

**Enhancing the Utility of Community Health Workers in Disaster Preparedness,
Resiliency, and Recovery**

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ABSTRACT 299615:

As part of the Deepwater Horizon Medical Settlement, the University of South Alabama's Coastal Resource & Resiliency Center is charged with preparing Community Health Workers (CHWs) to serve in areas affected by the oil spill. The immediate objective of this effort is to enhance primary and behavioral healthcare capacity and health literacy, especially among disadvantaged and underserved populations. A review of previous research confirms the utility of CHWs in accomplishing this objective. Findings further suggest that CHWs could play a crucial role in the area of oil spill response and recovery, but fulfilling this role will require appropriate training. In this paper, we provide an outline of CHW training that includes: 1) educational outreach to enhance literacy and promote preparedness; 2) identification and management of diseases and conditions associated with or exacerbated by such technological disasters; and 3) essential elements in the recognition and referral of psychosocial problems associated with the oil spill experience. Community Health Workers have great potential to contribute in the area of oil spill response and recovery by motivating maximum preparedness, speeding recovery, and increasing resiliency for future spills. It is important that institutional actors involved in the area recognize this potential and contribute to its realization.

INTRODUCTION:

The northern coast of the Gulf of Mexico is highly vulnerable to disasters in the form of hurricanes and oil spills. This vulnerability is compounded by high proportions of area residents who are socioeconomically disadvantaged and medically underserved. The most recent major disaster to affect the area, the Deepwater Horizon oil spill, underscores this vulnerability in a very compelling fashion, but there is potentially a silver lining. The Deepwater Horizon (DWH) medical settlement established the Gulf Region Health Outreach Program (GRHOP) with the goal of enhancing primary and behavioral healthcare capacity and health literacy, especially among disadvantaged and underserved populations throughout the region affected by the spill. Part of this effort involves the training and placement of a cadre of Community Health Workers (CHWs) in coastal parishes and counties of Louisiana, Mississippi, Alabama, and the Florida panhandle. In addition to augmenting the work of traditional health professionals, these lay health workers could mitigate the effects of future disasters, such as oil spills, by encouraging preparedness, enhancing community resiliency, and facilitating disaster recovery.

The need for such intervention is particularly apparent in research on the sociological impacts of the human-caused technological disaster resulting from the Exxon Valdez Oil Spill (EVOS) (Picou et al., 1992; Picou and Gill, 1996; Picou et al., 2009; Picou, 2009a; Ritchie, 2012). Recent studies comparing the initial impacts of DWH with those of EVOS have found strikingly similar results (Gill et al., 2011; Ritchie et al., 2011). Massive oil spills invade the social fabric of resource-dependent communities and have serious long-term consequences for the health and well-being of residents. Lay health workers constitute a proven strategy for timely interventions aimed at reducing long-term collective trauma and rebuilding social capital (Picou, 2009b).

The Community Health Workers Training Project (CHWTP), housed in the Coastal Resource & Resiliency Center (CRRC) at the University of South Alabama, is tasked with training CHWs as part of the overall Gulf Region Health Outreach Program. In addition to traditional competency-based training modules, an important component of the training effort involves ongoing evaluations of the relevance and effectiveness of the training curriculum. Based upon input from trainees, collaborators, and stakeholders, as well as internal staff deliberations, CHWTP plans to develop a supplemental curriculum to ensure optimal coverage of disaster-related topics to include: 1) educational outreach to enhance literacy and promote preparedness; 2) identification and management of diseases and conditions associated with or exacerbated by such technological disasters; and 3) essential elements in the recognition and referral of psychosocial problems associated with the oil spill experience. While these topics are highly relevant for Community Health Workers, they would also be appropriate for training other types of lay health workers, including those in paid or volunteer positions in hospitals, health clinics, and community-based and faith-based organizations.

