2016 Florida Chemical Exposure Exercise

February 22 – 26, 2016

AFTER ACTION REPORT/IMPROVEMENT PLAN

April 28, 2016

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EXECUTIVE SUMMARY

The purpose of this After Action Report/Improvement Plan is to assist agencies striving for preparedness excellence by analyzing exercise results, identifying strengths to be maintained and built upon, identifying potential areas for further improvement, and supporting development of corrective actions. The suggested actions in this AAR/IP should be viewed as recommendations only. In some cases, agencies may determine that the benefits of implementation are insufficient to outweigh the costs. In other cases, agencies may identify alternative solutions that are more effective. Each agency should review the recommendations and determine the most appropriate action and time needed for implementation.

The *2016 Florida Chemical Exposure Exercise* was developed to test the Florida Department of Health (DOH), Bureau of Public Health Laboratories (BPHL), Chemical Threat Program's Information Sharing and Public Health Laboratory Testing capabilities. The exercise was conducted from February 22 – 26, 2016. The scenario was based on the exposure of moviegoers to cyanide gas, cyanide salts, and acids.

As part of the Laboratory Response Network (LRN), the BPHL Chemical Threat Program's role is to collaborate with local, state and federal agencies, therefore the exercise planning team was composed of numerous and diverse agencies that were active participants in the planning process. Thirty hospitals took an active part in the exercise. Twenty-three of the thirty participated in the specimen packaging and shipping portion of the exercise, while ten took part in a Poison Information Center/Hospital/Epidemiology Collaboration. In addition, ten hospitals elected to evaluate decontamination protocols. Representatives from several local health offices within the DOH participated as planners and observers. The exercise was a learning environment that enabled partner agencies to prepare for effective responses to a chemical exposure event. Participants are now more aware of possible issues that may occur during a chemical exposure event, and the scope of involvement and agency interaction when responding.

An All Hazards approach to public health preparedness requires that LRN laboratories be capable of analyzing clinical specimens for a number of chemical agents, rapidly and effectively. Although the BPHL Chemical Threat Program Laboratory prepares for chemical terrorism events through regular proficiency testing and surge capacity exercises, the *2016 Florida Chemical Exposure Exercise* presented an opportunity for preparation while working with various partner agencies throughout the state of Florida, and for successful measure and validation of selected target capabilities.

Major Strengths

The major strengths identified during this exercise are as follows:

- Specimen packaging and shipping – Chemical Threat Coordinators evaluated this portion of the exercise as a major strength. In addition, the handling of packages by the Chemical Threat Coordinators was commendable
- Poison Information Center, Hospital and Epidemiology Collaboration; the PIC's handling of hospital calls was commended by participants
- Analytical testing for surge capacity – All analysts worked diligently to complete analysis to report results within an acceptable turnaround time.
- Exercise planning, design and execution – Participant feedback indicated that the exercise was well structured, with a plausible scenario and useful exercise documentation for exercise preparation. Various agencies were brought together for successful collaborations.

Primary Areas for Improvement

Throughout the exercise, opportunities for improvement in Chemical Threat Program's ability to respond to the incident were identified. The primary areas for improvement, including recommendations, are as follows:

- The Chemical Threat module of the Laboratory Information Management System (LIMS) – It is recommended that LIMS development be given immediate priority to correct issues encountered with sample logging and results reporting during this exercise.
- Forensic Chain-of-Custody (COC) – The Chemical Threat Program must make the COC process routine for sample receipt and management.

Feedback indicated the exercise was indeed an effective learning environment. Participants are now more aware of possible issues that may occur during a chemical exposure event, and the scope of involvement and importance of agency interaction when responding. Special thanks to all participants who helped make this exercise a success. The Florida DOH, BPHL Chemical Threat Program looks forward to hosting the next statewide full scale exercise, as exercises are indeed invaluable tools for disaster preparedness and for helping fulfill the Florida Department of Health's mission "t*o protect, promote and improve the health of all people in Florida through integrated state, county, and community efforts."*

SECTION 1: EXERCISE OVERVIEW

Exercise Details

Exercise Name
2016 Florida Chemical Exposure Exercise

Type of Exercise
Full Scale Exercise

Exercise Start Date
February 22, 2016

Exercise End Date
February 26, 2016

Duration
Five days

Location
Florida

Sponsor and Program
Public Health Emergency Preparedness (PHEP) Cooperative Agreement and the Florida DOH BPHL

Mission
Response

Capabilities
- Capability 6: Information Sharing
- Capability 12: Public Health Laboratory Testing

Scenario Type
Chemical Exposure

Exercise Planning Team

Representatives from the participating organizations listed below were active members of the Exercise Planning Team. All representatives actively participated in planning meetings, providing input and insight throughout the entire exercise process. Appendix E contains a full listing of planners and participants

Participating Organizations

Federal
Centers for Disease Control and Prevention (CDC)

State

Florida Department of Health

Bureaus

- Bureau of Environmental Health
- Bureau of Epidemiology
- Bureau of Preparedness and Response
- Bureau of Public Health Laboratories
- Office of Communications

County Health Departments

- Broward County
- Dade County
- Duval County
- Escambia County
- Hernando County
- Hillsborough County
- Marion County
- Martin County
- Osceola County
- Pasco County
- Pinellas County
- Sumter County
- Volusia County

Florida Poison Information Centers (Jacksonville, Miami, and Tampa)

Local

Hospitals

- All Children's Hospital, St. Petersburg
- Baptist Hospital of Miami, Miami
- Baycare Health System, Palm Harbor
- Bayfront Health, St. Petersburg
- Cleveland Clinic Florida, Weston
- Delray Medical Center, Delray Beach
- Doctors Hospital, Coral Gables
- Florida Hospital Orlando, Orlando
- Homestead Hospital, Homestead
- Indian River Medical Center, Vero Beach

- Jackson Memorial Hospital, Miami
- Jackson South Community Hospital, Miami
- Kendall Regional Medical Center, Miami
- Mariners Hospital, Travernier
- Mease Dunedin Hospital, Dunedin
- Memorial Hospital, Jacksonville
- Mercy Hospital, Miami
- Morton Plant Hospital, Clearwater
- Mount Sinai Medical Center, Miami Beach
- Munroe Regional Medical Center, Ocala
- Orange Park Medical Center, Orange Park
- South Bay Hospital, Sun City Center
- South Miami Hospital, Miami
- St. Cloud Regional Medical Center, St. Cloud
- St. Joseph's Hospital, Tampa
- St. Vincent's Medical Center, Jacksonville
- Twin Cities Hospital, Niceville
- University of Miami Hospital, Miami
- West Kendall Baptist Hospital, Miami
- Westchester General Hospital, Miami
- Wuesthoff Health System – Wuesthoff Reference Laboratory, Melbourne

Number of Participants

- Players - Observers - Controllers - Evaluators - 120+

SECTION 2: EXERCISE DESIGN SUMMARY

Exercise Purpose and Design

The *2016 Florida Chemical Exposure Exercise* was a five-day exercise designed to establish a learning environment for participants to exercise emergency response plans, policies, and procedures for a chemical exposure incident. It provided participants with an opportunity to evaluate current response concepts, plans, and capabilities for response to a chemical exposure event in the state of Florida. In addition, it fulfilled the Public Health Emergency Preparedness (PHEP) Cooperative Agreement requirements for the Bureau of Public Health Laboratories as an annual exercise.

Exercise Objectives, Capabilities, and Activities

Capabilities-based planning allows for exercise planning teams to develop exercise objectives and observe exercise outcomes through a framework of specific action items that were derived from the Target Capabilities List (TCL). The capabilities listed here were selected by the *2016 Florida Chemical Exposure* Exercise Planning Team from the priority capabilities identified in the Centers for Disease Control (CDC) *Public Health Preparedness Capabilities: National Standards for State and Local Planning (March 2011)*. These capabilities provided the foundation for development of the exercise design objectives and scenario. The purpose of this exercise was to measure and validate performance of these capabilities and their associated critical tasks.

Capability 6: Information Sharing

- **Objective 1** – Identify stakeholders to incorporate into information flow – *Function 1*
  - Prior to and as necessary during an incident, identify inter-jurisdictional public health stakeholders to determine information sharing needs - *Task 2*
- **Objective 2** – Identify and develop rules and data elements for sharing – Function 2
  - Ensure all HIPAA laws are followed when sharing data/patient information – *Task 1*
  - Prior to and as necessary during an incident, identify routine or incident-specific data requirements for each stakeholder – *Task 2*
- **Objective 3** – Exchange information to determine a common operating picture – *Function 3*
  - Prior to and during an incident, collaborate with and participate in jurisdictional health information exchange – *Task 1*

Capability 12: Public Health Laboratory Testing

- **Objective 4** – Manage laboratory activities – *Function 1*
  - Exchange information and data with laboratories and laboratory networks within the jurisdiction – *Task 1*
- **Objective 5** – Perform sample management – *Function 2*

  - Handle, package, and transport samples following established IATA/DOT and laboratory-specific protocols – *Task 1*
  - Maintain forensic chain-of-custody throughout the sample-management process – *Task 2*
  - Determine a LabWare process to implement the CT operations
- **Objective 6** – Conduct testing and analysis for routine and surge capacity – *Function 3*
  - Conduct chemical laboratory testing following LRN-C testing methods – *Task 2*
- **Objective 7** – Report results – *Function 5*
  - Notify appropriate public health, public safety, and law enforcement officials (24/7) of presumptive and/or confirmed laboratory results from clinical, food, or environmental samples that involve a chemical, radiological, or biological threat agent – *Task 1*
  - Determine a LabWare process to implement the CT operations for results reporting

Scenario Summary

The fourth Monday in February has been declared National Movie and Theater Day. Congressional approval of the measure that establishes this national holiday is being deemed a remarkable act of bipartisanship. In an effort to promote the holiday, congress has drafted legislation that will allow theaters in states that officially observe the holiday to offer special ticket pricing for this day only. Subsidies will allow participating theaters to offer admissions at drastically reduced prices. All children 12 years and under will be admitted free. Children over 12 and adults will be admitted for only $1.00. The movie industry has embraced this holiday in Hollywood fashion. In an unprecedented move, most major studios have planned blockbuster premiers on the holiday Monday. The state of Florida is one of many that have elected to observe this holiday. Theaters throughout the state have planned special early showings starting at 8:00 AM. Concession stands will serve breakfast items at reduced prices from 7:30 AM – 11:30 AM and regular items at reduced prices after 11:30 AM.

On the morning of National Movie and Theater Day, news media report lines forming as early as 4:00 AM. Multiplex theaters open doors at 6:00 AM to record numbers of moviegoers. Just hours after theaters opening doors and minutes after moviegoers settle in to watch their shows, absolute chaos ensues. Emergency personnel begin to receive reports of moviegoers succumbing to an unknown smoke. News media report that first responders arrive on the chaotic scene to find casualties and numerous moviegoers exhibiting symptoms that include lightheadedness, headache, confusion, anxiety, dizziness, weakness, rapid breathing, palpitations, nausea, vomiting, seizures, dilated pupils, respiratory depression, and pulmonary edema, loss of consciousness, respiratory arrest, and cardiac arrest (1). Victims report having heard a pop or a bang and then seeing smoke spew from a paint can size container. Others report seeing devices spew a powdery substance and liquid. There are many casualties. Many victims suffer from chemical burns and injuries consistent with trampling. Reports follow that some First Responders have begun exhibiting symptoms and that decontamination (decon) protocols have been implemented on the scene. Hospitals initiate decon protocols for patient receipt as well.

