas in the U.S., a study found that neighborhoods that were once subject to redlining, experience hotter temperatures and extreme heat today (Hoffman, Shandas and Pendelton 2019).

Food insecurity and limited access to fresh, quality food choices may increase the likelihood of consumption of processed food with lower nutritional value. In 2020, 10.5% of U.S. households were food insecure, meaning they were uncertain or unable to have enough food for all family members due to lack of resources (U.S. Department of Agriculture 2022). Federal programs that support low-income families, including Supplemental Nutrition Assistance Program (SNAP) and the Special Supplemental Nutrition Assistance Program for Women, Infants and Children (WIC), enhance food access and resources to purchase healthy foods. For school-age children, free and reduced cost meals allow eligible students to access healthy food during the school day, reduce food insecurity, and have positive effects on academic performance. When schools closed during the COVID-19 pandemic, the U.S. Department of Agriculture responded by allowing new flexibilities in school meal programs. These changes allowed meal distribution at various times of day, allowed pick up meal service, and meal delivery in some rural areas (Trust for America's Health 2020). Nevertheless, in some regions, participation in school meal programs dropped dramatically during the pandemic, exacerbating food insecurity among youth. These outcomes highlight the need for continued flexibility, funding and evaluation of meal distribution processes, as well as proactive engagement of families and communities in local nutrition programs.

Neighborhood

Conditions in the built environment contribute to health and well-being. Housing conditions, safety, employment opportunities, access to transportation, and medical services are quality of life and health indicators (World Health Organization 2018; Bullard et al. 2014). Underserved communities in both urban and rural environments face barriers that result from the social determinants of health. Gee and Payne-Sturges (2004) examined structural factors regarding community vulnerability to health risks, including residential segregation. Recent studies have examined the correlation between historical redlining practices and exposure to environmental risk factors such as urban heat. In an analysis of more than 100 urban areas in the U.S., a study found that neighborhoods that were once subject to redlining, experience hotter temperatures and extreme heat today (Hoffman, Shandas and Pendelton 2019). Historical policies that have defined the urban landscape have led

to dangerous exposure to environmental risks for lower income and communities of color (Hoffman, Shandas and Pendelton 2019; Gee and Payne-Sturges 2004; Institute of Medicine 1999).

Lead exposure is an example of a common environmental hazard in housing. Since the 1970s, greater awareness among the American public and EPA requirements to disclose known lead sources in housing, have improved response to potential lead-paint hazards. Lead is a neurotoxin that negatively impacts cognitive development and growth (Bravo et al. 2022; Rogge and Comb-Orme 2003; Institute of Medicine 1999). Lead paint chips and dust can expose residents to health hazards if they are not appropriately remediated. The CDC has determined that there is no safe level of lead exposure for children, yet today over three million families in the U.S. with children under six years of age live in housing stock that puts them at risk for lead exposure (EPA 2018). African American children whose families live below the poverty line are at greater risk of having higher blood lead levels (Bravo et al. 2022; EPA 2018; Rogge and Comb-Orme 2003; Institute of Medicine 1999). Improving housing quality and conditions can help mitigate these health risks.

Access to the natural environment, parks and green space has been associated with health benefits, including improved mood and mental health and higher levels of physical activity. Land-use policies can promote green initiatives to reduce motor vehicle use and encourage mass transit use, walking, and biking. The design of neighborhoods can enhance safety and convenience. In a study of environment and behavior in the rural, southern United States, researchers found a dearth of policies to incentivize health behaviors (Robinson et al. 2014). Looking at majority African American communities in Alabama and Mississippi, researchers surveyed local landscapes for walkability, recreation spaces, and policies that encourage physical activity (Robinson et al. 2014). They found that the built environment had barriers to healthy activity and recommended more sidewalks and programs to support an active lifestyle for adults in the community. The local features of the built environment can positively impact health, and in many cases neighborhood organizations are taking the lead to refurbish vacant land and create new green space and recreation areas (Bullard et al. 2014; Robinson et al. 2014).



