

# Report on the CDC-CRCPD Roundtable on Communication and Teamwork: Keys to Successful Radiological Response



**Conference of Radiation Control Program Directors, Inc.**

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# **Report on the CDC-CRCPD Roundtable on Communication and Teamwork: Keys to Successful Radiological Response**

**Prepared for the Centers for Disease Control and Prevention (CDC)**

**by the Conference of Radiation Control Program Directors (CRCPD),  
Homeland Security/Emergency Response Council's  
HS/ER-2 Committee for Fostering Partnerships and Developing Operational  
Guides to Support Emergency Preparedness and Response**

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## **DISCLAIMER**

This document has been developed by a working group of the Conference of Radiation Control Program Directors, Inc. (CRCPD) and accepted by the Board of Directors. The views and opinions expressed in this document are solely those of the participants in the Roundtable on Communications and Teamwork: Keys to Successful Radiological Response, and may not necessarily represent the views of the entire membership of CRCPD. Although the views and opinions expressed in this report will be used to help the Centers for Disease Control and Prevention (CDC) develop effective public health guidance, responses expressed in this report do not constitute endorsement by CDC or agreement by CDC with these opinions.

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## EXECUTIVE SUMMARY

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The Polonium-210 Russian Spy poisoning incident in London in 2006 reverberated internationally, resulting in recognition by the Centers for Disease Control and Prevention (CDC) of an opportunity to better prepare the nation for a public health threat involving nuclear/radiological incidents. CDC and the Conference of Radiation Control Program Directors (CRCPD) sponsored the “Roundtable on Communication and Teamwork: Keys to Successful Radiological Response” in June 2008 to bring together experts in the broad fields of health physics, hospital preparedness, epidemiology, public health preparedness, risk communication, psychology, and emergency medicine to address several key concerns: insufficient awareness and understanding of mutual responsibilities for preparing and responding to radiological incidents, the need for strengthening communications and improving working relationships among the participating organizations, the need for the organizations to share information on available resources, and the need for increased awareness of emerging roles and responsibilities regarding radiological events.

Participating in the roundtable were representatives from the Association of State and Territorial Health Officials (ASTHO), CDC, CRCPD, the Council of State and Territorial Epidemiologists (CSTE), and the National Association of County and City Health Officials (NACCHO).

Each presenting organization was asked to briefly discuss their role during a public health emergency and specifically during a radiological emergency; how their organization supports their member agencies in fulfilling their emergency preparedness and response roles, specifically during a radiological emergency; and finally, whether their organizations had developed any tools in preparing for and responding to radiological emergencies, and if so, to provide some examples.

Following the initial presentations by the participating agencies, a facilitated scenario discussion was used to elicit ideas from the participants regarding their roles in response to a radiological event. This discussion was followed by a presentation on the roles of public health during a radiological emergency, and finally there were presentations of successful partnerships between radiation control programs and public health programs.

A series of “silent brainstorming” activities followed. The first brainstorming session was used to identify each organization’s gaps related to their ability to respond to a radiological event. Participants were also asked to list their organization’s radiological response capabilities and identify strategies that could either bridge the gaps or

share their capabilities with other organizations. Identical activities were used to identify short-term and long-term actions, internal and external communication issues and strategies that could be used to strengthen communication, build partnerships and raise awareness of radiological emergency responsibilities.

Each “silent brainstorming” session was followed by a facilitated discussion designed to increase awareness of potential issues encountered during a community’s response to a radiological incident. Additionally, the facilitated discussion provided the participants an opportunity to gain perspective from colleagues, recognize their common attributes, and discuss potential for collaboration.

The most common observations that emerged from the brainstorming exercise, for each major theme identified during the roundtable are:

- Awareness of the need to develop consistent radiological capabilities
- Need to coordinate and build relationships among participating agencies
- Need for multi-agency training and exercising in radiological emergency response
- Need for funding specifically allocated for radiological emergency preparedness

The broadest theme that came out in the discussions was the need to raise radiological emergency preparedness to the same level of importance as other disasters. There was general agreement that strengthening communication, increasing understanding of emergency awareness responsibilities, developing partnerships and multi-agency training and exercises are needed to bring radiological emergency preparedness on par with biological or chemical preparedness planning.

There was recognition that there are clearly robust opportunities to build partnerships and expand communication among multiple parties engaged in or impacted by radiological emergency preparedness. Some of the initiatives that were suggested for the near future include:

- Form an initial committee to address issues identified by this roundtable;
- Form an alliance of the partner organizations that participated in the initial roundtable;

- Convene a follow-up roundtable, expanded to include more medical and public health organizations, including bringing in first receivers such as EMTs and hospital staff;
- Create tools to raise awareness of local public health agencies to their broader role in radiation and other emergencies beyond traditional public health functions;
- Integrate with local/state incident management teams/ICS structures;
- Incorporate population monitoring in Public Health Emergency Preparedness (PHEP) and Hospital Preparedness Program (HPP) cooperative agreements or other funding sufficient to develop capabilities including dedicated human resources;
- Conduct a tabletop exercise that will focus on recovery, not just response.

The committee derived the following recommendations based on the suggestions presented during the roundtable:

1. Develop an alliance of various organizations, with the shared objective of expanding radiological emergency preparedness capabilities nationwide;
2. Work within the alliance to clarify and elevate recognition of the roles and responsibilities of public health agencies in a radiological emergency;
3. Pursue radiological emergency preparedness-specific funding on a par with biological and chemical preparedness, through the appropriate funding mechanisms;
4. Promote inter-agency training and exercises for radiological emergency preparedness and response;
5. Develop guidelines for establishing a radiation registry, in partnership with the Council of State and Territorial Epidemiologists (CSTE).

The Conference of Radiation Control Program Directors appreciates the opportunity to have been involved in the development of this roundtable and the beginning of a very exciting new era in radiological emergency preparedness.

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## INTRODUCTION

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To better prepare the nation for a public health threat involving nuclear/radiological incidents, the Centers for Disease Control and Prevention (CDC) and the Conference of Radiation Control Program Directors (CRCPD) sponsored the “Roundtable on Communication and Teamwork: Keys to Successful Radiological Response” on June 17-18, 2008, in Atlanta, Georgia. This roundtable brought together representatives from state and local public health agencies and radiation control programs to address the following key concerns:

- The level of awareness and understanding of mutual responsibilities for preparing and responding to radiological incidents;
- The lack of communication and working relationships among participating organizations;
- There isn’t a common knowledge of available resources; and
- Roles and responsibilities regarding radiological events are changing; increased awareness of the emerging roles and responsibilities is needed.

The Roundtable convened over 30 experts in the broad fields of health physics, hospital preparedness, epidemiology, public health preparedness, risk communication, psychology, and emergency medicine. Participants represented federal agencies, state and local agencies, and professional organizations. See Appendix A for the complete agenda. See Appendix E for a complete list of attendees.

The meeting started with introductory presentations by the participating agencies:

- Association of State and Territorial Health Officials (ASTHO)
- Centers for Disease Control and Prevention (CDC)
- Conference of Radiation Control Program Directors (CRCPD)
- Council of State and Territorial Epidemiologists (CSTE)
- National Association of County and City Health Officials (NACCHO)

Each presenting organization was asked to briefly discuss the following questions:

1. What roles do your member agencies have during a public health emergency? Do your member agencies have any roles specific to a radiological emergency? If so, please describe.
2. How does your organization support your member agencies in fulfilling their emergency preparedness and response roles? Do you provide specific support during a radiological emergency?
3. Are there any tools/guidance developed by your organization for use in preparing for and responding to radiological emergencies? If so, please provide examples.

## **INTRODUCTORY PRESENTATIONS**

Michael McGeehin, Ph.D., M.S.P.H., Director of the CDC Division of Environmental Hazards and Health Effects, welcomed the participants to the session by acknowledging threats posed by radiological and nuclear materials. He said that the Federal Government has successfully used forums like this to assess the level of preparedness in the field, and the need for new initiatives or support.

Ruth McBurney, CHP, Executive Director of the Conference of Radiation Control Program Directors, gave an overview of the organization's purpose, mission and relationships with federal agencies. She described special resources that the CRCPD delivers, including a directory of personnel responsible for Radiological Health at the local, state, territorial and federal levels.

Robert Whitcomb, Ph.D., Lead Physical Scientist for the CDC Radiation Studies Branch, Division of Environmental Hazards and Health Effects, explained how the CDC became involved when the Polonium-210 incident (Russian spy poisoning) happened in London, with impacts that extended to the international community. He shared how the public health response took place in the United Kingdom, how that response interfaced with the United States public health system, and the lessons that were identified from that event. He described communication challenges that caused CDC to reach out to its partners, resulting in this roundtable.

Ronald Edmond, Roundtable Facilitator and Group Manager, National Security and Emergency Management Program, Oak Ridge Institute for Science and Education, gave an overview of roundtable logistics and expectations. He indicated that there would be brainstorming exercises later in the agenda, and encouraged participants to contribute their ideas.

James Blumenstock, Chief Program Officer, Public Health Practice, Association of State and Territorial Health Officials, gave an overview of the organization. He described the ASTHO vision: healthy people thriving in a nation free of preventable disease and injury, and mission: transforming public health within states and territories to help members dramatically improve health and wellness. He described public health practice areas, collaborations with state agencies, and gave examples of partnerships to build public health preparedness capacity. He described variability among states with respect to where radiological health programs are located within agencies, and the extent of their capabilities.

Zarnaaz Bashir, M.P.H., Program Manager, Public Health Preparedness, National Association of County and City Health Officials, described her organization as a national connection for local public health departments that works to support efforts that protect and improve the health of all people and communities. NACCHOs' strategic objective is to build robust and sustainable local capacity for emergency response, through resource sharing, technical assistance and workforce development, assessment and policy support. She indicated that NACCHO is not engaged with radiological-specific response activities, but is very good at encouraging peer assistance between local health departments. She described specific "advanced practice center tools" available in the NACCHO toolbox online.

George Fabian, M.D., M.P.H., Medical Director, Public Health Preparedness Division, South Carolina Department of Health and Environmental Control, presented for the Council of State and Territorial Epidemiologists, which represents state epidemiologists. He said that CSTE member agency roles specific to a radiological emergency depend on specific state statutes, but that key findings from a 2003 public health national survey for radiological preparedness and counterterrorism identified gaps in both chemical and radiological preparedness.

Debra McBaugh, CHP, Manager, Environmental Radiation Monitoring and Assessment, State of Washington Department of Health, described activities of the various CRCPD task forces, covering several initiatives specifically geared to expand radiological preparedness capacity among member radiation control programs. She emphasized the formal relationships that CRCPD has with several federal agencies, and welcomed this opportunity to partner with CDC to achieve additional progress on communication and teamwork.

Adela Salame-Alfie, Ph.D., Assistant Director, Division of Environmental Health Investigation, New York State Department of Health, and Chair of the CRCPD Homeland Security/Emergency Response Council's Committee for Fostering Partnerships and Developing Operational Guides to Support Emergency Preparedness and Response, described the development of this

roundtable with CDC. She described the primary mission of radiation control programs: to keep radiation exposure of patients, workers and the general public to the lowest practical level, while not restricting the beneficial use of this valuable energy source. She described the variability of radiation control program placement within state agencies, including the Health Department (New York, California), the Environmental Protection Department (Connecticut, New Jersey), the Natural Resources Department (Georgia), the Emergency Management Agency (Illinois), or radiation control as its own agency (State Radiation Regulatory Agency, Arizona). She pointed out the challenge this variability brings to communication, particularly in an emergency situation.

Robert Whitcomb, Ph.D., Lead Physical Scientist for the CDC Radiation Studies Branch, Division of Environmental Hazards and Health Effects, provided an overview of CDC roles, tools, guidance and grants for radiological preparedness. He indicated that public health responsibilities during a nuclear/radiological event are very similar to those for a natural disaster, with some additional radiological specifics. In summary, he stated that “all emergencies are local,” future terrorist events cannot be dismissed, such events may involve radiological components, and the public health community must prepare to meet those threats.

In those instances where PowerPoint presentations were provided, we are including them in Appendix B.

## **FACILITATED SCENARIO**

Steven M. Becker, Ph.D., Associate Professor of Public Health, and Vice Chair, Department of Environmental Health Sciences, University of Alabama at Birmingham presented and facilitated a scenario discussion. The scenario discussion involved a covert radiation emission device that started as a possible food borne disease outbreak at a shopping mall. Several participants were assigned roles and were asked to answer questions based on information they had at the time.

The roles used for the facilitated scenario included mall director, mall security, local and state law enforcement, local and state health departments, fire/emergency medical services, a hospital, and radiation control program staff. This scenario was used to compare and contrast the public health response to a ‘traditional’ public health event, such as a food borne disease outbreak, and a covert radiological event (radiological emission device).



This scenario also served to point out that many of the traditional roles carried out by local and state public health agencies will be carried out during a response to a radiological event. The scenario provided a good opportunity to discuss how we can build on our strengths by knowing and partnering with the radiation control programs. It also set the stage for the follow-up discussions on the role of public health during a radiological emergency, and provided a good opportunity to raise some of the issues that were discussed later in the facilitated exercise.

Examples of the initial comments and conclusions from the scenario discussion are listed below:

- “Public health is not ready for a mass casualty event. We don’t do healthcare, we do public health, but we are being tasked to do this response. That’s the weakness.”
- “Population monitoring will fall to public health. And we don’t exercise, we’re not funded – it’s huge and we’re not adequately prepared to do it.”
- “Most health departments are comfortable . . . [with] accommodating large populations in Point of Dispensing facilities (PODs); needs tweaking, but can be adjusted for a radiological event.”
- “Need to look at public health skills, tools, resources in place, and how they might be used in a radiological event. And keep track: EMTs, ambulances, physicians, nurses, won’t treat – have to educate NOW.”
- “The message needed isn’t just for the public – the responder community needs education.”

## **SUCCESSFUL PARTNERSHIPS**

Following the discussion of the scenario, there was a presentation on the roles of public health during a radiological emergency, and finally there were presentations of instances where partnerships between radiation control programs and public health were successful.

John J. Lanza, M.D., Ph.D., Director, Florida Department of Health, Escambia County Health Department, discussed the local public health response to a nuclear/radiological emergency. His presentation included a listing of the various types of nuclear/radiological incidents, focusing on the fact that all emergencies are local. He discussed past events that we can use to learn from, such as the Goiânia, Brazil contamination incident, and

the Chernobyl nuclear power disaster in Russia. He listed local public health issues to be addressed after any disaster and focused on areas where local and state public health will need to focus during a radiological emergency.

Debbie Bray-Gilley, Environmental Manager, Florida Bureau of Radiation Control, discussed partnerships and focused on the radiation response volunteer corps program developed in Florida. She specified that volunteers are neither emergency medical technicians (EMTs) nor first responders, but that they could fill some of the roles needed during a radiological emergency, such as during the implementation of population monitoring activities. The volunteers are already trained/experienced in decontamination procedures and are able to collect and know the value of epidemiological information. The program is currently being implemented in Florida using the infrastructure that already exists for other disasters such as hurricane response.

A collaborative approach to population monitoring in Georgia with participation across multiple agencies and with members of the private sector was presented by James Hardeman, Manager, Environmental Radiation Program, Georgia Department of Natural Resources, Lee Smith, Director of Emergency Preparedness, Georgia Department of Human Resources, and Kevin Caspary, MPH, Health Education Specialist, Oak Ridge Institute for Science and Education.

The last presentation by Adela Salame-Alfie, Ph.D., discussed several examples of partnerships between the radiation control program and public health agencies, and showcased a few success stories of such collaboration.

## **BRAINSTORMING METHODOLOGY**

Early in the planning stages of the roundtable, the planning team identified a need to collect a significant amount of information from participating organizations to gain a better awareness of the issues, obstacles, and gaps associated with responding to a radiological event. The goal was threefold:

1. Gather the most information possible;
2. Actively involve the participants; and
3. Optimize use of the allotted time.

To accomplish these goals, a series of “silent brainstorming” activities were designed to capture information, involve the participants, and stimulate

discussion. The facilitated discussion utilized Post-it® Notes for capturing participant comments and suggestions. Participants were encouraged to identify issues, note them on the Post-it® Notes, and place the Post-it® Notes on the trifold boards under the appropriate heading.

As an example, the first activity was designed to identify each organization's gaps related to their ability to respond to a radiological event. Participants were also asked to list their organization's radiological response capabilities. Lastly, participants were asked to identify strategies that could either bridge the gaps or share their capabilities with other organizations. A complete listing of participant comments and suggestions is provided in Appendix D.

Identical activities were used for the following topics:

- Short-term issues, long-term issues, and strategies:
  - Strengthening communication
  - Building partnerships
  - Increasing awareness of emergency responsibilities
- Internal issues, external issues, and strategies.

Each "silent brainstorming" session was followed by a facilitated discussion designed to increase awareness of potential issues encountered during a community's response to a radiological incident. Additionally, the facilitated discussion provided the participants an opportunity to gain perspective from colleagues, recognize their common attributes, and discuss potential for collaboration.

Upon conclusion of the brainstorming exercise, CRCPD was responsible for organizing the information and reporting the data.