Community Health Workers, appropriately trained in disaster preparedness, response, and recovery have the potential to build community social capital (Picou, 2009b), improve social networks, and enhance sustainable resiliency for future disasters in the Gulf region. In this paper, we explore this potential within a framework of existing research. After defining the types and typical roles of CHWs, we describe the characteristics and qualifications of those best suited for those roles. We review the literature regarding the general utility of CHWs, demonstrate that

training in oil spill response and recovery constitutes a natural and complementary extension of traditional CHW training, and provide an outline for the development of disaster-related training modules. We conclude the paper with a summary and suggestions directed at the oil spill response community for promoting and facilitating the effective utilization of CHWs in this area.

Lay Health Worker, Types and Functions:

Lay health worker is a generic term that encompasses a wide variety of different positions including community health workers, community health advocates, health promoters (*promotores de salud*), patient navigators, peer health educators, peer health advocates, etc. This nomenclature can be confusing because of the inconsistency in the application of job titles. In some cases, individuals with different levels of training and different responsibilities share the same title, while in other cases, those with the same training and responsibilities have differing job titles.

Despite the variation, it is possible to categorize lay health workers into three broad groups. The first includes those with advanced training related to a specific disease, such as cancer or diabetes, who typically work in a clinical setting, “navigating” patients through their treatments, and educating and encouraging patients to self-manage their diseases. These are most commonly called patient navigators and they usually work in salaried positions. At the other end of the spectrum is a grassroots level of lay health workers who undergo limited training with emphasis on community outreach to encourage health literacy and healthy lifestyles. They are often referred to as peer or community health advocates or advisors, and typically serve as volunteers, in some cases working on their own within their communities, and in other cases working with community-based organizations (CBOs). Somewhere in between are Community Health Workers, who usually hold salaried positions in either a health clinic or CBO. CHWs typically undergo a broad training in areas such as health literacy, cultural sensitivity, social determinants of health, the basics of effective communication, and peer listening skills. As CHWs constitute the primary focus of this research, their characteristics, roles, and functions are elaborated below. However, it is important to note that despite our focus on CHWs, we believe that all lay health workers, if appropriately trained, could contribute positively to enhancing disaster preparedness and facilitating disaster recovery.

In an important policy statement supporting the expanded use of community health workers, the American Public Health Association offers the following definition:

A Community Health Worker is a frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served. This trusting relationship enables the CHW to serve as a liaison/link/intermediary between health/social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery. A CHW also builds individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach, community education, informal counseling, social support, and advocacy (APHA, 2009).

This definition appropriately emphasizes the importance of the community connection in the functioning of CHWs. With this in mind, the successful and effective CHW can be described as a person who:

- is a respected member of the community and enjoys a deserved reputation as being trustworthy, discreet, and dependable;
- has established relationships with community groups and leaders, and is active in community affairs;
- has a steadfast commitment to working with underserved and disadvantaged populations;
- is dedicated to helping community members maintain healthy lifestyles and overcome obstacles to getting needed healthcare services;
- has an in-depth understanding of, and appreciation for, the culture prevailing in the community;
- has a demonstrated ability to communicate and relate to racial and ethnic groups present in the community and to “speak the language” of the people served.

Note that the description does not suggest that a person needs any specialist expertise or educational credential. It is expected that CHWs will gain needed skills and knowledge through their training experiences, as complemented by additional on-the-job training. In some cases, advanced educational credentials may actually be viewed as a detriment, since CHWs typically serve in low socioeconomic communities and are expected to be representative of the communities they serve.

