



National Association of State EMS Officials

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The following is submitted by the National Association of State EMS Officials in response to the NHTSA Request for Information on the revision of the EMS Agenda for the Future. Questions may be addressed to: Kevin McGinnis (mcginnis@nasemo.org; 207-512-0975).

1. What are the most critical issues facing EMS systems that should be addressed in the revision of the EMS Agenda? Please be as specific as possible.

Emergency medical services as we know it today should become a profession and an integral part of a larger health care delivery model. The EMS portion of this health care delivery model provides services such as emergency/9-1-1 response, interfacility transfers, event and mass gathering standbys, community paramedicine (CP) and mobile integrated healthcare (MIH), preparedness and response to mass casualty incidents and disasters, wellness checks (and others). The evolving “EMS 3.0” describes this approach.

Important considerations include:

- Financial and reimbursement reform of EMS will be essential to support daily operations to include reimbursement from CMS and insurance companies. Continued implementation of alternative delivery models must be supported by alternative reimbursement models such as partnerships with public health, health systems, and ACOs. Emphasis must be on “value”, which is a factor of patient/population outcomes, cost reduction, and patient satisfaction, not volume. The 2016 National Academies of Science report on a National Trauma Care System, Recommendation 10, emphasizes funding EMS providers for care and not just transport services.
- EMS to be recognized, under state statutes as an essential provider equal of emergency services equal to police and fire. EMS must also be considered an essential part of healthcare for a community, emergency preparedness, and public health. EMS provides a healthcare safety net role.
- Public identity (“paramedic” for all level of providers) that ensures that all levels of EMS providers are readily identifiable to the public using professional terminology that avoids confusion.
- Medical care in the out-of-hospital setting by EMS providers must be practiced under the medical oversight of EMS physicians with specialized training and credentials to oversee such practices.
- Professional identity (“paramedicine”) and with clear career path and comparable education, responsibility and accountability to other health/medical professions. There is an aging EMS workforce which is being required to provide more pre-hospital services. The rural workforce is very fragile and cannot continue to be

sustained solely with volunteers. EMS leaders of the future will need to develop new ways to recruit, educate and retain the workforce. The workforce of the future must be foundationally different than the workforce of the past that has relied on a 9-1-1, emergency readiness model.

- EMS providers at all levels should understand that “best” practices in healthcare are constantly changing. Concepts of evidence-based care should be included in education for all levels of providers, and the importance of lifelong learning should be fostered in all EMS providers.
- EMS education must adapt to the additional skills needed for community paramedicine and other aspects of EMS patient care. For example, the increased emphasis on interpersonal communication skills may require methods of teaching and evaluation like the use of standardized patients.
- Stronger support by local government leadership on the value of EMS in our cities and rural communities.
- EMS leaders must have access to relevant management skills development resources.
- Aging national population will continue to increase the need for a strong organized pre-hospital system throughout our nation.
- EMS collects significant amounts of data and it will be critical that data be utilized to support evidence-based patient care and development of systems of care. Data needs to drive patient care. EMS practice needs to become more research based to support current interventions and to justify adoption of new practices. Patient care also needs to drive data. Data collected should be based upon the information required to make good patient care decisions and to enable improved patient outcomes, less expensive care, and patient satisfaction. Data collection and communication need to mature and become adequately integrated to help interdisciplinary providers communicate effectively about patients who they jointly treat and to help state EMS and other health system officials evaluate systems of care – including prevention, the public, first responders, EMS and hospitals – and to drive improvements where needed.
- Recognizing the ideal positioning of emergency and non-emergency EMS service lines (including non-traditional EMS approaches such as MIH, CP, telemedicine, EMS 3.0 model) to address broader health system issues as that system transforms itself. These service lines must integrate in a highly coordinated fashion to provide daily EMS response.
- EMS preparedness (including educating and equipping) for response to mass casualty incidents and disasters.

- Decreasing job opportunities in many rural communities make living there difficult, which will challenge the need for a timely rural and frontier EMS response for emergency and non-emergency dispatches.
- Access to health care facilities is declining, which leads to rural communities being increasingly reliant on the EMS system.
- Increasing and novel infectious disease outbreaks require the need to ensure that appropriate PPE is available for EMS providers.
- Echoing progress in the larger world of health cited care, there is a need for increased opportunities for the consumer of EMS services to be aware of quality and performance in their EMS system. In general, when the public dials 9-1-1, they get what they get, expecting and/or hoping that they are receiving high quality emergency health care. As we develop EMS benchmarks and EBG's, we should strive to make EMS performance more transparent to the communities served.
- Workforce adequacy assessment should be done on an ongoing basis.

2. What progress has been made in implementing the EMS Agenda since its publication in 1996?

The following are some of the more important system developments following the lead of the original Agenda:

- Establishment of national education standards for EMT/EMT/AEMT and Paramedic levels including a national scope of practice model.
- Some, but not universal, improvement in the 9-1-1 system. Caller location accuracy remains an Achilles heel, especially for identifying floor height in cities.
- More usage of career EMS organizations to handle daily EMS responses.
- Enhanced data collection systems meeting national standards (NEMSIS).
- Integration of EMS into the medical community as more than just an emergency care and transportation provider.
- Community paramedicine as a service line of EMS is being rapidly embraced as a component of the evolving health care system. Participation of EMS agencies in mobile integrated healthcare systems is also expanding.
- National EMS medical guidelines have been developed.
- Movement toward a nationwide EMS system based on uniform standards.
- There has been step-wise progress in increasing the evidence-based approach to EMS care and guidelines.

- Research is increasingly devoted to the out of hospital medical system, enabling more reliance on evidence-based practices.
- EMS has been recognized as a subspecialty board of medicine with a specialized core content of medical knowledge and skills, educational program standards, and its own board certification process.

3. How have you used the EMS Agenda? Please provide specific examples.

Some examples cited by NASEMSO members of state-level use by Agenda attribute:

- EMS Research:
 - Designate EMS as a physician subspecialty, and a subspecialty for other health professions.
 - State EMS lead agencies must evolve from being primarily regulatory to providing technical assistance. They should be involved in promoting public health services research, and facilitating the development of relationships and resources necessary for such studies.
- Human Resources and Education:
Established CoA and NCCP in state (Enacted March, 1996)
Addresses:
 - *“Ensure that alterations/expectations of EMS personnel to provide health care services are preceded by adequate preparation.”*
 - *“Adopt the principles of the National EMS Education and Practice Blueprint.”*
 - *“Develop collaborative relationships between EMS systems and academic institutions.”*
- Medical Direction:
 - Adopted ACEP guidelines and requirements for Medical Directors. Update requirements based on current standards.
Addresses:
 - *“Formalize relationships between all EMS Systems and medical directors.”*
 - *“Require appropriate credentials for all those who provide on-line medical direction.”*
 - *“Appoint state EMS medical director.”*
 - The University of Mississippi Medical Center has developed an EMS Fellow Program in recent years.

