PASSENGER SCREENING DURING A RADIOLOGICAL EVENT

NARR TABLETOP EXERCISE

AFTER-ACTION REPORT

JANUARY 2, 2014
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HANDLING INSTRUCTIONS

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EXECUTIVE SUMMARY

The NARR Tabletop Exercise (TTX): Passenger Screening During a Radiological Event was an eight-hour exercise conducted to enhance preparedness of federal, state, and local responders responsible for coordinating and conducting passenger screening at U.S. airports following an incident resulting in the release of radioactive materials.

The purpose of the NARR Tabletop Exercise: Passenger Screening During a Radiological Event was to allow local, state, and federal partners to:

- Identify key activities associated with passenger screening at an airport following a radiological incident in another country.
- Validate and identify opportunities to improve passenger screening protocols developed following the Fukushima Daiichi incident of 2011.

Public Health Preparedness Capabilities and Objectives

Capabilities-based planning focuses on planning under uncertainty because the next threat or disaster can never be forecast with complete accuracy. Therefore, capabilities-based planning takes an all-hazards approach to planning and preparation to build capabilities that can be applied to a wide variety of incidents. The TTX planning team selected the CDC Public Health Preparedness Capabilities (capabilities 3, 4, 6, 11, 13, and 14) as this exercise’s focus. These capabilities provide the foundation for developing the exercise objectives and scenario.

- **Capability 3: Emergency operations coordination.** Emergency operations coordination is the ability to direct and support an event or incident with public health or medical implications by establishing a standardized, scalable system of oversight, organization, and supervision consistent with jurisdictional standards and practices and with the National Incident Management System.
  - Function 1: Conduct preliminary assessment to determine need for public activation.
  - Function 2: Activate public health emergency operations.

- **Capability 4: Emergency public information and warning.** Emergency public information and warning is the ability to develop, coordinate, and disseminate information, alerts, warnings, and notifications to the public and incident management responders.
  - Function 3: Establish and participate in information system operations.
  - Function 5: Issue public information, alerts, warnings and notifications.

- **Capability 6: Information sharing.** 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.
- Function 3: Exchange information to determine a common operating picture.

- **Capability 11: Non-pharmaceutical interventions.** Non-pharmaceutical interventions are the ability to recommend to the applicable lead agency (if not public health) and implement, if applicable, strategies for disease, injury, and exposure control. Strategies include the following:
  - External decontamination
  - Isolation and quarantine
  - Restrictions on movement and travel advisory/warnings
  - Social distancing
  - Hygiene
  - Precautionary protective behaviors.
    - Function 2: Determine non-pharmaceutical interventions.
    - Function 3: Implement non-pharmaceutical interventions.
    - Function 4: Monitor non-pharmaceutical interventions.

- **Capability 13: Public health surveillance and epidemiological investigation.** Public health surveillance and epidemiological investigation is the ability to create, maintain, support, and strengthen routine surveillance and detection systems and epidemiological investigation processes, as well as to expand these systems and processes in response to incidents of public health significance.
  - Function 1: Conduct public health surveillance and detection.
  - Function 2: Conduct public health and epidemiological investigations.
  - Function 3: Recommend, monitor, and analyze mitigation actions.

- **Capability 14: Responder safety and health.** The responder safety and health capability describes the ability to protect public health agency staff responding to an incident and the ability to support the health and safety needs of hospital and medical facility personnel, if requested.
  - Function 1: Identify responder safety and health risks.
  - Function 2: Identify safety and personal protective needs.
  - Function 3: Coordinate with partners to facilitate risk-specific safety and health training.
  - Function 4: Monitor responder safety and health actions.

The exercise planning team developed the following associated objectives for the exercise:

- **Objective 1** – Understand or identify state and local response requirements, including roles and responsibilities, equipment, and resources.
- **Objective 2** – Clarify response roles and communication channels for information flow between local, state, and federal agencies.
- **Objective 3** – Discuss how information presented on the epidemiologic assessment form can inform next steps of action and the public health follow-up.
- **Objective 4** – Identify key topics for public information releases regarding the establishment of passenger screening, laboratory test results, and worker safety.
Executive Summary

- Objective 5 – Identify the types of information to distribute to those undergoing passenger screening and those who have been potentially exposed at the airport.
- Objective 6 – Validate and identify opportunities to improve the passenger screening protocol developed during 2011’s Fukushima Daiichi incident.

