



National Institute of Environmental Health Sciences
Your Environment. Your Health.



NIH Disaster Research Response Project

Subcommittee on Disaster Reduction Briefing

March 6, 2014

Disaster Research Can Improve Response & Recovery

- Characterization of hazardous environmental exposures
- Assessment and care of vulnerable populations
- Protection for disaster responders
- Effectiveness of public health interventions & clean-ups
- Health consequences of exposure (Short term & Long term)

NIEHS Role in Disasters

Recent Research and Response Experience

- **Hurricane Katrina**
 - Trained nearly 30,000 workers
 - Created and Distributed 53,000+ booklets
- **Gulf Oil Spill: Deep Water Horizon (DWH)**
 - Responded with ESF 8 Activation
 - WETP training >130,000 workers
 - GuLF Study
 - NIH sponsored Academic-Community Research Consortia
 - NTP information & research on spill-related exposures
- **Hurricane Sandy**
 - WETP Site assessments, site specific training for ~2,000 workers
 - 6 Grantees awarded additional \$1.8 Million for just-in-time training



Intra-NIH Disaster Interest Group

I-DIG

- Partnership between 13 NIH Institutes and Centers
- ~50 participants and subject matter experts representing 23 intramural & extramural programs
- **Goals**
 - Share timely information
 - Build relationships and processes
 - Improve opportunities for collaborations
 - Serve as a discussion platform for actions
- Informal coordination of activities

Current Disaster Research Response = Missed Opportunities

- **Well identified need for disaster research**
 - **Need for Rapid Health Research in Disasters (e.g., H1N1)**
 - **Public Health Emergency Research Review Board (PHERRB)**
 - **National Biodefense Science Board Report (Apr., 2011)**
 - **ASPR/NIH Disaster Research Preparedness Conf. (Sep. 2012)**

“The knowledge that is generated through well-designed, effectively executed research in anticipation of, in the midst of, and after an emergency is critical to our future capacity to better achieve the overarching goals of preparedness and response: preventing injury, illness, disability, and death and supporting recovery.”



Lurie, Manolio, Patterson, Collins, & Frieden. *New England Journal of Medicine*. 368; Mar 2013

Disaster Environmental Health Research Issues

- Ad-hoc, convenience based sampling
- Non-systematic collection of health information
- Late Data: Missing baseline & longitudinal health data
- Exposure data not measured to understand effects
- High risk groups: pregnancy, elderly, pre-existing illness
- Lack of community input



Disaster Research Response (DR2) Project Genesis

Deployment of research too slow & Data is perishable!

- [DWH Oils spill](#)- 9 months to start GuLF Study
- [Hurricane Sandy](#)- 11 months to fund extramural efforts
- **Identified Areas of Concern:**
 - Rapid funding for intramural & extramural investigations
 - IRB and OMB issues
 - Data collection tools (surveys, questionnaires, medical tests)
 - Workforce of trained researchers to respond
 - National infrastructure support for research implementation

DR2 Project Goals to Expedite Disaster Research

Project Timeline Aug. 2013 – Sep. 2014

- Create a central **repository of data collection tools and research protocols** to be used by researchers to get to the field quickly
- New **capability to rapidly collect baseline/early epidemiologic & clinical data and biospecimens** for the research community
- Develop a **“Disaster Research Responder” website** for research community
- **Identify & prioritize health data** needed for disasters
- Create a new **environmental health disaster research response “Network”** that can do research regardless of federal declarations
- **Identify and train** intra/extramural disaster **research responders**
- **Share this model** with others & integrate into HHS and federal **response/recovery frameworks**

Repository of Data Collection Tools

Literature Review

- Search **peer-reviewed** literature to identify **post-disaster** research studies in which research “tools” have been used
 - To identify common research tools used in disaster research
 - To determine which research tools are most widely used in disasters and among disaster types
 - To collect metadata on widely used tools to assist in the selection of tools for new disaster research
 - To create a resource for additional collaborative research
 - To identify gaps in disaster research studies
 - **Over 11,000 articles identified**
 - **~ 450 being evaluated for tools to be included**

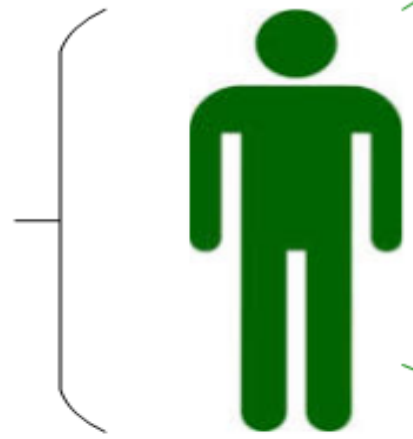
Proposed Disaster Responder Data Collection at Baseline

