

POLITICS OF POISON

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WHAT TO DO IF YOUR DRINKING WATER CONTAINS ARSENIC



David Heath

LAPEER, Mich. — Renee Thompson couldn't figure out why she was so sick all the time.

She suffered from chest pains, nausea and headaches. She'd be so tired she could barely walk. When she stayed home, she'd just get sicker.



Renee Thompson at her kitchen sink. Water from one faucet contains arsenic, used for washing. A second faucet provides filtered water free of the toxin, used for drinking and cooking.

David Heath/Center for Public Integrity

Thompson went to 13 doctors near her home in Ortonville, Michigan, before one finally decided to test her urine for arsenic. Her levels were in what was considered the normal range, but Dr. Edward Adler told her that many of her symptoms matched the profile of somebody poisoned by the toxin.

“I called my husband that day and said, ‘Please bring home water, because we can’t drink the water in the house anymore until we know this for sure,’ ” Thompson recalls. “We then checked the water in the house, and we found that we had high levels of arsenic in our well water.”

Soon, Thompson was feeling much better. This was nearly 20 years ago. Today, she and her two daughters say their health has improved dramatically since they switched to filtered water.

But millions of other Americans have no idea that they are regularly consuming arsenic.

Arsenic is an element found in the Earth’s crust, and it finds its way into food, water, soil and air. In 2000, the U.S. Environmental Protection Agency considered tightening the drinking water standard for arsenic — then at 50 parts per billion — to as low as 3 ppb.

Because of fears about the cost, the agency ultimately **set the standard at 10 ppb**

(http://www.epa.gov/nrmrl/wswrd/dw/arsenic/pdfs/ars_final_app_b.pdf) , though it said there was essentially no safe level of the toxin.

Some scientists believe there are **harmful effects** (<http://www.youtube.com/watch?v=6HVNpoFvRdk>) from arsenic below the drinking water standard. These include bladder, lung, liver and skin cancer, heart disease, strokes and diabetes. Recent studies have suggested that arsenic may cause IQ deficits in children and may be harmful to fetal development.

Arsenic levels in groundwater across the U.S.

By Jared Bennett and Chris Zubak-Skees

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Arsenic makes up part of the Earth’s crust and is commonly found in groundwater. In 2001, the Environmental Protection Agency lowered the drinking-water standard from 50 parts per billion of arsenic to 10 parts per billion. The agency had initially proposed a limit of five parts per billion but faced criticism that it would be too costly for water companies to hit that target.

Arsenic is known to cause a variety of cancers as well as being linked to heart disease, strokes and diabetes. Recent research has found an association between arsenic below 10 parts per billion and IQ deficits in children.

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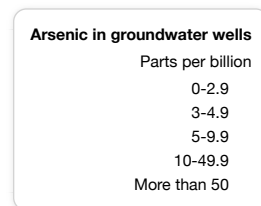
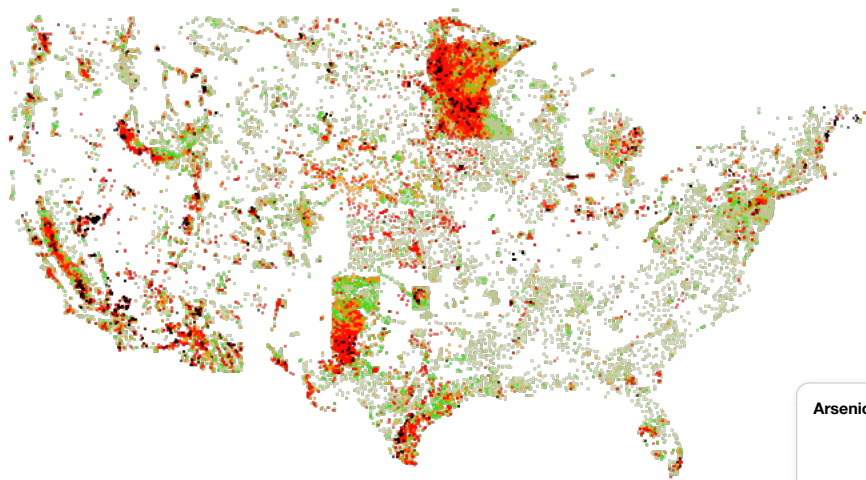


