

2021 ANNUAL UPDATE



ADVANCING EMS SYSTEMS

Supporting the importance of developing EMS as a coordinated system of care



EDUCATION

Supporting a nationwide systems approach to EMS education



RESEARCH

Analyzing data and measuring performance to enable improvements in EMS systems



WORKFORCE

Supporting efforts to strengthen and prepare the EMS workforce nationwide



SAFETY

Protecting the health and safety of EMS clinicians and their patients



EMS DATA

Collecting and sharing standardized EMS data to support improvements in patient care and EMS systems



PREPAREDNESS

Fostering collaboration to enhance readiness for catastrophic incidents



911 SYSTEMS

Providing leadership and coordination to support and promote optimal 911 services

NHTSA OFFICE OF EMS

The Office of EMS is housed within the National Highway Traffic Safety Administration in the U.S. Department of Transportation



U.S. Department of Transportation
National Highway Traffic Safety Administration



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ADVANCING EMS SYSTEMS

Development of EMS Quality Measures –

EMS Compass engaged the EMS community and designed a process for the development, testing and evaluation of EMS performance measures. That work is now being continued through the National EMS Quality Alliance (NEMSQA), a coalition of EMS organizations created with support from NHTSA to create, evaluate and publish EMS quality measures. NEMSQA released revised EMS Compass measures in 2019 and continues to work on the development of new measures. Ten NEMSQA measures are aligned with the NEMSIS Data Standard for consistency in research and documentation. Find the NEMSQA measures and learn how to get involved on the [NEMSQA website](#).

National Model EMS Clinical Guidelines Version

3.0 – The NHTSA Office of EMS and HRSA EMS for Children program are supporting NASEMSO’s development of version 3 of the National Model EMS Clinical Guidelines. These guidelines, based on the latest evidence and professional consensus, are used by state and local EMS systems as a reference for developing their own EMS protocols. NASEMSO will solicit public comment on draft guidelines in fall 2021 and is targeting finalization of guidelines in

early 2022. More information about the guidelines, which were first developed in 2012 as a resource to be used or adapted for use on a state, regional or local level to enhance prehospital patient care, can be found on the [NASEMSO website](#).

State EMS Assessments – At the request of state officials, the NHTSA Office of EMS (OEMS) brings together teams of experts from around the country to evaluate state EMS systems. Through in-person discussions with state and local EMS stakeholders, observations of systems and infrastructure, and reviews of state and local data, the team develops recommendations to help the state’s EMS office evaluate and improve its EMS system. Learn more on [ems.gov](#).

Tribal EMS Collaboration – NHTSA OEMS is collaborating with the Indian Health Service, EMS for Children program and the University of New Mexico Center for Rural and Tribal EMS to improve communication, access to resources and engagement with Tribal EMS clinicians and agencies across the country.



PROMOTING EDUCATION

National EMS Education Standards – With support from the Health Resources and Services Administration Maternal and Child Health Bureau’s EMS for Children Program and NHTSA Office of EMS, the National Association of EMS Educators and RedFlash Group led a collaborative effort to update the National EMS Education Standards and Instructional Guidelines. Since 2009, the standards have helped to ensure EMS clinicians receive an education preparing them to perform their roles. The revision aligned the standards with the most recent updates to the National EMS Scope of Practice Model and current evidence-based EMS practice. Learn more and find the new standards when they are released on [ems.gov](#).

National EMS Scope of Practice Model Change

Notices – In response to the COVID-19 pandemic, the 2019 National EMS Scope of Practice Model was updated using the Rapid Process for Emergent Changes developed by the National Association of State EMS Officials. These 2021 updates include two change notices covering the topics of intramuscular (IM) medication administration, vaccinations during a public health emergency, and specimen collection via nasal swab. The most recent version of the National EMS Scope of Practice Model, including these change notices, can be viewed [here](#).



SUPPORTING RESEARCH

Pediatric Behavioral Health – OEMS, in collaboration with other NHTSA offices and the HRSA EMS for Children program, is using NEMSIS data to study pediatric EMS 911 activations for behavioral health to identify impacts from COVID-19. An increase in pediatric behavioral health-related 911 activations was identified in the period of time after the COVID-19 public health emergency was declared, as compared to two previous years. This is significant as EMS works to improve how we care for pediatric patients, especially those with a behavioral health emergency. The authors have submitted a manuscript to a peer reviewed journal.

Field Trauma Triage Guidelines – The field trauma triage guidelines released a decade ago by the CDC are being updated to include the latest research findings and best practices. These guidelines provide EMS clinicians across the country with evidence-based tools to use when deciding which patients will benefit from transport to a trauma center. The project, led by the American College of Surgeons through a cooperative agreement with NHTSA, will use as a reference the results of a systematic literature review supported by NHTSA and the Agency for Healthcare Research and Quality, published in 2018. That review can be read [here](#). The guidelines are expected to be published in early 2022.

