The National EMS Advisory Council

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Title: EMS System Performance-based Funding and Reimbursement Model

Issue Synopsis

A: Problem Statement

Emergency Medical Services is defined as "pre-hospital and out of hospital EMS, including 911 and dispatch, emergency medical response, field triage and stabilization, and transport by ambulance or helicopter to a hospital and between facilities (IOM, *Crossroads,* 2007)." Ambulance services are a critical component of an EMS System and the health care safety net. Historically, ambulance services have been primarily funded by user fees. In certain locations, local tax subsidies have been used to offset costs for all EMS System components. Emergency Medical Services (EMS) Systems are incredibly diverse across the United States and are generally not accorded the status of an "essential service" (that is, a service that the government is required, by law, to provide to its citizens). EMS varies in clinical sophistication, deployment strategies, performance standards, and governance. EMS Systems vary considerably in how they are funded.

It is generally recognized that financing EMS has many challenges and the methods are fragmented, conflicted and often underfunded. The first challenge is that federal health care policy currently reimburses ambulance service as a transportation benefit. In general terms, the ambulance must transport the patient to a hospital emergency department (ED) to receive compensation from federal payers and most commercial insurance companies.

Acknowledging that not all patients require a trip to the ED, but that the assessment and care provided to such patients remains valuable is an important step to bringing financial stability to the industry and reducing overall health care expenditures. With the growing sophistication of EMS Systems, pilot programs have shown that EMS crews can often deliver definitive care at the scene of the emergency thus often obviating the need for transport. Proactive EMS evaluation; response, assessment, treatment and referral at the scene by EMS without transport to an ED; and transportation to alternative destinations by ambulance are often viable options to safely care for the general public. The Center for Medicare and Medicaid Innovation (CMMI) has recognized the need to explore this potential in announcing a new initiative, the Emergency Triage, Treat and Transport (ET3) Model. (CMS Feb. 14, 2018) This 5 year program will pay participating ambulance suppliers and providers to 1) Transport to an ED or other destination covered under the regulations, 2) Transport to an alternative destination such as a primary care doctors office or an urgent care clinic, or 3) provide treatment in place with a qualified health care practitioner, either on the scene or connected using telehealth. However, insurance will not typically cover these services and the patient may be liable for one hundred percent of the fees

associated with these services. In the typical scenario, EMS responds to a medical need, the patient is assessed, treated and transported to the ED, insurance is billed, the service is covered (decreasing the patient's out-of- pocket costs), and the ambulance agency is generally compensated for the care it appropriately provided.

Due to the unique nature of the service delivery model, EMS agencies provide an increasing number of responses where no reimbursement is available. For example, EMS is called to an emergency scene by law enforcement to assess a patient at a motor vehicle accident causing an expensive response. If the patient is appropriately assessed, treated, and referred to another health care provider but NOT transported, no reimbursement is available by insurance companies. Costs were still incurred to be ready to respond, as well as for the response, assessment and treatment itself. Policies vary among EMS agencies regarding whether it is appropriate to bill patients for a response without transport.

A study conducted by the RAND Corporation and published in the December 2013 issue of Health Affairs, identified that if EMS were given the flexibility to transport low-acuity patients to alternate destinations, the federal government could save $283 – $560 million or more per year, while improving the continuity of patient care.[i]

During the last decade, there have been recommendations to move ambulance financing to more of a services provided (including the cost of readiness) model rather than a transport model. (IOM, *Crossroads*, 2007). The cost of readiness must include funding to meet day-to-day capacity as well as the capacity to respond to extraordinary demand or natural and man-made disasters that may occur. The American Ambulance Association, NAEMT, NASEMSO, and others in the industry have developed specific policy recommendations that could be implemented at the federal level to cover and reimburse alternative destinations transport and response, assessment, and referral at the scene without transport. Part of these policy recommendations also include shifting from a supplier of transportation in the eyes of the federal government to providers of health care services.

A report published in June 2016 by the National Academies Press - *A National Trauma Care System: Integrating Military and Civilian Trauma Systems to Achieve Zero Preventable Deaths After Injury*[ii] - contains a significant recommendation for enhancing the economic model for EMS. The authors of the report, chaired by Dr. Donald Berwick, recommend:

> "Recommendation 10: Congress, in consultation with the U.S. Department of Health and Human Services, should identify, evaluate, and implement mechanisms that ensure the inclusion of prehospital care (e.g., emergency medical services) as a seamless component of health care delivery rather than merely a transport mechanism."
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> "Possible mechanisms that might be considered in this process include, but are not limited to:
> • Amendment of the Social Security Act such that emergency medical services is identified as a *provider type*, enabling the establishment of conditions of participation and health and safety standards."
>
> "Additionally, modifying the Social Security Act to define EMS as a *provider type* could prompt CMS to develop a trauma or emergency care based shared savings model with relevant metrics that could be used to measure the value of prehospital care delivered, including patient outcomes and the appropriateness of the facilities receiving patients."

