

Clear the Air!

Protect your health from bad air

FACILITATOR'S GUIDE

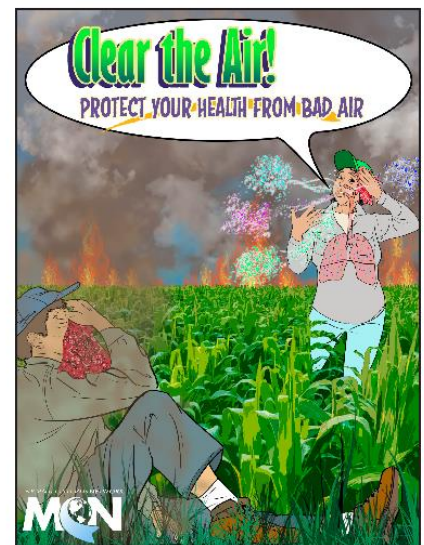
MIGRANT CLINICIANS NETWORK



The preparation of these educational materials was made possible by a grant from the Thoracic Foundation.

Introduction

Outdoor workers face unique challenges when it comes to protecting their respiratory health—challenges that are growing more serious as climate change increases the frequency and severity of extreme heat, wildfires, air pollution, and other environmental stressors. Recognizing this, Migrant Clinicians Network (MCN), with support from the Thoracic Foundation, developed a comic book titled “Clear the Air: Protect Your Health from Bad Air” to raise awareness and promote practical strategies for reducing exposure to harmful air.



To complement the comic book, MCN has also created a presentation—which can be used as a digital slideshow or as a printed flipchart—designed to support community health workers (CHWs) as they continue conversations with outdoor workers about respiratory health and safety. This facilitator guide accompanies the presentation and offers CHWs structured support to lead small group discussions, one-on-one sessions, or informal educational talks in ways that are engaging, culturally relevant, and accessible.

These three resources—the comic book, the presentation/flipchart, and this facilitator guide—serve as a practical toolkit to help CHWs build awareness, address misinformation, promote self-advocacy, and share actionable prevention strategies with the communities they serve.

As outdoor workers continue to face intensified health risks due to climate change and air quality threats, this guide is intended to empower CHWs to meet those challenges with tools, knowledge, and compassion.



Clear the Air!

Protect your health from bad air

Script

Hello everyone, and welcome. Today we are going to talk the air that we breathe and its impact on our health, especially when working outdoors. My name is [Facilitator's Name], and I will be guiding you through this session. Many of you spend long hours working outside in the heat, near dust, smoke, or chemicals. You may already feel the effects of poor air quality on your breathing. Today, we will talk about what you can do to protect yourself and make sure you stay healthy while working. We will discuss the air quality index (AQI), personal protective equipment (PPE) like masks and respirators, and other important tips for reducing your risk to protect your health. Let's get started.



Funding for these materials was made possible by the Thoracic Foundation.



When it's hot out, we can feel it...

When it's hot or when we are working outside in high heat, our bodies feel it. It can make us tired. We sweat a lot. Those are signs that our body sends when our body is heating up. It has been getting hotter, and it's not just a feeling—this extreme heat is affecting how we work and live. Too much heat can be dangerous.

Heat Exposure Charades | Suggested Participatory Activity

Objective: Help workers recognize and understand the symptoms of heat-related illnesses in a fun and interactive way.

Materials:

- Small pieces of paper with different **heat-related symptoms** written on them (examples below).
- A bowl or container to hold the symptom slips.
- A timer (or a phone timer).

Preparation:

1. Write one heat-related symptom per slip of paper. Examples include:

• Heavy sweating	• Extreme thirst	• Weakness/Fatigue	• Rapid heartbeat
• Dizziness	• Headache	• Fainting	• Hot, dry skin
• Muscle cramps	• Confusion	• Nausea/Vomiting	(no sweating - a sign of heat stroke!)
2. Fold the papers and place them in the bowl.

How to Play

1. Divide participants into two teams.
2. One player from the first team picks a slip of paper and **acts out** the symptom **without speaking** while their team tries to guess what it is.
3. If the team correctly guesses the symptom within **30 seconds to 1 minute**, they get a point.
4. If they can't guess it, the other team gets **one chance** to steal the point by making a guess.
5. Rotate turns between the teams until all symptoms have been acted out.
6. At the end, review each symptom and discuss what workers should do if they or a coworker experience it.

