Integration of Social Determinants of Community Preparedness and Resiliency in 21st Century Emergency Management Planning

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ABSTRACT

The United States Department of Homeland Security's Federal Emergency Management Agency (FEMA) has recently adopted a "whole of community" approach in its strategic planning and response to catastrophic events. However, most traditional emergency preparedness models and practices do not sufficiently consider underlying social conditions and dynamics that are not only predictive of population health but also of behaviors that potentially influence the community resiliency. This is not limited to consideration of public social cohesiveness, health equity, economic conditions, and political capital. These and other "social determinants of community preparedness and resiliency" must thoughtfully be considered in all aspects of emergency management planning in the coming decades. Deeper understanding of community social and economic dynamics will allow for better coordination with other emerging federal agency initiatives and policies. This entails refocusing on language, culture, socio-economic, geographic, and community status to attain true "whole of community" engagement.

INTRODUCTION

The recent release by the Obama Administration of Presidential Policy Directive 8 (PPD 8), also referred to as the National Preparedness Directive, highlights a key imperative that speaks strongly and encourages the adoption and practice of a more comprehensive as well as community-oriented focus toward strengthening national emergency preparedness and resiliency.[1] Furthermore, the recent release of the *Whole Community Approach to Emergency Management: Principles, Themes, and Pathways for Action* by the Federal Emergency Management Agency (FEMA) underscores federal commitment in promoting the inclusion and engagement of diverse stakeholders in the overall community preparedness and planning process, recognizing the role of inherent and unique community-based social dynamics, networks, and informal leadership that can be leveraged to strengthen community resiliency.[2]

Both of these initiatives provide the opportunity and conceptual framework to establish a more community-focused approach to emergency management by willingly inviting to the table a wide array of key stakeholders, including citizens as legitimate and equitable partners and assets in the process. In essence, both PPD 8 and FEMA's whole of community philosophy represent an emerging trend and new modality for the emergency management discipline in incorporating socioeconomic conditions and more meaningful community participation at the planning and preparedness core. As such, it will also demand a fundamentally new emphasis on re-establishing or improving community relationships and most importantly, an authentic and genuine trust between government and citizenry.

This essay will outline this new modality in two interrelated parts – the concept of examining various social determinants of preparedness and community resiliency and the importance of fostering better community inclusion and trust. Three case studies are presented to exemplify the need for this shift in approach. The purpose of this essay is to advance these concepts and advocate inclusion into modern emergency management practice. This can only enhance preparation and nation-wide resiliency in the twenty-first century given the breadth and scope of natural and man-made threats to the country and global community as evident by recent historical events such as Hurricane

Katrina, the British Petroleum Gulf Oil Spill, and the 2009 H1N1 Pandemic.

WHAT ARE SOCIAL DETERMINANTS OF COMMUNITY PREPAREDNESS AND RESILIENCY?

Social determinants of emergency preparedness and resiliency can best be thought of in the context of those dynamics or factors that influence the vulnerability of a community as it responds to and recovers from an emergency. Such factors are unique and vary greatly between communities but can be categorized into several domains. This variation in community social dynamics is not randomly distributed and is largely due to inequities in the ownership and distribution of resources, wealth, and opportunity. These in and of themselves can account for many disparities in outcomes between communities that are often seen and indeed magnified in the aftermath of a catastrophic event such as Hurricane Katrina in 2005.

Identifying social determinants of emergency preparedness and resiliency then can be viewed as a function of the socio-economics of a community (e.g., mean income, percent savings, education levels, unemployment rates); environmental infrastructure (e.g., housing availability, crime rates, suboptimal geographic locations); and other intangible but nevertheless important community attributes (e.g., degree of social cohesion, predominance of family/neighborhood structure, and level of community engagement). Communities with high levels of poverty become the most vulnerable to the impact of disasters in terms of lacking adequate preparedness and being at highest risk for adverse consequences. This is primarily due to government and related system failures in addressing appropriate and timely response and recovery necessary to seed and foster a culture of resiliency within this population.