The purpose of this report is to analyze exercise results, identify strengths to be maintained and built upon, and identify potential areas for further improvement. The lessons learned will also be used to support the development of future exercises as part of the Homeland Security Exercise and Evaluation Program (HSEEP) exercise development process.

Scenario Summary

The exercise scenario was comprised of three modules, each representing progressive phases of response following an explosion at a South Korean nuclear power plant. Each module consisted of a scenario briefing, which updated participants on impacts and damage information, as well as activities occurring for that module, followed by facilitated discussions on response actions and related special-topic briefings.

Major Strengths

Overall, the exercise provided federal, state, county, local, and private sector partners with the opportunity to discuss their plans, policies, and procedures in the context of a multi-agency/multi-jurisdictional response to the arrival of passengers contaminated with radiation from an incident in another country. Other strengths included the following:

- **Partnership** – The numerous response agencies demonstrated during the exercise that they had a good working knowledge of each other and their response capabilities. There were clear methods of communication, and it was evident that the agencies participate in planning and response activities together regularly.
- **Knowledge** – The participating agencies demonstrated a clear understanding of the issues surrounding radiation emergencies. They excelled at adapting existing procedures, which they use routinely, to handle a radiation emergency.
- **Open dialogue** – Federal, state, and local responding agencies had an open dialogue, and were amenable to sharing information (as allowed by their operating regulations) and making decisions together.

Primary Areas for Improvement

The primary areas for improvement are as follows:

- **Screening guidance** – The passenger screening protocols that were developed for the Fukushima incident response are not generalizable to any radiological incident requiring passenger screening. The exercise demonstrated the need for the development of passenger screening guidance that can be used during different types of radiation incidents.
• **Communication/public information materials** – It was determined that much of the response to this type of radiological incident would be a public information response. Thus, it would be helpful to have templates that states could customize to provide information to passengers who had been screened, those who were not screened, medical providers, and the general public. There was a lack of communication between responding agencies, passengers being screened, and the public that could be alleviated by using fact sheets or other communication materials.

• **Bioassays** – It was not clear in the exercise how bioassay collection would be triggered, who would collect the urine specimens, where they would be sent, and how individuals would receive their results. A straightforward protocol and decision matrix needs to be developed regarding the use of bioassays in passenger screening.

**Validation**

NARR will allow participating agencies to validate the recommendations made in this report by reviewing it and providing comment.

**Conclusion**

The NARR TTX: Passenger Screening During a Radiological Event successfully met the exercise objectives that the exercise planning team developed. The lessons learned will be used to develop and shape future exercises. Participants noted that this exercise provided a great opportunity to discuss their plans, policies, and procedures. Moreover, the participants said that the exercise allowed them to identify gaps in current plans and ways to make improvements. For additional information, and specific participant feedback regarding the planning and execution of this exercise, please refer to Appendix A.
SECTION 1: EXERCISE DESIGN SUMMARY

Exercise Purpose and Design

The NARR TTX: Passenger Screening During a Radiological Event exercise brought together federal, regional, state, local, and private-sector stakeholders for a candid, solution-focused discussion about the response to a radiological incident overseas that resulted in the need to screen passengers at U.S. ports of entry upon their arrival.

The purpose of the exercise was to allow local, state, and federal partners to:

- Identify key activities associated with passenger screening at an airport following a radiological incident in another country.
- Validate and identify opportunities to improve the passenger screening protocols developed following the 2011 Fukushima Daiichi incident.

Exercise discussions focused on passenger screening plans, policies, and procedures developed following the Fukushima Daiichi incident.

The NARR TTX: Passenger Screening During a Radiological Event involved a facilitated discussion employing simulated, yet plausible developments that could occur in an airport following an international radiation emergency. The exercise scenario included three modules, each dedicated to a different response timeframe. This allowed the discussion to focus on capabilities within a moving timeline and for participants to contribute to the discussion from the perspective of their roles in a response.

During the exercise, each participant received a situation manual (SitMan) that provided an update on the damage information and response or recovery activities occurring during each exercise module. A facilitator presented each module in the SitMan, and then moderated a discussion among participants, highlighting critical elements of the response and questioning participants from specific departments and agencies. These questions served as a catalyst for the group discussions, which focused on developing the best response through problem identification, coordination, resolution, and capability integration. The questions, developed by the exercise planning team, aimed to elicit discussion related to the TTX objectives and important response operations.

