National Strike Teams: An Alternate Approach to Low Probability, High Consequence Events

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Emergency managers face many challenges regardless of the size or location of their jurisdiction. Traditional threats such as hurricanes, flooding, tornados, wildfires, and earthquakes are quickly being joined by newer threats that are potentially high-impact, but very unlikely to occur. Examples of these low probability, high consequence (LPHC) events include foreign animal disease, bioterrorism, mass care for special needs populations, pandemic influenza, mass fatality incidents, terrorism, and other catastrophic events. Although all hazards impact the physical, social, and economic welfare of the affected community, these high-impact events are catastrophic in nature and can result in significant loss of life, considerable physical destruction, massive economic volatility, and widespread public panic. However, unlike the traditional hazards that are identified in a given community, LPHC events are rare occurrences and extremely unlikely to occur in local communities.

Unfortunately, local emergency managers are often limited by lack of funding or dependency on grants, which can lead to planning and preparedness challenges. Moreover, emergency managers are often also hampered by political hurdles including unsupportive political supervision and multiple job functions covered by one person. These types of limitations make response to any challenge difficult, much less responding to an event with the scope and scale of an LPHC incident.

Regardless of size or capability, emergency managers must also coordinate county-wide application and compliance to the National Incident Management System (NIMS) and the Incident Command System (ICS), which fundamentally call for emergency planning at the lowest possible level with flexibility and expansion to meet the needs of escalating incidents. Local communities respond until their resources are exhausted, at which time the surrounding jurisdictions supplement this response. A similar expansion occurs from county government to state government and state government to federal government. This concept of operational expansion is fundamental to an effective response that is accountable and efficient.

Unfortunately, unlike traditional events, LPHC incidents cannot be planned for in this way. LPHC events can be rare events or common occurrences (ex: tornados and hurricanes) of an extremely rare severity. Moreover, LPHC events can be limited to a local community (the EF-5 tornado in Greensburg, KS in 2007), regionalized (Hurricane Katrina in 2005) or geographically dispersed (the anthrax attacks of 2001). Regardless of the impact size of the LPHC event, the local resources and management capability of the impacted communities were immediately exceeded. Consequently, surrounding areas (or even states) had to send resources to these areas for response and recovery efforts. These support resources were often accompanied by well-trained teams, crews, or squads that were directed to perform specialized functions such as water rescue, decontamination, mass care, incident management, and debris removal.
kind of specialized support to the impacted local communities better enables them to use their remaining response components to restore basic infrastructure such as public safety and utilities.

Considering how unlikely LPHC events are, it is difficult for many communities to successfully prepare for these types of events. As already established, the multitude of responsibilities most often tasked to emergency managers and emergency responders make it almost impossible to dedicate time to training and preparedness for LPHC events. Moreover, the cost of personnel training time and the necessary specialized equipment is an economic impossibility for the average community, which explains why most local response teams (ex: HazMat or S.W.A.T.) are shared as a regional or state asset. One example of the resource and personnel burden required to prepared for LPHC events is how first responders prepare for inhaled health hazards such as anthrax, smallpox, influenza, and other biological and chemical agents. OSHA and the CDC recommend, at minimum, N-95 particle respirator masks as an appropriate level of personal protection for respiratory threats including many of the bioterrorism agents. Certification to wear N-95 (or higher) respirator protection includes annual medical clearance and fit testing for each wearer. Consequently, employers – including local first responders – must now dedicate personnel time to perform this function, monitor it, and absorb costs related to the purchase of masks to ensure the proper functionality. Moreover, these masks are meant to be worn once and then disposed of appropriately. Even if they functionally could be re-used, it would be a planning fallacy for local emergency planners to make this assumption. Consequently, even moderately-priced masks can cost thousands of dollars if purchased by a local community in an attempt to prepare the local staff. As already stated, this type of financial burden is very difficult for an average community.

Another challenge for local communities, particularly those with significant livestock populations, is how to prepare for the threat of agroterrorism. If an act of agroterrorism was executed at a given livestock farm, a multitude of cascading events would transpire, potentially threatening $200 billion in annual gross farm sales. Specifically, all exposed animals – including those that had been shipped elsewhere – would need to be culled immediately. This type of swift action might also necessitate the stopping of livestock transport throughout the community, county, or even state. Local livestock owners, much less the local emergency manager, might be challenged to understand the full implications of the necessary actions. Quick action is necessary to minimize the economic impact, not only locally but throughout the national farm-to-table continuum. This type of LPHC event would immediately overwhelm even the most knowledgeable and prepared local community because of the specific knowledge needed, required speed of action, and the breadth of impact.

