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## **Emergency Medical Services & Potential Bioterrorism Events**

Edward P. Sloan, MD, MPH

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## **ICEP On Our Watch II**

*Chicago, Illinois*  
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## **Global Objectives**

- **Maximize patient outcome**
- **Enhance preparedness**
- **Improve system performance**
  
- **Consider possibilities**
- **Relate efforts to potential events**
- **Make efforts more fruitful**

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## **Session Objectives**

- **Present overview**
- **Describe overwhelming events**
- **Consider relevant questions**
- **Force creative thought**
- **Enhance systems approach**
- **Allow for local variability**

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## Overview

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- US Office for Domestic Preparedness
- Five terrorist threat categories identified
- Described by the acronym CBRNE
- Chemical, biological, radiological, nuclear, and explosive threats
- Could occur as a result of a terrorist attack on US soil

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## Chemical Event

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- Chemical exposure
- Thousands of burn victims
- Need for immediate EMS care
- Must avoid EMS worker exposure
- Requires long-term burn unit care

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## Biological Event

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- Smallpox exposure
- Thousands of infected persons
- More infected until quarantine exists
- Unavoidable EMS worker exposure
- Requires in-hospital isolation
- Fear caused by related viral illness

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## Radiological Event

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- Dirty bomb
- Tens of thousands of exposures
- Need for immediate EMS care
- Uncertain acute Dx manifestations
- Possible health care worker exposure
- Hysteria possible

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## Nuclear Event

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- Nuclear weapon
- Ill and injures patients
- Infrastructure destroyed
- Uncertain EMS capabilities
- Dire consequences locally
- Difficult external assistance

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## Explosive Event

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- Thermobaric weapon
- Thousands of injured persons
- Concussive head, torso trauma
- Trauma center overload acutely
- Need for long-term TBI management
- Acute and chronic system stress

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## Acute Consequences

- 10,000 to 100,000 patients
- EMS system overload
- Emergency Departments overload
- Hospitals overload
- Inability to meet acute needs
- Inability to meet ongoing needs

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## The Individual Practitioner

- If you are working in a 15-bed Emergency Department when a catastrophic event occurs, and 5,000 ill or injured patients present themselves for emergency medical care, what will you do?
- For how long? To what end?

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## Clinical, Operations Questions

- How would hospital security effectively be able to block access to the ED?
- How would patients waiting to be seen be effectively managed outside of the hospital?
- How would a limited number of patients be allowed to peacefully gain access to the Emergency Department for immediate emergency medical care?
- What would happen to the patients who are currently in the ED and in the hospital? Where would they go? Over what time period?

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## Clinical, Operations Questions

- How would contaminated or infected patients be cleaned or quarantined prior to and after the initial Emergency Department assessment?
- How would the emergency health care providers be protected both acutely and over time?
- How would effective triage be accomplished? Using what system of triage?
- How would support staff and extra ED staff be able to get to the hospital?

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## Clinical, Operations Questions

- Would the police send a squad car to each ED for security support?
- Would the National Guard be mobilized to provide security at each hospital's ED? How long would it take for this support to be effectively provided?
- What would happen if stockpiles of all effective antibiotic or antidote therapies are exhausted? What is the plan for providing additional supplies to hospitals?
- What if the nature of the exposure is unknown? What will be the protocol for expectant management?

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## Clinical, Operations Questions

- What if the onset is more insidious and the exposure of emergency health care providers occurs before it is known to have occurred?
- How will patients be transported away from the site of the disaster in situations when quarantine is required?
- How will patients be identified? How will families be notified?

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## Clinical, Operations Questions

- How would EMS be able to handle all of the calls?
- How will communications occur? Who will assume medical command external to each hospital? What if normal communications are compromised?
- How will all of the many organizations that interact in the provision of safe and effective emergency medical care maximize efficiency in this situation?

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## Impact assessment

- Bioterrorism risk is real
- TOPOFF, Dark Winter, TOPOFF II drills
- Much has been learned
- Unknown problems and solutions
- Need to discuss relevant issues
- Need to search out opportunities and potential solutions

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## Conclusions

- CBRNE events could occur
- The EMS system will be overwhelmed
- Some rational decisions must be made
- Making those decisions now is optimal
- Opportunity to maximize pt outcome
- Positive effect on current EMS practice

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*Thank you.*

**Enjoy the show!**

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