Local and area HAZMAT and emergency response teams are called to the scene and enlisted to assist Hospitals.

Hospitals contact Poison Information Centers (PIC) and Epidemiologists conduct interviews with patients. PIC toxicologists and Epidemiologists determine that symptoms are consistent with chemical exposure.

Sources confirm that laboratory blood analyses reveal victims of this horrific terrorist attack were exposed to the lethal gas cyanide. Sources also confirm that the deadly gas was released using several improvised cyanide gas devises, now known to be Mubtakkar (2) devices. Each device was strategically placed throughout the multiplex theater. At least two malfunctioned, spraying victims with acid and cyanide salt. The number of fatalities and injured have not been confirmed. Injuries range from minor to severe.

Reference:

(1) Symptoms related to Cyanide exposure as outlined by The National Institute for Occupational Safety and Health (NIOSH) via CDC website.
(2) (U/FOUO) DHS Mubtakkar Improvised Cyanide Gas Device Warning, November 29, 2010 – Roll Call Release

SECTION 3: ANALYSIS OF CAPABILITIES

This section of the report reviews the performance of the exercised capabilities, activities, and tasks. Observations are organized by capability and associated activities. The capabilities linked to the exercise objectives of the *2016 Florida Chemical Exposure Event Full Scale Exercise* are listed below, followed by corresponding activities. Each activity is followed by related observations, which include references, analysis, and recommendations.

CAPABILITY 6: INFORMATION SHARING

Capability Summary: Information sharing is the ability to conduct multijurisdictional, multidisciplinary exchange of health-related information and situational awareness data among federal, state, local, territorial, and tribal levels of government, and the private sector. This capability includes the routine sharing of information as well as issuing of public health alerts to federal, state, local, territorial, and tribal levels of government and the private sector in preparation for, and in response to, events or incidents of public health significance.

Objective 1: Identify stakeholders to be incorporated into information flow (Function 1)

Activity 1: Prior to and as necessary during an incident, identify inter-jurisdictional public health stakeholders to determine information sharing needs (Task 2)

Observation: **Strength** – Stakeholders were identified during planning conference calls prior to the exercise start. Contacts were established for participating DOH County Health Departments (CHD), Department of Health (participating bureaus), all hospitals, Poison Information Center, and additional participants.

Analysis: A spreadsheet was developed and distributed, listing contact information for all participating agencies. This contact information included full name, title, agency, physical address, e-mail address, and phone numbers. In addition, public health stakeholders such as Epidemiology, Preparedness Planners, and Public Information Officers were contacted for participation in the exercise. Additional spreadsheets were developed and distributed to help simplify the process for determining information sharing needs. One spreadsheet listed all hospitals and contact information for the specimen packaging and shipping portion of the exercise. This spreadsheet was released to the CDC contact for shipment of specimens spiked with cyanide. Another spreadsheet listed all hospitals and contacts for the Poison Information Center/Hospital/Epidemiology Collaboration. In addition, a spreadsheet listed hospitals that planned evaluation of decontamination protocols.

Recommendations: None

Objective 2: Identify and develop rules and data elements for sharing (Function 2)

Activity 1: Ensure all HIPAA laws are followed when sharing data/patient information (Task 1)

Observation: **Strength** – As a complement to secure fax, the Chemical Threat Laboratory incorporated the use of encrypted e-mail for the first time to report patient results.

Analysis: Test encrypted e-mails were sent prior to the exercise to ensure that hospitals were able to receive and view documents in Portable Document Format (PDF). The sharing of data/patient results via secure fax and encrypted e-mail ensured that HIPAA laws were followed. Chemical Threat (CT) Coordinators followed Florida DOH rules for submitting results via encrypted e-mail.

Recommendations: None

Activity 2: Prior to and as necessary during an incident, identify routine or incident-specific data requirements for each stakeholder (Task 2)

Observation: **Strength** – Within the scope of exercise participants, incident-specific data requirements were identified. Discussions during planning conference calls and side meetings enabled successful completion of this activity.

Analysis: Planning conference calls enabled participants to determine incident-specific data and information requirements. For example, all contacts listed in the specimen packaging and shipping spreadsheet were determined to require the following information:

- regional Chemical Threat Coordinator contact information
- specimen packaging and shipping supplies
- information concerning proper packaging and shipping of clinical specimens after a chemical terrorism event
- specimen analytical results

Additional side meetings helped hospitals determine which contacts would receive specimen results, as well as what information would be relevant to Epidemiology.

Recommendations: None

Objective 3: Exchange information to determine a common operating picture (Function 3)

Activity 1: Prior to and during an incident, collaborate with and participate in jurisdictional health information exchange (Task 1)

Observation: **Strength with recommendations** – This objective was achieved through

the Poison Information Center, Hospital, and Epidemiology Collaboration and the reporting of analytical results.

Analysis: A number of hospitals (12) participated in the Poison Information Center (PIC), Hospital, and Epidemiology Collaboration. The Chemical Threat Program was instrumental in coordinating the collaboration through conference calls, handouts, and exercise direction. The PIC – Tampa developed "Paper Patients" for participating hospitals to use for the collaboration. Poison Information Centers in Jacksonville, Tampa, and Miami received calls during which each hospital reported symptoms from five to 20 "Paper Patients". These communications allowed the PIC to monitor staff's abilities to respond, and to test charting capacity. Toxicologists were able to evaluate symptoms and recommend treatment. In addition, a PIC Toxicologist created a query so that Epidemiologists could access required information in an exercise mode. Table 1 is an example of the "Paper Patients" injects used to report symptoms.

Palm Beach County Health Department Epidemiologists developed a case definition scenario for the exercise that included:

- Clinical Description
- Case Definition
- Case Classification
- Laboratory Criteria

The Jacksonville Chemical Threat Laboratory, reported results to the twenty-three hospitals that participated in the specimen packaging and shipping portion of the exercise. Details for results reporting are presented under Objective 7.

Recommendations: Although this activity was a strength, the Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) Epidemiologist did have recommendations:

It is important to include the subject matter experts at the onset of planning in order to outline how epidemiology will participate not only at the state level but more importantly in the counties. Part of the exercise was to determine ED response to the chemical and contacting the Florida Poison Information Center Network for assistance with exposures and what steps needed to be taken for treatment. In reality the County Health Department would be contacted by the EDs to report the incident.

A good recommendation would be to incorporate an epidemiology portion into future exercises. The county health department that did participate in the exercise did an outstanding job in patient tracking that provided to the FDOH CBRNE Epidemiologist a viable working case definition that would assist in producing an epidemiology curve associated within the county, but could also be implemented for the overall epidemiologic report for the event.

Scott Bowden, CBRNE Epidemiologist

Table 1: Example Paper Patients and Symptoms

Patient name	Age	Sex	Vital Signs	Signs & symptoms
Danaris Targerian	31	f	88/60-92-32	Pulmonary edema, vomiting, dilated pupils
Sercy Lannister	22	f	88/60-92-32	Short of breath, headache, confused
Tyrone Lannister	24	m	88/60-92-32	Pulmonary edema, vomiting, dilated pupils
Sansa Stark	26	f	90/60-88-28	Short of breath, lung congestion, seizures
Jon Snow	29	m	None available – in decon now	Covered in powder. c/o skin burning. Cough. Wheezing. Almond odor
Carl Grimes	22	m	88/60-92-32	Unresponsive, seizures, mydriasis
Glenn Rhee	53	m	88/60-92-32	Pulmonary edema, vomiting, dilated pupils
Rick Grimes	46	m		Short of breath, lung congestion, seizures
Maggie Green	39	f	96/60-92-28	Covered in powder. c/o skin burning. Cough. Wheezing. Almond odor
Daryl Dixon	31	m	88/60-92-32	Pulmonary edema, vomiting, dilated pupils

CAPABILITY 12: PUBLIC HEALTH LABORATORY TESTING

Capability Summary: Public health laboratory testing is the ability to conduct rapid and conventional detection, characterization, confirmatory testing, data reporting, investigative support, and laboratory networking to address actual or potential exposure to all-hazards. Hazards include chemical, radiological, and biological agents in multiple matrices that may include clinical samples, food, and environmental samples (e.g., water, air, and soil). This capability supports routine surveillance, including pre-event or pre-incident and post-exposure activities.

Objective 4: Manage laboratory activities (Function 1)

Activity 1: Exchange information and data with laboratories and laboratory networks within the jurisdiction (Task 1)

Observation: **Strength** – The Jacksonville Chemical Threat Laboratory (LRN-Chemical Level 1 lab), BPHL, and hospital laboratories all functioned as sentinel laboratories during the exercise. Information was shared as required, as well as testing coordination. Laboratory personnel were notified and assigned duties accordingly. The assignment of work hours for analysts was an improvement over the previous full-scale exercise.

Analysis: Prior to the exercise, the Jacksonville Chemical Threat Laboratory planned an exercise work schedule. Chemical Threat Coordinators were assigned 12-hour overlapping shifts, in an effort to ensure critical analytical information could be shared prior to end of shifts. All Chemical Threat Coordinators put forth efforts required to complete tasks as assigned.

Recommendations: None

Objective 5: Perform sample management (Function 2)

Activity 1: Handle, package, and transport samples following established IATA/DOT and laboratory-specific protocols (Task 1)

Observation: **Strength** – This activity was identified as a major strength through Chemical Threat Coordinator evaluations and participant feedback. Overall, laboratories were very successful in packaging and shipping specimens using the established protocols.

Analysis: Prior to the exercise start date, CDC and BPHL shipped supplies to 24 hospital laboratories participating in specimen packaging and shipping. The number decreased to 23 when one hospital elected not to participate. Supplies included required packaging and shipping materials and 5 blood specimens spiked with Cyanide by the CDC contact. Table 2 lists all required supplies and providers.

Table 2: Required Packaging and Shipping Supplies

Item	Supplier	Receipt Date	Comments
Spiked Specimens (5 each)	CDC	02/19/2016	Specimens were stored at 1 - 8°C upon receipt
Gridded Specimen Box	CDC	02/19/2016	Gridded boxes sent by CDC were reused
Uline Shipper	CDC	02/19/2016	Uline insulated shipper sent by CDC were reused
Evidence Tape	CDC	02/19/2016	Used as instructed
Filamentous Tape	CDC	02/19/2016	Used as instructed
Saf-T-Pak (or equivalent) Inner Leak-Proof Polybag	BPHL (CT)	02/15/2016 -02/19/2016	Instructions for use were followed
White Tyvek® Outer Envelope	BPHL (CT)	02/15/2016 -02/19/2016	Used as instructed
UN3373 Label (Biological Substance Category B)	BPHL (CT)	02/15/2016 -02/19/2016	Used as instructed
FedEx Shipping Labels	BPHL (CT)	02/15/2016 -02/19/2016	FedEx labels included to ship specimens to CT Coordinator
Absorbent Material	Hospitals		Used as instructed
Cold Packs	Hospitals		Used as instructed

CDC – Centers for Disease Control and Prevention
BPHL – Bureau of Public Health Laboratories
CT - Chemical Threat Preparedness

Hospital laboratories stored specimens as instructed until exercise start. On exercise days 1 and 2, hospitals packed cold specimens using established protocols and shipped directly to the Jacksonville Chemical Threat Laboratory. Chemical Threat Coordinators evaluated shipments upon arrival using the criteria listed in Table 3. All packages were

received by exercise day 3. Chemical Threat Coordinators accessioned and evaluated packages with relative ease.

