United States Environmental Protection Agency
Office of Water (4606) Washington, DC 20460
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America's Drinking Water in 1997

Every day, millions of people turn on their taps to get a drink of the water provided by one of over 50,000 community water systems in America. Almost all of these water systems consistently provide safe water for their customers; in 1997, over ninety percent of all community water systems had no violations of any health-based drinking water standards.

In 1997, 88 percent of the population served by community water systems received drinking water with no reported violations of any health-based standard.

This summary report highlights important information about drinking water from the 1997 National Public Water System Annual Compliance Report (EPA 305-R-99-002), the Environmental Protection Agency's second report on drinking water quality in America. This summary focuses on community water systems, or those that serve the same people year-round (e.g. in homes). For information on other water system types (e.g. those that serve rest-stops, campgrounds, or seasonal residents), please refer to the complete 1997 report. Private drinking water wells are not regulated by EPA.

Drinking water is protected nationally through the Safe Drinking Water Act, which is administered by EPA. EPA sets drinking water safety standards by regulating over 80 specific contaminants. Drinking water contaminants include anything that may have adverse effects on human health. EPA has divided these contaminants into four different categories (see the chart on the next page). All drinking water, including bottled water, can reasonably be expected to contain small amounts of some contaminants. Usually these contaminants do not present a health threat. However, when contaminant levels exceed safety limits, the water may be unsafe for some people to drink.

EPA's regulations: 1) set safe levels (maximum contaminant levels) for contaminants in drinking water or specify requirements for treating water to make it safe, and 2) set monitoring and reporting requirements that specify how often water must be tested to ensure it is safe. A water system is said to be in violation of a safety standard if: 1) it puts public health at risk by providing water containing levels of specific contaminants above EPA's safety levels or failing to comply with required treatments, or 2) it fails to carry out or report the required monitoring. EPA considers violations of the first type to be health-based violations, as they may adversely impact human health. Monitoring violations (the second type) are also important, because if drinking water is not properly tested it is impossible to know if health-based standards are exceeded. This report, as well as EPA's full report, focuses only on significant monitoring violations, or those where the water system failed to take a significant number of the required samples.

Water systems are responsible for meeting all drinking water safety standards, for notifying their customers when there is a problem with the water, and for testing their water for contaminants and reporting the results to the appropriate state agency. States report information on water systems to EPA.

Types of Drinking Water Contaminants

The potential health effects of drinking water contaminants may be either acute or chronic: contaminants with acute effects may immediately impact health; contaminants with chronic effects may impact health if ingested at unsafe levels over many years.

Lead and Copper (acute/chronic)

The Lead and Copper rule requires all water systems to control for the amount of lead and copper in tap water. Lead usually enters the water supply through lead pipes in the home or the water distribution system. Infants and children who drink lead in excess of the action level could experience delays in their mental or physical development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. Copper is an essential nutrient, but some people who drink copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their doctor.

Viruses and *Giardia* (acute)

The Surface Water Treatment rule requires disinfection and filtration for most systems that get their water from a surface water source (such as a river, lake, or reservoir) or a ground water source that comes into contact with surface water. Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

Coliform Bacteria (acute)

The Total Coliform rule applies to all water systems, and requires them to test for the presence of coliform bacteria. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. A violation of this rule means either that high levels of coliforms were found in the water, or that harmful bacteria (fecal coliforms or *E. coli)* were found. Fecal coliforms and *E. coli* indicate that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.

Chemical Contaminants (acute/chronic)

Nitrates/Nitrites (acute) – All water systems must test their water for nitrates and nitrites. Infants below the age of six months who drink water containing nitrate or nitrite in excess of safety standards could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.

Radionuclides (radioactive particles) (chronic) – Standards for radionuclides apply to all community water systems. Some people who drink water containing radionuclides in excess of safety standards over many years may have an increased risk of getting cancer.

Organic Chemicals (solvents & pesticides) (chronic) – Standards for organic chemicals apply to all community water systems. Some people who drink water containing organic chemicals in excess of safety standards over many years may have an increased risk of getting cancer or experiencing other adverse health effects.

Inorganic Chemicals (e.g. asbestos & cyanide) (chronic) – Standards for inorganic chemicals apply to all community water systems. Some people who drink water containing inorganic chemicals in excess of safety standards over many years may have an increased risk of getting cancer or experiencing other adverse health effects.

Total Trihalomethanes (products of the reaction of drinking water disinfectants with organic material) (chronic) – These standards apply only to community water systems serving more than 10,000 people. Some people who drink water containing trihalomethanes in excess of safety standards over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

Findings

Most Americans continued to have safe drinking water in their homes and work places in 1997.

In 1997, 88 percent of the population served by community water systems received drinking water with no reported violations of any health-based standard. Of the people affected by a violation of a health-based standard, most received water from a system that violated the standard that protects against viruses and *Giardia*. This standard applies to systems that draw from a surface water source (such as a river or lake), and usually requires the system to filter and disinfect its water. Many major urban water systems rely on surface water sources, and the failure of several of these systems to filter their water accounts for the large number of people affected by this violation. The other health-based standard that was frequently violated in 1997 was the coliform bacteria standard. The remainder of the health-based violations affected far fewer people.

