National Institute of
Environmental Health Sciences

Disaster Research Response Project Tabletop Exercise

Evaluation Report
Houston, Texas

TABLE OF CONTENTS

INTRODUCTION

In recognition of an increasing need for the ability to conduct timely health research in the immediate post-disaster time period, the National Institute of Environmental Health Sciences (NIEHS), in collaboration with the U.S. National Library of Medicine (NLM), started the National Institutes of Health (NIH) Disaster Research Response (DR2) Project in August 2013. The vision of the DR2 Project is to create a dynamic and interdisciplinary test bed of products, processes, and enhanced relationships that will improve our capabilities to perform timely health research in response to disasters and emerging threats. The goal of these efforts is to further empower a broadly defined research community (e.g., local and state health departments, academicians, federal agencies, and citizen-engaged scientists) to work together to perform health studies to address identified issues of concern that will prevent injury and illness, support recovery, and facilitate future preparedness.

DR2 Project objectives include:
- Identification of important research questions and priorities
- Improved access to data collection tools for researchers
- Improved NIEHS and partner capability to quickly collect data
- Trained researchers versed in disaster tools and issues
- Integration into planning and emergency response systems
- Define a research process including public health, academia, and impacted workers and communities

This fast-paced effort has produced a number of accomplishments to date, including:
- Development of a new repository containing more than 165 relevant tools, questionnaires, and protocols, along with metadata to facilitate data collection and research for environmental health issues

- Creation of a publicly-accessible _DR2 Project Web page_ to facilitate information sharing with partners and access to the repository
- Development of a new NIEHS disaster response protocol, referred to as the Rapid Acquisition of Pre- and Post-Incident Disaster Data (RAPIDD), to help facilitate timely Institutional Review Board (IRB) review and deployment of researchers to acquire health information and biospecimens

NIEHS has also made extensive efforts to engage various federal partners and other stakeholders in this project through meetings, workshops, webinars, and tabletop exercises. A tabletop exercise (TTX) is intended to bring together a diverse group of stakeholders to work through a scripted disaster scenario, while focusing on the potential research needs, and more specifically on the various study instruments (e.g., surveys, tools, consent forms); processes and logistics (e.g., IRB approvals, integration into emergency response operations, safety training); and relationships (e.g., state and local health officials, emergency managers, area academicians, industry, organizations representing potentially impacted communities and workers) necessary to initiate and sustain needed research investigations. Tabletop exercises also provide an opportunity for NIEHS to gauge stakeholder interest in the DR2 Project and to gather feedback regarding the various DR2 Project strategies, activities, and products. The _LA TTX_ was held in Los Angeles, California, in April 2014, and focused on a tsunami scenario that involved the ports of Los Angeles and Long Beach and the surrounding area. The Los Angeles TTX convened more than 130 participants representing academia, state,

> NIEHS has also made extensive efforts to engage various federal partners and other stakeholders in this project.

local and federal government, community advocates, and the private sector.

This report focuses on the second TTX, which was held in Houston, Texas, on Feb. 16, 2015. The Houston TTX focused on assessing stakeholder perspectives on the relative importance of timely health research; the challenges of performing research in the immediate post-disaster period; and the value of DR2 Project strategies, concepts of operation, and intended products, including user-friendly tools such as the RAPIDD research protocol and the new NIH DR2 Project website, developed to support timely disaster research responses.

TABLETOP EXERCISE

The Houston TTX was organized by a planning committee, which met monthly to develop objectives and a reality-based scenario with injects that facilitated discussion of the exercise objectives. The city of Houston was selected as the host site due to the interest of local disaster researchers, availability of a suitable venue, willingness of the state and local health departments, and the region's experiences with frequently occurring natural disasters. The Houston Ship Channel was included in the scenario because of the high density of chemical and petroleum industries and the existence of multiple fence-line communities surrounding the ship channel.

