**National EMS Advisory Council**

**Committee Report and Advisory**

**INTERIM**

**Committee: Preparedness and Education**

**Title**: **EMS Resource Allocation and Distribution during Disasters**

1. **Executive Summary:**

EMS Agenda 2050 states that Emergency Medical Services (EMS) systems must be reliable and prepared with the ability to scale response for all major unplanned events. The National EMS Advisory Council developed this advisory to address the need for comprehensive preparation and planning of EMS resource allocation and distribution during disasters.

The current preparedness efforts among various organizational systems focus on hospital-based preparedness. In the 2019 Assistant Secretary for Preparedness and Response (ASPR) Hospital Preparedness Program Cooperative Agreement (CFDA # 93.889) Funding Opportunity Number: EP-U3R-19-001, there were opportunities for increasing alliances and cooperative efforts with EMS, although many were permissive rather than mandatory. In order to identify best practices for EMS integration in disaster preparedness, there must be an examination of current practices, gaps in resource allocation, and assessments of current regional and national disaster plans. The recent example of the novel coronavirus COVID-19 pandemic of 2020 reveals gaps in resources such as PPE that directly impact EMS personnel. A lack of comprehensive planning for resource allocation to support EMS in such instances will result in a low prioritization of EMS as part of the entire system that responds to disasters.

This advisory will inform a blueprint plan development for EMS integration in preparedness efforts across healthcare industries and organizations, environmental, and governmental systems, and healthcare coalitions. This advisory recommends coordinated collaboration between EMS, hospitals and Emergency Management organizations for resource allocation during disasters that works within the current structure of the Federal Healthcare Preparedness Program (HPP) under HHS ASPR and elevates much of the permissive language in the last cooperative agreement to mandatory to ensure that EMS services are appropriately recognized equipped to be a part of the team an essential and effective part of the team.

1. **Recommended Actions/Strategies:**

**National EMS Advisory Council:**

Consideration and feedback on this advisory and recommendations to NHTSA.

**National Highway Traffic Safety Administration:**

Recommendation 1: Work with the Regional Disaster Health Response System and Hospital Preparedness Program within the Office of the Assistant Secretary of Preparedness and Response (ASPR) to identify best practices in EMS integration in disaster planning among existing HCCs.

Recommendation 2: Work with private and public stakeholders to disseminate and implement best practices using proven methods including improvement science.

Recommendation 3: In coordination with the ASPR, HPP and HCC programs, promote that ongoing efforts among local, state, federal agencies must ensure EMS is optimally included in all preparedness planning and resource allocation.

Recommendation 4: NHTSA research and develop a mechanism that would allow for the accurate, comprehensive and timely collection of key data elements which identify critical stressors impacting the EMS system nationally, during large scale, multi-state events.

Recommendation 5: NHTSA utilize and promote their web site [www.EMS.gov](http://www.EMS.gov) as the central resource information repository for EMS across the country, providing a single source of fact for the industry.

Recommendation 6: NHTSA should develop mechanisms to collect guidance and resources that pertain to EMS available from other federal agencies such as the CDC, FEMS, FDA, ASPR and synthesize this information to ensure it is consistent across all lines of communication in its distribution to EMS stakeholders.

**Secretary of the Department of Transportation:**

Recommendation 1: The Secretary should pursue the recognition of the NHTSA Office of EMS as the federal government’s coordinating center for EMS.

1. **Scope and Definition**

Preparedness as defined by the Department of Homeland Security and the Federal Emergency Management Agency is "a continuous cycle of planning, organizing, training, equipping, exercising, evaluating, and taking corrective action in an effort to ensure effective coordination during incident response."

The national stockpile was created in 1999 to handle events such as terrorist attacks and natural disasters. Although it has been used for anthrax attacks and hurricanes, it can be used any time it’s needed. However, the essence of preparedness in the world has changed. Emergency Medical Services (EMS) must have systems in place to respond to natural disasters, deliberate hostile events, and pandemics that overwhelm local resources and threaten the health and safety of the citizenry. Large and small-scale disasters will continue and increased levels of preparedness of the entire emergency system, where EMS plays a fundamental role are required.

