

Five years after oil spill, NIEHS continues work in Gulf region

By Robin Mackar

Five years after the Deepwater Horizon oil rig explosion, researchers supported by NIEHS and the National Institutes of Health (NIH) continue work in three related areas — a study of oil spill cleanup workers called the GuLF STUDY, research partnerships between Gulf-area universities and community organizations, and an NIH disaster research response effort.

“Ever since the oil spill in 2010, we’ve been working to understand if the disaster caused health problems among Gulf Coast residents,” said Linda Birnbaum, Ph.D., director of NIEHS and the National Toxicology Program. “Health research takes a long time, but we are making progress, thanks in large part to the continued and dedicated efforts of community partners.”

GuLF STUDY

Preliminary results from the NIH-led **GuLF STUDY** show that oil spill cleanup workers reported increased physical symptoms, including cough and wheeze, and mental health symptoms, such as depression and anxiety, compared to nonworkers.

The research team developed a job-exposure matrix for specific cleanup jobs at different times and locations. The matrix enabled scientists to characterize exposures of workers participating in the study and assess possible links between reported health symptoms and the chemicals each worker was exposed to.

“Starting with total hydrocarbons as a marker of oil exposure, we are beginning to see that levels of chemical exposure vary across jobs and differ with the time period of the spill,” said Dale Sandler, Ph.D., lead researcher for the GuLF STUDY. “Exposure levels were higher for those working closest to the spill, and while the well was leaking. Many of the measurements taken on land were at or close to normal exposure levels. This should be good news for many in the Gulf community.”

Gulf university-community partnerships

NIEHS has also taken the lead in funding the **Deepwater Horizon Research Consortia**. As part of the consortia, four Gulf-area universities are working with dozens of community organizations to conduct health research and communicate results. These university-community partnerships focus on health concerns identified by communities after the oil spill, including pregnancy and birth outcomes, general physical and mental health of coastal residents, and seafood safety.

“The consortium exemplifies an equitable academic-community partnership and shows how community engagement can support research as well as address local needs,” said Claudia Thompson, Ph.D., head of the NIEHS Population Health Branch and lead of the consortia.

Preliminary findings indicate that the social environment may affect a person’s ability to cope with disasters or negative health outcomes. For example, people who have strong social support systems, with networks of families, friends, and neighbors that offer psychological, physical, and financial support, tend to be more resilient and able to cope with multiple stressors in post-disaster situations.

Researchers have also determined that the seafood in the Gulf is not contaminated by the oil spill — an important finding for food supply and economics of the region.

Lesson learned — plan for disaster research response

An important lesson of the Gulf oil spill and other recent disasters is that researchers need to be involved in response efforts early, so they can collect vital health information and samples of air, water, and other materials. They also need off-the-shelf, customizable research tools to quickly launch studies that will meet all guidelines for protecting the rights of study volunteers.

To meet these needs, NIEHS is collaborating with other agencies on the **NIH Disaster Research Response Project** (<http://dr2.nlm.nih.gov>)

. Key elements of this project include publicly accessible, field-tested data collection tools, research protocols, training materials and exercises, and development of a network of trained research responders.

(Robin Mackar is the news director in the NIEHS Office of Communications and Public Liaison, and a frequent contributor to the Environmental Factor.)



“Communities know who they are, know what concerns them, and want to work with researchers to be part of the program,” Birnbaum said in her keynote presentation at the 2015 Gulf of Mexico Oil Spill and Ecosystem Science Conference. (Photo courtesy of Steve McCaw)



Sandler leads the GuLF STUDY, which includes adults ages 21 and over who helped with the oil spill cleanup, took training, signed up to work, or were sent to the Gulf to help in some way. (Photo courtesy of Steve McCaw)



The consortia headed by Thompson bring together Louisiana State University Health Sciences Center, Tulane University, University of Florida, and University of Texas Medical Branch at Galveston in partnership with about four dozen community organizations to conduct health research and communicate results. (Photo courtesy of Steve McCaw)

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(bruskec@niehs.nih.gov)

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