Materials created for the exercise included:
- A participant manual
- An evaluation tool
- Scenario briefing slides
- The RAPIDD protocol

Pre-TTX Engagement

During the months preceding the TTX, periodic teleconferences were held with local organizers and the planning committee. These teleconferences included representatives from the University of Texas at Houston (UTH), the University of Texas Medical Branch (UTMB), the Texas Department of State Health Services, the SouthEast Texas Regional Advisory Council, Harris County Public Health and Environmental Services, the Harris County Office of Homeland Security and Emergency Management, U.S. Department of Health and Human Services (HHS) Office of the Assistant Secretary for Preparedness and Response (ASPR)

Region 6, and the Galveston County Health District. Additionally, two weeks before the TTX, Aubrey Miller, M.D., (NIEHS) and Kevin Yeskey, M.D., (MDB, Inc.) conducted a site visit to meet with local organizers and the planning committee to review site logistics and finalize exercise plans and materials.

Format

Similar to the Los Angeles TTX, this exercise brought together participants from academia, government, and the local community. Additionally, this TTX included representatives from industry and local emergency responders to broaden the stakeholder engagement. The exercise was divided into two components — a tabletop exercise in the morning (91 participants) and a discussion on the NIEHS-created data collection research protocol, RAPIDD, in the afternoon (58 participants). A list of TTX participants and their organizations is provided in Appendix B.

Goals and Objectives

The goals and objectives for the day included:
- TTX
  - Determine state and local disaster research capabilities
  - Determine state and local ability to prioritize research needs
  - Explore ways to access federal research resources
  - Explore existing and potential response and recovery relationships

- Explore how nongovernmental organizations (NGOs) and academia can be engaged in disaster research

- RAPIDD protocol review
  - Increase awareness of NIEHS DR2 Project 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
  - Obtain feedback from prospective disaster researchers and participants on the proposed RAPIDD research protocol

Scenario

The exercise scenario was based on previous hurricanes that have landed in the area, including Hurricane Katrina and Ike and projections from the *Severe Storm Prediction, Education, and Evacuation from Disasters Center*. The scenario portrayed a Category 4 hurricane making landfall during high tide at the northern end of Galveston Island. 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 were 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 were closed due to

severe damage, inaccessibility, and a lack of electrical power.

Exercise Day

The first session was a discussion based on the above scenario. A panel representing key leaders from government, academia, and the private sector were presented with questions related to the conduct of post-disaster research to determine the short- and long-term health impact. Ninety-one people attended the 3.5-hour exercise. A head table representing 15 key stakeholders was posed with a variety of scenario changes, injects, and questions to stimulate discussion around the objectives. A diagram of the seating arrangement is provided in Appendix C. Other stakeholders participated from other tables in the room. All comments were considered non-attributional.

Table: Demographics breakdown for the exercise

Demographics	Percentage Attended N=91
Academic	25
Community	5
Contractor	7
Local agency	8
State agency	10
Local Office of Emergency Management	10
Federal	14
Industry	5
Police	9
Worker organization	7

The second phase of the exercise was a discussion of the NIEHS RAPIDD protocol, with participants providing immediate input on the design, data collection tool, and their general reactions and acceptability of the protocol. In this session, participants were presented the research protocol and then asked questions regarding their comprehension of the protocol and their potential willingness to participate in research as outlined in the protocol. There were 58 attendees for session two.

The TTX was video and audio recorded and notetakers were present. A written transcript was created from the audio recording.

Observations from the TTX

Following each session, participants were asked to complete an evaluation. Responses were gathered in person and electronically using Survey Monkey. The following are suggestions and comments offered by participants during the TTX based on the various topics that were discussed.

Best Practice Suggestions

Local engagement

- Need to understand disaster impacts, including health impacts in the context of the local area where people live, work, and play
  - Understanding the economic, social, and health impacts are crucial to determining the response and recovery priorities of a local community following a disaster
- Training of vulnerable communities (UTH is starting summer 2015)
  - Vulnerable communities should be prepared to take protective actions following disasters, and to assist in the response and recovery
- Community-based participatory research — UTMB
  - Integrate communications networks with communities that help identify community issues following disasters, assist in communicating public health issues to the community, and break down communications silos across organizations so communities receive coordinated assistance when needed

Data collection

- Use of UTH epidemiology students as surge staff
  - Academic organizations can train and use their students as surge staff to collect data, perform assessments, and assist with other components of a research protocol

