

# NIH Disaster Research Response Project Tabletop Exercise Participant Manual

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February 16, 2015 • Houston, Texas

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## 1. Introduction

Progress in disaster preparedness, response, and recovery is often hampered by the absence of relative scientific data that can guide systems development, protocols and procedures, citizen action, and the use of medical countermeasures. Short and long term health consequences to a variety of exposures often go unknown. Behavioral health consequences have been identified, but preventive and mitigating measures that are needed are not yet fully understood. While there are many reasons for the overall lack of disaster science, a major contributor is the inability to conduct disaster research in the immediate post-disaster period when critical information is most perishable. Public health and medical responders have recognized the need to conduct disaster research for years. While research grants have been awarded to study the aftermath of disasters, such as in the BP Deepwater Horizon Oil Spill and Hurricane Sandy, these research efforts came to fruition only after long periods in time during which protocols were developed and approved by Institutional Review Boards (IRB), and after funding became available. In these instances, local responders were well into the recovery period when these research activities just began. To date, there is not a systematic research infrastructure to support public health and medical investigations following disasters.

In August 2013, with support from the National Institute of Health (NIH) Director and in collaboration with the National Library of Medicine (NLM), the National Institute of Environmental Health Sciences (NIEHS) began to develop a disaster research pilot project. The Disaster Research Response Project (DR2) is an environmental health disaster research system that will provide ready-to-go data collection tools, surveys, forms, and research protocols. These resources will empower a national network of environmental health researchers and members of the public to carry out an immediate research response in the immediate post-disaster period. Refer to the fact sheet for more detailed information about DR2.

In a short time, the DR2 has accomplished several of its goals, including:

- Collecting of environmental health data and offering these data for public use on the NLM website;
- Developing the Rapid Acquisition of Pre- and Post-Incident Disaster Data (RAPIDD) research protocol; and
- Creating the Environmental Health Network, a network of subject matter experts and researchers that can be accessed to engage and support research protocols in disaster response and recovery activities.

DR2 activities currently underway include:

- Obtaining advanced authorization from the NIEHS Institutional Review Board (IRB) to use the RAPIDD protocol and
- Updating the DR2 Concept of Operations (ConOps), a document intended to describe the DR2 and its elements and outline the function of the DR2 as a cohesive,

collaborative program that is consistent with and integrated into the larger response and recovery framework.

The NIEHS and its partners held the first DR2 Project Tabletop Exercise on April 7, 2014 in the Port of Long Beach, California (near Los Angeles). The goals of this exercise were to test and gather feedback on the Concept of Operations (ConOps) and to facilitate DR2 integration with state, local, private, and federal stakeholders. This exercise served to bring together these stakeholders to discuss the process of integrating research responders into the response system. The NIEHS used the resulting feedback to revise the key components of the ConOps. The Major Findings Report can be found on the NIEHS website: [https://tools.niehs.nih.gov/wetp/public/hasl\\_get\\_blob.cfm?ID=10101](https://tools.niehs.nih.gov/wetp/public/hasl_get_blob.cfm?ID=10101).

This year, the NIEHS and its partners will hold the second DR2 Tabletop Exercise in Houston, Texas on February 16, 2015. Like the 2014 Exercise, the format will be a facilitated discussion to consider potential procedures for including a research component in the larger response following a disaster.

This exercise is comprised of two sessions: The morning session consists of a facilitated discussion with all stakeholders to assess and evaluate research capabilities and capacities, identify mechanisms to engage federal partners, and explore future partnerships between all stakeholders. The afternoon session involves an interactive activity where participants will have an opportunity to learn about and provide input to a NIEHS RAPIDD research protocol designed for the rapid collection of baseline information from responders and disaster workers. The format for this session is a simulated enrollment of participants into a comprehensive post-disaster research study and the goal is to allow the exchange of ideas among government officials, academia and community stakeholders on best practices for study operations.