Solutions to Promote Health

Social workers understand that health status must be considered within an environmental context to foster a healthier nation, and they have an important role in developing responses to environmental health problems and climate change. Climate change is influencing temperatures, weather patterns, population movement, and economic opportunities (EPA 2016). The strategies that are adopted to improve health must be adaptable to a changing world. Environmental justice must continue to be a guiding feature of federal programs and policies (EPA 2018). Yet, social workers and local communities are not waiting for federal action to solve environmental health problems.

Social workers are committed to reducing health disparities by improving access to health care and addressing social and economic needs as the environmental landscape continues to evolve. Health and mental health professionals are responding to trends that they are seeing in practice such as climate anxiety, stress, grief, and PTSD (Clayton et al. 2021). Social workers are helping to build resilience on an individual and community level (Kemp et al. 2015; Clayton et al. 2021). Strategies are being developed at all levels, from state legislatures to community councils, to address environmental concerns for residents (Bullard et al. 2014).

Social workers should be informed about environmental protection policies that are beneficial to both the natural environment and people.

Reducing greenhouse gas emissions and advancing clean, renewable energy sources, like wind, water, and solar power, is a global goal to mitigate the impact of climate change and reduce air pollution (EPA 2018; Bullard et al. 2014). Urban planning and design can help create more livable cities where use of public transportation is promoted, there are safe, affordable housing options, and natural resources are maximized (Bullard et al. 2014; Robinson et al. 2014). Disaster preparedness is another public health prevention strategy which social workers support; helping communities prepare for extreme weather events promote resiliency and minimizes the likelihood of adverse physical and mental health consequences (Hayward et al. 2019; Nevares 2018; Kemp et al. 2015). Research from many disciplines, including social work, is advancing knowledge of practices which promote health, and federal laws and regulations are establishing new standards in response.

A deeper understanding about the ways in which the environment and individual health outcomes are interconnected can motivate individuals to act. Social workers, and all people, can have a voice and a leadership role in developing sustainable solutions to environmental injustices. Through education, awareness, activism, and policy change, decisions about the environment and health must involve community residents themselves as partners and decision-makers (Mohai and Saha 2015; Bullard et al. 2014). Every person has a stake in the environment; conditions that are fostered not only impact health today—they create our environmental legacy.

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NASW Resources

- Blueprint of Federal Social Policy Priorities: Recommendations to the Biden-Harris Administration and Congress
- NASW Code of Ethics
- 2021 NASW Virtual Forum: Breakout Session Social Workers: Leaders in Addressing Climate Change
- 2021 NASW National Virtual Conference: Breakout Session The Impacts of Climate Change on Human Health
- Health Practice Perspectives "Climate Change and Health: A Call to Social Workers"
- Social Work Online CE Institute
 - Webinar Environmental Justice as Social Work
 - Webinar "Climate, Health, & Social Work Practice"
 - Webinar Embracing Climate Justice Work: Global Lessons and Applications for Social Workers in Everyday Contexts
 - Webinar The Person in a Warming Environment: Social Work Ethics and Global Warming
 - Webinar Our Warming Climate: Social Work Tools to Foster Resilience
 - Webinar Air Pollution, Environmental Justice and Climate Change- Presented by the North Carolina Chapter

Social workers should be informed about environmental protection policies that are beneficial to both the natural environment and people.

Social workers,
and all people, can
have a voice and a
leadership role in
developing
sustainable
solutions to
environmental
injustices.

- Social Work Advocates Magazine Article Climate Change: Social Work Addresses Environmental Impacts on Physical and Mental Health

Social Work Resources and Scholarship

- Council on Social Work Education's Committee on Environmental Justice
- Curricular Guide for Environmental Justice
- CSWE 2015 Educational Policy and Accreditation Standards (EPAS)
- CSWE 2022 Educational Policy and Accreditation Standards (EPAS)
- Grand Challenges for Social Work, Create Social Responses to a Changing Environment
- International Federation of Social Workers, Climate Justice Program
- Social Work Promoting Community and Environmental Sustainability
- Social Work Promoting Community and Environmental Sustainability Volume 2

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