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Integrated Disaster Recovery: Linking Health Care and Disaster Case Management

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INTEGRATED DISASTER RECOVERY: LINKING HEALTH CARE AND DISASTER CASE MANAGEMENT

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Abbreviations:

CM: case management

HCOs: health care organizations

U.S.: United States

FEMA: Federal Emergency Management Agency

NDRF: National Disaster Recovery Framework

Abstract

In long-term recovery from natural disasters, the federal government helps to rebuild infrastructure, but individuals face a chaotic and uncoordinated assembly of state and local programs, insurance coverage, and assistance from nongovernmental organizations. The Federal Emergency Management Agency and other organizations have utilized case management, which matches individual needs for housing, health care, employment, and education, etc. with appropriate resources, to coordinate disaster recovery. However, these efforts have had uneven results. Case management limitations include: inability to identify and locate all those in need, implementation barriers, inability to scale services for large urban disasters, and poor sustainability. Linking disaster recovery case management with health care organizations, especially those with pre-existing health care case management programs, is a practical, scalable and sustainable approach to integrating the many aspects of disaster recovery and is a way for building community resilience before and after disasters.

Introduction

The United States has struggled to recover from natural disasters, particularly those impacting urban settings. This problem is likely to worsen given the increasing frequency of disasters and the progressive growth and urbanization of its population. Moreover, approximately 90% of the U.S. is vulnerable to natural disasters, not counting drought (Figure 1).[1] Since 1980, there have been 151 weather-related disasters resulting in costs that exceeded $1 billion each, with the most costly being Hurricane Katrina in 2005 ($125 billion in property losses), followed by Superstorm Sandy in 2012 (more than $60 billion in estimated losses).[2]

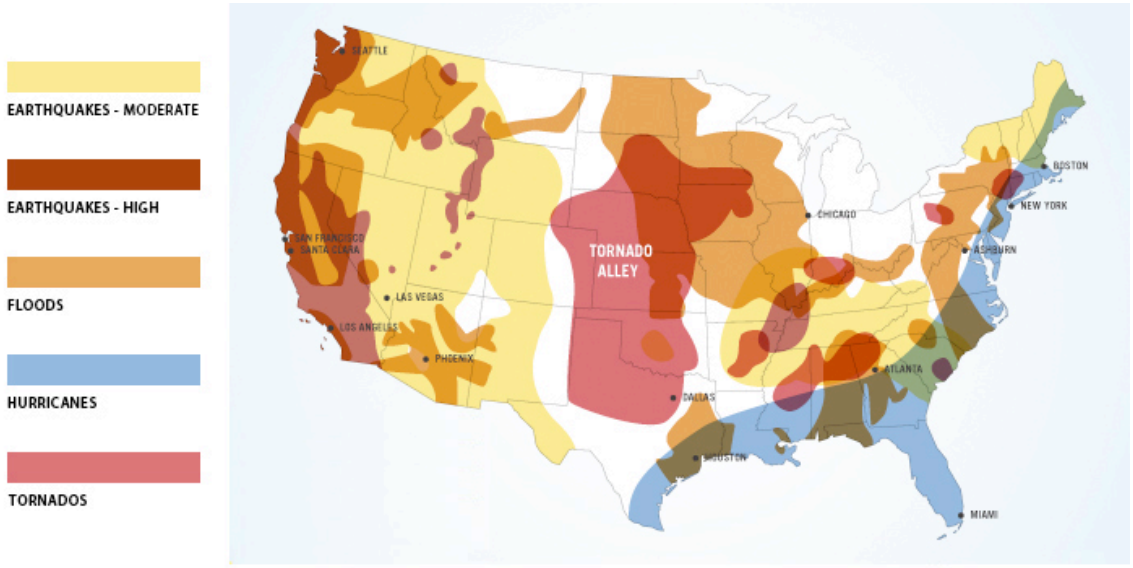

Figure 1: Areas of the United States Vulnerable to Natural Disasters (1)

The ongoing drought in the western states, the most severe since the Dust Bowl of the 1930s, promises to be similarly destructive. Geologic events such as earthquakes, and the related tsunamis and landslides, represent the other major category of natural disasters in the U.S.

