



ESTHER BUSH

## Environmental Health

This monthly series is a partnership of the New Pittsburgh Courier, Community PARTners (a core service of the University of Pittsburgh's Clinical and Translational Science Institute—CTSI), the Urban League of Greater Pittsburgh and the UPMC Center for Engagement and Inclusion. All articles can be accessed online at the New Pittsburgh Courier website.

These pages will provide you with valuable information on health topics that may affect you, your family or friends and also connect you to local health initiatives and resources.

This month, the "Take Charge of Your Health Today" page focuses on environmental health. Jennifer Jones, MPH, community engagement coordinator with CTSI, and Esther L. Bush, president and CEO of the Urban League, discussed this important part of our overall health.

**JJ:** Happy New Year, Ms. Bush! I hope you had a great holiday season. The beginning of the year always seems to be a time when people think about making resolutions and improving their health. Many people—myself included—hope to exercise more and eat more fruits and vegetables. Both of those are important. However, one area of health that's sometimes overlooked and not discussed is environmental health.

**EB:** Happy New Year to you, too, Jennifer! This is a complex topic and can be controversial. The research presented this month really helped me to understand the scope of environmental health better.

**JJ:** Yes, Ms. Bush; that's very true. It's a difficult topic to both understand and to improve. When people hear the words "environmental health" they may think of air pollution, clean water, soil contamination or lead exposure. All of these topics fall under the large umbrella of environmental health, yet they are each unique problems that can influence our health each day, especially over the course of our life. It's also hard for one single person to change these larger issues. Many times a change in environmental health requires government-level changes.

**EB:** Many people know that I grew up in Pittsburgh. I remember when Pittsburgh had darker air because of the mills and the rivers were dirtier because of fewer concerns and knowledge about pollutants that were being dumped in the water. I was pleased to read in the overview with Dr. Jane Clougherty that Pittsburgh is less polluted now than it used to be. I know that we still have work to do, but it's encouraging that steps are being taken to ensure that future generations live in a healthier city.

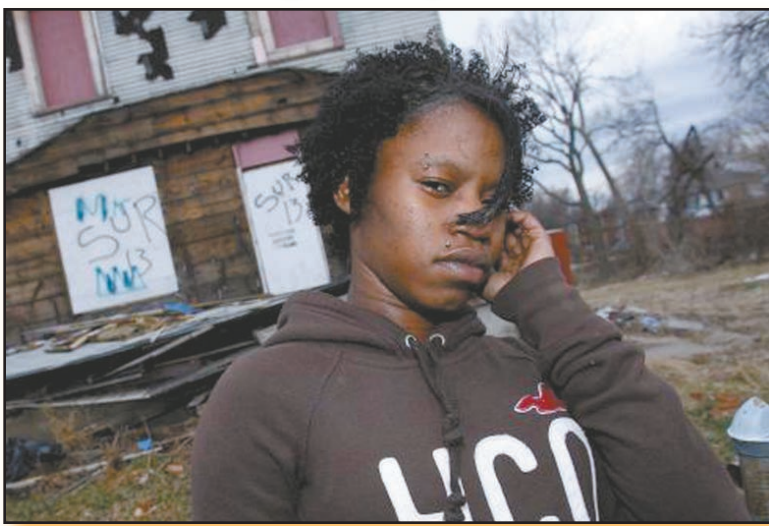
**JJ:** I agree. Dr. Jessie Carr Schmoof's article on the environment points to some of the work that was done by African Americans with the environmental justice movement. Regulations from organizations like the Environmental Protection Agency (EPA) have influenced how our society views environmental health. The Allegheny County Health Department also has great resources, especially about lead exposure. Their resources and tips pages provide useful suggestions on how to keep homes healthy.

**EB:** Thank you for pointing out those resources, Jennifer. It's important that we're aware of our surroundings, both when indoors during the winter months and outside when the weather gets warmer. I know that Pittsburgh officials are doing their best to keep our beautiful city clean and healthy for all of us. We can each do our part by being aware of how we're treating the environment. Simple things like not littering will ensure that trash does not make its way into our three rivers.

