Medical Response Coordination Following an IND Detonation

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Nationwide Response Issues after an Improvised Nuclear Device Attack: Medical and Public Health Considerations for Neighboring Jurisdictions
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Goals

Purpose: To describe influencing factors for Federal medical response plans for command, control and coordination in the event of an IND detonation.

Catastrophic Incident Coordination

- Overarching principles for IND
- What are we coordinating
- How is it put together
- ASPR tools to assist in preparedness
• Assume massive disruption of communications, transportation, financial systems

• Capability v. capacity
  — Capability does not imply capacity

• Dual/Multi–utility Capabilities
  — Smarter ways to use existing capabilities and systems
  — We’ve Never Done This Before?
    • Katrina, Haiti, Deep Water Horizon, Japan, Sandy, etc.
Principles
Why is coordination for IND unique?

• **Scarce resources** – a major driver
  - Resource availability and operational capability are directly proportional to time and distance from the incident
  - There are significant ethical considerations as well
  - In Dangerous Fallout Zone shelter 12 to 24 hours, evacuate along given routes
  - The majority of “savable” casualties will come from the Moderate Damage Zone
  - Significant communication and movement challenges
  - Systematic regional triage can maximize the medical benefit for the most people – discuss RTR
Overarching Ethical Principle
Fairness

Optimizing fairness for triage and treatment decisions

Optimizing Fairness for Triage and Treatment Decisions
Triage Considerations

Need
(Patient-based issues)
- Medical condition, possibly modified by comorbidity or other factors that affect survival (but not judgments about quality of life)
- Special population
- Urgency for response—likely to die

Effectiveness
(Condition-based issues)
- Efficacy of intervention under ideal conditions
- Resource requirement vs. available resources:
  - Staff—Personnel
  - Stuff—Meds, equipment
  - Space—facilities
  - Existing patients already under care

Standards of care in effect:
Conventional → Contingency → Crisis

Triage Category and Treatment
Immediate: red   Delayed: yellow   Minimal: green   Expectant: black

Initial treatment
- Definitive
- Partial
- Palliative

Re-evaluate over time and change of resources. Triage category may change!

Subsequent treatment
- Definitive
- Palliative
Key Factors to Success

**Feasible** – Scalable, flexible, sustainable, portable, cost-effective

**Collaborative** – Informed by partnerships and multi-level participation

**Evidence-based** – Best available scientific information

**Multi-use** – Smarter ways to utilize existing capabilities
Critical Capabilities

How we handle these will impact how quickly & completely we recover

- Behavioral Health
- Communication
- Laboratory Surge
- Baseline Resilience
What is Being Coordinated?

• **Strategic Decisions**
  — HHS Emergency Management Group linkage to the National Security Staff

• **Information** — SOC is the hub
  — Situational awareness
  — Expertise informs decisions

• **Operational Capabilities**
Achieving National Health Security

Goals
- Build community resilience
- Strengthen and sustain health and emergency response systems

Strategic Objectives
- Informed and empowered individuals, communities
- National health security workforce
- Integrated, scalable health care delivery systems
- Situational awareness
- Timely and effective communications
- Effective counter-measures enterprise
- Prevention/mitigation of environmental, other health threats
- Post-incident health recovery in planning and response
- Cross-border and global partnerships
- Science evaluation, quality improvement

Operational Capabilities
ASPR Playbooks

http://www.phe.gov/preparedness/planning/playbooks/
ESF #8 / HHS Coordination

Department Of Homeland Security (DHS) National Operation Center (NOC)

Federal Emergency Management Agency (DHS/FEMA) National Response Coordination Center

Regional Response Coordination Center (RRCC) Joint Field Office (JFO)

Joint Information Center (JIC)

FBI Joint Operations Center (JOC)

Disaster Resiliency Group (DRG)

Emergency Management Group

Regional—IRCT

State/Territory EOC
County/City EOC
County/City Health Departments
Hospitals/Clinics/Shelters/Staging Areas

Incident Site
Incident Site
Incident Site
ESF #8 Operations Centers

- HHS Secretary’s Operations Center – Washington, DC
  - Activated 24/7 since 2002.
  - Used for oversight of all major operations.
  - US hub for international health information reporting

- CDC Operations Center – Atlanta, GA
  - Tracks and manages public health information.
  - Serves as a centralized facility to gather and disseminate public health information.
MedMap - Multiple Layers and Tools
Rapid Situational Awareness
Radiation Triage, Treatment and Transport (RTR) system

<table>
<thead>
<tr>
<th>Site</th>
<th>Radiation</th>
<th>Physical Damage</th>
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<tbody>
<tr>
<td>RTR 1</td>
<td>√</td>
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<td>RTR 2</td>
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<td>RTR 3</td>
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Site | Predetermined site
---|-------------------
MC  | Medical care
AC  | Assembly center
EC  | Evacuation center

• National Disaster Medical System (NDMS)
  — 1700+ Hospitals
  — Patient movement
  — Disaster Medical Assistance Teams (DMAT)
    • ~8000 professionals
    — Incident Response Coordination Teams
• Public Health Service
  — ~ 4200 deployable professionals
• Medical Reserve Corps (MRC)
  — Primarily local / Community Based.
• Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)
  — National system of State-based programs for managing health professional volunteers
Patient Movement

- DOD links to aeromedical evacuation
- FEMA coordinates ambulance surge with ASPR
- Provide patient movement and regulation from the disaster area and return to home
- For IND – Utilize all types of transportation
Health and Human Service Partners for Medical Response

Federal Coordinating Centers

- Army: 
- Navy: 
- Air Force: 
- VA: 

Map of the United States with federal coordinating centers marked.

Alaska, Hawaii, Puerto Rico
RITN

Prime example of multi-use

The Radiation Injury Treatment Network® (RITN) provides comprehensive evaluation and treatment for victims of radiation exposure or other marrow toxic injuries. RITN develops treatment guidelines, educates health care professionals, works to expand the network, and coordinates situation response. RITN is a cooperative effort of the National Marrow Donor Program (NMDP) and The American Society for Blood and Marrow Transplantation (ASBMT).
Federal Medical Station

- Scalable in size (50 bed increments)
- Adaptable to ANY 40,000 sq. ft. footprint (for a 250 bed unit). Smaller space may be used for smaller number bed units.
- Footprint may include multiple buildings or floors.
Linking Science to Requirements and CONOPs

**Novel Molecular Diagnostics**

**Integrated Clinical Diagnostics System**

- **Hematology**
- **Radiobioassay**
- **Cytogenetic Biodosimetry**

**TIME**

- **Triage**
- **Dose Estimate**
- **Medical Management**
- **Epidemiology**
“What do I do?”
### Action Steps

- Sequential guidance to coordinate the medical response to a nuclear detonation

- Detailed **time-phased, sector-oriented** approaches to response activities with linked **references**.
  - General Readiness Planning and Emergency Management
  - Emergency Medical Services (EMS)
  - Health and Facility Response, Public Health
  - Medical System Response
  - Evacuee Medical Care and Fallout-related Illness
  - Recovery
• Planning Guidance for Response to a Nuclear Detonation
  — Multi-agency- OSTP lead

• Scarce resources for a nuclear detonation
  — Triage for mass casualty

• Medical planning and response for a nuclear detonation: a practical guide

• Healthcare Preparedness Capabilities: National Guidance for Healthcare System Preparedness
ASPR online

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