Prehospital Airway Management Systematic Review – NHTSA provided support to the Agency for Research & Health Care Quality (AHRQ) to assess comparative benefits and harms across the three airway management approaches of bag valve mask, supraglottic airway, and endotracheal intubation

by EMS in the prehospital setting. This is first step towards development of an evidence-based guideline for prehospital airway management. AHRQ contracted with the Evidence Based Practice Center at Oregon Health Science University (OHSU) to complete the review. OHSU's article describing the review was published in [Prehospital Emergency Care](#).

Evidence-Based Guideline for EMS Management of Acute Pain – A systematic review of available research on prehospital pharmacologic management of acute pain was published by the Agency for Healthcare Research and Quality and NHTSA in the fall of 2019. Based on that research, NHTSA and the Health Resources & Services Administration are supporting the National Association of State EMS Officials, to develop an evidence-based guideline for pain management as well as related education and implementation guidance for EMS. For more information about this project and other EMS evidence-based guidelines, visit the [NASEMSO project page](#).

Automatic Crash Notification (ACN)/Advanced Automatic Crash Notification (AACN) Research Pilot Plan Project – ACN and AACN technologies have become widespread in vehicles across the U.S. To help demonstrate the benefits of such technologies, NHTSA has contracted with Impact Research to create a plan outlining the requirements necessary to develop and execute a pilot project or proof of concept for documenting and measuring the potential benefits of these technologies for EMS clinicians in the field. Learn more on [EMS.gov](#).



ENHANCING THE EMS WORKFORCE

Fatigue Risk Management in EMS – The Fatigue in EMS initiative, a collaboration of NHTSA and NASEMSO, kicked off in February 2016, aiming to address the potential dangers of fatigue among EMS workers, including the risk of traffic crashes, injuries to providers and patients, and medical errors. After an extensive review of more than 30,000 published research articles, the project team released its

evidence-based guidelines for fatigue risk management. The project is currently in phase two, with researchers testing the impact of one or more evidence-based recommendations in the EMS community. In the third phase, the project team will develop a biomathematical model tailored to EMS shift scheduling. Learn more [online](#).

Model State EMS Workforce Measurement and Evaluation Tools – To create a people-centered EMS system that is reliable and prepared, EMS Agenda 2050 envisions a future where adequate staffing for EMS exists across the nation. The NHTSA Office of EMS is supporting a collaborative effort led by NASEMSO to develop model state EMS workforce measurement and evaluation tools.

Researching First Responder Suicide – The EMS and 911 workforces face significant stress and witness psychological trauma under normal conditions. The increased strain of the COVID-19 pandemic has made it even more critical to improve our understanding of first responder mental health and suicide. NHTSA OEMS is collaborating with the NIOSH Division of Safety Research and the CDC NCIPC Division of Injury Prevention to examine occupation-coded data in the National Violent Death Reporting System in order to learn more about the causes of first responder suicide. This collaboration

has resulted in a [NIOSH blog](#) and a manuscript submitted for peer review. Through improved data and research and expanded access to culturally competent evidence-based interventions, we hope to improve the safety and resilience of our workforce.

White House Suicide Prevention Interagency Policy Committee (IPC) – The Office of EMS and National 911 Program are participating on the White House Suicide Prevention Interagency Policy Committee, which was created to improve coordination and collaboration among federal agencies working to prevent suicide. NHTSA OEMS presented to the committee on the important role of EMS and 911 systems in helping people in crisis, as well as the increased risk of suicide for public safety professionals. We will continue to work with our fellow committee members and stakeholders to improve care for these patients and enhance workforce health and safety.



USING EMS DATA TO IMPROVE CARE

National EMS Information System – NEMSIS establishes standardized documentation practices and promotes the sharing of EMS data with local, state and national organizations to improve patient care and clinician safety, measure performance, and support quality improvement programs. The NEMSIS uniform data standard and local, state and national databases facilitate a more rapid delivery of patient care and a significant growth in EMS research essential to evidence-based emergency medical care. Access to timely EMS data enables policymakers to more accurately assess and project EMS needs, support strategic planning and resource allocation, determine effectiveness of clinical interventions, facilitate cost-benefit analysis and improve patient outcomes. In 2020, 43.4 million EMS activations were added to the National EMS Database, submitted by 12,000 EMS agencies serving 50 states and territories. In the same year, an additional 113 peer-reviewed research publications using national EMS data were added to the literature. Learn more at [NEMSIS.org](https://www.nemsis.org).