A second issue threatening the viabiltiy of the future of EMS is the fact that federal reimbursement rates do not cover the cost of providing services. Similar to the cost associated with other healthcare safety net providers, like hospital emergency departments, a significant portion of the costs associated with EMS is to achieve and maintain readiness and to respond in a timely and effective manner. According to the Institutes of Medicine, "EMS costs include the direct costs of each emergency response, as well as the readiness costs associated with maintaining the capability to respond quickly, 24-hours a day, 7-days a week." Those costs include 24x7 staffing levels based on call demand experience, response time reliability, level of service provided, competency training, costs of equipment and supplies, and administrative expenses. These costs are inherent in the delivery of service and must be adequately accounted for in the reimbursement models.

Ascertaining the total cost of providing EMS has been problematic. There have been efforts to quantify the costs of specific components of the EMS System. In 1999, the American Ambulance Association commissioned Project Hope to determine the cost of ambulance transport service. This paper was instrumental in developing the Medicare Ambulance Fee Schedule, adopted in 2002. The fee schedule was intended to standardize the methodology to pay all ambulance providers a predetermined fee for transportation services based on the relative cost of each level of service.

The Government Accountability Office (GAO) conducted a similar study. In their 2007 report, the GAO concluded that Medicare paid 6% below average cost per transport of ground ambulance services. Both Project Hope and the GAO study found great variability in the cost per ambulance transport. Neither Project Hope nor the GAO attempted to determine the total cost of EMS Systems.

While these reports demonstrate that the direction of reimbursement is problematic, they also acknowledged that the unique and varied structures of ambulance services makes it difficult to assess the cost of providing services in the way that Medicare traditionally assesses provider costs. To that end, the American Ambulance Association (AAA), working with The Moran Company, developed a cost survey tool that recognizes the unique nature of different organizational types of services and the unique costs that can be associated with them. As part of this process, the AAA worked with experts throughout the country to standardize the data elements necessary to undertake a project of this type. Legislation to implement this cost survey has been introduced in both the U.S. House of Representatives and the U.S. Senate.

In 2007, the Institutes of Medicine (IOM) of the National Academies of Sciences released its landmark publication titled, "Future of Emergency Care in the U.S." The publication encompassed three reports addressing hospital-based emergency care, emergency care for children and pre-hospital care. One of those reports, "*EMS at the Crossroads*," evaluates the development of EMS over the last 40 years resulting in the "fragmented system that exists today."

The prestigious committee's findings and recommendations rest on three broad goals for the nation's "systems" of emergency care:

- improved coordination
- expanded regionalization
- increased transparency and accountability

A group of researchers from the Medical College of Wisconsin was awarded a grant by NHTSA to develop a model to capture, measure, and report EMS System costs from a societal perspective. This project was the first attempt to capture the true cost of all the components of an EMS System[iii]. Brooke Lerner, Graham Nichol, and others worked diligently to develop this model. The final product is still under revision, but NEMSAC recognized significant challenges to developing such a model.

Common themes have emerged and challenges recognized from the IOM report and the three cost projects:

1. Costs vary significantly based on level of service provided, including but not limited to factors such as, local requirements, service area, compensated or uncompensated labor, response time standards and performance, clinical sophistication, quality of care, and cost per response.
2. Cost of response varies based on population and age, call volume, service area (urban to remote), and number of EMS agencies within a service area.
3. Determining a consensus of the definition of EMS remains a challenge. The current definition of EMS System includes all aspects of emergency care from dispatch services through the 911 response to hospitals and rehabilitation services (ems.gov). There is no clear term specifically identifying "EMS" provided by EMS personnel in the field outside of a facility setting.
4. There is no accepted definition by Medicare for readiness cost or a current methodology for calculating this cost.
5. EMS response is provided by multiple governmental and non-governmental agencies including: city, county, district municipal service, fire-based, hospital-based, law enforcement, private for-profit, community non-profit and others. All entities have different accounting structures and methods to determine costs. For many agencies, costs are bundled with other services and not delineated for EMS functions (GAO, 2007).
6. Depending on service area and model type, EMS response personnel are either paid career, compensated volunteers, or uncompensated volunteers making it difficult to benchmark true labor costs.
7. While there is a need to identify and evaluate total EMS System costs, the national Medicare Ambulance Fee Schedule was limited by statute to the Medicare covered benefit (ambulance transport) and the GAO cost report was also limited to the cost of ambulance transport. Both the Project Hope and GAO projects were ultimately limited to ambulance service cost and not EMS System costs.