- Education:
 - Established Medical Direction Training and Quality Assurance Committee (MDTQA) committee of EMS Medical Control physicians that oversee training standards, quality improvement and assurance activities and patient care standards.
Addresses:
 - *“Conduct EMS education with medical direction.”*
 - CoA Established
Addresses:
 - *“Ensure adequacy of EMS education programs.”*
 - *“Seek accreditation for EMS Education programs.”*
- Public Access:
 - Implemented 9-1-1 in all areas of state
Addresses:
 - *“Implement 9-1-1 nationwide.”*

Achievements in other states based on Agenda recommendations:

- These are some specific areas in our state where we feel we have made progress over the last two decades. In some cases, the Agenda was the driver, but in most cases the Agenda served as a resource to support, catalyze, or “leverage” change.
- Although we had requirements for EMS agencies to have medical direction at the BLS and ALS level, since the Agenda we have formalized requirements for EMS physician endorsement and developed requirements for re-endorsement and continuing education increasing the quality and level of involvement of our EMS physicians.
- Our state had unique state training programs that were historically successful and had devoted followings, so change was difficult, but the Agenda assisted movement towards accreditation of ALS training programs (including unique State programs) and set the stage for transition to national standard (NREMT) certification levels.
- The recognized need for research in EMS provided support for a required statewide, NEMSIS compliant, data collection program for all EMS agencies. At times it was challenging to garner support for personnel, software and hardware, and to convince (urge, force?) EMS agencies of the necessity of their participation.
- Assisted/guided the development of recruitment and retention programs made available to EMS agencies, training programs and academies for agency officers, technical assistance programs for agency leadership, and voluntary standards of excellence programs to recognize high performing EMS agencies.

- The Agenda provided support for efforts to continue and expand a dedicated statewide funding stream for EMS (e.g., “Four For Life” from motor vehicle registration fees).
- Provided support for our successful effort to have REPLICA passed in the State legislature.
- Provided support for statewide programs to incorporate EMS in broader health care challenges, such as mass vaccination programs for epidemic illnesses (e.g., H1N1).
- The Agenda provided support and guidance for developing programs focusing on provider health and safety – examples include the LODD Act, establishing a standing Provider Health and Safety Committee at the state level, developing training programs and guidelines for highway incident management.
- The Agenda provided support for maintenance of our State EMS Symposium, one of the most successful nationally, as it weathered programmatic and fiscal challenges.

Examples of nationwide uses of Agenda recommendations:

- Mobile Integrated Healthcare:
Connect to community resources and expanded roles for EMS.
Addresses:
 - *“Expand the role of EMS in public health.”*
 - *“Involve EMS in community health monitoring activities.”*
 - *“Integrate EMS with other health care providers and provider networks.”*
- EMS Research:
 - Being done; Limited; More still needed
 - NAEMSP
 - Prehospital Emergency Care
 - NEJM
 - Academy of Emergency Medicine
 - JAMA
 - Evidence-Based Guidelines
- Legislation and Regulation:
 - CoA and NREMT
Addresses:

- *“Increase reliance on national resources for certification and accreditation of EMS providers and components.”*
- Human Resources
 - REPLICA and National Certification
Addresses:
 - *“Develop a system for reciprocity of EMS provider credentials.”*
 - Fatigue
Addresses:
 - *“Conduct EMS occupational health research.”*
 - Education: CoA and NCCP
Addresses:
 - *“Ensure that alterations/expectations of EMS personnel to provide health care services are preceded by adequate preparation.”*
 - *“Adopt the principles of the National EMS Education and Practice Blueprint.”*
 - *“Develop collaborative relationships between EMS systems and academic institutions.”*
- Education Systems
 - CoA
Addresses:
 - *“Ensure adequacy of EMS education programs.”*
 - *“Seek accreditation for EMS Education programs.”*
 - National Scope of Practice
Addresses:
 - *“Commission the development of national core contents to replace EMS program curricula.”*
- Communications
 - FirstNet
Addresses:
 - *“Facilitate exploration of potential uses of advancing communications technology by EMS.”*

- Emergency Medical Dispatch
Addresses:
 - *“Assess the effectiveness of various personnel and resource attributes for EMS dispatching.”*
 - *“Promulgate and update standards for EMS dispatching.”*

- Clinical Care:
 - National Scope of Practice
Addresses:
 - *“Commit to a common definition of what constitutes baseline community EMS care.”*

 - Evidence Based Guidelines
Addresses:
 - *“Subject EMS clinical care to ongoing evaluation to determine its impact on patient outcomes.”*
 - *“Employ new care techniques and technology only after shown to be effective.”*

 - National Certification
Addresses:
 - *“Commit to a common definition of what constitutes baseline community EMS care.”*

- Information Systems:
 - 2001
NEMSIS: The National Association of State EMS Directors in conjunction with its federal partners at the National Highway Traffic Safety Administration (NHTSA) and the Trauma/EMS Systems program of the Health Resources and Services Administration’s (HRSA) Maternal Child Health Bureau work to develop a national EMS database—known as NEMSIS, the National EMS Information System.
Addresses:
 - *“Adopt uniform data elements and definitions and incorporate them into information systems.”*
 - *“Develop mechanisms to generate and transmit data that are valid, reliable, and accurate.”*

- 2003
NEMSIS: Memorandum of understanding signed. The MOU “recognized the need for EMS data collection at the national level” as well as the assignment of “specific definitions to a set of data elements identified as desirable to be collected on a national level.” Fifty-two states and territories signed the memorandum.

Addresses:

- *“Develop information systems that are able to describe an entire EMS event.”*
- *“Adopt uniform data elements and definitions and incorporate them into information systems.”*
- *“Develop mechanisms to generate and transmit data that are valid, reliable, and accurate.”*

NEMSIS: EMS Reason for Encounter. A two-year project funded by NHTSA is established to develop a coding system for EMS as well as a uniform description for the reason for an EMS encounter. It is based on EMS curricula and the NHTSA dataset.

Addresses:

- *“Develop information systems that are able to describe an entire EMS event.”*
- *“Adopt uniform data elements and definitions and incorporate them into information systems.”*

NEMSIS: Creation of a National Data Dictionary (dataset). After 18 months, a 400 page detailed and complex data dictionary is completed. Information about each of the data elements, the variables, and the definitions associated with that data element as well as how to deploy the element in a database are described.

Addresses:

- *“Develop information systems that are able to describe an entire EMS event.”*
- *“Adopt uniform data elements and definitions and incorporate them into information systems.”*

- 2004
NEMSIS: New schemas, physical database schemas, or models, as well as scripts to automatically create the database are made available in different platforms.

Addresses:

- *“Develop information systems that are able to describe an entire EMS event.”*
- *“Provide feedback to those who generate data.”*
- *“Develop mechanisms to generate and transmit data that are valid, reliable, and accurate.”*

NEMSIS: XML Chosen Standard. XML defined as the standard to move EMS data between local and state level or state and national database level. XML's open format provides an easy way to pass data between different software formats.

Addresses:

- *“Provide feedback to those who generate data.”*
- *“Develop mechanisms to generate and transmit data that are valid, reliable, and accurate.”*

○ 2005

NEMSIS: EMS Uniform Prehospital Dataset Version 2.2 created. A solid dataset is released and schemas published on the website for integration. The Version 2.2 dataset was created through a national consensus process to update and revise the standard.

Addresses:

- *“Develop information systems that are able to describe an entire EMS event.”*
- *“Develop mechanisms to generate and transmit data that are valid, reliable, and accurate.”*
- *“Adopt uniform data elements and definitions and incorporate them into information systems “*

NEMSIS: Funding for a Technical Assistance Center. NHTSA, HRSA (EMSC), and the CDC see the value from the pilot phase of the project. They provide funding to create the NEMSIS Technical Assistance Center. The contract is given to the University of Utah School of Medicine (Utah) to operate the NEMSIS Technical Assistance Center. Utah partners with the University of North Carolina to handle all of the customer service needs.

