The 1\textsuperscript{st} Coordination Meeting of WHO BioDoseNet Network for Radiation Emergencies

07 September 2008 – Hannover NH, USA
Why WHO?

WHO Statute

- WHO has a mandate and a strong expertise in response and preparedness to disease outbreaks and builds on that towards RN events response.
- Unique advantage and best position to work directly with health authorities in our 193 Member States.

Specific mandate on radiation health:

- Develop and promote evidence-based public health policy for Member States that **protect health and reduce risks** from over-exposure to radiation of any origin.
- Provide **medical support and public health advice** in case of radiation accidents or terrorist events.
- Build capacity and provide **technical assistance and information** to support national programs in the field of radiation protection and radiation health.
Shift in Global Security and RN Threats

60-80s:
Cold War

70-90s:
NPP accidents

2000s:
terrorism, BCRN threats

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“Given today’s universal vulnerability to these threats, better security calls for global solidarity. International public health security is both a collective aspiration and a mutual responsibility….The new watchwords are diplomacy, cooperation, transparency and preparedness”

Introductory statement within the World Health Report of Dr. Margaret Chan, Director General of the WHO, August 23, 2007
WHO Vision

The goal:

A more secure world that is on the alert and ready to respond collectively to any threat of public health emergency that represent an acute threat to human life and health

Strategic Objective:

Implementation of an international alert and response system based on strong national public health system capacity, and an effective international system that is prepared to deal with specific threats and to co-ordinate international response
Legal Framework for Radiation Emergency Response

- Two Conventions on Early Notification and Assistance (1987)
- International Health Regulations (2005)
- WHA Resolutions 55.16 and 59.22
The International Health Regulations (2005)

- A legally-binding global agreement to protect public health
- Adopted at the World Health Assembly & binding on 193 WHO’s Member States
- Recently revised on instructions from States to WHO, final draft established by negotiation between Member States
- Entry into force of IHR(2005) - 15th June 2007
- SOPs for IHR implementation, evaluation, reporting
Why a Global Biodosimetry Laboratories Network?

- Global health security as WHO priority area of work
- Change in global threat calls for changes in global response and preparedness
- The system proved sufficient for isolated radiological accidents but mass-casualty type of event
- IHR implementation plan – establishment of global laboratory services directory and network (GLaDNet)
- Biodosimetry is a threat-specific sub-set of GLaDNet
**Global Laboratory Directory and Network - to Support International Health Regulations Implementation**

**GladNet** builds on WHO's long-standing history and extensive experience on laboratory networks in place for various types of clinical, environmental and other laboratories around the world. These networks allow for:

- identifying and mapping of existing resources
- coordination of capacity building process
- encourage applied research between partners for the public good
- Share logistic and knowledge management platforms
GlaDNet - Building Bricks to Link Resources

- WHOCC
- Regional public health institute
- National reference lab
- Private lab
- National lab network
- Regional lab network
- International reference lab
- Expert
- NGO
- Academic institute
Public Health Management of Radiation Emergencies – two key aspects:

- **Public Health**
  - Prevention
  - Preparedness
  - Health care systems
  - Emergency stockpiles establishment
  - Public communication
  - Long-term follow-up

- **Medical**
  - Triage
  - Monitoring
  - Decontamination
  - Treatment
    - Decorporation
    - CRS
    - ARS/MOF
    - Surveillance

Dosimetry is a tool to support decision making.
Emergency Biodosimetry: Gaps

- No universal dosimeter exists for various types of radiation/exposure
- Standardization of methods (giving it a "legal" status)
- Optimization of EPR and cytogenetic procedures for rapid population triage in case of radiological emergency
- Automated processing/imaging/scoring
- Provision for special approaches for dose reconstruction for children-victims may be needed
- Multi-parameter and integrated biological dosimetry tools are needed – integration of molecular bioassays and "conventional" biodosimetry tools for support of radiation casualty management
- Portable in-vivo EPR technique that are sensitive, non-invasive and could support clinical triage of victims, is urgently needed
- Low throughput for any given lab alone, will be over-whelmed in case of emergency
Biodosimetry networks - a solution?

- Benefits of such networks include but are not limited to:
  - Common basis for planning and reagent stockpiling
  - In emergency, streamlined communications may save time
  - Standard protocols for samples handling, processing, evaluation, and interpretation of findings
  - Consistent calibration protocols
  - Common criteria for quality assurance
  - Training and exercises for sustainable expertise
  - Regular inter-comparison programs
  - Sharing consumables (plastic-wear, consumables)

- WHO is the right group at the right time to assist in pulling this effort together because it is first of all a public health issue
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Objectives of the 1st Coordination meeting

- To Agree on policy issues and Terms of Reference for the BioDoseNet
- To agree on structure and appoint Steering Committee
- To identify tasks to refer to Steering Committee/Working Groups
- To develop a list of the activities and agree on the time line of work