Exercise Structure

This exercise was structured to promote a facilitated discussion among lead representatives of various departments and agencies. The event consisted of one plenary session with approximately 22 lead participants seated around a U-shaped table. Additionally, the exercise involved approximately 22 observers and a small evaluation team.

Exercise Objectives, Capabilities, and Activities
The NARR TTX: Passenger Screening During a Radiological Event was an 8-hour, no-fault exercise. Discussion was analyzed against plans, policies, procedures, and practices using the Public Health Preparedness Capabilities as a foundation for the TTX. The following capabilities were validated through this exercise:

- Capability 3 – Emergency operations coordination
- Capability 4 – Emergency public information and warning
- Capability 6 – Information sharing
- Capability 11 – Non-pharmaceutical interventions
- Capability 13 – Public health surveillance and epidemiological investigation
- Capability 15 – Responder safety and health

The exercise planning team included representatives from the NARR member organizations and built all facets of the exercise, including the modules and evaluation plan to enable the players to meet the following objectives linked to the Public Health Preparedness Capabilities:

- Objective 1 – Understand and/or identify state and local response requirements, including roles and responsibilities, equipment, and resources.
  - Emergency operations coordination

- Objective 2 – Clarify response roles and communication channels for information flow between local, state, and federal agencies
  - Emergency operations coordination
  - Information sharing

- Objective 3 – Discuss how information presented on the epidemiologic assessment form can inform next steps of action and the public health follow-up.
  - Public health surveillance and epidemiological information
  - Non-pharmaceutical interventions

- Objective 4 – Identify key topics for public information releases regarding the establishment of passenger screening, laboratory test results, and worker safety.
  - Emergency public information and warning
  - Responder health and safety

- Objective 5 – Identify the types of information to distribute to those undergoing passenger screening and those who have been potentially exposed at the airport.
  - Emergency public information and warning

- Objective 6 – Validate and identify opportunities to improve the passenger screening protocol developed during the Fukushima Daiichi incident of 2011.
  - Emergency operations coordination
  - Emergency public information and warning
  - Information sharing
  - Non-pharmaceutical interventions
Homeland Security Exercise and Evaluation Program (HSEEP)

Section 1: Exercise Design Summary

The purpose of this report is to analyze exercise results, identify strengths to be maintained and built upon, and identify potential areas for further improvement. The lessons learned will also be used to support the development of future exercises as part of the Homeland Security Exercise Evaluation Program (HSEEP) exercise development process.

Scenario Summary

The TTX was comprised of three modules, each representing progressive phases of response to an overseas radiological incident. Each module consisted of a scenario briefing, which updated participants on impacts and damage information, as well as activities occurring for that module, facilitated discussions, and related special-topic briefings. During the course of each module, participants were expected to discuss actions for the scenario. The major highlights for each module are listed below:

Module 1

In Module 1, participants were asked to focus their discussion on those applicable response plans and actions that they would implement immediately following the explosion at the South Korean nuclear power plant. The following major events occurred during this module:

- Media reports of an explosion at the Uljin Nuclear Power Plant in South Korea.
- The explosion released a plume containing radioactive material, including CS-137, CS-134, and volatile iodine-131, that has not been contained.
- Tourists have begun to gather at international airports to flee South Korea.
- Prior to instituting any passenger screening for radiation, two flights left South Korea and are en route to a major U.S. international airport.

Module 2

In Module 2, participants were asked to discuss their initial coordination and response efforts regarding the arrival of possibly contaminated passengers. The following major events occurred to this module:

- The first flight from South Korea has landed at a major U.S. international airport with 261 passengers, some of whom have been reported washing “dust” off themselves in the airplane lavatory.
- Media outlets have begun calling the airline, airport public affairs, and U.S. Customs and Border Protection (CBP) for information on the planes.
- Passenger family members have begun to arrive at the airport and have questions regarding the safety of their loved ones.
- The next flight from South Korea will be landing within an hour and other flights are en route to the airport from South Korea.
- South Korean authorities have been unable to contain the plume released by the explosion and radioactive material continues to be released.
Module 3

In Module 3, participants were asked to focus on their continued response and recovery regarding the potentially contaminated passengers’ arrival.

