

The Flood

A Case Study in Assurance and Leadership
Mid-America Regional Leadership Institute Year 15 Fellows

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The City of Robinson is located along the picturesque Muddy River. This big, beautiful river has a history of winter ice jams causing flooding of some of the adjacent low lying areas. Two neighborhoods in Robinson, Atlantis Dr. and Sunken Blvd., which until a few years ago had been predominately summer cottages, have been affected by the flood waters many times. These communities are constructed within the 100 year floodplain. Water front property in this area has been increasing in value and it is considered a very desirable place to live. Therefore, many of the property owners in these neighborhoods have chosen to live in these homes year-round.

The Robinson City Health Department (RCHD), Environmental Health Section, has two sanitarians that have been with the department for 20 years and had an Environmental Health Director that retired in late 2004 after 38 years of service. In early 2005, RCHD hired a new Health Officer (Mr. Ivan) who was formerly a KGB agent, and a new Environmental Health Director who had tremendous experience in mortuary science (Ms. Rigormortis). This new team had ideas for significant departmental change and immediately began declaring their authority by reorganizing. This met with resistance from staff who had a long history of effectively carrying out the goal of the RCHD Environmental Health Division: To provide protection from environmental threats through education, collaboration, and enforcement of laws and regulations that assure a safe and healthy future for Robinson residents.

In the first week of January, 2006 a large ice dam formed on the Muddy River causing the worst flood in 40 years. Sunken Blvd. and Atlantis Dr. were the areas most severely affected. Most homes had about four feet of standing water in their main floor, and many cars were under water. Drinking water well heads were completely submerged and the residential septic systems saturated.

The Sunken Blvd. and Atlantis Drive neighborhoods consisted of approximately 60 homes and cottages that were built in the 1940's and 1950's. The structures were built prior to public health regulations for well and septic systems and before city/township building regulations had been developed. Neither well nor septic systems met modern public health code standards for floodplain areas. However, it is important to note that the local health department's environmental health section had been routinely inspecting and passing the well and septic systems in these neighborhoods for years. The neighborhoods had been informally “grandfathered” through the system due to the extreme cost and difficulty of completely updating the well and septic systems to current standards. In some cases, costs of updates would force some residents to sell their properties.

Residents in the Sunken Blvd. and Atlantis Drive neighborhoods evacuated their homes voluntarily during the 2006 flood. These residents were forced to find alternative housing with family or friends, at local hotels, or they accepted emergency housing assistance from the Red Cross. These families were also expected to continue to pay their mortgages on homes that were underwater and uninhabitable.

From an environmental health standpoint, the following public health issues were identified by the RCHD for the homes and property within the flooded areas:

1. The drinking water supply was threatened and exposed to surface water contamination from the Muddy River, and potentially from raw sewage from the flooded septic systems.
2. Septic systems were saturated and non-functioning which meant the systems were either backing up into the homes or spilling over into the groundwater and surface water.
3. The conditions of the homes themselves were compromised due to the standing water and ice, the future drying process, and subsequent potential mold problems.
4. Structural foundations were compromised due to ice flows and the heavy forces of water.

In addition, electric power had been cut off to the neighborhoods during the flooding due to safety concerns.

Approximately one week after the flooding forced residents from their homes, a town hall meeting was held at a local elementary school as many residents began to ask what they would need to do to move back into their homes. Ivan the Health Officer, representatives from law enforcement, and the city met with residents to discuss the problems caused by the flood. Ivan the Health Officer chose to steadfastly uphold his interpretation of the public health code and told residents at the town hall meeting that they would not be able to move back into their homes until their well and septic system were brought up to the current health code. This message was delivered as an autocratic directive with little compassion for the situations the residents faced. This set the stage for the residents to become very angry and distrustful of the RCHD.

This situation presented a great number of problems for the citizens affected by the flooding, as well as challenges for the public health staff who had to contend with its aftermath. Certainly, this event offered an opportunity for the Health Department's key decision makers to exercise leadership and demonstrate good decision-making while ensuring the health and safety of the community.

The environmental health team had the responsibility in this situation to investigate the impact the flooding had on private water and sewer systems; monitor the health of the citizens affected; inform and educate the public regarding health issues the flooding caused; collaborate with community partners to help identify and provide solutions for

immediate and future problems; and uphold laws and regulations to protect the community's health. All tasks would have to be completed while working under public pressure in a challenging environment. The need for leadership was clear to ensure necessary services were maintained and community needs addressed.