In the almost 2 decades since the terrorist attack on September 11th 2001, funding initiatives to bolster emergency planning have decreased over time and yet significant threats remain. As a result, the plan for distribution of resources within the national stockpile has not been updated and does not adequately address all aspects of disaster planning. This includes a clear outline of prioritization of resource distribution when many areas are impacted simultaneously by a disaster event simultaneously, such as the case in an infectious pandemic.

States should use their resources first if able, so as to not deplete the stockpile unnecessarily. If the situation appears to be one that the state will not be able to handle on its own, it should request assistance. States will have to articulate the need, since in a large event the stockpile may have to be prioritized. For example, states with immediate need should receive assistance before states that are projecting a future need. States should work with each other to provide assistance where they can and also work with public health within the state.

Today’s large-scale medical and traumatic events call for a “whole government approach” that encourages the integration, capabilities and capacity of EMS, law enforcement, government agencies, non-profit organizations, and the private sector. Contingency planning is also required in the event of that local or regional emergency resources are incapacitated as a result of the event.

For optimal disaster preparedness, there must be considerations of several factors including, but not limited to:

* 1. A system to effectively allocate blood and blood products for large scale traumatic disasters
  2. A system to ensure adequate PPE **for all providers** across the spectrum of emergency care
  3. Centralized medical control
  4. Optimal information technology infrastructure to facilitate real-time resource and patient tracking
  5. High-speed connectivity for rapid communication
  6. Adequate mental and behavioral health resources

The role of EMS across all levels of these necessary components must be defined.

1. **Analysis**

The Office of the Assistant Secretary of Preparedness and Response (ASPR) established the Hospital Preparedness Program (HPP) provides funding, education and training, and tools and resources across the nation to health care entities to support preparedness. HPP is the only source of federal funding for health care systems readiness, with over 60 awardees. HPP encourages and supports Healthcare Coalitions (HCCs), groups of health care and response organizations that collaborate to prepare for and respond to medical surge events. HCCs incentivize diverse and often competitive health care organizations to work together. Nationally, there are almost 500 HCCs with wide participation including 85% of hospitals, 82% of local health departments, and 56% of emergency departments. However, EMS participation is not equally matched with only 27% of EMS agencies participating in HCCs.[1] Despite widespread participation of hospitals in HCCs, stakeholder organizations such as the American Hospital Association do not necessarily support individual hospitals in planning as this has fallen primarily to the purview of the HPP and HCCs. The resulting gap between administrative entities supporting hospitals and the hospitals themselves directly affects the time and financial support for preparedness planning. The Regional Disaster Health Response System under ASPR, responsible for improving organizational coordination and situational awareness, is currently the only system that directly addresses the EMS component of disaster response. With only one-quarter of EMS agencies participating in Healthcare Coalitions, broader coordination and greater engagement of EMS in disaster preparedness is needed.

The recent pandemic of COVID-19 demonstrates the large gap between hospitals and EMS in the coordination of a large-scale community infection. Many EMS agencies and communities not actively engaged in HCCs were left to determine policies such as: dispatch screening, non-transport to prevent overwhelming hospitals, hospital diversion, patient handoff at the hospital, and PPE use and decontamination. The lack of overarching coordination of many components of EMS in the larger system resulted in the development different practices between EMS agencies, all transporting to the same center.

Numerous studies demonstrate gaps in preparedness response at the hospital and EMS level. Barriers to collaboration between hospitals and EMS agencies during a disaster include financial constraints, impediments to effective communication, and adequate personnel.[2] A study of 9 HCCs found additional challenges that included insufficient stakeholder engagement, staffing, and funding. This same study also found challenges meeting rural, education, and training needs, grant requirements, and cross-border partnerships.[3] Among rural communities spread across different emergency management jurisdictions, there are barriers to utilizing a unified command and establishing joint information centers.[5]

