

Public Perception and Trust of U.S. Drinking Water Quality

By Linda F. Golodner

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In a nutshell...

This article examines public trust and factors affecting consumer confidence in the quality and safety of drinking water provided by community water systems. It highlights the results of a recently completed national survey of 2,200 U.S. adults by the American Water Works Association.

Most Americans enjoy year-round access to safe drinking water at home, work, and school from the turn of a tap for pennies per treated gallon. The Water Quality & Health Council has written extensively over the years on the [importance of safe drinking water](#)—particularly the historical and ongoing role of [drinking water chlorination](#)—to protect public health.



As stated by the U.S. Centers for Disease Control and Prevention ([CDC](#)), “The United States is fortunate to have one of the safest public drinking water supplies in the world.” But national statements of the overall safety of U.S. drinking water do not apply to all communities and households all the time. And consumer perceptions of drinking water quality and safety can and do vary geographically, over time, as well as by race, socioeconomic status, and many other factors. These perceptions and the factors that can affect them are often evaluated by surveys. Such polls can help the drinking water community to identify and address consumer concerns as well as to strengthen overall public trust in U.S. drinking water.

Safe Water from Source to Tap

Every day, almost 50,000 community water systems, most of which are very small, serve treated drinking water to over 300 million Americans. Since its enactment in 1974, the Safe Drinking Water Act (SDWA) has remained the regulatory blueprint for protecting our nation’s drinking water. (Roughly 15 percent of Americans get all or part of their water from private wells, which are not regulated under the SDWA.) We have previously described the provision of safe water from “source to tap” as a [pyramid](#) of science/engineering, regulatory, and communications-based technologies and activities. Starting at the national level and building upward to individual homes, these overlapping barriers to contamination help keep our tap water safe and consumers healthy and hydrated.

Community Drinking Water Protection

Supplying safe drinking water relies on central collection, treatment, and disinfection of “raw” or source water. It also requires a vast network of pumps, tanks, and pipes to safely store and send high-quality, treated water to millions of U.S. homes, businesses, and schools. EPA regulations to ensure safe drinking water extend down to our communities. For example, the SDWA and EPA require each community water system to deliver a Consumer Confidence Report ([CCR](#)), typically online, each year to their customers. Also called annual drinking water quality reports, CCRs provide information about local drinking water sources and quality. EPA further requires community water systems to notify their consumers if there is—or could be—a problem with their drinking water quality through temporary [boil water advisories and/or notices](#).

Household Drinking Water Quality

Despite steadily increasing [bottled water consumption](#), and very small increases in local [“gray water” reuse](#) of household wastewater for things like flushing toilets and gardening, most of us rely on fully potable tap water for all of our domestic uses. For those particularly concerned with water quality in their homes, especially taste and odor concerns, a wide variety of [NSF-certified](#), point-of-use (PoU) devices (e.g., kitchen sink tap filters) are commercially available. Whole house/point-of-entry (PoE) water treatment systems, including UV light, water softeners, and filtration units, are also available to further reduce specific contaminants to levels below EPA health-based drinking water standards. PoE systems are usually located near the water meter or pressurized storage tank for homes using well water. But no matter how “high tech” these in-home PoU or PoE systems might be, all require proper and regular maintenance to remain effective.

Highlights from the AWWA Survey

In June 2020, an online survey, “Public Perceptions of Tap Water,” was conducted on behalf of the American Water Works Association (AWWA), a nonprofit, scientific, and educational association dedicated to managing and treating water. A high-level [summary of the results](#) is available; the survey included a national sample of 2,200 adults. The results were weighted to approximate a target sample of U.S. adults based on gender, educational attainment, age, race, and region. Of these respondents, 88% are served by a water utility while 12% use a private well. A more detailed report of [complete survey results](#) is also available.

Three out of four (77%) Americans served by a water utility rated the quality of their tap water as either excellent or good. Interestingly, tap water quality was rated higher among adults who used (presumably privately owned) well water (89% excellent or good). The most commonly reported factors affecting the perceived rating of tap water quality were taste, clarity, and odor. Less than 1 in 10 survey participants believed their drinking water quality had decreased over the past five years, while 78% of consumers served by water utilities stated that they are “satisfied” with their tap water. Black and Hispanic respondents, however, reported a lower overall level of satisfaction in their water than white respondents, as did those with household annual incomes less than \$100k. Notably, the survey showed that U.S. consumers who recalled receiving a CCR from their water utility in the preceding year were more satisfied with their water than those who did not. They were also more likely to rate their water quality as “excellent.”

AWWA’s leadership concluded that the water community needs “to do a better job of reaching water consumers in ways that are meaningful to them, listening to their concerns, and communicating through

the channels they prefer.” They also concluded that “there is still a lot of work to do to earn trust among Black and Hispanic water consumers and among people with low and middle incomes.” The latter finding is consistent with the [results of similarly-sized, June 2020 survey](#) by the same researchers who conducted AWWA’s survey. The other survey focused on environmental justice, racial, and socioeconomic factors affecting differences in tap water quality and trust.

Drinking Water Quality and Consumer Trust

AWWA’s recent survey shows that most Americans generally trust their tap water quality and safety. But consumer perceptions can and do vary across our diverse nation, revealing at least some level of disconnect between actual and perceived drinking water quality and safety. It is a complex and sometimes controversial topic as well as an evolving field of research. A quick internet search finds many recent studies and discussions ranging from local, [university-based](#) survey research results to [mainstream media commentaries](#) on why we should trust, or distrust, our drinking water. What we do know is that the vast majority of Americans are served by tens of thousands of community water systems of all sizes that regularly test and meet all EPA drinking water regulations, or notify consumers when they do not. We also know that outbreaks of waterborne disease [continue to decline](#), but are dominated by *Legionella* bacteria and problematic building water systems. Of course, there are well-known failures in drinking water supply and communications about its safety—perhaps no more visibly than in [Flint, Michigan](#), where strong doubts remain about drinking water quality six years after lead leached into the poorly maintained public water supply. Moreover, Flint also experienced a [major Legionella outbreak](#) with scores of cases of Legionnaires’ disease and several deaths.

From our perspective, most Americans can place their trust in the treated and regulated drinking water from the tap that we rely on, not just for drinking, but also for cooking, bathing, clothes and dish washing, toilet flushing, as well as gardening and filling swimming pools. Finally, we encourage everyone to read their utility’s CCR (which can be [accessed locally online or from EPA](#)) and to ask questions if you don’t understand something (and complain when appropriate). Beyond delivering high-quality water to homes, utility workers also serve the community by addressing consumer concerns and improving trust in tap water quality.

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