

Bridging the Gaps: Public Health and Radiation Emergency Preparedness

March 21–24, 2011

Conference Summary Report

Radiation Studies Branch

National Center for Environmental Health

Centers for Disease Control and Prevention

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BRIDGING THE GAPS:

Public Health and Radiation Emergency Preparedness

The **Oak Ridge Institute for Science and Education (ORISE)** is a U.S. Department of Energy facility focusing on scientific initiatives to research health risks from occupational hazards, assess environmental cleanup, respond to radiation medical emergencies, support national security and emergency preparedness, and educate the next generation of scientists. ORISE is managed by Oak Ridge Associated Universities.

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Executive Summary

The Centers for Disease Control and Prevention's (CDC) Radiation Studies Branch hosted 436 distinguished speakers and participants at a radiation emergency preparedness conference on March 22-24, 2011, in Atlanta, Georgia. The conference proved its relevance during plenary and breakout sessions taking place as news channels carried updates about the March 11, 2011, Japanese earthquake, tsunami, and nuclear power plant emergency. Participants gained sharper perspective about the importance of radiation emergency response planning as events unfolded in Japan.

Initially, the conference was planned to provide mass casualty education and emergency planning resources to public health professionals, clinicians, emergency managers, emergency planners, EMS officials, and radiation control program directors. Events in Japan led conference organizers to add a situational assessment to the agenda. A panel of professionals from CDC, the National Association of County and City Health Officials (NACCHO), and state and local public health departments answered questions and shared their expertise.

Titled *Bridging the Gaps: Public Health and Radiation Emergency Preparedness*, the conference offered the opportunity to participate in a demonstration at a mock Community Reception Center as if a mass casualty radiation emergency had occurred. On March 21, 2011, the three preconference training sessions were well attended. Oak Ridge Institute for Science and Education (ORISE) provided support for the conference and preconference sessions.

The goals of the conference were stated as follows:

- Provide a forum for conference participants to discuss the current state of radiation emergency preparedness, including gaps and barriers, at the local, state, and federal levels.
- Provide a forum for conference participants to share promising practices, lessons learned, and practical applications to enhance the planning for, response to, and recovery from radiation emergencies.
- Create a professional network of public health professionals and other stakeholders invested in advancing the field of radiation emergency preparedness.

Goals were met, as evidenced by participation, discussion, networking, and comment cards collected during and at the conclusion of the conference. Participants indicated information garnered at the conference impacted their levels of preparedness for radiation emergencies. Important themes discussed during the conference included funding needs, partnerships, training, communications, and accountability. Main messages of sessions and discussions included the following:

- National security depends on health security.
- Preparedness plans have improved, but are not adequate.
- Emergency facilities must invest in staff training.
- Emergency sheltering requires regional collaboration.
- Trained volunteers play a large role.
- Communication must be quick, accurate, and easy to understand.

Recommendations developed by speakers and participants included the following:

- Conduct training for first responders, hospital staff, mental health staff, public health officials, radiation volunteers, and all other persons who might be called upon to assist in a radiation emergency.
- Incorporate radiation preparedness to all-hazards capabilities development and sponsor exercises to identify gaps and update training.
- Develop more pilot projects to test and demonstrate useful practices that are acceptable and scalable.
- Promote strategic planning between state public health emergency preparedness and traditional radiation personnel to increase collaboration.
- Utilize resources and seek funding from federal, state, and local agencies and organizations to develop radiation emergency preparedness plans.
- Recruit, register, and organize volunteers to assist with medical and radiation-related tasks, such as population monitoring and contamination detection.
- Integrate social media in all communication efforts.

Conclusion

Participants sought more opportunities to build regional networks and expressed a willingness to share expertise and information so more steps can be taken to bridge the gaps in public health and radiation emergency preparedness.

Introduction

The Centers for Disease Control and Prevention's (CDC) Radiation Studies Branch hosted 436 distinguished speakers and participants at a radiation emergency preparedness conference on Tuesday-Thursday, March 22-24, 2011, at the Crowne Plaza Hotel Ravinia, Atlanta, Georgia.

Initially, the conference was planned to provide mass casualty education and emergency planning resources to public health professionals, clinicians, emergency managers, emergency planners, EMS officials, and radiation control program directors. Focus expanded after the March 11, 2011, Japanese earthquake, tsunami, and nuclear power plant emergency. Events in Japan led conference organizers to add a situational assessment to the agenda. A panel of professionals from CDC, the National Association of County and City Health Officials (NACCHO), and state and local public health departments answered questions and shared their expertise as a way to complement the reports carried on news channels during meeting days. Participants gained sharper perspective and clearer understanding about the importance of emergency response planning as they heard updates about events unfolding in Japan.

Titled *Bridging the Gaps: Public Health and Radiation Emergency Preparedness*, the conference was organized with the following goals:

- Provide a forum for conference participants to discuss the current state of radiation emergency preparedness, including gaps and barriers, at the local, state, and federal levels.
- Provide a forum for conference participants to share promising practices, lessons learned, and practical applications to enhance the planning for, response to, and recovery from radiation emergencies.
- Create a professional network of public health professionals and other stakeholders invested in advancing the field of radiation emergency preparedness.

The conference offered the opportunity to tour a mock Community Reception Center and participate in a demonstration as if a mass casualty radiation emergency had occurred. Participants learned more about contamination screening, decontamination, registration, and radiation dose assessment.

Also, three preconference training sessions were held Monday, March 21, 2011, to cover the following topics:

- Radiation basics (189 participants)
- Tools and strategies for public health response to radiation emergencies (206 participants)

- Applied clinical management of radiation casualties (58 participants)

Plenary sessions covered the following major topics:

- Multiagency, multidiscipline response
- State and local all-hazards response initiatives
- Effective communication and social media tools
- Volunteer and funding resources

Breakout sessions covered the following major topics:

- Logistical issues for medical response
- Family, pets, and mental health assistance
- Contamination and first responder risks
- Treatment and monitoring protocols

In addition to plenary and breakout sessions, the agenda allowed time for networking breaks and regional sessions. Ten parallel sessions for each of the U.S. Department of Health and Human Services regions informed participants about initiatives in their regions. Oak Ridge Institute for Science and Education (ORISE) provided support for the conference and preconference sessions.

Pre-conference Training Day – March 21, 2011

Session 1: Radiation Basics for Public Health and Medical Personnel

This 3-hour session provided an overview of radiation hazards and the public health and medical response to radiation emergencies. Topics discussed in this session included health effects of radiation, radiation dose in perspective, basics of radiation decontamination, population monitoring, public shelters in radiation emergencies, environmental health issues, medical response, and personal protective measures.

Concurrent Session 1: Applied Clinical Management of Radiation Casualties

This 3-hour session provided detailed information about treating radiation induced injury and illness for medical personnel. Topics discussed in this session included pre-hospital management, hospital preparedness, advanced medical management, mass casualty medical planning, and case studies.