While the U.S. excels in rebuilding public infrastructure after disasters, the process of repairing roads, bridges, schools, and government buildings is nevertheless long and complex. Private sector recovery, particularly housing, is even slower, because it is dependent on creditworthiness, insurance coverage and very limited public assistance. In the San Francisco Bay Area after the 1989 Loma Prieta earthquake, it required 10 years to replace 75% of the affordable housing that was lost. In New Orleans, post-Hurricane Katrina, there has been an extremely uneven recovery since 2005, with high out-migration, limited home repairs, blighted neighborhoods, high vacancy rates, and very few rental units replaced.[3] Despite prompt action by Congress to fund individual assistance following Superstorm Sandy, there have been excessive delays related to federal rules to prevent fraud and abuse and poor coordination with state and local officials. These examples emphasize that long-term recovery for individuals is fraught with uncertainty, delays, dashed hopes, and endless bureaucratic hurdles.

Because of ongoing investments in disaster preparation and hazard mitigation along with greater enforcement of building codes, U.S. disasters are characterized by high economic impact, but a more modest toll of injuries and fatalities. Most estimates of damage from natural disasters focus only on casualties and property loss and do not include other economic losses to individuals and businesses such as the costs for debris removal or for the decontamination of toxic waste, nor do they take into account the cost of lost economic productivity. For individuals, the loss of housing, jobs and employment opportunities, and the increase in medical expenses, not to mention the nonmonetary toll of suffering, represent the true costs of the devastation caused by disasters.

Society's initial response to natural disasters is to do whatever is necessary to improve the welfare of affected individuals and communities and to alleviate their suffering. But as the

immediate response phase gives way to the recovery phase, the humanitarian imperative diminishes, resources are withdrawn and attention shifts to other crises or to more routine matters. Individuals and local communities are left to fend for themselves in a confusing and often chaotic assembly of programs from federal and state agencies, insurance companies, and NGOs. Individuals often rely on personal resources as well as those from religious and other community institutions, family, and friends. There is little individual guidance in the disaster recovery process, and there are few, if any, safety nets for the poor, the disenfranchised, and for those who are overwhelmed or fail to meet specific program criteria. Disaster recovery in the U.S. is neither people-centered nor integrated.

Moreover, sociopolitical concerns regarding the "moral hazard" of assistance restrict the response to disasters. Legal and policy constraints result in federal disaster programs that provide limited benefits for individuals. For example, an individual is not entitled to rebuild a better home than the one that was destroyed, and assistance should not reward the taking of undue risk, such as neglecting to buy insurance or even living in a disaster-prone area. As a result federal housing aid for disaster survivors is largely focused on temporary shelter, with limited funds for repairs.

The Federal Emergency Management Agency (FEMA) and other organizations have utilized case management (CM), which matches individual needs for housing, health care, employment, and education, etc. with appropriate resources, to coordinate disaster recovery. However, these efforts have had uneven results.[4-7] Specific limitations include inability to identify and locate all those in need, implementation barriers, inability to scale services for large urban disasters, and poor sustainability. One possible approach to addressing these shortcomings is to link disaster recovery CM with health care organizations (HCOs), especially

those with health related CM programs. In times of disaster, these HCOs are uniquely positioned to facilitate not only health care but also other personal needs, by working with organizations expert in areas such as housing, education, and employment. The combined CM system would have three specific goals: a) allow no one to fall through the cracks, b) match needs with services/service providers, and c) move people from a state of need to a state of self-care and self-sustainability. This represents a practical, scalable and sustainable approach to integrating the many aspects of disaster recovery for those individuals who lack resources or are paralyzed by the enormity of their burden and are struggling to recover.

Report and Discussion

Overview of Disaster Assistance in the United States. The U.S. model for providing disaster recovery assistance is a mixture of charity, federal programs, and limited insurance from government and private companies. Historically, we have relied on charities to provide immediate post-disaster assistance to victims, but over time and in response to specific events, the federal role has expanded. The federal government primarily funds the repair of public infrastructure—roads, hospitals, schools, and public buildings—not private property. This model assumes that if the public sector is restored, private sector recovery will follow. However, as the scale of disasters has grown, large cross sections of society have trouble recovering under current programs. As one example, the modest federal assistance for individuals is oriented toward homeowners but ignores the reconstruction of apartments.

