

What You Should Know

Salmonella and Listeria and E. coli—oh my!

BY DOUG FARQUHAR

Threats from the environment surround us. Last year, mosquitoes carrying West Nile Virus killed 283 people during the summer months. Then in September and October, an outbreak of salmonella in peanut butter occurred in 20 states. Listeria from Ricotta cheese led to 20 hospitalizations and four deaths in 14 states. And a bad batch of mangoes and another of cantaloupes led to more than 380 cases of salmonella.

When you add in the fact that every day 10 people drown and 87 are unintentionally poisoned, the world can feel like a very dangerous place.

Public health and safety has always been a focus of lawmakers and it continues to be, as they consider policies and programs that protect citizens from environmental dangers. Called “environmental health,” this umbrella term includes the laws that ensure food is safe and healthy to eat, that chemicals are managed in a safe manner, that vermin and pests do not spread disease. It involves the way we design our houses and communities and the products we use in our daily lives. It includes the standards that protect our drinking water, ensure waste water is clean, and determine “how safe is safe.”

It is the complicated system of rules and policies—intertwined among federal, state and local governments—that allows this nation to live in clean, safe and healthy communities. Put simply, “environmental health is about ensuring healthy habitats for humans—where people live, work, learn and play,” says former Oregon Representative Gail Shibley (D), who recently directed the environmental health program in her state’s department of health.

Part of this effort comes from the federal government, through rules established by the Food and Drug Administration, the Consumer Product Safety Commission and the U.S. Environmental Protection Agency. Research and guidance from the Centers for Disease Control and Prevention or the National Institutes of

Environmental Health Sciences guides decisions. But the vast majority of work on environmental health comes from state and local governments, who work day in and day out to guarantee that our food and water are safe to consume and our communities and homes are safe to live in.

Here are five things environmental health experts want you to know.



1 Safety First

Safety is the No. 1 priority of environmental health workers. They ensure that our food is safe, that public and private water systems are free from contaminants, that the air inside buildings is free of radon gas and mold spores, and that the materials used in building homes and businesses do not contain asbestos, lead or other toxic products.

“The U.S. has the safest food supply in the world,” says Joe Reardon of the Food and Drug Administration, “but we must work hard to maintain that safety.” That requires state and local authorities to identify threats, report outbreaks and work with the food industry to protect the public.

Recent outbreaks from Listeria and salmonella in cantaloupes, salmonella in peanuts and E. coli in lettuce were all discovered in state environmental health labs. The same is true with drinking water. The state lab confirmed salmonella in the drinking water of Alamosa, Colo., in 2008, which cost the city \$90 million to upgrade its system.

Environmental health programs also inform the public about how to avoid threats in areas not regulated or inspected. For example, private drinking water wells are usually never tested. And homes are often not inspected for hazards from pesticides, chemical cleaners, radon gas, paint with lead, carbon monoxide and mold.

The push for safer chemicals often comes from states as federal laws have not kept pace with the science. Recent legislation adopted in California, Connecticut, Maine, Massachusetts, Minnesota and Washington revised chemical safety laws, making them more in line with international standards and current science than their federal counterparts.

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2 Based on Science

If “state governments are the incubators of environmental health policy,” says Illinois Representative Mike Tryon (R), then “policies need to be based on science.”

And environmental health science requires scientists—toxicologists, epidemiologists, laboratories and inspectors.



*Representative
Mike Tryon (R)
Illinois*

“Without these people, environmental health cannot do its job,” says Ken Sharp, division director for the Iowa Department of Public Health.

Toxicologists determine at what level an agent is no longer safe but lethal since, as the adage goes, “the dose determines the poison.” Without toxicologists, there is no way to know if food, water and consumer products are safe for the public, making it impossible to set policy. But decisions made based on research and data are “the right decisions to make,” says Tryon. “We can’t let the policy get ahead of the science.”