Concurrent Session 2: Tools and Strategies for Public Health Response to Radiation Emergencies

This 3-hour session provided detailed information about public health response strategies and demonstrated new training and planning tools for public health personnel. Topics discussed in this session included staffing community reception centers (CRC) and public shelters, training CRC staff, incorporating epidemiology tools, and addressing mental health concerns.

Day One – March 22, 2011

Welcome

In opening remarks, Robert Whitcomb, Jr., PhD, CHP, Lead Physical Scientist, Radiation Studies Branch, CDC, referenced the Japanese earthquake, tsunami, and nuclear power plant emergency and emphasized the importance of planning and collaboration. He urged participants to share experiences and best practices so all may benefit and be better prepared.

Thomas R. Frieden, MD, MPH, Director, CDC, Administrator, Agency for Toxic Substances and Disease Registry, reminded participants to rigorously and continuously improve emergency preparedness plans. The biggest challenge is to address the public's lack of understanding about radiation safety. He urged participants to find ways to bridge the gaps by improving communications and building partnerships at local and state levels.

Plenary: Why Are We Here?

- Identifying the real threat
- Developing a more robust radiation response capability

Charles Miller, MS, PhD, Chief, Radiation Studies Branch, CDC, highlighted the plenary's focus on working together and introduced the distinguished speakers. Brian Kamoie, JD, Senior Director, All-Hazards Medical Preparedness Policy, White House National Security Staff, said President Barack Obama's highest priority is keeping Americans safe and secure. He outlined a multiagency approach for building emergency teams made up of local, state, and federal partners. The Obama administration has placed a renewed emphasis on emergency preparedness and seeks to develop a more robust system. The ability to "bounce back" from disaster is a main goal, and this action depends on preparedness, according to RADM Nicole Lurie, MD, MSPH, Assistant Secretary for Preparedness and Response.

Plenary: Setting the Stage

- Gaining health security
- Coordinating on federal, state, and local levels

As she facilitated the plenary session, Judy Qualters, PhD, Acting Director, Environmental Hazards and Health Effects, NCEH, discussed the importance of using lessons learned, best practices, and networking to provide guidance in the development of preparedness policies.

Events in Japan brought into clear focus why nuclear preparedness is essential to our nation. “We look at health through the prism of national security. We look beyond public health aspects to security and we look at how incidents impact the United States. You cannot have national security without health security,” said Alexander Garza, MD, MPH, Assistant Secretary for Health Affairs, Chief Medical Officer, Office of Health Affairs, Department of Homeland Security. “Most of the recent events that grab us have been health pandemics, oil rig explosions, and earthquakes. This underscores the importance of health security.” At the Department of Homeland Security, much effort is put into preparedness but there is a high level of complexity involved in risk assessment. “As a nation, we can say we’re more prepared than we’ve ever been in the past,” said Dr. Garza.

He described a project undertaken to better understand the threat of nuclear terrorism. Using graphic illustration to show the effect of a fireball and debris cloud on a city and surrounding areas, the exercise underscored the most effective way to save the most lives. “We have to teach our communities that during a radiation exposure, the first thing you do is get to shelter,” said Dr. Garza. Alerts from authorities, such as emergency medical services personnel and safety managers, help people get away from the most dangerous areas, move into shelters, and remain in place until the danger subsides.

Dr. Garza recommended the resources located on www.ready.gov and “The Planning Guidance for Response to Nuclear Detonation” and “Nuclear Detonation Preparedness: Communicating in the Immediate Aftermath.” He urged participants to remain dedicated to disaster preparedness efforts. “An educated public will save lives. An educated public can create resilience and improve our ability to recover,” he said.

Collaborating with community partners is central to planning for catastrophic events because during the first 72 hours citizens will rely on resources at hand, not brought in from outside locations. Community self-help will be decisive, according to James Kish, Director, Technological Hazards Division, Federal Emergency Management Agency.

He cautioned that regulatory waivers, altered standards of care, and policy changes may be necessary during a radiation emergency. The emphasis is on increasing the number of people who survive. The Emergency Support Functions Group has identified gaps and set up work groups to develop courses of action, particularly in the medical arena.

As the Director of the Illinois Department of Public Health, Damon Arnold, MD, MPH, realizes that disasters start locally, but soon spread across regions. States with nuclear power plants must build response plans in coordination with neighboring states. The critical infrastructure and key resources sectors include oil, gas, and coal.

Plenary: Public Health Operations and Capabilities

- Implementing an all-hazards approach
- Educating community volunteers

RADM Ali S. Khan, MD, MPH, USPHS, Director of CDC's Office of Public Health Preparedness and Response, explained that CDC takes a cost-effective, all-hazards approach to public health preparedness. Threats may be major events, such as the Japanese earthquake, tsunami, and radiation release, or they may be foodborne outbreaks and epidemics. In nearly every measure of public health capacity and capability, the nation is poorly prepared to respond to a major radiation event, according to an assessment conducted in 2010 by the Council of State and Territorial Epidemiologists.

CDC has three key roles: set strategy and policy, help fund strategy, and oversee operational activities to address an event. Recommendations call for CDC to incorporate radiation preparedness to all-hazards capabilities development and to promote strategic planning between state public health emergency preparedness and traditional radiation personnel to increase collaboration.

In discussing his experience as the Director of Health Protection for the Mississippi State Department of Health, James H. Craig, III, realizes that effective response to a radiological or nuclear terrorism incident requires a broad scope of planning, but many communities fall short in their efforts. Funding is inadequate for staffing, training, equipment, and monitoring.

Gaps in staffing resources are sometimes filled by community members, but often the volunteers do not have adequate training. In an effort to establish a better volunteer force, radiation professionals are working with Medical Reserve Corps across the country. Nearly 940 units and 208,000 volunteers are engaged with local health departments and other organizations, according to CAPT Narayan Nair, MD, USPHS, Senior Program Officer Deployment Operations, Office of the Surgeon General, Office of the Civilian Volunteer Medical

Reserve Corps. Liability issues related to volunteers are a serious concern because of the contamination potential. Some state governments have addressed these issues. At the federal level, legislation is needed to protect volunteers. Radiological contamination complicates response efforts unlike other disasters because population monitoring has to take place. Armin Ansari, PhD, CHP, Radiation Studies Branch, CDC, suggests that public health departments need to partner with the appropriate local and state agencies to respond effectively.

Breakout Session: Logistical Issues for Medical Response

- Using National Disaster Medical System
- Understanding transportation logistics

Sixty disaster medical assistance teams can respond in about 24 hours. Other response teams include medical special needs, mental health, and public health, according to CAPT Allen Dobbs, MD, USPHS, Chief Medical Officer, National Disaster Medical System, Office of Assistant Secretary for Preparedness and Response, U.S. Department of Health and Human Services.