- South Korea has begun to screen and grossly decontaminate passengers prior to boarding flights.
- The fire at the Uljin Nuclear Power Plant has been controlled and the plant is being shut down.
- Seventy passengers from yesterday’s flights were determined to be externally contaminated and of those, 20 passengers required complete decontamination.
- Medical providers have begun to call the State Department of Health for guidance.
- Local hospitals and EMS providers have reported being overwhelmed by concerned citizens requesting screening.

Evaluation Approach

As part of the exercise planning process, the exercise planning team created a comprehensive evaluation plan that involved staffing evaluators, designing exercise evaluation guides (EEGs), reviewing the facilitator script and discussion questions, and approving the participant feedback forms. The tools used to capture evaluation information during the exercise include:

- Participant evaluation forms
- EEGs
- Evaluator analysis forms
- Player hot wash feedback and input

Participants provided feedback using a participant evaluation form, where they indicated whether or not they thought the exercise met the exercise objectives and provided comments on exercise logistical details. This form allowed participants to raise issues and suggest recommendations. Additionally, a player hot wash was conducted at the conclusion of the exercise.

During the exercise, evaluators listened for themes, successes, and issues that arose during exercise play and noted how they correlated to the corresponding evaluation criteria contained within the EEGs. The evaluators captured the successes, challenges, issues, and decisions observed during the exercise. For each of the issues identified, evaluators were responsible for documenting their observations and proposing possible recommendations to resolve the issue. Evaluators provided post-exercise analyses of the exercise to participants via a facilitated debrief that occurred following the exercise, in addition to submitting their completed EEGs.

The evaluator analyses and the feedback forms from all participants were used to create Section 3: Analysis of Capabilities and the IP.
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SECTION 2: ANALYSIS OF CAPABILITIES

This section of the report reviews the performance of the exercised capabilities, activities, and tasks. In this section, observations are organized by capability. Each capability is followed by related observations that are classified as either a strength (S) or an area for improvement (AFI). Observations classified as an AFI are also listed in the improvement plan matrix with their associated recommendations for corrective action. Please note that the observations are not ranked in order of importance.

Capability 1: Emergency Operations Coordination

Emergency operations coordination is the ability to direct and support an event or incident with public health or medical implications by establishing a standardized, scalable system of oversight, organization, and supervision consistent with jurisdictional standards and practices and with the National Incident Management System.

Observation 1.1: (S) Identify, notify, and integrate all necessary stakeholders and agency representatives into the planning and response process.

Discussion: During the exercise, it was clear that all organizations and agencies that were necessary for the response were notified of the incident and included in response planning. However, much of this notification was done informally.

Recommendation 1.1: If the need to screen passengers arises, it would be helpful to have a formal notification procedure established. This procedure would involve a check list and confirmed call-down protocol to activate the required agency personnel.

Observation 1.2: (S) Establish incident command.

Discussion: All players were clear that a unified command structure would be set up to manage the event at the airport. However, it was unclear which agencies would be included in the unified command structure.

Recommendation 1.2: Determine which agencies should be included in the unified command structure.

Observation 1.3: (AFI) Identify and assign response roles to agencies and organizations.

Discussion: Although the agencies and organizations were aware of their own capabilities and perceived roles, they were not aware of the other agencies’ capabilities.

Recommendation 1.3: A list of clearly identified roles and responsibilities for the different responding agencies should be created so each agency knows not only its own role, but also the other agencies’ roles in the response.

Observation 1.4: (S) Identify plans, procedures, and protocols to be used throughout the response, including the onsite decontamination of persons deplaning.
**Discussion:** All agencies identified in the response were able to identify plans and procedures that could be used depending on the level of response needed. There was, however, some confusion in determining the level of response that would be needed in an event of this magnitude.

**Recommendation 1.4:** Develop triggers and specific protocols or plans that are scalable depending on the situation.

**Observation 1.5:** (S) Identify, request, and coordinate resources needed for operations and onsite incident management, including decontamination activities.

**Discussion:** The response agencies determined that prior to any resource requests; there was a need to determine the true level of risk from the incident. Health physicists and radiation control program staff would be consulted to help determine what level of response is needed. Once the level of response necessity is determined, resources needed to accomplish any decontamination or passenger screening would be identified and requested. Each agency was able to provide a detailed list of the resources they could provide for the response, including portal monitors, hand held probes, volunteers, etc.

**Recommendation 1.5:** The use of many of the resources would depend upon the declaration of an emergency by the state, so a clear trigger for when to declare an emergency should be determined. The state emergency management agency’s role in assisting with resource requests, management, and tracking should also be examined.