Epidemiologists study the causes and effects of diseases and identify outbreaks. When Texas had an increase in cases of West Nile Virus this past summer, epidemiologists were the first to determine it was an outbreak, allowing other officials to kill mosquitoes before they could spread the disease further. State environmental health laboratories are essential to the work of these scientists. Lab results confirm whether a hazard exists, if an outbreak is caused by a specific agent, or if other factors are involved. Finally, it takes inspectors on the ground to ensure that harmful products are not being sold in stores, contaminated food is not being served in restaurants, and dangerous chemicals are not being used in buildings and swimming pools.

3 The Cost Factor

Environmental health agencies receive very little funding from state budgets, comprising about 8 percent on average. Fees and licenses imposed on businesses and individuals provide up to 50 percent of funding for environmental health in some states. Kentucky receives local tax dollars to support its environmental health efforts.

But by far the biggest source of funding for environmental health programs is the federal government. Through grants and contracts from its many agencies—the Food and Drug Administration, the Environmental Protection Agency, Department of Agriculture, Centers for Disease Control and Prevention, and others—it provides over 50 percent, or a little more than \$1 billion annually, to states. FDA and USDA fund food safety and meat inspections; EPA funds drinking water and air quality programs, and the CDC funds state labs. Many believe this federal money is essential in maintaining the environmental health infrastructure in this country.



*Representative
Sue Wallis (R)
Wyoming*

But not everyone is happy with this arrangement. Wyoming Representative Sue Wallis (R) believes the federal government is overreaching its authority. She argues that states already regulate every facet of environmental health—sometimes more than they should—and the federal government is even worse.

“Federal agencies such as the Department of Agriculture and the FDA don’t just regulate trade across





state lines, they regulate everything inside of them,” she says. And because it is so costly for businesses to meet all of these state and federal regulations, it causes a “horrific unnecessary drag on our economy.”

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Top Down Control

Even though some state laws are more up-to-date in certain areas, most environmental health programs are based on federal requirements. States have little authority to go beyond the federal mandates, which can make it difficult to address local concerns. “We need both the federal rules and the state policies to make environmental health work,” says Representative Tryon.

But currently, the federal rules are ahead in the count. The federal government not only pays for many programs, it directs the standards and decides the policies for most environmental health activities. For example, the Environmental Protection Agency sets the parameters for safe drinking water and indoor air quality. The Food and Drug Administration and Department of Agriculture determine the standards for safe food. States do not have the authority to deviate beyond federal standards of safety, even if doing so could address a local problem or concern.

“EPA sets standards for the nation, which are sometimes pretty ridiculous,” says Pres Allinder, director of Alabama’s Environmental Services in the Department of Health. “There are balances between public health and the state programs that EPA can’t take into account.”

To prevent serious outbreaks, state officials have the difficult job of working within specific federal parameters to insure the

safety of their residents. Unfortunately, this results in “many things that we are not doing that we should be doing, and things we do that aren’t necessary,” adds Allinder. EPA sets standards for storm water pollutant discharges into rivers based on national, instead of individual state, needs. “EPA standards are based on laboratory analysis that have no real world applicability.”

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A Focus on Locals

State environmental health officials must work cooperatively with their local health departments to ensure there are enough resources for these programs. “We work in partnership,” says Oregon’s Shibley. “We have intergovernmental agreements with our counties to perform the front line work in food protection, pool inspections, hotels and motels, and drinking water.”

The states need the local programs as much as the federal government needs the states. State and local agencies work hand-in-hand to make certain that the public is protected from environmental health threats.

Environmental health programs are designed to prevent problems, meaning unless these programs are not doing their job, there are no concerns. That leads to lawmakers cutting programs and limiting resources, until an outbreak occurs. Then they hear from constituents—loudly and clearly. Most citizens do not know all the effort that goes into ensuring only potable water comes out of their faucet, but they know when it’s brown and when it’s flammable.

Knowing more about environmental health efforts already in place, however, will help when that first constituent phone call rings.