Scarce resources demand difficult decision making. Available guidance offers practical tools for responders to adapt, conserve, reuse, and reallocate. In 2009, the Institute of Medicine issued a report on crisis standards of care. “It doesn’t mean you shift your ethical standards, but you shift how you deliver care,” explained Richard Hatchett, MD, Chief Medical Officer and Deputy Director, Biomedical Advanced Research and Development Authority. Leticia Mathis, Strategic National Stockpile (SNS) Program Administrator (former), Office of Emergency Preparedness, Georgia Department of Community Health, emphasized that saving the greatest number of people depends on operation of transportation systems and adequately staffed and equipped hospitals.

Breakout Session: Planning for Psychosocial and Behavioral Health in a Radiation Emergency

- Establishing mental health teams
- Setting up family assistance centers

Jack Herrmann, MEd, Senior Advisor, Public Health Preparedness for the National Association of County and City Health Officials, discussed that communication plays an important role in the psychological well-being of the population. If done effectively, psychological disorders may be mild and short-term rather than severe and long-term. First responders are on the frontline, so it is important to educate and prepare them for the surge to hit hospitals and clinics following a disaster.

Rob Yin, MSW, LISW, Manager of Disaster Mental Health at the American Red Cross, discussed that the American Red Cross sponsors resilience training to help volunteers administer

psychological first aid. It has 4,000 mental health professionals and mobile units to support families in disaster situations. These resources will not be enough in a radiation emergency. Training modules, a webinar, and other tools help build resilience for the work force and community at large.

Sandra Shields, MA, LMFT, CTS, Senior Disaster Services Analyst, Los Angeles County Department of Health Services, suggested in the session to always include mental health surge estimates into surge planning. Mental health casualties will present themselves in medical settings, such as hospitals and clinics. A nationwide mental health triage standard based on exposure to disaster, not on symptoms, is needed in preparedness efforts.

Family assistance centers provide information and support for people in search of missing or possibly deceased loved ones. They provide first aid, food, shelter, spiritual care, and mental health services. Planning for radiological emergencies encompasses certain challenges related to contamination. Education of personnel is crucial, so staff understand the difference between exposure and contamination and the risks associated with each, explained Onora Lien, MA, Health System Response Planner, King County Healthcare Coalition, Seattle, Washington.

Breakout Session: Public Health Functions under Emergency Support Function Eight and the Radiological and Nuclear Annex

- Obtaining resources
- Closing gaps

Key radiation-focused resources include the Radiological Emergency Medical Management (REMM) website and the Radiation Laboratory Network. Some instruction is organized into action steps. Some materials are downloadable to phones, a capability needed in emergency situations. MedMap incorporates Geographic Information Systems and health-related databases from federal and private sector resources.

Drills for nuclear preparedness proved to be a useful way to identify gaps in plans. These include population monitoring, internal contamination assessment, effective communications, behavioral evaluation/health care, state/city/local integration, and interstate mutual aid.

Breakout Session: Triage and Screening at Hospitals Following a Radiation Emergency

- Redefining triage
- Addressing staff risks

The REMM website offers valuable, user-friendly information for radiation emergency planning and response. It guides responders through operating standards that transition from

conventional to contingency to crisis. “Sickest first is not always the right way to go. The triage category is affected by radiation doses and resources available,” explained David Wienstock, MD, Dana-Farber Cancer Institute, Harvard Medical School.

Drills using radiation detection instruments helped hospital personnel feel more comfortable about containing their own risks. Safety and security concerns involved providing appropriate personal protection equipment and managing staff exposure limits, staff anxiety, and staff disregard of safety measures. There was also a need for perimeter management for security, crowd control, and media.

Breakout Session: Tools and Resources for Psychosocial and Behavioral Health Planning and Preparedness

- Understanding fears and social stigma
- Assessing tools and training

Research has demonstrated that radiation is one of the hazards of most concern to people. Fear can create stress-induced symptoms. These symptoms can mimic the radiation exposure symptoms, such as nausea, vomiting, fatigue, and skin redness. Social stigma complicates recovery and deprives people of social support.

Public health interventions can educate the public about creating safe environments and managing anxiety. Children are at high risk. They may downplay their feelings of stress or fear, but they are more vulnerable than adults.

Rapid Assessment, Triage, and Stabilization (RATS) is a primary intervention tool for calming people and solving problems. PsySTART is a screening system to refer individuals to mental health resources quickly.

Breakout Session: Situational Awareness and Assessment for Decision Makers

- Understanding situational awareness
- Releasing accurate information

Maps and Geographic Information Systems are useful for showing location of the incident, restricted areas, and medical facilities. The Department of Energy’s extensive resources, such as the Aerial Monitoring System and Consequence Management Response Teams, greatly enhance local and state response efforts to obtain timely, accurate information.

Situational awareness is critical to coordinating information coming in to decision makers and going out to the public. The standard is to release information to the public within an hour. The

message must be phrased so the public is able to understand; it must be toned to relieve some anxiety.

Day Two – March 23, 2011

Plenary: Gaps and Useful Practices

- Striving for speed and accuracy in communications
- Making training an ongoing process

Communication always presents challenges; one solution is to be at the site. A spokesperson should acknowledge when answers are not immediately available and indicate a willingness to investigate further. “One of the things I was always asked is ‘What is the worst that could happen?’ The worst that could happen is a meltdown,” said Harold Denton about the Three Mile Island incident. He was Director of the Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, 1978-87. During the incident, he remained at the site, held frequent press conferences, and installed a 24/7 press team with technical expertise to give updates.

Training exercises at hospitals and health care facilities often revealed that staff members have the same fears, anxiety, and lack of knowledge as the general public. As training on equipment increased, staff anxiety decreased. Training is an ongoing process because skills are perishable and staff turnover is frequent. Katherine Uranek, MS, MD, New York City Department of Health and Mental Hygiene, discussed that regional planning allows for metropolitan facilities to share materials and protocols with less-funded rural facilities. People will flee to rural areas if they deem metropolitan areas as dangerous during a major event.

Dedicated volunteers provide valuable service during emergency situations. The professional pool includes certified radiographers, x-ray technicians, medical health physicists, nuclear medicine technicians, and radiation therapists. A registry confirms their expertise and, in Florida they are covered by state liability, discussed John Williamson, MS, Florida Department of Health. Additional training is funded by the CDC Public Health Emergency Preparedness (PHEP) grant, Assistant Secretary for Preparedness and Response (ASPR) Hospital Preparedness Program grant, and Department of Homeland Security (DHS) funding.

Breakout Session: Tools for Managing Patients

- Cultivating resources
- Unifying treatment protocol

Booklets, pamphlets, videos, CDs, and other tools need to be simple and efficient in format. Excellent resources are available through CDC and REAC/TS. Tools should be selected to fit the audience and need.

