

**COMMUNITY HEALTH AND ENVIRONMENT**

Assessing Impact and Improving Resilience

# Environmental Risk Data and Hospital Care Coordination

**WORKSHOP 5 SNAPSHOT**





## About

The Community Health and Environment initiative offers insights and resources to support hospitals and health systems and their strategic partners in addressing the health impacts of environmental conditions on their communities and patient populations. As part of this initiative, a workshop in Boston convened clinical and community health leaders from local hospitals and health systems.

Workshop participants engaged in activities to identify key health outcomes in communities, prioritize challenges and develop pragmatic ideas. Participants also discussed how to include activities to improve health outcomes as part of community health assessments (CHAs) and community health implementation plans (CHIPs). This snapshot captures practical strategies and collaborative approaches discussed during the workshop.

Insights and strategies from other workshops convened as part of this initiative are available by visiting [AHA.org/community-health-environment/workshops](https://www.aha.org/community-health-environment/workshops).

## Key Themes

This Community Health and Environment workshop explored how hospitals and health systems are addressing the health impacts of air quality and other environmental conditions and reducing the strain on acute care services. Discussions focused on five strategic themes that highlight opportunities to strengthen care, improve planning and align hospital and health system activities with broader community health goals:

- Integrating environmental and geographic risk data into health assessments.
- Coordinating across hospital departments to address upstream risk factors.
- Managing risks linked to environmental stressors.
- Integrating environment-related health actions into CHAs, CHIPs and existing workflows.
- Engaging pediatric providers and school partners to reduce environmental risk for children.



## Integrating Environmental and Geographic Risk Data into Health Assessments

Hospitals and health systems are beginning to collect and analyze data linking environmental conditions — particularly air quality and extreme heat — to health outcomes, including higher number of early emergency department return visits (within three days) and increased number of asthma- and HbA1c-related visits. Some hospitals and health systems also are layering in geographic risk data — e.g., homes in flood-prone areas — and using surveys to gauge patients' and clinicians' perceptions of environment-related health risks.

### TACTICAL TAKEAWAYS

- Geographic risk factor mapping — e.g., air quality, flood zones, heat islands, wildfires — can be combined with socioeconomic mapping and integrated into existing community and population health assessments to help forecast the potential demand for acute care.
- Some hospitals and health systems are using community and clinician surveys to explore perceptions and communication gaps related to the environment and community and population health.
- Reducing preventable ED utilization, returns and lengths of stay for people with existing health conditions can be a key financial consideration for hospitals and health systems. Some organizations are using electronic health record data with weather and air quality data to examine patterns in ED admissions and patient outcomes related to environmental risks.



## Coordinating Across Hospital Departments to Address Upstream Risk Factors

Addressing health risks and chronic disease before they escalate into acute care needs includes understanding how housing and environmental conditions affect health, including housing quality, reliable and affordable access to energy sources, air quality, and access to cool (or warm) spaces. Exposures to extreme weather events like flooding and excessive heat can result in secondary health impacts caused by mold, poor indoor air quality, and waterborne illness (e.g., from standing water after flooding). Effective action requires working across hospital departments.

### TACTICAL TAKEAWAYS

- Integrating environmental considerations into existing workstreams such as clinical care, emergency preparedness, workforce support, sustainability and data analytics helps prevent siloed initiatives and can enhance coordination of actions.
- By engaging with housing agencies, public utilities, and community health organizations and coalitions, hospitals and health systems can support programs focused on improving the availability of stable and resilient housing.
- Connections developed during previous public health emergency responses — such as collaborations with schools, community-based organizations and local governments — may offer ready-to-activate networks for working on these efforts.



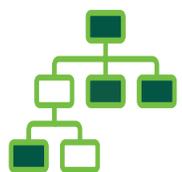
## Managing Risks Linked to Environmental Stressors

A U.S. study of mental health-related ED visits found an **8% increase** in behavioral health visits to EDs on the hottest days of summer compared with typical summer weather. This includes patients with substance abuse disorders, schizophrenia and other behavioral disorders.

Some medications, such as **antipsychotics** and **certain antidepressants**, can impair the body's ability to regulate temperature or can increase dehydration risk, compounding heat sensitivity. Additional risk factors include social isolation, limited mobility and inadequate housing infrastructure — conditions that can limit people's access to cooling centers or emergency services.

### TACTICAL TAKEAWAYS

- Hospitals and health systems can examine their emergency preparedness protocols, including for communication, medication management and wellness monitoring, to make sure they sufficiently reflect the needs of patients with psychiatric diagnoses.
- Effective coordination between behavioral health and community health teams helps ensure that high-risk populations receive targeted guidance and support before and during extreme heat. The same coordination is recommended during extremely cold weather.



## Integrating Environment-related Health Actions into CHAs, CHIPs and Existing Workflows

Workshop participants widely agreed that the most effective way to address the intersection of environmental and health issues is by integrating related activities directly into processes for developing community health assessments and community health implementation plans.

By working to avoid creating parallel or siloed programs, hospitals and health systems can build on established workflows, making it easier for interdisciplinary teams to contribute to this work without requiring significant shifts in roles or responsibilities.

### TACTICAL TAKEAWAYS

- Communicating with communities and populations, including clinical teams, through trusted networks and with targeted materials can effectively help individuals prepare for emergency events. A toolkit for clinicians on extreme weather resilience is available for download from [Americares](#).
- Existing quality improvement initiatives that focus on care delivery or workforce well-being may be adaptable for these efforts.
- Hospitals and health systems looking to build momentum in addressing the environment and health internally may benefit from connecting environmental health work with the organization's leadership objectives, strategies and quality improvement goals.



