NATIONAL PREPAREDNESS LEADERSHIP INITIATIVE

Meta-Leadership Lessons from the 2010 Massachusetts Water Emergency

An NPLI Case History

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Meta-Leadership: Massachusetts Water Emergency

The water main break in Weston, MA that affected two million people. (Credit: WCVB News and The Boston Channel)

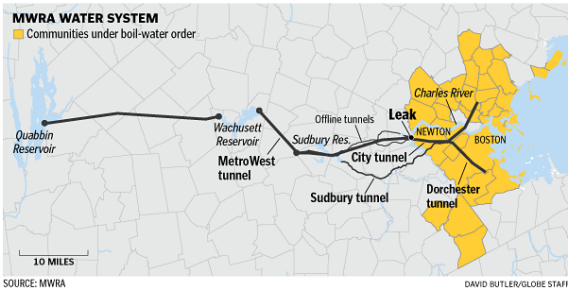
Background

On May 1, 2010, the 10' wide pipe that carried fresh water from reservoirs into Boston and its surrounding communities burst. While the flow to the tap was never interrupted, the break made it necessary for as many as 700,000 households, comprising two million people, to boil their water before drinking it. The break was called "catastrophic" and Governor Deval Patrick declared a state of emergency. When the rupture occurred, the projected time to repair the leak was indeterminate although expectations were set as days, not hours.

At the center of the response were two individuals from the NPLI: Don Boyce (Cohort IV), then Director of the Massachusetts Emergency Management Agency (MEMA)[1] and Don McGough (Cohort VI), Director of the Mayor's Office of Emergency Preparedness in Boston.

Plans Come to Life

The pipe failure required that residents be immediately notified that a "boil water order" was in effect; the water flowing to their homes and businesses was being drawn from emergency reserves not subject to standard treatment processes. The event provided an opportunity for a "live test" of automated emergency notification systems that had been put in place including reverse 911 calls (more than 150,000 such calls were placed



Map of the pipeline and affected communities. (Source: MWRA)

to households in greater Boston), e-mails, and text messages. Boyce noted that they were able to use the state's Health and Homeland Alerting Network to pinpoint communications to identified emergency personnel in the regions where the affected communities were located.

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[1]Boyce was appointed Regional Administrator of FEMA Region 1 on May 19, 2010.

The Boston Globe reported that one Boston suburb, Swampscott, reached 5,000 of its 5,500 households and businesses within five minutes.

Other methods of notifying citizens included social networking sites like Facebook and Twitter (MEMA had gone “live” on those sites just months prior but had not yet actively used them), traditional media alerts, and flashing highway signs. Some residents and businesses got the news the old-fashioned way from police officers who were dispatched to restaurants and elderly housing areas, and even simply took to roaming the streets with bullhorns. Also mobilized to spread the word were existing local non-profits such as Meals on Wheels that regularly served at-risk populations.

Highway signs advised residents of the boil water order. (Credit: Craig Walker/Wicked Local)

“We were in immediate touch with the MWRA (Massachusetts Water Resources Authority) to clarify how MEMA could best support the efforts of the MWRA. MEMA took a large component of the coordinating role that left the MWRA with the opportunity to focus on the repair. MEMA, the MWRA, and other state, local, federal and proprietary organizations were represented at the MEMA bunker for the duration of the event. There was no ‘taking’ of authority, the responsibilities for the response were on the Governor and all the state agencies involved collaborated to get the job done. After the initial press alert from the MWRA, all communication and coordination worked through MEMA,” Boyce said. He noted that this allowed the MWRA to focus on the engineering issues – its forte – and MEMA to engage in the response activities for which it is most qualified. It facilitated “one coordinated voice leaving no room for confusion or misinterpretation,” Boyce added.

“This worked well now but was also a crucial test of the system we’d have to use in the event of a terrorist attack or other major event,” said McGough. He noted aside from minor hiccups, overall the system worked well. An additional plus, the event spurred thousands of people to sign up for Boston’s alert notification service which will enhance future response efforts. It is important to use “everyday disasters” to test the systems that are in place and enhance public understanding and participation.

Paul Biddinger, Associate Director of Harvard’s Center for Public Health Awareness, Director of Operations for Emergency Medicine and Medical Director for Emergency Preparedness at Massachusetts General Hospital in Boston (and member of the NPLI’s National Advisory Board), said that recent efforts to improve emergency notification had shown dramatic results and that even just two years earlier the results would not have been as good.

Coordinating the Political Response

McGough reported that he was on the phone with Don Boyce, Director of the Massachusetts Emergency Management Agency (MEMA) as soon as he heard the news.

