



Moving Mental Health into the Disaster-Preparedness Spotlight

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As the Deepwater Horizon oil disaster enters its next phase, consensus is emerging that among its most profound immediate health effects are those on the emotional and psychosocial health of Gulf

Coast communities. State mental health and substance-abuse agencies report an increase in emotional distress and demand for assistance. Calls to domestic-violence hotlines are increasing. Fishermen fear for their families' economic future, and communities wonder how the influx of clean-up workers and volunteers will affect their way of life. Most major disasters, including the Exxon Valdez spill, Hurricane Katrina, and the 9/11 attacks, have been followed by increases in the prevalence of mental illness, domestic violence, and substance abuse.^{1,2} Emotional distress may manifest in increased rates of driving while intoxicated, theft,

domestic violence, and assault. Such consequences may go unrecognized, however, as health officials and the public focus on physical illness, injury, and environmental devastation.

Although it is primarily an economic and environmental disaster, the oil spill has also required a public health response. Nearly 50,000 workers have been enlisted for ongoing health and safety surveillance, and worker training and safety programs are protecting the health of response workers. Substantial attention has also been directed toward the emotional and mental health of Gulf Coast residents, since early action to help people cope with the di-

saster's emotional impact may decrease long-term behavioral health problems. This effort includes outreach by the U.S. Surgeon General to highlight mental health and substance-abuse issues, reassure people that many of their emotional reactions are normal, and point them to sources of care. Public service announcements, leaflets, and tip sheets about managing stress and recognizing mental health problems are being provided (see box), and state and local agencies and community-based organizations are offering psychological first aid — which addresses emotional distress, builds coping skills, connects people with support services, and promotes a return to normal routines — as well as counseling and psychiatric services. Mental health counselors have been placed at some marinas, and summer camps and

Tips for Helping Patients Cope with the Deepwater Horizon Oil Disaster

Children and adolescents react to disasters in different ways, depending on their age. They may regress, become disruptive, or develop somatic complaints. Encourage families to maintain normal routines, listen to children's concerns, emphasize their strengths, and set limits on media exposure.

Warning signs of emotional distress in adults may include increased smoking, drinking, or illicit-substance use; not being able to function well at work or at home; apathy; isolation; a sense of hopelessness; recurrent somatic complaints; and excessive irritability and anger. Help people recognize how past experiences affect their reactions to current events. The Substance Abuse and Mental Health Services Administration (SAMHSA) provides patient tips on coping and dealing with grief (<http://www.samhsa.gov/disaster/traumaticevents.aspx>).

Short screening tools, including the Patient Health Questionnaire-2 (PHQ-2) for depression and the CAGE questions for alcohol abuse, can be used to identify adults who merit additional referral or diagnostic evaluation for behavioral health concerns.

Information about evidence-based screening and brief intervention for alcohol and substance abuse is available from SAMHSA at <http://sbirt.samhsa.gov>.

mentoring programs have been developed for affected children. If one bright spot emerges from this catastrophe, it will be the incorporation of mental health-related emergency response into the core competencies for disaster preparedness.

Historically, the medical focus in disaster preparedness has been on injury, infection, and exposure-related illness, but clinicians have been interested in post-disaster mental health interventions since the 1940s. Efforts have ranged from biomedical interventions, such as evidence-based screening and brief interventions for alcohol abuse that primary care providers can use to quickly assess and treat problem drinking, to strategies for increasing resilience. Although there is consensus that early behavioral health interventions should be routinely incorporated into disaster response, there is mixed evidence on which strategies are most effective and how best to deploy them.³ Furthermore, best practices for surveillance for mental health problems and substance abuse during disasters remain largely undeveloped.

Lessons from previous incidents suggest that preparation for

and response to communities' mental and psychosocial needs after a disaster require awareness of the expected behavioral health effects, understanding of the population at risk, knowledge of existing community support services, and channels for coordinating expertise among non-profit, academic, clinical, and government institutions at the local, state, and national levels. Given the current profound environmental and economic disruption in the Gulf region, the potential effects on behavioral health include increased rates of mood, anxiety, and substance-use disorders; exacerbation of existing mental illnesses; increased rates of somatic manifestations of stress; and increased rates of child abuse and intimate-partner violence.⁴ Information about the population at risk may be derived in part from traditional data sources, such as the census, but more complete information requires access to local knowledge, particularly from organizations that work with historically marginalized populations. In addition, key local informants can impart crucial information about existing community services, permitting coordination among local, state, and national organizations.