8. Current episodic reimbursement methods do not cover the total cost of all EMS System component parts, including readiness costs.
9. EMS response is reported to be at the intersection of healthcare, public health, and public safety, yet reimbursement by health insurance providers is often the only source of funding.
10. Local government funding of EMS and ambulance service varies widely across the United States and is subject to change annually. The changes may be unrelated to the cost of providing the service. For example, local government funding only subsidizes the first response component and not ambulance service. In other areas, local government subsidizes uncompensated care. Often times, no local government subsidies are provided for any EMS activities.
11. Federal, state and local grant sources are often restricted to certain EMS agencies based on provider type. Non-governmental EMS agencies are often not eligible for federal grant funding.
12. Ambulance services experience significant levels of uncompensated care including charity care provided to the uninsured and below-cost reimbursement from Medicare, Medicaid and other government insurers, about double the amount compared to other healthcare provider groups (American Ambulance Association, 2008). Virtually no state funding and no federal funding are provided to offset uncompensated care and charity care.
13. The Medicaid coverage expansion required under the Accountable Care Act will reduce, but not eliminate, charity care for EMS and does not address below-cost reimbursement by Medicaid and Medicare. The significant cost burden of uncompensated care will continue to be shifted to commercial insurers unabated because of severe underfunding.

The U.S. Congress provided for CMS to begin collecting cost data on ambulance service suppliers and providers in the Balanced Budget Act of 2018. This costa data survey of a cross section of ambulance services representing the range of entity types and sizes will provide information necessary to provide much needed insight on the cost of providing ambulance service availability, medical care, and transport as well as set the stage for the modernization of the Medicare ambulance benefit.

These two issues – (1) the need to recognize the provision of health care services performed by ambulance providers and (2) the need for standardized cost data – contribute to the complexity of financing EMS Systems. In a fee-for-service setting, uncompensated care has always been a great challenge. While the recent federal health care reform initiative (i.e., the Accountable Care Act, known as the ACA) intends to reduce uncompensated care, it has created a burgeoning level of under-compensated care. A pathway to adequately assess total EMS System costs beyond ambulance service and develop standardized financing methodologies for EMS System performance is needed.

B: Analysis

The NEMSAC had two objectives:

1) Evaluate recommendations for reimbursement or funding models based on readiness and performance measures
2) Evaluate recommendations for reimbursement or funding models for EMS based on the health care services provided to patients and patient outcomes instead of transport

Review of Previously-defined EMS System Components. NEMSAC conducted an extensive review of previous EMS finance projects, primarily the EMS Makes a Difference paper, the IOM report, the Project Hope survey, the GAO report, and Lerner's Cost of EMS System project. The NEMSAC reviewed the methodologies used in those projects and compared them against previously defined EMS System components. They included:

1. 15 EMS Components (EMS Systems Act, 1973)
2. 14 EMS Attributes (NHTSA EMS Agenda for the Future, 1996)
3. 10 Components of the EMS Cost Framework (Lerner, et al, 2007)

NEMSAC determined these projects were narrowly designed and did not comprehensively articulate all the factors that make up EMS Systems, especially costs and revenues. For the purposes of this analysis, NEMSAC used the Institute of Medicine's definition of EMS – pre-hospital and out of hospital EMS, including 911 and dispatch, emergency medical response, field triage and stabilization, and transport by ambulance or helicopter to a hospital and between facilities. This definition pertains to the subject at hand and does not include the other elements of the EMS System once the patient enters the hospital emergency department.