In the early stages of the flood, multiple agencies were involved to address the situation including; the health department, the city authorities, utility companies, the County Emergency Services Director, city police, the fire department, Federal Emergency Management Agency (FEMA) and the State Department of Environmental Quality. Despite some very qualified individuals, no agency or individual took charge of the situation, or helped residents understand how they could get back into their homes. One resident of the area was quoted in the local paper, "We just want some honest answers. I thought the government was supposed to help us. Why do we pay taxes?"

It was 2-3 months before the ice dam melted and flood waters completely receded. Many residents claimed financial burden and difficulties due to the flood.

As the floodwaters slowly withdrew, Ivan the Health Officer declared the septic systems had failed and therefore could not operate again. In a department meeting Ivan said, "I don't care what it costs to fix them, nobody moves in without our approval; NOBODY." Ms. Rigormortis agreed, stating, "Although I don't really know how a septic system works, I know this isn't good."

In March 2006, in his attempt to assure compliance with the public health code, Ivan the Health Officer assembled the environmental health staff to "discuss" the options for rebuilding the affected septic systems. Ivan directed that residents would have to install new systems which met current code before they could return to their homes. Options approved by Ivan the Health Officer included:

- 1) Building individual sewage holding tanks on stilts. These tanks (about \$5,000 per tank to install) must be pumped out every two weeks at a cost of \$200-\$300 per pump.
- 2) Constructing 6-foot elevated septic mounds to meet flood level elevation requirements which would cost each residence approximately \$10,000.
- 3) The residents could build a community sewer system at the cost of over \$1,000,000 (roughly \$20,000 per residence).
- 4) All drinking water wells would have to be tested, and replaced if not installed to current sanitary code (many were shallow wells with no construction record, and therefore, did not to meet current requirements).

At the same time, the City Planning and Grants Department was working with FEMA to apply for a grant that would buy the flooded homes. This option failed as the Governor refused to declare a State of Emergency because the emergency was not large enough. Another Federal grant was pursued that would buy the properties at 75 % of appraised value, and the purchased properties would be deeded to Robinson City (approximately 1/3 of the home owners later elected to enter into this agreement). Finally, the State

Department of Transportation (SDOT) became involved and announced that it was interested in buying four properties in the neighborhood as part of a future highway expansion.

Unfortunately, the residents viewed this activity as a forced government land acquisition. A resident was quoted, “They don’t care about us, they just want our land. I don’t trust any of them.”

Investigation of these options stalled progress for approximately 2-3 months (May-June 2006) after the water had receded. The residents were still unable to move back into their homes, and many were running out of resources and temporary housing. It was suspected that a few residents had returned to their homes illegally.

After months of heated debate, mistrust, anger, and inaction, a major change in the situation came when Ivan the Health Officer and Ms. Rigormortis resigned together to leave the stress of local government and start an alpaca farm. Ivan was heard saying as he left, “This is the most dysfunctional city government I have ever seen. Llamas are smarter than these people.” Ms. Rigormortis agreed, stating, “Although I don’t really know much about llamas, I know this isn’t good.”

For the first time in the six months since the flood began there was an opportunity for alternate opinions and direction. Critical partners in the situation began to think “outside of the box” and considered potential alternatives to the interpretation of the sanitary codes that would allow residents to move back into their homes safely. The City Administrator, new Health Officer, new Environmental Health Director, and other subject matter experts met and proposed the following criteria for resettlement:

- 1) Wells needed to be disinfected and water samples needed to pass inspection.
- 2) Wells needed to be physically protected from future flood exposure by either elevating casings or using a “snorkel” system.
- 3) Septic tanks needed to be pumped by certified haulers and receive a certificate of inspection.
- 4) Contingencies were put in place so when the owners went to sell the homes, the well and septic systems would need to be brought up to code which included installing holding tanks.
- 5) Home owners would need to move out of their homes if the area flooded again. The affected water and septic systems would have to be re-evaluated prior to resettlement.

Home owners were offered these options as well as the buy-out option at a second town hall meeting held in late June 2006. The goal of this meeting was to get information to the home owners so they could make informed decisions about their properties and futures. A very different approach to assurance was used at this town hall meeting. The focus was on answering questions, listening to the concerns of the residents, problem solving, and working collaboratively with other agencies. One resident said, “They finally sent someone to listen to us, and fix the problem.”

The Health Department continued to hold public meetings monthly as residents considered the various options and slowly returned back to their homes. Meanwhile, residents who had returned to their homes prior to the clean-up, called the Robinson City Health Department and local health facilities complaining of hay fever-type symptoms, running nose, itchy red eyes, and skin rashes. As these calls poured in, it was evident that there was no policy to mitigate other health hazards, such as mold. There was disconnect between environmental health functions and personal health functions to address such issues. Previous leadership had frowned upon inter-department collaboration between both divisions and had created animosity and a lack of communication within the organization.