- UTH deployed students after Hurricane Katrina
- Use of emergency medical services (EMS) and law enforcement to help identify exposures and exposed populations
  - Law enforcement and EMS are deployed immediately after an event, and while their first duty is to protect and preserve life and property, they are capable of collecting preliminary information on possible exposures and health impacts if they know the issues of concern in advance
    - Give them the tools to collect data in advance and they can help focus efforts on places they feel are impacted the greatest
- Use of *Voluntary Organizations Active in Disaster* (VOAD) to collect data
  - VOAD members can help collect data but need to be concerned about perspectives of victims being part of a research project and their privacy
- Hospitals can be actively surveyed to determine what types of cases they are treating, how many, and from what region they originate
  - Hospitals have concerns about the Health Insurance Portability and Accountability Act (HIPAA) and IRB approval
    - Even if a protocol is IRB-approved, they still may not participate over issues of privacy and HIPAA

Collaboration

- Emergency management and public health have effective near real-time communications
  - Emergency management needs to have two-way communications with public health to be effective in addressing health needs and managing resources
    - Houston sets up a phone bank and triages health-related calls to the health department, so community needs are addressed quickly
- Provide local access to national environmental health labs at the Centers for Disease Control and Prevention and NIEHS

- State and local labs don't always have the resources to determine chemical contaminants in the post-disaster environment
- Businesses don't compete around health issues or emergency response; they share plans freely because there is no competitive advantage to not doing so
  - Businesses need to be invited to the preparedness planning meetings and as part of the response and recovery efforts
  - Large business will be responsible for their workforce health needs but can feed information to public health on toxins and other environmental hazards that might expose communities

Research protocols

- Pre-approved protocols, data collection forms facilitate the rapid initiation of research investigations

- Data sharing agreements written in all protocols in advance prevent issues with data sharing later in the research process

Integration of research

- Making research part of public health practice
  - Because the term "research" is often met with community resistance, research must be integrated into public health practice, and inform short- and long-term public health interventions directed at identifying, mitigating, and preventing health impacts from exposure

CHALLENGES

Administrative

- Rapid funding remains a problem
- IRB approval in a timeframe that supports early research
  - IRB approvals can take months, so having templates and pre-approved protocols can help, although many local organizations still require local approval
- Including research in a Federal Emergency Management Agency (FEMA) mission assignment and getting it approved
  - Wording mission assignment such that they address broad public health missions may improve chances for FEMA approval
    - "Support to gather baseline data to evaluate health effects"
  - Research related to short-term response issues have the best chance of FEMA acceptance

- Federal policies are not always coordinated or integrated in a way that is useful at the local level
  - Disjointed and broad guidelines do not always make sense at the local level, so better coordination and communication across federal agencies is needed to help establish priorities and resources available to locals
- Training physicians in environmental health issues
  - Most providers are not familiar with environmental health issues, terms, or processes and thus are not able to recognize and manage exposed patients

Deployment

- Data collection when first responders and researchers are also victims

- The disaster workforce is degraded because many of them have experienced personal impact from the incident
- How to use mobile and digital technology to engage populations
  - Need to better understand how to use technology in communicating with and engaging affected populations
- Engaging hospitals in disaster research
  - HIPAA and IRB challenges — hospitals are sensitive about patient privacy
  - Also need hospital institutional support even if IRB has approved a protocol

Study development

- Use of the term "research" following disasters may be unacceptable to many communities
  - Many people will reject being part of a research project, but will engage if it is called something more palatable and they understand it will help address their issues
- Determination of research needs at the onset of a disaster
  - Communities find prioritization of needs a difficult process
    - Need to develop processes to assist communities with this
- Advance preparations for research to be done and determining baselines for health impact
  - Gathering baseline health and exposure information is an essential component of any protocol, but it is difficult to obtain in the post-disaster time frame

Evaluation

Participants were asked to provide input on each session. They were given a written evaluation which asked them to evaluate various components of the session, including whether the exercise met the stated goals. Participants were also provided the opportunity to provide input via an online survey tool. Using a Likert scale, participants were asked to rate the meeting logistics, the exercise (including venue and facilitation), and whether the objectives of the exercise were met on a scale of 1 (strongly disagree/objective not met) to 5 (strongly agree/objective met). Participants also had the chance to provide qualitative written comments regarding the mentioned topics. Additional time was provided to permit a greater number of participants the opportunity to submit feedback.

