



## Public Health Tabletop Exercise, Intentional Water Contamination

### Facilitator's Guide

This scenario begins with an illness outbreak in at a small college near Zenith City and evolves to directly include public health, water supply, law enforcement, and other partnering agencies. It is also designed to provoke discussion regarding the recovery and remediation of a water system following a contamination event.

#### **Facilitator, explain to the participants:**

The goal of this exercise is to practice how health departments and other response partners will coordinate in a public health crisis. The exercise is designed so that the source of the contamination is not revealed until late in the event, similar to what would happen in a “real-life” situation.

#### **Running the exercise:**

**Step 1:** Explain to the panel and participants that they are participating in a tabletop exercise. They will be discussing their roles and responsibilities during an emergency. This exercise not a test; it is a learning opportunity. It will allow them to discuss problem areas that will arise during the course of the response and recovery phases. The exercise will stimulate discussion that involves the current methods participants use to conduct their emergency operations as well as identify other potential methods. Inform the participants that they should use information gathered from their experiences or in the context of their own protocols and procedures even though they may vary by health department.

**Step 2:** Invite the panel members to move to the front of the room. Divide the participants into teams. Each team will need to identify a scribe, timekeeper and reporter. Handouts will be provided to the participants. Have the panel members introduce themselves and describe their position with their agencies.

**Step 3: State the purpose of the exercise.**

**The purpose this tabletop exercise is to identify the public health response to a chemical event that has the potential to adversely impact human health and to improve operational procedures by involving various segments of public health staff and other responders.**

**Step 4: State the objectives.**

The objectives describe the expected outcomes for the exercise. The summary discussion will address the objectives and whether they were met by the exercise.

**Objectives:**

**Objective 1:** Demonstrate the environmental health professional's roles in a chemical emergency.

**Objective 2:** Demonstrate the ability to organize an appropriate response team in a timely manner.

**Objective 3:** Identify the top five priority issues that environmental health professionals will need to address during response and recovery from a chemical emergency event.

**Objective 4:** Identify the agencies responsible for responding to a chemical event

**Step 4:** **A.)** Present the scenario. **B.)** The panel will answer the first set of questions for each scene. **C.)** The teams will respond to their set of questions. The scribe will record the responses on newsprint and post as instructed by the facilitator. **D.)** Allow 15 minutes for team discussion in response to each set of team questions. Encourage the teams to establish contact with members of the panel to gain additional expertise in specific subject matter areas, if needed. Remind the scribe to take *legible* notes during the discussions. (These notes will form the basis of a summary report to be distributed by MDCH to the participants several weeks after the meeting.) The scribe should note problem or "parking lot" areas that will need more investigation by the participants. **E.)** Selected groups as determined by the facilitator will deliver team reports.

**Step 5:** Perform an after-action review. Review the exercise objectives again to determine if the objectives were met by the exercise. Allow the participants to give their feedback on the exercise and the conclusions or decisions that they arrived at during the exercise.

**Scenario Summary: provided to participants**

**Background Information:** Zenith City is located in the center of Michigan in Pontiac County. The area is primarily rural. Mid-Michigan University, MMU, lies about 10 miles outside of Zenith City and has an annual student enrollment of around 1,400 students. The city's population is about 10,000 with the county population reaching nearly 42,000. These numbers do not including the student population. Zenith City is relatively quiet as the majority of college students have left for the summer. Summer attendance is about 200 students. Two of the classroom buildings and the gymnasium, located in what is known as "The Village", are being used for the summer session. The county has one hospital, Zenith General Hospital. There are several smaller hospitals located in neighboring counties.

**Scene 1:**

**On Friday July 17<sup>th</sup> by 1:30pm**, Ten people have come to Zenith General Hospital's emergency department, all exhibiting the following symptoms: dizziness, headache, difficulty breathing, cardiac arrhythmias, and reddening of the skin. ED staff note that all patients are from The Village, MMU. Zenith General reports a possible illness outbreak to the Pontiac County Department of Public Health. The report indicates that patients all either work or attend classes in the "The Village" on the campus of MMU. **By 3:30pm**, over 20 patients have arrived at the hospital emergency room complaining of similar symptoms, all from the "Village". The ED physician calls the health department and says the presumptive diagnosis is cyanide poisoning.

**Questions:**

**Panel**

1. What is the first question you ask yourself in response to this situation?

**Team**

1. What initial actions will be taken by the health department and by the hospital?
2. What initial actions will be taken by environmental health staff?
3. How long will it take the health department to form a response team? Who will be on the team?
4. What other agencies should be notified? How will they be notified and by whom?
5. Does this incident necessitate activation of the health department's Emergency Command Center? Why or why not? If so, who is staffing the ECC?

**Panel**

2. What will your first action be?

**Scene 2:**

Friday July 17, 10:00 PM. The ED has notified the health department that cyanide poisoning has been confirmed in patients, one of whom died, that 35 additional individuals have presented at the ED, all from the Village, and that the ED has notified the police. The health department has conducted preliminary epi interviews with 20 patients: there does not appear to be any association with food, but drinking water on campus is common to most cases. The environmental health staff on-call for the weekend has been dispatched to campus to look around. Health department staff on site at the hospital and on campus call to confer on how to deal with the local police, who are also at both sites.

**Questions:**

**Panel**

1. What are your top three priority issues at this point?

**Team**

1. What samples should be collected by the health department and by the hospital? Where would they be sent?
2. What additional information needs to be collected from the patients? From others potentially exposed?
3. What are the potential sources of conflict with law enforcement?
4. How would public health work with the media during a public notification process?
5. What community containment measures should be taken?
6. How will the hospital manage the influx of patients?

**Panel**

2. Is there anything you would like to add?

**Scene 3:**

**July 18 at Noon:** The DEQ lab has confirmed that cyanide has been found in the MMU's water supply. The FBI has been called in. The FBI informs the health department that a letter has been delivered to the Zenith City Police Department stating “there’s a reason people are getting sick” at Mid Michigan University. Furthermore, the FBI informs the health department that on July 17<sup>th</sup>, one of the university’s water supply employees noted that two men from MMU’s usual chemical supplier, dressed in work clothes and wearing identification badges, drove a white delivery van through the delivery gate. He did not suspect any unusual activity. However, tire tracks were later noted leading to and away from the wellhead. The suspects have not been apprehended. The FBI has taken soil samples around the wellhead for testing.

The environmental health staff reported that, due to a broken pipe, a large area of water damage has been found in one of the main buildings in the Village.

**Questions:**

**Panel**

1. What stakeholders would you be in contact with?

**Team**

1. What type of public notification would the water supply issue now?
2. What is the role of public health at this point?
3. Does the fact the poisoning was intentional change the investigative activities of the health department or information provided to the public by the health department?
4. How can public confidence in the water supply be restored?
5. Who ensures that contaminated water is no present in the water supply?
6. What measures need to be taken to clean up the contaminated building where there was water damage from the broken pipe and how do those measures involve public health?

**Summary Discussion Points**

1. What has been determined to be the environmental health professional's role in this type of chemical event?
2. How long did it take to assemble a response team? Is this realistic? Is it timely?
3. What were the top priority issues to be addressed in this scenario?
4. Were all agencies identified that would play a role in response to this type of event? Did you make new contact/establish relationships with any of these agencies today?
5. Other comments?