## MAJOR THEMES

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Throughout the roundtable discussions, it became apparent that the topic that resonated most among attendees was the need to raise radiological emergency preparedness to a comparable level of importance to other disasters. Many participants acknowledged that they had far less familiarity with radiological hazards than any other type of emergency, with respect to public health preparedness.

Observations from the brainstorming sessions reflected the following major themes:

- Awareness of the need to develop consistent radiological capabilities;
- Coordination and building relationships;
- Training;
- Exercising;
- Funding.

Following are the most common observations that emerged from the brainstorming exercise, for each major theme identified above.

### **AWARENESS OF THE NEED TO DEVELOP CONSISTENT RADIOLOGICAL CAPABILITIES**

Attendees articulated that radiological emergency preparedness is not generally on par with preparedness planning levels for other types of hazards such as bioterrorism. Their sense was that radiation should be elevated to the same level of importance as other disasters, and the public should be educated about radiation hazards.

A contrast was made between the widely publicized “Duck and Cover” campaign carried out for civil defense during the Cold War, and the current level of public understanding of radiological hazards that could be used by terrorists. One idea that surfaced was to consider a slogan comparable to “Duck and Cover,” updated to reflect current realities. Despite the relatively simple message conveyed in the “Duck and Cover” campaign, the magnitude of outreach that it took is something to be seriously considered. It was suggested that organizations participating in this workshop could make presentations about radiological emergency preparedness at mutual conferences and workshops to elevate the importance of radiological emergency preparedness.

## **COORDINATE AND BUILD RELATIONSHIPS**

There was a strong emphasis on increasing coordination and communication between all parties that could contribute to more effective radiological emergency preparedness. This coordination could take place within and across federal, state and local governmental agencies, with and among non-governmental organizations such as ASTHO, CRCPD, CSTE, and NACCHO, and with each organization's public information officers.

In particular, establishing a formal alliance could provide all of these parties a stronger voice with which to influence decision-makers to effect the changes that are needed. Ultimately, the group felt that in order to be successful, all impacted parties need to plan, train and exercise together to more fully leverage the radiological emergency capabilities that exist within a jurisdiction. An alliance could enable sharing of capabilities such as resources and expertise across public and private sector boundaries, to ultimately benefit the public health and safety.

## **TRAINING**

There was general agreement that everybody is being asked to do more with less. If training in radiological emergency response was integrated with emergency response training for other hazards, resources currently used to present preparedness training on a number of topics could also be utilized to present radiological preparedness topics, with technical assistance from subject matter experts in radiation control.

There was wide recognition of a shortage of personnel trained for radiological incident response and population monitoring. Of particular concern is the prospect of attrition of the precious few trained staff, as baby-boomers retire over the next five to ten years. There is a sense that the limited capabilities built since 9/11 could be seriously undermined in the near future, if succession planning and grant funding specific to radiological preparedness staffing are not put in place (many said we need more hands to do the work, not just more equipment).

There were concerns raised about limited resources available to prepare and deliver training for scenarios involving radiological dispersal devices (RDD) and improvised nuclear devices (IND) preparedness for radiation control programs, particularly with respect to training on radiation detection equipment, and on procedural aspects of working within incident command systems (ICS). The attendees identified the need to develop public information for state and local public health workers, first responders,

public information officers (PIOs), and decision-makers, with training information targeted to given audiences, with examples they could relate to. There was also concern raised regarding emergency medical technicians (EMTs) and hospital emergency room staff on how to handle patients from a radiological event to contain contamination with minimal impacts on traditional triage practices.

## **EXERCISING**

There was wide recognition that existence of plans for response to radiological dispersal devices (RDD) and improvised nuclear devices (IND) is inconsistent among jurisdictions, and that actual exercising of emergency preparedness plans for radiological events other than nuclear power plant releases is limited to very few jurisdictions. There was support expressed for planning and holding exercises across agencies or function, such as radiation control, first responders (fire, law enforcement), first receivers (EMTs, hospital emergency room staff), public health preparedness, and emergency management staff.

## **FUNDING**

There was wide recognition of the shortage of funding specific to radiological emergency preparedness, particularly in jurisdictions other than those near a nuclear power plant or location with high potential for incidents of national significance.

It is widely perceived that there is no one championing radiation funding where one would expect this to be based, in the Public Health Emergency Preparedness (PHEP) cooperative agreements awarded by CDC and the Hospital Preparedness Program (HPP) cooperative agreements awarded by the Department of Health and Human Services Assistant Secretary for Preparedness and Response (ASPR), or other federal grants.

In addition, it is widely recognized that grants have not specifically targeted who should be developing preparedness products for response to nuclear or radiological events.

## SUMMARY OF BRAINSTORMING SESSION

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The combination of formal presentations and facilitated sessions was geared to stimulate and utilize the knowledge gained from both activities to arrive at identifying the main issues that have hampered communication between public health officials and radiation control programs. They also served to help the participants develop a path forward that may serve as a model for future collaborations, and to focus on finding common links where the various organizations may team up to identify and work toward achieving mutual goals.

Throughout the roundtable discussions, it became apparent that the topic that resonated most among attendees was the need to raise radiological emergency preparedness to a comparable level of importance to other disasters affecting public health. Many participants acknowledged that they had far less familiarity with radiological hazards than any other type of emergency with respect to public health preparedness. The three discussion topics that appeared most dominant to the attendees are summarized below:

1. Shortage of funding specific to radiological emergency preparedness. It appears there is no one championing radiological emergency preparedness funding where one would expect this to be based, in the Public Health Emergency Preparedness (PHEP) cooperative agreements awarded by CDC and the Hospital Preparedness Program (HPP) cooperative agreements awarded by the Department of Health and Human Services' Assistant Secretary for Preparedness and Response (ASPR), or other federal grants.
2. Shortage of personnel trained for radiological incident response and population monitoring. Of particular concern is the prospect of attrition of the precious few trained staff, as baby-boomers retire over the next five to ten years.
3. Training and exercises for response to radiological dispersal devices (RDD) and improvised nuclear devices (IND) for radiation control programs, training on radiation detection equipment and incident command systems (ICS) for state and local public health agency staff, and training for responders such as hospitals/EMTs, public information officers, elected officials and other senior decision makers.

## **BRAINSTORMING EXERCISE OBSERVATIONS, BY SPECIFIC TOPIC**

### **Gaps**

Participants were asked to identify gaps in their community or organization with respect to communication on radiological issues. Participants were asked to include both internal (within their own organization) and external agencies (inter-agency or community) issues. They were then asked to list their unique capabilities in this regard and finally to list strategies that they could use to bridge or resolve the gaps. Gaps included lack of the following:

- A radiological champion;
- Radiological response plans;
- Population monitoring capability;
- Training for appropriate response by first responders and first receivers;
- Drills/exercises;
- Resources for radiological preparedness;
- Technical capabilities (example, bioassays);
- Health care training and decontamination issues.

### **Capabilities**

Participants were also asked to list their organization's radiological response capabilities. It was found that there is large variability in the type and degree of capabilities. This variability exists at all levels, within jurisdictions in each state as well as within states. Variability is also due to the type of location, for example rural versus urban areas, whether there is a nuclear power plant in the jurisdiction, separate funding streams, etc. Participants identified the following capabilities:



- Staffing in selected state/local jurisdictions;
- Subject matter experts (SME) on radiological matters;
- Health Alert Network (HAN) for providers;
- Risk communication specialists in some jurisdictions;
- Experience with the Federal Emergency Management Agency Radiological Emergency Preparedness programs, particularly with potassium iodide (KI) distribution;
- Established relationships with universities or poison control centers in some jurisdictions;
- Established relationships with city, fire, hazmat functions in some jurisdictions;
- Experience with large full-scale exercises in some jurisdictions (e.g., Top Officials (TOPOFF) National Exercise Series. TOPOFF is a Congressionally mandated, national, biennial exercise series designed to assess the Nation’s integrated crisis and consequence management capability against terrorist use of weapons of mass destruction [WMD]);
- CDC has funding and SMEs;
- Operational guidelines or plans that could be shared.

## **Internal and External Coordination Issues**

Participants were asked to list internal and external issues regarding coordination and provide some strategies to overcome the communication barriers. Four recurring themes were gleaned from this exercise for both internal and external coordination:

1. Shortage of staffing and funding, particularly for emergency operations that run 24/7, insufficient management team depth, competing priorities, poor visibility of radiological control programs and issues, lack of funding from the Department of Homeland Security for radiation-specific emergency planning and lack of staff for new required competencies (traditional versus post 9/11 capabilities). Participants continued to express concern about the challenges of continuing to meet traditional “statutory” obligations, while also

gearing up for public health preparedness duties, with no additional staff or funding;

2. Integration and coordination. There was a sense that there is no clear guidance from states or the federal government on how public health would be involved in a radiological emergency. There are challenges with understanding governmental organizational differences, e.g., public health versus emergency management versus environmental protection. There also appears to be a lack of familiarity with where radiological experts are located within state/local government and how to integrate them with other disciplines, and vice versa;
3. Communication, particularly with respect to generating an effective message and directing it to the right target audience, and moving pertinent information up and down the chain of command, and across organizational silos;
4. External coordination issues included the following:
  - Coordinating with federal partners;
  - Coordinating with law enforcement;
  - Sharing radiological information among public health agencies;
  - Challenge with expanding state/local bioterrorism grant funding into radiological topics;
  - Lack of recognition by public health staffs of roles/responsibilities/expertise of radiation control program;
  - The continued need for more effective communication, collaboration, cooperation and coordination.

## **Strategies**

Lastly, participants were asked to identify strategies that could either bridge the gaps or share their capabilities with other organizations. Possible solutions for overcoming internal and external coordination issues in the future included:

- Organizations represented at the roundtable define roles and responsibilities for radiological preparedness for presentations at each other's conferences;

- ASPR, CDC, and the Joint Commission discuss standard of care for contaminated patients;
- CDC specify specific percent of funding for radiological preparedness;
- Continue to discuss long-term issues such as epidemiology and radiation registry;
- Encourage outreach and training across organizations;
- Craft effective messages to increase radiation awareness and get buy-in of stakeholders.

Additional strategies were broken into short-term and long-term efforts.

## **Short-Term Strategies**

### **For strengthening communication**

- Exchange liaisons between organizations;
- Present outreach and technical papers at each other's conferences;
- Have speaker booths at national meetings of the respective organizations;
- Distribute the CRCPD directory to a wider audience;
- Have radiation control program staff participate in state and chapter meetings of the medical, nurses, and physicians societies;
- Develop positions and messages from this group to distribute to our respective memberships.

### **For emergency awareness responsibilities**

- Participation of radiation control program staff at the ASTHO, NACCHO, CSTE meetings and vice versa;
- Include EMTs and other first receivers at these meetings;
- Take radiation training material to specific/targeted audiences and include examples they can relate to;
- Continue communications among the roundtable participants;

- Emphasize what is different about responding to radiation emergencies as compared to response to chemical and biological emergencies;
- Involve the PIOs on training about radiation;
- Have radiation fact sheets available for local and state government agencies to use.

### **For developing/expanding partnerships**

#### **State/local level**

- Plan together, train together, exercise together (as you want to happen in real response);
- Network at state or national conferences – begin sharing plans;
- Radiation control program staff to contact local ASTHO, NACCHO, CSTE representatives;
- “Marry” an ASTHO, NACCHO, and/or CSTE person on the local level with a radiation control person with responsibility for their jurisdiction.

#### **National level**

- Network to clarify roles and resources of each group;
- Include articles about these efforts in all participating organizations’ newsletters;
- Articulate the benefits of partnerships;
- CRCPD continue working group activities to reach other organizations;
- Follow-up with roundtable participants;
- Identify common ground/common problems;
- Keep group involved via email/website.

## Long-Term Strategies

### For strengthening communication

- Turn this roundtable into an annual working group/public health steering committee;
- Develop regional emergency plan for all partners and test and exercise them;
- Have radiation emergency planning tied to budget;
- Form an initial committee to address issues identified by this roundtable;
- Conduct table top exercises focused on recovery issues;
- Develop a 21<sup>st</sup> century version of the old “duck and cover”;
- Incorporate population monitoring into cooperative agreements administered by ASPR and CDC or other grant funding sufficient to develop capabilities including dedicated human resources;
- Develop guidance for coordinating radiation/nuclear response.
- Develop capabilities including dedicated human resources;
- Identify organizations with whom we can partner. In just a few minutes of brainstorming, the group came up with an initial list of almost 50 names! A brief sampling follows:
  1. Medical
    - American Medical Association;
    - American Nurses Association;
    - Society of Nuclear Medicine;
    - American Hospitals Association;
    - American Association of Physicists in Medicine;
    - American Dental Association;
    - State and National Veterinary Associations;
    - American Society for Therapeutic Radiology and Oncology;
    - American Society of Radiologic Technologists;
    - State/county medical societies.
  2. Radiation Protection
    - Conference of Radiation Control Program Directors;
    - National Council on Radiation Protection and Measurements;

- Centers for Disease Control and Prevention, Radiation Studies Branch;
- Health Physics Society.

### 3. Public Health

- Association of State and Territorial Health Officials;
- National Association of County and City Health Officials;
- Council of State and Territorial Epidemiologists;
- National Environmental Health Association;
- American Public Health Association;
- Association of Public Health Laboratories;
- State and local health departments.

### 4. Academic

- University science faculty;
- High school science teachers.

### 5. Emergency Response

- National Fire Protection Association;
- National Institute for Occupational Safety and Health;
- Regional hazardous material (HazMat) teams;
- National and international associations of fire chiefs.

The participants agreed that this is an untapped resource that should be considered. The consensus was that all the agencies represented at the roundtable should become partners and it was suggested that they form an alliance. A complete list of suggested groups with which to partner is provided in Appendix C.

### **For emergency awareness responsibilities**

- Use existing forums to spread the message;
- Continue building relationships with EMTs and the media, PIOs, meteorologists;
- Develop templates for radiation/incident response that agencies can adapt and/or adopt;
- Conduct surveys of organization members to identify gaps and provide training;
- Have full scale exercises with different levels of participation to better determine areas for improvement;

- Make presentations for national, state, local and other organizations;
- Elevate radiation to the same level of importance as pandemic flu, hurricanes, and other natural disasters to get targeted radiation funding;
- Draft and distribute a *slogan* campaign such as the widely known 'Duck and Cover' slogan used for shelter action during the Cold War;
- Conduct conferences/workshops/exercises - the group suggested getting the story out to the public health community, and it was suggested to do a series of workshops where we bring together epidemiologists, environmental health, public health, and radiation control professionals;
- Send CRCPD representatives to the annual preparedness summit and other meetings targeted to the public health community;
- Convene an intra-agency meeting to raise awareness of program responsibilities and identify areas of partnerships;
- Promote joint working groups and task forces.

### **For developing/expanding partnerships**

#### **State/local level**

- Form an alliance to grow radiological emergency preparedness, similar to the Image Gently™ campaign, which was launched by the Alliance for Radiation Safety in Pediatric Imaging, a consortium of professional societies who are concerned about radiation exposure children receive when undergoing medical imaging procedures. Their campaign goal is to change practice by increasing awareness of the opportunities to lower radiation dose in the imaging of children.
- Identify leadership for the alliance, establish consistent funding for representatives to attend/present at each others' annual meetings (national and state);
- Promote more national, joint focused meetings.

## **National level**

- Issue a position statement and joint resolution from participating organizations;
- Support the work of the alliance;
- Incorporate commitment to the alliance and partnerships in mission statements, to memorialize or institutionalize these important relationships.

## **Additional Ideas**

The last activity focused on brainstorming ideas to provide short- and long-term solutions to the issues identified in the earlier discussions. Some of the solutions are already identified above. Others included:

**Sharing** - There was a theme of sharing many things, such as plans, best practices, lessons learned, and to identify and develop a single repository of evaluated best practices and standards. There was also a strong suggestion by many participants to develop regional health department plans, since it is likely that a regional approach would be used during the response to a radiological incident.

**Laboratory** - The laboratory component is a very important one, and one that has been neglected in many states. There were proposals to give talks to other state laboratories and to work towards increasing the capabilities and consistency among state radiological laboratories.

**Outreach Activities** - The group had many good suggestions including:

- Put web links to other organizations in each other's web site,
- Have liaisons and/or affiliate relationships with other organizations;
- Collaborate with CDC, NACCHO, ASTHO, and CSTE in developing tools and training aids;
- Establish a CRCPD radiological response WEB portal that would provide "one stop" access to all radiological emergency response information;
- Begin an ASTHO and NACCHO 'inclusiveness' effort directed at radiation health directors; and



- Brief agency leadership on outcome of this meeting and to identify 'champions' to carry the outreach message.

**Training** - In the training area it was suggested that:

- Radiation control programs conduct basic radiological health training for all local health departments;
- Provide training to hospitals and EMTs on how to properly handle contaminated/injured individuals;
- Conduct tabletops with focus across all disciplines and create a template of objectives, strategies, and tactics for radiological emergency responders.
- Design a survey to identify the radiation training needs of public health professionals.

**Resource Typing** - The participants indicated that public health departments should incorporate resource typing of nuclear/radiological professionals and their capabilities into public health planning. Failure to do this makes it difficult to identify appropriate local and regional support for planning and responding to radiological events.