Additionally, the lack of a central repository of real-time data on the impacts on EMS means that it is impossible to understand or gauge the detrimental effect of disasters such as pandemics on the operations and capabilities of EMS agencies at the federal level. The same study references above identified a limited utilization of appropriate documentation necessary for reimbursement and the need to develop coordinated

public messaging. The impact of the current pandemic on EMS demonstrates that the nation lacks a single source of factual informational resources for EMS agencies and personnel. Various federal departments contemporaneously posted numerous documents that pertained to, or directly addressed, EMS practitioners and organizations, sometimes providing conflicting or contradictory information on the same topic. As a result, multiple organizations must result to developing their own “dashboards” and distribute surveys to their constituent EMS groups to gather timely information about how the pandemic was deteriorating the nation’s EMS services. A lack of coordination significantly impairs the assessment of how comprehensive a given reporting system is and where the information is coming from. Without accurate, comprehensive data, the federal government, in particular, NHTSA, is unable to verifiably define the impact the pandemic and other disasters have on EMS across the country. Although ASPR has stepped up its efforts in medical countermeasures, surge capabilities, and support services for certain situations such as radiation exposure emergencies, the information and support comes to the EMS community separately, and it is left to the local level planners to put it together.[4]

Sustainable funding is another constant barrier to coordination of preparedness efforts in disasters. Currently, the primary source of funding comes in the form of block grants given to states from a variety of agencies such as the Federal Emergency Management Agency (FEMA) and the Department of Homeland Security (DHS). Although block grants given directly to states ensures that support is used to address state-specific issues, a lack of specific funding directives may result in certain areas being underfunded. For example, states may use block grant support to provide funding to local agencies for equipment but not for personnel resulting in equipment purchases that cannot be utilized for their intended function without enough people or training to use it properly.

To better integrate EMS into disaster preparedness efforts numerous challenges must be considered. First, ASPR programs including HPP requires annual re-appropriation creating uncertainty in stable and consistent support of current programs. Large scale events with a large volume of patients may result in a distribution problems during triage. The involvement of a local facility in the disaster may limit the availability of local resources. Not all HCCs or trauma centers will have the same capacity or abilities. Rural communities in particular, have less capacity and rural EMS professionals often have lower scope of practice depending on volunteer staff.

A current examination of systems that can provide some background to coordination of care is the trauma system. Most states have a designated trauma program with well delineated levels of care and capacity. Regional trauma systems are the most evolved and can be a backbone for effective preparedness when disasters involve trauma; they can also serve as a model to emulate for specialty systems or disaster response centers. In addition, there are national guidelines for triage and destination of trauma patients as laid out by the Centers for Disease Control (reference). EMS has a well-defined process of evacuating and transporting patients to definitive care. There are also well developed and tested prehospital disaster triage schemes (reference). EMS professionals have a specific scope of practice. The coordination of EMS in disaster preparedness will also require that there is licensure reciprocity across state lines when mobilizing prehospital providers across regions (EMS Compact.

There is a huge opportunity from the pandemic experience for EMS to be more connected to the rest of healthcare with a more prominent seat at the table. A variety of reports, both good and bad, will come from the ranks of EMS in the wake of this public health disaster. With so many EMS models in use, it will be prescient and will provide a great opportunity to make needed changes.

1. **Strategic Vision:**

Strategic planning efforts as part of disaster planning should be maximally inclusive and interoperable across governmental agencies both locally and regionally and within existing emergency management structures with an equal focus on EMS and hospital-based preparedness. Interstate and intrastate regional planning should be of equal importance. Strategic planning efforts will optimally include cooperation and communication between personnel and agencies with a bias for action in real time with knowledge accrual and experiential planning within regions. Systems put in place should be facile and allow for modifications to existing plans when indicated. Strategic planning efforts as part of disaster preparedness must be fiscally sustainable, evidence-based, and patient-centered.

1. **Strategic Goals:**
2. By 2023, work with ASPR to complete a gap analysis that examines the current state of EMS coordination regionally and nationally and identifies means in which EMS and hospitals can be optimally coordinated in disaster preparedness
3. By 2025, establish best practice standards for interstate and intrastate regional planning and coordination of EMS and hospitals in preparedness efforts
4. By 2025, develop a model for sustainable funding of efforts necessary to ensure optimal preparedness and coordination between EMS and hospitals. This model should include consideration of interstate coordination and ensure that it remains fiscally pertinent to state and federal government.

