Mental Health Implications of IND for Receiving Healthcare Systems

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TODAY’S PRESENTATION

• Focus on the first 2 weeks following detonation
• Neighboring jurisdictions
• Radiation as “dread” hazard
• Hospital Convergence
• Workforce Issues
• Recommended interventions
INITIAL PSYCHOLOGICAL & COGNITIVE RESPONSES TO DISASTER

- Fear
- Shock
- Horror
- Anxiety
- Strong urge to be with loved ones
- Intense hunger for information
  - Status of loved ones
  - To appraise the level of danger (“risk perception”)
  - To guide protective behaviors
- Diminished ability to retain and process information due to crisis
- Uncertainty
NATIONAL RESPONSE TO 9/11

- Nationally representative sample of 560 US adults
- Some stress 90%
- Substantial stress
  - Children 35%
  - Adults 44%
  - ≤100 mi from WTC 61%
  - 101-1000 mi 48%
  - ≥ 1001 mil 36%

Longitudinal web-based national survey of 2,729 adults (RC Silver et al, *JAMA* 2002; 288:1235-1244)
- 1st wave collected 9-23 days p-9/11
- 12% of individuals reported acute stress symptoms
- 8.9% reported symptoms involving functional impairment
“Dread” risk: Highly feared

- Undetectable by senses
  - Special equipment necessary
- Poor understanding by non-experts
- Concern about cancer risk
- Fear of genetic damage affecting offspring
- Scientific disagreement on “safe” levels of radiation
- Fear of health effects on fetuses and children
SPECIAL ISSUES POSED BY RADIOLOGICAL EVENTS

• Stigmatization and Discrimination
  – Atomic bomb survivors (“Hibakusha”) (1945)
  – Chernobyl, USSR (1986)
  – Goiania, Brazil (1987)
    • Neighboring hotels refused to accept residents of Goiânia
    • Cars with Goiânia license tags were stoned
    • Airplanes and buses refused to carry residents

• “Shadow” evacuation
  – Three Mile Island NPP (1979)
  – Fukushima Daiichi NPP (2011)

• Stress-induced physical symptoms can mimic ARS
  – Goiania, Brazil (1987)
HOSPITALS AS MAGNETS

• Desire to be evaluated for radiation exposure
• Need to have medications replaced
• Care for injuries/illness
• Search for safe haven
• Spontaneous volunteers wanting to help
  – Medical volunteers spontaneously poured out of area hospitals in hopes of rendering aid at Oklahoma City bomb site (1995)
  – 500 potential blood donors came to St. Vincent’s (near Ground Zero) organizing selves by makeshift signs and blood type (2001)
• Concerned family members looking for patients
  – After the 9/11 attacks, people converged on hospitals for news of loved ones
Diversion
- Augment security personnel with BHCP
- Plan to use facilities near hospitals initially
- Sort by need:
  - Family support center for those seeking information about loved ones
  - Reception Centers for assessment of radiation exposure
  - Alternate care sites for less serious injuries
WHEN PATIENTS ARRIVE, WILL THE HOSPITAL STAFF BE THERE?

• 1st Responders & HCP typically are heroic in their efforts to save lives
  – Hiroshima and Nagasaki
  – World Trade Center

• Research on 1st Responders & HCP behavioral intentions if RDD/IND event
  – Radiation seen as posing special risks
  – Unfamiliarity and discomfort with radiation hazard
  – Concerns about individual and organizational preparedness
  – Lower willingness to respond to radiation events
HEALTH CARE WORKER STRESSORS FROM IND

- Novel situation
- Most with little knowledge about radiation
  - May believe myths or misinformation
- Unfamiliar roles for many
- Concerns about impact on personal and family health
- Inexperience with mass casualty of this scale
- Potentially treating patients and conditions they don’t normally treat (e.g. children, burns or severe trauma)
- Scarce resources
SUPPORTING THE HEALTHCARE WORKFORCE

- Repeated training
- Education about radiation
- Provision of a clear plan of action
- Familiarity with roles and responsibilities
- Plans that address family-related concerns
- Workplace plan to minimize radiation exposure and procedures to monitor worker health over time
- Briefing at beginning of rotation
- As resources arrive, enforce sleep-work cycles
- BHCP as consultants to leadership and “therapy by walking around” as circumstances permit
PSYCHOLOGICAL SUPPORT FOR PATIENTS AND SURVIVORS FOLLOWING TRAUMA

• Interactions should promote:
  – A sense of safety
  – Calm
  – A sense of individual and group efficacy
  – Connectedness with others
  – Hope

• Psychological First Aid
  – National Center for PTSD
  – National Child Traumatic Stress Network
  – CDC’s Psychological First Aid in Radiation Disasters (Web Based) Course Number: WB1645
DISASTER BEHAVIORAL HEALTH CLIFF NOTES

• Psychological distress common, not psychiatric disorder
  – BUT, injured patients are at higher risk for developing psychiatric disorders
    • Should be assessed and followed by BHCP

• Physical symptoms common, not disease
  – Importance of integrating BHCP in medical management
    • Concerns about developing cancer
    • Attribution of symptoms to radiation exposure
  – Consultation and reminders to PCPs about link between trauma and physical symptoms

• Active outreach to women with small children and pregnant women

• Good screening and registration process is therapeutic
ROLES FOR DISASTER BEHAVIORAL HEALTH CARE PROVIDERS

• Help with communications
  – General public messaging
  – Assisting in keeping people informed
  – Listening to people’s concerns and provide feedback to mgt.

• Help manage patient/survivor flow

• Assist with psychological needs and management of:
  – Patients in all medical care settings (eg, screening, registry)
  – Evacuees in virtually all settings

• Provide support to staff
RESOURCES

• *Disaster Mental Health: Assisting People Exposed to Radiation*, Institute for Disaster Mental Health at SUNY

• Health Care System Planning for and Response to a Nuclear Detonation. JL Hick et al, *Disaster Med Public Health Preparedness*. 2011;5:S73-S88

• Social, Psychological, and Behavioral Responses to a Nuclear Detonation in a US City: Implications for Health Care Planning and Delivery. D Dodgen et al, *Disaster Med Public Health Preparedness*. 2011;5:S54-S64