Demographic (from ATSDR RRR)

- Unique ID
- Name
- Address
- Contact Info
- Employer & Employer Contact
- Age (DOB)
- Gender
- Languages
- Friend/Relative Contact Info
- Ethnicity

Biospecimen Collection

- Blood
- Urine
- Hair
- Toenails



Mental Health

- IES-R
- K6
- BDI

Respiratory

- Spirometry
- ATS-DLD-78
- St. George Respiratory Questionnaire

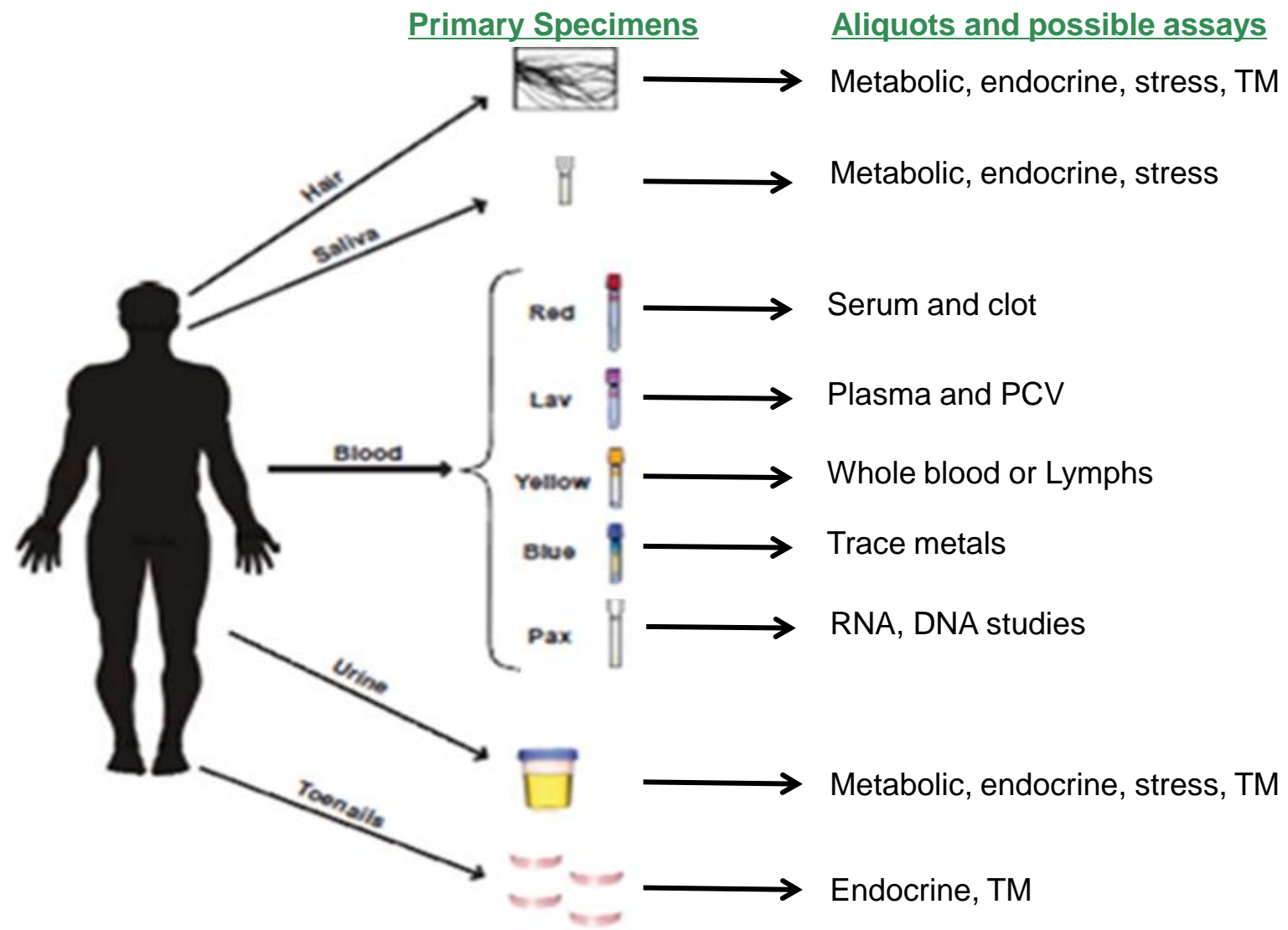
Epi/Env Exposure History

- Pre-Existing Med/Psych Conditions
- Occupational History
- Social/Lifestyle
- Rx and OTC Use
- Immunizations