## SUMMARY/CONCLUSIONS

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The CDC Radiation Studies Branch has recognized the lack of communication and collaboration that exists between the public health community and the radiation control programs, and the need to build partnerships to bridge that gap. This gap became evident when CDC had to respond to international events and national repercussions that resulted from the poisoning of a Russian spy with Polonium-210 in London. The CDC was responsible for working with state and local public health agencies to follow up on Americans who had been in the vicinity of contaminated incident venues in London. The CDC had the foresight to bring key groups together to raise awareness of issues that surfaced during the response to the Polonium-210 incident, to identify gaps or concerns, and partner with others toward development of a strategy to bridge those gaps.

The roundtable was the result of CDC's recognition that there were opportunities to better prepare the nation for a public health threat involving nuclear or radiological agents. It brought together over 30 experts from the broad fields of health physics, hospital preparedness, epidemiology, public health preparedness, risk communication, psychology, and emergency medicine. Many of the roundtable participants are employed by federal agencies, state and local health departments, and professional organizations, and are in a position to develop policies for their agencies and professions.

Throughout the roundtable, these experts expressed diverse views and perspectives. However, the following issues were considered critical to making progress with respect to radiological preparedness planning;

1. The Public Health Emergency Preparedness (PHEP) cooperative agreements awarded by CDC and the Hospital Preparedness Program (HPP) cooperative agreements awarded by the Department of Health and Human Services' Assistant Secretary for Preparedness and Response or other federal grants should specifically require capacity-building for radiological preparedness and response. Attendees felt that existing grants should be evaluated from a different perspective, rather than focus on the "disease du jour" such as Pandemic flu, that it is important to identify funding options to ensure radiological capabilities are built and maintained, for public health and safety.
2. There was a sense that there is no clear guidance from states or the federal government on how public health agencies would be involved in a radiological emergency. There are challenges with understanding governmental organizational differences, e.g., public health versus emergency management versus environmental protection. There also

appears to be lack of familiarity with where radiological experts are located within state/local government and how to integrate them with other disciplines, and vice versa.

3. An integrated approach to training should be developed. Training of radiological responders should continue, but cross-training with non-radiological personnel such as hazmat responders and public health professionals should be included. Lastly, there was a suggestion that state-wide meetings be held for state and local agencies to clarify their roles and responsibilities for radiological preparedness.
4. Recommendations were made to identify ways to leverage radiological preparedness plans by surveying others for best practices; develop generic plans for radiological response and population monitoring; involve volunteers and SMEs, and non-governmental organizations like ASTHO and NACCHO to publicize and implement these best practice plans to raise the level of preparedness for a radiological emergency to a higher level across multiple jurisdictions.

There was wide recognition that there are robust opportunities to build partnerships and expand communication among multiple parties engaged in or impacted by radiological emergency preparedness. Some of the initiatives that were suggested for the near future included:

- Form an initial committee to address issues identified by this roundtable;
- Form an alliance of the partner organizations that participated in the initial roundtable;
- Convene a follow-up roundtable, expanded to include more medical and public health organizations, including bringing in first receivers such as EMTs and hospital staff;
- Create tools to raise awareness of local public health agencies to their broader role in radiation and other emergencies beyond traditional public health functions;
- Integrate with local/state incident management teams/ICS structures;
- Incorporate population monitoring in PHEP and HPP cooperative agreements or other funding sufficient to develop capabilities including dedicated human resources;
- Conduct a tabletop exercise that will focus on recovery, not just response.

## RECOMMENDATIONS

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The CRCPD Committee for Fostering Partnerships and Developing Operational Guides to Support Emergency Preparedness and Response presents the following recommendations to address partnering and communication issues. The committee derived these recommendations based on the suggestions presented during the roundtable:

1. Develop an alliance of various organizations, with the shared objective of expanding radiological emergency preparedness capabilities nationwide;
2. Work within the alliance to clarify and elevate recognition of the roles and responsibilities of public health agencies in a radiological emergency;
3. Pursue radiological emergency preparedness-specific funding on a par with biological and chemical preparedness, through the appropriate funding mechanisms;
4. Promote inter-agency training and exercises for radiological emergency preparedness and response;
5. Develop guidelines for establishing a radiation registry, in partnership with the Council of State and Territorial Epidemiologists (CSTE).

The Conference of Radiation Control Program Directors appreciates the opportunity to have been involved in the development of this roundtable and the beginning of a very exciting new era in radiological emergency preparedness planning.

## APPENDIX A. AGENDA

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Centers for Disease Control and Prevention (CDC)  
and  
Conference of Radiation Control Program Directors (CRCPD)

Roundtable on Communication and Teamwork:  
Keys to Successful Radiological Response

Atlanta Marriott Downtown Hotel  
160 Spring Street NW  
Atlanta, GA 30303  
Phone (404) 688-8600 Fax (404) 524-5543

June 17-18, 2008

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**Tuesday, June 17, 2008**

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8:30 a.m. – 9:00 a.m.

**Welcome**

*Michael A. McGeehin, PhD, MSPH  
Director, Division of Environmental Hazards and  
Health Effects  
National Center for Environmental Health, CDC*

*Ruth E. McBurney, CHP  
Executive Director, CRCPD*

9:00 a.m. – 9:30 a.m.

**Roundtable Purpose/Goals**

*Robert C. Whitcomb, Jr., PhD, CHP  
Lead Physical Scientist  
Radiation Studies Branch  
Division of Environmental Hazards and Health Effect  
National Center for Environmental Health, CDC*

- Strengthen communication
- Establish partnerships/Improve working relationships
- Increase awareness of emergency response roles and responsibilities during radiological events

9:30 a.m. – 9:45 a.m.

**Roundtable Logistics/Administrative Matters**

*Ronald G. Edmond, Roundtable Facilitator  
Group Manager, National Security and Emergency  
Management Program  
Emergency Management Laboratory  
Oak Ridge Institute for Science and Education*

9:45 a.m. – 10:15 a.m. **Introductions**

Participants

10:15 a.m. – 10:30 a.m. **BREAK**

10:30 a.m. – 12:00 noon **Roles and Responsibilities in Radiological Emergency Preparedness and Response**

One representative from each organization will address the following questions/issues:

- ASTHO, NACCHO, CSTE, CRCPD (10 minutes each)
  - What roles do your member agencies have during a public health emergency? Do your member agencies have any roles specific to a radiological emergency? If so, please describe.
  - How does your organization support your member agencies in fulfilling their emergency preparedness and response roles? Do you provide specific support during a radiological emergency?
  - Are there any tools/guidance developed by your organization for use in preparing for and responding to radiological emergencies? If so, please provide examples.
- CRCPD (20 minutes)
  - CRCPD/Homeland Security-Emergency Response (HS-ER2) Committee
  - Roles of radiation control program staff during non-emergencies
  - Roles of state/local radiation control program staff during radiological emergencies
  - Directory of local, state, federal radiation control program staff
  - Tools/guidance developed by CRCPD to support radiological emergency preparedness/response (RDD card, RDD handbook)
  - Other products/tools developed by CRCPD
- CDC (30 minutes)
  - Federal government roles/responsibilities/assets
  - DHHS and CDC roles/responsibilities/assets
  - CDC Public Health Emergency Preparedness (PHEP) Grant Program
  - Tools/guidance developed by CDC to support radiological emergency preparedness/response (population monitoring, contaminated decedents, toolkits, etc.)

12:00 noon – 1:00 p.m. **LUNCH**

- 1:00 p.m. – 1:45 p.m.      **Scenario: A Public Health Incident**  
*Steven M. Becker, PhD*  
*Associate Professor of Public Health, and Vice Chair,*  
*Department of Environmental Health Sciences*  
*University of Alabama at Birmingham*
- 1:45 p.m. – 2:15 p.m.      **Role of Public Health during Radiological Incidents**  
*John J. Lanza, MD, PhD, MPH, FAAP*  
*Director, Florida Department of Health*  
*Escambia County Health Department*
- 2:15 p.m. – 3:00 p.m.      **Successful Partnerships**  
 Presenters Debbie Gilley FL, Kevin Caspary  
 & Jim Hardeman GA, Adela Salame-Alfie NY
- Examples will be given of three successful agency partnerships that enhanced preparedness and response to radiological events. How did these programs form their successful working relationships? What are their “lessons learned?”
- 3:00 p.m. – 3:20 p.m.      **BREAK**
- 3:20 p.m. – 4:30 p.m.      Facilitated Discussion/Exercise  
*Ron Edmond*
- Identify gaps in responsibilities and capabilities
  - Develop goals/eliminate gaps
  - Common actions/solutions
  - Link between Radiation Control Programs and Public Health
- 4:30 p.m. – 4:45 p.m.      **Day 1 Summary**  
*Ron Edmond*
- 4:45 p.m.                      **Adjourn**

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**Wednesday, June 18, 2008**

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8:30 a.m. – 8:45 a.m.     **Welcome Back and Administrative Matters**  
*Ron Edmond*

8:45 a.m. – 10:30 a.m.   **Facilitated Discussion/Exercise** *(continued)*  
*Ron Edmond*

- Develop Action Items
  - Short term/Long term
  - Internal /external
- Identify partners that need to be involved

**10:30 a.m. – 10:45 a.m. BREAK**

10:45 a.m. – 12:00 noon **Facilitated Discussion/Exercise** *(continued)*  
*Ron Edmond*

12:00 noon – 1:00 p.m.   **Lunch**

1:00 p.m. – 2:30 p.m.   **The Future: Where do we go from here?**  
*Ron Edmond*

- Short and long-term solutions for:
- Strengthening communications
- Establishing/improving partnerships
- Increasing awareness of emergency response roles and responsibilities during radiological events
- Building on existing resources
- Developing new resources/tools (CDC, others)

2:30 p.m. – 2:45 p.m.   **Summary of Roundtable Discussions**  
*Ron Edmond*

2:45 p.m. – 3:00 p.m.   **Closing Remarks**  
*Ruth McBurney, CRCPD*  
*Robert Whitcomb, CDC*

3:00 p.m.                 **Adjourn**



## APPENDIX B. PRESENTATIONS BY ATTENDING ORGANIZATIONS

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### Association of State & Territorial Health Officials

James Blumenstock, MA



- **Vision**

Healthy people thriving in a nation free of preventable illness and injury

- **Mission**

Transforming public health within states and territories to help members dramatically improve health and wellness



## ASTHO Programs: Public Health Practice

- **Terrorism & All Hazards Preparedness**
  - Public Health Preparedness, Healthcare Preparedness, Strategic National Stockpile
- **Infectious Disease**
  - Emerging Infections and Antimicrobial Resistance; HIV, STDs, Hepatitis, and Tuberculosis; Epidemiology, Surveillance, and Infectious Disease Control
- **Pandemic Influenza Preparedness**
  - Planning, Legal Preparedness, and Countermeasures Development
- **Immunization**
  - Childhood, Adolescent, and Adult Vaccination; Vaccine Financing; Vaccine Safety
- **Injury Prevention**
  - Unintentional Injury, Suicide, Violence, Built Environment, Substance Abuse, and Mental Health
- **Environmental Health**
  - Environmental Tracking, Mosquito and Vector Control, Climate Change, and Food and Water Safety



## Key ASTHO Groups

- **State Legislative Directors**
  - Opportunities for staff who lobby or monitor their state legislature to network and exchange information and trends.
- **Directors of Public Health Preparedness (DPHP)**
  - Orientation and development for new directors.
  - ASTHO-funded travel and accommodation for new lead representatives to meet with an established DPHP and staff in another state.
- **Environmental Health Policy Directors**
  - Networking group creating a national identity for state-based environmental health.
  - ASTHO supports monthly conference calls and workgroups addressing priority state environmental health issues.



## ASTHO Preparedness Activities

- Support States and Territories in their program activities required under the CDC Public Health Preparedness and HHS/ASPR Hospital Preparedness Cooperative Agreements
  - Linkage between States/Territories and key federal partners
  - Technical assistance
  - Identification and sharing of innovations and promising practices
  - Peer group organization of the Directors of Public Health Preparedness



## ASTHO Preparedness Activities (cont.)

- Provide State Health Agency Input Into Federal Preparedness Activities
  - Ongoing policy discussions with legislative and executive branches of the federal government
  - Active charter member of the National Homeland Security Consortium
  - Member of the Government Coordinating Councils for the Public Health and Healthcare and Food and Agriculture Sectors for Infrastructure Protection
  - IOM Forum
  - National Biodefense Science Board



## Coordination in a Radiological Emergency

- The response to a radiological emergency is guided by:
  - The National Response Framework
    - Radiological Incident Annexes
  - National Planning Scenarios
    - Scenario 1: Nuclear Detonation – 10-Kiloton Improvised Nuclear Device
    - Scenario 11: Radiological Attack – Radiological Dispersal Devices
    - Scenario 12: Explosives Attack – Bombing Using Improvised Explosive Device
- These planning and response principles are followed by all federal, state, local, tribal and private entities during a radiological incident.



## State Radiation Control Programs

- The majority of state radiation control programs are housed within state health agencies.
- State environmental agencies are the other primary location of state radiation control programs.
- Some states (e.g. Arizona) have established independent state radiation control agencies.



## State Health Agency Role in a Radiological Emergency

- During a radiological incident, a state health agency could be responsible for:
  - Population monitoring for
    - Medical treatment,
    - The presence or intake of radioactive materials, and
    - Long-term health impacts.
  - Medical countermeasure distribution
  - Advice on protective measures
  - Decontamination
  - Environmental assessment and remediation



## State Health Agency Role in a Radiological Emergency

- Public health laboratories:
  - Analyze clinical and environmental samples for radiological contaminants,
  - Monitor the effects of radiation exposure, and
  - Confirm radiation sickness.



## State Health Agency Role in a Radiological Emergency - Mississippi

- Mississippi common law grants the State Health Official the power to:
  - Investigate causes of disease and death,
  - Make sanitary investigations to abate nuisances,
  - Direct and control sanitary and quarantine measures for dealing with all diseases,
  - Control communicable and non-communicable disease,
  - Operate the radiological health program, and
  - Undertake such technical programs and activities necessary for the support of these programs



## State Health Agency Role in a Radiological Emergency - Mississippi

- Division of Radiological Health
  - Routine ongoing activities
    - License and inspect all ionized radiation
    - Conduct environmental sampling for radiation
  - During a radiological incident
    - Radiological Response Teams
      - Field Team
      - On-site Team for testing
      - Team dispatched to the Mississippi Emergency Management Agency (MEMA)
      - Gives advice and technological support to the Governor, the Director of MEMA, and responders for radiological incidents



## State Health Agency Role in a Radiological Emergency - Washington

- Washington has:
  - A nuclear power plant,
  - Numerous nuclear Navy installations, and
  - The Hanford Nuclear Reservation.
- The Washington Department of Health
  - Has the lead decision making role in the State Emergency Operations Center, and
  - Advises the Governor and the Secretary of Health on appropriate protective action decisions.



## ASTHO Web Site Resources

- SNS Page
  - [http://www.astho.org/?template=national\\_pharmaceutical\\_stockpil.html](http://www.astho.org/?template=national_pharmaceutical_stockpil.html)
- States of Preparedness
  - [http://www.astho.org/?template=preparedness\\_assessment\\_tools.html](http://www.astho.org/?template=preparedness_assessment_tools.html)



# Roundtable on Communication and Teamwork: Keys to Successful Radiological Response

Zarnaaz Bashir  
NACCHO



June 17-18, 2008

## NACCHO

The national connection for local public health

- NACCHO works to support efforts that protect and improve the health of all people and all communities by promoting national policy, developing resources and programs, seeking health equity and supporting effective local public health practice and systems.



## NACCHO's Preparedness Portfolio

- Strategic objective: To “build robust and sustainable local capacity for emergency response”
  - Resource development and sharing
  - Technical assistance and workforce development
  - Assessment
  - Policy support

## LHD Role During an Emergency

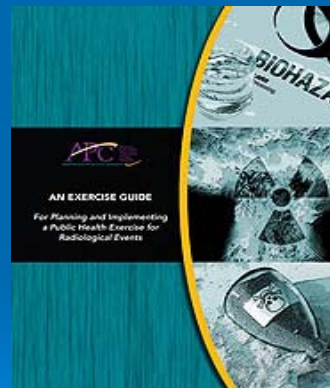
- Integral role in the local response
- Coordination with local, state, and national partners
- Detection, surveillance and reporting of diseases
- Controlling spread of disease
- Ensuring treatment to those affected
- Preparing and training in all aspects of emergency preparedness

## Support Provided by NACCHO

- Technical assistance
- Tools and resources
- Making connections

## Planning and Implementing a Public Health Exercise for Radiological Events: An Exercise Guide

To provide guidance on performing one of the most critical but often neglected aspects of public health readiness: the operations-based or test exercise for an incident involving radioactive agents such as a radioactive dispersion device or so-called “dirty bomb.”



## Designing, Implementing, and Evaluating a Public Health Exercise - A Dirty Bomb Disaster

A DVD-based interactive training course designed to assist public health and emergency management professionals in designing and conducting a full-scale disaster exercise. The DVD includes video footage that details Tarrant County's full-scale dirty bomb disaster drill, which was conducted in Texas during November 2004.