There were more violations of significant monitoring and reporting requirements than of health-based standards in 1997. Although more *systems* violate monitoring and reporting requirements than health-based requirements

(17 percent of systems vs. 8.5 percent), fewer *people* (7 percent of people vs. 12 percent) are served by systems with these violations. This is because most of the monitoring violators are small water systems; large water systems tend to have more resources and trained staff available to help ensure compliance with monitoring requirements.

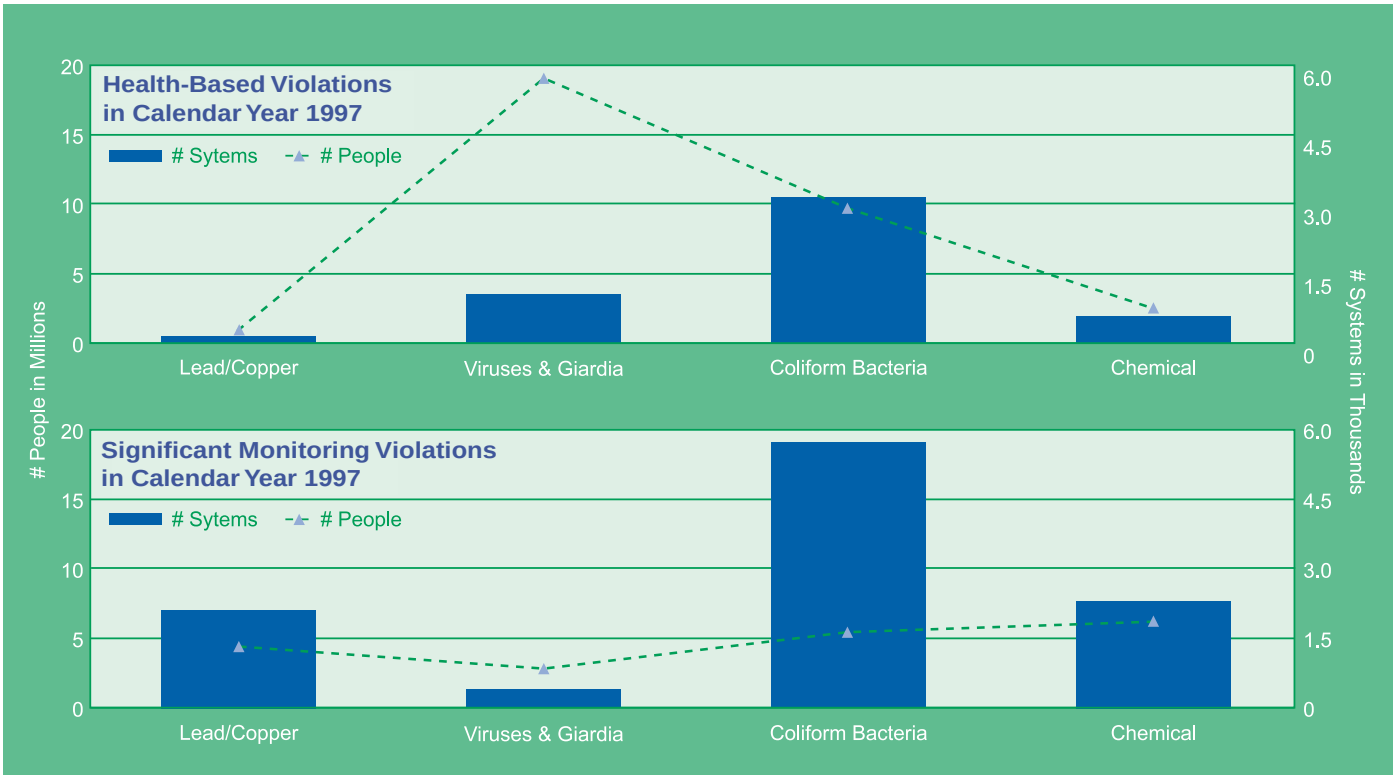
Small systems had a difficult time complying with the monitoring requirements for coliform bacteria in particular and, to a lesser extent, lead, copper, and nitrate. See the charts below for more details.

Water Systems On Indian Reservations

EPA currently manages the drinking water program for all water systems on Indian reservations, as no tribes have yet attained the authority to run the drinking water program. In 1997, there were over 700 community water systems on Indian reservations serving 400,000 people. These water systems encounter many of the same problems that other small water systems do. In 1997, these systems experienced relatively more monitoring (but not health-based) violations than other categories of water systems, including other small systems. For example, a third of all water systems on Indian reservations had monitoring violations for coliform bacteria, compared to 11 percent of non-tribal community water systems, and 12 percent of non-tribal small community water systems.

Helping Systems Meet Safety Standards

Both EPA and states have the authority to take action to guarantee that the water provided by systems meets safety standards. States engage in a variety of activities to help water systems remain in, or return to, compliance. These activities include: visiting water systems; helping systems invest in preventive measures; providing financial assistance for system improvements; conducting training sessions; and holding public information meetings. States also have operator certification programs that require water system operators to be licensed by the appropriate authorities.

