



ASPR

The Need to Prepare for Population Monitoring

Kevin Yeskey, M.D.

**Principal Deputy Assistant Secretary for Preparedness and Response
Office of the Assistant Secretary for Preparedness and Response**

March 12, 2019

Disclosure

The views and opinions expressed in this presentation are strictly that of the presenter and are not necessarily the views of ASPR, the Department of Health and Human Services, or the United States Government. No endorsement of products is implied. I have no conflicts of interest.

Public Health and Medical Services

Under the National Response Framework, HHS is the coordinating agency for ESF #8 – Public Health and Medical Services.

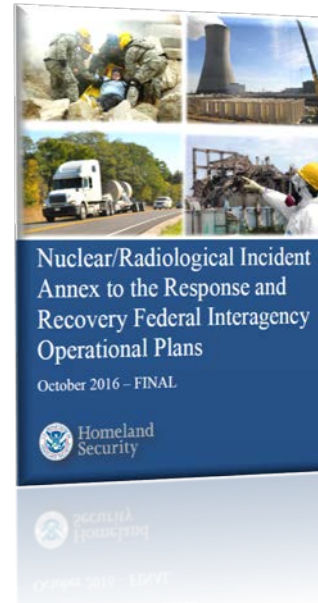
We often focus on the response functions following a major disaster...

- Assessment of public health/medical needs
- Medical care personnel
- Medical equipment and supplies
- Patient movement
- Hospital care
- Outpatient services
- Victim decontamination
- Safety and security of drugs, biologics, and medical devices
- Blood and blood products
- Food safety and security
- Agriculture safety and security

ESF #8 Functions

- **Worker health and safety**
- **Public health surveillance**
- All-hazard **consultation, technical assistance, and support**
- Mental health and substance abuse care
- **Public health and medical information**
- Vector control
- Potable water/wastewater and solid waste disposal
- Victim identification/mortuary services
- Veterinary services

... but, this case may be different.



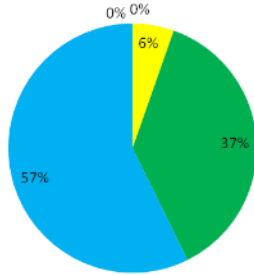
“HHS provides the following capabilities in support of a nuclear/radiological incident:

... Manages long-term public monitoring and supports follow-on personal data collection, collecting and processing of blood samples and bodily fluids/matter samples, and advice concerning medical assessment and triage of victims. Tracks patient treatment and long-term health effects. ...”

Where are the Injured?

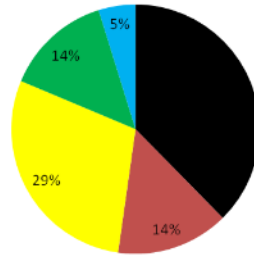
Light Damage Zone (1 to 3 miles)

■ Dead ■ Expectant ■ Risk
■ Recover ■ Uninjured



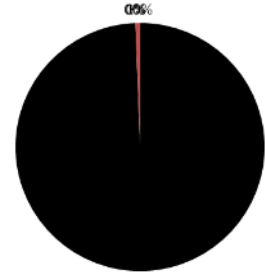
Moderate Damage Zone (1/2 to 1 mile)

■ Dead ■ Expectant ■ Risk
■ Recover ■ Uninjured



Severe Damage Zone (< 0.8km)