***Important Notices:***

- **Please be aware that notes from this exercise will *not* attribute comments to individuals or agencies.**
- **There will be a videographer on site filming the event.**

## 2. Agenda

February 16, 2015

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8:30 am	<b>Sign-in and Registration</b> <i>The Denton A. Cooley, MD and Ralph C. Cooley DDS University Life Center 7440 Cambridge St Houston, TX 77054</i>
9:00 am	<b>Opening Remarks</b> Linda Birnbaum, Ph.D., D.A.B.T., A.T.S. <i>Director, NIEHS &amp; NTP</i>
9:05 am	<b>Overview of the Disaster Research Response Project</b> Aubrey Miller, MD, MPH <i>Senior Medical Advisor, NIEHS</i>
9:10 am	<b>Introductions/Objectives</b> Kevin Yeskey, MD <i>MDB, Inc.</i>
9:20 am	<b>Facilitated Discussion</b> Kevin Yeskey, MD <i>MDB, Inc.</i>
10:30 am	<b>Break (10 minutes)</b>
12:15pm	<b>End Morning Exercise</b>
12:30 pm	<b>Lunch</b> Sponsored by The University of Texas Medical Branch and the University of Texas Southwest Center for Occupational and Environmental Health
1:30 pm	<b>Evaluation of the RAPIDD Protocol</b> Steve Ramsey, MPH and Richard Rosselli, MPH <i>Social and Scientific Systems, Inc.</i>
3:20 pm	<b>Final Remarks</b> Aubrey Miller, M.D., MPH <i>Senior Medical Advisor, NIEHS</i>
3:30pm	<b>Conclusion of DR2 Project Exercise</b>

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## 3. Overall Concepts

### 3.1 Goals and Objectives

#### Morning Session

The goal of the morning exercise is to hold a facilitated discussion using a realistic scenario that enables participants to meet the following objectives:

- Assess the local and state capability to identify and prioritize human health research needs in the immediate post-disaster and recovery timeframes;
- Consider the state and local capacity to conduct environmental health research in the immediate post-disaster and recovery timeframes;
- Identify stakeholder relationships and opportunities for collaboration among academia, government, business, and community groups to develop and implement environmental health investigations;
- Identify the mechanisms and frameworks by which NIEHS and NLM research resources can be requested and integrated into disaster response and recovery activities conducted by local and state officials; and
- Explore how academia and non-governmental organizations can be integrated into disaster health research efforts so these groups may undertake the steps needed for successful and translatable research outcomes.

#### Afternoon Session

The goal of the afternoon exercise is to utilize interactive techniques to efficiently share details about the NIEHS Rapid Acquisition of Pre- and Post-Incident Disaster Data (RAPIDD) research protocol in order to obtain meaningful input from possible end users. Specific objectives for the afternoon exercise include:

- Increase awareness of NIEHS DR2 resources;
- Evaluate planned recruitment strategies and optimal ways to integrate disaster responder research into disaster response;
- Examine the incentives and barriers to participation among prospective RAPIDD study participants;
- Evaluate the RAPIDD informed consent process and assess participant understanding of research methodology; and
- Obtain feedback from prospective disaster researchers and participants on proposed RAPIDD research protocol.

## 3.2 Logistics

### *Pre-registration*

Pre-registration is free, but required. Register at: [http://www.michaeldbaker.com/conferences/?action=evregister&event\\_id=2](http://www.michaeldbaker.com/conferences/?action=evregister&event_id=2).

### *Parking*

Parking is available for \$10 at the surface parking lot across the street from the Cooley Center. The entrance to this parking lot is on E. Street. Take a ticket. You will need this ticket to pay at the end of the day. Unfortunately, we are unable to validate parking.

### *Sign-in*

The sign-in desk at the Cooley Center will open at 8:30 am. An exercise representative will be available at the entrance of the Cooley Center to direct you to the conference room. Please sign-in, and collect your nametag and a folder containing materials for the exercise. Staff members can be identified by their nametags.

The exercise will begin promptly at 9:00 am.

### *Seating*

Seating assignments will be provided on the cover of your meeting folder. Please sit at your designated table. Please do not change tables without first discussing that with one of the exercise facilitators at the sign-in desk.

Staff members will be available to usher participants to their seats.

Participants seated at the main (U-shaped) table will make decisions regarding the operation of research responders.

The floor plan will look similar to Figure 1.