Regional health institutions need to develop triage measures and decontamination protocol in collaboration. Transportation protocol includes notification of public health department, state police, and hospitals. Medical management protocols need to be universally implemented by partnering facilities.

Breakout Session: Communications Issues Following a Radiation Emergency

- Making communication a priority
- Issuing consistent messages

Communication is an essential component of response to emergencies. Basic tenets include (1) be first, (2) be credible, (3) be right, and (4) be there. Messages need to be clear, concise, and easy to understand. They should be delivered in simple, declarative sentences, consistently delivered by someone the public recognizes as a credible source. A video project under development by the Nuclear and Radiation Emergency Communication Working Group revealed the necessity of using directive authoritative language, prioritized instruction, and tailored messages.

The Public Alert and Warning System is a key communication component. Pre-event education at the community level conveys information without causing undue distress.

Breakout Session: Reception Centers and Sheltering

- Screening people and pets
- Using an integrated approach

People are directed to community reception centers for screening to help prioritize further care. Stations are set up to sort, screen, decontaminate, assess, and discharge. Pets are integrated into planning for emergency events, as dictated by the Federal Pets Act of 2006. Registered volunteers assist emergency management, public health, fire, and law enforcement personnel.

Breakout Session: Keeping First Receivers and First Responders Safe

- Implementing safeguards
- Accessing training

Safety of first responders and victims is the highest priority during the prehospital response to events involving radioactive materials. The Environmental Protection Agency's emergency dose guidelines indicate no individual shall be required to perform rescue actions that might involve substantial personal risk.

Protocols relating to contamination control are taught by REAC/TS. In 2010, more than 2,300 people from around the world attended classroom or webcast training. Roles for first responders are defined, as are responsibilities for employers and employees in the National Council on Radiation Protection and Measurements (NCRP) Report # 165. The NCRP Report Number 165, *Responding to Radiological or Nuclear Terrorism Incidents: A Guide for Decision Makers*, summarizes important recommendations and key decision points for planners preparing responses to radiation emergencies. Benchmarks define acute exposure and fatal cancer risk. Training must include proper use of personal protective equipment, radiation detection equipment, and radiation monitoring instruments.

Breakout Session: Challenges in New Technologies for Communications

- Using social media for emergency communication
- Managing your message on social media

A video presentation showed the shift to social media as a primary channel for communication with many segments of the population. It complements and supports traditional forms of communication and is an important part of an integrated risk communication plan. People use social media sites to send messages to response agencies if they cannot reach emergency help through 911, according to a recent poll. CDC social media tools include buttons, widgets, mobile technologies, and social networks; all tools lead back to cdc.gov for more information. Mobile technologies such as phones and texting encompass a large percentage of the population. Minority populations lead in mobile access.

Social networking requires an allocation of resources to maintain activities on online communities. Social customers expect engagement and interaction. Management and staff should be familiar with using these new avenues of communication so they are proficient when a crisis happens.

Podcasts are useful in framing the message and disbursing it effectively. Twitter is a quick way to get precise information to the public. Social media efforts work best when they include cross-promotion among partnering agencies.

Breakout Session: Epidemiology and Health Surveillance in a Radiation Emergency

- Learning about population monitoring

- Collecting data electronically

A survey led by the Council of State and Territorial Epidemiologists identified gaps in readiness to respond to radiation incidents. Resources and training for response varied widely. Overall state capacities were small; most states relied on federal resources. The 26 states with nuclear power plants have four times the staffing abilities as states without power plants. Most states had no protocols for gathering epidemiological information.

Empire '09, a DOE-sponsored nationwide exercise, employed a radiological dispersal device scenario in three phases: tabletop, simulated real-time field response including community reception centers, and tabletop with facilitated discussion. Valuable information was gathered about the operation of community reception centers. Next steps include increased collaboration with partners and more testing of monitoring systems. Electronic data collection produces real-time transmission results and rapid statistical analysis.

Community Reception Center Demonstration:

- Demonstrate the stations of a community reception center
- Describe the sections, resources, and planning tools

Following a radiation emergency, the impacted population will need to be screened for radioactive contamination, evaluated for radiation injury, and entered into a registry for long-term follow-up. These services are key components of population monitoring, a process that public health and radiation control officials can conduct using a network of community reception centers (CRC).

This tour offered participants an opportunity to walk through a full-service CRC. Participants visited different stations in the CRC – including Initial Sorting, Contamination Screening, Registration, Radiation Dose Assessment, and Discharge – and received a briefing from staff at each station. Staff members also provided demonstrations of radiation screening techniques, discussed key decisions to be made in the CRC, and fielded questions from participants.

CDC and ORISE staff were available at the end of the tour to answer questions and showcase CDC training tools and educational materials for radiation emergency response. The tour lasted approximately one hour, with groups departing every 10 minutes.

Day Three – March 24, 2011

Plenary: Building Partnerships

- Building robust resource networks
- Training professionals and volunteers

Collaboration and partnerships help organizations increase knowledge and leverage resources. Adela Salame-Alfie, PhD, New York State Department of Health, reported on the work of the Roundtable on Communication and Teamwork: Keys to Successful Radiological Emergency Response, sponsored by the Conference of Radiation Control Program Directors (CRCPD), a national, nongovernmental, nonprofit organization dedicated to radiation protection. The roundtable gathered 30 experts in the fields of health physics, hospital preparedness, epidemiology, public health preparedness, risk communication, psychology, and emergency medicine. After identifying gaps, capabilities, and strategies, the group developed an action plan to realize the central goal of expanding radiological preparedness in public health agencies nationwide. The vision included creating a National Alliance of Radiation Readiness (NARR) to promote radiation emergency preparedness throughout the nation. “Our vision is to become a more protected, resilient nation through a comprehensive and integrated approach to radiological emergencies,” said Dr. Salame-Alfie. “We want to serve as a collective voice of health in radiological preparedness through the participation in national dialogues, provision of thoughtful feedback, and convening partners to raise awareness of and solve radiological emergency issues.” The NARR strives to be an online clearing house and disseminator of new tools such as the population monitoring tool now in development.

Radiological partnerships are important because of the diversity of threats. Three key areas of expertise include health care, public health, and emergency management, according to William F. Stephens, MS, Tarrant County (Texas) Public Health. He shared lessons learned from a dirty bomb exercise conducted at Texas Motor Speedway that involved state partners, federal partners, 30 agencies, five jurisdictions, 30 hospitals, more than 300 responders, and 2,500 victims. As a follow-up, medical and mass care response training was held in collaboration with the University of Texas Southwestern National Disaster Life Support Foundation. These efforts have helped pull together partners and resources.

CRCPD seeks to organize how volunteer radiation professionals are recruited, managed, and trained. Training sessions included assisting with population monitoring, sheltering, and performing outreach to other organizations.