Addresses:

- *“Provide feedback to those who generate data.”*
- *“Develop mechanisms to generate and transmit data that are valid, reliable, and accurate.”*

- *“Develop integrated information systems with other health care providers, public safety agencies, and community resources.”*
 - Evaluation:
 - EMS Compass: EMS Compass initiative has engaged a wide range of EMS stakeholders to develop performance measures that are relevant to EMS agencies, regulators, and patients. The measures will be based on the latest version of the National EMS Information System (NEMSIS) and will allow local and state EMS systems to use their own data meaningfully.
Addresses:
 - *“Develop valid models for EMS evaluations.”*
 - *“Evaluate EMS effects for multiple medical conditions.”*
 - *“Determine EMS effects for multiple outcome categories.”*

4. As an EMS stakeholder, how might the revised EMS Agenda be most useful to you?

State EMS officials should lead statewide system development and are charged with enforcing the requirements of the established system for EMS provider agencies and personnel. From these perspectives, the revised Agenda should:

- Describe how the healthcare system is changing, how EMS fits within and can contribute to that, and how the EMS system and providers can benefit from that.
- Address all of the core system attributes in a clear manner that allows stakeholders to visualize how all of the disparate pieces are interconnected, and serve as a model for developing systems based on those attributes.
- Identify practices which evidence-based facts clearly contradict (e.g. the eight-minute response time) and help stakeholders move past them.
- Serve as the common point of reference for establishing system development goals among the various system stakeholders (e.g. educators, elected officials, hospital operators, state officials) and, as such, must be user friendly and not intimidating to the street medic yet beneficial to the local, county and state level leaders. The concept of the document needs to be maintained with more resources listed that help services, providers, stakeholders and partners with planning and implementation of the agenda recommendations.

5. What significant changes have occurred in EMS systems at the national, State and local levels since 1996?

Features which are evolving as nationwide characteristics of EMS systems include:

- The formal establishment of community paramedicine and mobile integrated healthcare.
- The National Registry of EMTs (NREMT) having matured into a resource and process for standardizing the enforcement of personnel licensing/certification
- The EMS Education Agenda for the Future having provided national education standards that have become an accepted foundation for personnel education and licensing/certification.
- Improving outcomes for patients with cardiac arrests in communities that have programs such as targeted community CPR, high-performance CPR techniques (e.g. hands-only CPR), and QI processes for cardiac arrest.
- Improved patient safety when technologies like waveform capnography to verify placement of airway devices are used.
- Progressing from paper-based Prehospital Care Report (PCR) systems to electronic PCR (ePCR) systems with a nationwide standard (NEMSIS)
- Utilizing data from ePCR systems for research and the establishment of evidence-based practices.
- Enhancing an educated workforce, and movement toward a paramedicine profession, by encouraging a knowledge basis for practices performed rather than cookbook practices (“if you see this, do the following..”).
- Less reliance on direct, real-time medical direction for patient care, and more use of indirect, standing order medical direction.

6. What significant changes will impact EMS systems over the next 30 years?

The EMS system of the future will need to evolve within a transforming healthcare system that values preventive, performance-based, low cost patient care. It will evolve to be a system providing more than just “emergency medical services” and therefore called something other than “EMS”. It will expand services to prevent the need for 9-1-1 calls where possible and be the gatekeeper to transport patients to a broader choice of destinations and services appropriate to the patient’s needs (the “EMS 3.0” model with community paramedicine and mobile integrated healthcare). The EMS role in potential new outbreaks of infectious disease must be planned and coordinated with other health care sectors.

To accomplish this, barriers such as lack of financial and reimbursement reform (supporting services other than patient transport), professional identity (paramedicine), and polarizing individualism between different sectors of EMS (e.g. fire-based versus for profit) will need to be transformed or eliminated. Reliance on EMS volunteers must be replaced by new approaches and expectations in delivering services, particularly in rural and frontier areas.

There is a need to thoroughly overhaul initial and continuing education with concepts such as standardized patients, life-long learning, systems-based practice, evidence-based practice, evaluation of the literature, culture of safety, and culture in general.

In addition, telemedicine and other FirstNet broadband enabled technology must be developed and embraced, especially where they serve to bridge geographical gaps in medical and emergency medical coverage in rural and frontier areas whose health care resources are in decline.

7. How might the revised EMS Agenda support the following FICEMS Strategic Plan goals:

a. Coordinated, regionalized, and accountable EMS and 9-1-1 systems that provide safe, high-quality care?

Agencies, systems and their leaders need to be encouraged and incentivized to work together in order to be patient-focused, locally connected and to build a system and community of practice that improves the health of the people it serves.

An updated EMS Agenda for the Future could highlight pockets of excellence around the country and the processes that led to premiere system creations at the various levels. The EMS community is still built on a history of storytelling. By learning from other systems that have made the transition from silos to system, EMS providers would be shown that there is a path. Highlighting current exemplary practices of urban, rural and frontier systems succeeding in system development is needed. Outdated ideas such as the eight-minute response time need to be refuted.

An updated agenda could provide current examples of accountable and integrated systems.

Special attention needs to be given to restructuring response resources, the system in which they are organized, and expectations in rural and frontier communities. An ambulance service, staffed by volunteers may remain the solution for some communities while others require a new approach and/or expectations. National, state, county, tribal, and local leadership should work together with great innovation to insure access by every community to the EMS system the community elects through a process of **informed self-determination** (see *Rural and Frontier EMS Agenda for the Future* for this important concept).

The Agenda should assist in the implementation of the Tracking Emergency Patients standard developed by OASIS with assistance from NASEMSO, DHS/OIC, and HHS. Currently, the continued use of multiple proprietary and non-interoperable software systems for tracking patients in multi-patient events and disasters causes responders to regress to manual tracking systems.

b. Data-driven and evidence-based EMS systems that promote improved patient care quality?

EMS agencies need to be shown how data can help them in understanding their system. More resources need to be spent on the transformation of data into actionable information. While publishable research in systems is valuable, a focus on data use and improvement at every level of the system is vital.

The 2001 EMS Research Agenda for the Future and other works emphasized the need for research in EMS, which was clearly a need at the time and which continues to be a need looking forward. In the intervening decades, the amount of EMS research has grown steadily both in terms of volume as well as the quality of the research published. EMS research has also grown into a truly international effort as exemplified by the data on resuscitation coming from Europe and Japan in recent years.

As we move forward, the challenge is growing to include the analysis and implementation of the results of EMS research. Efforts to generate evidence-based guideline (EBGs) using standardized methodology (e.g. GRADE) will be increasingly important to make sense of the volume of research being generated and provide recommendations in an “EMS context” that can be readily introduced in practice. EMS system leadership, EMS providers, and EMS physicians have a growing responsibility to accept and implement recognized standards such as EBGs and performance measurement benchmarks.

c. EMS systems fully integrated into State, territorial, local, tribal, regional, and Federal preparedness planning, response, and recovery?

The Agenda should serve as preparedness grant guidance for EMS system development with clear guidelines for system building and integration at all levels. It should encourage grant opportunities for such development by EMS systems and agencies without requiring fire, public health or other health care affiliation as a condition for funding.

d. EMS systems that are sustainable, forward looking, and integrated with the evolving health care system?