Disaster response must build on the framework of existing systems. Five years after Katrina, the infrastructure for mental health and substance-abuse services in the Gulf region has evolved, but substantial challenges remain. Assets include programs, such as Reach NOLA, that train community mental health workers, using models for community engagement and peer-to-peer support. Safety-net providers have developed mobile medical units, with increasing collocation of mental and general health services. And since Katrina, grassroots organizations have empowered communities that are increasingly savvy about relevant research, disasters, and bureaucracy.

Governments' public health preparedness has also advanced considerably. Public health surveillance systems fortified during the 2009 response to the H1N1 influenza epidemic began collecting oil-related health information soon after the explosion; public health officials are exploring the use of similar methods for mental health surveillance. Through established relationships with the Centers for Disease Control and Prevention and the Substance Abuse and Mental Health Services Administra-

tion (SAMHSA), state health departments have coordinated local public health and behavioral health responses in consultation with national public health experts.

Still, we are not where we need to be. There are too few providers of mental health and substance-abuse services and too many barriers to care. Safety-net services are located predominantly in large cities, rather than coastal towns, and much of the affected area is medically underserved. In smaller communities, services are scarce for immigrants such as Vietnamese-American fishing families. Deep-seated negative public perceptions and discrimination against people with mental illnesses or addictions, compounded by suspicion of government and research institutions, make it challenging to get people in emotional distress — including health care providers — to seek or accept interventions. And there is little generalizable research on ways of reducing long-term mental health effects and rates of substance abuse after a disaster.

To enable quicker response and recovery, surveillance systems for mental illness and substance abuse must be strengthened through broader intellectual investment in a conceptual framework and technical requirements.⁵ Some current surveillance approaches, such as tracking calls to poison-control centers and domestic-violence hotlines, are already being ap-

plied. Other methods, such as syndromic surveillance, require refinement, given the varied somatic manifestations of stress and the potential reluctance of historically marginalized populations to seek mental health or substance-abuse services. Again, local engagement is key: community agencies can alert public health officials to emerging issues.

Meeting these challenges will require making the capacity to address mental health issues a central component of disaster preparedness and response. Building community resilience, strengthening prevention science, and improving surveillance will be critical to ameliorating the long-term health impact of future disasters — and will have benefits for day-to-day events with psychological sequelae, from community violence to factory closures. We must think strategically about our surge capacity for mental health care. Most U.S. regions face shortages of providers of mental health and substance-abuse services, but during disasters established models for partnership between community organizations and federal, state, and volunteer behavioral health teams may permit quick augmentation of local resources.

Finally, strengthening community resilience is a key goal of the U.S. National Health Security Strategy. A strong behavioral health response in the Gulf is fundamental to achieving this

goal. If we can limit the long-term mortality, morbidity, and societal cost of this disaster, we will be better prepared to face whatever comes next.

The views expressed in this article are those of the authors and do not necessarily reflect those of the Department of Health and Human Services.

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1. Galea S, Brewin CR, Gruber M, et al. Exposure to hurricane-related stressors and mental illness after Hurricane Katrina. *Arch Gen Psychiatry* 2007;64:1427-34.
 2. Palinkas LA, Downs MA, Petterson JS, Russell J. Social, cultural, and psychological impacts of the Exxon Valdez oil spill. *Hum Organ* 1993;52:1-13.
 3. Butler AS, Panzer AM, Goldfrank LR, eds. *Preparing for the psychological consequences of terrorism: a public health strategy*. Washington, DC: National Academy Press, 2003.
 4. Keenan HT, Marshall SW, Nocera MA, Runyan DK. Increased incidence of inflicted traumatic brain injury in children after a natural disaster. *Am J Prev Med* 2004;26:189-93.
 5. National Biodefense Science Board. *Disaster mental health recommendations: report of the Disaster Mental Health Subcommittee of the National Biodefense Science Board*. Presented at a public meeting in Washington, DC. November 2008. (Accessed August 9, 2010, at <http://publichealthemergency.hhs.gov/Preparedness/legal/boards/nbsb/Documents/nbsb-dmhreport-final.pdf>)
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