**Reference Material:**

1. **Crosswalk with other standards documents or past recommendations**
2. NEMSAC 2017 Advisory: Successful Integration of Improvement Science in EMS

Recommendation 5:The NEMSAC recommends that NHTSA should develop a joint strategy with EHR software manufacturers, hospital systems, and EMS agencies on how to both link and facilitate bidirectional sharing of health information between the out-of- hospital and hospital settings

1. **FICEMS Strategic Plan:**

This advisory links to FICEMS Strategic Plan Mission Statement: “Ensure coordination among Federal agencies supporting local, regional, State, tribal, and territorial emergency medical services and 9-1-1 systems, to improve the delivery of EMS services throughout the nation.” and to several to the Strategic Goals, which are to provide a:

* Coordinated, regionalized, and accountable EMS and 9-1-1 systems that provide safe, high-quality care
* EMS systems fully integrated into State, territorial, local, tribal, regional, and federal preparedness planning, response, and recovery
* EMS systems that are sustainable, forward looking, and integrated with the evolving health care system
* An EMS culture in which safety considerations for patients, providers, and the community permeate the full spectrum of activities

1. **Resources/references related to the issue**
2. The Office of the Assistant Secretary of Preparedness and Response (ASPR) (<https://www.phe.gov/about/aspr/pages/default.aspx>) is an administrative unit within the Department of Health and Human Services. ASPR mission is to lead the nation’s medical and public health preparedness for, response to, and recovery from disasters and public health emergencies. To meet this objective, ASPR collaborates with hospitals, healthcare coalitions, biotechnology firms, community members, state, local, tribal, and territorial governments, and other partners across the country to improve readiness and response capabilities. One mechanism to meet these objectives is to provide funding to these entities. Recently, a competitive grant opportunity was announced to provide funding for 2 Pediatric Centers of Excellence.

ASPR’s key priorities include:

* + 1. Providing strong leadership and relationship building
    2. Building a regional disaster health response system
    3. Sustaining public health security capabilities
    4. Enhancing the medical countermeasures enterprise

1. Biomedical Advanced Research and Development Authority (BARDA <https://www.phe.gov/about/barda/Pages/default.aspx>), part of ASPR, was established to aid in securing our nation from chemical, biological, radiological, and nuclear (CBRN) threats, as well as from pandemic influenza (PI) and emerging infectious diseases (EID).
2. National Disaster Medical System (NDMS - <https://www.phe.gov/Preparedness/responders/ndms/Pages/default.aspx>) is made up of teams of medical professionals to supplement medical systems and local or regional response to a disaster. State, local, tribal, or territorial authority dispatch these teams to provide immediate and definitive patient care and fatality management.
3. Hospital Preparedness Program: (HPP [www.PHE.gov/HPP](http://www.PHE.gov/HPP)) prepares the health care system to save lives through the development of regional health care coalitions (HCC). HCC’s are groups of health care and response organizations that collaborate to prepare for and respond to medical surge events. The goals of the HPP is to encourage cooperation. The goal of the HCCs is to bring hospitals and all medical entities together.
4. Regional Disaster Health Response System (RDHRS https://www.phe.gov/Preparedness/planning/RDHRS/Pages/default.aspx): ASPR is developing and building a new RDHRS using existing programs such as the HPP and the NDMS to create a more coherent, comprehensive, and capable healthcare disaster response system integrated into daily care delivery. The proposed RDHRS will be built on a tiered regional framework that emphasizes collaboration among local healthcare coalitions, trauma centers, public and private healthcare facilities, and EMS to expand access to specialty clinical care expertise and increase medical surge capacity.

**Literature References:**

1. Office of the Assistant Secretary of Preparedness and Response., *Hospital Preparedness program*. 2018: <https://www.phe.gov/Preparedness/planning/hpp/Documents/hpp-intro-508.pdf>, Accessed August 15th, 2019

2. Adelaine, S.A., K. Shoaf, and C. Harvey, *An Assessment of Collaboration and Disasters: A Hospital Perspective.* Prehosp Disaster Med, 2016. **31**(2): p. 121-5.

3. Walsh, L., et al., *Building health care system capacity to respond to disasters: successes and challenges of disaster preparedness health care coalitions.* Prehosp Disaster Med, 2015. **30**(2): p. 112-22.

4. *Emergency Response to Radiological Releases: Have We Communicated Effectively to the First Responder Communities to Prepare Them to Safely Manage These Incidents?* 2018. **114**(2): p. 208-213.

5. Obaid, J.M., et al., *Utilization of Functional Exercises to Build Regional Emergency Preparedness among Rural Health Organizations in the US.* Prehosp Disaster Med, 2017. **32**(2): p. 224-230.