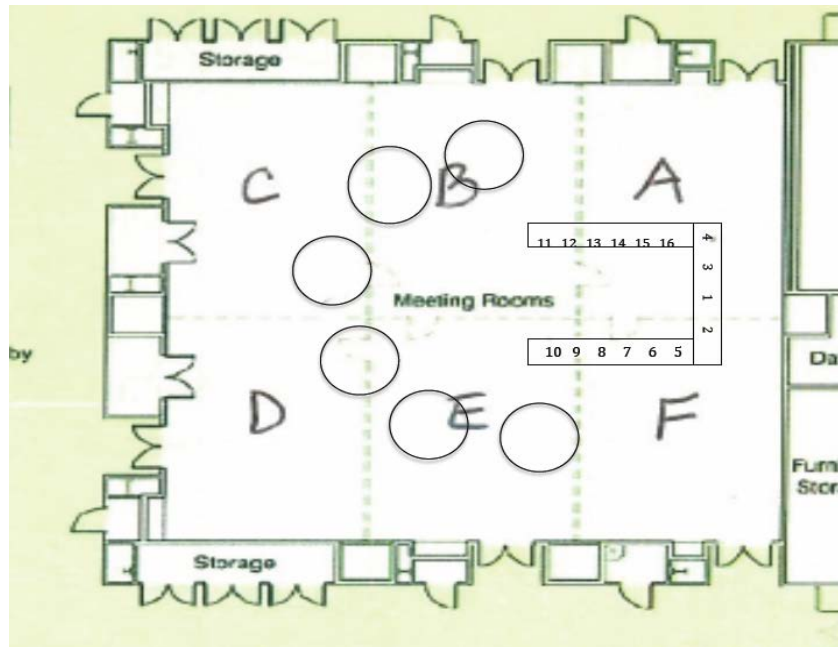


Figure 1. Proposed seating floor plan.

### 3.3 Morning Session Instructions<sup>1</sup>

#### *Participants' Roles and Responsibilities*

For the morning exercise, participants will represent their organization. For instance, employees of the local department of public health will assume their roles as public health officials, and they will participate as representatives of that department. Participants may be asked questions that relate to their role in their organization, and they will be expected to contribute to the discussion as such. Participants should feel free to speak with other tables to ask questions, clarify information, or share ideas.

#### *Facilitated Discussion*

Participants are strongly encouraged to come prepared by reviewing the materials prior to attending the exercise. Please thoughtfully consider the objectives, injects, and questions. Also, keep in mind that the discussions may vary from the printed questions. The questions provided in this document serve to initiate discussion with the hope of sparking a robust dialogue that helps define processes and enhance key relationships across organizations, disciplines, and jurisdictions.

A facilitator will lead the discussion by skillfully posing questions about state and local resources, capabilities and capacities, requests for assistance, use of research protocols,

<sup>1</sup> Information pertaining to the afternoon session, "Evaluation of the RAPIDD Protocol" will be provided separately.



and fundamental disaster research related policies, procedures, and protocols. While the majority of the questions will be directed towards the main table, in order to keep the conversation flowing, the facilitator (or main table participants) may refer questions to the experts at the round tables. Main table participants are encouraged to consult with back tables, as needed. At times, the facilitator will present impromptu situations and questions that require participants to consult with other organizations.

It is important to remember that the objective of the exercise is not to focus on finding a single answer to the questions. Rather, we are interested in talking through the process of identifying procedures, resources and relationships that can be used to respond to and recover from disasters and we expect that discussions may lead to further questions.

Participants at the round tables should pay attention to the discussion on the main table, as it may affect future actions of their organization.

#### *Evaluation Survey and After Action Report*

In your packet, you will find an evaluation survey. At the conclusion of the morning exercise, please complete the survey and turn it in to any staff member or leave it at the sign-in desk. The NIEHS will use your input to enhance the DR2 Project as well as future exercises. Following the exercise, the NIEHS will prepare and distribute an after action report.

## 4. Exercise

### 4.1 Scenario

#### Main Event:

A Category 4 hurricane made landfall during high tide at the northern end of Galveston Island in Texas. Winds of 145 mph caused a 20-foot storm surge up the Houston Ship Channel, flooding multiple storage tanks and causing several barges to crash into each other and into the storage tanks. This resulted in oil and chemical leaks, and widespread fires. Areas for many miles inland were also flooded, and major infrastructure, including major roads, were severely damaged. Power outages are also widespread.