Review of the Public Health Model. NEMSAC reviewed the potential linkages between the respective missions of EMS and public health disciplines. EMS has consistently held a public health function as a part of its mission. The public health system was researched to determine whether EMS could adopt the public health model. Public health has Three Core Functions at all levels of government and Ten Essential Activities. The three core governmental functions of public health, as recommended by the Institute of Health in 1988, are assessment, assurance, and policy development (IOM, 1988):

1. Assessment. That every public health agency regularly and systematically collect, analyze, and make available information on the health of the community, including statistics on health status, community health needs, and epidemiologic and other health studies of health problems.
2. Assurance. That public health agencies assure their constituents that services necessary to achieve agreed upon goals are provided, either by encouraging actions by other entities (private or public sector), by requiring such actions through regulation, or by providing services directly. Each public health agency involves key policy makers and the general public in determining a set of high-priority personal and communitywide health services that governments will guarantee to every member of the community. This guarantee should include subsidization or direct provision of high-priority personal health services for those unable to afford them.

3. Policy Development. That every public health agency exercise its responsibility to serve the public interest in the development of comprehensive public health policies by promoting use of scientific knowledge base in decision-making about public health and by leading in developing public health policy.

The Ten Essential Services provide a working definition of public health and a guiding framework for the responsibilities of local public health systems:

1. Monitor health status to identify and solve community health problems.
2. Diagnose and investigate health problems and health hazards in the community.
3. Inform, educate, and empower people about health issues.
4. Mobilize community partnerships and action to identify and solve health problems.
5. Develop policies and plans that support individual and community health efforts.
6. Enforce laws and regulations that protect health and ensure safety.
7. Link people to needed personal health services and assure the provision of health care when otherwise unavailable.
8. Assure competent public and personal health care workforce.
9. Evaluate effectiveness, accessibility, and quality of personal and population-based health services.
10. Research for new insights and innovative solutions to health problems.

At first look, there appears to be a model in public health that could crosswalk and be adapted for EMS. There are many functions of EMS that would correlate to public health functions, including but not limited to:

1. EMS system oversight
2. Prevention activities
3. Community outreach
4. First response services

However, there are distinct differences between public health and EMS:

1. There may be multiple EMS providers in overlapping jurisdictions rather than a government-based designated service area for each public health agency.
2. EMS has developed utilizing a health care model and is largely operational in nature, rather than planning focused. This leads to distinct cost variances across divergent types of EMS Systems. Financing of an EMS agency could vary from completely tax supported, completely user fee based, or a combination of the two. Additional variations occur often due to local government determined levels of service within their area.
3. Public Health is population-based, rather than resource or activity-based.

EMS could potentially use the public health model as a basis for its own function or activity analysis. EMS functions describe the basic framework of all EMS Systems and can be a more practical approach to determining the true cost of EMS Systems. Facilities, equipment, and other capital and non-capital costs would be incorporated within each function.

Review of Veterans Health Administration Costing Methodology. NEMSAC reviewed the costing methodologies used by the Veterans' Health Administration and determined the process in which they report costs have been questioned by both the U.S. General Accounting Office and the Congressional Budget Office. Until such time the federal government verifies cost evaluations and performance measures, the VHA did not appear to be a model to be replicated.

Development of Comprehensive EMS System Components. NEMSAC identified the following EMS System Components as a comprehensive list of all of the current *functions* performed in an EMS system (See Appendix A for detailed definitions of functions and financial analysis terms):

- Community Outreach/Prevention Activities
- EMS System Regulatory Oversight
    - External Medical Control / Clinical Performance Standards / Scope of Practice
    - Response Time / Level of Service Performance Standards
    - Personnel Licensing & Certification
    - Agency Accreditation
    - Regional Coordination
    - EMS Research
- EMS Administration
- Ambulance Dispatch Services
    - Interfacility
    - Emergency (911 Primary PSAP - Fire, Police)
    - Emergency (911 Secondary Medical PSAP)
    - Alternative Response / Referral
- First Response Dispatch, Response, Extrication, Hazmat & Technical Rescue
- On Scene Medical Care without Transport
    - Treatment On Scene and Transition (for transport)
    - Attempted Resuscitation No Transport
    - Treatment with Refusal of Transport
    - Treatment with Referral and No Transport
- On Scene Medical Care with Ambulance Transport
    - Paramedic Intercept (with transport)
    - Interfacility
    - Emergency
    - Air Ambulance
    - Transport to Alternative Destination
- Disaster Management
    - Planning
    - Response
    - Recovery
    - Surge Capacity
- Mutual Aid
- Medical Standbys
- Hospital Interface
- Community Paramedicine/Population Health/Follow-up Care

Review of EMS Functions By Discipline. EMS is often reported to be at the intersection of health care, public health, and public safety, however, this is a common misnomer. EMS operates in a unique space, delivering healthcare within a reliable response time, with providers maintaining high community trust and acceptance, no matter what time of day. There is no other healthcare provider that has the continual readiness and operational capability to deliver healthcare services within that time constraint.