## NACCHO Toolbox

➤ <http://www.naccho.org/toolbox/index.cfm>

The screenshot shows the NACCHO Toolbox search interface. At the top, there are three tabs: 'Search all Tools' (selected), 'Browse by Program', and 'Browse by Tool Name'. Below the tabs are two buttons: 'Begin search »' and 'Reset search »'. A paragraph of text explains search options: 'Select one or more search options below. Select fewer options to conduct a more general search and increase your search results. Select more options to narrow your search.' There are three main sections: 'Enter a Keyword' with a text input field containing 'radiological'; 'Select a Topic' with a dropdown menu showing 'Quality Improvement', '-- R --', and 'Radiological Hazards' (selected); and 'Select a Program' with a dropdown menu showing 'APC Toolbox', 'Chronic Disease Prevention', 'EQUIPh', and 'Food Safety Clearinghouse'. On the right side, there is a 'Popular Tools' section with a list of links: '> Map of POD', '> No Ordinary Flu', '> Design for Health', '> Health Impact Assessment - Derby Redevelopment', and '> Communications Annex'.



# Conference of Radiation Control Program Directors, Inc. (CRCPD)

Ruth E. McBurney, CHP  
Executive Director

A Partnership Dedicated to Radiation Protection



## Purpose

- To provide a common forum for the exchange of information among state and local radiation control programs.
- To provide a mechanism for states to communicate with the federal government on radiation protection issues.

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## Mission

- To promote consistency in addressing and resolving radiation protection issues.
- To encourage high standards of quality in radiation protection programs.
- To provide leadership in radiation safety and education.

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## Types of Membership

### **Director Members**

- State & local radiation control program directors

### **Associate Members**

- Staff of radiation control programs in the U.S.

### **Affiliate Members**

- Anyone having an interest in CRCPD and radiation protection

### **Other Categories**

- Life, Emeritus, and Honorary

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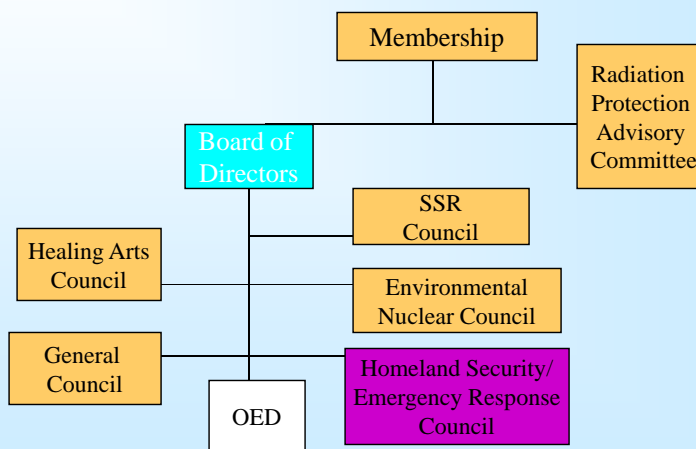
## Member Occupations

Radiation and health physicists, radiologists, radiologic technologists, radiation safety officers, radiation control managers, radiation industry professionals, others interested in radiation protection, safety specialists and other public health managers.

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## Organizational Chart



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## Committees

- Most of the work of CRCPD is done by committees and task forces
  - Volunteers from membership
  - Logistics and administrative support from OED
- Committees are placed in the Councils that are most appropriate to their charge and report to the Board member chairing that Council.

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## Federal Agency Relationships

CRCPD, through cooperative agreements, purchase orders and various partnership programs, works very closely with the following federal agencies:

- Health & Human Services
  - Food & Drug Administration
    - Center for Devices and Radiological Health
  - Centers for Disease Control and Prevention

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## Federal Agency Relationships

- Environmental Protection Agency
- Nuclear Regulatory Commission
- Department of Energy
- Department of Homeland Security
  - Domestic Nuclear Detection Office
  - Federal Emergency Management Agency

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## Other Federal Agencies Working with CRCPD

- Department of Transportation
- Department of Agriculture
- National Institute of Occupational Safety & Health
- National Institute of Standards and Technology

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## Formalized Liaisons with Related Organizations

Such as:

- National Council on Radiation Protection
- Health Physics Society
- Joint Commission of Accreditation of Healthcare Organizations
- Image Gently Campaign for Pediatric Imaging
- American College of Radiology
- American Assoc. of Physicists in Medicine

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## Special Services of CRCPD

- Accredit regional calibration laboratories
- Administer a U.S. DOT Exemption for moving contaminated scrap and trash
- Coordinate and conduct an annual National Conference on Radiation Control
- Coordinate and conduct an annual National Radon Conference

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## Special Services of CRCPD (Cont.)

- Assist states with orphan and unwanted radioactive source disposition by direct broker funding for characterizing, packaging, and disposal or transfer to a licensed recipient
- Maintain database of emergency response resources in the states

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## Major Publications

- *Bimonthly Newsbrief*
- *Directory of Personnel Responsible for Radiological Health*
- Proceedings of annual national conferences
- *Radon Bulletin*
- *Directory of State and Federal Agencies Involved with Transportation of Radioactive Material*

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## A Partnership



## Dedicated to Radiation Protection

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# CRCPD Task Forces

## Work on Homeland Security Issues - Past and Present

Roundtable on Communication and Teamwork:  
Keys to Successful Radiological Response  
June 17, 2008

Debra McBaugh, CHP, Manager  
Environmental Radiation Monitoring and Assessment



*A Partnership Dedicated to Radiation Protection*



**PUBLIC HEALTH**  
ALWAYS WORKING FOR A SAFER AND  
HEALTHIER WASHINGTON





# Task Forces

## Purpose

- Focused
- Timely
- Emergent issues

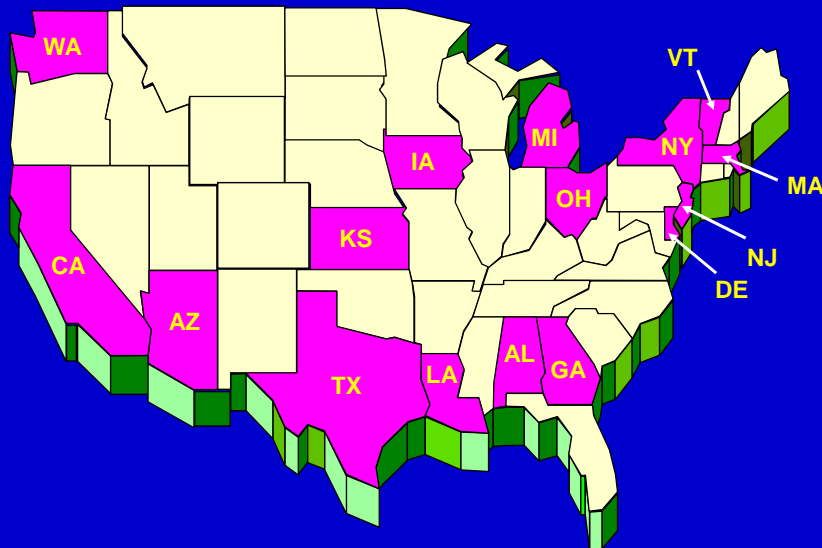
## Members Selected

- Knowledge
- Varied experience
- Regional Location



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## States Represented on Task Forces



## Federal Agencies Providing Resource Individuals



## HS/ER - 3 Task Force RDD/IND Scenarios as Examples for State Preparations

### Scenarios

- Radiological Dispersal Device (RDD) (Dirty Bomb)  
– courthouse, city, university, with a fire
- Hospital Mass Casualty
- Transportation accident
- Nuclear Detonation

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## HS - 4 Task Force

### Review of DHS Document

Application of Protective Action Guides for Radiological Dispersal Device (RDD) and Improvised Nuclear Device (IND) Incidents



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## HS/ER- 4 Task Force

### Operational Guidelines Tools for Use After RDD/IND Events

- Appendix 4 - Operational Guidelines for Implementation of the PAGs During RDD or IND Events.
  - Levels of radiation or concentrations of radionuclides that can be measured and compared to PAGs to quickly determine if protective actions are needed.



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## HS/ER - 1 Task Force

### EPA's Expansion of the National Monitoring System

#### History

- Created in 1973
- Monitor air, water, milk

#### Now

- Expanding air sampling portion

#### Tasks

- Review system
- Provide advice and recommendations
- Assure useful to local government agencies



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## HS/ER - 2 Committee

### Fostering Partnerships & Developing Operational Guides to Support Emergency Preparedness and Response

- RDD Handbook
- Roundtable
- Future modules for RDD Handbook



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## **HS/ER - 5 Committee**

### **Emergency Response Planning**

Address technical issues for radiological emergencies such as:

- Instrumentation
- Dose assessment
- Protective drugs
- Decontamination
- Environmental analysis



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## **HS/ER - 6 Task Force**

### **Development of CRCPD Comments on the EPA Protective Action Guidelines Document**



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## HS/ER - 7 Task Force

### Inter-Organizational Activities

Provide quarterly reports on the Department of Homeland Security's Government Coordinating Council meetings.



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## HS/ER - 8 Task Force

### Develop Nuclear Power Plant News Releases

For Drills, Exercises, and Incidents

- Review examples of draft news releases.
- Review examples of "Frequently Asked Questions".
- Use the information collected to develop "talking points" for use by public information officers.



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**Roundtable on Communication  
and Teamwork:  
Keys to Successful Radiological  
Response  
June 17, 2008**

**Adela Salame-Alfie, Ph.D.  
New York State Department of Health**

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**Roles and Responsibilities of  
Local and State Radiation  
Control Programs**

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## Roles and Responsibilities

To keep radiation exposure of the patient, worker, and general public to the lowest practical level, while not restricting the beneficial use of this valuable energy source



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## What do we do?

We have both regulatory and non-regulatory programs:

### Regulatory Program

- Licensing/Inspection/Enforcement of:
  - Radioactive Materials in Medical, Academic, Industrial/Commercial, Research
- Registration and Inspection of:
  - Radiation Equipment (X-ray, CT, etc.)
- Registration/Licensing of Radiologic Technologists, Nuclear Medicine Technologists

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## What do we do?

- ☞ Non-Regulatory Program
  - Environmental
    - Radon
    - Environmental sampling
    - Oversight of cleanup of contaminated sites, etc.
  - Emergency Preparedness/Response
    - Any radiation incident (spills, transportation)
    - Nuclear power plants
    - Terrorism preparedness

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## Some of the things we do

- Subject matter experts for:
  - Radiation-related issues/incidents
  - Establishment/enforcement of dose limits for workers and members of the public
  - Preparation of public information messages
  - Monitoring/remediation of environmental impacts
  - Threat assessment information for terrorism preparedness (ex. at state fusion centers)

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## We also...

- For States with Nuclear power plants
  - Emergency planning/response including: dose assessment, sampling, analysis, protective action recommendations, public information, etc.
- For States with Dept. of Energy/Dept. of Defense Facilities
  - Permits, oversight of characterization and clean-up, emergency planning/response, dose assessment, etc.

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## Radiological Emergency Response

**Is not new to us, we've been doing it for a long time!**

- Experience from nuclear power plant drills and graded exercises
- In recent years more interaction with first responders and law enforcement, in particular as Subject Matter Experts (SMEs) for the selection and purchase of radiation detection equipment for response and interdiction activities
- SMEs for development of public information messages

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## And there's more...

- Training
  - Local health departments, emergency responders/Hazmat, hospital staff, law enforcement
- Nuclear laboratories
  - Mostly for environmental samples, some clinical samples
- Radiation Interdiction
  - Working with state and local law enforcement

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## Types of State Radiation Programs

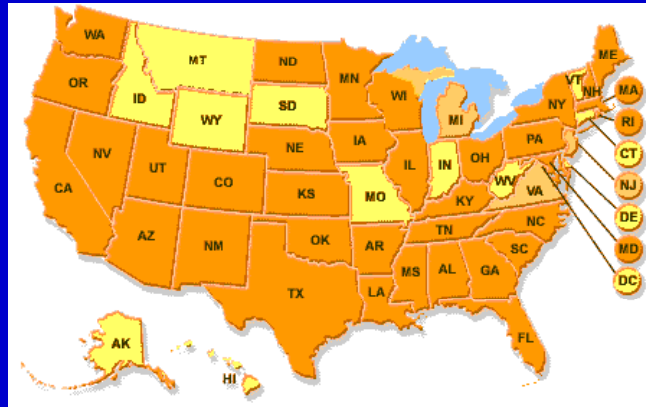
- Only for the regulation of radioactive materials:
  - Agreement State (Authority delegated by NRC)
  - Non-Agreement State (Regulated by Nuclear Regulatory Commission, NRC)
  - In the process of becoming Agreement State

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## Agreement States



Legend: ■ Agreement ■ In process ■ Non-Agreement

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## Radiation Programs

- **Where are we located?**
  - Well, it depends on the State... we can be at the:
    - Department of Health
      - State, County or Local (NY, CA)
    - Department of Environmental Protection (CT)
    - State Radiation Regulatory Agency (AZ)
    - Department of Natural Resources (GA)
    - Emergency Management Agency (IL)
    - Department of Environment and Natural Resources (NC)
  - You get the picture!

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## The Homeland Security Council in a Nutshell

- **HS/ER-1** Task Force for EPA's creation of National Monitoring System
- **HS/ER-2** Committee for Fostering Partnerships and developing operational guides to support emergency preparedness and response → That's us!
- **HS/ER-3** Task Force for RDD/IND scenarios as examples for state preparation - **Completed**

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## The Homeland Security Council in a Nutshell

- **HS/ER-4** Task Force for operational guidelines models and tools for recommendations and responses to RDD/IND
- **HS/ER-5** Committee on Emergency response planning
- **HS/ER-6** Task Force for development of CRCPD comments on the EPA Protective Action Guidelines
- **HS/ER-7** Task Force on inter-organizational activities
- **HS/ER-8** Task Force on Nuclear Power Plant news releases

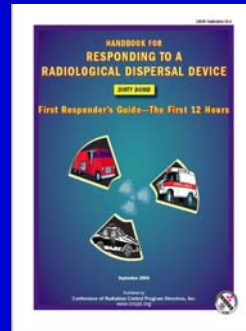
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## The HS/ER-2 Committee

With CDC funding:

- Developed RDD pocket guide
- Developed RDD Handbook
- Co-sponsored a Medical Roundtable
- Co-sponsored "Roundtable on Communication and Teamwork: Keys to Successful Radiological Response"



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## Goals of this roundtable

- Foster partnerships and expand communication among state and local partners (in particular public health and radiation control)
- Increase awareness of emergency response roles and responsibilities during radiological events
- Enhance radiological emergency preparedness and response

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## Goals of this roundtable

- Assist CDC with outreach activities for their products such as Guide for population monitoring during a radiological emergency; guide for radioactive decedents, etc.
- Identify (and hopefully help develop) tools that can assist the public health professionals in the planning and response to radiological emergencies

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### Contact Information:

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# QUESTIONS?



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# The Polonium-210 Incident: Issues Identified for Public Health and Radiation Control Programs

Robert C. Whitcomb, Jr., PhD

*Radiation Studies Branch  
Division of Environmental Hazards & Health Effects  
National Center for Environmental Health  
Centers for Disease Control & Prevention  
Atlanta, Georgia U.S.A.*



## Outline of Presentation

- How the Centers for Disease Control & Prevention (CDC) became involved
- The public health response in the United States
- Lessons identified



# **CDC's Initial Involvement**

## **A media inquiry on 24 November 2006: "What is Polonium-210?"**

**The Communications Challenge Begins!**

### **Mr. Litvinenko's Death was a Radiological Dispersal Event**

- **One person died, but tens of thousand were potentially exposed**
- **Contamination was found at a range of locations in London, and elsewhere**
- **"Persons of interest" could be tracked**



## How did the UK public respond to information?

- More anxiety in those who thought this was terrorism



- So not a good guide to reactions to a “dirty bomb”
- What people want is information, not reassurance

Source: HPA Polonium-210: The Public Health Response

## Who did the UK public trust?

- When asked; “How much do you trust the [.....] to do what is best for you and your family in relation to the current radiation incidents?”
  - Scientists 84%
  - Department of Health 79%
  - HPA 75%
  - Home Office 61%
  - Government 57%?

Source: HPA Polonium-210: The Public Health Response



## The Health Protection Agency (HPA) Initially Identified 460 Overseas Visitors Potentially Exposed

- Visitors represented 52 countries outside the United Kingdom
- Approximately 140 visitors (25% of total) from U.S.
- CDC became HPA's main contact point for U.S. citizens



## Initial and Consistent CDC Public Health Message

- “CDC advises that *IF* you were at any of the affected locations *AND* you have specific concerns about your health,...”
- See your personal physician
  - Your personal physician can contact your State, local, or tribal health department for further information
  - CDC is available to assist with advice or interpretation of monitoring results

## **Communicating This Message Was a Key Activity**

- **Posted fact sheets for the public and physicians on the CDC web site**
- **Issued messages to the public health community through the Health Alert Network & EpiX system**
- **Attempted to contact individual U.S. citizens by telephone, e-mail, & U.S. mail**
  - **Initial list of names contacted by CDC staff**
  - **Succeeding names passed to State health departments for contacting**
  - **Ultimately, CDC attempted to contact ALL U.S. citizens identified**

## **Results of Urine Testing Communicated to CDC**

- **CDC has received monitoring results for 31 U.S. citizens**
  - **No personal identifiers for six**
  - **Nine were specifically identified by HPA**
  - **Sixteen were NOT identified by HPA**
- **ALL results are < 1 mSv**
- **CDC will never be sure that it has received the results of all of the urinalyses done for U.S. citizens**

## **Communications Challenges**

- **HAN and EPI-X notifications did not reach appropriate Radiation Control Programs (RCP)**
- **Communications with state and local health agencies were hampered because of limited awareness or understanding about the state and local health department responsibilities in an event involving radioactive materials**
- **In some cases, state and local health departments did not know their RCP contact even when this contact resided in their own organizational structure**

## **Communications Challenges (cont'd)**

- **Rad SMEs were regularly taken away from contact and assessment activities for numerous media interviews**
- **At least one concerned citizen “fired” his physician who would not offer urine testing**

## Roundtable Goals

- How can public health and radiation control programs strengthen communications (internally and externally) in preparation for an incident involving radioactive materials?
- What partnerships exist or are needed to improve working and/or communications relationships?
- What is needed to increase awareness of emergency roles and responsibilities as we prepare for radiological events at the local, state, and federal level?