Debrief Discussion (After the Game)

- “Have you ever experienced any of these symptoms while working in the heat?”
- “What should you do if you or a coworker show these symptoms?”
- “Which symptoms are warning signs of heat exhaustion vs. heat stroke?”
- “What can we do to prevent heat-related illnesses?”

Variations

- Fast Round: Have players act out multiple symptoms in one round and see how many their team can guess in a short time.
- Supervisor Edition: Instead of symptoms, write preventive actions (e.g., "drinking water," "finding shade," "taking a break"). The team must guess the action being demonstrated.
- Real-Life Scenario Role-Play: After the game, pair up participants and have them act out how they would help a coworker experiencing heat exhaustion or heat stroke.



It can also make it hard to breathe.

Script

But did you know that heat can also make it harder to breathe?

Especially for people with asthma or other respiratory conditions. Why do you think this happens?

When temperatures rise, air pollution tends to increase, making it harder for our bodies to get the oxygen it needs.

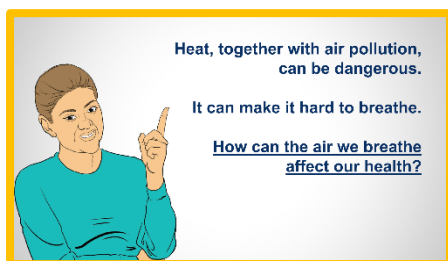
Suggested Prompts

How has the heat been affecting you at work or at home?

Have you noticed more people around you feeling sick or tired because of the heat?

Suggested Activities

Encourage participants to share their experiences and validate their concerns, creating a space for dialogue before moving on into respiratory health.



Heat, together with air pollution, can be dangerous

Script

The combination of heat and polluted air can be dangerous. It's especially dangerous, particularly for those with other conditions like asthma or heart disease. High temperatures causes higher levels of ozone, a harmful gas that can irritate your lungs when you breathe. This can cause symptoms like coughing, throat irritation, and chest tightness. It can make working even harder. Workers exposed to high ozone levels can experience symptoms like shortness of breath, headaches, and dizziness. Those who work near traffic, industrial sites, or areas where chemicals are sprayed may be at higher risk.

Those could be signs that air pollution is affecting your body. How can the air we breathe affect our health? To answer this question, we need to talk about something we all do every second of the day—breathing. It's something we don't usually think about, but the air we breathe plays a huge role in how our bodies function.

Suggested Prompt

Have any of you had trouble breathing especially hot days?



How do we breathe?

Script

Our lungs are designed to take in oxygen from the air and send it into our blood. This oxygen is what gives energy to every part of our body, from our muscles to our brain. When we exhale, our body gets rid of waste gases like carbon dioxide. This whole process is called respiration, and it happens in several steps. Let's break it down:

1. **Breathing in:** Air enters through our nose or mouth and travels down the windpipe into smaller airways in the lungs, reaching tiny air sacs called alveoli.
2. **Gas exchange in the lungs:** These air sacs or alveoli are surrounded by tiny blood vessels. Oxygen moves from the air into our blood, and at the same time, carbon dioxide—a waste product—moves out of the blood and into the lungs to be exhaled.
3. **Oxygen moves through the blood:** Once in the blood, oxygen attaches to red blood cells and gets carried to every part of the body, giving us energy.
4. **Carbon dioxide removal:** After our body uses oxygen, it produces carbon dioxide as waste. Our blood carries it back to the lungs, and we breathe it out.

This process happens constantly to keep us going, but what happens when the air we breathe is polluted?

“Breathing Under Pressure” | Suggested Participatory Activity

Objective: Help workers understand how the respiratory system works and how air pollution, dust, or extreme heat can make it harder to breathe.

Materials

- Drinking straws (one per participant)
- Cotton balls or small tissue pieces (optional, for an extra challenge)
- A stopwatch or timer

How to Play

1. Normal Breathing: Ask participants to take a few deep breaths in and out. Have them notice how easy it is to breathe normally.
2. Restricted Breathing: Give each participant a straw and instruct them to place it in their mouth. Ask them to breathe only through the straw for 30 seconds.
3. Increased Challenge (Optional): To simulate an even harder breathing experience:
 - Have participants pinch the straw slightly to reduce airflow.
 - Ask them to walk in place while breathing through the straw.
 - Have them blow through the straw to try to move a cotton ball or small piece of tissue, demonstrating how limited air movement can feel exhausting.
4. Stop and Discuss: Ask participants how they felt while breathing through the straw.

