

The National Environmental Health Association (NEHA) represents more than 7,600 government, private, academic, and uniformed services sector environmental public health professionals in the U.S., its territories, and internationally. This workforce represents the second largest constituency of the existing public health workforce, second only to nursing. NEHA is the profession's strongest advocate for excellence in the practice of environmental public health. We deliver on our mission to build, sustain, and empower an effective environmental public health workforce.

Policy Statement on Indoor Air Quality

Adopted: October 2025

Policy Sunset: October 2030

Indoor air quality (IAQ) is a crucial environmental health issue that directly impacts the well-being of individuals and communities. People in America spend up to 90% of their time indoors, where they could be exposed to pollutants such as mold, lead dust, radon, wildfire smoke, biological contaminants, and chemical irritants. IAQ pollutants cause both acute and chronic health effects, such as exacerbating chronic conditions including asthma and chronic obstructive pulmonary disease (COPD). Poor IAQ disproportionately affects vulnerable populations, including children, older adults, and low-income communities.

Despite the significant health risks associated with poor IAQ in homes, schools, and many other public buildings, there is little clear guidance on acceptable levels of various IAQ contaminants. This lack of guidance leaves state, local, tribal, and territorial authorities to address challenges with varying levels of resources and expertise. The fragmented approach to IAQ management underscores the urgent need for workforce training, public awareness, and resource allocation.

NEHA will continue to develop its capacity to address IAQ through the following activities:

- Develop comprehensive training programs for environmental health professionals on IAQ topics such as mold remediation, lead dust mitigation, wildfire smoke assessment, radon testing, biological contaminants, and chemical exposure management
- Provide certifications and continuing education opportunities to promote best practices
- Partner with agencies such as the U.S. Environmental Protection Agency (U.S. EPA), the Centers for Disease Control and Prevention (CDC), and the U.S. Department of Housing and Urban Development (HUD) to ensure training materials are evidence-based and responsive to emerging IAQ threats

NEHA recommends the following for improving this nation's IAQ:

- Advocate for increased funding to support IAQ programs at federal, state, local, tribal, and territorial levels, focusing on workforce development and the adoption of technological resources

- Encourage the creation of interim guidelines for IAQ to assist local, tribal, and territorial jurisdictions
- Launch public awareness campaigns to educate communities about IAQ risks and mitigation strategies, including the use of HEPA filters, UV light, radon testing, and integrated pest management
- Promote research on the health impacts of IAQ pollutants with a focus on high-risk communities
- Support the establishment of exposure monitoring systems and the leveraging existing networks
- Advocate for the application of green building standards that prioritize low-emission materials, moisture-resistant designs, and improved ventilation systems

Analysis

People in America spend 90% of their time indoors. The quality of indoor air is essential for a healthy nation.

Indoor air pollution is diverse, including mold spores, microbiological pathogens, lead dust, smoke from wildfires and prescribed burns, combustion byproducts, and radon. Poor IAQ can be associated with inadequate HVAC systems. Poor IAQ has been linked to respiratory illnesses, developmental delays, and chronic diseases. The absence of unified standards and benchmarks—coupled with limited training opportunities—hampers consistent IAQ management.

NEHA's mission to build, sustain, and empower an effective environmental health workforce positions the organization as a leader in addressing IAQ challenges and creating healthier environments.

Many environmental public health professionals lack training in IAQ management, leaving significant disparities in expertise and preparedness. Environmental health professionals lack access to standardized training in IAQ assessment, interpretation of pollutant levels, and IAQ mitigation, which leads to inconsistent practices that leave underserved communities at a higher risk for health disparities from IAQ. NEHA's mission is central to addressing these gaps and promoting healthier indoor environments.

Justification

Understanding and controlling common pollutants indoors can help reduce the risk of indoor health concerns. Indoor pollution sources that release gases or particles into the air are the primary cause of IAQ problems. Inadequate ventilation can increase indoor pollutant levels by not bringing in enough outdoor air to dilute emissions from indoor sources and by not carrying indoor air pollutants out of the area. High temperatures and humidity levels can also increase concentrations of these pollutants.



Health effects can show up shortly after a single exposure or after repeated exposures to a pollutant. Sometimes the treatment is simply eliminating the person's exposure to the source of the pollution, if it can be identified.

After exposure to some indoor air pollutants, symptoms of some diseases (e.g., asthma) can emerge, be aggravated, or be worsened. Other health effects could show up either years after exposure has occurred or only after long or repeated periods of exposure. These effects—including some respiratory diseases, heart disease, and cancer—can be severely debilitating or fatal.

Radon is the leading cause of lung cancer among nonsmokers. Radon is responsible for approximately 21,000 lung cancer deaths every year, with 2,900 of these deaths occurring among people who have never smoked.

Poor IAQ is a leading cause of asthma exacerbations, allergic reactions, and developmental delays in children, as well as exacerbation of COPD in adults. Children with asthma who are exposed to secondhand smoke have worse asthma attacks and have more frequent attacks.

Unintentional carbon monoxide poisonings are responsible for about 450 deaths and 21,000 visits to emergency rooms annually.

Ensuring good IAQ in classrooms is crucial for student health, learning, and overall well-being. The monitoring of carbon dioxide (CO₂), coupled with proper ventilation and the introduction of fresh air, plays a vital role in achieving this goal. While outdoor CO₂ levels are typically around 400 ppm, ASHRAE recommends keeping indoor CO₂ levels in classrooms below 1,000 ppm. Further, ASHRAE recommends that schools aim for four to six air changes per hour in typical classrooms, with CDC recommending five or more air changes per hour.

Overall, 20% of the U.S. population, accounting for more than 53 million children and about 6 million adults, spend a significant portion of their day in more than 120,000 public and private school buildings. Students are at greater risk because of the hours spent in school facilities and because children are more susceptible to pollutants.

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