The new Health Officer and new Environmental Health Director worked with the Health Education Division to create educational fact sheets related to mold exposure. Additionally, a 1-800 hotline number was established in collaboration with the Information Services Department to educate the community about possible mold exposure. The Health Officer worked with the City Administrator to provide options for hiring private companies to remediate the mold problems. The clean-up and recovery phase continued over the course of several months.

Teacher and Trainer's Guide: The Flood

There are many different styles of leadership. A good leader must remain flexible as different issues often require different strategies. Leadership is dynamic, and there is no universal list of leadership traits that apply to all situations¹. During this event, it was important for the public health leader to support and enable the public health staff to act, as this situation required not only leadership but more leaders. By empowering others to act, leadership responsibilities could be shared. Communication was also a key issue; it was important to communicate and build trust with the citizens affected. A good leader is able to take complex information and simplify it so it has meaning to a broad audience. Likewise, the ability to communicate difficult information while leading others forward is vital to success. In addition, it was equally important for the leader to cultivate collaboration with community partners. This situation could not be handled solely by the Health Department.

Natural disasters can cause events that lead to public health emergencies. Assurance and policy development play crucial roles in mitigating disasters. Although sheltering is not a basic function of public health, enforcing laws and regulations that protect and ensure safety is an essential public health service. This includes meeting both the environmental and personal health needs of the community. In developing solutions to community problems, a local health department must engage residents and essential community partners in a form of collaborative leadership. This leads to connectivity and creative solutions.

Connectivity also spans across other agencies to create forms of meta-leadership that links public health, law enforcement, city, and county government. The new Health Officer assessed the emotional and cultural intelligence of the community, presented them with options, educated residents on potential hazards, and effectively managed the public health emergency. Meta-leaders exercise good active forms of leadership to lead up in an organization, and cross organizational boundaries to protect the health and welfare of community residents.

Participant questions:

1. From the perspective of the homeowners in the neighborhoods of Atlantis Drive and Sunken Boulevard, what were the positive outcomes of the leadership of Mr. Ivan? List the key facets of his leadership qualities with examples of each.
2. If the population affected by the flood in this case study were wealthy homeowners instead of citizens using former summer cottages as year-round residences, what different pressures might the community's leadership (e.g., health officer, city elected officials, state officials) have experienced in the early days following the flood? Three months following the flood? How might this impact the public health

assurance function implicit in this case? What additional community stakeholders might have been involved in this case from the outset?

3. Who is responsible for this public health crisis? What steps might have been taken in advance of January 2006 to prevent this natural disaster? What may have prevented these steps from occurring prior to 2005, when Mr. Ivan was hired?
4. What were the leadership principles employed by the new Health Officer, following the reported hay fever-type symptoms and skin rashes? Who were the stakeholders involved in the solution and what role did they play?
5. Compare the options provided to affected residents by Mr. Ivan and the new Health Officer. How did they differ? How do the leadership principles on which they are based differ?

¹ P.M. Senge et al., *The Fifth Discipline Fieldbook* (New York: Bantam, 1994).

The Flood: A Case Study in Assurance and Leadership

Abstract:

In January 2006, a large ice dam on the Muddy River caused heavy flooding in the town of Robinson City. Two older neighborhoods, Sunken Blvd. and Atlantis Drive, were most severely affected. Residents in these neighborhoods voluntarily evacuated as four feet of water flooded their homes and caused the contamination of their wells, saturation of their septic systems.

As flood waters receded, residents began to question when and how they could move back into their homes. Various local community partners including the health department, law enforcement and representatives from the city met with citizens to discuss their options for resettlement. The local health authority, the Robinson City Health Department, led by Mr. Ivan, took the position that the septic systems had failed and no one would be allowed to move in until the systems were brought up to the current health code. Bringing the systems up to code presented many challenges, including the substantial expense to the homeowner. The ensuing debate and investigation of rebuilding and replacing the septic systems caused a six month delay for citizens moving back into their homes or seeking alternate options such as buy-outs.

Resolution in this case came as new leadership took a different approach to interpreting the public health code. Community meetings resumed with a focus on problem solving and collaboration with both residents and other community partners. The Robinson City Health Department adopted the role of educator in assisting home owners in making informed decisions about their properties and their futures.

The case study focuses on the public health core function of assurance and the role of leadership in a crisis situation. The absence of policy development to address the old septic systems preceding the flood resulted in many challenges the Health Department leadership had to overcome. This scenario describes different methods of enforcing laws and regulations to protect and ensure safety based upon very different styles of leadership.