The disaster programs and policies that have evolved over the last century are the product of the country's experience — and lack of experience — with certain types of disasters. During the 20th century, floods caused most disasters. The 1936 Flood Control Act made flood

control a federal policy and officially recognized the U.S. Army Corps of Engineers as the major flood control agency. Beginning in 1950, Congress established a federal role to supplement state efforts and private disaster relief in instances when state and local areas were deemed by the president to be unable to cope with the disaster at hand. This Federal Disaster Act, combined with the Federal Civil Defense Act of 1950 (which specifically assigned responsibility for preparedness to states and localities), laid the groundwork for the federal government to provide assistance, usually to support infrastructure repair or replacement. But over time the statutes were amended to include some assistance to private citizens and businesses. For example, the Small Business Administration was created in 1953 to administer disaster relief loans to homeowners and businesses.

By the 1970s, federal outlays for disaster assistance increased dramatically, the result of absent codified requirements for disaster risk reduction. As a result, Congress looked for alternative disaster management programs, including national flood insurance and mandates for state and local hazard-mitigation plans.

FEMA was created in 1979 by executive order of President Jimmy Carter and was a small agency stitched together from units in the Departments of Defense, Commerce, and Housing and Urban Development, and the General Services Administration. However, the three emergency management agencies with the largest federal budgets — the Small Business Administration, the Farmer's Home Administration recovery loan programs, and the flood prevention activities of the Army Corps of Engineers — were not incorporated. FEMA's mandate was to undertake an array of missions that reflected the concept of comprehensive emergency management developed in the late 1970s, encompassing four phases of disaster management: preparedness, mitigation, response, and recovery. While preparedness and

mitigation programs were designed to reduce the cost of disaster relief, the addition of the last phase, recovery, reflected the growth of programs designated to help local governments, businesses, and citizens return to "normal," even though the funding was focused primarily on public works.[8]

Two significant reorganizations took place in recent decades: in 1988 the Robert T. Stafford Disaster Relief and Emergency Assistance Act reorganized emergency management legislation and gave direction to FEMA, but it did not streamline previous legislation or the activities of other federal agencies.[9] After the attack on the World Trade Center, on September 11, 2001, the federal government created the Department of Homeland Security. FEMA, along with many other agencies, was folded into this anti-terrorist agency. Natural disaster research and risk reduction budgets were slashed, as security funding became the major priority of federal safety investment.

Despite these changes in legislation, the U.S. continues to provide very limited long-term recovery assistance to individuals and families for replacing housing and personal losses. Rather, members of a community are expected to help their neighbors. This approach works well after modest-sized disasters in smaller towns — where people know each other and are willing to ensure that everyone is looked after. However, when disasters strike urban areas or cause widespread damage, the number of people impacted becomes too large for personal networks to be effective.[8]

FEMA launched the National Disaster Recovery Framework (NDRF) in September 2011 to promote a more effective and collaborative approach to recovery.[10] The federal government serves as a coordinator and encourages local governments to develop hazard

mitigation strategies, sustainable land use policies, and other resilience-focused preparedness strategies to reduce future disaster impacts.

In recent years, mitigation efforts have expanded to include efforts to bolster social, economic, and environmental resilience at the community level. Communities now explore how to absorb and minimize disaster impacts, strategize how to return people to work and reopen businesses, and develop tactics to restore essential services needed for economic recovery after the event. These planning activities have nonetheless largely focused on the built environment and infrastructure systems, such as the need for seismic retrofitting of buildings and bridges and the development of community emergency response plans. The latest step in this process is a proposal from Health and Human Services (HHS) to improve medical center emergency preparedness, reflecting the societal imperative that health care facilities remain functional during disasters.[11]

In all, the NDRF approach is commendable, but it does not change recovery funding. And while it recommends CM and seeks to provide a "coordinating structure to facilitate communication and coordination for pre- and post-disaster recovery planning," it does not attempt to replace a fragmented approach to disaster recovery with a system where individuals can coordinate their needs with appropriate resources.

Recent large-scale urban disasters demonstrate that personal recovery is a long and complex process that is limited by costs and by lack of sufficient insurance coverage. Thus, 80% of households and 95% of businesses impacted by Superstorm Sandy in 2012 did not have flood insurance.[12] Currently, there is very little earthquake insurance coverage in California. To obtain any relief at all, survivors face an uncoordinated and dizzying array of agencies, programs, and regulations.

Linking Health Care Organizations with Disaster Recovery Case Management.