Table 3: Evaluation Criteria – Packaging and Shipping

Description	Evaluation Parameters and Corresponding Points	Maximum Points
Miscellaneous	Advanced notification to branch laboratory to expect delivery (2) Sample manifest included (2)	4
Outer Container	Constructed of sturdy material (2) Package Integrity–Not leaking or broken; vented for dry ice (4) Shipping and receiving address displayed (2) Labeled "Biological Substance, Category B" (2) Top is secured with filamentous shipping tape (2) Orientation arrows adequate (2)	14
Temperature	Blood samples arrive between 1 and 10 degrees Celsius (10)	10
Secondary Packaging	Insulated polystyrene foam present and intact (2) Specimens and relative volumes denoted (2) Blood shipped in separate containers (5) Container bears Biohazard label (5) Two levels of evidence tape – continuous strip (8) Evidence tape properly initialed (8) Specimens shipped in leak-proof container (5) Sufficient absorbent material to absorb contents (5)	40
Primary Receptacles	Integrity – not leaking or broken (5) Each patient has full set of specimens (5) Two blanks shipped for each lot of blood tubes(4)	14
		82 Total

Average evaluation results (96.6%) indicate that hospitals were knowledgeable and used correct protocols for packaging and shipping specimens. Table 4 lists average and individual evaluation results for all hospitals.

Based on overall successful results and participant feedback, packaging and shipping was a major strength. Conference calls were held to ensure participants understood the packaging process. Handouts listed required supplies and detailed instructions (with photos) for packaging and box labeling. In addition, Chemical Threat Coordinators extended Chemical Terrorism Preparedness Training (*Chemical Terrorism Awareness* and *Collecting Clinical Specimens After a Chemical Terrorism Event*) to hospitals in the Tampa, Miami and Jacksonville regions.

Several packages were received out of temperature range (1 – 10 °C). These packages were all warm – greater than 10 °C. One package could not be evaluated after being incorrectly routed to BPHL receiving for unpacking. It was later determined that the package was not shipped to the attention of the Chemical Threat Coordinator.

Table 4: Participating Hospitals – Packaging and Shipping Evaluations

Hospital (By Number)	Miscellaneous	Outer Container	Temperature	Secondary Packaging	Primary Receptacles	Score Total	Percent
1	4	14	10	40	14	82	100
2	4	14	10	40	14	82	100
3	4	14	10	40	14	82	100
4	4	14	0	40	14	72	87.8
5	4	14	0	40	14	72	87.8
6	4	14	0	40	14	72	87.8
7	4	14	10	38	14	80	97.6
8	4	14	10	40	14	82	100
9	4	14	10	40	14	82	100
10	4	14	0	40	14	72	87.8
11	4	14	10	40	14	82	100
12	4	14	10	40	14	82	100
13	4	14	10	40	14	82	100
14	4	14	10	40	14	82	100
15	4	14	0	40	14	72	87.8
16	4	14	10	40	14	82	100
17	4	14	10	40	14	82	100
18	4	14	0	40	14	72	87.8
19	4	14	10	40	14	82	100
20	4	14	10	40	14	82	100
21	4	14	10	40	14	82	100
22	*	*	*	*	*	*	*
23	4	14	10	40	14	82	100
24	**	**	**	**	**	**	**
					AVERAGE SCORE:		96.6

*Package could not be evaluated due to sample receipt error

**Hospital elected not to participate after supplies were shipped

Another package was shipped to the CDC in Atlanta, Georgia instead of BPHL – Jacksonville. It arrived on day 3 of the exercise in good condition.

Specimens were shipped to participants using proper CDC protocol. One participant expressed confusion about whether to repackage the specimens for shipment during the exercise.

Recommendations: Participants expressed concerns about how to maintain acceptable specimen temperatures during shipping. It is recommended that Chemical Threat Coordinators (Trainers) work with hospitals to perform periodic specimen packaging and shipping exercises so that some experience may be obtained.

Activity 2: Maintain forensic chain-of-custody (COC) throughout the sample-management process (Task 2)

Observation: **Area for improvement** – Chains of custody were established for all specimens received; however, not all were properly maintained.

Analysis: Specimens collected during a chemical terrorism event are considered evidentiary; therefore, a chain of custody must be established and maintained for each specimen. Jacksonville Chemical Threat Coordinators established chains of custody for all specimens received and evaluated. Not all forms were maintained from receipt to sample storage. Analysts did not sign off when handling samples for preparation, analysis and storage. With the newly implemented LabWare Laboratory Information Management System (LIMS), generation and maintenance of COCs as part of sample tracking should be accomplished with relative ease. At this time COC generation and sample tracking are unavailable.

Recommendations: The Jacksonville Chemical Threat group should implement COC procedures for all specimens received. This will help the COC process and the handling of specimens as evidence become more routine. Currently, the forms are generated using Microsoft Office (Word or Excel). To better manage the COC process, the LIMS should be used to generate COCs upon log in and to track samples.

Activity 3: Determine a LabWare (LIMS) process to implement the Chemical Threat operations for sample management.

Observation: **Area for Improvement** – The newly implemented LIMS (LabWare) was used to log in patient information and data.

Analysis: Sample pre-logging into LabWare did not result in delay of analyses. Entering patient demographic information was more tedious and required four individuals to complete entries for 115 patients within an eight hour workday. The availability of Chemical Threat (CT) personnel for these tasks will be limited during an actual event or surge exercise of 500 specimens.

Recommendations: Arrangements must be made for assistance with entering patient demographic information during surge exercises and actual events. This will require a plan that includes training data entry personnel to use the CT module in LabWare.

Objective 6: Conduct testing and analysis for routine and surge capacity (Function 3)

Activity 1: Conduct chemical laboratory testing following LRN-C testing methods (Task 2)

Observation 1: **Strength** – All analyses were conducted using the established CDC method for analysis of cyanide in whole blood.

Analysis: The BPHL Chemical Threat Laboratory, Jacksonville, successfully prepared

and analyzed 115 specimens for cyanide within 48 hours. Analyses began on exercise day 2 and continued through exercise day 4. Specimens were prepared and analyzed using CDC Method for analysis of cyanide. All results, including quality control samples and parameters, were reviewed, evaluated and by Chemical Threat Coordinators.

Prior to receipt, analyzed specimens were spiked at three different levels, L1, L2 and L3, with L1 being the lowest spike level and L3 the highest. Specimens with no cyanide spikes were analyzed as well (L0). The mean, standard deviation (SD), coefficient of variation (CV), percent yield, and percent error were determined for 23 specimens at each level (Table 5). The respective means, SDs, CVs, %Yield, % Error, and CDC values were as follows: L1 – 219.96 µg/L, 17.18, 7.81%, 87.98%, 12.02% and 250 µg/L; L2 – 640.96 µg/L, 51.56, 8.04%, 85.46%, 14.54% and 780 µg/L; L3 – 817 µg/L, 42.0, 5.14%, 65.33%, 34.67% and 1250 µg/L. The high SDs and % Error (L3), as well as low percent recovery (L3) can be attributed to the instability of cyanide and possible imperfect storage and shipping conditions. Data for each level indicate that analytical results were acceptable.

Table 5: Results Summary*

	L0	L0	L1	L2	L3
Mean (µg/L)	32.20	34.45	219.96	640.96	817
SD	4.06	2.90	17.18	51.56	42.0
CV	-	-	7.81%	8.04%	5.14%
Percent Yield	-	-	87.98%	85.46%	65.33%
Percent Error	-	-	12.02%	14.54%	34.67%
N	23	23	23	23	23
CDC value (µg/L)	0	0	250	750	1250

Where: SD = Standard Deviation
CV = Coefficient of Variation
N = Number of samples used for accuracy data (total 115)
L = Spike Level in µg/L
*Results Summary (calculations) courtesy of Chariety Sapp, CDC

Recommendations: None

Observation 2: **Strength with recommendations** – Improved scheduling and analyst expertise resulted in quick resolve of instrumental issues.

Analysis: Generally, analyses proceeded smoothly. The mass spectrometer filament burned out and temporarily delayed sample analysis. This issue occurred after normal operating hours; however, the problem was quickly identified and resulted in minimal analytical delay. The quick resolution can be attributed to improved scheduling, as well as analyst expertise.

Recommendations: None.

Objective 7: Report results (Function 5)

Activities 1 and 2: Notify appropriate public health, public safety, and law enforcement officials (24/7) of presumptive and/or confirmed laboratory results from clinical, food, or environmental samples that involve a chemical, radiological, or biological threat agent (Task 1)

Send presumptive and confirmed chemical, radiological, or biological laboratory results to CDC and all submitters (Task 2)

Observation 1: **Strength** – The majority of results were reviewed and reported to hospital contacts within a timely fashion. Reporting results by encrypted e-mail was implemented for the first time.

Analysis: Chemical Threat Coordinators evaluated all analytical data and reported results to the designated hospital contacts. Results were sent either by either encrypted e-mail or secure fax. Prior to the exercise start, test encrypted emails were sent and verification requested from all designated hospital contacts. As expected, not all contacts were able to receive results by encryption. All contacts who verified that they could not receive encrypted e-mails were listed to receive results by secure fax.

Recommendations: None

Observation 2: **Area for Improvement** – During the exercise, two participants received encrypted e-mails and were unable to open the attachments.

Analysis: Although encrypted e-mail was tested prior to exercise start, not all contacts responded with verification of receipt.

Recommendations: Chemical Threat Coordinators must confirm receipt of results and verify that all recipients are able to view encrypted e-mail attachments. All recipients unable to receive encrypted email must be listed to receive results by secure fax.

Activities 3: Determine a LabWare process to implement CT operations for results reporting (Task 3).

Observation 1: **Area for Improvement** – The newly implemented CT Module of the LabWare LIMS was used to enter results and generate final reports.

Analysis: Initially, CT Coordinators were unable to generate final reports from LabWare. This issue was temporarily resolved by having LabWare IT personnel push the final reports through the system for review and release. In addition, several final reports

were unknowingly sent to Data Entry for release with no indication on the reports that results were related to an exercise. There were several issues with the formatting and information contained in the report that require immediate attention or correction.

Recommendations: Final reports for the CT Program must be revised to reflect the following corrections in formatting and content:

- Generation of final reports for exercises that begin and end with the phrase "EXERCISE EXERCISE EXERCISE"
- Formatting of final report to properly display the Event ID (this item is cut off in the final report)
- Removal of CLIA certification number
- Inclusion of Tube ID (currently replaced by Order ID)
- Inclusion of a "References" section at end of report to provide contact information for questions concerning the results
- Inclusion of sample Analysis Date/Time

SECTION 4: CONCLUSION

The *2016 Florida Chemical Exposure Exercise* provided the Florida Department of Health (DOH), Bureau of Public Health Laboratories (BPHL) an opportunity to work with various partner agencies throughout the state of Florida. As with previous exercises hosted by the BPHL Chemical Threat Program, all participants worked diligently to contribute to its success. Exercise activities allowed the Chemical Threat Program to successfully measure and validate the selected target capabilities, Information Sharing and Public Health Laboratory Testing. Feedback indicated the exercise was indeed a learning environment that enabled successful collaborations for all involved. In addition, several participants were able to use the exercise as a training tool. All participants are now more aware of possible issues that may occur during a chemical exposure event, and the scope of involvement and agency interaction when responding. The Chemical Threat Program will work to make improvements in the noted areas and continue to maintain areas of strength.

