Risk Communication Considerations for the Facilitation of Population Screening for Radioactive Contamination

A unique field training exercise to assess the interoperability of public health surge capacity response organizations

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AT HOUSTON


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Context

- The acute need for medical and public health surge capacity identified in light of 9/11 attacks
- Example surge elements
  - US Public Health Service Inactive Reserve Corps
  - Medical Response Groups or Medical Reserve Corps
  - Schools of Public Health
- Importance of joint exercises to develop understanding of capabilities and to facilitate interoperability

Role Definition and Field Training

- Personal experience: Training efforts of well-intentioned volunteer surge capacity groups directed towards acute emergency response, first aid, triage, etc.

- But role of providing relief to overburdened health care facilities in days following large scale emergency for non-acute care aspects may not be actively practiced

- Such roles carry a significant risk communication aspect – often mentioned -- but not often practiced

Exercise Objective

- To design a realistic drill with the explicit goal of testing the likely role of surge capacity groups
- To test organizational skills of group
- Specifically test risk communication skills, needs
- Use feedback to improve the process

Participants

- US Public Health Service Inactive Reserve Corps [n = 4]
- Houston & Galveston Medical Response Group, Texas State Guard Medical Brigade (known as the “Texas Medical Rangers”) [n = 39]
- University of Texas School of Public Health Student Epidemic Intelligence Society [n = 8]
- Student volunteers from UT SPH, Houston Community College, and others [n = 110]

Drill Scenario

Key Scenario Points

- Basis for establishment of field screening stations
- Length of time post sentinel event, likely intensive media coverage
- Concerned citizen self-selection aspect
- Risk based selection and usage of limited supply of PPE
- Importance of active communications during all phases of screening process

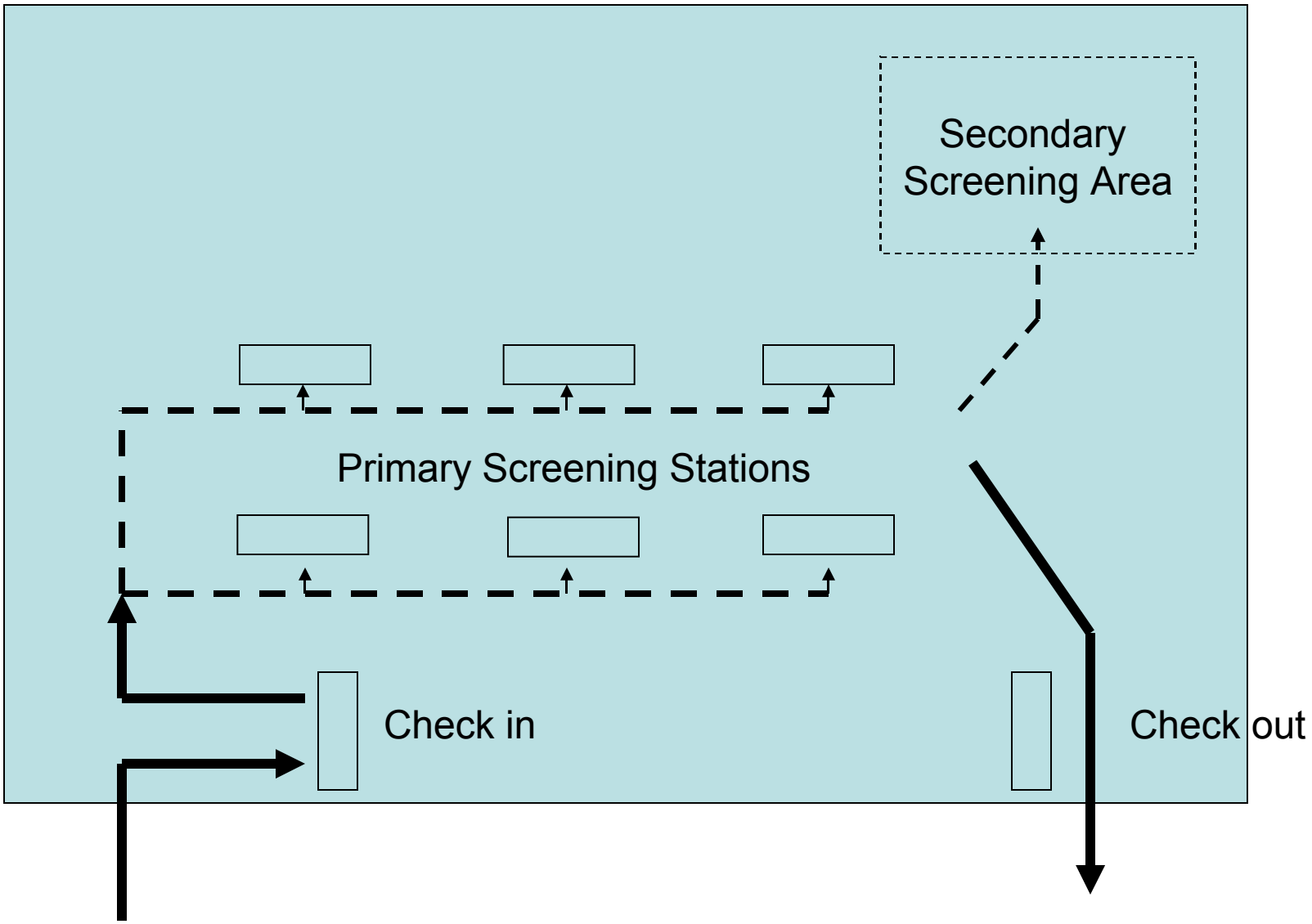
Equipment/Supplies

- 7 operational CDV 700 radiation monitors
- Personal protective equipment: gloves, mask, tyvex suits
- Tarps, plastic bags, markers
- Tables, chairs, signs
- Pre-written cards describing condition of each concerned citizen to be provided to screeners upon completion of scan
- Pre-written risk communication templates to be provided if communication difficulties arose