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This map is based on arsenic readings from 45,000 wells collected by the United States Geological Survey throughout the country going back four decades. In addition, the states of Texas and Minnesota provided data gathered on arsenic in private wells. In several other states, few readings were available.



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The easiest way to curb your exposure to arsenic is by paying attention to your drinking water. Federal law requires water companies to disclose the amount of arsenic in tap water annually. Often, you can go to the water company's website to find that information. Or, you could request the annual report over the phone.

If you drink water from a private well, it's unlikely that you've ever had it tested for arsenic. More than 40 million Americans drink from such wells; of those, the U.S. Geological Survey **estimates** (http://water.usgs.gov/nawqa/studies/domestic_wells/arsenic.html) that as many as 3 million consume water that wouldn't meet the EPA standard.

Arsenic is especially common throughout the western United States. Some states have hot spots, such as Michigan's "thumb" region, northwest of Detroit, where Thompson lives. Maine has some as well. Andy Smith, a toxicologist with the Maine Center for Disease Control and Prevention, estimates that about 80,000 people in the state drink water from private wells and another 9,000 drink public water that exceeds 5 ppb of arsenic. In isolated cases, wells in the state have had readings far above the EPA standard.

"When I look at our public water supply data and I don't see a lot of arsenic exposure, even in the 5 to 10 range, but I know I've got half the population of this state on private wells that still have not even tested their well, I know I have arsenic levels that are way above" the EPA limit, Smith said.

He suggests that private well owners get their water tested. Some states will do the tests for minimal cost. In Maine, the CDC charges \$20.

If you discover that your water has arsenic in it, you can install a reverse osmosis filter next to your kitchen

sink. Prices start at about \$200.

“It’s important to recognize that the current drinking water standard of 10 micrograms per liter was never claimed to be a safe level,” Smith said. “It is a risk-management decision that was made by U.S. EPA under the Safe Drinking Water Act that takes into account the health effects but also the cost of mitigating [them].”

Conventional wisdom holds that arsenic doesn’t cause acute symptoms except at extremely high levels. But **Dr. Michael Harbut** (<http://www.stjohnprovidence.org/PhysiciansDirectory/physician-detail.aspx?recid=4050>) , who specializes in occupational medicine in the Detroit area, said he’s seen scores of patients with classic symptoms of acute arsenic poisoning from drinking well water. You can find out if you have arsenic in your body with a simple urine test.

Harbut said that when patients with elevated levels of arsenic in their urine switched to distilled water, their symptoms eventually went away.

“If you start drinking distilled water you’ll cut the [arsenic] level in your body in half by this time tomorrow,” he said.

Even if you eliminate arsenic from your drinking water, you’ll still consume some in your food. *Consumer Reports* tested rice and rice products and found what it described as “worrisome levels” of arsenic, greater than five ppb. The magazine provides a list of **recommendations** (<http://www.consumerreports.org/cro/magazine/2012/11/arsenic-in-your-food/index.htm>) for limiting consumption of rice. They include cooking a cup of rice in six cups of water to remove more arsenic and occasionally substituting other grains, such as quinoa.

The U.S. Food and Drug Administration has said there is no immediate health risk from eating rice, but the agency is continuing to **explore** (<http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm352569.htm>) whether there may be long-term risks.

The FDA also has been looking at arsenic in apple and pear juice. Recent tests showed that all samples of apple juice would meet the drinking water standard. However, past tests found some juice that exceeded that standard. So, the agency has proposed a new standard for apple juice that matches the drinking water standard.

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