The major strengths identified during this exercise are as follows:

- Specimen packaging and shipping – This portion of the exercise was revealed as a major strength through evaluations performed by Chemical Threat Coordinators. In addition, the handling of packages by Chemical Threat Coordinators was commendable.
- Poison Information Center/Hospital/Epidemiology Collaboration – The collaboration resulted in useful evaluations for all participants.
- Analytical Testing for surge capacity – Analysts worked diligently to prepare specimens and complete analysis to yield results within acceptable values and turnaround times.
- Exercise planning, design and execution – Participant feedback indicated that the exercise was well structured, with a plausible scenario and useful exercise documentation for exercise preparation; various agencies were brought together for successful collaborations.

Throughout the exercise, opportunities for improvement in Chemical Threat Program's ability to respond to the incident were identified. The primary areas for improvement, including recommendations, are as follows:

- Forensic Chain-of-Custody (COC) – The Chemical Threat Program must make the COCs process routine for sample receipt and management.
- Laboratory Information Management System (LabWare) – The Chemical Threat Program module of LabWare must be updated to include the corrections for sample management, including COCs and results reporting.

The Chemical Threat Program extends special thanks to all participating partners and hope that all and more will continue to utilize the program's yearly exercise as an opportunity for continued improvement and preparedness.

APPENDIX A: IMPROVEMENT PLAN

Table A.1 *Improvement Plan Matrix*

Capability	Issue/Area for Improvement	Corrective Action	Capability Element[1]	Primary Responsible Organization	Organization POC	Start Date	Completion Date
Capability 12: Public Health Laboratory Testing - Objective: Perform sample management	1. Activity: Maintain forensic chain-of-custody (COC) throughout the sample-management process/Chains of custody were established for all specimens received; however, not all were properly maintained.	The Jacksonville Chemical Threat group should implement COC procedures for all specimens received. This will help the COC process and the handling of specimens as evidence become more routine. Currently, the forms are generated using Microsoft Office (Word or Excel). To better manage the COC process, the LIMS should be used to generate COCs upon log in and to track samples.	Planning, Organization	Chemical Threat Program	Exercise Director or CT Chemist Administrator	Next sample receipt or surge exercise	Next surge exercise
	2. Activity: Determine a LabWare (LIMS) process to implement the Chemical Threat operations for sample management/The newly implemented LIMS (LabWare) was used to log in patient information and data.	Arrangements must be made for assistance with entering patient demographic information during surge exercises and actual events. This will require a plan that includes training data entry personnel to use the CT module in LabWare.	Planning, Organization, Training	Chemical Threat Program, Data Entry	Exercise Director, CT Chemist Administrator, Laboratory Director, Data Entry Manager, IT LabWare	TBD	06/2017

[1] Capability Elements are: Planning, Organization, Equipment, Training, or Exercise.

Capability	Issue/Area for Improvement	Corrective Action	Capability Element[2]	Primary Responsible Organization	Organization POC	Start Date	Completion Date
Capability 12: Public Health Laboratory Testing - Objective: Report results	1. Notify appropriate public health, public safety, and law enforcement officials (24/7) of presumptive and/or confirmed laboratory results from clinical, food, or environmental samples that involve a chemical, radiological, or biological threat agent. Send presumptive and confirmed chemical, radiological, or biological laboratory results to CDC and all submitters/ During the exercise, two participants received encrypted e-mails and were unable to open the attachments.	Chemical Threat Coordinators must confirm receipt of results and verify that all recipients are able to view encrypted e-mail attachments. All recipients unable to receive encrypted email must be listed to receive results by secure fax.	Planning, Organization, Exercise	Chemical Threat Program	Exercise Director or CT Chemist Administrator	Next exercise start date	Next exercise completion date

[2] Capability Elements are: Planning, Organization, Equipment, Training, or Exercise.

Capability	Issue/Area for Improvement	Corrective Action	Capability Element[3]	Primary Responsible Organization	Organization POC	Start Date	Completion Date
Capability 12: Public Health Laboratory Testing - Objective: Report results	2 Determine a LabWare process to implement CT operations for results reporting / The newly implemented LIMS (LabWare) was used to enter results and generate final reports.	Final reports for the CT Program must be revised to reflect the following corrections in formatting and content: • Generation of final reports for exercises that begin and end with the phrase "EXERCISE EXERCISE EXERCISE" • Formatting of final report to properly display the Event ID (this item is cut off in the final report) • Removal of CLIA certification number • Inclusion of Tube ID (currently replaced by Order ID) • Inclusion of a "References" section at end of report to provide contact information for questions concerning the results • Inclusion of sample Analysis Date/Time	Planning, Organization	Chemical Threat Program, Data Entry	Exercise Director, CT Chemist Administrator, Laboratory Director, IT LabWare, LabWare Project Manager	In process	06/2017

[3] Capability Elements are: Planning, Organization, Equipment, Training, or Exercise.

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APPENDIX B: PARTICIPANT FEEDBACK SUMMARY

PARTICIPANT FEEDBACK FORM

Exercise Name: 2016 Florida Chemical Exposure Exercise **Exercise Date:** 02/22-02/26/2016

Participant Name:_____ **Title:**_____

Agency:_____

Role: ___Player ___Observer ___Facilitator ___Evaluator

PART I: RECOMMENDATIONS AND CORRECTIVE ACTIONS

1. Based on the exercise today and the tasks identified, list the top 3 strengths and/or areas that need improvement.

   _____
   _____
   _____
   _____

2. Is there anything you saw in the exercise that the evaluator(s) might not have been able to experience, observe, and record?

   _____
   _____
   _____
   _____

3. Identify the corrective actions that should be taken to address the issues identified above. For each corrective action, indicate if it is a high, medium, or low priority.

   _____
   _____
   _____
   _____

4. Describe the corrective actions that relate to your area of responsibility. Who should be assigned responsibility for each corrective action?

   _____
   _____
   _____
   _____

5. List the applicable equipment, training, policies, plans, and procedures that should be reviewed, revised, or developed. Indicate the priority level for each.

   _____

PART II – EXERCISE DESIGN AND CONDUCT: ASSESSMENT

Please rate, on a scale of 1 to 5, your overall assessment of the exercise relative to the statements provided below, with **1** indicating **strong disagreement** with the statement and **5** indicating **strong agreement.**

Table B.1: *Participant Assessment*

Assessment Factor		Strongly Disagree				Strongly Agree
a.	The exercise was well structured and organized.	1	2	3	4	5
b.	The exercise scenario was plausible and realistic.	1	2	3	4	5
c.	The facilitator/controller(s) was knowledgeable about the area of play and kept the exercise on target.	1	2	3	4	5
d.	The exercise documentation provided to assist in preparing for and participating in the exercise was useful.	1	2	3	4	5
e.	Participation in the exercise was appropriate for someone in my position.	1	2	3	4	5
f.	The participants included the right people in terms of level and mix of disciplines.	1	2	3	4	5
g.	This exercise allowed my agency to practice and improve priority capabilities.	1	2	3	4	5
h.	After this exercise, I believe my agency is better prepared to deal successfully with the scenario that was exercised.	1	2	3	4	5

PART III – PARTICIPANT FEEDBACK

Please provide any recommendations on how this exercise or future exercises could be improved or enhanced.

Table B.2: *Participant Feedback Summary*

STRENGTHS	IMPROVEMENT AREAS/ISSUES	ADDITIONAL FEEDBACK/RECOMMENDATIONS
Communication with Poison Control – glitch in the reporting has been identified	1. During consultation with Poison Control, they did not recommend Cyanokits or Hydroxocobalamin for our patients. 2. Our hospital did not have Cyanokits nor was there a plan in place to get them, if needed. (2.) Should the use of Cyanokits/Hydroxocobalamin have been recommended by Poison Control? (3.) State supply for Cyanokits should be discussed. We did not have proper patient registration tracking. This will be reinforced with staff, even when the event is a known drill.	I think that these exercises are very well organized. However, since everything was supplied to us for the Pack and Ship portion, I would question the preparedness of most hospitals in the event of a real exposure. I wonder if it should be mandated for each facility to have the specific supplies and instructions in place or do we wait for DOH to send them at the time of need?
Strengths: 1. Very organized plan and coordination; timely injects were beneficial so we were kept abreast of the event. 2. Multiagency involvement in the Exercise 3. Groups having a go to person for any concerns 4. Chemical coordinator had open lines of communication throughout the event.	Improvement: 1. More State and Local participation. 2. More meaningful client documentation with demographic and medical information that warrants epidemiology investigation. 3. For those hospitals participating to identify other key persons (designated as leaders) so that Laboratory coordinators could attend to more specific laboratory roles. Improvement 1. High priority. To identified and include those stakeholders have specialized skills to participate. Improvement 2. High priority. For Upcoming Exercise to have hospitals (admitting person) creating demographic and history profile about the cases. Improvement 3. Medium priority. Participating hospital to take initiative to include front line staff in the exercise. Perhaps to have Exercise Drill Flyer distributed to agencies and organization Responsibility for corrective action: 1. DOH- County level staff and State LEVEL Lead person who agrees to participate in the Drill 2. Lead Hospital Coordinator 3. Lead Hospital Coordinator	**Recommendations:** More agencies and other departments within the geographical area of Local County Health Department would benefit from this exercise. I also learnt that it is very important to have all those key players involved in this exercise in the event of a real life situation, they would know be more proficient in a real life event. Stressing the importance of such exercise is never redundant. Having the exposed cases demographic information so that Epidemiology staff can truly practice what is expected in a real situation such as interviews to gather more information and determine the determinants of health related events. Hospital staff providing continuous updates on the hospitalized cases as the day Event continues. It would therefore be important to have more than one nurse coordinating the reporting to Epi or initially to the ICP who interns reports to us all updates. Overall I commend the coordinator who took so much time, energy and commitment to execute and complete the exercise drill. **Applicable Training:** Epidemiology has the necessary equipment for exercise. I believe specimen containers for the type of chemical needed in a drill might become necessary for epidemiology to distribute in the event facilities experienced issues. Chemical Threat policy training to all Public health preparedness group.
Ability of leadership and staff to immediately identify gaps and adapt/ learn new tasks. - On scene, instructions were clear and concise. - Safety was observed during DECON setup and breakdown	ALL EM equipment should be centrally located and periodically checked (for problems). Command Center disorganized. – Session Chiefs can assign responsibility to their team members. – How crowded the Command Center was – Emergency Management Radios need more accountability. – More participation from line-staff.	EM radio checklist/Log so they can maintain and checked periodically (Medium Priority) – JSCH should hold "Table-Top" drills throughout the year (High Priority) – Command Center seating should be set up like HICS chart (Low Priority)