Trauma Data Linkage – In 2016, the American College of Surgeons (ACS) and the National Association of State Emergency Medical Services

Officials (NASEMSO), with support from the NHTSA Office of EMS, provided a recommendation for the linkage of record-level EMS patient care reports with hospital trauma registry records to better elucidate the “continuum of care” for injured patients. A policy statement and guide, [A Novel Approach to Data Linkage: EMS and Trauma Registry Records](#), developed by the ACS, NASEMSO and the NEMSIS Technical Assistance Center, provides an overview of this approach, citing the benefits and considerations of the proposal with special reference to technical, privacy, accessibility and data quality issues. Implementation will result in matched EMS and trauma registry records at the local, state and national levels.

Prehospital and Hospital Data Integration – A January 2020 interagency National Pre-Hospital and Hospital Data Integration Summit identified misconceptions around HIPAA as one of the most significant barriers to data-sharing between EMS and healthcare partners. The NEMSIS Technical Assistance Center collaborated with the law firm Page, Wolfberg & Wirth to create several resources explaining the sharing of patient information between EMS and other healthcare

professionals, including a poster explaining HIPAA basics for EMS clinicians; a white paper discussing why HIPAA promotes, rather than restricts, information sharing between hospitals or other healthcare entities and EMS agencies; legal opinions about patient information sharing; and a guide to HIPAA and privacy concerns related to the EMS use of body-worn cameras. Find these resources and more on the [EMS.gov EMS Data page](#).

NEMSIS and Medicaid Data Linkage – The NEMSIS Technical Assistance Center, in collaboration with the HHS Office of the Assistant Secretary of Planning and Evaluation and NHTSA Office of EMS, began work on the Multistate EMS and Medicaid Dataset to link EMS electronic patient care reports and Medicaid claims data from up to five states for the calendar years 2018 to 2020. This linkage will enable longitudinal research on the effectiveness of EMS clinical interventions and the outcomes of Medicaid beneficiaries who are treated in place or transported to alternative settings. The creation of this dataset helps to address unmet needs of traditionally vulnerable populations for a variety of end users. The analyses conducted as part of this project will initially focus on behavioral health emergencies (e.g., drug overdoses, psychotic episodes, suicidal ideation and behavior, and panic attacks).

Impact of COVID-19 on EMS – The NEMSIS Technical Assistance Center created and continues to produce a weekly report, [EMS By the Numbers: Impact of COVID-19 on EMS](#). It presents information regarding variations in the type and characteristics of EMS activations occurring over time nationally during the COVID-19 outbreak. In addition to influenza-like illness, the report also includes trends in EMS responses to cardiac arrest, scene death, injury, vehicle crashes, and opioid-related activations. In addition, the NEMSIS TAC developed the EMS COVID Resource Reporting Tool, which provided local EMS agencies with a method to communicate their resource, staffing and exposure status to state and federal leaders.

ET3 and New EMS Funding Mechanisms – In January 2021, after a delay due to COVID-19, the Centers for Medicare & Medicaid Innovation (CMMI) began piloting the Emergency Triage, Treat, and Transport (ET3) model, which provides greater flexibility to address emergency health care needs of Medicare Fee-For-Service beneficiaries following a 911 call. The NHTSA Office of EMS and NEMSIS Technical Assistance Center are supporting the data needs of the ET3 program and its participants, which include 184 EMS organizations in 36 states, representing both urban and rural communities. Learn more on the [ET3 website](#) and on [NEMSIS.org](#).



ENABLING PREPAREDNESS

COVID-19 Response – In January 2020 the NHTSA Office of EMS began holding stakeholder calls related to COVID-19. On March 20, 2020, OEMS supported FEMA by establishing the Prehospital/EMS team of the Healthcare Resilience Task Force as part of the FEMA/HHS response to COVID-19. Through established relationships with other federal agencies, subject matter experts were recruited to continually ensure EMS and 911 engagement throughout the pandemic response. Regular calls with stakeholders around the country allowed the Prehospital/EMS team to rapidly collect and disseminate critical information among the EMS and 911 communities. The team also generated over 35 EMS-specific reference documents for the community. Find resources to support the state and local EMS response to COVID-19 on [EMS.gov](#).

Stop the Bleed – Stop the Bleed has united government agencies, not-for-profit organizations and corporations in an effort to provide resources and teach the public how to control major traumatic bleeding prior to the arrival of professional responders. NHTSA and its federal partners continue to support the initiative through a variety of activities, including participation in the annual National Stop the Bleed Day during EMS Week. Find out how your organization can help Stop the Bleed by clicking [here](#).