The original agenda for the future had an incredibly “forward looking” recommendation related to integration with the healthcare system. Unfortunately, the EMS system did not adequately respond to the previous Agenda in this regard. It was not until ten years later, following publication of the 2004 Rural and Frontier EMS Agenda for the Future, that community paramedicine and mobile integrated healthcare blossomed.

We have been a bit schizophrenic about our desire to be considered part of the larger health care system. It is desirable if it means funding, recognition, and improved

status, but we have been more reserved at times about accepting our responsibilities as part of the larger system. This includes accepting national standards for education/training and licensure/certification, improving consistency within/across EMS systems, readily implementing exemplary practices and EBGs, and increasing transparency and accountability to the populations we serve. We also need to continue to manage our workforce, continue to examine, define and assist the appropriate involvement of volunteers, and provide a career path that is attractive both in the short term and the long term.

The “EMS 3.0” model and process for system integration and planning should be considered strongly in the development of a new Agenda. In this consideration:

- Point out that the previous Agenda included this health system integration concept and describe the reasons for our failure to implement it until the recent CP-MIH era.
- Consider using the PIE (Promoting Innovation in EMS) project for recommendations related to this.
- State an overall principal that EMS is a fundamental/vital/essential component of healthcare, public health, and public safety but should also be recognized as occupying its own professional “space” (per the “EMS 3.0” model). This should be reflected by state EMS and essential services law. The EMS scope of practice, role, and function should not be narrowly defined by only 9-1-1 emergencies or transport related activities. Fire-based EMS should not have a fire focus that excludes the full opportunity of integration.

e. An EMS culture in which safety considerations for patients, providers, and the community permeate the full spectrum of activities?

This is an area in which EMS has been slow to evolve, but is gaining momentum quite quickly. Examples include the recent efforts to improve safety in the back of ambulances for both providers and patients. The National Association of State EMS Officials (NASEMSO), the National Institute of Standards and Technology (NIST), and the National Institute of Occupational Safety and Health (NIOSH) have had leading roles in these efforts. The definition of provider health and safety needs to be broadened. A good example is the current EMS Fatigue project and NASEMSO’s role in that project. It is gratifying to see that the project is looking at more than just fatigue and vehicle operations. It also includes patient safety issues and the impact of fatigue and scheduling on EMS provider job satisfaction and short and long term health issues. Programs are being developed and disseminated on traffic incident management and responder safety. There is more work to be done on issues such as EMS response (“hot” versus “cold”) as a provider/public health and safety issue, and clinical issues such as airway management (e.g. patients harmed through airway management misadventures).

The following should be emphasized:

- Culture is very complex, and leaders and managers in EMS need to be trained and educated to develop a culture in their employees/ volunteers/followers. The desirable aspects of culture do not simply appear or are not developed within an organization without specifically being planned and cultivated through skilled leaders.
- Provider wellness should be emphasized as a broader ideal than merely provider safety. We should emphasize the need to have evidence-based guidelines and ongoing research to fill gaps in wellness issues for providers, including sleep, cardiovascular, psychological, injury prevention, and other aspects of wellness. This is critical to retention of EMS providers and to providing a just culture that respects our providers.
- Consider additional discussion of the importance of a just culture in the workplace for EMS providers.
- Patient safety must be among the most emphasized components of the new Agenda. It is essential that patient safety in EMS not be given a pass or excuse because of the out-of-hospital environment. We have too often lowered the standards for EMS patient safety compared with those that are present in the hospital based upon the excuse of the different environment. An example of this is overdoses of infused medications because we do not require mechanical pumps. We should encourage ways to find solutions to any barriers to providing the highest level of patient safety in the field.
- In regard to the community, we should emphasize that like emergency departments within hospitals, EMS is a healthcare safety net for the community, and it should be supported as such.

f. A well-educated and uniformly credentialed EMS workforce?

It seems for many states, and for many of the questions/discussions introduced by this NHTSA Agenda request for information, that this is the “gorilla” in the room. The NREMT is the only existing national standard for EMS certification and it is difficult to imagine that another viable option or competitor will emerge. If EMS really wants to be part of the larger health care system, then a national standard is part of the expectation of the public and other health care providers. Local or regional training programs and credentialing does not happen for other health care professions. Yet EMS continues the practice of statewide certification based on disparate courses taught locally, with a varying scopes of practice and requirements for proficiency in the nation. For REPLICA and other such efforts to succeed, a national standard is a necessity. For EMS to develop its workforce and develop a more widely recognized career path, and to expand the recognition and scope of practice of EMS in the

broader health care system, a national standard is a necessity as well. The Agenda needs to support for those systems movement toward such a standard.

State emergency medical services offices and local EMS agencies are using scores of different software systems to manage information related to EMS personnel licensure. In addition to state EMS office databases, learning management systems and patient care reporting systems in use at the local level capture information documenting individuals' conformity to requirements associated with license renewal. The National Registry of Emergency Medical Technicians, a national certification body used by the majority of states, also designed and built its own database. All of this has occurred with no universal data dictionary and .xml standard for a core dataset related to EMS personnel licensure. As a result, transmission of data between proprietary systems, between states, and among states at a national level is not possible.

With over 825,000 EMS personnel holding state issued licenses with periodic renewal requirements and an unknown number seeking initial licensure every year, states have evolved to introduce computer databases in which data are stored about these personnel. Some states use databases that have been constructed using commercial software (e.g., Microsoft Access), others have purchased software custom made for EMS purposes, and several use databases designed and built by state information technology departments. Limited examples of system to system interface exist, with data downloads from the National Registry of Emergency Medical Technicians probably being the most common example.

State EMS personnel licensure systems would benefit from the creation of national EMS personnel licensure information management system standards through the creation of a common data dictionary and .xml schema enabling states to share and submit data to a national repository. States can select from fields as desired or required by laws or rules and specify which data elements they require from applicants for licensure and local agencies. The resulting interactions possible between databases, or from an on line interface allow applicants and local EMS agency officials to submit data in a condition that meets the state's requirements upon validation. The state can manage and rely on the information provided in a predictable manner, including certainty about the security of the information and accountability.

The Agenda should seek to develop a resource to allow states to adopt common data definitions related to personnel licensure and create a framework or strategy through which system interfaces with the appropriate level of security would allow states to execute their legislative mandate to protect the public with greater speed, accuracy, and accountability.

The Agenda should seek the development of a universal data dictionary of all requirements associated with state license issuance and renewal. The project would

include common denominator requirements universal to all states and the master list of requirements known to vary from state to state. The standards could support electronic signatures for verification depending on what the individual state requires. Interface for PCR and LMS would be a conscious consideration and component of the framework.

The previous Agenda has much information on education that is still valid, but there are opportunities to improve upon the previous vision. For example:

- We should learn from the core competencies developed for the education of physicians, and encourage that EMS education, certification, and credentialing ensure that providers have certain core competencies that extend beyond simply knowledge and skills. EMS education refers to some of this with the inclusion of an affective component. But it is important to realize there is a larger set of competencies to be a healthcare provider integrated into the broader healthcare system. We should recognize and ensure that EMS providers have the core competencies in areas of:
 - medical knowledge,
 - patient care,
 - interprofessional communication (an area that has largely gained no attention in EMS education; there is a huge opportunity to do better in educating EMS providers to communicate with patients such as standardized patient programs that used trained individuals who respond in a standardized way to various patient care issues),
 - professionalism (critical in the era of social media and acceptance by the larger healthcare system),
 - systems-based practice (critical to connecting with all parts of the healthcare system in processes like community paramedicine), and
 - practice-based learning (the Canadians include some level of training regarding evidence-based practice at each level of EMS provider training, but more importantly, we don't do enough to educate EMS providers about how to be lifelong learners and to the expectation of lifelong learning).