Many members of the nearby community were evacuated prior to the landing of the storm. Flooding also moved into nearby communities, carrying debris, chemical residue, and sediments into the homes of the community. Smoke plumes caused by the fires also traveled into the nearby community. Schools, hospitals, and major public venues are closed due to severe damage, inaccessibility and a lack of electrical power.

#### *Assumptions:*

- Roads have been blocked due to flooding and debris.
- Electrical transformers were damaged due to the flooding, and major roads to the transformers have been blocked by debris.
- Local first responders, including firefighters and police officials, report to the scene of the event.

#### *CAVEATS*

- There are artificialities built into the scenario that are designed to ensure flow of the exercise. We encourage you to not “fight the scenario.” The scenario is only an example being used to facilitate the exercise.
- Injects will be added as the scenario progresses. They will be used to promote specific actions and decision by the participants.
- These questions serve as the “first line” of questions, however follow on questions not listed below are likely to be asked as the scenario moves forward.
- There are no “gotcha” questions. Questions are designed to stimulate discussion and usually have no single correct answer.

#### Timeline of events:

##### *24 Hours-72 Hours:*

- Large dark plume of smoke; strong chemical smell has been reported one mile north of the Texas City area from scene of accident.
- Widespread power outage.
- Evacuees are sheltered at schools and community centers not in flood risk zone.

- Wind patterns blow toward the shelters.
- Heavy debris and sediment found in areas where flooding occurred—affecting homes and businesses.
- People in the shelters, as well as nearby communities, complain about multiple symptoms, primarily mild respiratory and dermatological distress. Local first responders have reported that they have developed additional symptoms as well. Reports of strong chemical smells continue.
- Heavy debris and floodwater are still found in the impacted area.
- Sightings of sick and dead animals have been reported.
- Local emergency agencies receive reports of oil and chemical spills and contamination inland, particularly in flooded areas.

*72 Hours -2 weeks:*

- Floodwaters have retreated. Power remains out in majority of the areas. Vehicle travel remains slow due to a lack of working traffic signals.
- Major debris has been removed from some major roads, but roads remain unsafe and closed to public.
- A large amount of storm debris needs to be cleared and managed. There are an insufficient number of skilled and trained workers available to conduct these activities.
- In addition, skilled workers are needed to clean up oil and chemical contamination on sea and on land.
- As the days unfold, day laborers, unskilled workers, and well-meaning volunteers wanting to help with the recovery appear at congregation points, such as water distribution centers, throughout the damaged area.
- Reports of sick and dead animals continue.

#### **4.2: Phase I. Determination of Research Priorities**

*Situation Report: After 2 weeks*

- Homeowners and remediation workers are noting increase in mold and ask the environmental health agencies whether or not it is safe to remove mold-contaminated items (i.e., sheetrock, furniture, carpeting) from houses and businesses.
- Local hospital emergency departments and poison centers experience an increase in call volume specific to complaints of respiratory, gastrointestinal, and neurologic symptoms.
- Refinery workers and cleanup workers experience similar symptoms.
- Physical injury reports (and subsequent visits to emergency departments) increase as homeowners and business owners begin to repair their damaged properties (i.e., install tarps on roofs, remove fallen trees by using chain saws) without proper protective equipment or experience.
- Commerce continues to be slow, as many businesses, especially small businesses, remain closed due to storm damage and power outages.

- Some major roads have been opened.
- Power has been restored to 50%.

### Assessing Needs and Establishing Priorities

- What mechanisms are in place to assist with determining health issues?
- What processes are in place to identify research needs and priorities?
- How would this be coordinated?

### Preparing for Research

- Is there a process to identify research resources?
- How quickly can research personnel rosters be assembled?
- How quickly can research protocols be developed and approved?
- Are there standard procedures for data management, risk communications, bio-sample storage, and archiving of health information?

### Partnership

- What are the opportunities for collaboration?
- Who coordinates this?
- Is there an established mechanism?

### Decision to Engage

- At what point is the State/local capacity exceeded to conduct research?
- What factors are weighed by NIEHS before engaging in post-disaster research?
  - What are the mechanisms by which NIEHS officials contact State, local, private and nonprofit organizations?
  - What are the mechanisms for these groups to contact NIEHS?
- How are NIEHS efforts coordinated with other HHS response/recovery efforts?