**JJ:** Thank you for your time, Ms. Bush. I hope you have a great January. Next month, we're focusing our health page on hearing health, particularly in the elderly population. If anyone has any questions about the information on this page, e-mail PARTners@hs.pitt.edu.

Heart disease, cancer and respiratory illness are three of the top four deadliest health threats in America. All three have an overwhelming impact on Black communities.

# Take charge of your health today. Be informed. Be involved.



Environmental threats contaminate our health and prosperity. Many African-Americans have never seen environmentalism as a priority until recently.



## How does the current environment affect our health?

Pittsburgh is decades beyond a time when the city's air was so polluted and dark that streetlights were turned on at midday. Because of booming industry, the rivers and soil were also polluted. We may not have such obvious reminders of the region's polluted past, but where are we now? And, importantly, how does the current environment affect our health?

The Pittsburgh area is, in general, less polluted. In terms of air pollution, the Allegheny County Health Department (ACHD) monitors the air as required by the Environmental Protection Agency. All of the monitors across our area show steady downward trends in recent years. Jane Clougherty, ScD, assistant professor of environmental and occupational health at the University of Pittsburgh's Graduate School of Public Health, has been working with ACHD to monitor fine particles in and around downtown Pittsburgh. According to Dr. Clougherty, the question of Pittsburgh's air quality can be a tricky one.

"It's better than it was decades ago," she says. "We do have substantial air pollution that's worth understanding better. The air quality in the city depends on where you are and when you're there. There are different kinds of air pollutants—particles, gases, that turn into particles, and so on. They have different chemical profiles depending on the mix of chemicals, how they're interacting and what the weather is."

Dr. Clougherty explains that



Air pollution is a serious problem in communities of color, as poor air quality can contribute to a host of health problems. (AP Photo/David J. Phillip)

the region still struggles with large sources of pollution. The region is still downwind of emissions from big power plants in the Ohio Valley. Coke works and steel mills are still at work in the area. Like every city, Pittsburgh has a lot of traffic. The more traffic idles and gets stuck in certain areas, the more the concentrations of particles build up.

Poor air quality is a concern because it can lead to respiratory problems like asthma, heart problems and even cancer.

Some people think staying indoors will reduce their air pollution exposure. Unfortunately, there are

many air pollution sources indoors. Cooking on a stovetop, burning candles and smoking put pollutants into the air. There are metals in water that become part of the air pollution in the home. People track pollutants indoors when they don't remove their shoes. Air inside homes doesn't move as much as it does outdoors. People are also spending more time indoors.

Even if the region's air quality has been getting better, Dr. Clougherty has a few recommendations for ways for people to try to protect themselves. She says, "As possible, heed air pollution warnings in the summer, like air quality action days. It's better for people's health if they're not exercising outdoors or allowing children to be outside during those days. If you're exercising outside anytime, try not to do it on a heavily trafficked road. Spending time in parks and other 'clean air' places is a great thing to do. The simplest way to not contribute to the problem is to drive less. When people are in a vehicle, they are highly exposed. Air pollution seeps into cars, regardless of whether or not the windows are open. So, driving less means contributing less to the problem and being less exposed. Although most buses have higher emissions output than cars, because they carry more people, the per person emissions are much, much lower."

Though air quality has been a traditional concern for Pittsburgh, other environmental health issues do exist. Our rivers are cleaner than they were in the past. But we are a large area with an older sewer system. Combined sewer

overflow (when there's too much rain or snow melt, and the extra funnels into waterways) still causes water pollution. Because of the region's heavy industrial past, we sometimes have areas with toxins, such as lead, in the soil. Lead in the soil also comes from old paint chipping off of houses. Testing soil before planting a garden is wise so people know how safe food coming from their yard is.