## Engaging Pediatric Providers and School Partners to Reduce Environmental Risk for Children

Opportunities exist to collaborate with teams in pediatric care settings and schools to support families managing conditions such as respiratory disease. Pediatric visits, particularly for children with asthma, offer consistent touchpoints for clinicians to provide guidance. Pilot programs have connected asthma care teams with schools for education and home assessments.

### TACTICAL TAKEAWAYS

- Using routine pediatric visits to discuss air quality and respiratory health issues with families may offer an effective entry point for education and care planning. These discussions could include encouraging families to sign up for air quality alerts and to screen for indoor triggers such as mold.
- Building strong referral loops between school nurses and pediatric care teams may help flag recurring symptoms or address absences earlier and provide more timely support.
- Embedding targeted questions into pediatric assessments and clinician workflows — such as asking families about indoor air quality or access to cooling — can help identify children at elevated risk and inform more personalized support strategies.



### EXAMPLE

## Mapping Pollution and Health: Using Granular AQI Data to Drive Long-term Change

### The Problem

Hospitals and health systems and their community partners recognize the connection between environmental conditions and health outcomes, yet many localities lack access to granular, neighborhood-level air quality data. This limits the ability of health organizations, urban planners and community leaders to identify the areas at higher risk and understand the relationship between pollution sources and respiratory illness, including asthma exacerbations. Without this data, it becomes difficult to identify the areas at risk or tailor interventions for specific populations.

### The Big Idea

Hospitals and health systems and local government partners can collaborate and develop a citywide air quality monitoring and mapping program that overlays local air quality index (AQI) sensor data with known environmental pollution sources and respiratory illness trends, such as asthma rates and ED utilization. If this layered data aligns, it strengthens the case for focusing on specific neighborhoods and making mitigation investments, such as providing air filters or improving infrastructure improvements.

Leading or participating in educational campaigns about the health impacts of air quality and heat exposure would form the foundation of the effort. Although the most meaningful results — like fewer hospital visits and cleaner air — would take several years to materialize, short-term improvements in increasing community awareness and trust may still emerge. Pilot programs could be implemented to prove concept and build momentum.

## Impact

- More robust and detailed AQI data that helps identify communities experiencing the greatest environmental and health burdens.
- Reduced asthma exacerbations and ED visits through targeted infrastructure improvements and pollution mitigation.
- Long-term potential for significantly decreasing health care costs and increasing health-adjusted life expectancy.



## Long-term Value Proposition

The long-term benefits could be substantial — in lives improved and dollars saved — but most benefits will accrue well after the initial investments. The short-term payoffs may be limited, which could make it difficult to secure support. Still, smaller-scale pilots could help demonstrate value and pave the way for broader adoption.

## Assumptions and Risks

- **Upfront and ongoing costs.** High-quality AQI monitors can cost \$60,000 to \$70,000 per unit. However, the growing availability of lower-cost sensors, ranging from \$50 to \$400, is helping to bridge this gap. While these devices are less precise than high-end monitors, they can still provide valuable, hyperlocal data on air pollution, supporting more informed decisions at the individual and community levels.
- **Technology integration challenges.** Wearable or mobile AQI sensors exist, but they are expensive and unlikely to be embedded in common devices like phones or smartwatches in the near future.
- **Sustained engagement.** Monitoring should continue over time. One-time efforts risk becoming outdated as conditions change.

## Example Initiatives

- **Kaiser Permanente and Denver – Love My Air.** To increase health system awareness of local air quality and improve asthma-related care, Kaiser Permanente partnered with the Denver Department of Public Health & Environment on the Love My Air initiative. Real-time AQI monitors and educational displays are installed at Kaiser medical offices and other community health centers in the Denver metro area to engage providers and patients. This data is used to inform clinical conversations around respiratory health, support patient decision-making, and guide targeted outreach in neighborhoods disproportionately affected by poor air quality.
- **Propeller Health and Louisville, Ky. – AIR Louisville.** This partnership combined GPS-enabled inhalers to monitor and analyze inhaler use with air pollution exposure in real time for Louisville residents. The data was used to support urban planning decisions and reduce asthma flare-ups through tailored public health alerts.

## Top Takeaways for Leadership

- **Evaluate impact into existing care and planning strategies.** Rather than launching separate programs, many hospitals and health systems are finding value in folding environmental considerations into established processes, such as community health assessments, emergency preparedness planning, hazard vulnerability assessments and population health management tactics.
- **Build the business case for upstream action.** Workshop participants emphasized that reducing ED visits, preventable admissions and frequent return visits includes addressing conditions outside hospital walls, such as housing instability and poor air quality. Cross-sector collaboration with community-based organizations and public health departments and targeted interventions can help identify and address these risks earlier — before an emergency develops — and may support long-term health and financial outcomes.
- **Position hospitals as trusted messengers and early responders.** Hospitals and health systems can play a critical role in recognizing and communicating how environmental conditions affect health, reaching out in particular to patients with respiratory and cardiovascular diseases, behavioral health diagnoses or complex medical conditions. Strengthening internal coordination between care teams and community health teams helps support more timely outreach and more effective emergency response.



For more information on AHA’s Community Health and Environment initiative, visit [www.aha.org/community-health-environment](http://www.aha.org/community-health-environment).