

## **National EMS Advisory Council Committee Report and Advisory**

**Committee:** Preparedness and Education

**Title:** Ensuring Optimal Emergency Response via a Fully Integrated 911 and Emergency Medical Dispatch System.

**A. Executive Summary:** Advances in technology now afford access to high quality integrated systems with the ability to use advanced automatic crash notification data, telemedicine, and immediate access to special services and consultation such that the dispatch of EMS can be targeted to provide immediate, comprehensive, and relevant care designed to meet the needs of their communities and special populations. To meet this goal, work must be accomplished at the community, state, regional, and federal level. All communities need access to basic 911 services and further infrastructure that can enable access to NG 911. Communities should have access to high quality emergency medical dispatch with trained professionals. States and regions should plan to provide this through support of communities with planning for additional regionalization as needed to support rural and frontier areas. Finally, as communities move forward toward fully integrated emergency response, federally sponsored demonstration projects will be a critical component to establish best practices and roadmaps to outline a path toward full integration of 911 with emergency medical dispatch in communities. This advisory addresses the critical next steps to ensure that a seamless community emergency response is integrated with comprehensive healthcare and public safety systems and provides specific recommendations below.

### **B. Recommended Actions/Strategies:**

#### **National Highway Traffic Safety Administration:**

Recommendation 1: Convene and build resources to ensure interoperability of data systems across local, county, state, and federal entities to include Geographic Information System mapping, Computer Assisted Dispatch (CAD), and 911 data.

Recommendation 2: Establish NHTSA funding mechanisms such as cooperative agreements to enable communities without NG911 to access expert consultation and acquire the technology necessary to develop and execute migration to NG 911 from their current system.

Recommendation 3: Incentivize the universal availability of emergency medical dispatch (EMD) for primary and secondary agencies that participate in emergency

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call taking and EMS dispatch through collaboration and regionalization within and among states. Incentivize communities to use the data collected through the 911DataPath system to support ongoing medical oversight and continuous quality improvement (CQI) as well as the evaluation of their local epidemiology and determine their unique needs for EMD and the potential value added in the optimal care of their citizens

Recommendation 4: Develop and disseminate resources designed to reinforce the role of the 911 telecommunicator as a member of the public safety sector or "protected service occupations" through the establishment of standardized role descriptions, training on structured call-taking, and the development of a path toward professional certification or accreditation for dispatch training programs aligned with current national training guidelines.

**FICEMS:**

Recommendation 1: Establish a plan of collaboration among federal agencies involved in community transition to NG911 such as the NHTSA, Federal Communications Commission (FCC), Indian Health Service (IHS), Department of Commerce and other relevant stakeholder agencies to support the development of infrastructure in rural, tribal, remote communities necessary for NG 911.

**Secretary of the Department of Transportation:**

Recommendation 1: As noted in the National Roadway Safety Strategy, the Department should continue to support intergovernmental efforts to transition to NG911 systems across the nation.

**C. Scope and Definition**

Public Safety Answering Points (PSAPs) provide the first point of contact for an emergency caller. Across the United States, there are a total of 8,774 PSAPs. (www.fcc.gov) PSAPS are located in a variety of settings including fire departments and police stations. Since the majority of PSAPs are located in Law Enforcement, many of the telecommunicators may not necessarily be trained in Emergency Medical Dispatch (EMD) and nationally, there is no standard for the licensure or training of telecommunicators and in some states the job profession is listed under a secretarial class rather than a medical or first responder class.

Communication centers are for telecommunicators to both receive calls and dispatch resources, including EMS, police, fire and other emergency responders. Communication centers vary across the United States with how they receive calls (9-1-1 and/or ten-digit numbers), their capabilities such as TTY (teletypewriter) (a communication device used by people who are deaf, hard-of-hearing, or have severe speech impairment), how they are funded, and what type of oversight governs their functions (municipal, regional, or state). Many communications

centers function as a PSAP, however, some receive secondary calls from PSAPs and then use this information to dispatch resources.