Staging exercises to keep skills up to date was viewed as a key part of holding the interest of volunteers, according to Ruth McBurney, MS, Executive Director, Conference of Radiation Control Program Directors, Inc.

Plenary: Funding Opportunities and Challenges

- Identifying multiple sources
- Striving for cost-effectiveness

States have a wide variety of funding sources to cover emergency preparedness programs. Public health directors need to take the initiative to access available funding. Christina Kosmos, MS, Director, Division of State and Local Readiness, Office of Public Health Preparedness and Response, CDC, discussed the PHEP grants that work in conjunction with ASPR hospital preparedness funding.

In using an all-hazards approach, CDC referenced the National Standards for State and Local Planning. It has a description of 15 capabilities and related functions, performance measures, and resources necessary for achieving capabilities. It offers guidance to help public health departments organize work and identify the most pressing need. Stakeholders seek alignment to reduce duplicative and conflicting activities in an effort to use funding wisely. To address accountability concerns, they should be able to measure the effectiveness of their programs.

The State Homeland Security Grant is used to focus on goals and objectives of state homeland security strategies. Metropolitan Medical Response System funds are designed for local government and responders to examine self-sustainment for at least 72 hours as well as an all-hazards approach.

Main Messages

☐ National security depends on health security.

Federal, state, and local resources must collaborate in the development of an emergency preparedness plan. Public health officials must educate the public about immediate actions to take during a catastrophic event, specifically to seek shelter. An educated public can build resilience and improve the nation's ability to recover.

☐ Preparedness plans have improved, but are not adequate.

The United States is more prepared than in previous years. Yet, as a nation, we are not adequately prepared to respond to a major radiation incident, according to an assessment conducted in 2010 by the Council of State and Territorial Epidemiologists. Funding is insufficient to support radiation emergency preparedness. Public health officers look for ways to leverage funding with federal partners.

☐ Emergency facilities must invest in staff training.

Responders and hospital medical personnel need to receive training about radiological hazards so they feel safe in performing their jobs. Staff has the same fears, anxiety, and lack of knowledge as the general public. They will have to shift how they deliver care in order to handle mass casualties. Personnel at command centers must receive training so they can make the right decisions.

☐ Emergency sheltering requires regional collaboration.

Preparedness plans must identify locations for community reception centers and family assistance centers. Protection measures for electrical, communication, and transportation systems must be in place to support operations at these centers. Geographic Information Systems pinpoint location of incident and define impacted region.

☐ Trained volunteers play a large role.

Trained volunteers, including radiation professionals, can lend expertise during a crisis. People will be relying on neighbors and community volunteers for assistance. They will help staff facilities, offer counseling services, locate displaced family members, and monitor contamination levels.

- ☐ Communication must be quick, accurate, and easy to understand.

Communication specialists should be at the site, hold frequent press conferences, and feature staff with technical expertise. Messaging should be in direct authoritative language with prioritized instruction. Social media tools offer real-time messaging to large segments of the population. Communication exercises among partners and constituencies should be held to ensure smooth operation in an emergency situation.

Recommendations

- Conduct training for first responders, hospital staff, mental health staff, public health officials, radiation volunteers, and all other persons who might be called upon to assist in a radiation emergency.
- Incorporate radiation preparedness to all-hazards capabilities development and sponsor exercises to identify gaps and update training.
- Develop more pilot projects to test and demonstrate useful practices that are acceptable and scalable.
- Promote strategic planning between state public health emergency preparedness and traditional radiation personnel to increase collaboration.
- Utilize resources and seek funding from federal, state, and local agencies and organizations to develop radiation emergency preparedness plans.
- Recruit, register, and organize volunteers to assist with medical and radiation-related tasks, such as population monitoring and contamination detection.
- Integrate social media in all communication efforts.

Conclusion

Goals of the conference were met, as evidenced by participation, discussion, networking, and comment cards collected during and at the conclusion of the conference. Participants indicated information garnered at the conference positively impacted their levels of preparedness for radiation emergencies. They sought more opportunities to build regional networks. They expressed a willingness to share expertise and information so more steps can be taken to bridge the gaps in public health and radiation emergency preparedness.

Appendix A

Conference Agenda

**Monday, March 21, 2011
Optional Training Day**

7:30 AM - 8:30 AM **Networking Breakfast** *Pre-function ABC*

8:30 AM – 10:00 AM **Radiation Basics (PC1)** *Ravinia ABC*

Description:

This session will provide an overview of radiation hazards and the public health and medical response to radiation emergencies.

Speaker:

Armin Ansari, PhD, CHP, Health Physicist, Radiation Studies Branch, CDC

10:00 AM - 11:30 PM **Radiation Basics:
Radiation Emergencies and Public Health (PC1)** *Ravinia ABC*

Description:

This session will provide an overview of radiation hazards and the public health and medical response to radiation emergencies.

Speaker:

Armin Ansari, PhD, CHP, Health Physicist, Radiation Studies Branch, CDC

11:30 AM – 12:00 PM **Radiation Basics:
Medical Reserve Corps and Radiation Emergencies (PC1)** *Ravinia ABC*

Speaker:

Sherwin Levinson, MBA, Director, Georgia East Metro Medical Reserve Corps, (MRC GEM)

12:00 PM – 1:30 PM **Lunch (on your own)**

1:30 PM - 4:30 PM **Concurrent Session:
Applied Clinical Management of Radiation Casualties (PC2)** *Ravinia ABC*

Description:

For medical personnel. This 3-hour session will provide detailed information about treating radiation-induced injury and illness.

Moderator:

Doran Christensen, DO, Associate Director and Staff Physician, Radiation Emergency Assistance Center/Training Site (REAC/TS)

Speakers:

Ronald Goans, MS, PhD, MD, MPH, Senior Medical/Scientific Advisor, Radiation Emergency Assistance Center/Training Site (REAC/TS)

David Weinstock, MD, Assistant Professor, Department of Medicine, Harvard Medical School

Doran Christensen, DO, Associate Director and Staff Physician, Radiation
Emergency Assistance Center/Training Site (REAC/TS)

1:30 PM - 4:30 PM

Concurrent Session: *Ravinia EFG*
Tools and Strategies for Public Health Response to Radiation Emergencies (PC3)

Description:

For public health and emergency management personnel. This 3-hour session will provide detailed information about public health response strategies and demonstrate new training and planning tools.