Debrief Discussion (After the Activity)

- “What did it feel like to breathe through the straw?”
- “How do you think people with asthma or lung disease feel when working in dusty or smoky conditions?”
- “How does poor air quality, extreme heat, or chemical exposure make breathing harder for outdoor workers?”
- “What can we do to protect our lungs and breathe better at work?”

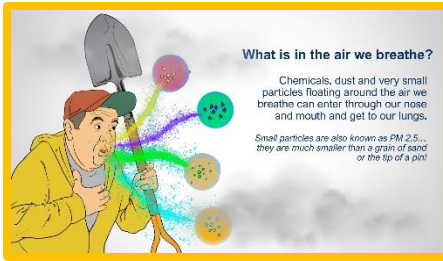
Key Learning Points

- The straw represents a narrowed airway, like what happens in asthma or when lungs are irritated by pollutants like dust, smoke, or chemicals.
- Heat makes breathing harder by increasing air pollution levels and forcing the body to work harder.
- Wearing a respirator, checking air quality, and reducing exposure to dust, smoke, and chemicals can help protect lung health.

Variations

- Mask Comparison: Give participants a regular cloth mask or N95 respirator and compare how breathing feels through them vs. the straw.

Breathing Exercises: Teach a simple deep-breathing technique after the activity to show how controlled breathing can help workers recover when they feel short of breath.



What is in the air we breathe?

Script

Air contains more than just oxygen. There are tiny particles—some too small to see—that can enter our bodies when we breathe. These particles are dangerous because they can bypass the body's natural defenses and reach deep in to the lungs. Being aware of the pollutants in our environment and where they come from helps us understand why we need to take protective measures.

PM 2.5 are extremely small particles in the air that can go deep into our bodies when we breathe them and can have health consequences. These particles are produced by burning fuels, industrial activities, and even some farming processes. Once inside the body, they can cause lung irritation, inflammation, and long-term damage.



But where do the chemicals and pollution in the air come from?

Script

But where do the chemicals and pollution in the air come from?

▼ Participatory Activity on the Next Page ▼

“What’s in the Air?” | Suggested Participatory Activity

Objective: Help participants visualize the invisible pollutants in the air, understand their sources, and discuss how they might be affecting their health.

Materials

- A clear glass or plastic container filled with clean water (represents clean air).
- Small items to represent pollutants:
 - Black pepper or cinnamon powder (represents PM 2.5 and dust).
 - A few drops of food coloring (represents chemicals and gases).
 - Small bits of paper or dirt (represents visible pollution like ash or debris).
- A spoon or straw for stirring.

Steps

1. **Set the Scene:** Hold up the container of clear water and ask participants, “If this was the air you were breathing, how would you feel? Would you think this is safe?”
2. **Add “Pollutants”:** One by one, introduce the different pollutants:
 - a. Sprinkle black pepper/cinnamon and say, “This represents PM 2.5—tiny particles in smoke, dust, and air pollution that can go deep into your lungs.”
 - b. Add food coloring and say, “This represents chemicals from pesticides, fuels, and factories that get into the air.”
 - c. Drop in bits of paper/dirt and say, “This is visible pollution, like ashes or debris from fires and dust from construction.”
3. **Stir the Mixture:** Mix everything together and ask, “Would you want to drink this? Why not?” Draw the connection: “This is what happens when we breathe polluted air—those tiny particles and chemicals go inside our bodies, even though we don’t see them.”
4. **Discussion:**
 - a. “Where do you think pollution like this comes from in your work environment?”
 - b. “Have you ever noticed your breathing change when working around smoke, chemicals, or dust?”

“What can we do to reduce how much of this pollution we breathe in?”



Where do the chemicals & pollution in the air come from?

Script

Outside, these particles can come from:

- Industry emissions
- Exhaust fumes from motor vehicles, farm equipment, trucks, and machinery.
- Smoke from controlled burns or wildfires.
- Dust from soil, construction sites, and unpaved roads around us.
- And others, such as the spray application of pesticides , which releases fine particles into the air.

Here an opportunity to make it interactive, asking participants the pollutants they know from each one of the sources mentioned in the slide.

Suggested Activity

Encourage participants to share knowledge, showing that you are building on their experiences



How can chemicals & pollution in the air affect my health?

Script

Breathing in PM 2.5 can seriously affect your lungs and heart, especially over time. These particles are small enough to reach deep into your lungs and even enter your bloodstream.

Exposure to PM 2.5 can cause:

- Trouble breathing or reduced lung function.
- Asthma attacks and bronchitis.
- Irregular heartbeat and chest discomfort.
- Heart attacks or worsening of existing conditions like Chronic Obstructive Pulmonary Disease (COPD) or cardiovascular disease.
- Even if you're healthy, breathing polluted air every day can lead to long-term health issues.