For the morning TTX session, 48 of 91 (52 percent) participants completed the questionnaire. For the afternoon research protocol session, 28 of 58 (48 percent) participants completed the evaluation survey. At the conclusion of the afternoon session, participants who were interested in providing input into future DR2 Project activities (e.g., exercises, committee participation, feedback on DR2 Project materials) were asked to complete an interest card with their contact information. A total of 23 afternoon attendees (40 percent) completed an interest card expressing interest in participating in at least one future planned DR2 Project activity.

The demographic breakdown of respondents is as follows:

Demographic	Percentage Respondents	
	A.M. Session (N=48)	P.M. Session (N=28)
Worker representative	8.1	4.2
Academia/Researchers	35.1	20.8
Federal agency	8.1	12.5
State agency	16.2	20.8
Local agency	13.5	20.8
Community	8.1	8.3
Other	10.8	12.5

RESULTS AND ANALYSIS

Responses were analyzed and summarized for each question. Detailed feedback is provided in Appendix A. Positive feedback included:

- The exercise brought together a diverse multidisciplinary group of stakeholders to discuss important and valuable information.
- The exercise provided important resources and information to the participants, including interagency expectations and collaborations.
- Hearing the challenges and concerns that others face in disasters and research was very valuable.
- Participants valued how the exercise opened the door for potential partnerships, including partnerships for training and equipment for first responders.
- Participants were excited about the concept of disaster research and a potential disaster research "mission assignment."

Suggestions for improvements for future exercises included:

- Participants noted that there was limited interaction among the round tables.
- Participants noted the lack of time for discussion.
- One participant noted the missed opportunity in real-time discussion of local agencies and organizations to interact and walk through the scenario to discover new avenues of collaboration.
- The exercise provided too much abstract discussion rather than using the details of the event to drive the discussion. Too much time was spent on capacities.
- One participant noted the lack of discussion on tangible next steps.

DISCUSSION

Overall, the return rates for the surveys were acceptable (52 percent and 48 percent respectively for the morning and afternoon sessions). Although the return rates were close to 50 percent for each session, it should be noted that the returned evaluations may not be representative of the full groups. The percentage of participants affiliated with an academic institution who completed the survey dropped from 35 percent in the morning session to 20 percent in the afternoon session. Another group with a notable drop was local governments (20 percent in the morning to 13 percent in the afternoon session). Other groups had minimal percentage drops in representation.

Several conclusions can be drawn from the survey results. In both sessions, the venue and the facilitation were viewed positively by the participants. As in all exercises with a large and diverse audience, full engagement of all participants is difficult. In this format, meaningful interaction between the head table and the peripheral tables was challenging. Justifiably, suggestions for improvement concerning the need for more robust engagement of outside tables in the exercise should be addressed in any future exercises. It is recommended that more information about the format be provided to participants in advance to help manage expectations of all participants. This is important, especially since many of the participants are from academic institutions and have no experience with this type of exercise.

> Suggestions for improvement concerning the need for more robust engagement of outside tables in the exercise should be addressed in any future exercises.

The exercise objectives were largely met, based on the survey results. In the morning session, four of five objectives were at least partially

met. One objective was not adequately addressed in the discussion. This objective related to the ability of state and local health departments to address research priorities. Though there was much discussion on this topic, conclusions were not reached about how priorities would be identified.

In the afternoon session, four of five objectives were at least partially met. The one objective not met relates to recruitment and integration strategies for the research protocol. Participant recruitment and integration of the research into the larger response system are complicated issues that will be better informed by future discussions focusing on this topic.

APPENDIX A: EVALUATION RESULTS

Rating percentages and average scores for each Likert category were determined for each question. Responses were grouped as follows:

Successful (green) — average greater than 3.8 or more than 85 percent of responses in agree or strongly agree categories.