**Observation 1.6:** (AFI) Establish staffing levels and sources of additional staff required to continue passenger screening after the first shift.

**Discussion:** There were several questions regarding how civilian volunteers (i.e. Medical Reserve Corps) and health department staff might be used in the airport’s secure areas to set up screenings similar to those in community reception centers. This augmentation would increase CBP’s ability to screen large numbers of people for radiation exposure and contamination.

**Recommendation 1.6:** The use of civilian volunteers and health department staff to augment CBP’s passenger screening ability in the airport’s secure areas needs to be further explored.

**Observation 1.7:** (AFI) Identify plans and procedures to address people who decline decontamination and want to leave the airport or continue travel.

**Discussion:** There was some discussion of the legal ability of federal agencies to prevent an individual from entering the United States if they have refused screening or decontamination.

**Recommendation 1.7:** Clarify the federal and state agencies’ statutory authority to mandate decontamination and treatment of both foreign nationals and U.S. citizens.

**Capability 2: Information Sharing**

Information sharing is the ability to conduct a 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 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.

**Observation 2.1:** (S) Incorporate and coordinate identified stakeholders into the information flow through a clearly defined information sharing system.

**Discussion:** There is an established connection between the federal agencies and the State Department of Health. At the point of entry, information flows between airport operations, CBP representatives, and the CDC Quarantine Station on a daily basis. However, the CDC incident manager will designate a single point of contact to communicate with the State Department of Health. The State Department of Health will then communicate with any other necessary state and local response agencies.

**Recommendation 2.1:** CBP screens the passengers, but is not permitted to communicate passenger screening results directly to the state health department or state radiation control program, which would be responsible for passenger follow-up. A mechanism to share information between CBP and state response agencies needs to be established.

**Observation 2.2:** (AFI) Notify both public and private partner agencies regarding JIS/JIC activation.

**Discussion:** It was assumed that a JIC would be established to manage public information for the incident. However, it was never expressly stated during the exercise. No agency took responsibility for setting up and operating the JIC. Much of the response to this type of incident will be a public information response. There is a need to get “in front” of the event and feed the press information regularly instead of waiting for the press to ask for the information. The public information released in this type of event will help manage the public’s perceived risk.

**Recommendation 2.2:** Develop a clear plan to set up and operate a JIC that includes airport operations, CBP, CDC DGMQ, and the state department of health. The JIC operational plan should include mechanisms to reach out to the press and methods to coordinate information among the responding agencies.

**Observation 2.3:** (S) Identify applicable laws, policies, and authorities for public health reporting and notification.

**Discussion:** There is an established connection between the federal agencies and the State Department of Health. Information flows between airport operations, CBP, and DGMQ on a daily basis. DGMQ is the designated federal agency that will communicate directly with the State Department of Health. The department will then communicate with any other necessary state and local response agencies.

**Recommendation 2.3:** None.

**Observation 2.4:** (S) Provide airport workers with information.
Discussion: Airport operations will provide information to airport workers, but will look to the State Department of Health for recommendations on occupational health issues surrounding the incident, such as personal protective equipment, dosimeters, occupational surveillance, and additional information. Airport operations routinely communicates with its staff and has established methods for doing so beginning very early in the event and continuing at regular intervals throughout the event.

Recommendation 2.4: None.

Observation 2.5: (AFI) Identify information sharing needs with other states and airports.

Discussion: There was no discussion of how information would be communicated with other airports or states. Passengers who were screened and decontaminated traveling through the airport on to their final destination city may need longer term follow-up, which would be conducted by their final destination state. However, there was no mechanism in place to communicate the screening results, decontamination information, or laboratory analysis between states. Additionally, there was no discussion of how information would be shared between airports. If this event were to occur, it would be likely that other airports would also receive passengers from the affected country. Other than communicating “up the chain of command” to their headquarters offices, the federal agencies did not have a plan to communicate among each other. There was also no mechanism to communicate information from the arrival airport operations to another airport operations division.

Recommendation 2.5: Develop a clear plan to disseminate information to other state health departments, federal agency local offices, airports, and other ports of entry.

Capability 3: Emergency Public Information and Warning

Emergency public information and warning are the ability to develop, coordinate, and disseminate information, alerts, warnings, and notifications to the public and incident management responders.