There should be significant efforts to include expanded information about competency assessment and credentialing. EMS has addressed education heavily, but the concepts of competency assessment and credentialing were less of a focus in the previous Agenda. Some thoughts are:

- Credentialing as a concept has been part of hospital systems, and this should be outlined and given importance in the new Agenda. It is critical that EMS agency managers and EMS medical directors ensure a competent EMS

workforce through formal credentialing of EMS providers. The Scope of Practice Model has an excellent Venn diagram showing the overlap that defines a provider's scope of practice as the areas included within what the provider is trained to do, licensed (permitted by the state) to do, certified (by a body like NREMT) to do, and credentialed (by the local EMS medical director) to do.

8. How could the revised EMS Agenda contribute to enhanced emergency medical services for children?

The EMS Agenda for the Future was a document that examined the previous 30 years of EMS and then looked out to the future and how EMS would form. In essence, the EMS Agenda for the Future focused on Integration of Health Services, EMS Research, Legislation and Regulation, System Finance, Human Resources, Medical Direction, Education Systems, Public Education, Prevention, Public Access, Communication Systems, Clinical Care, Information Systems and Evaluation. Independently, the word children appear 19 times on the document, and in the context of Pediatric patient, the word pediatric only appears three times, alluding mainly to the work of the EMS for Children Program. However, the past 20 years, the need to address children in EMS has grown exponentially. Pediatrics can be woven into any of these 20 categories.

Ultimately, pediatrics should not be looked at as a special population as they are an age segment of our patient population. Placing them into a "special" category gives way to excuses not to devote the same resources to them. For example, the excuse usually is "kids are special and don't make up many of our calls, thus we don't expend the same amount of funding for equipment or education." In reality, that age group is seen probably as much as a full cardiac arrest, but we don't excuse a service/agency from not having a defibrillator. EMS should be provided educated in, and have protocols and equipment for every age range in the patient spectrum. Having pediatrics embedded into all system attributes brings it into a "normal". When an EMS class is doing patient systems, it should be all ages of patients, noting growth and developmental differences from pediatric to geriatric. The same can be said of special needs patients at all ages.

Integration of Health Services:

The need for integration is as clear today as it was 20 years ago. The advancement of community paramedicine (CP) and mobile integrated health (MIH) care is a proof of that. However, the pediatric population within itself needs its focus and guidance. Although in its infancies, CP/MIH's need to address pediatric care within the community is real and should not be overshadowed by the growing number of the elderly.

Epidemiologic studies suggest that as many as 1 out of 4 children in the U.S., or 15 to 18 million children age 17 years and younger, suffer from a chronic health problem, although the prevalence of specific diseases and conditions ranges widely. Type 2 diabetes is still

exceedingly rare in children and adolescents (.22 cases per 1,000 youth) but these rates are increasing rapidly. With rising obesity rates the scope of the problem is further underscored by the increasing prevalence of chronic illness in children, with the epidemic of childhood obesity driving the increase in a number of other chronic conditions (e.g., asthma-related illnesses). Data is suggesting action, and one example of how EMS can impact pediatric health at a community level is Indiana University's program Treat the Street: Prehospital Pediatric Asthma Intervention Model to Improve Child Health.¹

Telemedicine capability is growing, and pediatric care will benefit by enabling access to pediatric clinical expertise. Over the years, pediatric clinicians and capacity have become concentrated in tertiary care centers and the majority of children with significant injuries and illnesses are treated in these centers. Telemedicine enables local health care providers to access the child's specialist and allow the child to be treated at the local hospital thus minimizing the need for transport to distant pediatric hospitals. The future of telemedicine is not limited to a hospital setting. Technology will allow pediatric consultation within the community health setting by EMS providers, school nurses, and the child's family members.

EMS Research

Research on emergency care of children continues to be severely limited. Federal and state policymakers must allocate funds for pediatric-specific research.

Human Resources

Pediatric emergency care is frequently described as a low incidence, high acuity situation. This results in a workforce that is ill prepared to treat severely ill or injured children because EMS providers lack experience and lose competency due to infrequent exposure to children. The problem is also compounded by the fact that EMS instructors and training officers also are ill prepared to care for children. Because pediatric clinical specialists are located in pediatric hospitals, it is important that efforts be made to access pediatric educational resources through these tertiary care centers. Successful efforts will require identification of funding.²

¹ *Treat the Streets* conducts an in-home asthma assessment that has proven to be successful in reducing repetitive ED visits or ED recidivism rates. The program uses a pediatric community paramedicine program to (1) address identified gaps in pediatric asthma care, (2) reduce ED recidivism rates for children, (3) improve pediatric health outcomes, and (4) enhance paramedic provider roles in care delivery. To date, the program reports preliminary results that show families who chose to participate in the paramedic home visit program return to the hospital less frequently and have a shorter length-of-stay.

² One example of how a pediatric hospital can provide EMS providers with pediatric education is occurring at the Geisel School of Medicine and Dartmouth-Hitchcock Medical Center. The medical center has created the Center for Rural Emergency Services and Trauma (CREST) Network for EMS Providers and established a rural EMS training network. The program utilized a mobile pediatric simulation center that travels to rural areas of Vermont and New Hampshire to conduct training for EMS providers.

Medical Direction

In 1992, the subspecialty of pediatric emergency medicine was recognized, and the number of pediatric emergency physicians is growing. It is important to acknowledge this subspecialty and ensure that these physicians are utilized by state and regional EMS systems to develop and revise pediatric protocols. Once the broad goal of having emergency physicians as medical directors of all EMS agencies and systems, the next steps should include assurance that all medical director committees should include pediatric emergency physicians.

Evaluation

The importance of evaluating pediatric emergency care should not be overlooked due to low incidence rates. Pediatric emergency illnesses and injuries must be given consideration when developing an evaluation system. Specific tracers for pediatric conditions, assessments, and treatment modalities must be developed and utilized.

Training and Protocols

Education for prehospital providers needs to include more basic information specific to the pediatric population, to include growth and development. Additionally, more information needs to be included for the treatment of life threatening illnesses and how to care for the special health care needs population.

9. How could the revised EMS Agenda address the future of EMS data collection and information sharing?

Interoperability needs to be a priority. Information sharing guidelines and white papers need to be written that outline how sharing is not just acceptable but needs to become the standard of practice. An EMS provider's patient care report is often not interoperable with physician practice/hospital/health system/health information exchange (HIE) data systems. This may result in EMS data not being integrated into patient records in these other settings, or in an EMS provider having to complete multiple patient medical records for a single episode of care. The HL7 compliance status of NEMESIS assures that this kind of information communication among systems can happen, but it has to be made to happen.

The HIE framework provides an opportunity for improved interoperability and for EMS to have access to patient information before and after a patient event. EMS Agencies have not found a way to utilize this information in their day-to-day operations. A revised EMS agenda might further expand on how this integration can be achieved and put EMS into a higher priority within the HIE world.