Currently, underlying social and economic considerations relevant and unique to a given community are generally not fully integrated within traditional emergency management planning activities or approaches. Consideration of such data such as unemployment rates, high school graduation rates, social capital, and crime statistics do not readily find their way into discussions involving the emergency management paradigm of preparedness, mitigation, response, and recovery. Indeed, emergency planning is often conducted as "one size fits all" and only very recently – in the aftermath of Katrina – has attention been cast on the functional and cultural dimensions of communities. Even then, the discourse has been limited to issues of mobility or achieving basic cultural competency around ethnic group communication and outreach. Much of this approach may be enabled and driven by resource availability; however, it is our contention that a deeper understanding of the above social determinants is lacking in emergency management training, discipline, practice, and strategies.

Instead, we suggest that communities need to be thought of as unique organisms representing a network replete with informal leadership, communication conduits, and a sense of identity and purpose that is dynamic, constantly evolving, and based on economic, social and political shifts in its sands. As such, disparities in income, health, and education along with varying levels of social cohesion and civic engagement are part of a landscape that both shapes and anticipates human behaviors including those around emergency preparedness and level of resiliency toward catastrophic events. The silo of emergency management as a government-centric and uni-dimensional planning model that currently meets the needs of only a subset of the population is no longer viable nor is it appropriate to meet the needs of twenty-first century disaster preparedness around diverse threats. Neither is it a prescription for successful achievement of community resiliency as called for in PPD 8 or as a fundamental outcome of the "whole of community" tenet being promoted by FEMA as the lead federal disaster preparedness agency.

THE "WHOLE OF COMMUNITY" AND IMPORTANCE OF INCLUSION AND TRUST

Understanding the underlying social determinants of a particular community is

paramount to the successful engagement of its members and subsequent shared ownership and participation in a range of issues from public works to public health. However, engagement and inclusion of community is often reduced to simple invitations to participate in pro forma processes already developed by government entities and typically directed through reactionary administrative policy. Emergency management agencies at federal, state, and local levels are therefore expected, as a matter of good practice, to engage the community in ways that are not only ineffective but lack formal evaluation mechanisms to gauge success. These agencies, faced with the unenviable task of planning for the unexpected and low probability event, seldom generate sufficient community interest and momentum to create realistic plans. The outcome of such endeavors is plans that do not reflect community input in a way that maximizes citizenry buy-in or clarifies roles and responsibilities. Engaging the "whole of community" in a comprehensive, genuine, and authentic way, while complex, can pay dividends in achieving community resiliency. Furthermore, it is only through meaningful inclusion of the broader community and development of mutual trust that an accurate understanding and integration of underlying social determinants can occur.

Engaging the community entails more than an invitation to the discussion. Inclusion must acknowledge and emphasize community knowledge and other assets, as well as enact a truly collaborative process between all stakeholders. This requires early and sincere outreach, reflective listening, demonstrating patience in relationship-building, acknowledging deficits, practicing transparency in process, sharing the true rationale behind policy, and equitable evaluation of progress toward mutually agreeable goals.

Government emergency management agencies must learn to let go of the need to control and micromanage community preparedness activities and instead find ways to incentivize citizen participation to ensure a creative flow of ideas during problem solving as well as enable community ownership of solutions. Too often government entities,

albeit well intentioned, are subconsciously prescriptive in approach and mentality in what is a supposedly objective assessment and analysis of perceived gaps in preparedness planning or capabilities. This can become obvious to key members of a community and quickly derail trust and create suspicion in terms of underlying motives. Collaboration with the community should entail government at the periphery and not the center and must include the ebb and flow of input in a timely and constructive manner so that trust, attentiveness to mutually agreed upon outcomes and a win-win environment is created and maintained.

Adopting the above attitude and approach toward improved community inclusion by government emergency management agencies will not only result in enhanced trust, but also a better calibrated response to catastrophic events through better anticipation of community needs as well as availability and deployment of community assets when needed. An added benefit is the impact on resiliency and the ability of the community as a whole to mitigate the consequences of such events through more strategic coordination and collaboration across the whole of community sectors, disciplines and citizenry.

WHY IT IS ESSENTIAL TO CONSIDER SOCIAL DETERMINANTS OF COMMUNITY PREPAREDNESS AND RESILIENCY

Three examples of historically important events of national scope and prominence can serve to highlight the advantages of considering community social determinants and inclusion in the planning phase of emergency preparedness. In each instance, a failure to adequately consider this level of community dynamic and effects on the long-term impact of the disaster resulted in a less than optimal response that included significant adverse health, economic, and social consequences and failure to build or strengthen community resiliency.