SUPPORTING 911 SYSTEMS

Next Generation 911 for Telecommunicators –

Next Generation 911 provides the ability to share voice and data-rich information that will improve first responders' ability to save lives, ensure responder safety and protect property. NHTSA published several resources to help EMS, fire and law enforcement agencies explore specific benefits of the transition to NG911 and understand the impact an IP-based 911 system will have on the emergency communications ecosystem. The newest of these addresses the needs and concerns of the 911 telecommunicator. Access these resources and more on [911.gov](https://www.911.gov).

NG911 Self-Assessment Tool –

Assessing progress toward full Next Generation 911 (NG911) implementation can be a challenge as state offices, 911 authorities, emergency communications centers (ECC), and public safety answering points (PSAPs) strive to identify and communicate key milestones in the multi-year transition process. The Tool is a detailed, easy-to-use NG911 readiness checklist that is intended to help ECC/PSAP administrators and oversight personnel evaluate a system's NG911 maturity state and understand the next steps necessary to continue NG911 deployment progress. Find out more on www.911.gov.



FICEMS (Federal Interagency Committee on EMS)

The Federal Interagency Committee on Emergency Medical Services was established by Congress in 2005 to ensure coordination among federal agencies supporting local, State, tribal, and territorial EMS and 911 systems, with the goal of improving the delivery of EMS throughout the nation. Throughout 2020 and 2021 to date, FICEMS members worked closely to coordinate federal efforts and support the response to COVID-19 while continuing to push forward on other important priorities, a few of which are highlighted here. Learn more and find materials from the recent FICEMS meetings [here](#). As FICEMS agencies continue to support the response to COVID-19, the committee also began an effort in fall 2021 to conduct a review of the initial response, in order to document lessons learned and improve the nation's preparedness for future emergencies.

Telemedicine Framework for EMS and 911

Organizations – Telemedicine has expanded across the healthcare spectrum in the United States, largely by necessity in response to the COVID-19 pandemic. Telemedicine has emerged across different communities throughout the nation as an important

vehicle for delivering healthcare services without the need for in-person interactions. FICEMS and its partners developed a resource document to help EMS and 911 organizations that are exploring the possibility of meeting unmet healthcare needs of their patients and communities through telemedicine. The intent is to provide EMS and 911 organizations with an understanding of the opportunities for leveraging telemedicine as a pathway for providing patients with quality and cost-efficient care at the right place and the right time. Read and download [the Telemedicine Framework](#).

A New FICEMS Strategic Plan – In May 2021, FICEMS published a new five-year strategic plan, which will guide the committee's efforts to support and advance the nation's EMS and 911 systems through 2025. The content was developed through a collaborative process involving FICEMS member agencies and other federal and national association stakeholders with knowledge of FICEMS operations and the missions of the EMS and 911 systems. Learn more about the FICEMS Strategic Plan [here](#).



NEMSAC (National EMS Advisory Council)

The National EMS Advisory Council was established in April 2007 as a nationally recognized council of EMS representatives and consumers to provide advice and recommendations regarding EMS to NHTSA and FICEMS. The council provides a forum for the development, consideration and communication of information from a knowledgeable and independent perspective. NEMSAC does not exercise program management or regulatory development responsibilities, and makes no decisions directly affecting the programs on which it provides advice, but its advisories and recommendations have guided many EMS-related federal activities since the council's creation.

In May 2021, Transportation Secretary Buttigieg renewed the NEMSAC **charter** for two more years. In addition to renewing the charter, the Secretary appointed 15 new members of the council, which includes 25 people, each representing a different sector of the EMS profession and its partners.

Recently, the members of NEMSAC have tackled a number of topics and finalized several advisories, including Patient Elopement during EMS Transport, Resource Allocation and Distribution during Disasters, and the Safe Transportation of Pediatric Patients in Ambulance. To address a growing concern over unsubstantiated reports of first responders being “exposed” to opioids while responding to medical or other emergencies, NEMSAC also drafted an advisory reinforcing the evidence-based guidance to PPE for opioid-related incidents. To read these and other NEMSAC documents and to learn more about the council's past work and future meetings, visit the **[NEMSAC page on ems.gov](#)**.

About NHTSA's Office of EMS

Consensus building, collaboration and supporting significant national projects are the hallmarks of NHTSA's contribution to EMS system development. The mission of the NHTSA Office of EMS is to reduce death and disability by providing leadership and coordination to the EMS community in assessing, planning, developing and promoting comprehensive, evidence-based emergency medical services and 911 systems.

For more information about the Office's programs and initiatives, visit [ems.gov](#). There, you can sign up to receive EMS Update, the Office's official newsletter, and find out more about EMS Focus, the Office's webinar series.





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