It should be easier for a street medic to access and use data to understand and improve their operations. An EMS system's data should be available to serve as an educational tool for both the healthcare industry and consumers.

The Agenda should explore and make recommendations on telemedicine use and other broadband enabled resources. Strong encouragement for embracing FirstNet, the nationwide wireless broadband network reserved for EMS, hospital emergency services and other public safety users. Unlike commercial wireless, this is an information sharing foundation that is public safety grade reliable and resilient, prioritized for public safety with virtually unlimited capacity, has a rural coverage mandate, and is operated with first priority on improving public safety information sharing as opposed to profit generation.

10. How could the revised EMS Agenda support data-driven and evidence-based improvements in EMS systems?

EMS personnel and agencies need to be shown how data can help them in understanding their system. More resources need to be spent on the transformation of data into actionable information. There should also be guidance on how to take this information up the chain to the appropriate local/state/national decision-making/policy-setting venues at the county-regional-state and national venues. While publishable research on EMS systems is valuable, a focus on data use and performance improvement at every level of the system is vital.

11. How could the revised EMS Agenda enhance collaboration among EMS systems, health care providers, hospitals, public safety answering points, public health, insurers, palliative care and others?

For EMS to gain stature and respect in the larger “House of Medicine”, we will need to look a bit more like other health care disciplines. This will occur with standardized education/certification/scope of practice, adoption of widely recognized practice standards specific to EMS, and transparency and responsibility for meeting benchmarks/standards.

One challenge will be to maintain the unique culture of EMS (our willingness, even enthusiasm, for responding to extreme circumstances in extreme conditions) while we better define and formalize these professional processes and practices to become an accepted colleague within the rest of the health care system. The Agenda will need to acknowledge these new roles (the entirety of the “EMS 3.0” model’s “service lines of EMS”), acknowledge that the practice is still within or very close to current scope-of-practice (at national standard certification levels), and emphasize communication and collaboration in areas such as community paramedicine (emphasizing that community paramedicine is a concept that is highly variable and highly adaptable to local/regional needs). The Agenda needs to emphasize that the effort is to improve the health and welfare of a shared group of patients/constituents through collaboration rather than “carving out” a new role for EMS just for the sake of EMS.

Some of the recommendations of the PIE project have some application here.

Additionally, we have an opportunity to suggest means of better collaboration among EMS and the other listed areas of providers. Some possibilities include:

- Incorporating EMS providers seamlessly with aspects of the healthcare system that focus on quality and safety (e.g. incorporate EMS providers in morbidity and mortality conferences as equals in interprofessional healthcare, incorporate EMS providers in hospital based quality improvement committees and root cause analyses, incorporate EMS providers in quality initiatives of healthcare systems and health insurance companies/payers). Dispatch and public safety has opportunities to collaborate with EMS by embedding emergency medical dispatch (EMD) with nurse advice lines and healthcare organization transfer centers to ensure the highest quality medical advice during EMD, but also to integrate this with nonemergency needs and responses.
- With regard to palliative care, state law should ensure that processes like Physician Orders for Life Sustaining Treatment (POLST) are available and usable across the entire healthcare experience, including EMS. EMS should have better education related to end-of-life care, including Do Not Resuscitate (DNR) orders like POLST, ensuring that patients get resuscitated when appropriate, but also get compassion when it is their desire or when resuscitation is futile. EMS should integrate with hospice and other end-of-life programs and should be equipped to communicate about end-of-life issues and be compassionate with those at end-of-life.

12. How will innovative patient care delivery and finance models impact EMS systems over the next 30 years?

The current financial landscape for healthcare is broken. Different models and approaches must be sought in order to continue providing the best healthcare possible (such as described in the “EMS 3.0” model). The U.S. is the envy of many when it comes to healthcare yet our EMS system in many ways lags behind our European counterparts. The EMS discipline needs to become recognized as a healthcare profession. Providing healthcare for free via a volunteer system is not sustainable and shouldn’t be assumed to be.

One of the key challenges faced by EMS today is the lack of secure funding to preserve its role as a healthcare safety net in the community. The current fee for service model is backwards in that it incentivizes poor patient health and overutilization of transport and hospital emergency services. Demonstrating value (outcomes/cost) will better position EMS as a critical part of the healthcare system.

As described in “EMS 3.0”, EMS is uniquely positioned to address a number of gaps that exist in the community healthcare system. Community paramedicine is not unlike the frontier, hometown doctor of the 1800s and early 1900s. In other words, a well trained healthcare provider who lives in a small town and has a stake (ownership) in the health of his or her community and is available for preventive, primary, and emergency care. This model is financially sustainable when measures to demonstrate value are applied (spend \$100 to save \$1000). The North Memorial Medical Center (Minnesota) Medicaid Accountable Care Organization (ACO) is but one example of health care savings supporting EMS operations.

13. How could the revised EMS Agenda promote community preparedness and resilience?

The area of public information and education is probably one of the most important chapters in the original Agenda but probably one of the least utilized. Many entities do not have the financial means to carry out a good public education program, nor do they have the guidance and assistance on how to do it. With proper public education topics such as community preparedness (e.g. when to call EMS in a disaster or public health emergency and when to self-treat or treat each other) can become as common as “Stop, Drop, and Roll”. EMS needs to educate the public on our area of healthcare and the steps that they can take to make sure they are prepared.

The revised Agenda, and any grant opportunities that spring from it, should not lump EMS into public health, fire or health care funding opportunities. EMS needs to stand on its own and be funded for the unique service lines that it offers. Guidelines for community preparedness and resilience should be evidence-based.

14. How could the revised EMS Agenda contribute to improved coordination for mass casualty incident preparedness and response?

It should encourage a national triage system which includes EMS, police, fire, hospital and public health partners, as well as research to establish evidence-based triage and mass casualty treatment guidelines. The Agenda should also encourage research which challenges traditional triage, treatment and transport processes (e.g. transporting patients to non-hospital health care facilities).

The Agenda should suggest teaching simple skills to the public on the basic treatment of sick and or injured patients. This would be limited to care the public can provide with little or no formal education or equipment (e.g. bleeding control and hands only CPR).

15. How could the revised EMS Agenda enhance the exchange of evidence based practices between military and civilian medicine?

The Agenda should provide support for facilitating the transition of service trained medics into civilian career paths. The Agenda should also support transition of unique service certifications to national standard certification to make that transition more seamless. The individual service branch could start with the national standard and then train beyond that as needed. We are at a point where adapting pre-hospital practice in military scenarios into civilian practice needs a distinct and considered “filter”. Although the combat experience is valuable, it frequently reflects an experience infrequently seen in civilian practice and set in an entirely different culture with a very different set of patients and expectations. As an example, if a combatant has a severe facial or neck injury and the combat medic attempts to perform a surgical airway and fails, unless a distinct effort is made to investigate that death, it is coded as “killed in action”. The case is closed there, and the possibility of medical error on the part of the medic is not explored. That is clearly not the environment that civilian medics practice in, but some SWAT medics suggest that they should be able to do surgical

airways (down to the EMT level) because that's what the military does. This might be a situation where a standing committee exists to examine military experience, gather the data, and makes considered recommendations (e.g. EBGs, GRADE methodology) regarding its applicability to civilian practice rather than having it "diffuse" into civilian practice.