Partially Successful (yellow) — average between 3.5 and 3.79 or between 50 and 84 percent of responses in agree or strongly agree categories.

Unsuccessful (red) — average less than 3.5 or less than 50 percent of respondents in agree or strongly agree categories or more than 50 percent in the strongly disagree category.

Morning Session

Section 1: Exercise Logistics

Question	Percentage Agree/ Strongly Agree	Average Score
The participant manual was useful.	87.5	4.35
The venue of the event was conducive for exercise.	93.6	4.51
The facilitation generated discussion.	77.1	4.02
The format was conducive to the discussion.	65.2	3.63
Understand my organization's role during a disaster research response.	63.8	3.70

Section 2: Exercise Objectives

Question	Percentage Agree/ Strongly Agree	Average Score
Assess state and local organization's capability to identify and prioritize health research needs.	55.8	
Discuss state and local capacity to conduct identified environmental health research.	61.9	
Discuss stakeholder relationships.	69.8	
Identify mechanisms and frameworks in which NIEHS andNLM research resources can be requested and integrated into state and local disaster response.	62.8	
Explore how academia and other NGOs can be integrated into disaster health	62.8	

Afternoon Session

For the afternoon session, 28 respondents completed the survey. The demographic breakdown is as follows:

Section 1: Exercise

Question	Percentage Agree/ Strongly Agree	Average Score
The venue of the event was conducive.	88.9	
The facilitation of the exercise generated discussion.	67.9	
The format of the exercise was conducive to the discussion.	64	

12

Section 2: Session Objectives

Question	Percentage Agree/ Strongly Agree	Average Score
		Strongly Disagree — Neutral — Strongly Agree
Increase awareness of NIEHS DR2P resources.	92. 6	(bar, high agree)
Evaluate planned recruitment strategies and optimal ways to integrate disaster responder research into disaster response.	56	(bar, mid)
Examine the incentives and barriers to participation among prospective RAPIDD study participants.	76	(bar, high)
Evaluate the RAPIDD informed consent process and assess participant understanding of research methodology.	64	(bar, mid-high)
Obtain feedback from prospective disaster researchers and participants on proposed RAPIDD research protocol.	64	(bar, mid-high)

Overall Conference Comments
Morning session

Overall, the written comments were positive. The majority of the participants found that the exercise brought together a diverse multidisciplinary group of stakeholders to discuss important and valuable information. The exercise also provided important resources and information to the participants, including interagency expectations and collaborations.

Other positive comments included:

- Three participants found hearing the challenges and concerns that others face in disasters and research very valuable.
- Two participants valued how the exercise opened the door for potential partnerships, including partnerships for training and equipment for first responders.
- Three participants were excited about the concept of disaster research and a potential disaster research "mission assignment."
- One participant noted the value in learning different researcher interests in information collected as an emergency response function.

On the other hand, participants noted that there was limited interaction among the round tables and the lack of time for discussion. Other suggestions for improvement for future exercises included:

- One participant noted the missed opportunity in real-time discussion of local agencies and organizations to interact and walk through the scenario to discover new avenues of collaboration.

13

- One participant commented on the need for further discussion between various disasters (prepared versus unplanned).
- One participant noted the lack of discussion on tangible next steps.
- One participant commented on how the exercise seems to jump over the time frame indicated in the scenario — first at two weeks into an incident and then extended research, nothing between.
- One person commented on the need for more examples of how academia has and can assist during various incidents and how they can be integrated into the locals.
- One person noted that the exercise provided too much abstract discussion rather than using the details of the event to drive the discussion. Too much time was spent on capacities.

Afternoon session

The comments for the afternoon session were also very positive. Many participants agreed that the interactive polling was very innovative and engaging, and allowed for instant feedback. They also agreed that the sessions introduced and provided a better understanding of new tools, information, resources, and concepts.

Other positive feedback included:

- One person noted that the session identified needs of first responders.
- One person noted that some of the information provided was interesting and potentially useful. The participant wished the presenter had allowed discussion of IRB approval because tools are useless without it.

