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LESSON LEARNED

Baltimore Demonstration Project: Capstone Tabletop Exercise

SUMMARY
The Baltimore Chemical Terrorism Tabletop Exercise (TTX) was a one-day facilitated tabletop exercise sponsored in partnership by the U.S. Department of Homeland Security (DHS) Office of Health Affairs (OHA) Chemical Defense Program (CDP) and the Maryland Transit Administration (MTA). The exercise, also referred to as the Baltimore Demonstration Project, occurred on 11 March 2014 in Baltimore, MD and engaged multiple stakeholders including federal, state, and local government agencies and private sector organizations. The TTX used three chemical detection scenarios (modules) that were designed to illicit discussion on the community's response relative to chemical detection capabilities. The exercise assessed the community's integrated chemical detect-to-warn capability, decision analysis, and response Concept of Operations Plan (CONOPS) to determine potential effectiveness. The end goal was to take the information collected from the exercise and provide the community with an assessment of its readiness and capabilities to respond to a chemical incident.

The TTX provided an opportunity for discussion of the strengths and areas of improvement relative to a response during a chemical agent release in a subway system. The event afforded both private sector members and primarily local and state government agencies to form partnerships that will improve incident coordination during future response operations. The TTX successfully met the established exercise objectives and helped participants identify existing gaps and recommended areas of improvement.

KEY FINDINGS
The exercise provided an opportunity for the transit authorities and private and government agencies to come together in a collaborative exercise to discuss response strategies for each entity during an incident that would warrant the release of a chemical agent. The major strengths and primary areas of improvement identified during the exercise are included below. A detailed review of the findings can be found in the AAR under Analysis of Capabilities.

Major Strengths
- Detection System Familiarity
- Response Plan and Protocol Familiarity

Primary Areas for Improvement
- Alarm Adjudication Process
- Notification Procedures
- Pre-Scripted Messaging

RECOMMEDATIONS
The exercise successfully met the exercise objectives as they were developed by the exercise planning team. A hot-wash was held at the culmination of the exercise that provided all participants and observers an opportunity to address immediate concerns and action items. The After Action meeting provided an opportunity for all engaged stakeholders to discuss strengths and areas of improvement that will further be

used to develop the community Response Concept of Operations. The exercise in particular highlighted the following areas for further development as discussed here. Detailed Improvement Plan recommendations can be located in the comprehensive After Action report:

Alarm adjudication process: Fully understanding the alarm adjudication process is significant to decision making that will further indicate the level of response needed. It was agreed by all stakeholders that simple clear protocols will serve as decision making guidance on the use of the integrated chemical detect-to-warn capability and minimize decision making through judgment calls. It was recommended that decision aids and checklists that clearly define branches and sequels to the data provided by the system be developed.

Familiarity with response procedures and protocols: All participants displayed knowledge of their roles and responsibilities as well as the Incident Command System processes that would be used to coordinate response efforts. A level of uncertainty about best practices for a large-scale chemical attack scenario due to the scope and scale of the incident existed. As a corrective action, it was recommended that an exercise be conducted upon completion of the CONOPS and supporting Standard Operating Procedures to ensure wide dissemination of the detect-to-warn system's capabilities and limitations.

Notification processes: The notification and implementation process constitutes one of few challenging aspects towards introducing the system to the wider community. Participants identified when, how and who should be notified of potential incidents. During that discussion some key participants were not identified. Stakeholders expressed a desire to have information shared with them at the onset of the incident. This in theory created challenges as the system collected very specific information that may at the time not be relevant to organizations. In addition it was discussed that a common understood language lexicon needs to be developed and shared across the community. This allows a platform for a shared understanding. Participants also noted that developing a formal process that looks at how information should be shared and delivered would be effective.

Pre-scripted messaging: The importance of pre-scripted messaging was recognized by participants. They noted that although pre-scripted message templates exist for various types of incidents, templates that are chemical incident specific are needed. Participants discussed that facilitating a Public Affairs Workshop that would include the media would add value towards understanding and developing pre-scripted message templates.

Chemical agent case definition during an emergency: During an incident, having a universal case definition can enhance communication amongst all response personnel. Participants indicated that although this is critical, careful consideration should be taken in what context the definitions are used so any confusion during actual response can be avoided. It was recommended by participants that the Maryland Poison Center be appointed to conduct research that would assist towards strengthening communication gap.