Moderator:

Armin Ansari, PhD, CHP, Health Physicist, Radiation Studies Branch, CDC

Speakers:

Kevin Caspary, MPH, Health Education Specialist, Oak Ridge Institute for
Science and Education

Michelle Podgornik, MPH, Epidemiologist, Health Studies Branch, CDC

Leeanna Allen, MPH, MCHES, Health Education Specialist, Oak Ridge Institute
for Science and Education

6:00 PM - 7:30 PM

Welcome Reception
Market Bistro 55

Tuesday, March 22, 2011
Setting the Stage: Local and State Response

7:30 AM – 8:30 AM **Networking Breakfast** *Pre-function ABC*

8:30 AM – 8:45 AM **Welcome** *Ravinia ABCD*
Charles Miller, MS, PhD, Chief, Radiation Studies Branch, CDC

Speakers:
Thomas R. Frieden, MD, MPH, Director, CDC, Administrator, Agency for Toxic Substances and Disease Registry
Judy Qualters, PhD, Acting Director, Environmental Hazards and Health Effects, National Center for Environmental Health, CDC

8:45 AM – 9:15 AM **Plenary: Why Are We Here? (PL1)** *Ravinia ABCD*

Description:
The lecture will focus on identifying the real threat presented by radiation emergencies. The speaker will discuss the political landscape and how it is not difficult to obtain the materials or to engineer an explosive device. The discussion will emphasize that a radiation emergency will require a multi-agency, multi-discipline response.

Speaker:
Brian Kamoie, JD, Senior Director, All-Hazards Medical Preparedness Policy, White House National Security Staff

9:15 AM – 10:30 AM **Plenary: Setting the Stage (PL1)** *Ravinia ABCD*

Description:
This panel presentation will focus on the federal, state and local efforts to prepare for and respond to a radiation emergency. The role of public health in radiation emergency response and state and local level response initiatives will be showcased.

Speakers:
Judy Qualters, PhD, Acting Director, Environmental Hazards and Health Effects, National Center for Environmental Health, CDC
RADM Nicole Lurie, MD, PhD, Assistant Secretary for Preparedness and Response, Office of Preparedness and Response, U.S. Department of Health and Human Services
Alexander Garza, MD, MPH, Assistant Secretary for Health Affairs and Chief Medical Officer, Office of Health Affairs, U.S. Department of Homeland Security
James Kish, Director, Technological Hazards Division, National Preparedness Directive, Federal Emergency Management Agency, U.S. Department of Homeland Security
Damon Arnold, MD, MPH, Director, Illinois Department of Public Health

10:30 AM – 11:00 AM **Networking Break**

Tuesday, March 22, 2011
Setting the Stage: Local and State Response

11:00 AM – 12:30 PM

Plenary: Public Health Operations and Capabilities (PL2)***Ravinia ABCD***

Description:

The panel will define and discuss the role of public health in the planning and response to radiation emergencies. The emphasis will be on preparedness efforts and response capabilities at the state and local levels and provide examples of how to build radiation emergency response capabilities. Discussion will include similarities to and differences from other public health emergencies.

Speakers:

RADM Ali S. Khan, MD, MPH, U.S. Public Health Service, Assistant Surgeon General, Director, Office of Public Health Preparedness and Response, CDC

James H. Craig, Director, Health Protection, Mississippi State Department of Health

CAPT Narayan Nair, MD, USPHS, Senior Program Officer Deployment

Operations, Office of the Surgeon General, Office of the Civilian Volunteer Medical Reserve Corps

Armin Ansari, PhD, CHP, Health Physicist, Radiation Studies Branch, CDC

12:30 PM – 1:30 PM

Lunch (provided)

1:30 PM – 3:00 PM

**Medical Response Breakout Session:
 Logistical Issues for Medical Response (A1)**
Dunwoody

Description:

The medical response to a mass casualty radiation emergency is complex and requires additional planning efforts at the state and local level. The need for medical personnel, equipment and supplies will often overwhelm state and local capability. Panelists will discuss the delivery of federal assets, including National Disaster Medical System and Strategic National Stockpile as a means of supplementing state and local resources in a scarce resource environment.

Moderator:

Richard Hatchett, MD, Chief Medical Officer and Deputy Director, Biomedical Advanced Research & Development Authority

Speakers:

CAPT Allen Dobbs, MD, U.S. Public Health Service, Chief Medical Officer, National Disaster Medical System, Office of Assistant Secretary for Preparedness and Response, U.S. Department of Health and Human Services

Richard Hatchett, MD, Chief Medical Officer and Deputy Director, Biomedical Advanced Research & Development Authority

Leticia Mathis, Strategic National Stockpile Program Administrator (Former), Office of Emergency Preparedness, Division of Emergency Preparedness and Response, Georgia Department of Community Health

Tuesday, March 22, 2011

Setting the Stage: Local and State Response

1:30 PM – 3:00 PM

Psychosocial, Behavioral and Risk Communication Issues *Ravinia EFG*
Breakout Session: Planning for Psychosocial and Behavioral Health in a Radiation Emergency (A2)

Description:

This session provide an overview of the unique psychosocial and behavioral health effects of radiation emergencies. Emphasis will be placed on the benefit of behavioral health planning, disaster mental health teams and family assistance centers.

Moderator:

Jack Herrmann, MEd., NCC, LMHC, Senior Advisor, Public Health Preparedness, National Association of County and City Health Officials

Speakers:

Rob Yin, MSW, LISW, Manager, Disaster Mental Health, American Red Cross
Sandra Shields, MA, LMFT, CTS, Senior Disaster Services Analyst, Los Angeles County Department of Health Services, Emergency Medical Services Agency
Onora Lien, MA, Health System Response Planner, King County Healthcare Coalition, Public Health – Seattle & King County, Washington

1:30 PM – 3:00 PM

Public Health Operations Breakout Session: *Ravinia ABCD*
Public Health Functions Under Emergency Support Function Eight and the Radiological and Nuclear Annex (A3)

Description:

This session will explain some of the standard assets and additional resources which may be deployed in a radiation emergency. These resources include the Radiation Injury Treatment Network (RITN), Radiological Emergency Medical Management (REMM) website, the White House National Security Staff Improvised Nuclear Device (IND) Planning Guidance, the HHS/ASPR MedMap situational awareness application, a state and local planners playbook that aligns with the ESF 8 IND Playbook, guidance for the allocation of scarce medical resources, and a potential Radiation Laboratory Network (Rad-LN).

Moderator:

Robert Whitcomb, Jr., PhD, CHP, Lead Physical Scientist, Radiation Studies Branch, CDC

Speakers:

John F. Koerner, MPH, CIH, Chief, CBRNE Branch, Division of Preparedness Planning, Office of Preparedness and Emergency Operations, Assistant Secretary for Preparedness and Emergency Operations, U.S. Department of Health and Human Services
Gregory T. Banner, MS, CEM, Regional Emergency Coordinator, Region I, U.S. Department of Health and Human Services
Robert Burhans, Director (Retired), Office of Health Emergency Preparedness, New York State Department of Health
David Allard, MS, CHP, Director, Pennsylvania Department of Environmental Protection, Bureau of Radiation Protection

3:00 PM – 3:30 PM

Networking Break

Tuesday, March 22, 2011
Setting the Stage: Local and State Response

3:30 PM – 5:00 PM

Medical Response Breakout Session: *Dunwoody*
Triage and Screening at Hospitals Following a Radiation Emergency (B1)

Description:

This session will describe radiation detection equipment needs and use in the hospital setting. Techniques used for detecting radioactive contamination will be described and appropriate management of severely injured, contaminated patients will be discussed.