The National Academies of Science (formerly IOM) released their comprehensive report and recommendations related to this exact issue on June 16th and this should be taken into consideration, as should the work product of the NASEMSO Military to Civilian Workforce project now ongoing.

16. How could the revised EMS Agenda support the seamless and unimpeded transfer of military EMS personnel to roles as civilian EMS providers?

Consider adding narrative or a section that addresses the partnership in numerous areas that relate to our medical military partners and resources. States all have National Guard assets with which they should already be working and numerous active duty bases and reserve components across the country already integrate to varying degrees with local and state systems. The Agenda should recognize the interaction of other EMS systems, perhaps even international, because of mutual aid agreements, threats that cross boundaries and present special challenges such as the Zika virus/pandemics and other catastrophic events. Other considerations include:

- Assure state EMS statutes, regulations and policies support the seamless transition of military EMS personnel into civilian EMS credentialed roles.
- Establish and maintain partnerships with military medical/EMS systems at state and federal levels - including the National Guard - to recruit and support the transition of military EMS personnel into credentialed civilian EMS roles.
- Implement promising practices that support military EMS personnel to meet the standards and competencies for credentialed civilian EMS roles quickly and effectively.
- Agree among credentialing organizations, education institutions and state EMS offices on how to recognize and credit military EMS personnel for the education, training and experience acquired.
- Collect and share standardized information from applicants and licensed EMS personnel, including military specific data, to support the analysis and planning for EMS human resources.
- Perhaps the section on Integration of Health Services could be expanded to include military, federal and international EMS systems to capture some of the points in the paragraph above. Explore the state licensure of military EMS personnel.
- Military and VA Doctors, Nurses, Veterinarians, and the like must hold a valid state license. Is there something we can learn from those processes?

- Having an existing state EMS license would make transitioning from the military to civilian EMS seamless.
- NASEMSO would have to establish a process wherein new recruits could obtain state licensure upon graduation and completion of their NREMT exam

17. How could the revised EMS Agenda support interstate credentialing of EMS personnel?

The Agenda should help REPLICIA to become the fifth interstate compact that all 56 states and territories have enacted into law. The Agenda should provide guidance for states and territories to use in REPLICIA legislative efforts. Utilize the language that is currently within the compact but assure that it is forward thinking. Observe lessons learned from our other healthcare discipline counterparts in similar efforts.

18. How could the revised EMS Agenda support improved patient outcomes in rural and frontier communities?

The Rural and Frontier EMS Agenda for the Future was published in 2004. Efforts at funding a review and updating of that work have not been successful. The revised Agenda should attempt such a review as either an integral or stand-alone Agenda document.

Rural and frontier EMS providers operate on the traditional model of an ambulance service in every town, generally staffed by volunteers. With the closure of Critical Access and other hospitals, these services find themselves called upon to transport more and more patients further away, stressing the volunteer staff to the breaking point. Many of these traditional ambulance services are closing as a result (putting even more strain on neighboring services). The Agenda should partner with the Joint Committee on Rural Emergency Care to address alternative emergency response, care and transport models that might be sustainable in rural and frontier areas.

Other considerations include:

- Based on the models developed as suggested above, explore alternative system funding mechanisms to support the models.
- Also based on the models above, develop a toolkit of resources to help services transform from the traditional model to one of the new models.
- Explore technological advancements that might be used to bridge geographic gaps (e.g. telemedicine and other FirstNet enabled communications/ diagnostic/treatment modalities and applications.
- Explore better coordination of air transport systems.

19. How could the revised EMS Agenda contribute to improved EMS education systems at the local, State, and national levels?

While the current Agenda for the Future has driven development of guiding documents such as EMS core content, scope of practice and education standards, a revised Agenda needs to plan how EMS education at the local, state and national level can be delivered more consistently and efficiently. Revisions of these documents and development of new documents need to help assure that the workforce of the future is well educated no matter where a student lives. Much of the delivery of EMS education is still based upon practices and methods of the last 30 years. Education of the future needs to be delivered with new methods and technologies. EMS education of the future must be competency based.

Future EMS education will need to support the ongoing practice of a provider through performance improvement practices based upon responsibility and accountability. Professional education at par with other health care professionals will help elevate the integration of EMS with the rest of the health care industry.

States will need to continue to support development of a well-educated and professional workforce through consistent, national credentialing. Again, the professionalism of an EMS workforce can only be at par with other health care providers if their education is accredited and their credentialing to practice is similar. One of the biggest challenges to this is the education and practice of a rural workforce where there are limited resources.

20. How could the revised EMS Agenda lead to improved EMS systems in tribal communities?

Developing a better understanding of the challenges faced by tribal EMS agencies will be a critical step in the development of the revised agenda. The agenda must address the challenges faced by the entire EMS system encompassing the tribal EMS agency.

The challenges faced by many tribal healthcare systems are similar in many ways to those faced by other rural communities. The recommendations in the revised agenda must not be exclusive to any community type such as tribal communities.

21. How could the revised EMS Agenda promote a culture of safety among EMS personnel, agencies and organizations?

Not only does the culture need to become more focused on “safety”, the definition and scope need to be expanded. The Agenda needs to include providers, patients, families (patient and provider), and the general public in the definition (in fire/rescue vehicle accidents involving a fatality, many of those affected were not in the fire/EMS vehicle). It isn’t just how we operate our vehicles, but how we design and build them, how we manage accidents on high speed highways, how we make patient care decisions and perform procedures (for instance, just how do we define a competent field intubator?), how fatigue factors into immediate activities (e.g. medication math errors) and short term and long term health/career issues.

Public expectations need management as well. For example, not every response or transport is going to be a lights/siren response and we will base decisions like that on specific patient needs balanced against risks.

The Agenda should strive to assure that safety becomes a behavior that is a natural order of doing care. The EMS provider should be held to the safest of standards and those practices should become automatic, just as putting gloves on is automatic. The industry has to see this not as a “mandate” but as a personal protection.

22. Are there additional EMS attributes that should be included in the revised EMS Agenda? If so, please provide an explanation for why these additional EMS attributes should be included.

The following are the current “strawman” attributes as suggested by the EMS 3.0 Steering Group for consideration by the EMS 3.0 Leadership Group when it forms in July/August 2016 next to their corresponding 1996 Agenda attributes (parentheses, bold):

- Medical Direction (**Medical Direction**)
- Economic Models and Finance (**System Finance**)
- Program Evaluation (**Evaluation**)
- Research and Publication (**EMS Research**)
- Integration of Health Services; Interagency/Professional/Disciplinary Collaboration (**Integration of Health Services**)
- Legislation and Regulation (**Legislation and Regulation**)
- Education Systems (**Education Systems**)
- Public Education (**Public Education**)
- Prevention (**Prevention**)
- Public Access/Communication Systems (**Public Access; Communications Systems**)
- Clinical Care (**Clinical Care**)
- Information Systems (**Information Systems**)
- Program Implementation – added to 1996 attributes
- Protocols/Guidelines – added to 1996 attributes
- (**Human Resources**) – eliminated 1996 attribute

Program Implementation is necessary to discuss the means and methods of starting, maintaining and improving new EMS service lines in the context of an overall EMS 3.0 model agency. It blends considerations of other attributes, but puts them in the context of actually operationalizing a service line.