STRENGTHS	IMPROVEMENT AREAS/ISSUES	ADDITIONAL FEEDBACK/RECOMMENDATIONS
Strengths: a) Hospitals were willing to participate with Poison Centers by calling in reports on "patients. b) All three poison centers worked together on the drill.	Area for Improvement: Too many patients called into poison centers at one time was a burden on Poison Center staff who were also getting Zika calls and other Real World calls. It's better to have no more than 3 critical patients at a time especially if the patients are exposed to more than one possible chemical. Corrective actions: a) Have just one toxin per exercise b) Only call three patients at a time. Space out the patients into more than one call c) Arrange more poison center staff to answer poison center phones during drill. Medical staff in Poison Centers didn't want to simply accept cursory info of multiple disaster patients. They took the drill seriously and wanted to ask hospital callers enough questions to identify the chemicals and provide treatment recommendations, as they normally do. It added stress and time due to the challenging scenario.	Poison Center staff that participated in the drill realized that a disaster could happen in just the manner the scenario was set up. They are motivated to set up additional in-house training. The method for poison centers to notify DOH was not ironed out ahead of time. We only simulated calling DOH but needed to know how we'd actually report an unknown toxin during a real disaster. That loop needs to be closed in the future so that we can strengthen the relationship between poison centers and DOH. Question, is a phone call to a county-level epidemiologist sufficient in case the poison staff is unable to enter all the patient charts into the system?
Better understanding on the role of epidemiology The use of the multiple patient query sheet produced by Dr. Johnson was invaluable The exercise showed the realism of patient flow and its overwhelming nature in an unexpected event	High Priority for the role of epidemiology. In an event/exercise that deals with chemicals of interest, such as cyanide, being part of the design or part of the planning committee is essential for initiating the proper correspondence in a timely manner. This will also be applicable for getting more County Health Dept. epidemiologists to "play." High – a multiple patient query sheet is needed for real events and can be incorporated as a form in the Epidemiology Chemical Toolkit for CHDs High – Unfortunately reality disrupts daily routine but understanding how to continue daily ops with an event is critical.	Chemical Toolkit is a high priority and is being revised for final submission to be delivered for that review by June 30, 2016.
Rapid effective communication of incident to alert and step up all hospital responding units Rapid deployment of resources Effective Internal triage and treatment Effective Communicate & Coordinate between ED and Hospital Lab	Improve on ability to effectively organize the ED patient decontamination TEAM function Improve on identifying DECON zones and applying corresponding staging items Improve on the ability of DECON persons to communicate to patient Improve on ER□s capability to accurately assess All opportunities will require that personnel receive additional training and exercises. A focus will be to assure ER point persons can refer to Job Action Forms. Operations Personnel tasked with Staging will have to be retrained. Communication devises as portable intercoms will be looked into.	For the complexity of such an exercise I believe it to have been very well developed, controlled and having an outcome for UMH as being beneficial and constructive. Thank you so much Faith to you and your Team, communication, injects, timing etc. was great. WELL DONE!!!!!

STRENGTHS	IMPROVEMENT AREAS/ISSUES	ADDITIONAL FEEDBACK/RECOMMENDATIONS
The instructions became confusing because the packaged received was already packaged in the manner that it needed to be shipped out, the process would improve if we received all items separated for us to be able to create the package. I struggled with the decision, do I open the package and repackage it or do I just send it as is.	Label package to be opened and then use materials enclosed to repackage the material as it arrived.	Our Policies worked for this exercise, we have not identified any potential conflicts that require change As stated, the issue is with the instructions of unpacking the package to realistically go through the motions from scratch. I appreciate the effort put forth that allows us to participate in a process that would be beneficial in such an event. Thank you.
Packaging and shipping becomes easier every year Clear instructions to follow	I could not always open encrypted messages (to be improve)	
I was placed in the position of Planning Section Chief and I had never played that role before. I was completely unsure as to my duties and responsibilities Had this been an actual alert, there would have been major issues because there were several of the team members in roles we had never performed	I would definitely recommend more drills and that there be cross training on at least 2 other roles so that in the event of an actual emergency there is preparedness, consistency, continuity and appropriate response. In an actual emergency there will be people that will not be able to be reached. Some that may be away, out of town and on vacation or paid leave. The cross training is a necessity to assure that there is a smooth transition when some roles cannot be filled by the reassigned personnel.	The entire team working with hospital leader need to restructure roles and alternate roles in the event that personnel are unable to participate in their assigned role.
Strengths: Communication within the Laboratory Rapid response of the laboratory Organization of the exercise	LabWare – login is slow; entering of demographics is slower; lack of QC tracking; Reporting had several issues LabWare: Corrective actions could range from installing/correcting the various modules so that the program will perform more efficiently to procuring a LIMS which is designed with a Chemistry Laboratory in mind. LabWare and IT while paying attention to the input from the Lab which has to use the program. Unexpected issues with reporting the results. Highest priority is making sure that the CT lab has full and total control of the report dissemination.	Exercise was well designed and executed. No further comments necessary.
The exercise was well coordinated.	The only area that I feel needs improvement is the shipping instructions. Several of the participants and our facility samples did not arrived at the expected temperature. Instructions should have stated to freeze gel packs, since these were not going have direct contact with the samples there was no risk of samples freezing in error. Update packing instructions (medium)	
The communication with the hospital ICP and the Lab Director was a great help. They were very cooperative. By Faith having the frequent scheduled calls about the exercise was very important. This was key to the success of this exercise because all the participants from all counties were able to communicate. The coordination with Environmental Preparedness Epidemiologist was a big help. He was able to advocate for us at a local level. He knew what our needs and roles were.	All key partners (Lab, ICP, FBI, LEO, EPH, etc., should be involved next time an exercise is held. High: ICP should to coordinate with ER Hospital Lab should coordinate with ICP ICP should report local CHD then CHD reports to BPHL FBI and EPI should work together for joint investigations Responsibility: program manager of Lead EPI Strike Team member	This response is based on Palm Beach standpoint

STRENGTHS	IMPROVEMENT AREAS/ISSUES	ADDITIONAL FEEDBACK/RECOMMENDATIONS
Communication throughout the exercise was excellent!		
Laboratory Sample Receiving Laboratory Analytical Performance Laboratory Communications	LabWare – not user friendly for this exercise LabWare – Reporting Results to the Hospital (Forms) Responsibility: BT/CT IT Manager LabWare issues (Demographics – needs DEO for help) Back –up Instrumentation in case of Instrumentation breaks down	The exercise was well planned and executed.
1. The more practice we get at shipping these types of samples, the better we are. 2. Communication was very good 3. The exercise was very organized	1. We should have asked more questions about the documentation portion of the shipping exercise. 1. Fortunately we had blank forms from other years when we realized we needed a shipping manifest.	I think defining the PPE including the type of gloves to be used in handling and preparing specimens would be a great addition to the next exercise. Ms. McInnis was a great facilitator. She did an excellent job. The scope of the exercise involved a lot of facilities. We have participated for the past 3 years and find it a very valuable exercise.
We need to get more employees at IRMC certified in shipping/packaging.	The 2016 training classes have been announced with the Dept. of Health Infectious Substances Packaging and Shipping. We have scheduled one employee so far to attend in May. Additionally, we have ordered a SAFE-T-PACK Training Package. We will complete the onsite training for 12 more staff members.	The exercise went well – I now know more about Mubtakkar than I need to. We participated at the Packaging/Shipping level. No equipment, training or policies require review, revision or developed. GREAT EXERCISE. THANK YOU FOR THE OPPORTUNITY TO PARTICIPATE.
1. Strength – Packaging directions were clearly laid out.	2. Need Improvement – Paperwork for shipping Improvement: Paperwork for shipping – Need to have examples of the paperwork and how to fill out (i.e. pictures and a list of paperwork requirements). 1) Need a policy/procedure for shipping along with detailed instructions. 2) Need to order sufficient supplies for shipping	
	Communication between team (no radios) – Communication between areas (no radios) – Step by step sheet on set up area – Tents receive patients and Decon members – Communications: Must purchase radios. High priority – Step by step sheet on set up area: High, put a diagram of staging area. – Tents to receive patients and shelter Decon members: High l – Purchase tents	Heat outside. It changed the time we kept our team suited up. If we had tents it would extend time we needed to work. Radios a must (high), tents or shelter (high), Develop setup diagrams (high) We can improve the exercise by playing with all the departments more often. Having outside non-Jackson observers that would evaluate our performance and procedures. Not to penalize but to give instruction. More education, classes, or training.
Radios were working well for effective communication. – The event was well organized and participants knew their roles. – Charge nurses reported promptly to the command center with their ancillary staff.	The Ed nurses needed education on how to use the Cyanide antidote kit. – Chiefs should designate a back-up person at times when they are not available. – Availability of the Cyanide Antidote kits.	
STRENGTS: Organization, Handouts/Instructions/Leadership (Faith)		Nothing to improve on from my end

STRENGTHS	IMPROVEMENT AREAS/ISSUES	ADDITIONAL FEEDBACK/RECOMMENDATIONS
1) Strength - Receipt of the packages and logging in the samples, although it required 4 staff members, was very well executed. Two people would unload and grade the package and then pass the samples onto two other people who would then log the samples into a Chain of Custody form and assign a lab ID number, simultaneously. 2) Strength – Thanks to Reden Salonga, the sample preparation for this exercise went very smoothly. Samples were received in blood tubes and had to be withdrawn by syringe (when receiving PT samples, they are already in 10mL GC vials ready for the instrument so there is typically no sample prep). Myself, Janet Jones, and Walter Mock performed sample prep on a few samples, but Reden did the bulk of the prep. Reden began preparing the samples as soon as they were logged in. This made the analysis run very smoothly because samples were already prepped and ready to go. The only issue with analysis occurred when the filament in the instrument went out and a few of the samples needed to be re-prepared and re-analyzed. This was an easy fix and could have happened at any moment, but thanks to Walter Mock, we were back up and running very shortly.	3) Weakness – LabWare was a huge weakness in this exercise. Since we do not have the ability to create a Chain of Custody (COC) within LabWare, this made tracking samples a little more difficult. Instead, we had to create our own Chain of Custody reports. This made it so we were essentially logging in the samples two times. Once on our own COC and once in LabWare. We also had a huge issue with reporting from LabWare. Initially, we were unable to generate a final report (due to an issue with the CT Module of LabWare). The only way for us to generate a report was to inform someone with a "Developer" role after our samples had been "Released", then they were able to push the final report through for us to view. On the third day of the exercise, I was informed by Jackie Sayers, that our final reports were being sent to the Data Entry section of the BPHL-Jax with no indication of the sample being an exercise sample. This was a huge flaw! We were never informed that our reports were automatically sent to Data Entry until the third day of the exercise, therefore, some reports may have been sent out without the indication that they were a part of an exercise. This issue was finally resolved by allowing the CT group to generate a final report on our own. However, that fix did not occur until the exercise was over. There are several issues with the report in general. Apparently most of those issues have been fixed in the "Dev" of LabWare, but I was told not to work in "Dev" anymore because LabWare personnel was making corrections and I would only need to test it in the "Prod" phase. Making corrections in "Dev" does not help us when we are trying to work with real samples, especially if the "Prod" phase of LabWare was already pushed out to us. If "Prod" LabWare is not ready, then we should not be using it. The report (within LabWare "Prod") is cutting off the Event ID. It also has a CLIA #, which we are not CLIA certified, so having that on there is really bad. LabWare also changes the Tube ID, which is entered in the demographics portion, to Order ID. I have no idea why it would change the name of that field, but it does. We are also missing the "References" section that we have asked for. This section, which should be on the bottom of our reports, informs the Physician on who to contact if there are questions about the Toxicology of the analyte, or questions about the results. We have also asked LabWare to include the Analysis Date/Time of a sample, but they believe we do not need that. The date the sample results were entered into LabWare is the date that appears on our reports, but this is not right and needs to be corrected. In my option, with all of these problems with LabWare, the "Prod" phase should have never been released until these issues were resolved.	We need to have a meeting with LabWare personnel to discuss all of these issues, as well as other issues we have with LabWare not related to this exercise. This is a high priority issue! Responsibility: Personnel responsible for LabWare corrections, most likely that would be Robin Lusk, Jackie Sayers, and LabWare staff Because of all the testing I have already done in LabWare, I anticipated issues. This was unavoidable due to unresolved issues that have been lingering for months The only training the CT group needs is for "How to Navigate LabWare." I created a document which can be found in our Share folder, but it does not have everything included. I need to go back to it and add a few things for the users This exercise was designed and executed very well. As you can see in Part II, I gave all 5's except for (h). I believe our lab is prepared to deal successfully with a similar scenario, with the exception of the use of LabWare. That was the only thing I think needs improvement for a successful event in the future.
1. Collaboration opportunities for healthcare systems and their respective labs. 2. Learning opportunity in biological response for hospitals, esp. labs. 3. Opportunity to exercise the decon and other disaster responses.	No corrective action are needed. The exercise fulfilled the objectives.	