While there is a general consensus regarding the appropriate characteristics of successful CHWs, there is not a standard job description. This is due, at least in part, to the fact that there are two different primary tracks for CHWs. Some work in healthcare delivery sites such as hospitals, hospices, and health clinics, while others operate outside the healthcare system in community-based or faith-based organizations. Even in the absence of a standardized job description, it is possible to identify a set of tasks and duties commonly associated with CHWs:

- 1) Disseminating health-related information to enhance health literacy;
- 2) Building social capital in their communities through outreach and networking;
- 3) Identifying and publicizing healthcare assets and resources;
- 4) Advocating generally for social justice for their communities;
- 5) Serving as peer listeners, offering informal referral services and general social support;
- 6) Encouraging healthy lifestyles and preventative care;
- 7) Advocating for specific health-related needs of individual or communities;

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- 8) Assisting people in gaining access to needed services;
- 9) Serving as mediators to promote effective communication between community members and healthcare professionals;
- 10) Helping to ensure that patients follow appropriate treatment regimens and drug protocols;
- 11) Facilitating the completion of medical questionnaires and insurance forms;
- 12) Delivering basic services directly, such as providing first aid and administering basic health screening tests.

Of course, not all CHWs will be involved in all of these activities. Note also that the list is ordered to reflect the two different tracks of CHWs, such that activities at the top are associated with community outreach, while those at the bottom are more directly related to clinical practice. Accordingly, the first four items would commonly be undertaken by CHWs working in community-based or faith-based organizations, the last four constitute typical tasks of those based in hospitals or clinics, and the middle four tend to overlap the two basic tracks.

Demonstrated Utility and Effectiveness of CHWs:

Healthcare costs in the United States have been characterized by “undeniable unsustainability based upon impossible economics.” (Smith and Topol, 2013) Consequences of this reality are nowhere more evident than in the communities along the northern Gulf Coast. The region is home to large proportions of underserved and disadvantaged minorities, many of whom are either uninsured or under-insured. The prevalence of unhealthy lifestyles and the lack of preventative care result in both heavy demand on the healthcare system and in significant socioeconomic disparities in health outcomes. These difficulties are compounded by regional vulnerability to disasters in the form of hurricanes and oil spills, and a political environment hostile to increased government involvement in healthcare funding and delivery (Bevc, Nicholls and Picou, 2010). As a result, our current healthcare delivery system falls far short in its ability to meet current needs.

While numerous reforms designed to increase the capacity and efficiency of healthcare delivery have been suggested by policymakers and healthcare providers, among the most promising are two trends that relate directly to the utility of Community Health Workers. The first involves increasing emphasis on preventative care. CHWs can be key players in this efforts through community outreach and education aimed at enhancing health literacy and encouraging healthy lifestyles (Smith and Topol, 2013; Martinez et al., 2011; Balcazar et al., 2011). The second, and interrelated trend, involves the increased use of multidisciplinary teams that include a variety of professional and paraprofessional participants (Bodenheimer, Chen, and Bennett, 2009; Goodwin and Tobler, 2008). These teams are often associated with “patient-centered medical homes” and are designed to foster early intervention and more effective management of patients with chronic diseases (Sweeney et al., 2012). Lay health workers, primarily in the form of CHWs, have consistently been identified as critical components of such teams (Martinez et al., 2011; Balcazar et al., 2011; Bodenheimer, Chen, and Bennett, 2009).

Academic research has confirmed the utility of Community Health Workers as a means of increasing primary and behavioral healthcare capacity, improving outcomes for individuals suffering from both acute and chronic health problems, lowering the overall cost of care for those served through lifestyle changes and preventative medicine, and reducing socioeconomic disparities within the healthcare delivery system. While effectiveness may vary by disease or condition, evaluations of lay health worker programs have shown positive impacts on individuals' health outcomes in a wide variety of areas, including cancer (Russell, 2010; Nguyen, 2009), diabetes (Valen, Narayan, & Wedeking, 2012; Otero-Sabogal, 2010), cardiovascular disease (Krantz, et al., 2013), and hypertension (Ravenell, 2013; Brownstein et al., 2007). Studies have also revealed that the involvement of CHWs in both health promotion and screening, early intervention, and the management of chronic disease can significantly lower healthcare costs for those already affected by health problems (Esperat et al., 2012; Jaskiewicz and Tulenko, 2012; Viswanathan et al., 2009).