Sources of Health Assessment Pre-Deployment Screening Tools

- ERHMS
- CDC Responder Readiness Medical Clearance
- DD2795
- Red Cross Pre-Assignment Qx
- Center for Domestic Preparedness

Possible Convenience Specimens

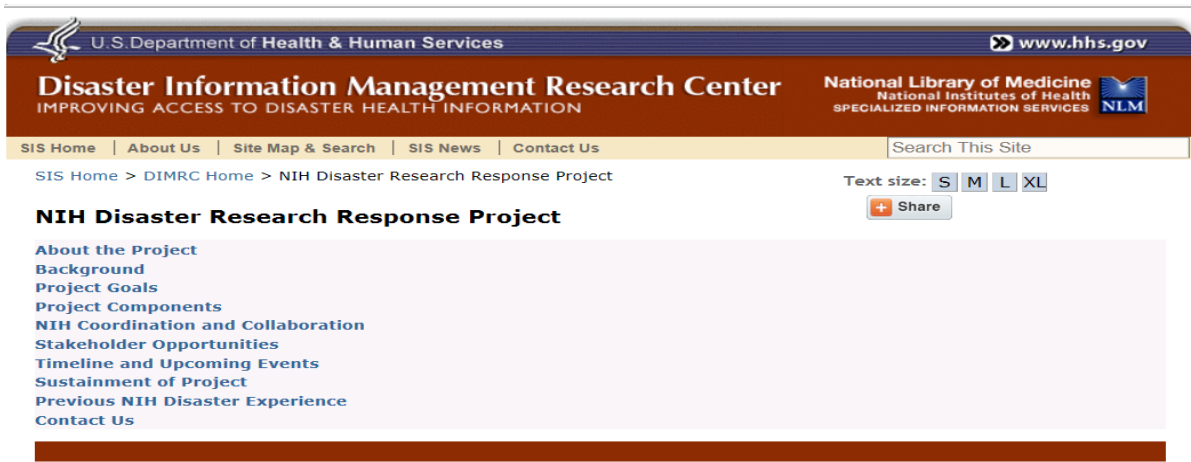




Disaster Research Response Website

National Library of Medicine (NLM)

- **Website to host the data collection tools repository**
- Addition to **Disaster Information Management Research Center**
- **Publically available information** to support research response
- **Facilitates State and Local research** responses in the absence of Federal disaster declarations or other



Environmental Health Research Response Network

- **NIEHS intramural/extramural researchers & stakeholders**
 - Centers, grantees, and academic partners
- **Help develop & prioritize** the tools, website, training materials, & network system for their use.
- **Continuous feedback loop with** the research community to create the products **for** the research community
- **Platform to evaluate & promote** other efforts to improve “research response” infrastructure & processes
- **Platform to engage community involvement** into “research response” planning & efforts to facilitate “citizen science”

Research Responder Training & Integration

- **Training** on national response plans & HHS mechanisms
- **Health & Safety training** on issues relevant to the disaster
- **Training exercises** on identified scenarios & issues
 - Los Angeles table top exercise (April 2014)
 - Utilizes USGS Tsunami Scenario
- **Integration** into nation & HHS response plans
 - Platforms to facilitate response regardless of federal declarations
- **Research Response Workshop**
 - NIH: June 13, 2014



Disaster Research Depends on Integration Into the Existing Response Structure

- Timing of Research Response
 - Earlier the better without interfering with life saving activity
- Researchers must understand disaster environment
- Researchers must work within the HHS response structure
 - Accountability
 - Health and Safety
 - Reporting/Communications
 - Interactions with State/local colleagues
- New efforts for integration of the DRR into HHS plans

Next Steps: Timeline and Upcoming Events

DR2 Project runs through Sep. 2014

- **Project Website hosted by NLM: Under Construction**
- **Table Top Exercise for Research Responders**
 - **April 2014: Los Angeles**
- **Disaster Research Response Workshop:**
 - **June 13, 2014: NIH Bethesda**
- **Publications & Presentations of DR2 process & results: Ongoing**



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THANK YOU! QUESTIONS?

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Project Webpage
<http://disasterinfo.nlm.nih.gov/dimrc/dr2/disasterresearch.html>