STRENGTHS	IMPROVEMENT AREAS/ISSUES	ADDITIONAL FEEDBACK/RECOMMENDATIONS
1. Ability to work effectively as a team which includes prepping and analyzing samples, processing data, and receiving samples. 2. The package and shipping portion of the exercise that the hospitals participated in. They did an excellent job.	1. LabWare: Reports were getting sent to data entry. Final report unsatisfactory. Time-consuming to enter demographics. Date/Time analysis not available. LabWare: Once we realized the reports were getting sent to data entry we requested for that to stop. We should have been notified from the beginning when LabWare went into production that this was going to happen. This issue was resolved towards the end of the exercise so it is classified as neither high nor low priority. Final report has many errors that need to be addressed which includes items being cut off, CLIA #, reference ranges, and contact information on bottom of report. High priority. If we receive a significant amount of samples we will need the assistance of data entry to enter the demographics, and also date/time analysis for each sample needs to be added. Both are high priority. Responsibility: Anyone associated with LabWare which includes Robin Lusk, Jackie Sayers, and Lisa Williamson. I anticipated problems with LabWare because these have been known problems that we addressed before that were never fixed.	LabWare still needs improvement if we are going to use this LIMS successfully in the future for either exercises or a real event. We will need these issues addressed and fixed soon.
Area of Strengths: Pre exercise Planning Activities were extremely well organized. Attention to Detail was superb. Exercise Chemical Threat Coordinator Always open to suggestions	Areas needing improvement: There should always be at least 2 persons from our agency involved with call ins for informational calls. I have always thought that but this exercise one of our Lead personnel's Father passed away and the remaining Lab Personnel were not familiar with procedures for shipping etc. High priority to assign a second or backup person to be familiar with their area and the requirements for the exercise Lead person is to assign a backup person to the exercise with copies of e mails and directives at their access Responsibility: Exercise Controller	Mentioned in previous comments. During the exercise, our Charge Nurse contacted our Hospital Pharmacy to ask how many antidote kits we had on hand. She was told by the Pharmacist that we only had 1 Cyanide Antidote kit on hand and that it was her understanding that the kits are not made anymore. From personal experience as a Paramedic, EMS and Fire/EMS had been asked to house many of the WMD Kits and had agreed to do so. I would not be surprised if many of them are now expired. This might be something that should be checked out and then notices sent out to all hospitals as to where the cache of Chem Pak's are kept in case we were to need them. Thank you for adding this concern to my Participant Feedback Form for this exercise.
1. Based on the exercise events and the tasks identified, list the top 3 strengths and/or areas that need improvement that you identified after participating in the exercise. The instruction material was easy to follow.	Please make the blue material bigger so we can wrap the entire box with no problem. We had to use 2 blue sheets to completely wrap the inner box. Obtain a bigger size of blue wrapping sheet.	

APPENDIX C: COMPLETE LIST OF PLANNERS AND PARTICIPANTS

Table C.1: *Planners and Participants*

Centers for Disease Control and Prevention				
Chariety Sapp, Research Scientist, Battelle Contractor - Centers for Disease Control and Prevention, CDC	**Amy Watson** – LRN-C Team Lead, Centers for Disease Control and Prevention	**Rudolph Johnson** – ERB Chief – Centers for Disease Control and Prevention	**Hans Cooper** – Communications – Centers for Disease Control and Prevention	**Christopher Pittman** – Exercises - Centers for Disease Control and Prevention
Florida Poison Information Centers				
Jay Schauben PharmD, DABAT, FAACT - Director, Florida/USVI Poison Information Center – Jacksonville UF Health, Professor, Department of Emergency Medicine, College of Medicine, UF Health Science Center – Jacksonville	**Alfred Aleguas Jr. BS Pharm, PharmD, D.ABAT** Managing Director Florida Poison Information Center- Tampa General Hospital, Tampa	**Richard Weisman Pharm.D., FAACT** – Director, Florida Poison Information Center, Miami	**Eva Jerez** – Administrative Director, Florida Poison Information Center, Miami	**Dawn Sollee PharmD, DABAT** – Assistant Director, Poison information Center, Jacksonville
JoAnn Chambers-Emerson - RN, BSN, CSPI, Certified Specialist in Poison Information Educator-FL Poison Information Center, Tampa General Hospital, Tampa	**Jami Johnson, PharmD** – Clinical Toxicology/Emergency Medicine Fellow, Florida Poison Information Center, Jacksonville	**Jessica Rivera, PharmD** - Florida Poison Information Center, Miami		
All Children's Hospital				
Monica Gray - Specialty Lab and Project Manager Pathology and Laboratory Medicine - All Children's Hospital, St. Petersburg	**Si Intravichit** – Microbiology Supervisor - All Children's Hospital, St. Petersburg	**Jessie Rauch** – Disaster - EMS Coordinator - All Children's Hospital, St. Petersburg	**Federico Gordon Jr.** – Core Laboratory Manager	**Rico Gordon** - All Children's Hospital, St. Petersburg
Baptist Hospital of Miami and Baptist Health South Florida				
Mark Jammel – Manager Lab Services - Baptist Hospital of Miami, Miami	**Jean Arias** - Emergency Preparedness and Security - Baptist Health South Florida, Miami	**Rosemary Morera** - Administrative Director Laboratory Service - Baptist Hospital of Miami; Baptist Health South Florida	**Rajesh Maragh** - Baptist Health South Florida, Miami	
Baycare Health System		**Bayfront Health**	**Cleveland Clinic Florida**	
Gene Crossley Jr. - Manager Facilities Operations Ambulatory Care, Palm Harbor	**Barbary Przybyszewski** – Baycare Health System	**Glenn Baker -** Emergency Management Coordinator Public Safety, Bayfront Health, St. Petersburg	**Norman Epps** - CHE, CHEP, Director of Engineering, Cleveland Clinic Florida, Weston	**Adam Yanckowitz** - Emergency Management Program Coordinator, Cleveland Clinic Florida, Weston
Delray Medical Center		**Department of Veterans Affairs – Miami VA**		
Janet Tucker - Director of Laboratory Service - Delray Medical Center, Delray Beach		**Ivonne Garcia**- Chief Medical Technologist, Miami VA Healthcare System, Miami		

Doctors Hospital			**Florida Hospital Orlando**	**HCA Healthcare**
Onelia Noa-Mantilla – Laboratory Manager, Doctors Hospital, Coral Gables	**Rosa Maria Hervis** - MT, DLM, SLS(ASCP), MBA; Laboratory Administrative Director/ Safety Officer, Doctors Hospital, Coral Gables	**Kimdashé Sherman** - MBA, CHSP, HEM; Manager, Safety and Emergency Management (Safety Officer),	**Lissette Gonzalez** - BS/BM, PBT(ASCP) Laboratory Manager, Send-outs - Florida Hospital Orlando,	**John Mason** – HCA Healthcare
Homestead Hospital				
John Ringwald - Director, Facilities Management, Homestead Hospital, Homestead	**Silvia Costales** - Microbiology Supervisor, Homestead Hospital, Homestead	**Karlene Yee-Buchanan** – Lab Manager, Homestead Hospital, Homestead		
Indian River Medical Center				
Patric Gibson - BS, MT (ASCP); Director, Laboratory Services - Indian River Medical Center, Vero Beach	**Kitty Rodgers** – Microbiology Supervisor, Indian River Medical Center, Vero Beach	**Robert Michael** – CHFM, Facilities Director, Indian River Medical Center, Vero Beach	**Barbara Pennell** - Indian River Medical Center, Vero Beach	**Jennifer Detmer** – Administrative Assistant, Indian River Medical Center, Vero Beach
Jackson Memorial Hospital				
Felton Singleton - Bio-Terrorism Coordinator - Jackson Memorial Hospital, Miami	**David Daley** - Assistant Administrator, Emergency Management Specialist Division of Public Safety - Jackson Memorial Hospital - Jackson health System, Miami	**Michael Day** – CORE Lab, Jackson Memorial Hospital, Miami	**Dr. Gerard Job** - Jackson Memorial Hospital, Miami	**Rosayda Cortes** – Clinical Lab Manager, Jackson Memorial Hospital, Miami
Abdul Memon – Chief Medical Officer for Disaster & Emergency Preparedness, Jackson Memorial Hospital, Miami				
Jackson South Community Hospital				
Nicolas Cheleotis - Security Services Manager - South District – Jackson South Community Hospital, Miami	**Natacha Vega** - Associate Administrator, Laboratory and Respiratory Services - Jackson South Community Hospital, Miami	**Howard A. Garcia** – Decon - Jackson South Community Hospital, Miami	**Luis Licea** – ER Director - Jackson South Community Hospital, Miami	**Eric Schropp** – ER Director - Jackson South Community Hospital, Miami
Eddie Borrego – COO - Jackson South Community Hospital, Miami				
Kendall Regional Medical Center		**Mariners Hospital**		
Vernon Jones – Safety Officer, Kendall Regional Medical Center, Miami	**Cathy Mintz** - Administrative Director, Laboratory, Kendall Regional Medical Center, Miami	**Cleo Puerto** - Laboratory Manager, Mariners Hospital, Travernier	**Deena Brito** - Director Professional Services, Mariners Hospital, Travernier	**Janet Catani** - CHFM; Director Facilities Management, Mariners Hospital, Travernier
Mease Dunedin Hospital	**Memorial Hospital**	**Mercy Hospital**		
Nancy Gabrielli - Lab Quality and Education Coordinator, Mease Dunedin Hospital, Dunedin	**Gregory Miller** - Emergency Preparedness Coordinator, Memorial Hospital, Jacksonville	**Julissa Rossello** - CHSP, CHEP; Safety & Security, Mercy Hospital, Miami	**Marie Danois**- Lab Director, Mercy Hospital, Miami	
Morton Plant Mease Hospital		**Mount Sinai Medical Center**		
Dirk Palmer - CHS-III, CHSS Emergency Preparedness Coordinator - Morton Plant Mease Healthcare	**Adrian Waldron** - Lab Referral Coordinator, Morton Plant Mease Healthcare	**Sharon Licciardi** - Laboratory Administrative Director - Mount Sinai Medical Center, Miami	**April Hoyt** - Safety Officer/Emergency Preparedness Coordinator - Mount Sinai Medical Center, Miami	