Observation 3.1: (S) Activate and deploy public information or affairs personnel.

Discussion: Each agency has a public information officer who would be assigned to provide accurate and timely information to the public and media.

Recommendation 3.1: Although each agency had its own public information officer, it was unclear how they would collaborate and work together. Procedures should be developed to detail how the agency public information officers would collaborate with each other.

Observation 3.2: (AFI) During a mass screening effort, provide passengers with information regarding passenger screening and decontamination procedures that occur at the airport and those that they could do at home.

Discussion: Information has not been developed for passengers that details what type of screening and decontamination was done in a mass screening event and what the results mean.
CBP routinely screens more than 1 million passengers per day at U.S. POEs. However, additional information is needed during a mass screening event following a radiological incident.

**Recommendation 3.2:** Develop passenger information sheets in the following passenger categories:

- Passengers who are not contaminated.
- Contaminated passenger but does not require decontamination at the airport.
- Contaminated passenger that does require decontamination at the airport.

Additionally, general information sheets to be distributed by screeners should be developed for the following topics:

- At-home decontamination procedures.
- The screening process following deplaning.
- What the screening results mean.
- Explanation of what decontamination is.
- Radiation exposure versus radiation contamination.
- Decontamination procedure at the airport.
- How to follow up with your physician.

**Observation 3.3:** (S) Implement a plan to ensure communications with the medical community.

**Discussion:** The state health alert network would be used to communicate information to the local medical community.

**Recommendation 3.3:** None.

**Capability 4: Non-Pharmaceutical Interventions**

The non-pharmaceutical intervention capability describes the ability to recommend and implement, if applicable, strategies for disease, injury, and exposure control. Strategies include the following:

- External decontamination.
- Isolation and quarantine.
- Restrictions on movement and travel advisories or warnings.
- Social distancing.
- Hygiene.

**Observation 4.1:** (Strength) Determine the need for public health interventions, if any (see list above).

**Discussion:** In the early phases of response, public health officials and health physicists would be consulted to help determine the actual level of risk to the public and determine what if any public health interventions were required.

**Recommendation 4.1:** None.
Capability 5: Responder Health and Safety

The responder safety and health capability describes the ability to protect public health agency staff responding to an incident and support the hospital and medical facility personnel’s health and safety needs, if requested.

Observation 5.1: (S) Ensure the provision of appropriate safety and health personal protective equipment to workers.

Discussion: Public health officials and health physicists would be consulted to help determine the level of protective equipment required.

Recommendation 5.1: It was recommended that CDC expand guidelines to include guidance on appropriate personal protective equipment (PPE) when performing various tasks and templates of risk communication material for workers who have had contact with contaminated passengers and surfaces. The CDC guidance would help standardize the response nationally, instead of having each state determine specific PPE recommendations for this type of incident.

Capability 6: Public Health Surveillance and Epidemiological Investigation

Public health surveillance and epidemiological investigation is the ability to create, maintain, support, and strengthen routine surveillance and detection systems and epidemiological investigation processes, as well as expand these systems and processes in response to incidents of public health significance.

Observation 6.1: (AFI) Establish passenger screening locations and procedures, including methods to determine the type of passenger screening needed to detect external and internal contamination.

Discussion: The agencies participating in the exercise were able to determine an appropriate plan of action. However, it was difficult for them to implement the passenger screening protocols because it was challenging to determine the true magnitude of the event and how great the response needed to be. A number of questions arose about how the protocol would be triggered, where the screening would occur (e.g., whether the plane should arrive at a standard gate or be taken to a special location for processing), which agencies would conduct radiation screening or perform decontamination, when laboratory tests would be recommended, what CDC’s role would be in communications between CBP and the state health agency about contaminated passengers, and how passengers would be followed up with.

Recommendation 6.1: Develop an enhanced passenger screening guidance that answers the questions noted above. The guidance should be tiered, allowing the response to be tailored to the magnitude of the contamination and the number of incoming contaminated passengers. For example, the first category of response would be indicated if there were only a few passengers with the possibility of a low level of contamination, while the highest category would be for a large number of passengers who were expected to be highly contaminated. The guidance will need to have very clear trigger points to tell responders when more of a response is needed.