Within HCOs, CM has developed over the past few decades as a way to improve and coordinate health care. Case managers are utilized to educate patients and families about their illness and treatment, to assist them in health care decisions, to help them navigate through the complexities of the multi-specialty health care system, to monitor symptoms and potential adverse effects of medication, and to work with patients to improve adherence to treatment and adoption of a healthy lifestyle.[13]

More recently, certain HCOs have expanded their efforts to assist with social issues that affect health. As examples, the San Francisco Health Improvement Partnership, a joint venture in health care involving local government, academia, private practice, business, and charities, is utilizing volunteer "navigators" to assist under-resourced patients in finding housing and to connect them with social support services.[14] The State of New York is utilizing Medicaid funding for food and supportive housing for their homeless population, with the demonstration that this approach benefits health at reduced cost.[15] Thus, within the health care system, patient-centered care has expanded its scope to include both health and social issues because of the intrinsic relation between them. In disasters, the role of social determinants of health is increased, as food, shelter and other basic needs are lost and as access to medical care is diminished. Disaster recovery thus demands close collaboration between health care providers and providers of social resources**.**

As with the delivery of medical services, disaster recovery efforts should meet the litmus tests of empowering individuals, enabling their right of self-determination, and being equitable. A CM approach is suited to this effort as it can coordinate and integrate the separate

aspects of disaster recovery including food, shelter, education, and source of income. It begins by actively assessing each individual's needs and by formulating an individualized problem list and disaster recovery treatment plan. This information allows for the establishment of a database that can be used to track an individual's progress over time. De-identified data can also be aggregated and used for community planning and interventions. Following assessment, the CM team works with disaster victims regarding options available to them, the process for accessing these options, and the risks and benefits of each approach so those affected can make informed decisions about their future. This approach embodies the integrated planning principles espoused in the NDRF, but it goes further to provide a mechanism for sustained implementation at the individual level.

Limited CM services were provided during recovery from Hurricanes Katrina, Rita, Gustav, and Ike by both FEMA and NGOs, with uneven results in large part due to inadequate information about individuals affected.[4,5] One of the more successful CM efforts in response to Katrina was the Harvard Kennedy School's Broadmoor Project, directed by Professor Doug Ahlers, which facilitated recovery in this neighborhood in partnership with the Broadmoor Improvement Association and with support from charitable organizations.[6] The Broadmoor CM project centered its operation on the identification and location of all residents of the Broadmoor neighborhood and then worked with individuals to address their needs. In instances where there was no source of aid, it helped raise funds to meet the needs. The Broadmoor Project was in place soon after the storm and had the advantage of working with a modest-sized population that shared a community identity. It has since provided a model for best practices in disaster CM. By contrast, FEMA was less successful in utilizing CM to meet the needs of individuals, who remained in trailers more than four years after Hurricanes Katrina and Rita.

Nevertheless, these pilot efforts were informative about the issues to be addressed if disaster recovery CM is to reach its full potential, especially with respect to the needs of large urban populations.

A major obstacle to a people-centered disaster recovery is lack of information about those affected. The Broadmoor Project succeeded because of intense personal effort by the project for a limited group of individuals (about 3,000 households were involved). The ability to scale CM services to a larger population will require planning and available databases in advance of the disaster. The Rand Corporation analysis of the use of CM in disaster recovery after the hurricanes in Louisiana came to the following conclusion:

> A recovery program must be planned around the population it will serve, with complete and accurate information about numbers of people and their needs. The current system for identifying and locating residents before a disaster—particularly the population most at risk due to preexisting factors—is limited at best. Without a concerted review of these systems, governments and service providers will not be able to strategize appropriately for staffing, resource allocation, and development of a robust resource network.
>
> Continuity and longevity of programs should match human needs. The stop and start of recovery initiatives at both the federal and state levels can lead to serious discontinuities in client recovery. Disaster case management merits a single, longer-term recovery initiative that seamlessly acknowledges the stages of human recovery.[7]

The challenge in coordinating disaster recovery is to develop a practical, scalable, and sustainable CM system; one that will assist individuals in navigating the separate aid programs to facilitate recovery. Existing CM systems within HCOs provide the infrastructure — currently the only infrastructure — on which this approach can be built. HCOs cannot assume the responsibility for disaster recovery; this is well beyond their capability. However, a joint effort between their case managers and agencies providing disaster CM could facilitate a people-centered recovery effort. HCOs could provide critical information about those in need, where they live, and how to contact them. Linking HCOs CM programs with agencies providing disaster recovery aid prior to a disaster holds the potential for providing continuous,

comprehensive, and coordinated disaster recovery. It may require additional acquisition of baseline data by HCOs, but little beyond what is already collected. There are issues of patient confidentiality in health care, as codified in the Health Insurance Portability and Accountability Act of 1996 (HIPAA) that will need to be addressed.[16] Health care, however, is central to disaster responses, and the HCOs are in the best position to safeguard patient confidentiality even as health care is coordinated with social care following disasters.