Munroe Regional Medical Center				
Jimmie B. Enderle - PMD, CHEC, II ,Manager, Emergency Management I, Munroe Regional Medical Center, Ocala	**Marilyn Arcenal** – Clinical Laboratory Technical Manager, Munroe Regional Medical Center, Ocala	**Patricia Hamelin** – Lab Manager POCT/QCQA, Munroe Regional Medical Center, Ocala		
Orange Park Medical Center			**South Bay Hospital**	
Michael Ibuoye - Microbiology Supervisor - Orange Park Medical Center, Orange Park	**Martha Marshall** - Administrative Laboratory Director - Orange Park Medical Center, Orange Park	**Richard Ward** - Director of Safety and Security - Orange Park Medical Center, Orange Park	**Daniel Bender** – Chief Operating Officer/ Ethics and Compliance Office, South Bay Hospital, Sun City Center	
South Miami Hospital			**St. Cloud Regional Medical Center**	
Chloris Garcia, MT - SMH Microbiology Manager/ Lab Safety Officer - South Miami Hospital, Miami	**Mercy Banaszak** - Administrative Director Laboratory Services - South Miami Hospital, Miami	**Nancy Acebal** – CHSP, HEM - Safety & Emergency Management/ Hospital Safety Officer - South Miami Hospital, Miami	**Kevin Bacchus** - BS, MT(ASCP) Director of Laboratory Services - St. Cloud Regional Medical Center, St. Cloud	
St. Joseph's Hospital		**St. Vincent's Medical Center**		
Janet Wells – Administrative Director Laboratory Services - St. Joseph's Hospital, Tampa	**Mark Francesconi** - Emergency Preparedness Coordinator & Fire Marshall - St. Joseph's Hospital, Tampa	**John Magaldi** – Supervisor, Security/Safety, St. Vincent's Medical Center, Jacksonville	**John Coffey** – Environmental Health and Safety Specialist, St. Vincent's Medical Center, Jacksonville	
Twin Cities Hospital		**University of Miami Hospital**		
Diann Rehr – Laboratory Director – Twin Cities Hospital, Niceville	**Lisa Davis** - RN, BSN, CHEC Business Health Educator Emergency Preparedness Coordinator - Twin Cities Hospital, Niceville	**Douglas von der Crone** – Safety officer/Emergency Preparedness Manager, University of Miami Hospital	**Dr. Michael Gayle** – Laboratory Director, University of Miami Hospital	
West Kendall Baptist Hospital				
Jorge Cardenas - Laboratory Supervisor Eves/Night - West Kendall Baptist Hospital, Miami	**Lester Bencomo Monzon** – Processing Supervisor, Lab Support - West Kendall Baptist Hospital, Miami	**Louis Collado** - Director, Safety and Patient and Guest Services- West Kendall Baptist Hospital, Miami	**Miguel Diaz** – Safety Coordinator- West Kendall Baptist Hospital, Miami	**Maria Gauthreaux** - Director, Laboratory - West Kendall Baptist Hospital, Miami
Westchester General Hospital		**Wuesthoff Reference Laboratory**		
Raul Ruiz - ED Director - Westchester General Hospital, Miami	**Silvia Theye** - M.T. ASCP Laboratory Director - Westchester General Hospital, Miami	**Janet Smith** – Director – Wuesthoff Reference Laboratory, Wuesthoff Health System, Melbourne		
Florida Department of Health – Tallahassee/Leon County				
Ben St John - Training Exercise and Evaluation Unit Manager - Bureau of Preparedness and Response, Tallahassee	**Sarah Cox** - Exercise Coordinator - Bureau of Preparedness and Response, Tallahassee	**Emily Wilson** - Training Coordinator - Bureau of Preparedness and Response, Tallahassee	**Tom Belcuore** - Consultant, Bureau of Preparedness and Response, Tallahassee	**Aaron Otis** - Public Health Advisor - Bureau of Preparedness and Response, Tallahassee
Scott Bowden – Environmental Preparedness Epidemiologist, Bureau of Epidemiology, Tallahassee	**Prakash Mulay** - Environmental Specialist III - Bureau of Epidemiology, Tallahassee	**Mike McHargue** - Government Operations Consultant III - Bureau of Preparedness and Response, Tallahassee	**Ann E. Rowe** - Lead Crisis and Risk Communications Coordinator / PIO - Office of Communications Florida Department of Health - OFFICE OF STATE SURGEON GENERAL, Tallahassee	**Melanie Motiska** – Statewide PIO Training Coordinator – Office of Communications, Tallahassee
Jamie DeMent – Food and Waterborne Disease program Coordinator – Bureau of Epidemiology, Tallahassee	**Kenyon Carter** – Professional Engineer – Leon County, Tallahassee	**Jorge Laguna** – Environmental Manager, Radon Program - Leon County, Tallahassee	**Debbie Kelley** – Medical Surge – Leon County, Tallahassee	

Florida Department of Health (DOH)– Jacksonville/Duval County				
Susanne Crowe – Acting Bureau Chief, Jacksonville Laboratory Director – Bureau of Public Health Laboratories	**Thomas Dates** – IT Manager, Bureau of Public Health Laboratories	**Leila Filson** – Safety/Training Coordinator - Bureau of Public Health Laboratories	**Lindsay Flagg** - Chemical Threat Coordinator - Bureau of Public Health Laboratories, Jacksonville	**Lois Faye Hubbard** – Administrative Assistant II - Bureau of Public Health Laboratories, Jacksonville
Janet Jones - Chemical Threat Coordinator - Bureau of Public Health Laboratories, Jacksonville	**Walter Mock** - Chemical Threat Coordinator - Bureau of Public Health Laboratories, Jacksonville	**Jason Palcic,** Ph.D. - Chemical Threat Coordinator - Bureau of Public Health Laboratories, Jacksonville	**Mary Ritchie** Ph.D. - Bioterrorism Laboratory Program Advisor - Bureau of Public Health Laboratories	**Marie-Claire Rowlinson**, Ph.D. – Assistant Laboratory Director, Bureau of Public Health Laboratories, Jacksonville
Redentor Salonga - Chemical Threat Coordinator - Bureau of Public Health Laboratories, Jacksonville	**Jackie Sayers** – System Programmer III - Bureau of Public Health Laboratories	**Oria Smith** – Chief Chemist, - Bureau of Public Health Laboratories, Jacksonville	**Yvette Wilson** – Chemist Administrator - Bureau of Public Health Laboratories, Jacksonville	**Sarah Winn** – Emergency Preparedness & Response Manager, Intelligence Liaison Officer, Duval County, Jacksonville
Wesley Marsh Jr., MBA – Strategic National Stockpile/Cities Readiness Initiative Trainer, Medical Reserve Corps Coordinator, Duval County, Jacksonville	**Terri Davis** – Special Needs Coordinator – Duval County, Jacksonville			
Florida Department of Health – Tampa/Hillsborough County				
Andrew Cannons Ph.D., HCLD(ABB) - Tampa Laboratory Director - Bureau of Public Health Laboratories, Tampa	**Richard France**, Ph.D. – Assistant Laboratory Director – Bureau of Public Health Laboratories, Tampa	**Hunter Zager** – Regional Emergency Response Advisor (RERA) – Hillsborough County, Tampa	**Joseph Mastandrea** – Senior Program Coordinator, Fire Rescue, Office of Emergency Management – Hillsborough County BOCC	
Florida Department of Health – Miami/Dade County			**Florida Department of Health – Alachua County**	
Juan Suarez – Regional Environmental Epidemiologist – Dade County, Miami	**Leah Gillis** Ph.D.– Miami Laboratory Director – Bureau of Public Health Laboratories, Miami	**Elesi Quaye**, Ph.D. – Assistant Laboratory Director – Bureau of Public Health Laboratories, Tampa	**Sandi Courson** – Government Operations Consultant III, Alachua County, Gainesville	
Florida Department of Health – Broward County		**Florida Department of Health – Escambia County**		
Freda Vaughn – Regional Emergency Response Advisor – Brevard County, Fort Lauderdale		**David Chmiel** – Biological Scientist IV – Escambia County, Pensacola	**Eric Gilmore** – Regional Emergency Response Advisor Region 1 - Escambia County, Pensacola	
Florida Department of Health – Hernando County		**Florida Department of Health – Marion County**		**DOH - Martin County**
Nina Mattei – Government Operations Consultant III – Hernando County, Springhill		**Randy Ming**, Government Operations Consultant I, Marion County, Ocala		**Lisa Poziomek,** Government Operations Consultant, Martin County, Stuart
Florida Department of Health – Okaloosa County				**Orange County**
Katie Holbrook – PHP Section Chief - Okaloosa County, Fort Walton Beach	**Ashely Rendon** – Epidemiology, Biological Scientist III - Okaloosa County, Fort Walton Beach	**David Brinkley** – Planning Consultant - Okaloosa County, Fort Walton Beach	**Steven Rendon** – Planner III - Okaloosa County, Fort Walton Beach	**David Freeman** – Orange County Disaster and Emergency Services - Orlando
Florida Department of Health – Osceola County		**DOH – Palm Beach County**		**DOH – Polk County**
Nathaly Acosta, MPH, Epidemiology/TB & Refugee Health Program Manager, Osceola County, Kissimmee	**Bret Smith** – Environmental Administrator, Osceola County, Kissimmee	**Merlene Ramnon** – Nursing Program Specialist, Palm Beach County, West Palm Beach	**Shamilla Lutchman** – Program Consultant I, Palm Beach County, West Palm Beach	**Krys Johnson** – Biological Scientist III, Polk County, Bartow
Florida Department of Health –Volusia County				
Richard Moore – Planner II, Volusia County, Daytona Beach				

APPENDIX D: HOSPITALS AND EXERCISE PARTICIPATION

Table D.1: *Hospital Participation*

Hospital	City	County	Exercise Participation
All Children's Hospital	St Petersburg	Pinellas	Specimen Packaging and Shipping; Poison Information Center Collaboration
Baptist Hospital of Miami	Miami	Dade	Specimen Packaging and Shipping
Baycare Health System	Palm harbor	Pinellas	Observer
Bayfront Health	St. Petersburg	Pinellas	Decontamination drill
Cleveland Clinic Florida	Weston	Broward	Decontamination drill
Delray Medical Center	Delray Beach	Palm Beach	Decontamination drill; Specimen Packaging and Shipping; Poison Information Center Collaboration
Department of Veterans Affairs – Miami VA Healthcare System	Miami	Dade	Observer
Doctors Hospital	Coral Gables	Dade	Decontamination drill; Specimen Packaging and Shipping; Poison Information Center Collaboration
Florida Hospital Orlando	Orland	Orange	Specimen Packaging and Shipping
Homestead Hospital	Homestead	Dade	Specimen Packaging and Shipping
Indian River Medical Center	Vero Beach	Indian River	Specimen Packaging and Shipping
Jackson Memorial Hospital	Miami	Dade	Decontamination drill; Specimen Packaging and Shipping; Poison Information Center Collaboration
Jackson South Community Hospital	Miami	Dade	Decontamination drill; Specimen Packaging and Shipping; Poison Information Center Collaboration
Kendall Regional Medical Center	Miami	Dade	Specimen Packaging and Shipping; Poison Information Center Collaboration
Mariners Hospital	Tavernier	Monroe	Specimen Packaging and Shipping; Poison Information Center Collaboration
Mease Dunedin Hospital	Dunedin	Pinellas	Observer
Memorial Hospital	Jacksonville	Duval	Observer
Mercy Hospital	Miami	Dade	Decontamination drill; Specimen Packaging and Shipping; Poison Information Center Collaboration
Morton Plant Hospital	Clearwater	Pinellas	Specimen Packaging and Shipping
Mount Sinai Medical Center	Miami Beach	Dade	Decontamination drill; Specimen Packaging and Shipping; Poison Information Center Collaboration
Munroe Regional Medical Center	Ocala	Marion	Specimen Packaging and Shipping; Poison Information Center Collaboration
Orange Park Medical Center	Orange Park	Clay	Specimen Packaging and Shipping
South Bay Hospital	Sun City Center	Hillsborough	Observer
South Miami Hospital	Miami	Dade	Decontamination drill; Specimen Packaging and Shipping
St. Cloud Regional Medical Center	St. Cloud	Osceola	Specimen Packaging and Shipping
St. Joseph's Hospital	Tampa	Hillsborough	Observer
St. Vincent's Hospital	Jacksonville	Duval	Observer
Twin Cities Hospital	Niceville	Okaloosa	Specimen Packaging and Shipping
University of Miami Hospital	Miami	Dade	Decontamination drill; Specimen Packaging and Shipping; Poison Information Center Collaboration
West Kendall Baptist Hospital	Miami	Dade	Specimen Packaging and Shipping
Westchester General Hospital	Miami	Dade	Specimen Packaging and Shipping; Poison Information Center Collaboration
Wuesthoff Reference Laboratory	Melbourne	Brevard	Specimen Packaging and Shipping