Ability to manually control subway maintenance functions: Exercise participants expressed that in the event of a chemical release impacting the platform, the threat would pose to be a serious threat to passengers and first responders. To minimize and control the exposure, consideration should be given by the Transit Authority to develop a way to remotely control all electrical operations within the station as opposed to sending Transit Authority personnel into the potentially hazardous location.

Controlling potentially exposed subway passenger movement: Participants discussed whether holding potentially exposed passengers on scene was legally permissible. It was suggested that this corrective action be deferred to legal staff to examine the legality. In addition, developing protocols and trainings that address holding contaminated passengers at the station

Availability of communications systems and networks during an incident: During a major incident, communication networks will be taxed leading to potential network failure. Participants concluded that having operable phone lines during an incident is critical towards communication. Participants recommended that for those entities that would require access to telecommunication networks during a major incident,

planners should review their plans to assess their vulnerability to loss of communication pathways and ensure that redundant pathways exist for critical communications.

Coordination of public information messaging: Unified and consistent messaging to the public is critical in the event of an incident and can dictate the success of overall response and recovery efforts. Participants recommended that roles and responsibilities for establishing a Joint Information Center (JIC) and initiating a public information campaign exercise within the context of realistic scenarios be implemented.

Personnel availability: Participants discussed the important of having additional trained personnel on hand in the event of personnel shortage. Additional personnel would assist with securing key areas, direct people into specified areas for Emergency Department (ED) assistance, and other critical tasks. Participants concluded that to ensure an adequate staffing plan exists, staffing requirements and mutual aid agreements should be examined.

DESCRIPTION

The Baltimore Demonstration Project strived to develop a structured building block approach that would allow an opportunity to study existing community emergency response framework, by identifying strengths and uncovering weakness that would make the community vulnerable. The project was initiated when DHS Transportation Security Administration (TSA) expanded the Transit Security Grants Program to fund the purchase of chemical, biological, radiological, and explosive detection capabilities. The ultimate goal of the Demonstration Project is to prepare communities to respond efficiently to a catastrophic chemical incident and provide communities with the planning tools they need to strengthen their existing plans. The TTX encompassed goals and objectives that focused on processes and procedures outlined in the Response CONOPS. The exercise was designed to enhance the level of mutual understanding of the effects of an incident and serve as a means to refine the developing Response CONOPS to further serve as the basis for improving the community's response capabilities.

The TTX was designed as a one-day interactive event consisting of scenario-driven facilitated discussions of key decisions, actions, and response activities associated with a chemical agent release at a subway station in Baltimore, Maryland. The key products developed as a result of the TTXs were:

- A tailored community chemical risk assessment methodology
- Autonomous chemical detector specifications of an underground transit system
- Vendor workshop to allow key stakeholders to evaluate current commercial off-the-shelf detection equipment
- Laboratory test and evaluation methodology allowing independent testing of detection equipment in a uniform way
- Concept of Operations methodology to include cognitive decision nodes and human factors which affect critical decisions in an emergency
- Best practices for developing a localized chemical defense framework

The exercise engaged multiple stakeholders and built partnerships across the federal government. Federal partners actively involved in the process included: Transportation Security Administration (TSA), Federal Emergency Management Agency (FEMA), Department of Homeland Security (DHS) Office of Infrastructure Protection, DHS Science and Technology, Department of Defense (DoD), Environmental Protection Agency (EPA), Health and Human Services (HHS), National Library of Medicine, American College of Medical Toxicology, regional poison centers, hazmat fusion centers, state transit groups, and other local and state entities.

EXERCISE

The purpose of the exercise was to assess the capabilities and readiness of state, local, and private sector partners and their ability to respond to a chemical incident at a subway station in Baltimore, MD..

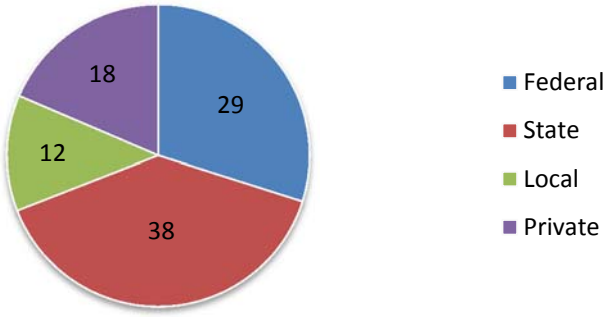
The exercise was designed under the guidance received by the Department of Homeland Security Exercise and Evaluation Program (HSEEP) as the framework to design and execute the exercise. Participants were

engaged at all levels of government that included local, state, and designated federal government representatives. The Office of Health Affairs and the MTA coordinated the actual development, conduct, and evaluation of the exercise, while fostering close relationships with other entities.