Computer-aided dispatch (CAD) systems are utilized by dispatchers, call-takers, and 9-1-1 operators to prioritize and record incident calls, identify the status and location of responders in the field, and effectively dispatch responder personnel using mobile data terminals (MDTs) radios, and cell phones.[1] CAD systems may also interface with a geographic information system (GIS), an automatic vehicle location (AVL) system, a caller identification (ID) system, logging recorders, and various databases. A unified CAD (UCAD) system interfaces with multiple agencies and/or computer systems that serve law enforcement, fire, and EMS and provides communication across multiple agencies and jurisdictions.[1]

#### **D. Analysis**

The NHTSA 911.gov program was first launched in 1968. (www.911.gov) Since that time, it has supported significant growth in resources and support for communities in their 911 development. The early and current analog 911 systems that include copper-wire based communications provide 911 access to 99% of the nation's population. However, advances in technology have brought forward Next Generation 911 or NG 911. This system allows the use of mobile and digital devices for sending digital data to 911 call centers. Additional advances will allow NG 911 call centers to receive data from other devices such as wearable medical devices, car computers, and building alarms. The NG 911 system enables faster communication, seamless integration, and call load sharing between 911 call centers. In cases of mass casualty incidents or other large-scale events, when a local call center becomes overwhelmed by calls, the NG 911 system allows for automated transfer of calls to another available Public Safety Answering Point (PSAP). The NHTSA Office of EMS and the 911.gov program provides essential information to communities looking to expand their 911 capacity through best practices, grants, resources, and roadmaps.

Despite national infrastructure advances to support the expansion of NG911 services to communities at large, many rural communities lack infrastructure to support any enhancement of the 9-1-1 system. In the published proceedings from a National Academies workshop [2] conducted after a mass casualty incident in 2008, it was noted that there were still 125 primarily frontier counties across the United States that lacked Enhanced 9-1-1 (E911) services and therefore there is no rapidly available information regarding location or caller phone number. In fact, despite a mandate from congress in 2002, there were still some places where there was no 9-1-1 service available at all. The importance of cell phone service to emergency response is undisputed: one-third to one-half of all 9-1-1 calls are made from a wireless phone. For rural communities, a lack of infrastructure to enhance 9-1-1 capabilities, rapid response to the location of emergencies increases the existing disparities of access to high quality medical care faced by those living in remote and rural communities.[3] Thus, work must be done to support rural communities move toward NG 911, perhaps even circumventing the establishment of E911 capabilities.

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A well-trained emergency medical dispatcher is essential to ensuring that the response and dispatch to emergency calls from the public is efficient and accurate as they are the first point of contact whenever an emergency occurs [4]. The emergency medical dispatcher role has developed in stages over the last several decades since the advent of the 9-1-1 system. The role of dispatch is now recognized as a significant factor in patient survivability. [5] Yet, there is notable variability in the initial training, certifications and/or licensure held, and ongoing training and education available to emergency medicine dispatchers and telecommunicators in the United States. As with first responder roles, a well-defined process for ongoing training and continued competency is important. Historically the initial 1970's national standards were based on a proprietary system (Medical Dispatch Priority Dispatch) which in turn, reflected state-specific curricula. [6] Therefore there is no nationally standardized certification for emergency medical dispatchers and telecommunicators.[7]. This lack of consistent training can reduce a dispatcher's degree of preparedness and coping-capacity adding to chronic burden and poor retention rates.[8] Another key component to the support of the emergency dispatcher and telecommunicator is the work currently underway to help communities reclassify their role from secretarial to that of a first responder. If the scope of practice for dispatchers is aligned with that of a first responder or protected service occupation, states may consider creating an official path toward requiring certifications and or establishing an official licensure process.[9]

Currently, national guidelines include basic training, advanced training, continuing education (911.gov) for emergency dispatchers. These guidelines indicate that core components of an EMD program should include guidance for the following:

- Differentiation between Advanced Live Support and Basic Life Support,
- Supports a tiered response model,
- Indications for use of lights and sirens,
- Prioritization of resources,
- Provision of prearrival instructions,
- Regular oversight and updates to EMD protocols,
- Processes for continuous quality improvement (CQI) and quality assurance (QA),
- Medical direction oversight of EMD, and
- Cardiopulmonary resuscitation (CPR) certification.