Scenario Description and Assignments

Drill Deck Where Screening is to Take Place

Layout Design and Flow for Drill Deck



Screening Station Set up

Arrival of Concerned Citizens

Check in and Registration Station for Concerned Citizens

Just in Time Training for Secondary Screeners

Screening of Concerned Citizens

Secondary Screening Station for Those Detected as Emitting Radiation

Requested Screening of Pets

Additional Instruction and Advice

November 2008 San Antonio Radiation Contamination Screening Drill

Response Weaknesses Immediately Revealed

- Limited PPE, contamination control supplies
- Volunteers willingly accepted assigned roles, but did not know what to communicate to concerned citizens
- Difficulties with information collection at log in – what information is actually needed if the person is found to be “clean”?
  - Perhaps questions about exposure history could be limited to contaminated persons
- Importance of prompt data reporting to public health authorities

Example Risk Communication Template

- **For persons arriving at the screening center**:
  - "Please remain calm so that we can help you"
  - "Please also keep your hands away from your mouth or face if at all possible to avoid ingestion or inhalation of any contaminants"
  - "This line is for the screening of individuals for possible radioactive contamination"

Example Risk Communication Template (con't)

- "If you or someone around you is experiencing any physical injuries or symptoms such as nausea, vomiting, diarrhea, please notify one the screening team members so that the physical injuries may be addressed – at this point, physical injuries and illness are a top priority."

- "Let me explain how the screening process will work:
  - You'll be asked to proceed in an orderly fashion through a series of stations
  - At the first station, we'll be collecting some basic contact information

Example Risk Communication Template (con't)

- Then you'll proceed to the next station where a screening team member will survey you with a radiation detector. A radiation detector will be passed slowly over areas of your body. The process is painless.

- If contamination is detected, don't panic – we will be able to help you -- you'll be routed to an area where you'll be advised to remove the outer layer of your clothing and you'll be afforded the opportunity to shower off any contaminants. We will make provisions to retain your personal belongings such as wallets, purses, keys, so you can take them with you when you leave.

Example Risk Communication Template (con't)

  - For those who are asked to shower, you'll be provided another garment and then be re-screened
  - If the contamination persists, we will assist you in reaching medical care for a further assessment of the situation"

- "During this entire process, we will keep family members and groups together."
- "At the end of the process, we'll include the results of the screening in your record, and provide to you some information to take home with you."
- "Right now, the estimated time to complete the checking in and monitoring process is about 15 minutes, if no contamination is found."
- "Are there any questions at this point?"

Other Useful Communication Templates

- In addition to template for incoming concerned citizens, templates created for:
  - Persons found to be exhibiting radiation
  - Person completing the screening process
  - Messages via the media for persons unable to transport to screening center
  - And a template for the suggested information to be collected upon registration and check out

Scenario Screening Results

- 110 individuals screened
- 17 “detected” as emitting radiation
  - 2 indicated recent medical procedures involving radioactive materials, released
  - 13 with surface or skin decontamination, dry and wet deconned, released with instructions
  - 2 with suspect intake of contaminants, forwarded for further clinical assessment
- Of 110 concerned citizens, 2 forwarded to health care facility.
- In other words, the concerns of 108 individuals addressed without the need to present to an already overwhelmed health care facility

Drill Participant Feedback

- Survey responses based on 5 point Likert Scale (5 = strongly agree) (mean response value, n = 38)
  - I considered the scenario used as the basis for today's exercise to be plausible (4.8)
  - I considered the role our group played in today's exercise to be realistic (4.8)
  - My participation in this exercise helped me better understand the role I would personally play in an emergency of this type (4.7)

Drill Participant Feedback

- Upon completion of this exercise, I now have an improved understanding of our group's role within the overarching state and national Incident Command System (4.6)

- This exercise improved my understanding of the role the US Public Health Service might play in a disaster of this type (4.8)

- This exercise improved my understanding of the role university Schools of Public Health might play in a disaster (4.7)

Lessons Learned

- Feedback from all participants very positive – scenario perceived as very plausible – the need for surge capacity re-enforced
- Availability of subject matter experts, actual instrumentation, and “just-in-time“ training noted as very valuable
- Need for streamlined “check in” processes
- Need for improved risk communications considerations and the development of standardized guides
- Interoperability and understanding amongst various surge groups greatly improved
- Provided interesting perspective for a better understanding of NIMS
- Provision of scenario “epilogue” considered very valuable

Scenario Epilogue

Note of Appreciation

Special thanks to all of the volunteer participants, both in their roles as service providers and drill participants, for their dedication and service to help improve our collective ability to respond in time of need

The University of Texas Health Science Center at Houston

Center for Biosecurity and Public Health Preparedness

HCC

Student volunteers

Student Epidemic Intelligence Society

Student volunteers

Texas Medical Rangers

Drill participants

U.S. Public Health Service 1798

Inactive Reserve Officer Advisors