Example No. 1: Hurricane Katrina

Considered by many to be one of the greatest failures of post 9/11 national preparedness efforts (especially in the context of being an

"anticipated emergency event"), the 2005 landfall of Hurricane Katrina continues to plague New Orleans and the surrounding region not only with remnants of physical impact but by citizen emotional scarring. Revisiting the Katrina experience by the media, academics, first responders, and the general public has done little to dispel distrust and cynicism regarding the real or perceived pitfalls in local, state, and federal government emergency planning and response. In particular, stories of "individuals left behind," "neighborhoods ignored," and "populations excluded,"suggest a planning and response model out of touch with community rhythm and cadence at a very fundamental level. In addition to the expected political finger pointing across both sides of the partisan aisle in an effort to diffuse blame, emergency management preparedness planning post-Katrina has not been sufficiently recalibrated to meaningfully include and accommodate special populations, meet community functional needs, and improve cultural attenuation to foster a level of self-sufficiency and resiliency.

New Orleans even before Katrina was a poverty-stricken city, plagued by social factors that put certain neighborhoods at much higher risk than others for hurricane damage. Residents from higher poverty neighborhoods were less likely to rapidly or easily evacuate prior to the hurricane coming ashore.[3] Although the media placed blame on these communities through the lens of a lack of individual responsibility, in reality, deficits in planning necessary infrastructure and resources to evacuate resulted in the most severe damage to these communities. This was most evident in news reports that depicted deteriorating medical surge and support as well as concerns regarding public safety during and after evacuation was declared by government authorities.

In essence, Hurricane Katrina uncovered many stark social ills that have existed for decades in New Orleans but became both acutely evident and exacerbated as the emergency unfolded. However, meaningful and authentic engagement of the community and advanced consideration and integration of various social determinants could have resulted in a very different historical account of the event. It is our belief that taking time for emergency managers to fully understand these social factors will make all the difference in the success of future local preparedness activities and recognized improvements in community trust and resiliency.

Example No. 2: British Petroleum Deepwater Horizon Disaster

The British Petroleum (BP) Deepwater Horizon oil rig disaster in 2010 had immediate implications for the surrounding environment including deposition of millions of gallons of crude oil on the shorelines and beaches of several states stretching from Louisiana to Florida. While media and first responder attention appropriately focused on control of the spill at the rig and related underwater infrastructure, longer-term response efforts quickly shifted to mitigating ecosystem impact and residual environmental contamination. However, issues have since emerged farther inland and among shoreline resident populations that speak loudly to the unanticipated social and economic disruption that is an equally important repercussion of the spill. These types and categories of impacts are seldom considered upfront in the typical emergency planning model or mindset. The response is often calibrated to the more immediate, easily understandable and tangible consequences of a disaster.

Indeed, offshore disasters such as the BP oil rig explosion in the Gulf can have significant and devastating effects far on-shore. An article in the *New England Journal of Medicine* highlighting long-term health effects of the spill points toward a number of social phenomenon that are directly attributable to the incident months later.[4] These demonstrable psychosocial issues relate to chronic unemployment by individuals involved in the once robust Gulf fishing industry. Persons caught in a prolonged economic downturn in this regional economic mainstay have reported stress related gastrointestinal illness, unexplained back and leg pain, and difficulty sleeping. The fact that many of these workers quit high school and have few specific skills outside of the fishing industry should not be ignored. A better understanding of economic impact of such events must include

consideration of workforce demographics and alternative employment placement programs to ease such transitions.

Equally significant were the authors' findings regarding an increase in community domestic violence cases and reports. While not suggesting that the number of abusers had actually increased, the hypothesis that extended unemployment placed abusers in the home environment was theorized. The question remains as to how we can better predict, plan, and prepare for such consequences within communities that are directly involved or peripheral to these types of disasters or emergency events. Achieving community resiliency as part of a national preparedness objective has a clear nexus with social determinants such as high school graduation and unemployment rates along with public health and safety trends.