■ Dead ■ Expectant ■ Risk
■ Recover ■ Uninjured



3 mile

Total Population
500,000

1 mile

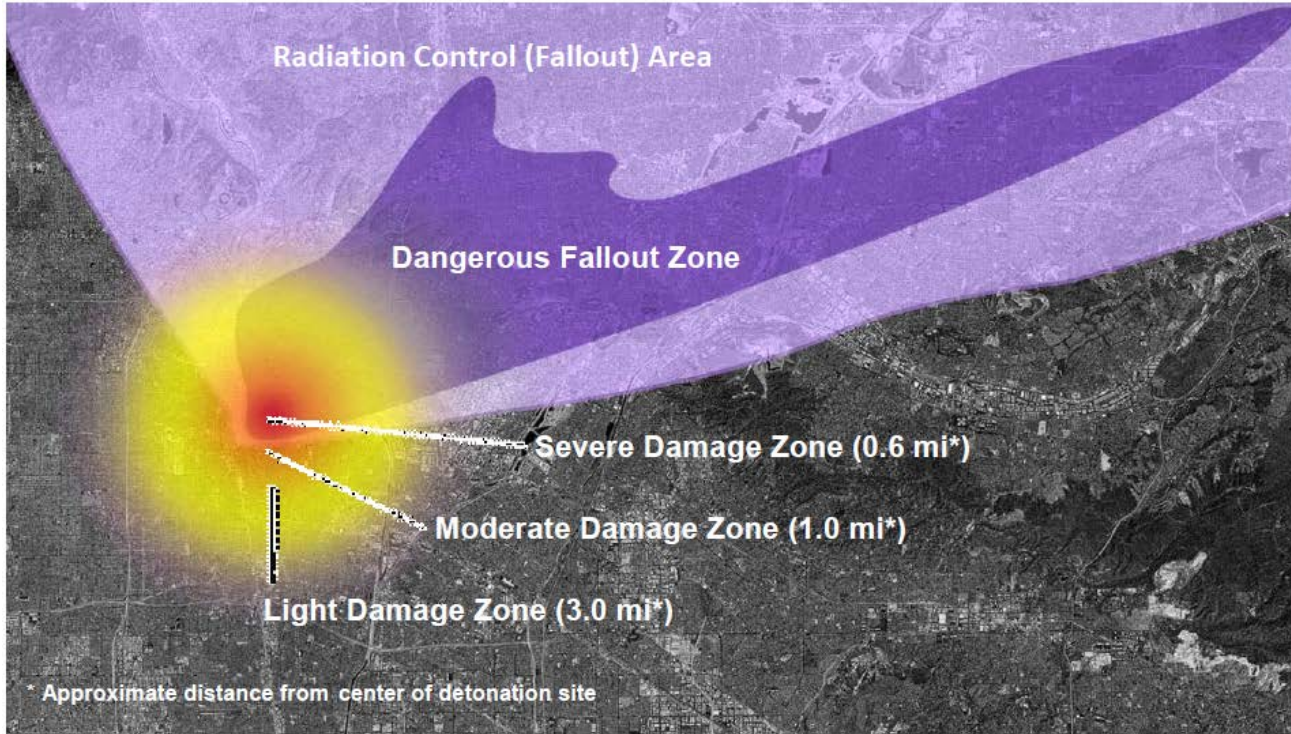
Total Population
200,000

1/2 mile

Total Population
150,000

we can save **26,000** people with medical assistance

Where are the Impacted or Exposed?



Health Effects from Radiation Exposure

Short-Term ^a Whole Body Dose (rad)/(Gy)	Acute Death ^b From Radiation Without Medical Treatment (%)	Acute Death From Radiation With Medical Treatment (%)	Acute Symptoms (Nausea and Vomiting Within Four Hours) (%)	Excess Lifetime Risk of Fatal Cancer Due to Short-Term Radiation Exposure ^c (%)
1 (0.01)	0	0	0	0.06
10 (0.1)	0	0	0	0.6
25 (0.25)	0	0	0	1.8
50 ^d (0.5)	0	0	0	3
100 (1)	<5	0	5-30	8
150 (1.5)	<5	<5	40	9
200 (2)	5	<5	60	16
300 (3)	30-50	15-30	75	24 ^e
600 (6)	95-100	50	100	>40 ^e
1,000 (10)	100	>90	100	>50 ^e

(adapted from AFRRI, 2003; Goans and Wasalenko, 2005; IAEA, 1998; ICRP, 1991; Mettler and Upton, 1995)

Partnerships are Essential

Radiation Response Volunteer Corps (RRVC)

- ASPR
- Medical Reserve Corps
- CDC Grant
- CRCPD
- Jurisdictions



[Contact Us](#)

RRVC Toolkit

Radiation Response Volunteer Corps (RRVC)

Building capacity for population monitoring

[What is the radiation response volunteer corps?](#)

Find out how radiation volunteers function to augment local resources for population monitoring in a radiation emergency



[Tools and Resources](#)

Links to Federal guidance documents, standards, and radiological websites

[Recruitment and Training](#)

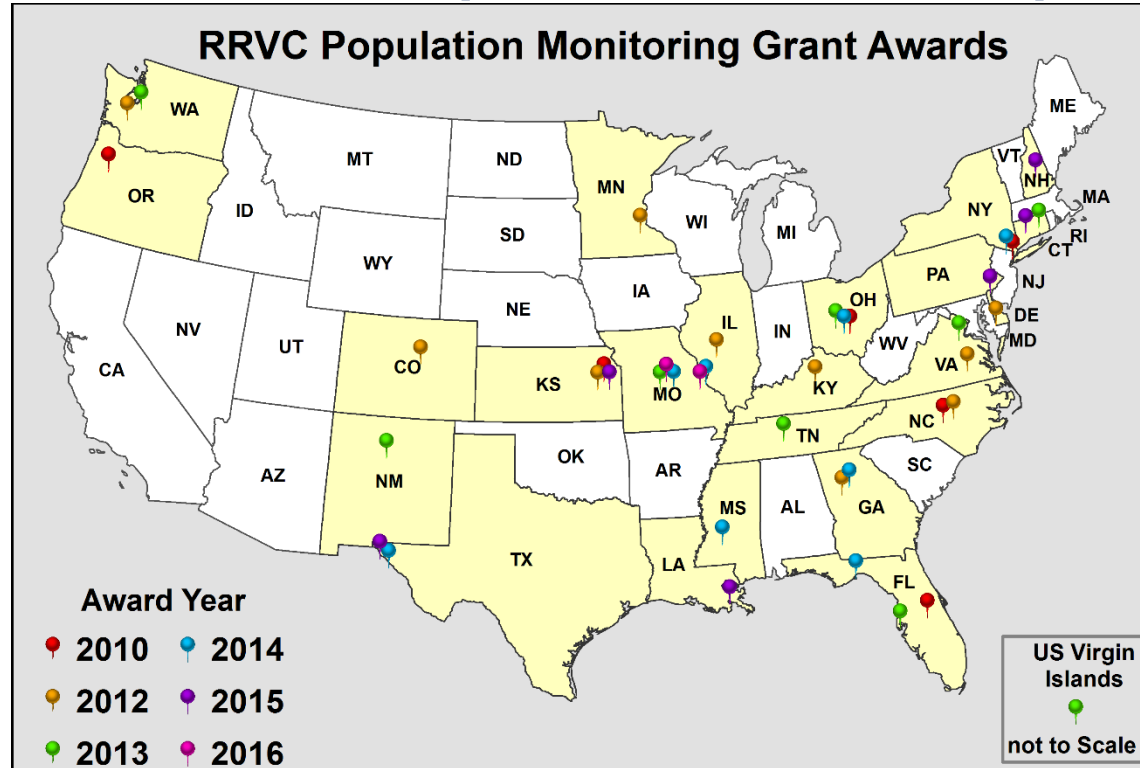
Access practical recruitment strategies and download customizable training modules