## THANK YOU

<http://emergency.cdc.gov/radiation>

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# Overview of CDC Roles, Tools, Guidance & Grants for Radiological Preparedness

Robert C. Whitcomb, Jr., PhD

Radiation Studies Branch  
Division of Environmental Hazards & Health Effects  
National Center for Environmental Health  
Centers for Disease Control & Prevention  
Atlanta, Georgia

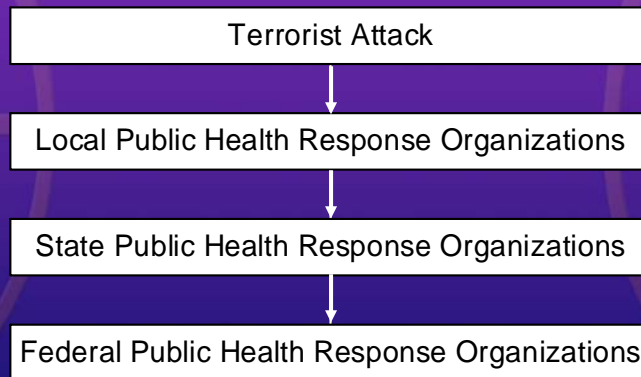


## Outline of Presentation

- Federal responsibilities during a nuclear / radiological event
- Public health responsibilities during a nuclear / radiological event
- Preparedness activities at CDC

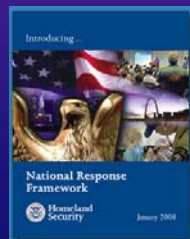


## “All emergencies are local”



## Federal Assets

- **What Federal assets are available and what is their role?**
  - **Depends on the incident as described in the National Response Framework and the Nuclear/Radiological Incident Annex**





## Who's in Charge of the Federal Response?

Type of Incident	Coordinating Agency
Terrorism	DOD or DOE, NRC, DOE
Nuclear Facility	DOD or DOE, NRC, EPA
Transportation	DOD or DOE, NRC, DHS/USCG, EPA
Space Vehicles	NASA or DOD, DHS/USCG, EPA
Foreign, Unknown	DHS/USCG, EPA
Nuclear Weapons	DOD or DOE
All Other Types	DHS designated

## NRF Nuclear/Radiological Incident Annex

- Designates two types of agencies:
  - **Coordinating agencies:** DOD, DOE, DHS, EPA, NASA and NRC
  - **Cooperating agencies:** DOA, DOC, DOD, DOE, DHHS, DHUD, DOI, DOJ, DOL, DOS, DOT, DVA, EPA, GSA, NRC, ARC
- “The coordinating agency is that Federal agency which owns, has custody of, authorizes, regulates or is otherwise deemed responsible for the radiological facility or activity involved in the incident.”

## Department of Energy

- Many assets for response to a nuclear or radiological incident:
  - **FRMAC**-Federal Radiological Monitoring Assessment Center
  - **ARAC/IMAAC**- Atmospheric Release Advisory Center/Interagency Modeling and Atmospheric Assessment Center
  - **AMS**-Aerial Measurement System
  - **RAP**-Radiological Assistance Program
  - **REAC/TS**-Radiation Emergency Assistance Center/Training Site

## Federal Radiological Monitoring and Assessment Center (FRMAC)

The purpose of this Department of Energy program is to “assist the states in their mission to protect the health and well being of their citizens with

- Verified radiation measurements
- Interpretations of radiation distributions based on EPA, FDA, or local Protective Action Guidelines
- Characterizations of overall radiological conditions”



## The Advisory Team for Environment, Food, and Health

- Composed of representatives from the
  - Environmental Protection Agency,
  - Department of Agriculture,
  - Department of Homeland Security,
  - Food & Drug Administration
  - CDC
- Provides interagency coordinated advice and recommendations to the Coordinating Agency and State, local, and tribal governments concerning environmental, food, human health, and animal health matters.

## Public Health Functions During ANY Emergency

- Identify agent or cause
- Determine exposure distribution
- Provide medical/public health guidance
- Conduct surveillance
- Conduct epidemiologic investigations
- Coordinate sampling and laboratory testing
- COMMUNICATE



## **Public Health Response is Significant for any Nuclear/Radiological Event**

- **Planning must be consistent with an all-hazards approach**
- **Public health must partner with other state and local agencies; e.g.**
  - Fire and police
  - Medical facilities
  - Emergency management
  - Radiation Control (if not in Public Health)
- **Many citizens will be very concerned about the potential impact of the event on their health, both immediate and long-term**
- **Anxiety will be increased because radiation is involved**

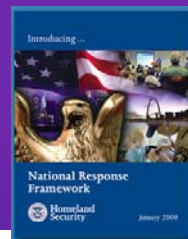
## **CDC's Approach to Nuclear/Radiological Preparedness**

- **Determine what State and local public health agencies need**
- **Develop and test products that address those needs**
- **Prepare to successfully implement CDC's responsibilities to support State and local officials**

## Basic HHS Responsibilities

- Provide advice on proper medical treatment of the general public and workers
- Deploy the Strategic National Stockpile
  - Potassium iodide
  - Ca-DTPA, Zn-DTPA
  - Prussian Blue
  - Neupogen
- Assess the health impacts
- Medical and public health information

## National Response Framework Nuclear/Radiological Incident Annex



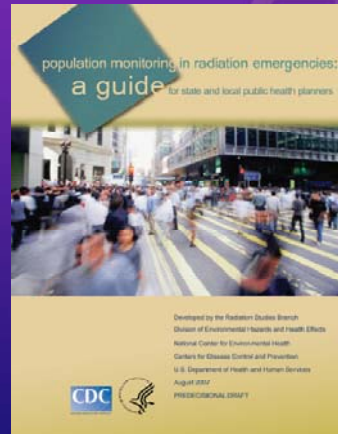
### Victim Decontamination/Population Monitoring

#### Incidents of National Significance and Other Radiological Incidents

- External monitoring and decontamination of possibly affected victims are **accomplished locally and are the responsibility of State, local, and tribal governments**. Federal resources are provided at the request of, and in support of, the affected State(s). HHS, through ESF #8 and in consultation with the coordinating agency, coordinates Federal support for external monitoring of people and decontamination.
- HHS assists and supports State, local, and tribal governments in performing monitoring for internal contamination and administering available pharmaceuticals for internal decontamination, as deemed necessary by State health officials.
- HHS assists local and State health departments in establishing a registry of potentially exposed individuals, perform dose reconstruction, and conduct long-term monitoring of this population for potential long-term health effects.

## CDC Guidance

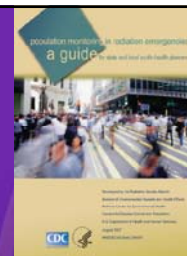
- **Target audience:**
  - State and local public health and emergency preparedness personnel
- **Focus**
  - Terrorism Incidents involving mass casualties
- **Scope**
  - Assumes local infrastructure is intact
  - Principles apply to all radiation incidents



## Purpose

**Assist State, local, and Tribal public health officials to:**

- Evaluate their emergency response plans
- Identify staffing needs, training requirements, and priorities
- Develop further mutual assistance programs with other states
- Allocate personnel and resources during a response



## Guiding Principles

(Two of nine)

- The first priority is to save lives: respond to and treat the injured first.
- Contamination with radioactive materials is not immediately life-threatening.

## Guiding Principles

(Continued)

- The radiation control program in your state is a key resource for implementing the CDC population monitoring guidance.

## Radiological Terrorism: A Tool Kit for Public Health Officials



- Three training DVDs for public health officials and planners
- A 15 minute training DVD on screening people for external contamination
- Population monitoring guidance
- Guidance for handling contaminated decedents
- CD-Rom of public information fact sheets

## Radiological Terrorism: A Tool Kit for Emergency Services Clinicians



- Satellite broadcast “Medical Response to Nuclear and Radiological Terrorism” (2004)
- “Just In Time” training
- Clinician pocket guide
- CDROM-based mass casualty management training
- Brochures for clinicians

## Work in Progress

- Surveillance systems for radiological emergencies,
- Guidance for using hand-held instruments available to local emergency responders for internal contamination screening,
- Additional training for the public health workforce and clinicians to prepare them to respond to a radiological or nuclear emergency, and
- Further materials to educate the public about radiological emergency preparedness.

## Work in Progress Laboratory Bioassays

- Three basic issues associated with current ability
  - Often need for 24 hour urine sample
  - Time (days) required for analysis
  - Public Health laboratory capacity
- CDC's Division of Laboratory Sciences is developing new methods for rapid analysis of small biological samples for a variety of radionuclides
- The Department of Health & Human Services is seeking resources to develop a public health Laboratory Response Network for radionuclides.



## Work in Progress External Resources

- **Collaboration with the country's large health physics and medical physics community to enlist in locally-sponsored volunteer registries**
  - Medical Reserve Corps ([www.medicalreservecorps.gov](http://www.medicalreservecorps.gov))
  - Georgia's State Emergency Registry of Volunteers ([www.servga.gov](http://www.servga.gov))
  - Florida Emergency Health Volunteer Registry ([www.servfl.com](http://www.servfl.com))
  - North Carolina State Registry of Volunteers ([www.servnc.org](http://www.servnc.org))
- **Collaboration with the Society of Nuclear Medicine to develop a membership training module using CDC resources**

## CDC Cooperative Agreement Guidance

- **Program Announcement AA154 - FY 2008 (Budget Period 9)**
  - <http://emergency.cdc.gov/planning/coopagreemen t/08/pdf/fy08announcement.pdf>
- **Public Health Laboratory Capabilities and Outcomes**
  - <http://emergency.cdc.gov/planning/coopagreemen t/08/labcapabilities.asp>
- **Cities Readiness Initiative (CRI) Funding**
  - <http://emergency.cdc.gov/planning/coopagreemen t/08/cri.asp>



## Summary

- “All emergencies are local”
- Future terrorist events cannot be dismissed
- These events **may** involve radiological components
- The public health community must prepare to meet these threats

## THANK YOU

<http://emergency.cdc.gov/radiation>

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# Local Public Health Response To a Nuclear/Radiological Emergency

CDC and CRCPD

Roundtable on Communication and Teamwork:

Keys to Successful Radiological Response

June 17, 2008

By:

John J. Lanza, MD, PhD, MPH, FAAP  
Director, Florida Department of Health  
Escambia County Health Department  
Health & Medical Co-chair  
Florida Department of Law Enforcement  
Northwest Florida Regional Domestic Security Task Force



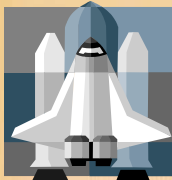
## Objectives

- Nuclear/radiological scenarios
- Lessons from past incidents
- Overview of public health issues
- Health and Medical Care (ESF #8) assets
- Local response to nuclear/radiological emergencies

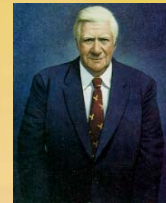


## Types of Nuke/Rad Incidents/Events

- Improvised Nuclear Device incident
- Radiological Exposure Device incident
- Radiological Dispersal Device incident
  - Single/multiple Isotopes
  - Failed IND
- Nuclear Reactor event
- Transportation incident
- Space-launched Vehicle event



## All Emergencies Are Local



Disaster

Local Public Health Response Organizations

State Public Health Response Organizations

Federal Public Health Response Organizations

## Public Health Concerns

- Learning from past experiences



## Casualties Needing Treatment?

- For an improvised nuclear device, >100,000 patients could require evaluation and treatment.
- For a radiological dispersal device, <1,000 patients could require evaluation and treatment.



*Department of Homeland Security Working Group on Radiological Dispersal Device (RDD) Preparedness, Medical Preparedness and Response Sub-Group, May 1, 2003.*

## Radioactive Sources

- 157,000 licensed users in U.S.
- 2,000,000 devices containing radioactive sources
- Approximately 400 sources lost or stolen in U.S. every year



## Sources Around the World



Recovered transport container

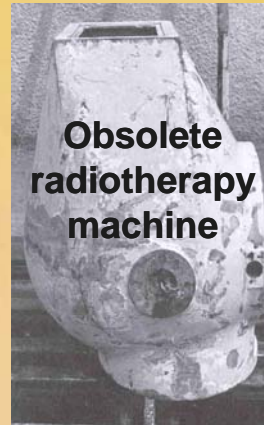


Sources used in mobile cesium irradiators in the former Soviet Union

*Photos courtesy of the International Atomic Energy Agency (IAEA)*



## Goiânia Radiological Release



*Photos courtesy of the International Atomic Energy Agency (IAEA)*

## Goiânia Morbidity

- 249 exposed; 54 hospitalized
- Eight with radiation sickness
- Four people died
- 112,000 people monitored (>10% of total population)



*Photos courtesy of the International Atomic Energy Agency (IAEA)*

## Public Health Impacts - Chernobyl

- 134 diagnosed with acute radiation sickness
  - 28 deaths within 4 months
- 116,000 initial evacuation;  
336,000 total relocated
- Increased thyroid cancers
- Voluntary terminations of pregnancy



Child drawing in the Chernobyl-Museum Kiev  
Photo: Karl Heinz Walter

## Public Health Impacts – Chernobyl

### Registration and Health Monitoring

- > 600,000 persons in All-Union Registry in 1991
- The number continued to rise in the 90's.



UNSCEAR 2000, Annex J

## Local Public Health Issues After ANY Disaster

- Assessment of Health and Medical Care Delivery
- Rapid Assessment of Community Health/Medical Needs
- Delivery of Health and Medical Care
- Pharmaceutical Supply
- Potable Water, Safe Food, and Sanitation and Hygiene
- Injury and illness Surveillance
- Vector Control
- Solid Waste
- Hazardous Materials
- Registry
- Mental Health
- Sheltering and Housing
- Mass Congregation
- Handling of the Deceased (humans and animals)
- Staffing
- Rumor Control
- Public Service Announcements/ Media Access



## ESF #8 SUPPORT

Categorized in the following core functional areas:

- **Assessment of public health/medical needs**
  - Includes public health care system/facility infrastructure
  - includes mental/behavioral health
- **Medical care personnel**
- **Medical equipment and supplies**
- **Public health surveillance**





## Local Government Responsibilities

- **Local Chief Executive Officer (i.e., mayor, city or county manager)**
  - Coordinates local resources
  - Suspends local laws or ordinances
  - Communicates with the public
- **Tribal Chief Executive Officer**
  - All of the above
  - May communicate directly with federal officials



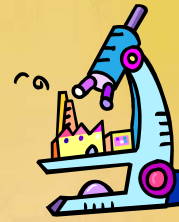
## State & Local Public Health Response

- Monitor workers' health and safety
- Assure safe shelters and healthy food and water supplies
- Coordinate sampling and laboratory analysis of samples



## State & Local Public Health Response

- Field investigations and monitoring of people
- Criteria for entry and operations at the incident site
- Disease control and prevention measures



## State & Local Public Health Response

### Medical Support

- Evaluate health and medical impacts on the public and emergency personnel
- Develop medical intervention recommendations
- Treat impacted citizens
- Request Strategic National Stockpile including Managed Inventory