Example No. 3: 2009 H1N1 Pandemic

The H1N1 pandemic in 2009 offers a number of insights into the importance of considering upstream social determinants and community dynamics in emergency preparedness planning and resiliency. The spread of novel disease within a population is of particular concern to public health officials who are immediately faced with characterizing the magnitude of disease spread, severity of illness, and efficacy of available medical countermeasures as well as non-pharmaceutical interventions such as social distancing and isolation and quarantine.

As school closure became the social distancing measure most readily implemented by local public health agencies early in the first phase of the pandemic, it became equally clear that the public were less eager to embrace such a maneuver due to the economic consequence that appeared to outweigh risk of infection from a flu strain that appeared not much different from seasonal epidemics. Loss of income, inability to place displaced children in alternative congregated childcare settings, and consideration of breakfast and lunch needs for many low-income public students quickly raised issues by parents and policymakers alike as to whether such social distancing measures were warranted. In Milwaukee, Wisconsin, public health officials ordered closure of twenty-one public and private schools within two weeks prior to rescinding the directive and abandoning the policy based on political and community economic considerations. This represented a light bulb moment for public health emergency planners and others who were married to standard pandemic plans that were not calibrated against severity of illness and unequivocally endorsed such measures for protection and preservation of the public's health.

In addition, it became apparent in Wisconsin and by the State Division of Public Health during the second wave of the pandemic that a disproportionate number of hospitalizations due to influenza complications were occurring among minority populations as compared to non-Hispanic white cohorts.[5] In the City of Milwaukee, this disparity in hospitalizations was seven times higher in African-American populations. A number of factors were hypothesized as contributing to this phenomenon including: higher prevalence of chronic disease in minority populations contributing to severity of influenza complications; access to and availability of early healthcare intervention in the community; continued reflection of low influenza vaccination rates within some minority populations; and inadequate educational outreach and awareness building in terms achieving cultural competency in message content, format, and method of delivery.

A closer examination of social influences within populations, especially around economic status and healthcare behavior, may have provided valuable insight on more measured and targeted interventions and prevention strategies. However, it is often easier and more convenient for government agencies to develop strategies that are uniformly standardized across a large geographic region to maximize deployment and allocation of resources with little effort or thought to critically evaluate outcomes at the individual community level during the response.

CONCLUSION: REDEFINING "THE WAY FORWARD"

These three examples offer several lessons on the need to identify and consider integration of social determinants within future emergency preparedness efforts in order to improve response and achieve community resiliency. First, many ill-effects of disasters can be linked to inadequate planning – specifically in regards to incorporating existing economic, social, and health impacts that define a community's daily reality into the preparedness equation. Second, through the use of proper community inclusion and trust building throughout every facet of the emergency planning model (preparedness, mitigation, response, and recovery), many post-emergency consequences could be better predicted and responded to in a manner that strengthens community self-sufficiency and encourages resiliency. Translating both of these important components into modern emergency management practice will achieve a robust and successful model of national preparedness and resiliency – the ultimate goal of PPD8 and philosophical tenet of the FEMA "Whole of Community" strategic approach.

There are certainly examples in other disaster response analyses where emergency management agencies have successfully engaged community organizations in the planning process. Often these included community health promoters, community activists, organizers, and others who have built community trust, are trained to understand community dynamics, and are best situated to implement an effective response through their already established social networks. Further research and evaluation is needed to demonstrate the effectiveness and outcomes of these partnerships, as well as best practices for implementation.

Unique communities require unique solutions to what can be complex planning models forwarded by emergency management agencies. Therefore, a less prescriptive approach by government agencies and more guiding and consulting roles need to be adopted to integrate creative solutions and problem solving by the community. This will strengthen trust between the community and government agencies as well as attract atypical stakeholders to the discussion forum. Sustaining this level of constructive dialogue becomes paramount and stimulates further evolution of discussion including a more diverse array of effective solutions around planning, response, and recovery.

It is incumbent upon emergency management and homeland security professionals to not only incentivize and improve active involvement of non-traditional stakeholders in the planning process but to also consider and incorporate social determinants as previously suggested. Federal workgroups assigned the task of creating and leveraging "Whole of Community" must reflect the diversity of communities in such forums and pursue outcomes based on creating an environment of empathy and trust. This requires authenticity in leadership by federal authorities as well as state and local emergency management agencies to partner with communities to discern relevant social determinants that are the key to moving forward in successful emergency preparedness and community resiliency in the twenty-first century.

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