According to the list created above, EMS also provides emergency management as part of the EMS system design and was added as another category. The next step of the process included developing a method to evaluate the percentage of EMS functions which fall into these respective four disciplines. Through a consensus-based process, the NEMSAC determined health care functions exceeded any other discipline by a nearly 3:1 margin. (See Appendix B, "EMS System Functions by Discipline"). Please note: these classifications are based strictly on the number (count) of the defined functions performed by EMS and not the dollars spent on each function nor the priority of functions.

Review of EMS Funding Sources. The next step of the process included matching the lists of functions to the current payers of EMS. Payers in the analysis included:

- Direct Funding by Local Government
- Direct Funding by State Government
- Direct Funding by Federal Government
- Direct Funding by Payers (Medicare, Medicaid, Commercial Insurance, etc.)
- Direct Funding by Users
- Direct Funding by Health Care Facilities
- Indirect Funding by EMS Agencies
- Other

A matrix was developed to identify primary and secondary payers for each EMS function as it is today and a proposed future direction for EMS funding. Tertiary payers and other entities that only occasionally pay for services were not calculated in the matrix (See Appendix C,"EMS System Finance Matrix – Current and Proposed"). Future payer recommendations were developed using the matrix, reference materials, and crosswalk standards along with the business knowledge and experience of the Finance Commmittee.

Review of Healthcare Financing of the EMS Safety Net. EMS provides a substantial contribution to the health care safety net from both a safety perspective and a financial aspect. NEMSAC reviewed various sources of information about the current funding and reimbursement of the EMS System from health care sources, especially user fees charged to patients and insurers for ground ambulance transport services.

The health care safety net describes the intersection of three components: public health care programs, health care providers, and the low-income, uninsured population with unmet medical needs (California Health Care Foundation, 2010). EMS is widely viewed as an essential public service, but it has not been supported through effective federal and state leadership and sustainable funding strategies (IOM, 2007), and often, EMS is not a recognized component of the health care safety net. EMS guarantees universal access without a universal funding system and delivers services regardless of the patient's insurance status or ability to pay (AAA, 2008). The EMS system, especially the ambulance service function, relies heavily on reimbursements from third party payers and currently ambulance services must provide patient transportation in order to be reimbursed for services. Nearly half of ambulance providers report that a local or state government entity approves the rates that are charged to patients (GAO, 2007).

Below are national estimates of the percentage of patients transported within each major health care payer category (AAA, 2008):

44.0%	Medicare
14.0%	Medicaid
14.0%	Private Pay
21.0%	Comm Insurance
7.0%	Other

Another analysis, provided by MedStar Mobile Healthcare in Fort Worth, Texas, demonstrates the dichotomy of billed versus collected revenues and the reliance on the 'cost shift' that occurs in healthcare, where the commercial payers pay at higher rates to compensate for uncompensated and undercompensated care.

	Billed		Collected		
	Amount	% of Total	Amount	% of Total	% Collected
Insurance	**$ 22,914,856**	**21.3%**	**$ 14,340,282**	**37.0%**	**62.6%**
Medicare	$ 52,910,534	23.1%	$ 13,741,292	35.6%	26.0%
Medicaid	$ 24,374,054	8.2%	$ 5,481,947	14.6%	22.5%
Facility	$ 4,232,148	4.4%	$ 3,189,769	8.3%	75.4%
Private Pay	**$ 41,983,983**	**43.1%**	**$ 1,986,907**	**4.5%**	**4.7%**
Overall	**$ 146,415,574**		**$ 38,740,196**		

According to a federal cost study, Medicare ambulance reimbursement rates are an average of 6% below the cost per transport (GAO, 2007). The Medicaid rates in roughly half of all states cover approximately half the cost of service (Werfel, 2008). Some states' Medicaid rates are so low, they cover only one-quarter the cost of service. An AAA study found that uninsured patients make up an average of 14 percent of ambulance transports and ambulance providers experience a charity care burden that is about double that of hospitals and physicians (AAA, 2008). As a result, the user fee revenues derived from ambulance users with commercial insurance cross-subsidize the below-cost reimbursement from Medicare, Medicaid and uninsured ambulance users (AAA, 2008). From an accounting perspective, bad debt represents about 26 percent of total costs and can be a significant burden for an ambulance service (Project Hope). Currently, hospitals receive disproportionate share payments from Medicare to offset the cost of care delivered to the uninsured and underinsured (MedPAC, 2012). Some government-based ambulance providers receiving the disproportionate share funds through various government reimbursement programs, however, non-governmental ambulance providers are not eligible for these reimbursements. Even hospital-based ambulance services, which are now paid under Medicare Part B, are excluded from receiving any of these funds. In limited cases, local government may provide some community tax support to offset charity care.