## Who is at the scene?

- HAZMAT
- Fire
- Law enforcement
- EMS
- Public as victims
- Health physicists

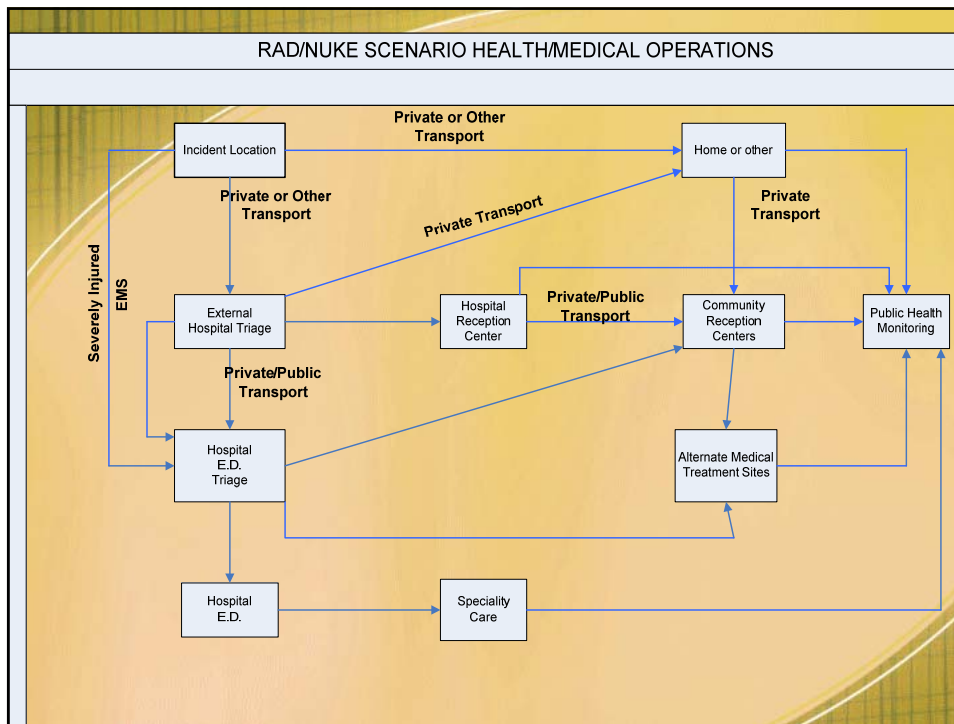


## State & Local Public Health Response

### Protective Actions

- Sheltering
- Evacuation
- Relocation
- Decontamination
- Worker PPE



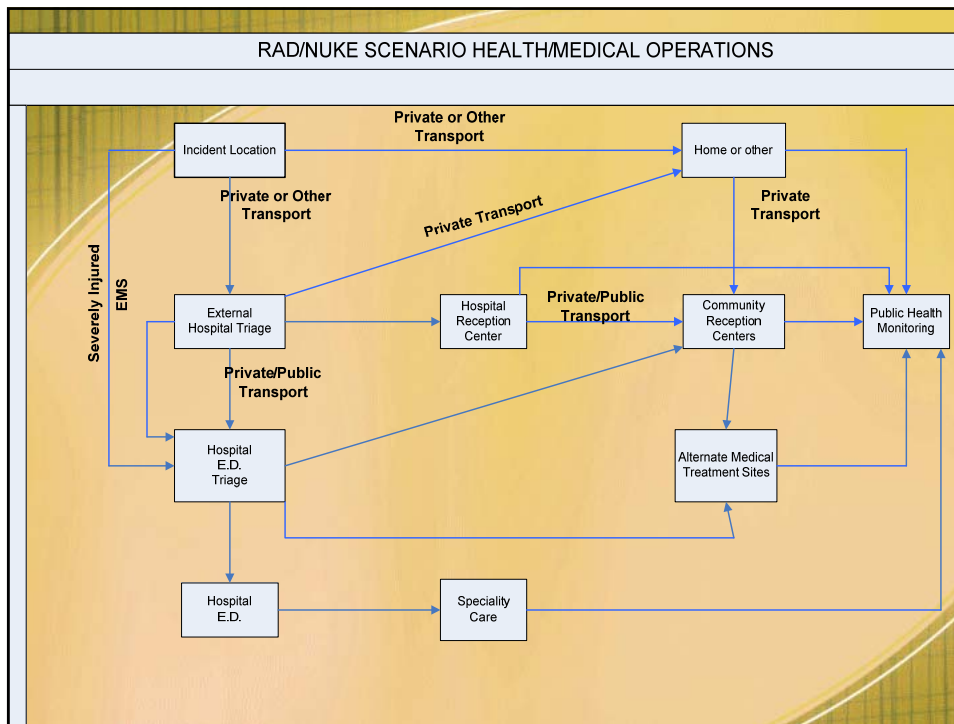


Larger version of this slide at the end of the presentation

## Hospital — Only the few

- **Depends on the incident**
- **On-scene triage – “Sufficiency of Care”**
- **Send only the most significantly injured but savable to hospitals**
- **Hospital external triage**
- **Hospital reception center**

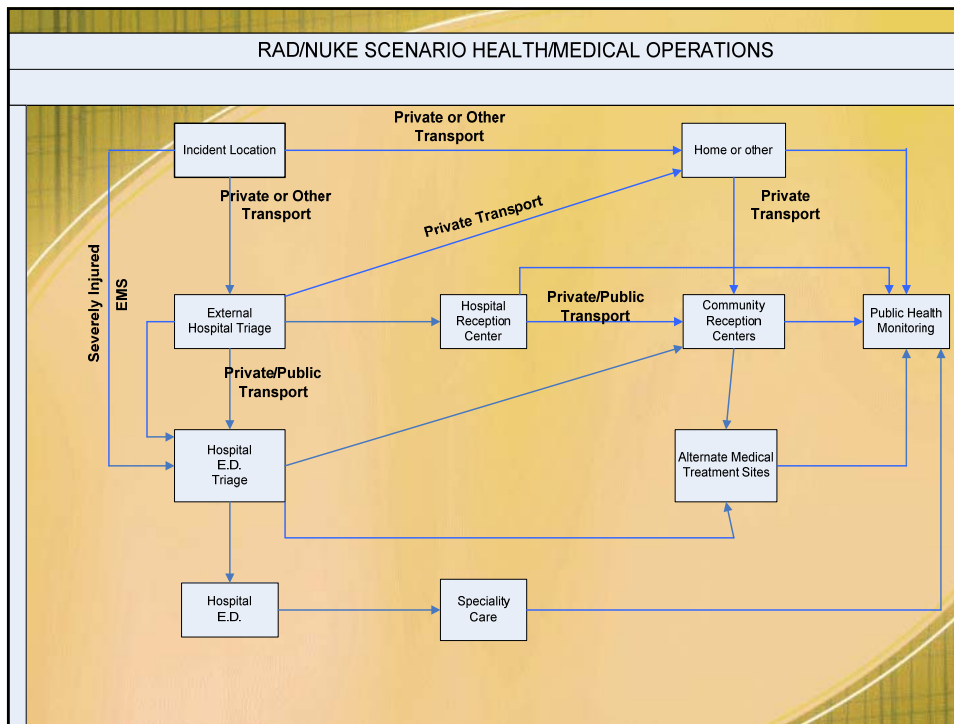




## Hospital External Triage

- **Opens in < 1 hour after incident**
- **Keep uninjured out of ED**
- **Keep contaminated uninjured out of ED**
- **Refer to ED non-EMS transported injured**
- **Refer to Hospital Reception Center those needing decon**



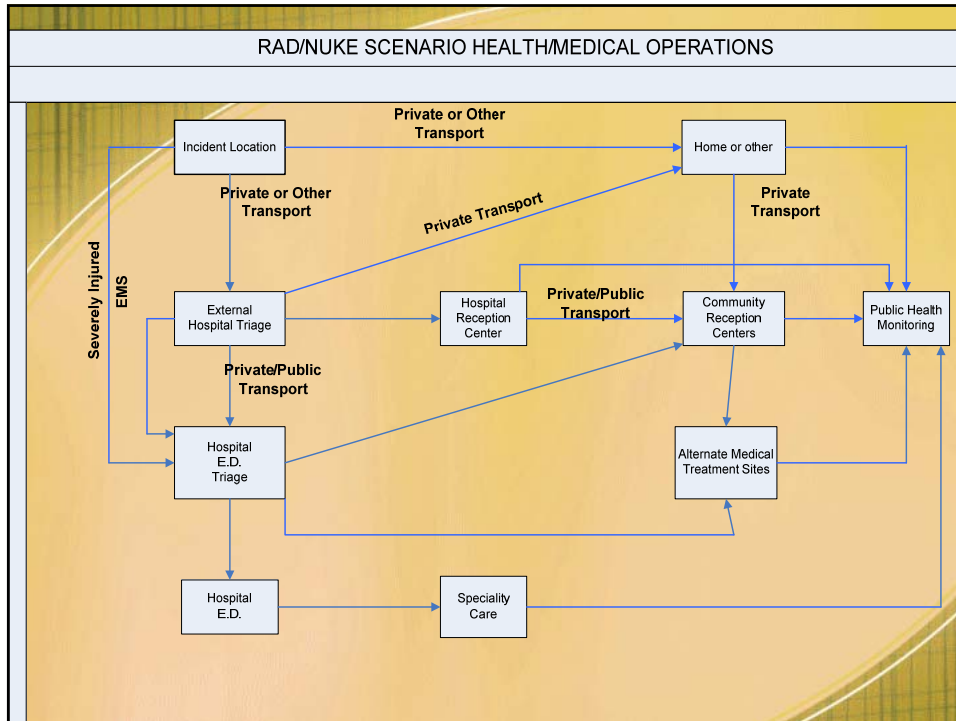


## Hospital Reception Center

- **Opens < 2 hours after incident**
- **Provides initial radiological assessment until CRC opens**
- **Begin logging of affected individuals for repository until CRC opens**
- **Provides initial decontamination until CRC opens**
- **Provides referral to ED or AMTS, when opens, as necessary**
- **Provides public with information**

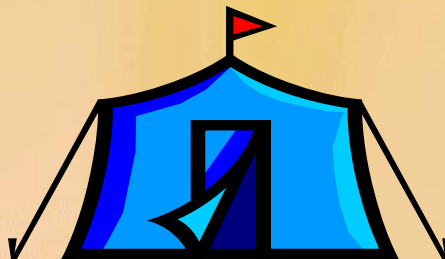






## Community Reception Centers

- **Population monitoring and decontamination sites to assess people for exposure, contamination, and the need for decontamination and/or medical follow-up**



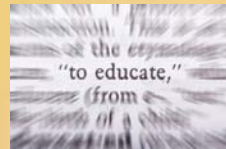
## Community Reception Centers

- Opens 4 - 12 hours after incident
- Equivalent to bio Points of Dispensing (PODs)
- Public health staffing – Medical Reserve Corps
- Screening forms
- Portal monitors for screening
- Hand-held monitoring for alarms
- Contamination forms to be completed
- Referral for diagnosis and/or treatment to AMTS vs. hospital
- Provide information to the public

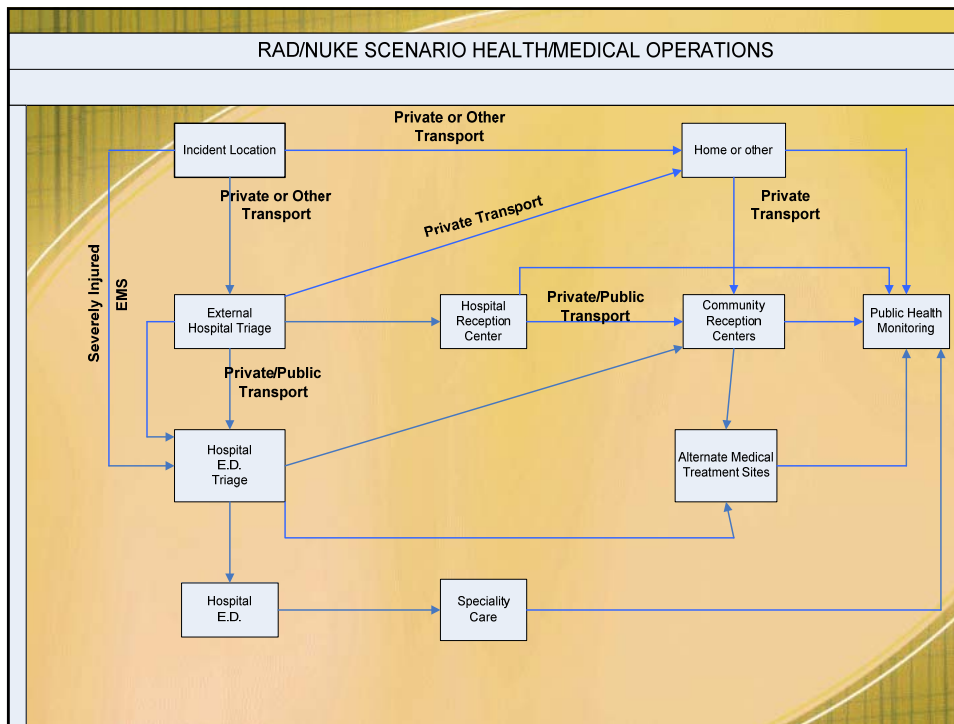


## “Give People Things to Do”

- Stress, anxiety, and panic
- Public must be educated before an incident of things to do
  - Citizen Responder
- This prevents panic
- Role of public health in education process
- Pre-incident education-PH campaign
- Post-incident education—JIC, etc







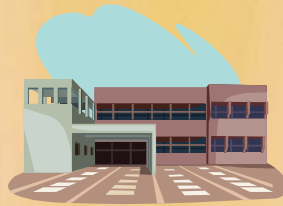
## Alternative Medical Treatment Sites

- **Open by 12 – 24 hours after incident**
- **Referred from Community Reception Centers- could be co-located**
- **First stop for medical attention (minor injuries)**
- **Staffed by Disaster Medical Assistance Teams, State Medical Response Teams, Medical Reserve Corps, hospitals--TBD**
- **Could provide oral/IV/nebulized medication to large numbers of individuals**
- **Most serious exposures would be referred to hospitals for diagnosis and treatment**



## Disaster Options for People Where to Go?

- Shelter-in-Place
  - Home
  - Other
- Evacuate
  - Another region
  - Another state
- General shelter
- Local Special Needs Shelter (SpNS)
  - Hospital
  - Adult SpNS
  - General shelter
- Regional SpNS
  - Adult SpNS
  - Peds SpNS

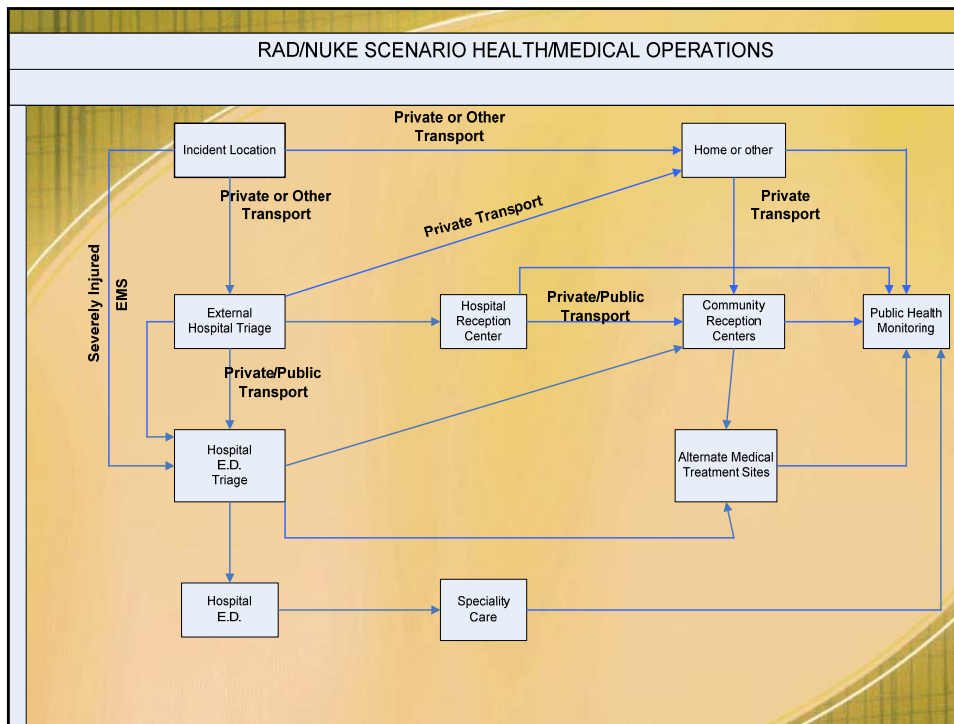


## State & Local Public Health Response

### Long-term Response Issues

- **Application of EPA and FDA Protective Action Guides**
  - Food and water
  - Non-food use of agricultural products
  - Recovery operations
- **Develop plans for decontamination, re-entry, and recovery of affected areas**





## State & Local Public Health Response

### Long-term Response Issues (cont.)

- Surveillance and epidemiological studies
- Establish exposure registry and monitor long-term impacts
- Provide information to public and responders on long-term health effects



## Summary



- All disasters are local
- Locals should not expect help (AKA Feds) for a period of time
- Locals need to do scene and hospital triage
- Locals need to set up hospital and community reception centers
- Locals will need help with staffing (e.g., AMTSS) and long-term monitoring
- “Give them things to do”