With regard to CPR certification, there is no national requirement for (CPR) certification among medical dispatchers. Studies demonstrate that dispatch-assisted CPR (DA-CPR) may be associated with increased survival. The current lack of standardized metrics for tracking this important public safety intervention results in a failure to optimize care and outcomes of patients in cardiac arrest.[10]

To date, existing training and dispatch standards are from national organizations and align with proprietary dispatch systems with no oversight by a regulatory body. Several national organizations that provide training and education for telecommunicators have incentives to offer substantive and appropriate training for those working in this field, at the same time, meeting their own mission and business

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model. It may be challenging for these large companies to provide focused training for challenges such as rural settings, different cultural norms, and/or the different response needed for fire, police and EMS dispatch. An effort to provide initial training and certification for all telecommunicators nationally would increase uniformity across the country, but this likely needs to be a long-term goal that includes access to funding to develop a system to certify and train telecommunicators.

**E. Strategic Vision:** The entire US populace should have equal access to a fully integrated NG 911 system staffed by telecommunicators and dispatchers with training in emergency medical dispatch that can optimally respond to any emergency, anywhere, at any time. The US emergency response system should be positioned to equitably treat all patients including those from special populations such as the hearing impaired. A fully integrated national NG 911 system should include access to telehealth, alternative destinations, and engagement of targeted resources such that the dispatch of EMS can provide immediate, comprehensive, and relevant care designed to meet the needs of all people.

**F. Strategic Goals:**

1. By 2024, NHTSA should promote the use of emergency telecommunications systems for all agencies that participate in EMS dispatch and call taking to use emergency medical dispatch (EMD) as a best practice.
2. By 2025, NHTSA should work with the National 911 program to conduct a gap analysis to examine the coverage across the country of use of NG 911 systems, to identify obstacles and develop a strategic plan to fund and address them.
3. By 2025, NHTSA should coordinate with government and private stakeholders to improve the interoperability of data systems including Geographic Information Systems (GIS) mapping, Computer Aided Dispatch (CAD), and 911 data, and the use of this data in the dispatch of emergency responders.

**Reference Material:**

1. Crosswalk with other standards documents or past recommendations:
  - a. National EMS Advisory Council Advisory (2019): Telehealth as a Strategy for EMS Care
2. Resources/references related to the issue:
  - a. <https://www.transportation.gov/sites/dot.gov/files/2022-02/USDOT-National-Roadway-Safety-Strategy.pdf>
  - b. [https://www.911.gov/project\\_telecommunicatorjobreclassification.html](https://www.911.gov/project_telecommunicatorjobreclassification.html)

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[https://www.dhs.gov/sites/default/files/publications/CAD\\_TN\\_0911-508.pdf](https://www.dhs.gov/sites/default/files/publications/CAD_TN_0911-508.pdf)  
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3. Alford R. Rural Areas Lacking Reliable 911 Help. March 2003. <https://www.hmpgloballearningnetwork.com/site/emsworld/news/10341964/rural-areas-lacking-reliable-911-help> (Accessed October 1st, 2022)
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9. Fukushima H, Bolstad F. Telephone CPR: Current Status, Challenges, and Future Perspectives. *Open Access Emerg Med.* 2020 Sep 7;12:193-200. doi: 10.2147/OAEM.S259700. PMID: 32982493; PMCID: PMC7490094.
10. National Emergency Number Association. Telecommunicator Reclassification Map. [https://www.nena.org/page/reclassification\\_map](https://www.nena.org/page/reclassification_map) (accessed October 1st, 2022)