Suggested Activity

Encourage participants to share knowledge, showing that you are building on their experiences



What are some prevention strategies to lower my exposure to chemicals and pollution?

Script

There are steps you can take to protect yourself and your family from PM 2.5:

- Check the local air quality index (AQI), especially before working or doing outdoor activities.
- On days with poor air quality, wear a well-fitted N95 or KN95 mask if you must work outside.
- If possible, stay indoors, especially during wildfire smoke or heavy pollution.
- Don't leave vehicles idling—this adds more pollution into the air.
- Try to avoid working or exercising near busy roads or areas with machinery running.
- Follow local guidelines during burn seasons or on days when controlled burns are happening.
- When air quality is very poor, choose indoor activities whenever possible, especially for children, older adults, and people with asthma or other chronic conditions.

Suggested Activities

Encourage participants to share knowledge, showing that you are building on their experiences



Exposures to PM 2.5 at work

As we mentioned before, PM 2.5 are small particles that are much smaller than a grain of sand or the tip of a pin and are floating in the air. PM 2.5 doesn't come with warning signs we can always see—but it's often around us in the form of **dust, smoke, fumes, or chemicals**. These pictures show real-life situations where workers are likely breathing in these dangerous particles:

- **Fumes from farm equipment and truck exhaust** while loading produce.
- **Demolition and construction dust**, often from wood, concrete, or drywall.
- **Factory or warehouse emissions** filled with tiny particles that can trigger coughing and chest pain.
- **Wildfire smoke**, especially near burn zones or forested areas.

We've just seen how outdoor exposures to tiny harmful particles into the air can damage our lungs and make it harder to breathe. But it's not only outdoor work we need to be careful about. The last image on this slide represents **Mold or and mold control spraying**, where strong chemicals and particles become airborne. This is something we usually deal with inside our homes or workplaces. Mold is another air pollutant that can seriously affect our health, especially our breathing.

Suggested prompt

What other exposures do you encounter at your place of work?



What are other air pollutants that can affect my health?

Script

On this slide, we see two examples of what mold can look like in real life. Mold often grows in places that stay **damp, warm, or humid**, like near leaky windows, ceilings, or walls. When mold grows, it releases **tiny spores** into the air—so small that we can't see them, but we can breathe them in.

Over time, breathing these spores can **irritate our lungs**, making it harder to breathe, especially if we already have asthma, allergies, or other lung issues. Some people may experience coughing, wheezing, or even more serious symptoms.

We often try to clean mold using strong chemicals like bleach or mold-killing sprays. While these help stop mold from growing, they also release **harmful fumes** that can cause irritation or headaches—especially in small, poorly ventilated spaces.

So we have to be extra careful—both with mold itself and with the chemicals we use to clean it.

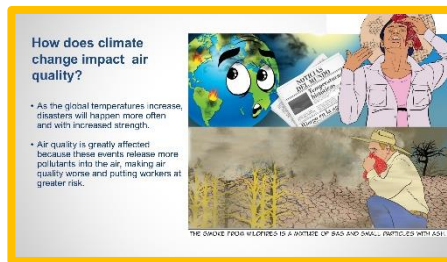
Poor air quality inside or outdoors is happening especially because of something much bigger: **climate change**. Let's take a look at how rising temperatures are affecting the air we breathe.

Suggested prompts

Have you ever had mold in your home or workplace? How did you handle it?

What do you usually use to clean mold? Do you wear any protection when using cleaning chemicals?

Do you know of safer ways to prevent or clean mold without harming your health?



Climate change and air quality

Script

As this slide shows, **as the Earth gets hotter**, we're seeing more extreme weather—stronger storms, more frequent wildfires, longer droughts, and intense heat waves. Some of these events don't just impact crops or buildings—they also release **more harmful particles and gases into the air**, which means we're breathing in more pollution.

Take wildfires, for example. The smoke from wildfires is not just smoke—it's a mix of **toxic gases, ash, and fine particles** like PM 2.5 that go deep into the lungs. This kind of air can be especially dangerous for outdoor workers, like many of us.

Even extreme heat makes the air worse. Hotter air increases ground-level ozone, which is a major trigger for asthma and other breathing issues.

All of this means that climate change isn't just about the environment—it's directly affecting our **bodies, lungs, and health**.