In addition, research has demonstrated that lay health worker interventions targeting underserved and marginalized populations in a culturally sensitive and community-based approach can make a positive contribution to reducing socioeconomic disparities in the morbidity and mortality associated with chronic diseases and other health conditions (Peretz et al., 2012; Esperat et al., 2012; Henderson, Kendall, and See, 2011). It has also been suggested that CHWs can contribute significantly to efforts aimed at enhancing emergency preparedness and community resiliency in times of crisis (Plough et al., 2013). Still further, in the role of peer listeners, CHWs can act to reduce the negative social effects of disasters, both natural and technological like the DWH oil spill, and build social capital in the communities they serve (Picou, 2009b; Picou, 2011).

In recognition of the demonstrated utility of lay health workers, the Patient Protection and Affordable Care Act directs the Centers for Disease Control and Prevention (CDC) to facilitate their use "to promote positive health behaviors and outcomes for populations in medically underserved communities," (PP&ACA, 2010). A recent article in the *New England Journal of Medicine* sums up the general consensus that "scaling up the community health workforce in the United States could improve health outcomes, reduce health care costs, and create jobs," (Prabhjot, 2013).

Enhancing the Utility of CHWs in Disaster-Related Activities:

When it comes to dealing with disasters, approaches to preparedness, resiliency, and recovery are interrelated. Preparedness involves an awareness and appreciation of the dangers posed by various disasters, as well as familiarity with the practical steps to be taken to ensure safety and survival during an emergency. Community resiliency reflects the presence of resources, such as reserve supplies of food and water, communications equipment, generators, etc., as well as social capital in the form of strong and cooperative relationships among community members and organizations. A high degree of preparedness, availability of needed resources, and a strong reserve of social capital will serve to minimize the impact of disasters, including significant oil spills, and help to ensure timely recovery.

Many of the basic capabilities and skills of Community Health Workers are well-suited to activities associated with disaster preparedness, resiliency, and recovery. CHWs can advocate to ensure that community needs and interests are considered and community representatives are involved in formal emergency planning efforts. Educational outreach can be used, not only to promote and encourage preparedness, but also to provide practical guidance in disaster planning. Identifying resources and connecting the community with needed services is critical during and after disaster, as is facilitating effective communication between community members and emergency management authorities. The role of CHWs in building social capital through outreach and networking can contribute significantly to community resiliency, lessening the impact of natural and technological disasters. Finally, peer listening can serve to mitigate the negative mental and behavioral health impacts of the disaster experience and speed disaster recovery (Picou, 2009b).

While the initial training of CHWs provides basic competencies in the areas of advocacy, outreach, mediation, and communication, supplemental training in disaster-related competencies can ensure the effective application of basic skills and capabilities to tasks associated with enhancing preparedness, resiliency, and recovery. Such supplemental training can be organized into three core modules:

- planning and implementing educational outreach to build knowledge of emergency management issues, promote disaster preparedness, and enhance community resiliency;
- identification, prevention, and management of chronic diseases and conditions associated with or aggravated by natural and technological disasters;
- understanding essential elements in the recognition, intervention, and referral of psychosocial problems associated with disaster experiences.

Educational Outreach:

The educational outreach function of Community Health Workers is particularly relevant in efforts to promote disaster preparedness and community resiliency. One focus of outreach is for CHWs to convey to community residents an understanding and appreciation of the dangers posed by various disasters such as very large oil spills. CHWs can also provide practical information on appropriate steps needed to ensure the safety and survival of community members during and after an emergency. They also have an important role to play in identifying and disseminating information on needed resources and the most effective means of accessing such resources.

In addition to topics directly related to disasters, other outreach activities can contribute indirectly to resiliency and recovery. These include networking activities aimed at increasing social capital and educational efforts to enhance general health literacy. Regarding the latter, there is helpful overlap with the chronic disease module (presented below) in that changing health risk behaviors in just four areas could drastically reduce the incidence and impact of many diseases; these include lack of physical activity, poor nutrition, tobacco use, and excessive alcohol consumption (CDC, Chronic Disease Prevention and Health Promotion).