Protocols/Guidelines are broken out of Medical Direction and Clinical Care and would be addressed across service lines. In the complex array of service lines that EMS 3.0 presents (e.g. preventive care versus urgent care versus emergency advanced life support), the applicability of protocols and guidelines for specific situations should receive special attention.

Beyond the EMS 3.0 Steering Group considerations, NASEMSO also intends to raise an additional attribute contained in the EMS 3.0 white paper but not in the list above: Emergency Health Preparedness. This is a major concern today and deserves consideration as an attribute unto itself. This would include funding, education, public education, and treatment and operational standards in financially austere settings.

There must be some decision on addressing rural and frontier EMS issues. If not as a stand-alone document (as the 2004 book was), then as an attribute and, if not that, then as a methodically included consideration of every attribute in the new Agenda.

23. Are there EMS attributes in the EMS Agenda that should be eliminated from the revised edition? If so, please provide an explanation for why these EMS attributes should be eliminated.

See Question 22 for the current “strawman” attributes as suggested by the “EMS 3.0” Steering Group for consideration by the EMS 3.0 Leadership Group when it forms in July/August 2016.

Elimination of a Human Resources attribute is reasoned by the addition of the Program Implementation attribute under which considerations of human resources would be subsumed. In discussing the implementation of a single EMS service line (e.g. community paramedicine), or a complete EMS 3.0 agency there are a number of human resource requirements and options to consider. It was felt that human resources should be treated in the program implementation context rather than as a stand-alone, which would invite duplicative content. It is difficult to discuss human resource issues without tying them to a program implementation context. Having said that, NASEMSO would suggest not eliminating this attribute until the Program Implementation attribute is completed, and then assessing the need for continuing or eliminating Human Resources.

24. What are your suggestions for the process that should be used in revising the EMS Agenda?

An industry-driven effort to review the 1996 Agenda, progress made on its suggested initiatives, and other needs to be addressed in framing a new Agenda began in January, 2015, when five national EMS associations met to discuss how community paramedicine/mobile integrated healthcare will fit into EMS system development. This discussion rapidly grew into a call to action to prepare EMS to use and transform its strengths to play a role in the transformation of the overall healthcare system.

The resulting conceptual white paper “EMS 3.0: Realizing the Value of EMS in Our Nation’s Health Care Transformation” explains the general framework for EMS agencies to move from status quo (“EMS 2.0”) to an EMS 3.0 model in which their service lines robustly add value to the healthcare system in their community in a manner consistent with the Institute for Healthcare Improvement’s “Triple Aim”.

Behind this initiative, led by a Steering Group of the five authoring associations, is a process to have other national EMS associations endorse the concept and become a part of a larger EMS 3.0 Leadership Group (July/August 2016). This leadership group will meet to first define the relevant attributes of the modern EMS 3.0 system. Associations with expertise in particular attribute areas will lead development of modern standards and expectations for that attribute, assisted by representatives of other associations who have interest in the attribute. The Steering and Leadership Groups will set milestones and time-frames for deliverables and will monitor and facilitate progress. The final description of the EMS 3.0 system will then drive the creation of a toolkit to guide EMS agencies in transforming themselves from EMS 2.0 to EMS 3.0 services.

We strongly encourage NHTSA, at whatever point it moves from addressing the RFI responses to an action plan, to coordinate with the EMS 3.0 Steering/Leadership Group to integrate efforts.

25. What specific agencies/organizations/entities are essential to involve, in a revision of the EMS Agenda?

The associations of the Joint National EMS Leadership forum should be included. Associations/organizations concerned with overall healthcare system transformation that may be impacted by the service lines of the “EMS 3.0” model service lines. Federal partners in FICEMS, as well as agencies affected by the “EMS 3.0” model of EMS and its service lines. Congressional and White House representation should be sought, as should a military presence.

26. Do you have any additional comments regarding the revision of the EMS Agenda?

The following are items that individual work group members requested be conveyed to lend emphasis to comments made above.

A comment on the process used to make Agenda implementation successful:

There is so much of the document that is still relevant but it is so underutilized that there needs to be a conduit to the information and then socialization of the information. Maybe each recommendation needs an implementation map (or task analysis) so that all levels from the street to the state can actually operationalize the document.

In response to Question 2:

Unfortunately, beyond the first unveiling of the document not much has been done to keep it in the forefront. Other documents have splintered off the flagship document but the conversation has not been kept alive. One state did their state specific “Agenda for the Future” based on the document and kept that alive for about 3 years (until administration changes were made). If states were provided guidance and it became part of the NHTSA State Office of EMS Assessment to have a state agenda for the future that would keep the conversation and movement going rather than a wonderful document sitting on a shelf. The Agenda for the Future should be mandatory reading for ALL EMS certification courses as part of the class. An EMS provider needs to understand that knowing the pillars of the EMS system is just as important as knowing anatomy, pharmacology, and the human body systems. We can’t expect to truly shape future leaders if they are not engaged in the understanding of EMS. Just as our children read the constitution and other great works of history to understand how our country works EMS should have that same standard set.

From the state EMS leadership perspective, some major system design and deployment of resources questions may fit in a few places in the existing Agenda headings but I believe it would be best addressed up front in the document prior to System Integration. To explain a bit: It would help to have one section that helps point the way for challenges such as: How is the mix of resources needed determined? How many ambulances, medevac, personnel at each level with what clinical skills and operational decision making skills? How does an EMS system integrate the much greater impact of billing of patients for services that were provided at no cost to the patient decades ago? How can EMS systems balance the salary scale that can be supported, the fees collected and the increasing requirements and expenses imposed by public expectations and government/education/testing organizations? And more.... Years ago, state EMS offices did not have these challenges to the extent they exist now. Today, they must be considered strategically for system development because they are major influences and drivers. The excess capability in some places is not affordable for survival of services and the scarcity or absence of minimum safe service in other areas at the same time must be addressed.

Some attribute specific reflections:

Human Resources:

Adequate and competent supply and distribution of human resources - volunteer and career – is, in my opinion, one of the biggest threat to the effective and safe operation of EMS systems today and in the future. The challenges are multiple and merits greater emphasis in this section.

Education Systems:

Additional thoughts in this section: the national testing and accrediting bodies were not a major force when the first agenda was written. I believe they now hold powers originally

held by state EMS offices and therefore, must be included in this section as partners in improving EMS systems. Likewise, technology adjuncts such as distance learning and asynchronous learning techniques were not considered in the prior agenda. The education leadership should be encouraged to use these resources to broaden the access to EMS education and training. This is a point for the Human Resources section also.

A comment on public identity of EMS providers:

In the EMS 3.0 group, much of the early discussion centered around the lack of identity of EMS providers. I strongly believe that we should take this opportunity with the new EMS Agenda to open the Pandora's box of how the public should refer to and recognize EMS providers. My personal thought is that by sticking with an ill-thought-out designation of EMS providers just because of tradition, we continue to leave EMS in the U.S. with a serious identify crisis. I believe that a plan that identifies all EMS providers at all levels as some level of "paramedic" would go a long way in simplifying the identity of EMS for the general public. This discussion should occur as part of doing the next Agenda.

The variety of service lines which EMS can offer in a community are many, and can be confusing to the members of that community. Yet, it is the members of the community who depend on adequate response the system to their emergency, urgent and preventive care needs. The concept, from the rural and Frontier EMS Agenda for the Future, of "informed self-determination" must be a foundation concept in the new agenda, especially as it relates to rural communities.