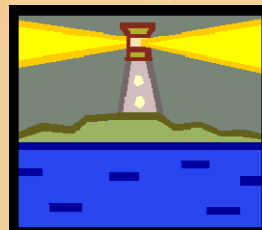


## Contact Information

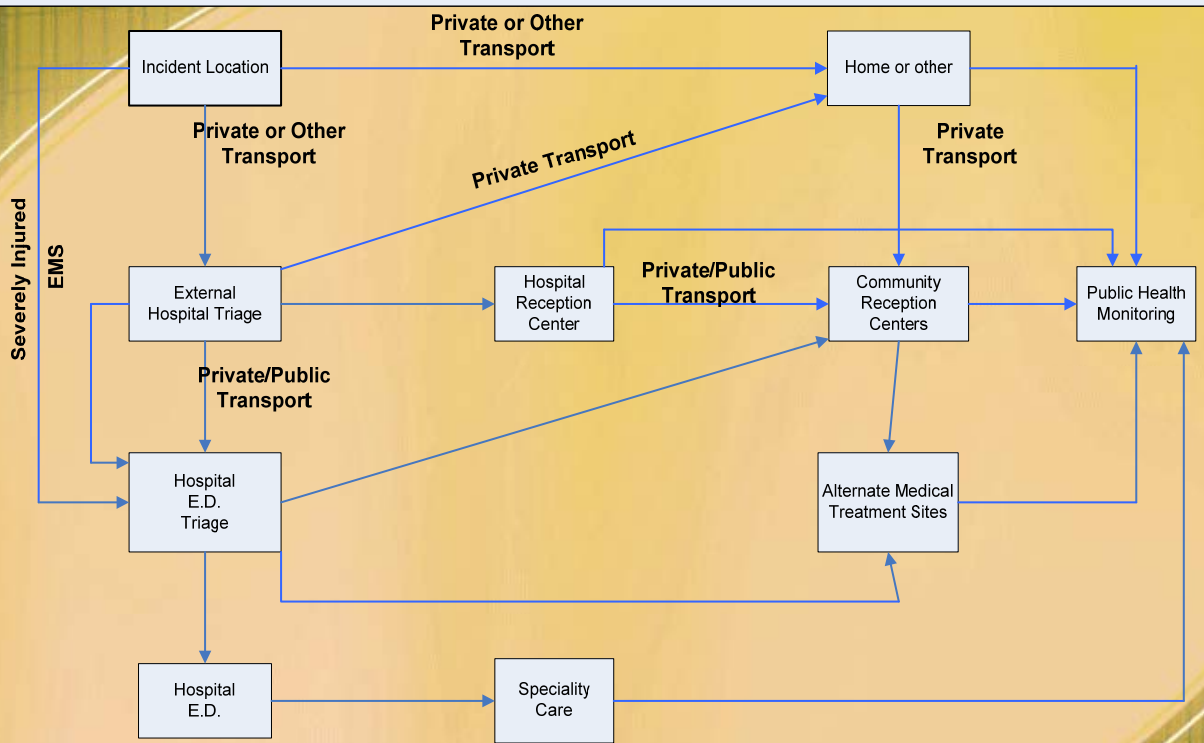
- John J. Lanza, MD, PhD, MPH, FAAP  
Florida Department of Health  
Escambia County Health Department  
850.595.6557

[john\\_lanza@doh.state.fl.us](mailto:john_lanza@doh.state.fl.us)

[www.EscambiaHealth.com](http://www.EscambiaHealth.com)



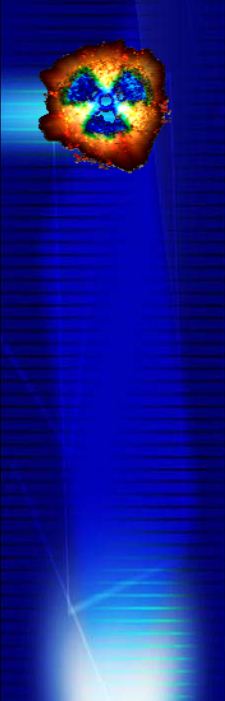
RAD/NUKE SCENARIO HEALTH/MEDICAL OPERATIONS





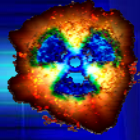
# **Radiation Response Volunteer Corp**

**Debbie Bray Gilley  
Florida Bureau of Radiation Control  
June 17, 2008**



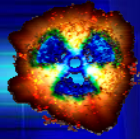
## **Objective**

**In the event of a radiological incident there may be a need to perform population monitoring to determine who may be contaminated or exposed to radiation or to relieve the fears of individuals that are NOT contaminated or have NOT been exposed to radiation**



## **WHY?**

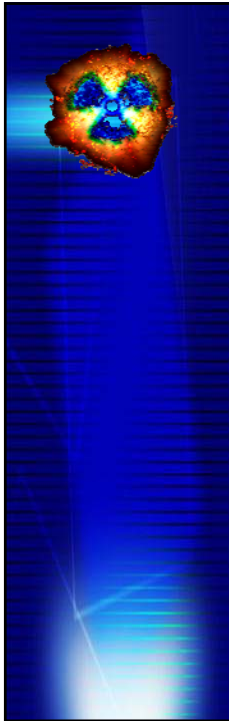
- **Florida has over 75% of it's borders as coastline**
- **Florida has 5 Tier 2 Urban Area Security Initiative locations (major metropolitan areas)**
- **Florida has 13 international airports**
- **Florida is a destination for international travel for business and pleasure**
- **Florida has over 200 significant special events each year**
- **Florida depends of tourism to support government resources**
- **Florida's Bureau of Radiation Control has limited resources**



## **Concept**

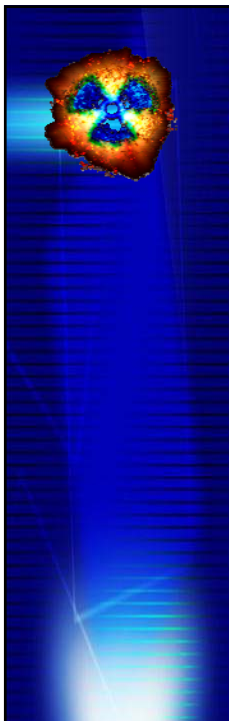
- **Identified need and tasks to be performed by the Corp**
  - **Bill Passetti, Chief**
  - **John Williamson, Emergency Response Administrator**
  - **Dr. John Lanza, County Health Department**
  - **Dr. Armin Ansari, CDC**
  - **Dr. Charles Miller, CDC**
- **CDC Population Monitoring Information**
- **Operational Safety Publication of the Health Physics Society**





## **Radiation Response Volunteers**

- **Not First Responders**
  - Will not be involved at “ground zero”, “cone of doom”, or downwind sectors
- **Fills the gap in the National Response Plan**
  - Radiation Response Annex Section on Population Monitoring
- **Respond to the need to monitor the population at off site location possible in adjacent counties or communities**
  - Population Monitoring Centers
  - Reception Centers
  - Entrance to Red Cross Shelters
- **Need to staff “up” between 12 hours after the incident until federal assets can be mobilized (72 hours)**

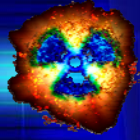


## **Radiation Response Volunteers**

**Volunteers already trained in contamination procedures as part of their normal employment duties**

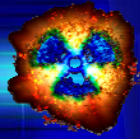
- Experience with decontamination procedures
- Knowledgeable and experienced in reducing citizens concern about health risk
- Able to collect and know the value of epidemiological information
- Many have experience in the psychological impact some citizens will face and provide encouragement and relieve unnecessary fear
- Can provide reach back supervision directly with the Bureau Operations Officer through established communication channels





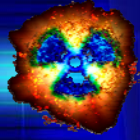
## **Concept to Implementation**

- **Opportunity to submit grant application as public health preparedness**
- **Know the limitations of your own resources**
- **Have resources and knowledge on meeting planning and the budgetary process within your own organization**
- **Be able to fulfill your obligations**



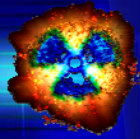
## **Concept to Implementation**

- **Coordination of key players**
  - **National meetings**
  - **Membership in professional organizations**
  - **Membership and participation in other natural disasters (having 8 hurricanes in 2 years helps)**
  - **Offer training to emergency management agencies**
  - **Work in progress**



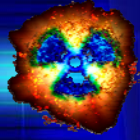
## **Concept to Implementation**

- **Tap national resources**
  - CDC
  - FEMA
  - DHS
- **Research other similar initiatives**
  - NYC
  - Los Angeles
  - TOPOFF “Hot Wash”
  - Medical Reserve Corp



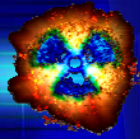
## **Concept to Implementation**

- **Determine duties of the Corp**
- **Determine professions that might qualify with limited training**
- **Determine if there is an establish mechanism for volunteering**
- **Determine infrastructure needed for staging a population monitoring center**
- **Use as much existing structure as possible (correlate to hurricane response)**



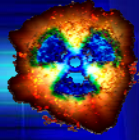
## Concept to Implementation

- **Outreach**
  - **Presentation at Florida Chapter of the Association of Physicist in Medicine (FLAAPM)**
  - **Presentation at the Florida Chapter of the Health Physics Society**
  - **Presentation at the Florida Radiologic Technologists annual meeting**
  - **Presentation at the monthly conference call of the Medical Reserve Corp Coordinators**
  - **Broadcast email to FLAAPM, FCHPS, and the university radiation safety officers organization and the Florida Nuclear Medicine Technologists**
  - **Presentations to the Department of Health Public Health Preparedness and Florida Department of Emergency Management**



## Resources

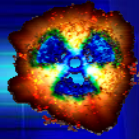
- **Portal Monitoring (18 additional strategically located)**
- **Survey equipment (200 grab and go kits and training)**
- **Reception Facility (county, municipal buildings)**
- **DeCon equipment (clothing, gloves, etc)**
- **Public Information (FAQs, press releases, and fact sheets)**
- **Personnel**
  - **County Emergency Management**
  - **State Assets (initial set up and reach back)**
  - **Volunteers**



## **The Plan**

### **Training to be held for the government participants and the volunteers**

- Coordinated effort with the Florida Chapter of the Health Physics Society
- June 27, 2008, 6 hours
- Orlando Area
- Grant funds will cover meeting costs, one night's accommodation and mileage to and from the location, resource material and costs for speakers
- Audience will include volunteers, Medical Reserve Corp Coordinators, Health Department Public Health Preparedness, Strike Team Leaders, and Radiation Emergency Response Advisors, key individuals within the Bureau of Radiation Control and Radiation Response personnel from the State's Department of Emergency Management



## **Meeting Agenda Topics**

**Welcome**

**Introductions**

**Homeland Security Threat 101**

**Overview of volunteer expectations**

**National Response Framework a CDC perspective**

**Florida Medical Reserve Corp Overview**

**County Health Department Support 's**

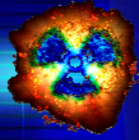
**Monitoring for external contamination**

**Monitoring for internal contamination**

**Incident Management System**

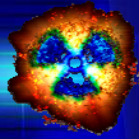
**Scenario**

**Wrap up and course evaluations**



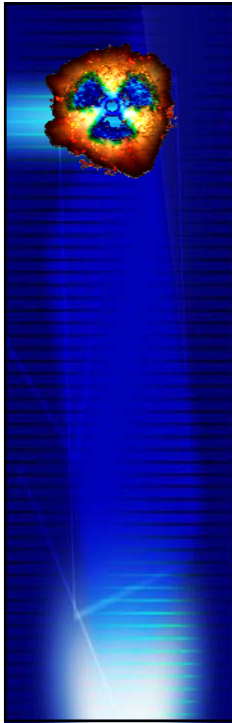
## Reference Material

- **CDC's Population Monitoring**
- **CRCPD RDD Handbook**
- **Florida's forms**
- **Articles and Publications**
- **Contact Information**
- **Websites of interest**
- **Training Presentations**



## Consideration for future actions

- **Need at least 6 months to get full participation**
- **Need to consider regional training and training on the weekends for the volunteers**
- **Need smaller groups for exercising the activities**
- **Need to include county emergency management in future training**
- **May wish to target training in the Urban Area Security Initiative locations**
- **Should coordinate with hospital emergency response training**
- **Need for drills (funding and manpower issues)**
- **Additional training needs (REACTS)**
- **Publish article in HPS on results**
- **Pets will be allowed in certain centers, techniques to monitor animals will be needed in the future**



## **Contact Information**

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**Department of Health**  
**Bureau of Radiation Control**  
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**Tallahassee, FL 32399-1741**  
**850 245-4266**  
**[Debbie\\_gilley@doh.state.fl.us](mailto:Debbie_gilley@doh.state.fl.us)**

# A Collaborative Approach to Population Monitoring in Georgia

Jim Hardeman, GA DNR  
Lee Smith, GA DHR/DPH  
Kevin Caspary, ORAU

## Division of Resources

- GA Department of Natural Resources
  - Environmental Protection Division
- GA Department of Human Resources
  - Division of Public Health
- Georgia Emergency Management Agency
  - Radiological Emergency Preparedness Program



## Roles and Responsibilities

### Georgia Department of Natural Resources

- Environmental Protection Division
  - Environmental Radiation Program
  - State radiation SME
  - Primary state responder to radiation incidents



## Roles and Responsibilities

### Georgia Department of Human Resources

- Division of Public Health
  - Office of Preparedness
  - Coordinates Public Health and healthcare resources during emergency response
  - All hazards focus
    - Rotating priorities





## Roles and Responsibilities

### Georgia Emergency Management Agency

- Radiological Emergency Preparedness Program
  - Leads radiological planning effort for GEMA
  - 24/7 warning point
  - Overall coordinating agency for incident response



## Background: Radiation Collaboration in GA

- Radiation Working Group
  - Established in mid-1980's
  - Goal is to maintain open dialogue and promote collaborative planning efforts among radiological emergency preparedness stakeholders
  - Participants include:
    - GA DNR/EPD, GEMA, GA Div of PH
    - Southern Nuclear, DOE, U.S. Navy
    - Local EMAs
    - Other feds (DHS/FEMA, NRC)
    - Other states (AL, FL, SC, TN)

## Why collaborate on Population Monitoring?

- Recognized our limitations
  - Too big a task for one agency to handle
- Recognized benefits of applying resources toward the same goal
- Avoid duplication of efforts
- Learn from each other



## Where did it get us?

- Three joint exercises in 2008
  - Nuclear Power Plant Exercise
    - Early County, Georgia
  - Compromised Nuclear Asset Exercise
    - Camden County, Georgia
  - Passive RDD Exercise
    - Cobb County, Georgia



## Plant Farley Community Reception Center



## SWFLANT: Darling Jewel 2008



## VA RadEx 2008



## Where to go from here . . .

- Enhance capabilities across the State
  - Increase awareness of DNR assets
  - Facilitate community reception center planning among Public Health Districts
  - Train and equip Public Health Districts
  - Organize radiation professionals through SERVGA

Questions?



# **Success Stories**

Adela Salame-Alfie, Ph.D.  
New York State Department of Health



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## **Examples of Partnerships**

- Within the New York State Department of Health (NYSDOH)
- With other NYS Agencies
- With Local Health Department
- With the School of Public Health
- All of the above

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## *Collaborations*

- Within NYS DOH
  - Center for Environmental Health
  - Wadsworth Center Laboratories
- NYS Departments of Health and Environmental Conservation (DOH/DEC) and Office of Fire Prevention and Control (OFPC)

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## *Three Examples*

- Multi-Agency Collaboration to Enhance NYS Sampling
- Environmental Assessment Groups
- Workshop “Radiological Emergency Planning for Public Health Professionals and First Responders”

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## Multi-Agency Collaboration to Enhance NYS Sampling

- “Level A” Personal Protective Equipment (PPE) sampling protocol gap was identified by NYS Chemical Biological Radiological Nuclear Explosive (CBRNE) Task Force
- Routine environmental sampling protocols have been developed and are in everyday use by DEC and DOH staff
- New collection protocols were needed for high-hazard environments in which sampling personnel wear Personal Protective Equipment to protect against inhalation and contact hazards
- Agencies worked together to combine skills and experience to develop “new” environmental sampling protocols for public health emergencies

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## Multi-Agency Sampling Effort

### Collect Samples:

- In a high hazard environment:
  - “All-hazard” (Biological, Radiological, and Chemical)
  - Unknown(s)
  - Potential Immediately Dangerous to Life and Health (IDLH) conditions
- For “gross” levels of contamination

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## □ Experience in Environmental Sampling

- NYS DOH (Center for Environmental Health and Wadsworth Center)
- NYS Department of Environmental Conservation (DEC)

## □ Experience in “Level A” PPE

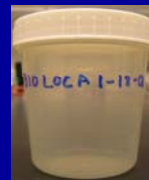
- NYS Office of Fire Prevention & Control (OFPC)

## “Level A” PPE Sampling Limitations

- ◆ Dexterity
- ◆ Vision
- ◆ Time
  - 20 minutes in sampling area
  - 20 minutes to decontaminate
- ◆ Use radio to document sampling
- ◆ Aids needed: tab or dog-ear supplies so samplers can open, segregate and clearly mark collection materials, use appropriate tools and containers

## Sample Preparation

- Tab all bags
- Make separate material storage bags for bio and chem samples
- Label all sample containers and sample bags with sample ID
- Number sample sequence



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## Sample Preparation

- Include wipes, tools (mark as needed)
- Place the ID-labeled container, ID-labeled bag and wipes/tools for each sample inside its material storage bag
- Spray bottle, or dog-eared bleach wipes
- Waste bags
- Disposable pads as clean surface
- Materials placed in buckets to carry into hot zone

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Shower



Wash & Rinse





Before the final Radiological Survey,  
dosimeter collection and reading



The Doffing  
Bench

## Next Steps

- Supplies and Equipment
- Staff Training
  - DOH/EAG
  - OFPC



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## “Go-Kits” Distributed in 2006

- 10 sampling material “go-kits” were placed around the state in the four regions
- Contain a variety of Level A environmental sampling materials with minimal maintenance needs

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## Training for this effort

- Review/introduce environmental sampling collection methods
- Describe sampling plans and how to implement them
- Introduce principles of sample handling/decontamination
- Provide hands-on sampling experience in PPE
- **Get OFPC feedback on techniques!**



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## Environmental Assessment Group (EAG) Concept:

- DOH and DEC staff support public health emergency sampling efforts by another agency (OFPC) in Level A PPE
- Part of a coordinated response using National Incident Management System -Incident Command System Principles
- State resources mobilized at the request of State CBRNE Task Force, CEH, and DOH/DEC Regional Directors

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## EAG Provides:

- On-scene scientific and technical expertise
  - To Incident Commander (IC) and other incident organizational positions
- Conduct and/or assist sampling to Level C PPE (DOH staff trained in APRs and PAPRs)
  - Develop sampling strategy
  - Gather, prepare and label sampling materials
  - Handle samples exiting hot zone/sample decon
  - Document sampling

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## EAG Teams and OFPC exercises

“Just in time” refresher prior to exercise

Advantages:

- Learned to work together and communicate (sample prep, documentation, radio communication, etc.)
- OFPC is an asset that is available after life safety issues have been dealt with
- Can assist with screening people at population monitoring center

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## Radiological Emergency Planning for Public Health Professionals and First Responders Workshop

Target Audience:

- Local Health Departments
- First Responders
- Some Hospital Staff (Radiation safety/emergency response)

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## Partners:

- NYS Department of Health
  - Bureau of Environmental Radiation Protection, Public Health Preparedness and Outreach and Education Unit
- NYSACHO (NY State Association of County Health Departments)
- Albany School of Public Health
- University of Alabama at Birmingham

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- Initial Workshop delivered in Sept. 07 at the School of Public Health
- Initially space available for only about 70 participants
- Very well received - Requests to repeat
- Road trip to various NYS regions to make it available to local Health Departments (our primary audience)
- Last one will be in July 08

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**“Radiological Emergency Planning for Public Health Professionals and First Responders Workshop”**

**Outline**

- Facilitated discussion- Dirty bomb incidents
- Video clip - The Role of Public Health (CDC/McBaugh)
- Radiological Emergency Response Concepts (Based on CRCPD-RDD Handbook)
- Psychosocial and Risk Communication Issues
- Group Activity - Crisis and Emergency Risk Communication

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**Outline (cont'd)**

- Emergency Planning Basics (State Emergency Management Office)
- Population Monitoring (CDC Guide)
- State/Local Resources
  - EAG
  - Bureau of Environmental Radiation Protection
  - WMD Trailers
  - Volunteer Program
- Small group breakout session - Planning for Radiological Emergencies at the Local Level

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## APPENDIX C. COMPLETE LIST OF SUGGESTED GROUPS WITH WHOM TO PARTNER

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All organizations represented at the roundtable (\* appears by their names in this list)

- American Academy of Pediatric Medicine
- American Association of Physicists in Medicine
- American College of Emergency Physicians
- American College of Radiology
- American Dental Association
- American Hospitals Association
- American Medical Association
- American Meteorological Society
- American Nursing Association/state nurses associations
- American Public Health Association
- American Society of Radiologic Technologists
- American Society for Therapeutic Radiology and Oncology
- American Veterinary Medical Association
- Assistant Secretary for Preparedness and Response grant contacts (Department of Health and Human Services)
- Association of Public Health Laboratories
- Association of State and Territorial Health Officials\*
- Associations of Fire Chiefs (and their medical advisors to fire chiefs)
- Business Executives for National Security
- Centers for Disease Control and Prevention\*
- Conference of Radiation Control Program Directors \*
- Council of State and Territorial Epidemiologists\*
- Department of Homeland Security
- Health Physics Society
- High school science teachers
- Health Resources and Services Administration

- Hospital administrators
- International Association of Fire Fighters
- National Association of County & City Health Officials\*
- National Association of Public Hospitals and Health Systems
- National Council on Radiation Protection & Measurement
- National Council of State Legislators
- National Disaster Management System – Emergency Support Function - #8 Domestic Response
- National Emergency Management Association/local EMS groups
- National Environmental Health Association
- National Fire Protection Association
- National Governors Association
- National Institute for Occupational Safety and Health
- National Mental Health Association
- National Radiological Emergency Preparedness
- National Veterinary Association
- Organizations of pharmacists
- Private radiation professionals
- Regional Energy Boards
- Regional hazmat teams
- Society of Nuclear Medicine
- State/county medical societies
- State health departments
- University science faculty
- Veterinary associations

## **APPENDIX D. PARTICIPANT COMMENTS AND SUGGESTIONS**

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During the brainstorming session, participants entered comments and suggestions on Post-it® Notes. This is a summary of all of the comments and suggestions.

### **GAPS**

#### **Communication:**

- Pre-developed messages for *shelter-in-place*. Shelter-in-place is a term used to describe a set of instructions for what a person should do if chemical, biological, or radiological contaminants may have been released into the environment. Included in the instructions are that the person should stay where they are, selecting a small, interior room, with no or few windows, and take refuge there; turn off fans, heating and air conditioning systems; and listen to the radio or television for further instructions.
- Easy to understand explanation of difficult technical issues
- Public relations information
- Catalog of resources – identify and share resources between local and state health and organizations
- Message mapping – pre-scripted messages

#### **Drills/Exercises**

- Recovery
- Communicate lessons learned/After Action Reports
- Exercise RDD plans
- Need more exercises

#### **Funding**

- No champion for radiation funding

- Radiation comes up short when competing
- Need for more equipment (portals)
- Need more staff
- State health (bioterrorism) needs to share resources with state radiological programs
- CDC grants need to specifically state radiation
- Funding for local health
- Funding for training

### **Staffing**

- Next generation of trained response
- Personnel needed across borders
- Responders that won't show up

### **Plans**

- Partnerships & Memorandums of Understanding with response agencies
- Mass evacuation plans
- Mass casualty plans
- Traffic control, waste disposal
- Population monitoring and registry
- What to do with contaminated decedents
- Lack of monitoring capability
- State plan should specify radiation control
- Alternate care facilities

- Plan defining authorities
- Plan for radiological response for RDD
- Volunteer groups

### **Technical**

- Lack of laboratory capability
- Future maintenance of equipment
- What is required for registry at local level
- Develop registry
- Delivery of chelating agents
- Bioassay analysis
- Contaminated debris
- Recovery/optimization

### **Hospital/EMT**

- Decontaminate before treatment issue
- Triage – how hospitals evaluate for injury, radiation exposure, or contamination
- Training health care
- Hospitals lack training, equipment, expertise

### **Training**

- Training for environmental health specialists and others
- Training for elected officials
- Training for hospitals/EMTs



- Training for radiological dispersal devices and improvised nuclear devices
- Training/communication to the public
- Training on equipment
- Training for local public health
- Training for Incident Command Structure (ICS)
- Not enough time given for locals to train
- Training for senior leaders

### **Miscellaneous**

- Lack of a visible radiological champion
- Increase radiation awareness within CDC
- Resource typing
- Need to promote/advertise training
- Politics trumping science
- County Emergency Management and County Emergency Operations Center (EOC) weakness
- How will the federal government coordinate the response to a radiological/nuclear incident
- IT support – maintain modeling software
- Need local SMEs for radiation

## **CAPABILITIES**

### **Plans**

- Radiation can be integrated into many aspects of “all hazards”
- Florida Department of Health (DOH) has a template for hospital response plans

- Florida DOH has operations manual for radiological terrorism
- State radiation control programs have well practiced plans and full support of upper management
- Full radiological standard operating procedures and protective action guides – some on web
- New England Radiological Health Compact and mutual aid agreements with counties, universities, civil support teams (CST), etc.

### **Funding**

- Florida DOH knows how to secure funding for Radiological Response Teams
- CDC has money and SMEs

### **Staffing**

- Some staff have security clearances
- State radiation control programs have trained health physicists
- ASTHO has strong ties for collaboration with CDC, ASPR, EPA, partners
- Epidemiologists, hazmat teams, SMEs
- States have radiological laboratories and mobile radiological laboratories
- States have skills in developing relationships with local health
- Local staffing expertise in environmental health
- Health Alert Network for providers
- Risk communication specialists

### **Exercises**

- Experience with regularly executing large scale exercises

- Incident Command Structure exercises frequently
- Experience with improvised nuclear devices exercise with gaps identified

### **Training**

- Training classes developed for responders
- Experience with KI distribution
- Knowledge to do community surveillance

### **Miscellaneous**

- Established relationships with local universities
- Local health has a way of disseminating information/distributing lists
- States with nuclear power plants have established training, plans, capabilities
- Established relationships/collaboration with poison control
- Expertise in talking to the press
- Able to assess or survey state capabilities and gaps through state epidemiologists
- Convene state epidemiologists and communicate with CSTE
- Established relationships with city, fire, HazMat
- Some states have lots of equipment

### **CRCPD**

- Emergency planning/homeland security committees, products, publications
- Database of emergency response resources, equipment, laboratories
- Membership directory

## **FEMA**

- Capable of coordinating roles

## **STRATEGIES**

### **FUNDING**

- Obtain funding from outside the state
- ASPR grant should emphasize/cover radiation
- Find source of funding to train local public health staff
- CDC emphasize radiation on their grants
- Find sources of funding – evaluate existing grants
- Identify funding options

### **TRAINING**

- State develop joint radiological training programs for local agencies
- Cross train radiation and non-radiation emergency response teams
- Identify existing resources and training and disseminate through their list serve or database
- CDC provide train-the-trainer classes to states
- Educate the public with brochures/bill boards/public service announcements/etc.
- Host statewide radiation preparedness meeting for state-local agencies to work out roles, responsibilities.

### **PLANS**

- Develop generic plans for radiological response and population monitoring
- Local health agencies should develop radiological preparedness plans

- Regional hospital groups should address radiation
- Involve volunteer groups
- Establish liaisons with ASTHO/NACCHO/CRCPD and external partners
- Identify SMEs to speak at annual meetings
- CDC and CRCPD develop IND guidelines and distribute
- Survey others for best practices
- Use National Homeland Security Consortium
- Develop repository for radiological response resources online
- Surveys to identify barriers for emergency responders showing up
- Identify physician organizations for outreach
- Make sure emergency responders have personal response plans for families

## **COMMUNICATION**

- State/local public information officers plan for radiological event
- Focus groups to test messages with target audiences

## **TECHNICAL**

- More partnership between state radiological laboratories and state health laboratories
- Locals establish relationships with radiation SMEs
- Involve state laboratories with exercises
- Initiate networking between state laboratories

## **DRILLS**

- Radiological exercises involving environmental and public health

- Radiological exercises involving hospitals
- Remove “For Official Use Only” (FOUO) from after action reports (AAR) and create a database for AARs
- Conduct full recovery phase drill
- CRCPD design recovery phase exercise
- Public health laboratory directors integrated into drills

## **STRENGTHENING COMMUNICATIONS**

### **Short-Term Strategies**

- Affiliate membership with ASTHO/NACCHO
- Already have liaison with the American Association of Physicists in Medicine, American College of Radiology, American Society for Therapeutic Radiology and Oncology, Society of Nuclear Medicine
- Assist in course design
- Attend meetings
- Big picture first then work on details
- Conferences
- Continue “talking to the chair”
- Convene meeting with ASPR staff
- CRCPD
- Create all-hazards incident response teams comprised of members from a variety of agencies
- Create list serve for local agency contacts involved in radiation incident response
- Develop position and message from this group
- Disseminate to groups through helpful web sites that outline the information

- Distribute CRCPD directory widely
- Exchange liaisons between organizations
- Exercise—include radiation (will require \$)
- Expand this roundtable to include more medical and public health organizations; turn this group into a standing group/alliance
- Face-to-face meetings
- Follow up with representatives after the roundtable
- Form alliance/engage professional organizations—invite to meet with alliance groups
- Form separate liaisons
- Get the right people into our e-mail distribution lists
- Have high school/college faculty and students play in exercise
- Have the group prepare a template letter to various organizations on alliance letterhead
- Initiate dialogue, working groups; invite to joint planning sessions
- Invite to radiation roundtable
- Job fairs at colleges
- Local radiation summit
- Maintain regular communication
- Meet with NACCHO at one of their meetings
- National organizational meetings of organizations
- Outreach
- Outreach material inserts in professional license renewals, bottled water, light bulbs, smoke detectors
- Outreach to state and local elected officials
- Plan together, train together, exercise together

- Present technical papers at meetings
- Public information/announcements/outreach
- Radiation control programs reach out and meet with organizations for physicians and nurses
- Roundtables
- Speaker booths at national meetings
- Stay focused on public health issues
- Summit with local public health agencies
- Table tops
- Teacher workshops
- Training with local responders
- Website development



## APPENDIX E. ATTENDEES LIST

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### CDC-CRCPD Roundtable on Communication and Teamwork: Keys to Successful Radiological Response Atlanta Marriott Downtown Hotel, Atlanta, Georgia June 17-18, 2008

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ASTHO - Association of State and Territorial Health Officials  
CRCPD - Conference of Radiation Control Program Directors  
CSTE - Council of State and Territorial Epidemiologists  
NACCHO - National Association of County and City Health  
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## APPENDIX F. GLOSSARY

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AAPM	American Association of Physicists in Medicine
AAR	After Action Report
ACR	American College of Radiology
AMS	Aerial Measurement System
AMTS	Alternative Medical Treatment Site
APR	air-purifying respirator
ARAC	Atmospheric Release Advisory Center
ARC	American Red Cross
ASPR	Assistant Secretary for Preparedness and Response (Department of Health and Human Services)
ASTHO	Association of State and Territorial Health Officials
CBRNE	Chemical Biological Radiological Nuclear Explosive
CDC	Centers for Disease Control and Prevention
CDRH	Center for Devices and Radiological Health (FDA)
CEH	Center for Environmental Health
CRC	Community Reception Centers
CRCPD	Conference of Radiation Control Program Directors
CRI	Cities Readiness Initiative
CST	Civil support team
CSTE	Council of State and Territorial Epidemiologists
DEC	Department of Environmental Conservation
DHR	Department of Human Resources
DHS	Department of Homeland Security
DHHS	Department of Health and Human Services
DHUD	Department of Housing and Urban Development
DNDO	Domestic Nuclear Detection Office
DNR	Department of Natural Resources
DOA	Department of Agriculture
DOC	Department of Commerce
DOD	Department of Defense
DOE	Department of Energy
DOH	Department of Health
DOI	Department of the Interior
DOJ	Department of Justice
DOL	Department of Labor
DOS	Department of State

DOT .....Department of Transportation  
 DPH .....Department of Public Health  
 DPHP .....Directors of Public Health Preparedness  
 DVA .....Department of Veterans Affairs  
 EAG .....Environmental Assessment Group  
 E.D. ....Emergency department  
 EMA.....Emergency management agency  
 EMS .....Emergency medical services  
 EMT .....Emergency medical technicians  
 EOC .....Emergency Operations Center  
 EPA.....Environmental Protection Agency  
 EPD .....Environmental Protection Division  
 ESF #8 .....National Disaster Management System – Emergency Support  
                   Function - #8 Domestic Response  
 FDA .....Food and Drug Administration  
 FOUO.....For Official Use Only  
 FRMAC.....Federal Radiological Monitoring Assessment Center  
 FEMA.....Federal Emergency Management Agency  
 FRPCC .....Federal Radiological Preparedness Coordinating Committee  
 GEMA .....Georgia Emergency Management Agency  
 GSA .....General Services Administration  
 HAN .....Health Alert Network  
 HAZMAT.....Hazardous materials  
 HHP .....Hospital Preparedness Program (cooperative agreements  
                   awarded by the Department of Health and Human Services  
                   Assistant Secretary for Preparedness and Response)  
 HHS .....Health and Human Services  
 HIV .....Human immunodeficiency virus  
 HPA.....Health protection agency  
 HPS.....Health Physics Society  
 HRC .....Hospital reception center  
 IC.....Incident commander  
 ICS.....Incident command structure  
 IDLH .....Immediately dangerous to life and health  
 IMAAC.....Interagency Modeling and Atmospheric Assessment Center  
 IND .....Improvised nuclear device  
 IOM.....Institute of Medicine  
 JIC.....Joint Information Center



KI.....Potassium iodide  
 LHD .....Local health department  
 NACCHO ....National Association of County and City Health Officials  
 NASA .....National Aeronautics and Space Administration  
 NRC .....Nuclear Regulatory Commission  
 OED.....CRCPD’s Office of Executive Director  
 OPFC .....Office of Fire Prevention and Control  
 ORA .....Office of Regulatory Affairs (FDA)  
 ORAU.....Oak Ridge Associated Universities  
 PAGs .....Protective Action Guides  
 PAPR.....Powered air purifying respirator  
 PH.....Public health  
 PHEP .....Public Health Emergency Preparedness cooperative agreements  
                   awarded by CDC  
 PIO.....Public Information Officer  
 POD .....Point of dispensing  
 PPE.....Personal protective equipment  
 RAP.....Radiological Assistance Program  
 RCP.....Radiation control program  
 RDD .....Radiological dispersal device  
 REAC/TS ...Radiation Emergency Assistance Center/Training Site  
 REP.....Radiological Emergency Preparedness  
 SME .....Subject matter expert  
 SNS.....Strategic National Stockpile  
 SpNS.....Special needs shelter  
 SSR.....Suggested State Regulations for Control of Radiation  
 STDs .....Sexually transmitted diseases  
 TOPOFF .....Top Officials National Exercise Series  
 USCG.....U.S. Coast Guard  
 WMD.....Weapons of mass destruction