NIH Gulf Oil Spill & Disaster Research Response

NAS Community Resilience & Health Opportunity Analysis Workshop

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NIH Funded Gulf Oil Spill Research

**Intramural Research**

**Extramural Research**

**Deepwater Horizon Research Consortia:**
Health Impacts & Community Resiliency

**Worker Training**
Oil Spill Cleanup Initiative

**Toxicology Research**
GuLF STUDY (Gulf Long-term Follow-up Study)

- Prospective study of 32,762 adults involved in oil spill clean-up or support
  - Enrolled March 2011 to March 2013
    - Baseline telephone interview on clean-up jobs, symptoms, health
    - In-home clinical assessment and biospecimen collection – 11,210 from Gulf states
  - Followed 10 or more years
    - Telephone interview every 2-3 years
    - Subgroup with repeated mental health and resiliency assessments
    - Linkage to vital records and cancer registries
  - Comprehensive clinical exam (~4,000 from AL, LA) started 8/14
Deepwater Horizon Consortium

- **5-year $25.2 M program**
- **Four university/community partnerships**
  - Tulane
  - LSU
  - Univ. of Florida
  - Univ. of Texas Medical Branch
- **Steering group leadership**
  - Includes GuLF STUDY
  - Input from NTP
- **Distinct populations & foci**
  - Women and children
  - Pregnant women
  - Cultural/ethnic minorities
  - Seafood safety
- **Shared approaches**
  - Seafood
  - Resiliency
  - Population studies
  - Community outreach and dissemination

Funding: NIEHS, NCI, NHLBI, NIMH, NIMHD, NINR, NCATS, OBSSR
> 45 Community Partners
(Louisiana, Alabama, Mississippi, Florida)

- Mary Queen of Vietnam Community Development Corporation
- Louisiana Public Health Institute
- Bayou Interfaith Shared Community Org
- Assoc. of Occupational & Environmental Clinics
- WIC clinics
- South East Louisiana Community Coalition
- United Houma Nation
- Advocacy Center of Louisiana
- Catholic Charities – Spirit of Hope
- Episcopal Community Services
- Louisiana Language Access Coalition
- Latino Forum
- McFarland Institute
- Crescent Regional Collaborative Problem Solving Coalition
- Stuart H. Smith Law Clinic & Center for Social Justice
- Alabama Seafood Association
- Alabama Department of Public Health
- South Bay Communities Alliance of Alabama
- Center for Environmental and Economic Justice
- Mississippi Coalition for Vietnamese-American Fisherfolk & Families
- MS Interfaith Disaster Task Force
- Cedar Key Aquaculture Association
- Citizens Against Toxic Exposure
- Be Ready Alliance Coordinating for Emergencies
- Families Count
- United Way of Escambia
- Catholic Charities, NE Florida
- Community Resource Associates
- Emerald Coast Counseling
- Florida Asset Building Coalition
- Florida Division of Children and Families
- Island Fresh Seafood
- RAISE Florida Network – War on Poverty
- SAFER: Support Alliance for Emergency Readiness
- Franklin’s Promise Coalition
- Steinhatchee River Chamber of Commerce
- Florida Center for Prevention Research
- Wakulla County Coalition for Youth
Key needs/opportunities for improving detection, assessment, management of env. disaster risks?

• Use NIH studies as platform for future human health & toxicology research

• Long-term follow-up of newly created cohorts (health, vulnerability, resiliency)

• Biomarker studies using newly created repositories.

• Establish health “baselines” of differing communities (e.g. BTEX study)
  – Biobanking of novel tissues (placenta, breast milk, cord blood)

• Improve understanding of resiliency and vulnerability (community & individual)
  – Metrics for measurement plus other objective socioeconomic & env. risk factors
  – Impact of multiple stressors (env. exposures, psychosocial, etc.)
  – Develop and validate (bio)markers of resilience
  – Develop interventions to address lack of resilience
Key needs/opportunities for improving detection, assessment, management of env. disaster risks? Cont.

• Characterize exposures
  – Identify chemical profiles of different crude oils
  – Characterize changes in exposure impact due to weathering and degradation
  – Conduct research on relevant chemical mixtures
  – Characterize background ambient baseline exposures to evaluate impact of new spills

• Toxicology Research
  – Create repository of crude oil standard reference materials
  – Increase availability of compounds for analytical chemistry and toxicity testing
  – Develop better exposure and effect biomarkers
  – Evaluate genetic and epigenetic effects of crude oil and contaminants
  – Develop and evaluate relevant pharmacokinetic models
  – Develop experimental models to evaluate effects of low level exposures and mixtures
What is needed for effective communication about env. health risks betw. residents, policy makers, & researchers?

IS IT SAFE?

• Leverage established community engagement and outreach activities of NIEHS, GORHOP & other supported programs

• Build environmental health literacy in communities (kids, NGOs, HCWs, officials)

• Enhance community understanding & capacity for evaluating impact of future disasters (e.g., citizen science)

• Evaluate effectiveness of training materials and programs for target populations

• Do needed research & evaluations to improve our ability to collect robust & representative health & exposure data in a timely fashion!
NIH Disaster Research Response (DR2) Project
Project Started Aug. 2013 and is ongoing

Pilot project to help galvanize and accelerate needed infrastructure as part of a larger HHS Effort

Objectives

1. Central repository data collection tools & research protocols
2. NLM public website: “Disaster Research Responder”
3. Rapid Data Collection Capability: baseline epi., clinical, & biospecimens
4. Environmental Health Research Response Network (EHS Network)
5. Training intra/extramural disaster researchers
6. Share & Integrate: HHS/federal response & recovery frameworks
7. Toxicology Support information and testing
8. Environmental Data to go with human health information
THANK YOU!

QUESTIONS?

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Project Webpage