# Don’t Drink the Water

May 12, 1995 By Amy Feehan

Everywhere, it seems, people are shrieking about water safety. From magazine covers. In newsletters and newspapers. During TV news teasers. In terms of pure, visceral appeal, few images can surpass that of thousands of Milwaukee citizens lining up for bottled water after an eruption of the intestinal parasite Cryptosporidium in the water supply flattened 400,000 and killed 100, the latter mostly people with AIDS. In fact, Milwaukee has become a modern-day Alamo to the advocates of clean-water reform.

Yes, Milwaukee was in 1993, and another major outbreak of Cryptosporidium has yet to occur. Are clean-water advocates just preying upon the fears of PWAs to advance their own agenda? Or are we teetering on the verge of another Cryptosporidium disaster?

On this subject, let me be very clear: Milwaukee can happen again, and probably will. Because at this point, scientists, politicians and activists can’t even agree on how Milwaukee happened in the first place. Much less on how to prevent it.

David D. Doerr, a third-generation glassworker in Las Vegas, takes codeine and small prescribed doses of opium to ease the cramping pain he’s been dealing with since contracting Cryptosporidium from an outbreak in the Las Vegas water supply in May 1994. Although the Vegas outbreak affected at least 79 people, it received a fraction of the media attention Milwaukee did. Now part of a clinical trial on the effects of azithromycin against the parasite, Doerr, 30, wishes he had been warned Cryptosporidium was in the water instead of being part of data collection after the fact. His cramping never goes completely away. “I always know [the Crypto] is there. I feel everything,” Doerr says.

For scientists, divining where Crypto lurks is not so easy. Tests are not completely reliable, which complicates estimating the degree of risk to water supplies. According to Joan Rose, an associate professor of marine sciences at the University of South Florida and an expert on the parasite, Crypto is found in 87 percent of America’s surface water. All told, more than 20& million Americans who drink unfiltered water from lakes and rivers may be at risk for cryptosporidiosis, the intestinal disease caused by the parasite. Even so, there is currently no law that says communities have to monitor for Crypto contamination. ’“What is amazing about what happened in Milwaukee is that at no point during the outbreak was the city breaking the law. That is a fatal flaw in the current regulation system,” says Joe Schwartz, associate director of policy for Physicians for Social Responsibility.

In order for Crypto to get into drinking water, waste from infected mammals, usually farm animals such as cattle, must somehow, somewhere, get into a community's water supply. That could happen if heavy rains wash waste from farms or slaughterhouses into surface water supplies or if raw or treated sewage is allowed to leak in. Naturally, Crypto is more common in surface water supplies that receive runoff and in farm states, but the parasite has been found in private wells and in places with little agriculture.

Much like HIV, Cryptosporidium is a stealth organism. In feces, the parasite is in its egg stage, called an oocyst. The oocysts, once in water, are seemingly unstoppable, impermeable even chlorine, the most common disinfectant used in water treatment systems. The tests water purification plants routinely rely on to detect biological contaminants do not pick up the presence of Crypto. The parasite too is so tiny that it can slip through many of the best filters and screens. Hence, Crypto is very good at getting through water treatment systems—even filtering systems—and making it all the way to your tap.

And if it does, you won't know it. You can't see, smell or taste it. In fact, the oocysts are so small that a million can fit in one eight-ounce glass of water. If your CD4 count is under 200 and you ingest just one oocyst, let alone a million, you're at higher risk for cryptosporidiosis. Symptoms appear two to 10 days after infection and may include watery diarrhea, headache, abdominal cramps, nausea, vomiting and lowgrade fever. Most HIV negative people exposed to a tiny close of Crypto won't get sick, but for those who do, a bout of cryptosporidiosis is an excruciating couple of weeks. For people with AIDS, it can be a death sentence. No definitive treatments for the disease exist. This is serious.

To some AIDS activists and clean-water advocates, the whole debate boils down to money, to an unwillingness to spend millions of dollars on a new water treatment system that primarily benefits people with HIV or other causes of immunosuppression. Carol Browner, head of the Environmental Protection Agency (EPA), bristles at that suggestion. "Cryptosporidium is a public health issue—not a money issue. What happened in Milwaukee is a tragedy that should never again occur."

Browner, who has a reputation for balancing the concerns of business and the environment, knows that's a lot easier to say than to do. She contends EPA delays in Crypto regulation stem not from lack of concern but lack of data.

"I am very concerned about this issue. That's why I have given it such prominence," she says from her office in Washington, D.C. 'The EPA is moving on two tracks. We are taking all the steps we can today to prevent Cryptosporidium from entering the drinking water, and we are moving expeditiously to develop technology to filter for Cryptosporidium. We certainly believe there is a need for federal safety levels for Cryptosporidium. What that level should be is less clear," Browner says.