Observation 6.2: (AFI) Develop a procedure for collecting epidemiological information and follow up with screened passengers, if necessary.
Discussion: Exercise participants decided that the state health departments would be responsible for collecting epidemiological information and conducting the long-term follow-up with passengers. However, there were no procedures in place to help the health departments perform these tasks. Although the protocols did provide an epidemiologic assessment form, the mechanism for collecting the data on this form has not been developed. It was unclear if the health departments should conduct the assessment on-site at the airport or after passengers arrive at their final destinations. Another question was about how the staff conducting the assessment would liaise with other airport partners and CBP, which has the screening results.

Recommendation 6.2: As discussed in 6.1, guidance should be developed on how, where, and by whom the epidemiological information from passengers should be collected. Additionally, a plan for a national system for long-term follow-up of contaminated passengers should be developed and shared with the affected states.

Observation 6.3: (AFI) Develop procedures for collecting urine specimens.

Discussion: A number of questions were raised during the exercise regarding urine specimen collection and laboratory analysis, including:

- Who is authorized to request that the passenger to provide the specimen?
- When should it be taken?
- Where would it be taken (e.g., airport, passenger’s physician’s office, local hospital)?
- How should the samples be transported to the CDC radiation lab?
- Are there other labs that would be used locally or in federal agencies?
- How should specimen analysis be prioritized (e.g., pregnant women, children) if the event lab(s) are overwhelmed?
- How should laboratory results be communicated to the passenger?
- Who will pay for the laboratory testing?

Recommendation 6.3: A detailed bioassay protocol should be developed and included in the guidance discussed in 6.1.
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SECTION 3: CONCLUSION

The TTX was a successful exercise and had widespread participation from numerous federal, state, and local response agencies. Participants in the exercise discussed, analyzed, and identified opportunities to improve the following public health capabilities: emergency operations coordination, emergency public information and warning, information sharing, non-pharmaceutical interventions, public health surveillance and epidemiological investigation, and responder safety and health.

The major strengths identified during this exercise were:

- **Partnership** – It was clear during the exercise that the numerous response agencies had good knowledge of each other and their response capabilities. There were clear methods of communication and it was evident that the agencies participate in planning and response activities together regularly.

- **Knowledge** – The participating agencies displayed a clear understanding of the issues that surround radiation emergencies. They also demonstrated their ability to adapt the infectious disease control procedures, which they use routinely, to handle a radiation emergency.

- **Open dialogue** – There was an open dialogue between federal, state, and local responding agencies. The agencies were open to sharing information (as allowed by their operating regulations) and making decisions together.

The primary areas for improvement were:

- **Screening guidance** – The passenger screening protocols that were developed for 2011’s Fukushima incident response are not generalizable to any radiological incident requiring passenger screening. The exercise demonstrated the need for the development of passenger screening guidance that can be used during any radiological event.

- **Communication/public information materials** – It was determined that much of the response to this type of radiological incident would be a public information response. It would be helpful to have templates that the state could customize to provide information to passengers who had been screened, those who were not screened, medical providers, and the general public. There was a lack of communication between responding agencies, passengers being screened, and the public that could be alleviated by using fact sheets or other communication materials.

- **Bioassays** – It was not clear in the exercise how bioassay collection would be triggered, who would collect the urine specimens, where they would be sent, and how individuals would receive their results. A clear protocol and decision matrix for bioassays in passenger screening should be developed.
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APPENDIX A: PARTICIPANT FEEDBACK

The following information was collected through the participant feedback forms that were distributed to all exercise participants and observers.

Top Three Identified Strengths:

1. Agency partnerships
2. Communication between agencies
3. Physical resources and response capabilities of the agencies

Top Three Identified Areas for Improvement:

1. Clear lead agency for the response
2. National messaging
3. Communication with passengers

Next Steps:

1. Clearly define agency roles and responsibilities
2. Define action levels and triggers for response
3. Communications planning both nationally and with passengers who are screened.
After-Action Report (AAR)
Area for improvement (AFI)
Association of State and Territorial Health Officials (ASTHO)
U.S. Customs and Border Protection (CBP)
CDC’s Division of Global Migration and Quarantine (DGMQ)
Exercise Evaluation Guides (EEGs)
Federal Inspection Service (FIS)
Homeland Security Exercise and Evaluation Program (HSEEP)
Improvement Plan (IP)
National Alliance for Radiation Readiness (NARR)
Personal protective equipment (PPE)
Points of contact (POCs)
Situation manual (SitMan)
TTX (Table Top Exercise)