Suggested prompts

- Have you noticed changes in the weather or air quality where you live or work?
- Have you ever had to work through a wildfire, heat wave, or heavy smoke? How did it affect your body?
- What do you do now to protect yourself during extreme weather or poor air quality days?



Long term exposure can lead to serious health problems!

Script

Exposure to airborne pollutants, such as smoke, dust, and chemicals, can have severe long-term health effects. Some risks include:

- Chronic obstructive pulmonary disease (COPD), which makes breathing increasingly difficult over time.
- Increased risk of lung cancer due to exposure to harmful chemicals and fine particles.
- Development of asthma or worsening of existing respiratory conditions.

Protecting yourself today will help prevent serious health problems in the future. It is essential to prioritize respiratory health by using PPE, monitoring air quality, and reducing exposure to pollutants.



How can we protect ourselves?

Script

There are simple ways to protect ourselves from bad air. First, we need to understand the Air Quality Index (AQI). Second, we can use personal protective equipment like N95 or KN95 respirators to reduce exposure to harmful particles.



Air Quality Index (AQI)

Script

The AQI tells us how clean or polluted the air is each day. Here's what the colors mean:

- **Green (0-50 AQI):** Good air quality—safe to work outside.
- **Yellow (51-100 AQI):** Moderate air quality—most people can work, but those with breathing problems should be cautious.
- **Orange (101-150 AQI):** Unhealthy for sensitive groups—people with asthma or lung conditions should limit outdoor work.
- **Red (151-200 AQI):** Unhealthy for everyone—outdoor work should be limited.
- **Purple and Maroon (201+ AQI):** Very unhealthy—avoid outdoor work if possible.”

An N95 or KN95 respirator is recommended when the AQI is at 151 or beyond (starting at the red category). To know the AQI in your area, you can either find it in your local weather forecast or through a phone app. When you know the AQI in your area, you can take steps to protect your health.



EPA's AirNow Mobile App

Script

EPA's AirNow mobile app provides an interface for quickly checking current and forecast air quality information for planning daily activities and protecting your health. The app automatically displays the current AQI (Air Quality Index) for your local area or any area you wish to check and allows you to store multiple areas for quick reference.

The app also includes the AirNow Fire and Smoke map, which the EPA produced in partnership with the U.S. Forest Service. It includes information about wildfire smoke and air quality. You can view the Fire and Smoke Map by tapping the smoke icon on the bottom right of the screen.

Additionally, the interactive map includes data for air quality for PM 2.5, PM 10, and ozone monitors in the United States, Canada, and Mexico. You can view the interactive map by tapping the map icon at the bottom of the screen.



How to wear the N95 or KN95 respirator?

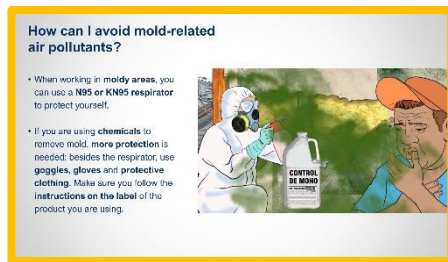
Script

N95 or KN95 respirators help filter out harmful particles. Here's how to wear one correctly:

(Read content on the slide)



Video with N95 instructions & demo



How can I avoid mold-related air pollutants?

Script

If you're working in areas with mold, an N95 respirator is essential. Mold spores can cause respiratory irritation and allergic reactions. If you're using chemicals to remove mold, you also need additional protection to prevent chemical exposure and from being exposed to the mold:

- **goggles** to protect your eyes from chemical splashes and airborne mold particles,
- **gloves** to prevent direct contact with mold-contaminated surfaces and chemicals, and
- **protective clothing** to minimize exposure to mold and chemicals.

Always follow the product label's instructions to make sure you are taking all necessary steps for our safety. Following these steps reduces the risk of respiratory infections and long-term health issues.



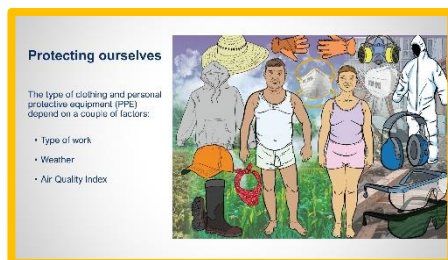
What protection can we use when working in the field?

Script

Wearing the right protective equipment is crucial for preventing respiratory health issues. Outdoor workers are exposed to various air pollutants, so using proper gear can help reduce risks. Essential protective measures include:

- Wearing a well-fitted N95 mask when working in dusty areas or when air quality is poor.
- Wearing long-sleeved clothing, hats, and sunglasses to protect against sun exposure and airborne pollutants.
- Taking regular breaks in shaded or indoor areas to avoid prolonged exposure to heat and pollutants.