Fortunately, the EPA soon may learn more about Cryptosporidium and be able to determine what are safe levels for consumers. The EPA has said it will issue a ruling sometime before October 1995 that will require all water systems that serve more than 10,000 people to start looking for

Crypto in their raw water, and if found, to monitor for it in their treated water. Some major cities have begun to voluntarily monitor for Crypto. The EPA says it is still working on developing warning system to be used in cases where Cryptosporidium is found in treated water.

But even if we did know the best way to keep the parasite out of drinking water, cities and towns are currently so strapped for money, that the question becomes where the funding for any new technology would come from. Local water utilities say they would have to pass costs on to consumers, who are likely to oppose such a burden.

An ongoing debate/turf battle between the EPA and these same local water utilities over how water quality standards should be determined is slowing down what progress is being made. The utilities, supported by congressional Republicans, don't want costly and unfunded national standards imposed from Washington. They want to focus resources toward removing contaminants specific to their region.

"We seek a commonsense approach to the problem," says Mike Collins, an aide to Representative Tom Bliley (R-VA), the leading House Republican on health issues. "Under current legislation, local water utilities have to test for more than 70 chemicals, some of which are complete phantom risks, such as a chemical that is only used in pesticides for pineapples. After all that required testing, there is very little cash left over to do what's necessary to protect people against Cryptosporidium." Joan Dent, spokesperson for the American Waterworks Association, agrees. "We really have not looked a water in terms of what are the most significant health risks," she says.

Money and politics aside, there's the issue of how to actually remove the parasite. One of the country's leading Crypto researchers and director of research for the private American Water Works Service Company, Dr. Mark LeChevallier, enthuses that science will be able to overcome contamination in the water supply, despite the current obstacles. He also believes the EPA shouldn't rush into anything.

LeChevallier emphasizes that there is currently no consensus as to the best way to remove Crypto from raw water: Should it be filtering, more chlorine, or a combination thereof? "Research is pointing to a 'multiple hit' theory—the use of two or more disinfectants—as a way to kill Cryptosporidium," he says.

At least one issue is finally being addressed: The lack of a unified plan among key players in the drinking-water game. The EPA, the Centers for Disease Control and Prevention (CDC), the water utilities, consumer groups, AIDS activists and public health and environmental protection departments are beginning to sit down together after a lot of time spent talking past each other.

"We are attacking the problem of Cryptosporidium on several fronts," Carol Browner says. "We are asking communities and cities to test their source water for Cryptosporidium, while jointly developing ways for the HIV/AIDS community to manage the problems currently presented by Cryptosporidium.

A working group formed by the CDC to study the problem of Cryptosporidium includes scientists,

AIDS activist, environmentalists, consumer advocates and representatives from the EPA. The CDC said it plans to release guidelines regarding cryptosporidiosis soon, including information for people with HIV, says Dr. Thomas Navin, acting chief of the epidemiology branch of the CDC's Division of Parasites. 'The CDC is investing a lot of time and effort in responding to what is clearly a critical health problem," Navin said. The CDC is about to publish a group of scientific articles on Cryptosporidium, as well.

In Congress, unfortunately, it may take another Milwaukee to make water the sexy issue it was 10 or 20 years ago. Drinking-water safety has been knocked out of the political spotlight by issues such as crime and welfare reform. The two granddaddy water legislations—the 1972 Clean Vlater Act (CWA), which protects watersheds from pollution, and the 1974 Safe Drinking Water Act (SDWA), which mandates safe drinking water for consumers—are outdated. The SDWA was amended in l986 to set limits on 83 known problem causing contaminants such as lead, but standards for Cryptosporidium were not included. Chemicals remain the most regulated of contaminants because they have been linked to cancer in humans. Very few studies have been conducted linking waterborne parasites to diseases in humans.

To date, Congress has not been successful in updating clean-water legislation. The Senate Environment and Public Works Subcommittee currently is considering a bill (S. 1114) that would renew the 1972 Federal Water Pollution Control Act. The bill's sponsors—Max Baucus (D-MT) and John Chaffee (R-RI)—want to reduce invisible water pollutants such as waste carried by rain, without limiting business and development interests.

In 1994 the House and Senate failed to reach a compromise on a reauthorization of the SDWA. The House version of the failed bill, co-sponsored by Rep. Henry Waxman (D-CA), Tom Bliley's predecessor as chairman of the powerful Congressional Energy and Commerce, Health and Environment Subcommittee, called for the development of regulations by 1998 for levels of Cryptosporidium in drinking water. The Senate's version contained an amendment by Senator Herb Kohl (D-WI) calling for $12 million for Cryptosporidium research, and an amendment from Senator Barbara Boxer (D-CA) requiring that susceptible populations be considered in setting standards for contaminants. Environmental and consumer groups hope the SDWA will eventually be strengthened.