In fulfilling these functions, CHWs have a distinct advantage over other emergency workers. Since CHWs are, by definition, trusted members of their communities, those targeted for outreach should be more open and receptive to their educational efforts. With appropriate

training, CHWs have great potential to enhance preparedness and resiliency through culturally sensitive and community-based outreach. To fulfill this potential, core components of the training module for disaster-related educational outreach should include 1) understanding and appreciating dangers of disasters; 2) practical preparedness and survival; 3) disaster-related resources; 4) general health literacy.

Chronic Diseases:

While there is no universally accepted definition of “chronic disease” in the literature, common characteristics include the following: a departure from well-being of long duration (a year or more); the necessity for medical intervention; some limitation in activity and function; a noncontagious nature; and non-amenability to cure (Goodman et al., 2013). Based upon these characteristics, the most seven common chronic diseases are identified as arthritis, asthma, cancer, COPD, diabetes, heart disease, and hypertension. The incidence of chronic disease in the United States is very high and increasing. Approximately 50% of American adults have at least one chronic disease and 25% have two or more (Ward and Schiller, 2013). The number of Americans suffering with at least one chronic disease is predicted to top 150 million by the year 2020 (Bodenheimer et al., 2009).

The presence of large numbers of people suffering from chronic diseases creates serious complications when it comes to preparing for, surviving, and recovering from disasters, including natural or technological disasters that involve spills of hazardous substances. The typical problems associated with disasters tend to fall more heavily on those with chronic diseases. Evacuation is more difficult for those with limited mobility. Family separation has a greater impact where family members are primary caregivers. Disasters often disrupt treatment routines and limit the availability of needed medications. Those with chronic diseases are more susceptible to toxic agents and hazardous materials associated with disasters, and they are more likely to be affected by extremes of heat and cold resulting from utility disruptions.

To help minimize these negative effects, CHW training will be organized around core competencies for each of the major categories of chronic diseases: arthritis, asthma, cancer, COPD, diabetes, heart disease, and hypertension. Each of these diseases will be addressed according to the following rubric: 1) general definition; 2) variations; 3) etiology and risk factors; 4) prognosis and complications; 5) potential for prevention; 6) typical symptoms; 7) treatment procedures and medications; 8) special needs. In addition, specific implications of chronic disease management as it relates to disaster preparedness, resiliency, and recovery will be discussed and elaborated from a disease-specific perspective.

To maximize their overall effectiveness in disaster preparedness, recovery, and resiliency, CHWs must be trained in the basics of chronic disease management. It is critical that they understand the difficulties and limitations associated with specific diseases. They must also recognize the consequences of these diseases as they relate to the resiliency of their communities. We believe that this training approach will help to ensure that CHWs have the knowledge they need to meet these expectations.

Psychosocial Dimensions:

One of the most detrimental consequences of disasters involves the psychosocial impact on survivors. The term “psychosocial” refers to the interrelationship of social context and psychological health and well-being. Post-disaster social context is commonly characterized by economic loss related to fishing and tourism closures in an oil spill, storm damage and resource scarcity, financial hardships due to limited access to funds and employment disruptions, the ongoing disturbance of normal routines, and even injury and death of community members, the lack of needed resources (food, water, shelter, etc.). Despite these harmful effects, psychosocial health typically does not receive the attention it deserves in post-disaster recovery efforts.