To implement this, governmental agencies providing disaster recovery CM should develop partnerships with large HCOs prior to a disaster. This approach could begin with HCOs that have health care CM, as well as relevant data systems and ongoing relationships with community resources. This recommendation is particularly relevant for "safety net" HCOs that are serving those most in need. It joins disaster recovery CM to medical facilities that are supported by society in advance of disasters and that have a strong interest in one of the major aspects of disaster recovery, namely health care. In major U.S. cities, large segments of the population are cared for by integrated systems of care, and this number is growing as more citizens acquire health insurance and as Accountable Care Organizations develop. These large HCOs have the resources and scale to help coordinate disaster recovery for a large urban population.

This approach also aligns with the goal of improving the health status of the population and minimizing inappropriate utilization of health services during the recovery process.[17] Following a natural disaster, the medical system needs to receive and care for acute casualties as well as patients with pre-existing medical conditions. By working with disaster recovery case managers to provide demographic data and to coordinate the provision of health care with the provision of social support programs, HCOs could serve as hubs for coordinating disaster

recovery efforts by government agencies and NGOs. Table 1 lists the advantages of this approach.

Structuring disaster recovery CM around HCOs, moreover, builds on a current HHS proposal to improve medical center emergency preparedness and to require home health care agencies to assist patients in developing personalized disaster plans. A natural extension of these efforts is for HCOs to provide baseline data and serve as coordination centers for other disaster recovery efforts. A simple first step would be for HCOs to identify their "high risk" medical patients (e.g. those who need dialysis, oxygen, regimented medicines, etc.) and have their case managers work with these patients to develop an emergency plan. A second step would be to develop disaster plans for other vulnerable populations, such as the elderly.

Table 1. The Advantages of Linking Health Care and Disaster Case Management

1. Relationship with individuals pre-disaster including demographic data.
2. Capacity for locating individuals post-disaster.
3. Capacity to develop individualized disaster preparedness plans.
4. Case management operational capacity established pre-disaster.
5. Case management functions continuously throughout the recovery process.
6. Familiarity with local issues and resources.
7. Ability to address medical and mental health needs post-disaster.
8. Limits inappropriate utilization of health services.
9. Facilitates supplemental case management services from other agencies
10. A scalable structure for urban disasters
11. Baseline data facilitates tracking individual progress and assessing outcomes.
12. De-identified aggregated data facilitates community planning during recovery.

This approach will not currently identify all individuals in a disaster area, as the U.S. does not have universal health care. In addition, there will be practical barriers and regulatory issues involved in developing a disaster recovery CM approach through HCOs that will require pilot programs and feasibility studies to resolve. However, linking disaster recovery efforts with HCOs, especially in urban areas, will expand coordinated care in disasters better than other options, and will increase in strength and value as HCOs expand their coverage of the population.

Conclusion

Linking CM for disaster recovery with HCOs represents a practical, scalable, and sustainable approach to integrating the many aspects of disaster recovery, especially in urban settings. It is people-centered, equitable, and empowering. It allows individuals to be informed about their options during recovery and to exercise their right of self-determination. It also takes advantage of society's growing investment to ensure that HCOs function during all post-disaster phases. Moreover, during the pre-disaster phase, it aligns with the growing efforts of HCOs to address the social determinants of health, both to reduce costs and to improve health status.

If FEMA (and other federal, state, and local agencies) began working with HCOs prior to a disaster to define the operational issues involved in connecting with their CM program post-disaster, they could more easily hit the ground running after an event because a people-centered CM system would already be in place. To initiate this process, a pilot program could be undertaken in public or private sector HCOs in Florida, the Gulf Coast, or California; in systems such as the Veterans Administration (its 4th mission includes back-up to the nation's

communities under the National Disaster Response Framework), Kaiser Permanente, the county hospitals, and other large HCOs, to demonstrate the feasibility of the program as an approach to enhancing community resilience. Academic medical centers, particularly those with their own HCOs or affiliations with public sector HCOs, are likely partners as well. Ultimately, the goal is to take advantage of the emerging changes in patient-centered health care, including the utilization of social services that influence health outcomes, in order to build community resilience pre- and post-disaster.

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