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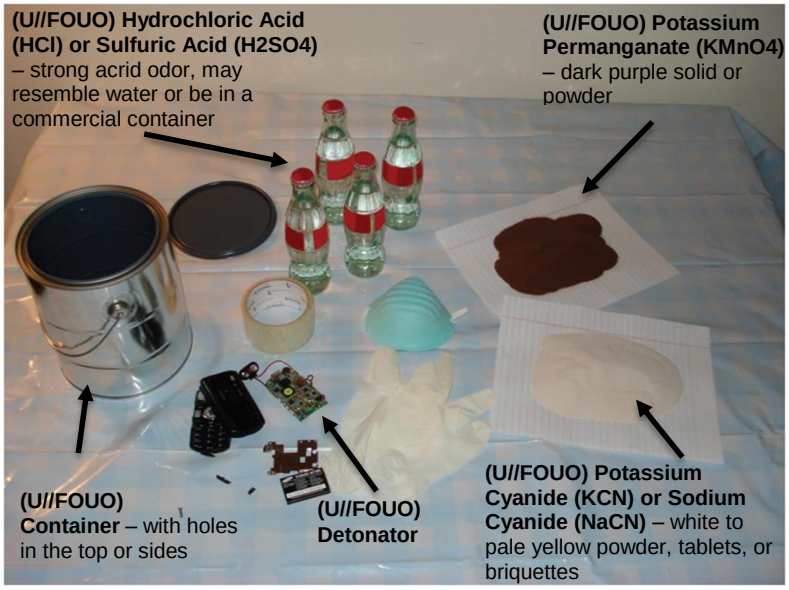
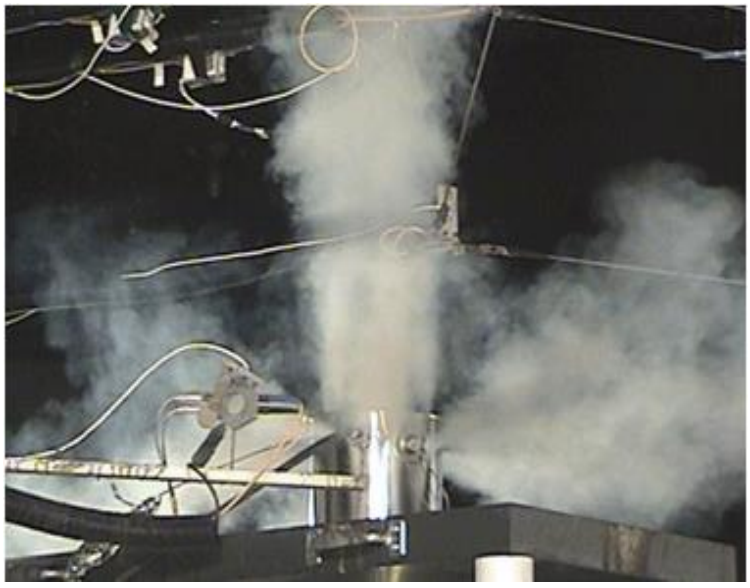
APPENDIX E: MUBTAKKAR

Figure F.1: *Mubtakkar – Improvised Cyanide Producing Device*





(U//FOUO) Mubtakkar Use Indicators

(U//FOUO) Violent spewing of white gas or dark liquid from a container

(U//FOUO) A bitter almond smell cyanide gas (not all can detect this odor)

(U//FOUO) An acrid choking odor or burning of victim's eyes from cyanogen chloride

(U//FOUO) **High Dose Exposure**: Inhalation usually causes immediate loss of consciousness, followed by convulsions and respiratory and cardiac system failure within 5 to 15 minutes of exposure. Death occurs mainly from cardiac arrest.
(U//FOUO) **Low Dose Exposure**: Inhalation causes symptoms that mimic poisoning from other toxic compounds, including giddiness, hyperventilation, palpitations, dizziness, nausea, vomiting, headache, and eye irritation. Low to moderate exposure can be treated if done quickly; fatality is proportional to dose.
(U//FOUO) **Skin Exposure**: Cyanide is unlikely to pose a dermal hazard, but skin should be washed with soap and water immediately after any contact.
(U//FOUO) First responders should follow departmental guidelines and call in a hazardous material (HAZMAT) team if cyanide gas release is suspected. Although a mubtakkar may appear to be exhausted, if disturbed, unreacted materials could reinitiate the production of cyanide gas. Until HAZMAT's arrival, responders should deny access to the area and identify and isolate the material. The Emergency Response Guide (ERG) and National Institute for Occupational Safety and Health (NIOSH) Pocket Guide to Chemical Hazards contain detailed information on appropriate Personal Protective Equipment (PPE).
(U//FOUO) For more information, read the joint DHS/FBI assessment: (U//FOUO) Cyanide: Easily Obtainable Chemical of Interest to Terrorists, 18 March 2010. This is an update to a previous Roll Call Release, (U) Mubtakkar Improvised Chemical Dispersal Devices: Assessment and Indicators, 22 December 2008

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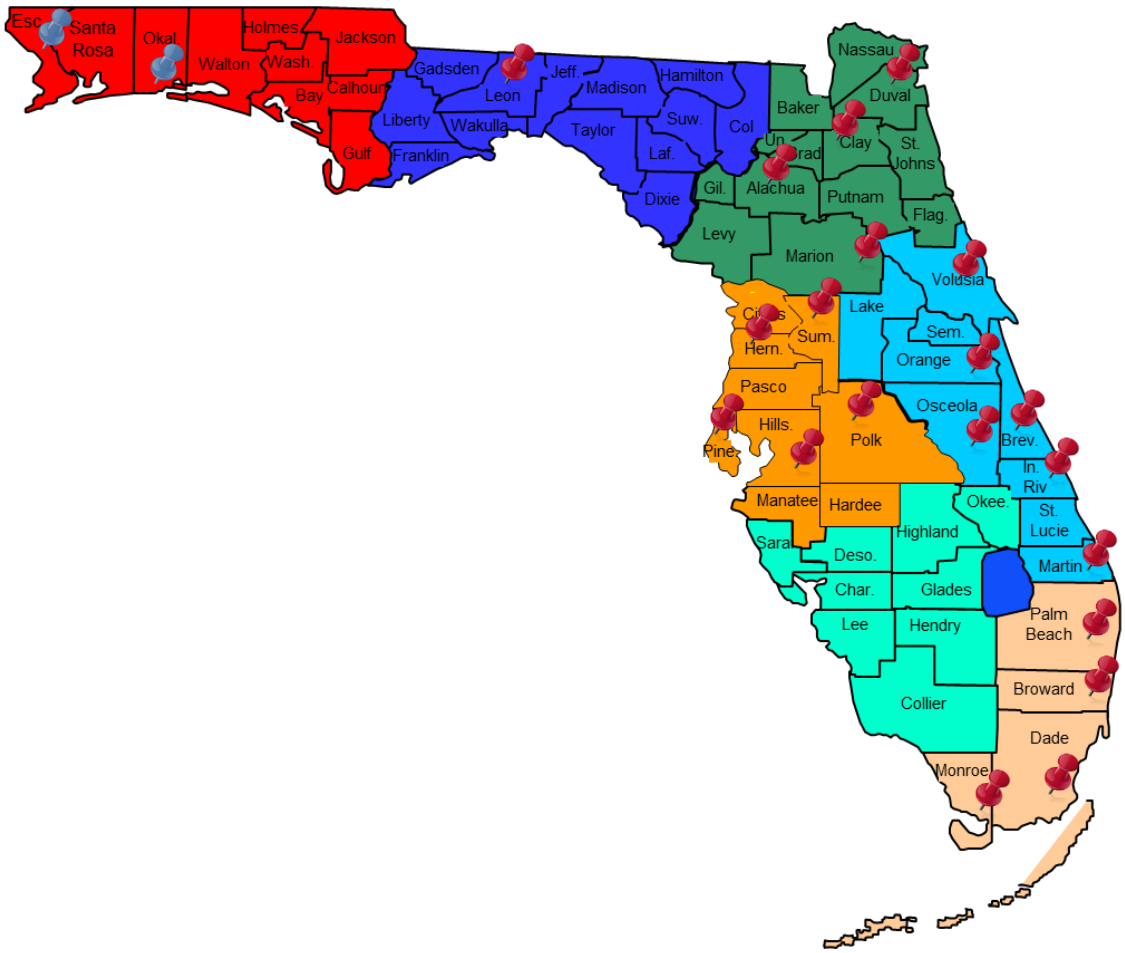
APPENDIX F: FLORIDA MAP

Figure F.1: *Participating Counties*



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APPENDIX G: ACRONYMS

Table G.1: *Acronyms*

Acronym	Meaning
AAR/IP	After Action Report/Improvement Plan
BPHL	Bureau of Public Health Laboratories
CDC	Centers for Disease Prevention and Control
CDC EOC	CDC Emergency Operation Center
CERT	Chemical Emergency Response Team
CT	Chemical Threat
CTLC	Chemical Threat Laboratory Coordinator
DBX	Discussion Based Exercise
DHS	U.S. Department of Homeland Security
DMAT	Disaster Medical Assistance Team
DOH	Department of Health
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
EOC	Emergency Operation Center
EPA	Environmental Protection Agency
ExPlan	Exercise Plan
FBI	Federal Bureau of Investigation
FDENS	Florida Department of Health Emergency Notification System
FERN	Food Emergency Response Network
FSE	Full Scale Exercise
HSEEP	Homeland Security Exercise and Evaluation Program
ICS	Incident Command System
JIC	Joint Information Center
JTTF	Joint Terrorism Task Force
LRN	Laboratory Response Network
MOU	Memorandum of Understanding
MSEL	Master Scenario Events List
NIMS	National Incident Management System
PIC	Poison Information Center
PIO	Public Information Officer
SitMan	Situation Manual
SME	Subject Matter Expert
SOP	Standard Operating Procedure
SPHL	State Public Health Laboratory
TCL	Target Capabilities List
USDA	United States Department of Agriculture