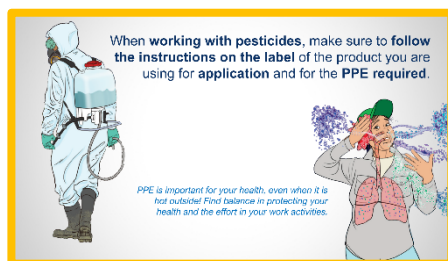
Even though protective gear may be uncomfortable in hot weather, it is essential for long-term health.



Protecting Ourselves

Script

The type of PPE you need depends on your work, the weather, and the air quality. Make sure to wear long sleeves, hats, and masks when needed.



When working with pesticides...

Script

Outdoor workers in agriculture often handle pesticides, which can be harmful if inhaled or absorbed through the skin. To protect yourself, always follow the safety guidelines listed on the product label. The proper use of PPE can prevent serious health risks:

- Respirators should be used when applying certain pesticides to avoid inhaling toxic chemicals.
- Gloves and protective clothing should be worn to protect the skin from exposure
- Eye protection is essential when using with certain pesticides.

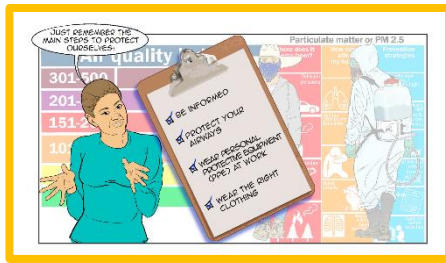
Proper handling and disposal of pesticides help reduce exposure and prevent long-term respiratory issues.



Most diseases are preventable; take action for your health!

Script

Your health is essential—not just for you, but also for your family. Most respiratory diseases caused by air pollution and occupational exposure are preventable with the right precautions.



Remember the main steps to protect ourselves

Script

Today, we covered:

- The importance of monitoring air quality using the AQI.
- How to properly use PPE like N95 or KN95 masks.
- Strategies for reducing exposure to harmful particles.

We encourage you to take these lessons seriously and implement them in your daily work routines. Do you have any questions or concerns?



Download the comic book here

Post-Training Tasks:

1. Collect Evaluations and Feedback -

Gather post-training surveys to assess what participants learned.

2. Answer Questions -

Allow time for additional questions and provide resources for further learning.

Thank Participants - Show appreciation for their time and encourage them to share what they learned with coworkers and family members.

Supporting Respiratory Health in the Face of Change

This facilitator guide was developed to support Community Health Workers (CHWs) in leading meaningful conversations about air quality, respiratory health, and climate-related risks with outdoor workers. Whether you're facilitating a one-on-one talk or guiding a group through the flipchart or comic book, your role is essential in protecting the health and well-being of those most impacted by environmental exposures.

Quick Cheat Sheet: Tips for CHWs

- ✓ Use the comic book to build trust and spark conversation – The visuals and stories help workers see themselves in the information.
- ✓ Refer to the presentation/flipchart – It offers clear visuals and structured talking points to guide deeper discussion.
- ✓ Encourage storytelling and shared experiences – Workers often learn best from each other.
- ✓ Use simple language – Avoid medical jargon when explaining how the lungs work or what PM 2.5 means.
- ✓ Pause for questions and reflection – Give people time to process and relate the information to their own lives.
- ✓ Highlight practical actions – Focus on what workers can do (like using respirators, checking air quality, taking rest breaks, etc.).
- ✓ Stay curious and culturally responsive – Listen with empathy and respect people's lived experiences and health beliefs.

Additional Suggestions

- Keep a copy of the AQI app or local air quality resources handy and show participants how to use them.
- Where possible, connect workers to local programs offering free or low-cost PPE.
- Encourage workers to speak up if they feel unwell—heat stress and exposure symptoms should never be ignored.
- Pair this guide with interactive activities and visuals to engage all learning styles.
- Follow up with individuals or groups to reinforce key messages and continue building trust.

As climate change continues to impact our communities, the role of CHWs becomes even more vital. You are not just sharing information—you are protecting lives, building resilience, and empowering workers to take control of their health in the face of worsening air quality and environmental hazards.

Thank you for showing up with care, cultural understanding, and commitment. The conversations you lead today can ripple out into long-term health, safety, and advocacy for generations to come.