Based upon a subtotal of the payer mix data above, ambulance providers receive below-cost reimbursement for 72% of all transports—the charity care delivered to the uninsured and the under-compensated care resulting from below-cost Medicare and Medicaid reimbursement. Therefore, uncompensated care, if left unaddressed, threatens the financial stability of the entire EMS safety net.

NEMSAC believes it is critical to establish more effective national policies regarding the important issue of EMS uncompensated care. NEMSAC reviewed the following: the definitions utilized by the American Hospital Association for the bad debt, charity care and uncompensated care experienced by U.S. hospitals; the Internal Revenue Service definition of charity care which is primarily used for tax purposes; Medicare Payment Advisory Commission (MedPAC, 2012) reports regarding hospital uncompensated care; the American Ambulance Association's Financial Model (AAA, 2008); the LJG Fire Service EMS Cost Allocation Model (Goebel, et al. ,1997); the JEMS 200-city Survey Report (Ragone, 2011); the report and survey tools utilized by the GAO for its 2007 ambulance cost study (GAO, 2007), and the report and analysis of the purposeful cost survey prepared by The Moran Company on behalf of the American Ambulance Association. While all of these sources contain definitions which apply in certain circumstances, each source was limited in its ability to address the issue from a more global public policy perspective, especially due to the significant accounting differences among various types of providers (i.e., government-operated, private, hospital-based, volunteer, etc.).

NEMSAC recommends a comprehensive approach to estimating the total unreimbursed cost of the uncompensated care delivered by the nations' EMS System. After extensive review of the various sources referenced above, NEMSAC proposes an estimation method that compares the total cost of care delivered to the total net revenue received, less government funding directly intended to offset the cost of charity care. NEMSAC recommends the following definitions:

- Charity Care:
  - The unreimbursed cost of care delivered to medically indigent patients which are uninsured and unable to pay for all or a portion of the service/care
  - The unreimbursed cost of care delivered to under-insured patients covered by insurance which does not cover the service/care and the under-insured patient is unable to pay for all or a portion of the service/care
- Under-compensated Care:
  - The unreimbursed cost of care delivered to insured patients covered by insurance whose reimbursement is below the cost of service/care (i.e., Medicaid, Medicare and some private insurances)
- Total EMS System Uncompensated Care in U.S.:
  - Charity Care (less community tax support) plus Under-compensated Care
- Community Tax Support:
  - Any local, state or federal government funding or grants intended to offset charity care

Using the above definitions, the estimates below are based upon publically available national data for ground ambulance transports (see Appendix D). NEMSAC estimates the current magnitude of uncompensated care delivered by the nation's ground ambulance services as follows:

$ 1.542 billion	Charity Care
$ 1.327 billion	Under-compensated Care
$ 2.869 billion	Total EMS System Uncompensated Care in U.S.

The amount of uncompensated care absorbed by ambulance services is extensive. The $2.9 billion dollars of uncompensated care is about half the total amount paid ($5.2 billion) to ground ambulance services by Medicare in 2010 (Richardson & Gaumer, 2012)..

The NEMSAC recognized that not all uncompensated care is a result of patient insurance coverage. There are circumstances unique to ambulance service due to patient condition, agency processes, provider reluctance, competitive healthcare environments and regulatory requirements that inhibit the ability for ambulance agencies to collect dollars for services provided.

In short, often EMS agencies cannot obtain complete and accurate billing and patient demographic information due to patient condition (e.g. altered mental status), the short amount of time spent with patients (especially in urban environments), poor agency quality assurance practices, healthcare provider (receiving facilities) reluctance to associate business needs with medical needs, and healthcare provider competition and regulation (Health Insurance Portability and Accountability Act/Health Information Technology for Economic and Clinical Health Act). Receiving facilities and other healthcare providers often have more accurate information that would assist ambulance services in billing and revenue collections, but are unwilling to share their accurate information retrospectively with EMS providers.

These impediments compound costs as often patients may have insurance coverage, but the ambulance agency's inability to reliably obtain accurate retrospective demographic and billing information requires additional effort by the EMS agencies, prevents collections, and therefore increases uncompensated care.