Interestingly, even if Congress were able to reach a compromise on reauthorizing the SDWA, the Republicans' so-called Contract With America contains several provisions that would likely stop any new legislation from being implemented. Carol Browner points out that the Contract even affects existing water regulations because it calls for the downsizing of the EPA. "There certainly are provisions in the Contract With America which would make it extremely difficult-if not impossible-for the EPA to do its job," Browner says. "We would strongly oppose any such provisions." Mike Collins counters that the EPA deregulation called for in the Contract would actually improve water quality by allowing local water utilities to shift funds now spent on phantom risks to Crypto or other locale-specific concerns.

Drinking-water legislation is important, but it wouldn't be necessary if contaminants such as

Cryptosporidium were never allowed in water supplies in the first place-this is called watershed protection. Take, for example, New York City. Once able to brag it had the “champagne” of drinking waters, it now has to contend with Cryptosporidium and many other contaminants because of increasing water pollution. Robert F. Kennedy, Jr., an environmental lawyer and follower in his late father’s footsteps, blames the problems on the city water department, whose policy regarding Crypto is described by Kennedy as one of “don’t look, don’t tell.”

“The city was ordered in November of 1993 to create and implement a Cryptosporidium monitoring program. That has yet to be implemented,” Kennedy says. He argues that since sources of Cryptosporidium clearly exist, monitoring should be mandatory. “There are 102 sewage treatment plants discharging into New York City’s drinking water,” Kennedy says, referring to smaller treatment plants operated by prisons, hospitals, schools and small housing developments. “On any given day, 30 percent or these sewage treatment plants are in violation of their federal Clean Water Act permits.” Some of the violations are grotesque, he says. "The Bedford Correctional Facility in upstate New York has, by its own record, violated its permit 10,000 times in five years. It regularly dumps raw and partially treated sewage from its prison population into New York City’s drinking water.

Kennedy firmly believes the primary focus anywhere should be watershed protection. “Even if New York City ends up having to filter the water to remove disease-bearing organisms and pollutants, some contaminants will pass right through filtration plants. If we don’t stop development and begin to protect the water supply, New York residents will end up with lower quality water at much higher prices.”

Kennedy says his environmental law clinic is planning on filing 40 lawsuits against sewage treatment plants in New York in order to protect the once-pure water supply from future harm.

A Chicago law firm is also busy filing lawsuits pertaining to water contamination. The firm of Cascino & Vaughan is representing some 800 individuals who either died or required hospitalization when the outbreak of Cryptosporidium occurred in Milwaukee.

Hopefully, no more people will have to die before we see improvements in drinking water legislation regarding Cryptosporidium and in public warning systems. AIDS activists say they would like to see the EPA react as quickly to outbreaks of Cryptosporidium as it has to scares of lead contamination. More research linking drinking-water to gastrointestinal diseases will probably be needed to accomplish that.

Much as with other AIDS-related diseases, a cure for cryptosporidiosis will require pressure from AIDS activists for more research by the CDC and the National Institutes for Health. Kennedy says he is “very grateful”“ for the work AIDS activists have done to further the cleanwater cause. ”The progress we have made so far has been in large part due to the activism and involvement of the gay and HIV community in New York. Representatives of ACT UP and Gay Men’s Health Crisis (GMHC) have been present at water hearings and have written city commissioners on this issue," Kennedy says.

People with AIDS, especially those with CD4 counts below 100, can take precautions against cryptosporidiosis (see H20 411). AIDS agencies such as the National Association for People with AIDS (NAPWA) are recommending people change their lifestyles to reduce their risk of contracting waterborne diseases. “Our philosophy is, even if we do not have all the answers, let’s give people the information so they can make a decision for themselves about their drinking water,” says Lisa Ragain, public policy advocate for NAPWA.

To be fair, one should note that every PWA in America is not hanging by a thread against death from cryptosporidiosis. In fact, some people feel the cryptosporidiosis threat is being overstated in the recent media hoopla. Leading cryptosporidiosis researcher Dr. Donald Kotler says, “The point we’re all missing is that the environment is danger—period—if you don’t have an immune system. Even if we could effectively screen for or filter away Cryptosporidium we could not provide anyone with total protection from the environment.” But that’s not the point of the alarm.

Milwaukee was a wake-up call that the quality of water in America is diminishing and that something has to be done. Milwaukee has become a “working lab” for the EPA, as well as for communities nationwide, to study what will work to stop the threat of Cryptosporidium. Milwaukee has upgraded its filtration plants and adopted a new warning system in which susceptible populations are notified first. Since the outbreak, residents there have been more than happy to spend money on improving water treatment systems. Does it have to take a disastrous repeat in, say, New York City, to get the whole country to do something?

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