Environmental health concerns may seem overwhelming. But Dr. Clougherty pinpoints a few areas on which to focus. She says, "The way to think about most environmental exposures is in tiny amounts, day by day, that add up over time. The other way to think about it is vulnerable periods. There are windows where people are going to be both highly exposed and possibly more likely to be affected by environmental hazards. For instance, plastic is of concern to children because they put everything in their mouths. Their systems are developing. They have smaller bodies. Try to buy Bisphenol A (BPA)-free plastic for children when you can. Use a water filtration device in the home and change the filter regularly. Save money for buying organic food that doesn't need to be peeled (like berries or apples). Always use the stove's exhaust fan when cooking."

"Doing certain things in your life to keep you and your kids healthy, like eating nutritious food, getting enough sleep, enough exercise, managing stress and quitting smoking, will make you less susceptible to whatever else you come in contact with. Just do the best you can," says Dr. Clougherty.

## Sources of lead in the environment

by Sheila Tripathy

Lead is a toxic metal that is found in air, soil and water. Lead has both natural and artificial sources. Some of these sources include industrial emissions, residual lead from gasoline and lead paint in older homes. Lead paint was banned in 1978 and lead in gasoline was phased out and banned in 1995, but both still remain in the environment.

### Exposure to Lead

People can be exposed to lead through breathing it in, contact with skin, and by eating it. Common examples of lead exposure include ingesting or inhaling lead from paint chips and eating vegetables grown in soil containing lead. Children are at an increased risk of exposure because they are more likely to put things in their mouths and are closer to the ground. Lead exposure disproportionately affects children because their brains are still developing.

### Health Effects



Lead poisoning is possible the most damaging environmental injustice. (AP Photo/Jim Cole)

Lead can cause damage to many parts of the body. In particular, lead targets the nervous system. Lead exposure can lead to adverse health effects, including learning disabilities, behavioral issues and mental retardation.

The Allegheny County Health Department (ACHD) recommends that all children under 7 get tested for blood lead levels. More detailed information can be found at <http://www.achd.net/lead/screening.html>.

### Lead in Gardens

People can be exposed to lead by eating food grown in contaminated soil. Urban soil may be contaminated because of paint chipping off of older buildings and industrial emissions deposited in soil. It's important to test soil before gardening. Information on soil testing from ACHD can be found on their website. Creating raised beds is an alternative solution. Raised beds use purchased soil instead of possibly contaminated soil.

### Reducing Your Exposure

ACHD's recommendations for reducing lead exposure include washing children's hands and toys, cleaning surfaces to prevent dust and having kids play in sandboxes instead of soil. More advice on how to reduce exposures can be found at <http://www.achd.net/lead/tips.html>.

### Additional Resources

Center for Disease Control and Prevention: <http://ephtracking.cdc.gov/showLeadPoisoningEnv.action>  
Environmental Protection Agency: <http://www2.epa.gov/lead/learn-about-lead#lead>

## What Is Environmental Justice?

by Jessie Carr Schmoof, DrPH

Across the United States and globally, people who live, work and play in the most polluted environments tend to be people of color and the poor. In Allegheny County, studies have shown that low-income communities have much higher levels of air pollution compared to higher-income areas.<sup>1</sup>

The environmental justice movement was formed by African Americans, Latinos, Asians and Pacific Islanders and Native Americans. It was formed in the 1960s to raise aware-

ness and organize solutions for unequal burdens of environmental hazards in disadvantaged communities.

Environmental justice is defined as the "fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies" (U.S. Environmental Protection Agency). Fair treatment means that no group of people should bear an uneven share of the negative environmental effects of industry, business or

government activities. Meaningful involvement means that people have an opportunity to participate in decisions about activities that may affect their environment and/or health. There is still a lot of work to be done. More information about the environmental justice movement can be found at <http://www.nrdc.org/ej/history/hej.asp>.

<sup>1</sup> Brink L, Benson SM, Marshall LP, Talbott EO. 2012. *Environmental Inequality, Adverse Birth Outcomes, and Exposure to Ambient Air Pollution in Allegheny County, PA, USA*. *J Racial and Ethnic Health Disparities* 1:157-162.