As a result of the enactment of the Patient Protection and Accountable Care Act (PPACA), the NEMSAC is concerned that one result of implementation of national health care reform may be dramatic shifts in payer mix. While the exact impact is difficult to predict and may vary by region, the payer mix shift will quite possibly have a net negative affect on many ambulance transport providers and the EMS System as a whole. While the PPACA's coverage expansion initiatives will reduce the number of uninsured, a certain percentage of the population will remain uninsured. One state's conservative estimate is that up to one third of the current uninsured population will remain uninsured even after health care reform's coverage expansion initiatives are completed—including Medicaid expansion, the creation of new health insurance exchanges, the individual mandate and employer tax incentives (Health Access, 2012). In addition, numerous recent reports have predicted that some patients currently covered by private insurance through their employer may move to the Medicaid program as some employers may drop health insurance as an employee benefit. These shifts will create a sustained ambulance charity care burden resulting from service delivered to the uninsured and a potential increase in under-compensated care due to increases in the percentage of patients covered by Medicaid.

The estimated $2.9 billion in uncompensated care delivered by the ground ambulance agencies in the U.S. is a critical factor in the current and future stability of the nation's EMS System and in future efforts to establish performance-based reimbursement and funding strategies.

Review of Medical Necessity Criteria in Ambulance Agencies. In existing and future fee-for-service-based funding models, it is critical that the medical necessity criteria for both response and payment be linked. Yet, this is a policy that is contributing to the funding crisis of ambulance agencies.

Prudent Layperson Standard Establishes Medical Necessity for Response and Payment Purposes. Historically, the standard for determining the need for both an emergency medical response and an emergency department visit is the "prudent layperson" definition of emergency. The standard defines an emergency as:

> *An emergency service is any health care service provided to evaluate and/or treat any medical condition such that a prudent layperson possessing an average knowledge of medicine and health, believes that immediate unscheduled medical care is required (ACEP, 2012).*

Since a diagnosis cannot be reasonably expected during an EMS event, the prudent layperson standard should apply. The need for emergency medical response is based upon the patients' condition at the time of request (i.e., the 9-1-1 call). The 9-1-1 dispatch center and/or medical communications center makes a determination to dispatch an EMS response unit. The arriving EMS crew (first response unit or ambulance transport unit) provides an initial assessment of the patient, provides medical treatments based upon physician-approved orders or standing protocols, and an ambulance transports the patient to the emergency department. As the National Association of EMS Physicians Resource Document describes, it is important that EMS providers appropriately document each patient contact with an assessment; in addition, it is important to document the patient's capacity to understand the nature of the illness (Millin, et al., 2011).

Medicare has established ambulance fee schedule regulations that recognize the prudent layperson standard for the purpose of determining medical necessity for payment of emergency medical responses. Retrospective medical necessity denials by insurers are becoming more frequent and this trend is extremely problematic. Inappropriate retrospective payment delays, down-coding or denials generally fail to recognize the prudent layperson standard, the limitations in current EMS scope of practice and the cost incurred to respond to the patient and to perform the initial patient assessment.

Review of Assuring Access to EMS Care Standard. Recently, CMS has proposed national guidelines and some state Medicaid programs have begun to implement a new Access to Care Standard for the purpose of determining Medicaid payment levels. In establishing Medicaid reimbursement amounts, the federal regulations regarding access to care (Section 1902(a)(30)(A) of the Social Security Act) requires States to:

> *. . . assure that payments are consistent with efficiency, economy, and quality of care and are sufficient to enlist enough providers so that care and services are available under the plan at least to the extent that such care and services are available to the general population in the geographic area.*

It is essential that any access to care analysis by State Medicaid programs recognize emergency-specific mandates to provide care regardless of reimbursement amounts and not use the prohibition on disproportionately less access for Medicaid patients as a protection to permit reimbursement reduction below actual cost. This should be accomplished by developing a unique measure for evaluating access to emergency medical services. Unfortunately, some states have interpreted this federal standard in a manner in which the unique circumstances of financing emergency medical services have been ignored. On average, ambulance Medicaid rates are historically far below cost of providing the service. Any argument for reduction of these already low rates based on Section 1902(a)(30)(A) of the Social Security Act is fundamentally flawed and should not serve as the basis for any HHS authorization to a state to reduce these already inadequate rates and further jeopardize EMS system stability.