There are three primary factors that limit the extent to which people seek and receive mental health services in post-disaster periods. First, many people fail to address their own mental and behavioral health needs because there are simply too many other problems and issues demanding their attention. Understandably, the need for money, food, water, shelter, and physical health issues take precedence over feelings of stress or depression. Secondly, there is likely to be limited availability of mental healthcare providers after large-scale disasters due to the increased numbers of people needing care and the diminished capacity of the healthcare system to deliver such services. Finally, disaster survivors are often reluctant to seek mental healthcare due to the stigma associated with poor mental health; they do not want fellow community members to think they are “crazy.” The situation is particularly problematic since a combination of two or all three of these obstacles are likely to apply to many disaster survivors (Picou et al., 2009), e.g., those affected by the EVOS and DWH. Fortunately, appropriately trained CHWs can have a positive impact in all three areas.

Identifying needed resources and assisting community members in accessing such resources is one of the primary roles of Community Health Workers. This would include linking people in need with emergency services, such as distribution locations for food and water, and helping people apply for post-disaster recovery assistance. CHWs can also serve as peer listeners, supplementing professional mental healthcare providers as front-line interveners, providing informal counseling where appropriate, and referrals to professional services when needed. In addition, informal counseling in a peer listening encounter with a fellow community member would not carry the stigma associated with seeking professional care at a mental health facility. Of course, the ability of CHWs to fulfill these roles is dependent on proper training.

To maximize the utility and effectiveness of CHWs in mitigating the psychosocial impacts of disasters, the competency-based training curriculum¹ will include 1) recognizing post-disaster social context; 2) identifying common psychosocial symptoms; 3) understanding the logistics of good listening; 4) providing resources and referrals; 5) coping strategies for both peer listeners and disaster survivors.

This approach to psychosocial intervention is especially relevant for massive oil spills, such as EVOS and Deepwater Horizon, due to the emergence of “secondary disasters” in the post-spill period. These include anxiety associated with ecological contamination and exposure, perceived inequities in claims payments, and potential involvement in formal litigation. These secondary disasters contribute to the development of “corrosive communities,” characterized by

¹ Adapted from the work of J. Steven Picou, *Peer Listener Training Manual*, GOM Edition.

social conflict, hopelessness, and despair (Picou et al., 2004; Gill et al., 2011). Appropriate training can significantly enhance the effectiveness of CHWs in helping to mitigate these psychosocial impacts, thereby hastening community recovery, and building community resiliency for future disaster events.

CONCLUSION & RECOMMENDATIONS:

The primary roles and functions of Community Health Workers are directly relevant to successful emergency management. Educational outreach can effectively promote and facilitate disaster preparedness. Community advocacy activities can further enhance disaster preparedness, build social capital, improve resiliency, and facilitate post-disaster recovery. Chronic disease management is critical for those whose conditions are associated with or aggravated by natural and technological disasters. Peer listening and informal counseling activities can have a direct, positive impact in mitigating the psychosocial problems associated with disaster experiences. Further, as trusted members of the communities they serve, CHWs have distinct advantages over corporate, academic, and governmental actors in the emergency management field. They not only have a better sense of community needs and interests, they also “speak the language of the people” and enjoy enhanced credibility and legitimacy as community mediators and spokespersons.

Based upon these considerations, Community Health Workers can become crucial members of disaster response and recovery teams in affected areas. However, to maximize the utility and effectiveness of CHWs in this area, it is important that they undergo a rigorous, competency-based training, such as that outlined here. Properly trained, CHWs have great potential to motivate maximum preparedness, speed post-disaster recovery, and increase sustainable resiliency in anticipation of future disasters. It is important that institutional actors involved in oil spill response and recovery recognize this potential and contribute to its realization. From a cultural perspective, this will require a greater appreciation and concern for the human dimensions of oil spills. For example, in addition to socioeconomic impacts, response and recovery plans should specifically address the mental and behavioral effects of spills, and acknowledge the potential for CHWs to mitigate those effects. From a practical perspective, response and recovery actors could form partnerships with existing networks of CHWs and support supplemental training in emergency management. In the event of future spills, Responsible Parties should consider funding the training and placement of CHWs in affected areas as part of their overall recovery effort.²

² The Gulf Region Health Outreach project serves as an excellent example of this approach.

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