“Both Don (Boyce) and I knew that it would be important to have the Governor and Mayor on the same page,” he said. He noted this was both to promote consistent messaging to the public and to help coordinate decision making. “In terms of Meta-leadership, I knew that I needed to lead up and across simultaneously.” (See “About Meta-leadership” below for further information).

Boyce was out-of-town for the weekend when he received word of the break. “I grabbed the first thing I could – a cardboard box – and wrote down who I needed to contact and what steps I needed to take before heading back. Don (McGough) was high on that list along with the MWRA, National Guard, key federal, state, and local agencies, the Red Cross, and other private concerns who might be called upon.”

Boyce was pleased to see that the Governor and Mayor came immediately to MEMA headquarters, also known as the “bunker” because it was built during the Cold War to withstand a nuclear attack. Getting politicians to the “bunker” allows them to be briefed by the relevant technical experts and ensures more consistent messaging to the public. His goal is to maintain a consistent process no matter the type of event (in this case the governor’s move to the bunker), because consistency diffuses chaos.

Once the decision was made to provide bottled water to the affected communities, “MEMA essentially became a warehousing and distribution operation,” Boyce said. He pointed to a relationship with the Office of Procurement that had been further developed and enhanced under the Patrick administration and allowed them to begin obtaining water right away. He also had representatives from some of the major private sector water suppliers come to the EOC.

One example of coordination and public-private partnership use of an old supermarket distribution center – identified by the mayor as the water distribution center – to several affected cities and towns. “We were able to ramp up staffing quickly,” added McGough. He also noted, however, that better delineation of city versus state portions within such a distribution center would avoid confusion in future events. These such arrangements must be predetermined.

McGough noted that the city decided against general water distribution to the public because boiling water was sufficient to meet most needs of most people. “What we had would have gone quickly – but not necessarily to those most in need. It took great political leadership from the Mayor to resist the pressure.”

Understanding Who is Most in Need

McGough said that with a limited supply of clean water to distribute, it was important to get it to the most vulnerable: the homebound, the elderly, the homeless, and similar populations. He noted that he wished that he knew more about these

populations in advance. “As more and more care facilities, such as assisted living communities, go private, public officials have less visibility into exactly who is where and what their needs are,” he said. He also explained that some channels of communication are “hidden” from officials, so they engaged police community service officers and personnel from the Elderly Affairs Commission to help find as many of those who might need bottled water as possible.

Water being delivered in Watertown, MA by the National Guard (Credit: Jennifer Kelly Ryan/Wicked Local)

Special orders for 40 truckloads of bottled water – approximately 1.4 million bottles – were delivered to the area according to industry group the International Bottled Water Association.

Boyce cautioned against having public entities purchase water to give to private enterprises. Instead, he explained, “If I heard that a hospital had a need, I would instruct the hospital’s water supplier, if present at the State Emergency Operations Center (SEOC), to divert water they might be providing for MEMA's use to the hospital along with the appropriate bill for the water. We wanted to make sure that they got the water they needed, but not to appear to use public money to favor any one private entity over another.”

“In need” covers information as well as supplies. After the crisis passed, one advocacy group filed a civil rights complaint against the state because officials did not provide simultaneous translation of press conferences in American Sign Language. Responders in a crisis will be challenged to meet the expectations of varied populations, none of whom will want to feel that they were put at unnecessary risk.

In addition, McGough also said that the City needed a better advance understanding of all resources at its disposal, such as how many trucks would be available to deliver supplies and from where they would come. It was reported, for example, that the National Guard picked up 11 truckloads of bottled water directly from one company’s warehouse. Advance knowledge of all available resources will speed a future response.

Some Panic May be Inevitable

New Englanders see their fair share of difficult circumstances, especially due to weather. In the face of a blizzard, for example, there is almost a buoyancy in the air as people gird for the snowy onslaught. However, “[w]e don’t see a lot of ‘no notice’ events,” noted McGough. There was ample evidence that many members of the public went to the “emotional basement” in the face of this threat. A trip to the “basement” is triggered when the hindbrain activates a basic survival instinct – the “fight, flight, or flee” response – in the face of a threat. Strategic, reasoned thinking

remains at bay until the basement descent is overcome.

Even though ample water was available through the tap (simply in need of boiling), there were reports of people waiting in lines for hours to purchase bottled water and many local stores selling out.

These behaviors and results were not rational given the ready supply of water and an easy way for most people to render it safe to drink.

This reaction is an example of the concept of “emotional immunity”: many people in the Boston area are resilient in the face of events frequently experienced, such as blizzards, yet that same immunity did not exist for the unexpected water main break even though it was a lesser threat for most people. Such novel events are more likely to cause a descent into the “emotional basement” due to a lack of emotional immunity.

