

The Impact of a Water Supply Disruption in a Small Community

Small water supply systems in the United States typically do not have the resources or expertise to deal with or counter the impact of a contamination event or major water supply disruption. This is especially true of the media storm that could occur if such an event was associated with terrorism. The magnitude of this possibility is much larger than many citizens and government officials will acknowledge.

There are about 170,000 public water systems in the United States according to the Environmental Protection Agency (EPA). They are classified as follows:

Very small water systems - 25 to 500 people served

Small water systems - 501 to 3,300 people served

Medium water systems - 3,301 to 10,000 people served

Large water systems - 10,001 to 100,000 people served

Very large water systems 100,001 + people served

Approximately 45,000 of these water systems are classified as small or very small. These small water suppliers include towns, small cities, water districts and municipalities.

Typically, they are headed by a mayor, director, general manager, city manager or executive manager. They may be managed by a board of directors or city council. Security is often provided by the local police department or state patrol. In many cases there are fewer than 10 people involved in supplying water to the consumer. Often, these people do not have any formal security or media relations training.

One of these small water supply systems, Walkerton, Ontario, Canada faced a crisis in May 2000. This system, supplying 5,000 people, was contaminated by an E. Coli:O157 and a Campylobacter jejuni epidemic. In less than a month, 2,300 people were sick and 7 people were dead.

The economic impact on this small community was staggering. The total cost of this tragedy was estimated to be at least \$64.5 million and if the cost of human suffering is factored in an estimated \$155 million. Each household in the town spent about \$4,000 on average for system repairs, replacement, cleanup, decontamination and medical bills as a direct result of the contamination. The entire water system was replaced or rebuilt. It cost the town of Walkerton more than \$9 million to repair the water supply infrastructure.

Additional economic costs included the following items. Real estate values dropped a total of \$1.1 million. Business costs for bottled water and disinfecting or replacing contaminated equipment was estimated at \$70,000. Lost business revenues from May 1, 2000 to April 30, 2001 were estimated at \$2.7 million. The Government of Ontario spent more than \$3.5 million in legal fees and another \$1.5 million to supply clean water to state institutions.

But the worst impact may well have been the psychological effect on the public. One of the long term impacts can be seen in the following comment by a Walkerton resident.

"It could be years before anyone here turns on a tap without wondering if the water is safe."

Walkerton was a small town where everyone knew everyone else. Many knew those who died or became seriously ill. Friendships were severely tested and some were destroyed. Lifelong friendships were torn apart by the legal battles that followed when blame was debated in both the media and the courthouse.

For example, parents of soccer players from the neighboring towns were afraid the Walkerton players were infected and could infect their kids with the deadly bacteria just by talking, playing or interacting. Even some adults were afraid of getting too close to coworkers. They did not want to take the chance.

The Walkerton tragedy continued to impact the area almost four years after the event. This incident was the result of operator error and not premeditated in any way. It was also not associated with terrorism and happened a year before the September 11, 2001 attack on America.

Because the United States has the safest water supply system in the world, we tend to take it for granted. We have very little understanding or even awareness of the infrastructure and operating procedures it takes to make this vital liquid available to us. In our country, terrorism would be one of the first things suspected in any water disruption or contamination incident. This makes most customers of these small water systems very susceptible to any rumor, media misquotation or disinformation. As in Walkerton, local officials would be hard pressed to counter the impact of such a disruption due to the lack of public awareness.

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