Inject: Governor Abbott and President have made disaster declarations. The U.S. Department of Health and Human Services (DHHS) has received a Mission Assignment from Federal Emergency Management Agency (FEMA) to provide public health and medical response services. Mission Assignments are procedural tools by which governmental agencies may receive a wide variety of support and services. To learn more, visit <http://training.fema.gov/is/courseoverview.aspx?code=IS-293>.

### 4.3: Phase II. Accessing Federal Research Resources

#### *Situation Report:*

- The Texas Poison Control Network experiences an increase in calls regarding respiratory complaints, skin rashes, and headaches.
- Hospitals are reporting increases in visits by children for asthma and asthma-like signs.
- Worker organizations and unions are reporting increased complaints of workers for headache, skin rashes, and cough.
- Communities are concerned about the safety of the water supply and exposure to flood waters.

Inject: The increasing reports of serious health effects prompted the Texas Department of State Health Services an urgent need to identify the circumstances surrounding exposures (i.e., the exposure agent, route of exposure, known health effects). Community leaders and workers ask the following questions:

- What is in the plume caused by the fire and is it dangerous?
- What is in the sediments left by the flood and is it harmful to human or animal health?
- What other hazards might be present? How likely and dangerous might exposure to these hazards be?

State and local public health departments are still investigating acute and immediate health concerns of the community. State and local public health agencies are responding to the health concerns expressed by the public with limited resources and with personnel who were impacted by the storm. Attempts to coordinate with other agencies at different levels of government and with nongovernmental organizations are limited, but moderately successful.

#### Research Resources

- What resources does NIH have to offer in support of State and local research efforts?
- What is the process by which the State can request federal post-disaster research assistance?
- How does the NIEHS coordinate with academic institutions?
- How will the NIEHS Disaster Research be integrated into the State and Local response?
- How would State and local departments implement federal research protocols, such as RAPIDD?
  - Will federal IRB approved protocols be readily accepted?
  - If not, what can be done to speed the process up (e.g., reliance agreements)?
  - Other challenges?
- How can tools and resources, such as the NLM Disaster Response Data Collection Tools, be integrated into the response?

Inject: Based on identified top research priorities, the research responders have been tasked to collect baseline both environmental and human data for future analysis.

- Who would be the target population for your stakeholders and how will access to this population be obtained?
- What types of information would be collected?
- How would the information be collected from this population?
- What will be done with the collected data?
- How are research responders trained to use the protocols?
- How will you choose what research protocol to use?

**Inject:** Communities are wary of the “research” that will be conducted.

- How will coordination be done with local health departments, communities, and private sector?
- How can community leaders, civic groups, faith organizations and other nongovernmental organizations be integrated into the research efforts?

#### **4.4 Phase III. Continuation and Sustainability**

**Inject:** Data and specimen collection begins to wind down. Communities are still asking about the results of the analysis.

##### Sustainability

- How do results get shared with the various stakeholders?
- How would new and existing collaborations be made and continued?
- How would NIEHS coordinate longer-term study? How can communities, states, locals, businesses, and other stakeholders be engaged?

**Inject:** A university with community partners requests access to the data and samples for a research project. The university researchers prepare to submit a protocol to their IRB.

##### **Protocol Management**

- Who owns the data? Where and under what security conditions are the data stored? Who will manage the data before, during and after the project?
- How are the biosamples accessed by non-federal researchers?
- How is the exposure data accessed by non-federal researchers?
- How is follow-up and analysis of data conducted?

## Annex

### 1. List of Acronyms

ASPR	Assistant Secretary for Preparedness and Response, HHS
ConOps	Concept of Operations
COEC	Community Outreach & Engagement Cores
DR2	Disaster Research Response Project
ED	Emergency Department
HHS	US Department of Health and Human Services
IRB	Institutional Review Board
MSEL	Master Scenario Events List
NDMS	National Disaster Medical System
NIEHS	National Institute of Environmental Health Sciences
NIH	National Institute of Health
NLM	National Library of Medicine
PH	Public Health
PHERRB	Public Health Emergency Research Review Board
POC	Point of Contact
RAPIDD	Rapid Acquisition of Pre- and Post-Incident Disaster Data
REC	Regional Emergency Coordinator
SOC	HHS Secretary's Operations Center
TTX	Tabletop Exercise
WTP	Worker Training Program; an Extramural Program of NIEHS