[Templates and Forms](#)

Standard Operating Guidance, Community Reception Center, Homeland Security Exercise Evaluation Program, and more

Acknowledgement, citation and/or disclaimer: The work products available through the RRVC Toolkit were developed as part of the grant deliverables for a Centers for Disease Control and Prevention (CDC) grant program administered through the Conference of Radiation Control Program Directors (CRCPD). Links to external sites are provided for informational purposes. The user is responsible for verification of accuracy and proper citation of resources used from this toolkit. Other legal language as necessary for liability...

Medical Reserve Corps Radiation Response Volunteer Corps





Realities Relevant to Long-term Health Monitoring



We Have Been Here Before

- There are precedents in prior major responses and toxic exposures requiring long-term monitoring
 - **Superfund** – 1986 – EPA published Superfund Public Health Evaluation Manual
 - **World Trade Center** – 2001 – many programs initially, now CDC/NIOSH WTC Health Program – 74,107 responders, 18,921 survivors
 - **Deepwater Horizon** – 2010 – NIOSH – Voluntary Roster of Deepwater Horizon Response Workers – 55,512 workers
 - Other examples
 - ✓ **Energy workers** – 2000 – Energy Employees Occupational Illness Compensation Program Act (EEOICPA) – DOL, DOE, NIOSH, DOJ
 - ✓ **Asbestos workers** – long-term monitoring required by regulation for increased life-time cancer risk
 - ✓ **Coal miners** – 1970 – the “Black Lung” Program – DOL, NIOSH, MSHA – \$47 billion



Hospital Preparedness Program

Health Care Coalitions (HCCs)

- HPP grants to support individual healthcare and response organizations working in a defined geographic location to prepare for and respond to disasters and emergencies
 - Hospitals, EMS providers, emergency management organizations, public health agencies, and more
 - 300+ Coalitions, Regions, Networks, Districts, Areas, etc. nationwide
- 2017 – 2022 Healthcare Preparedness and Response Capabilities – Capability 2. Health Care and Medical Response Coordination; Objective 2: Utilize Information Sharing Procedures and Platforms
- **HCC's could provide an integrated basis to capture and share HIPPA-compliant patient information for long-term**
- **Significant challenges in interoperability in various patient record systems**

Regional Disaster Health Response System (RDHRS)

- RDHRS draws on the existing U.S. healthcare infrastructure, pulling together private sector and federal resources and builds on local health care coalitions and trauma centers, creating a tiered system of disaster care.



Massachusetts Partnership for
Regional Health Disaster Response

- **Will integrate local medical response capabilities with emergency medical services, burn centers, pediatric hospitals, labs, and outpatient services, to meet the overwhelming health care needs created by disasters.**
- ASPR has funded 2 pilots which are underway. “Information sharing” is a chief enabler.



Nebraska Regional Disaster
Health Response Ecosystem

Radiation Injury Treatment Network (RITN)



- Collaborative MOU with ASPR since 2007 to provide care and expertise for radiation and bone marrow toxic injury.
- 80 Cancer centers, blood donor centers and cord blood banks.
- RITN is a demonstration of a Center of Excellence under the RDHRS
 - 90% HPP and 77% NDMS
- **National Marrow Donor Program (NMDP) – large database for HLA-typing and information sharing across all BMT facilities.**
- **NMDP – also tracks recipients long-term for outcomes.**

Considerations for the Way Forward

- We must leverage and enhance existing ...
 - **Capabilities**, as discussed above – NIOSH, RRVC, etc.
 - **Organizations** - HCCs, RDHRS, etc.
 - **Programs** – e.g. BARDA and FDA monitor for MCM adverse health effects and efficacy
- As a National preparedness effort, clarify **roles and responsibilities** at all levels.
- **Authorities** must be specifically designated to support the implementation of the system from the field through the IT and program levels.
- **Appropriations?** We must accept that this function will be generational and will likely impact the entire Nation.
- **Infrastructure** – this must be a fully public-private collaboration that will span public health and healthcare from the local level through to the Federal level.