Some of the criticisms of the session included:

- Three participants noted that the overview of the website was good but too detailed/lengthy.
- Four participants noted that there was still a lack of feedback solicitation, either due to the lack of time or opportunity.

- One participant found that the session was an opportunity for private contractors to get free comments.

Additional suggestions and comments included:

One participant suggested to have participants engage by requiring participants to develop a disaster research mission assignment and present them at the exercise.

- One participant suggested exploring the UTMB Center to Eliminate Health Disparities sediment study after Hurricane Ike for additional grey literature on Ike and research on disaster situations.
- One participant noted that there should be an opportunity to modify and add questions — group questions by disaster. We don't have the time, knowledge, or expertise to know exactly which questions to ask.
- One participant noted that the evaluations may be more beneficial in terms of a more extensive physical with input from a physician within the week — less time if something life threatening is detected.
- One participant commented that they were not sure how applicable this will be in the near future to academia that has to get through IRB and risk management.
- One participant noted that this session would be more useful as a walk-through.

APPENDIX B: LIST OF PARTICIPANTS

| Last Name	First Name	Organization
Abramson	David	New York University Global Institute of Public Health
Albritton	Tracie	UTMB-Galveston
Altman	Brian	National Center for Disaster Medicine and Public Health
Amani	Jenny	University of Texas School of Public Health
Anthony	Amber	UTMB
Avant	James	Houston Police Department
Babin	Latrice	Harris County Pollution Control Services Department
Bennett	April	NIEHS
Berg	Mike	Center for Toxicology and Environmental Health
Berry	Scott	Houston Police Department
Birnbaum	Linda	NIEHS
Blanco	Robert	University of Texas-Southwest Center for Occupational and Environmental Health
Botz	Gregory	University of Texas M. D. Anderson Cancer Center
Brixey	Juliana	University of Texas School of Biomedical Informatics
Burnwell	Scott	University of Texas Police Department at Houston
Cantu	Patricia	Houston Police Department
Carpender	Kay	Texas A&M Health Science Center School of Public Health
Clark	Kristina	Harris County Office of Homeland Security and Emergency Management
Clements	Bruce	Texas Department of State Health Services
Collins	James	International Chemical Workers Union Council LOCAL 900
Cote	Mick	HHS ASPR Office of Emergency Management
Croisant	Sharon	UTMB
Curry	Donald	City of Baytown
Dalbey	Dana	Baytown Fire Department
Dearry	Allen	NIEHS
Dillon	Leslie	United Steelworkers Tony Mazzochi Center
Eagin	Betsy	MDB, Inc.
Emery	Bob	University of Texas-Southwest Center for Occupational and Environmental Health
Estala	Stephanie	Chevron
Frangos	Stephen	Chevron
Franks	Steve	Harris County Office of Homeland Security and Emergency Management
Glover	Joshua	Harris County Office of Homeland Security and Emergency Management
Goodell	Jon	Texas Medical Center Library
Grandberry	Sharon	Texas Southern University
Grant	Theresa	Centers for Disease Control and Prevention

Last Name	First Name	Organization
Graves	Julie	Texas Department of State Health Services
Griffith	Jennifer	Texas A&M Health Science Center School of Public Health
Guglielmo	John	ESI2001
Guinn-Shaver	Tinsley	Houston Police Department
Heron	Richard	BP plc
Higginbottom	Donald	Texas Southern University
Hughes	Matthew	Texas-Utah Hazardous Waste Worker Training Consortium
Hughes	Chip	NIEHS Worker Training Program
Ingram	Rick	BP/National STEPS Network
Jajuga	Henry	International Brotherhood of Teamsters/Rail Workers Hazardous Materials Training Program
Kiger	Jennifer	Harris County Public Health and Environmental Services
Lambert	Michael	Galveston County Office of Emergency Management
Lee	Joy	MDB, Inc.
Lindemann	Kenneth	SHMAdvisors LLC
Lopez	Amy	Memorial Hermann
Mahan	Dena	La Porte Emergency Management
McClendon	Michael	Harris County Public Health and Environmental Services
Menke	Mardie	Harris County Office of Homeland Security and Emergency Management
Miller	Aubrey	NIEHS
Minson	Matt	Texas A&M University
Morris	H. R.	Houston Police Department
Olsen	LeighAnne	Gulf Research Program/National Academy of Sciences
Pelz	Matthew	Galveston Historical Foundation
Person	Cheryl	University of Texas School of Public Health
Peterson	Nancy Lee	Galveston County Voluntary Organizations Active in Disaster
Popoola	Olusegun	University of Texas School of Public Health
Prochaska	John	UTMB
Ramsey	Steven	S-3
Raun	Loren	Health Bureau Pollution Control and Prevention
Rios	Janelle	University of Texas-Southwest Center for Occupational and Environmental Health
Rives	Sally	S-3
Rizvi	Saqib	Johns Hopkins School of Public Health
Rosselli	Richard	S-3
Ryng	Henry	InXsol
Sastre	Mark	SouthEast Texas Regional Advisory Council
Scarpino	Samuel	Santa Fe Institute
Scott	Lauren	UTMB