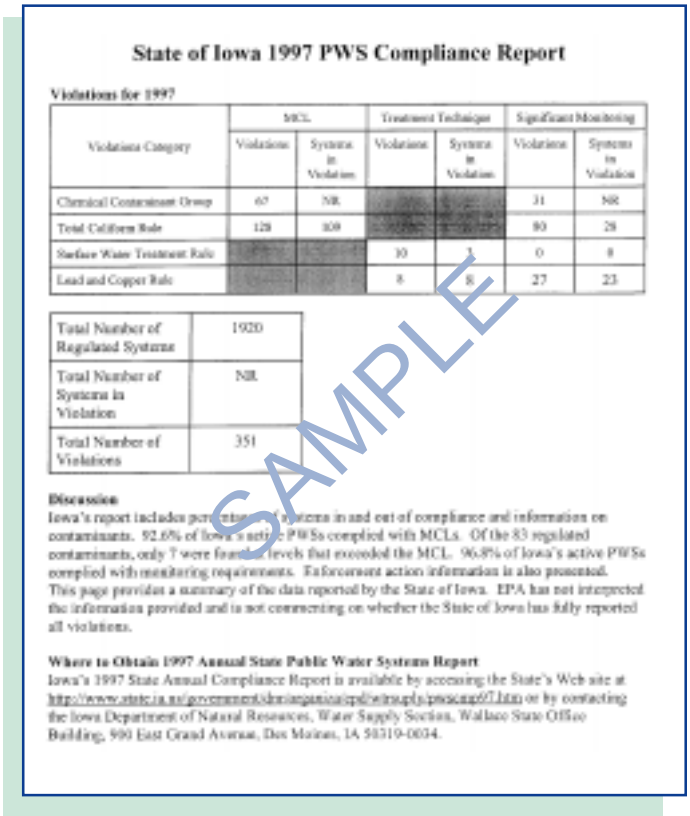


Conclusions and Recommendations

The 1997 national water quality report concludes that drinking water in America is generally safe and continues to improve. However, to ensure its continued safety, EPA, states, tribes, and water systems need to work together to ensure that all water systems deliver safe and affordable drinking water. In particular, EPA is focused on helping the smallest water systems meet drinking water standards. This help includes low-interest loans through the drinking water state revolving fund, training, and technical assistance. Another of EPA's current priorities is working with its partners to ensure that the data being used to analyze the drinking water program are complete, timely, and accurate.

EPA's national report is available on the Internet (at http://www.epa.gov/safewater/annual/) or by calling the Safe Drinking Water Hotline (see number below). You may also obtain a summary of your state report from EPA (see sample on this page). Each state report summary shows the specific number of violations in your state and information on how to obtain a copy of your full state report. Many complete state reports are also available on state web sites.

EPA's full report includes summaries of state reports and is available on the Safewater Web Site or from the Safe Drinking Water Hotline.



State of Iowa 1997 PWS Compliance Report

Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	67	NR			31	NR
Total Coliform Rule	128	109			90	28
Surface Water Treatment Rule			10	3	0	0
Lead and Copper Rule			6	6	27	23

Total Number of Regulated Systems	1920
Total Number of Systems in Violation	NR
Total Number of Violations	351

Discussion

Iowa's report includes per[illegible] systems in and out of compliance and information on contaminants. 92.6% of Iowa's active PWSs complied with MCLs. Of the 83 regulated contaminants, only 7 were found at levels that exceeded the MCL. 96.8% of Iowa's active PWSs complied with monitoring requirements. Enforcement action information is also presented. This page provides a summary of the data reported by the State of Iowa. EPA has not interpreted the information provided and is not commenting on whether the State of Iowa has fully reported all violations.

Where to Obtain 1997 Annual State Public Water Systems Report

Iowa's 1997 State Annual Compliance Report is available by accessing the State's Web site at http://www.state.ia.us/government/dnr/organization/epd/wtrsupply/pwscomp97.htm or by contacting the Iowa Department of Natural Resources, Water Supply Section, Wallace State Office Building, 900 East Grand Avenue, Des Moines, IA 50319-0034.

For more information about your local drinking water, contact your water supplier directly. Beginning this year, water suppliers are producing annual water quality reports, also called consumer confidence reports, that show what contaminants have been detected in drinking water and whether the water system has violated any drinking water safety standards (water systems have to notify customers immediately if there is ever a drinking water emergency). These reports must be provided to consumers by October 1999 and may already be available. Look for your report in the mail, or call your water system to find out when the report will be available. EPA also has a web site (see address below) with information about local drinking water quality, including information on individual water systems and contacts for more information at the state level.

- **EPA's Safewater Web Site** (http://www.epa.gov/safewater/) can provide you with more information on the Safe Drinking Water Act, on individual water systems, on contaminants that may be in drinking water, and on activities you can take to help protect the sources of your drinking water.

- **EPA's Safe Drinking Water Hotline** (1-800-426-4791) can answer questions about drinking water and provide referrals for more information. You can also order documents from EPA, including the 1997 National Annual Public Water System Compliance Report.