Healthy Living Feature Are You Drinking Contaminated Tap Water?

By JUSTINE VAN DER LEUN
Posted: 2009-09-18 15:51:54

Like many of you, we've been reading the New York Times "Toxic Waters" series with a mix of horror and confusion. AOL Health decided to take a closer look at their coverage of tap water, which exposed half a million violations of water pollution laws by manufacturers and other workplaces over the last five years, including dumping toxins thought to cause cancer. Most distressingly, state governments and the Environmental Protection Agency (EPA) declined to prosecute the majority of offenders that flout the Clean Water Act, which regulates the integrity of the nation's bodies of water. With 40 percent of U.S. community water systems in violation of the Safe Water Drinking Act, which sets drinking-water quality standards and is directly linked to the Clean Water Act, 23 million people received low-quality drinking water. We wondered: Could we become part of the estimated 19.5 million Americans that fall ill each year from drinking water contaminated with parasites, bacteria or viruses? To better understand the report, and the future of American water overall, we spoke to James Workman, author of the book "Heart of Dryness: How the Last Bushmen Can Help Us Endure the Coming Age of Permanent Drought" and co-founder of SmartMarkets, a private venture that secures a tradable human right to water.

AOL Health: In light of the New York Times's findings, should we be scared?

James Workman: A lot of it depends on where we live. If you're living on a Midwestern farm and drinking well water, yes, you should be scared. If you're living 50 miles downstream from a coal mine, yes. In other [urban and suburban] areas, like San Francisco where I live, we don't have the same threats. Still, when the Clean Water Act was passed [in 1972], you had sludge and rivers of fire, so you could see the aesthetic and environmental impact. Today, violations are more subtle. We have invisible, tasteless, odorless threats coming not just from big bad industry but from our lawns and worksheds and medicine cabinets.

AOL Health: The report discussed industrial threats, but you're bringing up dangers we create in our daily lives.

Workman: Yes. We tend to say the water polluters are out there: That huge power plant, that factory, the hospital dumping medical waste. It's true, and significant. But we also have to look closer to home. We fertilize our lawns and say, "Good, no snails." But that fertilizer soaks into the street, under our house, into the water system. We are used to abundance and excess, so we think that if a little bit of fertilizer and water are good, then a lot is even better, and we end up harming ourselves and our neighbors and wasting water. Also, the average American is taking more pharmaceuticals, which go through our bodies and are re-circulated through the sewage system into our water.

AOL Health: What are the symptoms and possible illnesses associated with contaminated water?

Workman: It's hard to say. A lot of the risks may not show up for years. Our bodies are incredibly resilient, so you can take in water with mercury or chlorine and you won't notice. But over time, not only does one thing build up, it usually combines in your body with something else. If you or a family member feels persistently sick over time, and you and your doctor can't attribute the problem to any existing factor and new exposure, you should ask your area to test your local water quality, and to post and publicize its findings on a Web site for all. This is something your utility should do free of charge, whether it is public or private. It's part of the responsibility that comes with being a monopoly. [Editor's Note: A good place to start? The EPA's Web site provides directions for finding out more information about your drinking water and the New York Times allows you to find water polluters near you.]

AOL Health: What can we do right now to make our water at home safer?

Workman: In immediate terms, there are ways to test your water. You can reduce your run-off, landscaping your property so that water doesn't just rush over into your neighbor's yard. You can use only what you need. You can put filters on your taps and showerheads. Make sure you have a filter that can combat bacterial issues and heavy metals. Boiling water is very useful. It's not necessarily a matter that we should be paranoid about, but it's worth taking a step to put in a filter.

AOL Health: So does this bring us back to the old tap water vs. bottled water debate?

Workman: I don't think tap water is bad and bottled water is good. Bottled water is often tap water put through another filter and not held to the same quality regulations as public utility water is.

AOL: Should people move if their water is contaminated?

Workman: That's for them to decide, weighing the risks, costs and benefits of doing so. Would I? Yes. Would the threat of even a fraction of people departing for a cleaner environment lead the local government to take action? You bet.

AOL Health: What can we do on a larger scale?

Workman: In practical terms, I run counter to the conclusion in the Times article, which says the best solution is that voters should watch Congress, Congress should watch the EPA, the EPA should watch states and states should watch for

pollutants. I would argue that we need to create systems and incentives on a local level. In other words, we should own, not rent our water.

AOL Health: I can see how people care more for something they own, rather than rent. But how can you "own" water?

Workman: There are two ways to own water: physically and virtually. In the physical sense, as in the developing world, people store and carry water they have bought or captured. That approach doesn't make much sense, though, for a country of 300 million urban Americans. So the second way, virtual ownership, means that we are credited a certain amount, just like a bank or debit card performs. This amount of water that we own (say, 100 gallons per meter) appears in our municipal water statements as a daily credit, for us to "spend" (by flushing toilets or watering the lawn) or "save" (by reducing and reusing and recycling in the home or office). By owning virtual water, we all have an equal incentive to conserve; we accumulate water credits that now have real economic value. The more of our owned water that we save, the more credit we earn to sell, donate or trade. We now get it for free, or pay so little, that we're not concerned with it. We allow others to manage it and look after it. Then you get a state or federal monopoly that controls every facet of your water and unless you want to uproot, you are beholden to a water supplier.