Given the local limitations of training, equipping, and preparing local emergency responders for an LPHC event and the low threat level, an alternative approach should be considered for response to LPHC incidents. This alternative approach is to create national strike teams similar to DMAT, DMORT, and Urban Search and Rescue (USAR) that would address the specific types of LPHC events that
could occur. Disaster Medical Assistance Teams (DMAT) are comprised of professional and para-professional medical personnel who provide a rapid-response element to supplement local medical care until other regional, state, or federal resources can be mobilized to address the given disaster.\textsuperscript{9} Likewise, Disaster Mortuary Assistance Teams (DMORT) are composed of private citizens with particular mortuary experience who are deployed, supervised, and compensated by the federal government to provide assistance during mass fatality events.\textsuperscript{10} USAR teams also provide local extrication and medical stabilization of individuals who are trapped in collapsed areas as a result of a natural disaster such as a tornado, earthquake, or technology failure.\textsuperscript{11}

The effectiveness of DMAT, DMORT, and USAR crews is well documented. For example, the Missouri DMAT team successfully established special-needs shelters in Springfield, Missouri, after a devastating ice storm flattened the local infrastructure. Likewise, DMORT teams have found similar success in responses to terrorism, flash floods, tornados, hurricanes, and technological failures.\textsuperscript{12} The twenty-five federal USAR teams established since 1989 have been activated for LPHC events such as the Oklahoma City Bombing (1995) and the collapse of the World Trade Center towers (2001). These types of national strike teams serve as successful models for other LPHC events.

For example, rather than spending an estimated ten billion dollars nationally to achieve basic bioterrorism preparedness,\textsuperscript{13} national mass prophylaxis strike teams could be created and mobilized in association with activation of the Strategic National Stockpile. Each team would be comprised of individual experts who receive training, support, and equipment to establish regionalized national teams. These national mass prophylaxis strike teams would be moved into areas impacted by a bioterrorism attack to provide life-saving medications within the necessary window of twenty-four to forty-eight hours. This would eliminate the possibility that local jurisdictions are unable to provide the equipment and personnel to execute mass prophylaxis in the timeframe required to be life-saving (for example, exposure to anthrax requires high-dose antibiotics within forty-eight hours).\textsuperscript{14} Moreover, if these national prophylaxis strike teams lead the operation, local assets, including personnel, can be better utilized in positions that only require basic just-in-time training. Therefore, rather than diversifying the experience, training, and planning over cities, counties, and states throughout the United States, these national prophylaxis team would centralize these assets, thus becoming much more operationally effective and fiscally responsible.

Like the mass prophylaxis teams, agroterrorism preparedness also has its challenges. Starting in 2004, the U.S. Department of Homeland Security awarded approximately three million dollars to fourteen colleges and universities to create Agroterrorism Preparedness Centers. The goal for these centers was to train 300,000 first responders and 20,000 master trainers in agroterrorism preparedness and response.\textsuperscript{15} Unfortunately, much like the bioterrorism preparedness funding, this type of training and preparedness has spread the knowledge and experience too thin. As previously discussed, local community emergency responders – even if trained – cannot handle LPHC events like agroterrorism in their communities without the support of specialized teams deployed from other areas, states, or the federal government. The monies
dedicated to agroterrorism training schools would be better utilized if these schools were training and supporting national agroterrorism strike teams.

The creation and support of national strike teams would result in an operational and policy paradigm shift. From an operational perspective, emergency management is fundamentally a local event; that pattern must be adjusted to plan for the activation and use of a national strike team trained to respond to particular LPHC events. Local community leadership would also have to accept the loss of annual funding streams that have provided benefits to local emergency management and response agencies. Losing the funding streams meant to prepare local communities for LPHC events would be particularly difficult for these communities, considering the strong secondary applications and uses that funding provides (such as extra training, multi-function equipment, and additional emergency management personnel). Although both represent significant changes, the potential local economic loss is a more significant challenge than the operational changes and probably would be fought by elected officials from the funded areas.

In conclusion, while billions of dollars have been distributed to local communities and states to prepare for LPHC events, the results are inconclusive. For instance, one study identified that 54 percent of Americans felt the country was less prepared for an act of terrorism than before the September 11 attacks on the World Trade Center and Pentagon.\(^{16}\) This inconsistency is a result of spreading the funding and preparedness over too many communities, thus diluting the overall effectiveness in preparing to respond to high-impact events that are very unlikely to occur. However, national strike teams like DMAT, DMORT, and USAR have provided quick and effective response to LPHC incidents including terrorism and technology failures. Consequently, the concept of adding additional national strike teams should be evaluated by FEMA and various large emergency management associations such the International Association of Emergency Managers (IAEM) and the National Emergency Management Agency (NEMA). By working cooperatively, these agencies could fully evaluate the effectiveness of the current operational and funding paradigm for LPHC events and assess whether the national strike team model, as described, is a more effective approach to preparedness and response.

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11 AgTerror Preparedness Center, “About AgTerror” (n.d.), http://agterror.org/about.asp.


15 AgTerror Preparedness Center, “About AgTerror;” CRS, Agroterrorism.

16 CRS, Agroterrorism.