In attendance at the exercise were 97 participants representing local, private, state and federal entities participating in the discussion.

Local Government Authorities	
Baltimore City Fire Department	Baltimore City Police Department
Baltimore City Health Department	Baltimore City Mayor's Office of Emergency Management
Private Sector Partners	
John Hopkins	John Hopkins Bayview Medical Center
Mercy Medical Center	St. Agnes Hospital
State Government Authorities	
Maryland Transit Administration	Maryland Transit Administration Police
Governor's Office of Homeland Security	Maryland Army National Guard
Maryland Emergency Management Agency	Maryland Institute for Emergency Medical Services Systems
Maryland Department of Environment	Maryland Department of Health and Mental Hygiene • Office of the Chief Medical Examiner • Office of Preparedness & Response
Maryland State Police	Maryland Poison Center
Maryland Department of Transportation	
Federal Government Authorities	
Department of Homeland Security • Office of Health Affairs • Federal Emergency Management Agency • Transportation Security Administration • National Protection and Program Directorate • Federal Bureau of Investigation • U.S. Army Materiel Systems Analysis Activity	Health and Human Services • Region III • Centers for Disease Control
Observing Organizations	
Transit Authorities	
Washington D.C	New York City
Seattle	Boston
San Francisco	

The Total Participants in Attendance Broken Down by Level of Government



The exercise was built around a scenario based format that included a facilitated discussion and hot-wash briefing discussing critical issues. The planning team identified two core capabilities to structure the exercise objectives around:

- Operational Coordination
- Public Information and Warning

The exercise was planned and coordinated by the exercise planning team through a series of planning meetings:

Planning Meetings	City	Date
Concepts and Objectives (C&O) Meeting	Baltimore, MD	28 Oct 2013
Initial Planning Meeting (IPM)	Hanover, MD	3 Dec 2013
Scenario Working Group (SWG)	Hanover, MD	8 Jan 2014
Scenario Working Group (SWG)	Baltimore, MD	23 Jan 2014
Mid-term Planning Meeting (MPM)	Baltimore, MD	28 Jan 2014
Scenario Working Group (SWG)	Virtual	18 Feb 2014
Final Planning Meeting (FPM)	Hanover, MD	24 Feb 2014
Evaluator Training	Virtual	10 Mar 2014
After Action Meeting (AAM)	Baltimore, MD	23 Apr 2014

The exercise was an 8-hour scenario-driven, facilitated discussion structured around three modules. Each module presented a modified scenario that was designed to foster a discussion on the coordination and collaboration required amongst all stakeholders as a result of the incident. The scenario was broken down into three modules:

- Module 1 – Manifestation of signs and symptoms with a detector alarm
- Module 2 – Manifestation of signs and symptoms with no detector alarm
- Module 3 – No manifestation of signs and symptoms with a detector alarm

Each module was presented with a scenario description that summarized highlighted events within a specified time period ranging from two to four hours. As each scenario was introduced, a series of discussion questions were presented highlighting specific areas for consideration. The questions were developed to help facilitate the discussion and think through the critical decision making process.

CONCLUSION

The BDP Capstone TTX provided first responders and receivers, state, local, and private sectors an opportunity to address strengths, challenges, and areas of improvement identified during the exercise. As challenging scenarios were presented, participants provided a comprehensive assessment on the community's ability to respond. Based on the overall areas of improvement the exercise highlighted the following areas for further development:

- Alarm Adjudication Process
- Notification Processes
- Pre-scripted Messaging

Participants are encouraged to use the recommendations discussed in the Improvement Plan to address areas discussed in the comprehensive after action report.

This exercise was conducted under the design and control of the Department of Homeland Security's Office of Health Affairs Chemical Defense Program and the Maryland Transit Administration. Additional information about the exercise can be requested by contacting:

Dr. Mark Kirk mark.kirk@hq.dhs.gov| 202-254-6729
Captain Joselito Ignacio Joselito.ignacio@hq.dhs.gov|202-254-5738
R. Earl Lewis (rlewis@mta.maryland.gov)

Reference

Department of Homeland Security Office of Health Affairs Chemical Defense Program & Maryland Transit Administration. *Baltimore Demonstration Project Capstone Tabletop Exercise After Action Report*. 2014

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