The National Environmental Health Association (NEHA) represents approximately 7,000 government, private, academic, and uniformed services sector environmental public health

- Establish capacity building initiatives that support evidence-based best practices for environmental public health, including strategies to manage emergent issues and natural disasters.
- Develop competencies, education, and strategies needed for environmental public health professionals who work in rural and frontier communities.
- Standardize training and credentialing for governmental environmental public health professionals who work in rural and frontier communities.
- Train and educate governmental environmental public health professionals on policy development, public health communication skills, and health advocacy to improve effectiveness when addressing boards of health and various levels of government.
- Increase recruitment initiatives and promotion of environmental public health professionals across academia to support capacity building within the workforce.
- Enhance support through pay and benefits to increase job satisfaction and retention rates of highly trained environmental health professionals.
- Support governmental environmental public health professional networking to address current and emerging cross-sector and regional environmental health threats.
- Implement best practices identified in the New Rural and Frontier Healthy Housing Guide for Environmental Health to support effective partnership building and collaboration between governmental environmental public health professionals and:
    - other community health professionals including public health nurses, community health workers, and community health educators;
    - medical providers;
    - community water and wastewater service providers;
    - extension service and rural development agencies; and
    - rural and frontier communities, Native American nations, and other interested partners (National Center for Healthy Housing & National Environmental Health Association [NEHA], 2024).
- Support engagement with rural and frontier communities, Native American nations, and community-based organizations to ensure local voices are heard during environmental public health policy development and implementation.

In 2023, 46 million people lived in rural areas of the U.S., accounting for 15% of the population (Centers for Disease Control and Prevention, 2024). Rural and frontier communities are sparsely populated areas with a greater distance compared with urban areas to various services such as healthcare, schools, grocery stores, and other necessities (Rural Health Information Hub, 2024a). In addition, the distance creates a barrier for governmental environmental

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public health, rural and frontier local public health is the least well-resourced, experience higher staff turnover, and have greater training needs for staff (Kett et al., 2023).

Housing quality and condition are important in the prevention of exposure to various environmental public health hazards such as lead, mold, poor indoor air quality, carbon monoxide, and structural issues including leaking roofs (NEHA, 2024). More than 1.4 million homes in rural America are severely or moderately inadequate with regard to maintenance and upkeep, plumbing, heating, and electricity, and approximately 11.5 million rural homes have deficiencies including health and safety hazards such as pests, peeling paint that poses lead exposure hazards, holes in the floor, and mold (U.S. Census Bureau, 2021). An estimated 2.2 million people in the U.S. are without adequate running water and wastewater infrastructures in their homes. This problem is especially prevalent in high-poverty rural areas where practices such as “straight piping” raw wastewater from a home to a backyard or creek are common (U.S. Environmental Protection Agency, 2024).

In the U.S., people living in poverty tend to be concentrated in certain regions, counties, and neighborhoods, instead of evenly spread throughout the country. Studies have indicated that people experiencing poverty encounter obstacles that extend beyond their personal situations. High levels of poverty in these areas lead to substandard housing and health issues, increased crime rates, higher school dropout rates, and job disruptions. Consequently, the economic environment in severely impoverished regions generates limited opportunities for residents, which can continue the cycle of poverty. Nonmetro Black people had the highest incidence of poverty in 2019 (30.7%), while nonmetro Native American and Alaska Native people had the second highest rate (29.6%). The poverty rate for nonmetro White people in 2019 was less than one half (13.3%) compared with these other racial groups. Nonmetro Hispanic people had the third highest poverty rate of any individual race or ethnicity at 21.7% (Economic Research Service, 2023).

People who experience homelessness frequently are seen as an issue confined to urban areas, yet the issue also affects individuals and families in rural regions, manifesting as both actual homelessness and highly unstable housing situations. People who experience homelessness in rural areas tend to be less apparent because the people affected often do not sleep in public spaces and emergency shelters are often unavailable. Additionally, it is common for people experiencing homelessness in rural areas to reside in their cars or campers. According to the U.S. Department of Housing and Urban Development, approximately 110,000 individuals in 2022 experienced homelessness in largely rural continuums of care (CoCs), which is approximately 19% of the estimated number of people who experience homelessness in the U.S. (de Sousa et al., 2022).

The effects of climate change particularly exacerbate housing quality and safety issues in rural areas where there might be fewer available resources to mitigate damage, perform risk assessments, and support climate resilience and adaptation efforts, as well as cause geographic isolation that can create challenges in responding to disasters (NEHA, 2024). The aging

infrastructure in the U.S. increases the risk of negative impacts on rural and frontier communities as well, with an estimated infrastructure repair backlog of $1 trillion (Chinowsky, 2022).

As our climate changes, extreme weather events are increasing in both frequency and intensity and pose a threat to public health and infrastructure, including homes. Climate change can also have far-reaching effects on rural populations that can include issues with pest control, solid waste management, and the increase of certain diseases. During periods of drought, private well failures are expected to increase as water tables drop with a need for increased irrigation and water usage. In other areas of increased precipitation, there is an increased chance of runoff events that can cause flooding and sewage spills that can deteriorate water quality. Extreme events can include drought, wildfires, and flooding, which can have detrimental effects on all populations, particularly on rural populations that have higher incidences of older, fixed-income households (U.S. Global Change Research Program [USGCRP], 2018).

High temperatures in the summer can be linked to increased illness and death in older adults, pregnant people, and children. Rising temperatures—increasingly seen across the Midwest in winter months—can cause an increase in precipitation that can contribute to the geographic spread of disease-carrying vectors such as ticks and mosquitoes. Milder winter temperatures can also increase the risk of mosquito-borne diseases such as dengue, chikungunya, Zika, yellow fever, and West Nile virus (USGCRP, 2018).

Rural, lower-income communities are often excluded from the planning process to prepare for intense weather events and therefore are disproportionately impacted by poor environmental quality (USGCRP, 2018). Low-income communities and communities of color often lack proper flood protection, green spaces, safe housing, and other resources crucial for shielding from climate impacts. In some regions, urban development has displaced these under-resourced communities to suburban and rural areas, where climate

Rural areas have a similar or greater risk of environmental public health hazards than their urban

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Gina Bare, RN
Associate Director, Program and Partnership Development, NEHA/3ia29 0.0a29 0.0a29trg-0.0h64505 Tw aa91

Associate Professor, East Tennessee State University

Christopher Walker, MSEH, REHS
Senior Program Analyst, Environmental Health, Program and Partnership Development, NEHA

Kristen Ruby-