Moderator:

Doran Christensen, DO, Associate Director and Staff Physician, Radiation Emergency Assistance Center/Training Site (REAC/TS)

Speakers:

Donna Earley, MS, Director, Environmental Health and Safety, Cedars-Sinai Medical Center

Robert Feldman, MD, FAAEM, Senior Attending Physician, Assistant Medical Director, Assistant Professor, Department of Emergency Medicine, Cook County Hospital

James J. James, MD, DrPH, MHA, Director, Center for Public Health Preparedness and Disaster Response, Editor-in-Chief, Journal of Disaster Medicine and Public Health Preparedness, American Medical Association

3:30 PM – 5:00 PM

Psychosocial, Behavioral and Risk Communication Issues *Ravinia EFG*
Breakout Session: Tools and Resources for Psychosocial and Behavioral Health Planning and Preparedness (B2)

Description:

This session will discuss available tools and training on mental health and psychosocial issues in a radiation emergency. These tools include training resources developed by NACCHO/APC, CDC, National Center for School Crisis and Bereavement, and the National Center for Child Traumatic Stress.

Moderator:

Steven M. Becker, PhD, Associate Professor of Public Health and Vice Chair, Department of Environmental Health, University of Alabama at Birmingham

Speakers:

Melissa Brymer, MA, MS, PhD, PsyD, Director, Terrorism and Disaster Programs, University of California Los Angeles/Duke National Center for Child Traumatic Stress

Robin Gurwitch, MA, PhD, Professor and Program Coordinator, National Center for School Crisis and Bereavement, Cincinnati Children's Hospital Medical Center

Richard King, PhD, Associate Professor, Health Care Sciences/Emergency Medicine and Director of Education and Research, Section on EMS, Disaster Medicine, and Homeland Security, University of Texas Southwestern Medical Center

Carol North, MD, MPE, Professor of Psychiatry, University of Texas Southwestern Medical Center Department of Psychiatry

Merritt Schreiber, PhD, Director, Psychological Programs, Center for Disaster Medical Sciences, Associate Clinical Professor of Emergency Medicine, University of California Irvine School of Medicine

Tuesday, March 22, 2011
Setting the Stage: Local and State Response

3:30 PM – 5:00 PM

Public Health Operations Breakout Session: *Ravinia ABCD*
Situational Awareness and Assessment for Decision Makers (B3)

Description:

This session will describe the planning considerations that need to be addressed in responding to a radiation emergency. The discussion will describe resources provided by the Federal Emergency Management Agency, the Nuclear Regulatory Commission, and the National Nuclear Security Administration to assist decision makers with situational awareness. Plume modeling and its uses in evacuation and shelter-in-place decision making will be discussed.

Moderator:

William Irwin, MS, MBA, ScD, CHP, Radiological Health Chief, Vermont
Department of Health

Speakers:

James Kish, Director, Technological Hazards Division, National Preparedness
Directive, Federal Emergency Management Agency, U.S. Department of Homeland
Security

Wednesday, March 23, 2011

Current Capacity and Gaps: Local, State and Federal Response

7:30 AM – 8:30 AM	Networking Breakfast	<i>Pre-function ABC</i>
8:30 AM – 10:30 AM	<p>Welcome Robert C. Whitcomb, Jr., PhD, CHP, Lead Physical Scientist, Radiation Studies Branch, CDC</p> <p>Plenary: Gaps and Useful Practices (PL3)</p> <p>Description: This session will highlight practices from state and local public health that have worked successfully to advance radiation emergency preparedness. Communications surrounding Three Mile Island, Los Angeles County's integration of multiple agencies into planning efforts, New York City's Radiation Safety Officer training, and Florida's recruitment and training of radiation volunteers provide examples of useful practices in risk communication, planning, training and staffing.</p> <p>Speakers: Jack Herrmann, MEd, NCC, LMHC, Senior Advisor, Public Health Preparedness, National Association of County and City Health Officials Harold Denton, Director (Former 1978-1987), Office of Nuclear Reactor Regulation, U. S. Nuclear Regulatory Commission Katherine Uraneck, MS, MD, Senior Medical Coordinator, Healthcare Emergency Preparedness Program, New York City Department of Health and Mental Hygiene John Williamson, MS, Environmental Administrator, Bureau of Radiation Control, Florida Department of Health</p>	<i>Ravinia ABCD</i>
10:30 AM – 11:00 AM	Networking Break	
11:00 AM – 12:30 PM	Regional Breakout Sessions	
	<p>Description: There will be 10 parallel sessions for each U.S. HHS region. Participants will be briefed on the initiatives in their region and given specific questions to discuss in small groups about the planning and preparedness initiatives taking place in their areas</p>	
12:30 PM – 1:30 PM	Lunch (provided)	

Wednesday, March 23, 2011

Current Capacity and Gaps: Local, State and Federal Response

1:30 PM – 3:00 PM

**Medical Response Breakout Session:
Tools for Managing Patients (C1)**

Dunwoody

Description:

This panel will discuss tools to assist clinicians responding to a mass casualty radiation emergency.

Moderator:

Doran Christensen, DO, Associate Director and Staff Physician, Radiation Emergency Assistance Center/Training Site (REAC/TS)

Speakers:

Edward J. Waller, MScE, PhD, P. Eng., CAIH, CHP, Associate Professor, Energy Engineering and Nuclear Science, University of Ontario Institute of Technology

Nicholas Dainiak, MD, Chairman of Medicine and Clinical Professor of Internal Medicine, Bridgeport Hospital and Yale University School of Medicine

Ronald Goans, MS, PhD, MD, MPH, Senior Medical/Scientific Advisor, Radiation Emergency Assistance Center/Training Site

1:30 PM – 3:00 PM

**Psychosocial, Behavioral and Risk Communication Issues
Breakout Session: Communications Issues Following a
Radiation Emergency (C2)**

Ravinia EFG

Description:

Communicating with the public is an essential component of a successful response to radiation emergencies. The panel will provide specific guidance concerning communications planning and messaging in a radiation emergency.