Last Name	First Name	Organization
Scott	Abdur	International Brotherhood of Teamsters Safety and Health Department
Seaton	Ellen	Harris County Community Services Department
Shah	Umair	Harris County Public Health and Environmental Services
Spivey	Lisa	SouthEast Texas Regional Advisory Council
Stonum	Sharon	Galveston County Health District
Strauss-Riggs	Kandra	National Center for Disaster Medicine and Public Health
Suggs	Jeff	La Porte Emergency Management
Sullivan	John	UTMB
Taylor	Amy	HHS ASPR Office of Emergency Management
Todd	Kristen	Texas Commission on Environmental Quality
Villanacci	John	Texas Department of State Health Services
Vola	William	City of Baytown Office of Emergency Management
Way	Jeremy	SouthEast Texas Regional Advisory Council
Weatherspoon	Vickie	UTH Police Department
Wheeler	Bill	Harris County Office of Homeland Security and Emergency Management
White	Russell	City of Baytown Police Department
Ybarra	Jason	Texas Commission on Environmental Quality-Houston Region
Yeskey	Kevin	MDB, Inc
Zane	David	Texas Department of State Health Services

APPENDIX C: SEATING ARRANGEMENT

Main Table
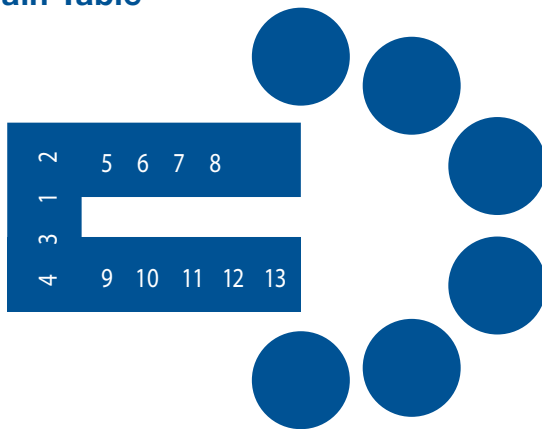
Position 1: NIEHS Director, Linda Birnbaum

Position 2: NIEHS Senior Medical Advisor, Aubrey Miller

Position 3: NIEHS Worker Training Program Director, Chip Hughes

Position 4: HHS ASPR Regional Emergency Coordinator, Mick Cote

Position 5: Texas Department of State Health Services, Bruce Clements

Position 6: SouthEast Texas Regional Advisory Council, Lisa Spivey

Position 7: Harris County Public Health and Environmental Services, Umair Shah

Position 8: Harris County Office of Homeland Security and Emergency Management, Joshua Glover

Position 9: Academic Center, UTMB, Sharon Croisant

Position 10: NIEHS Worker Training Program Awardee, UTH, Janelle Rios

Position 11: Industry, Stephen Frangos

Position 12: National Voluntary Organizations Active in Disaster, Nancy Lee Peterson

Back Table

The round table participants were a mixture of the various participating stakeholders — federal agencies (e.g. NIEHS, ASPR, NLM, etc.); academia; community; worker representatives; state and local government representatives (e.g., state and local health departments, emergency management offices, environmental offices, police, etc.); and industry.