Bottled water was sold out at local stores. (Credit: Steve Annear/Wicked Local)

Nevertheless, McGough did report that “people took care of each other” and that this incident made the population more resilient in his opinion. He planned to highlight this incident in future public awareness campaigns for preparedness to help build societal resilience.

Know Your Limits; Plan for Handoffs

MEMA and the Massachusetts National Guard (MNG) have worked closely since a 2008 ice storm to coordinate and make best use of each agency’s resources. MEMA has the capability to rapidly activate, mobilize, and respond, while the MNG takes longer to engage and compile a "fighting force" it can then sustain for a protracted period. Once running, MEMA exercises may options for operation that can sustain the element of command and control at the SEOC. Through a pre-existing agreement, Emergency Management Assistance Compact (EMAC), MEMA can request resources from the MNG, a regional (local) Incident Management Assistance Team (IMAT), a Federal IMAT, or resources from other state emergency management agencies.

Communication, Communication, and More Communication

As noted above, Boyce and McGough coordinated immediately to ensure that their respective bosses, the governor and the mayor, were consistent in what they were telling to and asking of the public.

McGough learned that the media doesn’t always follow and that in future responses they will approach work with the media “more as a partnership.”

Coordination was also needed with the emergency directors of each of the affected communities and all the primary agencies. Regular conference calls were held to disseminate information and answer questions.

Minor breakdowns in coordination of water deliveries between MEMA and the National Guard were reported as their logistics systems were not fully integrated. A truck that was expected at Point A at 2 p.m. by MEMA might actually have been directed to Point B by the National Guard because it was more efficient, yet this decision left those expecting water at 2 waiting for several hours for another truck to arrive. Boyce reported that both organizations learned lessons to be incorporated into future plans.

Frustrated residents await a delayed water shipment. (Credit: Joseph Webb/Quincy Patriot Ledger/Wicked Local)

Other Key Take-aways

- Never waste a crisis. Although the water main break was relatively benign in the end, it did provide an excellent chance to discover bugs and gaps in the system that could have far greater consequences in a future event. Look to non-emergency, major events – in Boston they are typically the Boston Marathon and the Fourth of July celebration on the Esplanade – that can serve as live tests.

- The emergency response and the political response will each take on lives of their own as an event unfolds. Collaborate early and often to keep key players aligned.

- Work ahead of time to understand the true needs of the population (some segments may not be easily visible) and the resources you'll have on hand to serve them.

About the National Preparedness Leadership Initiative

The NPLI, a joint program of the Harvard T.H. Chan School of Public Health and the Harvard Kennedy School of Government, was established in 2003 at the request of the federal government. The program conducts research on homeland security, emergency preparedness, public health and public safety leaders in times of crisis and change, turning lessons learned into an executive education curriculum, case studies and scholarship that highlight best practices.

About Meta-Leadership

The Meta-leadership framework and practice method is core to the NPLI's curriculum. The methodology has been developed and tested through years of field research, academic inquiry and real-time feedback from practitioners. It continues to evolve. "Graduates of the NPLI executive education program report that this framework has made a significant difference when applied in their real world problem solving and crisis response," said NPLI Founding Co-director Leonard Marcus. "They reach out to one another and coordinate their actions more pro-actively than they otherwise would have. This sort of Meta-leadership in a crisis or other major event has important public health impact, insofar as agencies are better able to serve the population and reduce the loss of life."

The Meta-leadership framework has three dimensions to teach leadership skills:

1) The Person of the Meta-Leader: self-knowledge, awareness, and discipline;
2) The Situation: discerning the context for leadership, what is happening and what to do about it;
3) Connectivity: fostering positive, productive relationships. Connectivity includes four key directions:
    a) leading down the formal chain of command to subordinates - within one's chain of command - creating a cohesive high-performance team with a unified mission;
    b) leading up to superiors, inspiring confidence and delivering on expectations; enabling and supporting good decisions and priority setting;
    c) leading across to peers and intra-organizational units to foster collaboration and coordination within the same chain of command, which includes other departments, offices or professional groups within the same organization.
    d) leading beyond to engage external entities, including affected agencies, the general public and the media to create unity of purpose and effort in large-scale response to complex events.

The Meta-leadership framework and vocabulary are commonly used across many homeland security, preparedness and response organizations. Faculty have conducted hundreds of training sessions, including executive education programs at Harvard, as well as on site programs at the White House, Departments of Homeland Security, Health and Human Services, Defense, Veterans Affairs, the CDC, Secret Service, FEMA Transportation Security Administration and numerous private sector organizations.