Moderator:

Thom Berry, Director, Division of Media Relations, South Carolina Department of Health and Environmental Control

Speakers:

Grant Coffey, Hazardous Materials Team Coordinator, Portland Fire & Rescue

Korey Jackson, MS, Program Manager, L-3 Communications

Frieda Fisher-Tyler, MHS, CIH, Administrator, Office of Radiation Control, Delaware Division of Public Health

Katrina Pollard, Health Communication Specialist, Radiation Studies Branch, CDC

Wednesday, March 23, 2011

Current Capacity and Gaps: Local, State and Federal Response

1:30 PM – 3:00 PM

**Public Health Operations Breakout Session:
Reception Centers and Sheltering (C3)**

Ravinia ABCD

Description:

The state of Florida has a long history of preparing for and successfully responding to natural disasters. Building on this experience, planners in Florida have developed an integrated approach to address the needs of displaced population in a radiation emergency. Topics include mass care and need for monitoring and screening of people and pets in a congregate care facility.

Moderator:

Armin Ansari, PhD, CHP, Health Physicist, Radiation Studies Branch, CDC

Speakers:

John Williamson, MS, Environmental Administrator, Bureau of Radiation Control, Florida Department of Health

Mike Geier, Radiological Emergency Preparedness Planner, Palm Beach County Division of Emergency Management

3:00 PM – 3:30 PM

Networking Break

3:30 PM – 5:00 PM

**Medical Response Breakout Session:
Keeping Receivers and First Responders Safe (D1)**

Dunwoody

Description:

Keeping first responders and first receivers safe in a radiation emergency is vital to radiation emergency response efforts. This panel will discuss plans to safeguard first responders and first receivers, and safely transport contaminated patients.

Moderator:

Carol Iddins, MD, Staff Physician, Radiation Emergency Assistance Center/Training Site (REAC/TS)

Speakers:

Carol Iddins, MD, Staff Physician, Radiation Emergency Assistance Center/Training Site (REAC/TS)

Robert C. Beauchamp, RN, BSN, NREMT-P, Nurse/Paramedic, Radiation Emergency Assistance Center/Training Site (REAC/TS)

CAPT James Spahr, MPH, U.S. Public Health Service, Associate Director for Emergency Preparedness, National Institute for Occupational Safety and Health

3:30 PM – 5:00 PM

Psychosocial, Behavioral and Risk Communication Issues *Ravinia EFG*
Breakout Session: Challenges in New Technologies for Communications (D2)

Description:

This session will discuss the role of social media and networking in emergency communication with the public. The panel will describe CDC's social media toolkit, and incorporation of social media into state emergency preparedness programs, media relations, as well as specific examples of social marketing.

Moderator:

Ann Wright, MA, Director of Communications, Office of Health Communications and Marketing, Arkansas Department of Health

Speakers:

Diane Brodalski, Social Media Specialist, Northrop Grumman Contractor, National Center for Health Marketing, CDC

Kerry Shearer, Social Media & Video Evangelist, Kerry Shearer Communications|Social Media|Video Consulting

Kate Fowlie, Communications Officer, Contra Costa Health Services, Martinez, California

Nick Alexopoulos, Media Relations Specialist, Center for Health and Homeland Security, University of Maryland

Wednesday, March 23, 2011

Current Capacity and Gaps: Local, State and Federal Response

3:30 PM – 5:00 PM

**Public Health Operations Breakout Session: *Ravinia ABCD*
Epidemiology and Health Surveillance in a Radiation Emergency (D3)**

Description:

In this session, recent radiation public health emergency exercises that have integrated epidemiology and urine bioassays to detect internal contamination into the population monitoring process will be discussed, including challenges and lessons learned. Epidemiologic tools being developed for collecting data from Community Reception Centers, hospitals, and other settings will be presented.

Moderator:

Lauren Lewis, MD, Director, Health Studies Branch, CDC

Speakers:

Michael Heumann, MA, MPH, Epidemiologist, Emergency Preparedness Planning & Occupational Public Health, Oregon Public Health Division, Department of Human Services

Neil Muscatiello, MS, Epidemiologist, Bureau of Environmental and Occupational Epidemiology, Center for Environmental Health, New York State Department of Health

Cyrus Rangan, MD, FAAP, Director, Toxics Epidemiology Program, Los Angeles County Department of Public Health

5:00 PM – 8:00 PM

Community Reception Center Interactive Tour***Maplewood Hall***

Description:

Following a mass casualty radiation emergency, public health professionals will play a crucial role in assessing and monitoring people potentially exposed to radiation or contaminated with radioactive material. This process, called population monitoring, will be conducted in community reception centers (CRCs). This tour will allow participants to walk through a mock CRC and learn more about services offered at a CRC, including contamination screening, decontamination, registration, and radiation dose assessment. Preregistration is required and is now closed for this event.

**Thursday, March 24, 2011
Integrated Response: Bringing It Together**

7:30 AM – 8:15 AM	Networking Breakfast	<i>Pre-function ABC</i>
8:15 AM – 9:30 AM	<p>Welcome Robert C. Whitcomb, Jr., PhD, CHP, Lead Physical Scientist, Radiation Studies Branch, CDC</p>	<i>Ravinia ABCD</i>
	<p>Plenary: Building Partnerships (PL4)</p> <p>Description: This panel will discuss the need for national, regional and state and local partnerships to ensure robust planning and response networks for radiation emergencies.</p> <p>Speakers: James Blumenstock, MA, Chief Program Officer, Public Health Practice, Association of State and Territorial Health Officials Adela Salame-Alfie, PhD, Assistant Director, Division of Environmental Health Investigation, New York State Department of Health William F. Stephens, MS, Advanced Practice Center Manager, Tarrant County Public Health Ruth McBurney, MS, Executive Director, Conference of Radiation Control Program Directors, Inc.</p>	
9:30 AM – 9:45 AM	Networking Break	
9:45 AM – 11:15 AM	Plenary: Funding Opportunities and Challenges (PL5)	<i>Ravinia ABCD</i>
	<p>Description: Funding from a variety of sources is available to support radiation emergency preparedness efforts. This session will discuss the funding environment and how these resources can be used for planning and response to radiation emergencies.</p> <p>Speakers: John Erickson, MS, Special Assistant, Public Health Emergency Preparedness and Response, Washington State Department of Health Christine Kosmos, MS, Director, Division of State and Local Readiness, Office of Public Health Preparedness and Response, CDC Christa Singleton, MD, MPH, Associate Director of Science, Division of State and Local Readiness, Office of Public Health Preparedness and Response, CDC RADM Clare Helminiak, MD, MPH, U.S. Public Health Service, Deputy Director for Medical Surge, Office of the Assistant Secretary for Preparedness and Response, U.S. Department of Health and Human Services Donald Lumpkins, JD, Chief, Planning Coordination and Assistance Branch, Federal Emergency Management Agency, U.S. Department of Homeland Security</p>	
11:15 AM – 12:00 PM	Closing Session and Charge to Participants	<i>Ravinia ABCD</i>
	<p>Speaker: Robert C. Whitcomb, Jr., PhD, CHP, Lead Physical Scientist, Radiation Studies Branch, CDC</p>	