AOL Health: Why are violations of the clean water act allowed to persist, without prosecution?

Workman: If you were the state-appointed water quality regulator who found that the state's three largest water polluters (say coal mining, pig factory farming and a chemical plant) also happened to be the three largest campaign contributors to your boss, would you risk your job when no one you personally know is affected?

AOL Health: Is there any sign that the status quo will change, given the health implications?

Workman: I'm skeptical. Articles like this do an excellent job of raising a wave of awareness, but the regulatory system is too blunt and buffered and insulated to be very responsive in most cases. And the victims are typically poor and removed to the margins of power, and thus too easily ignored and forgotten or moved down the chain of priorities. Every reader feels sympathy; but unless a majority of us is adversely affected, or the families of politicians get sick from bad water, change is an uphill struggle.

AOL Health: If the current Clean Water Act were enforced would it go far enough, or do we need further protection?

Workman: My sense is that in the right hands the Clean Water Act works well as a broad sword, and acts as a great, if clumsy, shield, but the water quality battle is now more nuanced and diffuse than it was in 1972. Lawn runoff, storm drains and flushed toilets add up to a real problem. Given that we have 300 million individual sources of potential pollution — that is, all of us play some role in water quality — I would argue that what is needed is, rather, more transparency to empower people, incentives for individual action, and more local "ownership" of water so that people and communities are rewarded for protecting rivers and providing better quality water.

States With the Most Toxic Tap Water

10. New Mexico

Between 1998 and 2003, nearly 3,000 violations of tap water regulations were reported in New Mexico. About 1.3 million people drank water that contained amounts of arsenic that exceeded health limits set forth by the Environmental Protection Agency (EPA). Arsenic, the consumption of which can cause cancer and blood toxicity, is a metal that enters water either by erosion of natural deposits or from runoff from glass and electronics factories.

9. Ohio Ninety-two contaminants, primarily from industrial sources, and a smaller portion resulting from sprawl and urban pollutants, were detected in the Ohio tap water. The population exposed to substances in excess of safe limits: 9.6 million residents. The health effects of these contaminants include cancer and a weakened immune system.

8. Pennsylvania Testing detected 96 contaminants in the Keystone State's tap water, 44 of which exceeded health limits. The biggest culprits: industrial pollutants. Analysis showed that 9.3 million residents were exposed to total trihalomethanes (TTHMs) — and 8.8 million were exposed to amounts over health-based limits. TTHMs are water-treatment and distribution byproducts; their potential health effects include cancer.

7. Nevada In Nevada, 85.9 percent of water systems violated the health-based drinking water standards. Possible health effects of the 100 contaminants found in state tap water include cardiovascular or blood toxicity, cancer, developmental toxicity and skin sensitivity.

6. New York One hundred and four contaminants were detected in New York State tap water, including nitrate, barium, copper, chloroform and lead. More than 800,000 New Yorkers were exposed to amounts of chloroform, which can cause cancer and endocrine toxicity, that exceeded health-based standards. Water that contained contaminants that exceeded health-based limits was served in 418 communities.

5. Texas More than 17 million Texans were exposed to contaminants that exceeded healthy limits. Nearly 12 million citizens in over 1,000 communities turned on their taps to water that included, among other compounds, excessive and potentially dangerous amounts of bromodichloromethane, a byproduct of disinfectants that can cause cancer, cardiovascular or blood toxicity, gastrointestinal or liver toxicity, kidney toxicity and neurotoxicity.

4. Florida Among the 17 million people exposed to a combination of over 107 contaminants, 9.2 million were exposed to the mineral barium, which seeps into water from drilling and mining runoff as well as erosion of natural deposits. Of these,

25,000 were exposed to amounts of barium that exceeded health limits. Over 11 million Floridians also may have consumed radium-226, a radioactive element found around uranium deposits that can potentially cause cancer, in their water. And 11,113 people were exposed to excessive amounts of it.

3. North Carolina In this state, 6.1 million citizens were exposed to 59 contaminants that exceeded the EPA's limits. Nitrate, which can have a negative impact on kidneys, blood, the heart and the reproductive systems, was the most common contaminant. The suspected carcinogen enters water through fertilizer runoff, leaching septic tanks and erosion of natural deposits. Bromodichloromethane showed up in amounts that exceeded health limits in 373 communities, exposing 5 million people to potentially dangerous amounts of the toxic compound.

2. Wisconsin One thousand eighty-nine local water systems serve nearly four million people in America's cheese capital. Of those systems, only 51 produced uncontaminated water. The most prolific of the 118 contaminants detected were copper, lead and barium — from drilling, mining, industrial waste, corrosion of household plumbing systems and the erosion of natural deposits. Copper may harm cardiovascular health. Lead can cause cancer and harm development, among other potential risks. Barium can have a toxic effect on the brain, the lungs and the reproductive organs.

1. California The Golden State's local water systems showed 145 contaminants, nearly half of which exceeded health limits set forth by the EPA. A majority of the people who use this water were exposed to this water that was primarily contaminated by industrial waste, like nitrate, and to a lesser extent acetone and lithium — substances for which the EPA has not established a legal limit.

For the full report, including affected communities and state breakdowns visit http://www.ewg.org/tapwater/national/.

2009-09-18 13:52:54