Below is a sample framework that will achieve a more accurate assessment of the state of access to emergency medical providers. If a reduction in reimbursement rates cause any of the following, the access to care has effectively been reduced:

- Lowered quality of care. Will patients receive medically appropriate treatments, drugs and technologies? Will there be reductions in availability of personnel training and medical equipment? Will EMS systems that have implemented life-saving and health system cost-saving programs, such as STEMI, be forced to cut these programs because of the added financial burden on the EMS provider?
- Delayed access to care. Will patients experienced longer paramedic response times, reduced paramedic response capacity and fewer staffed paramedic ambulances available to respond to 9-1-1 emergency requests for service? Will there be reductions in the number of "unit hours" or ambulances "on duty" to respond to requests for service?
- Reduced supply of care. Will patients receive medically appropriate response, treatment and transport in communities with vulnerable populations: suburban and rural areas, depressed economic areas, and areas with high numbers of uninsured and Medicaid patients?
- Barriers to access to care. Will patients with commercial health insurance experience increased out-of-pocket expenses in the form of higher co-pays and deductibles? Will higher out-of-pocket costs discourage insured patients from dialing 9- 1-1?

Review Models for Treatment without Transportation Services Provided by EMS. The NEMSAC also reviewed recent literature reviews regarding the successful pilot projects associated with treatment and no transport by EMS.

Treatment with Referral and No Transport / Transport to Alternative Destination. Research is showing that some EMS Systems can develop the capacity to safely transport to alternative destinations and implement non-transport policies with additional investments in training, oversight and a comprehensive quality improvement program. Based upon an extensive review of the literature, the authors of the NAEMSP Resource Document describe the complexity of determining medical necessity. Some of the data indicate that EMS Systems with exceptional educational resources, strong medical oversight, and comprehensive quality management programs may be able to implement paramedic-initiated non-transport (or alternative transport) policies, particularly in narrowly defined circumstances, however, it is unreasonable to expect all EMS Systems to implement such policies until this level of expertise and accountability become the standard in EMS. In addition to achieving overall health care savings because fewer patients will be transported to emergency departments, new payments will need to be developed to fund the upfront investments necessary to implement these expanded services.

Attempted Resuscitation and No Transport / Treatment with Refusal of Transport. There are existing services that currently are not reimbursed, yet costs are incurred for medically appropriate care which is delivered to the patient. There are two examples where ambulance agencies currently achieve health care savings because fewer patients are transported to emergency departments, however, new payments need to be developed to fund the costs of existing ambulance agencies. In the first example, an ambulance crew responds to a patient in cardiac arrest. According to local EMS protocols, the crew performs an ALS assessment, resuscitation efforts and ultimately determines the patient is clinically dead. According to local protocols, the patient is not transported to the emergency department. While CMS allows a BLS transport charge, this typically does not cover the cost of the service and may not even cover the direct cost of medications and supplies used in the resuscitation effort. Many insurers will not provide reimbursement for any of these services. In a second example, an ambulance crew responds to an asthmatic attack or an unconscious patient experiencing a diabetic condition. The ambulance crew responds to the emergency medical request, provides an ALS assessment and delivers treatments. The patient's medical condition is dramatically improved as a direct result of on scene EMS treatments. This occurs following dextrose administration to an unconscious diabetic patient and administration of respiratory treatments to asthmatic patients. A now conscious patient whose acute medical condition is now resolved refuses transport to the emergency department and many insurers will not provide reimbursement for these services.

The American Ambulance Association has developed a set of policy recommendations that would allow CMS to cover and reimburse for providing transportation to destinations other than ED, as well as the response, assessment, treatment, and referral without transport.

The proposed CMS CMMI ET3 Model will provide a significant data set following it's five year course including the development and tracking of of performance milestones for quality, adverse event logging, and monitoring program integrity.

Review Models for Population Health Management Provided by EMS. There is a linkage between the essential goals of the Accountable Care Act and the traditional public health model. One of the essential goals of the ACA is to improve the health of a defined population. The collaboration that is necessary for population health management will emerge as a critical issue with future shared savings programs. As the focus shifts from treating sickness to maintaining or improving health, the considerable assets of the EMS system could be leveraged, for example:

1. Community Paramedicine/Mobile Integrated Health. Under the existing scope of practice model, the EMS provider's role is expanded in a community-based model to intervene in a variety of ways including preventative care, follow-up care, basic treatments and other non-acute interventions. Early pilot programs have demonstrated improved preventive care, readmission reduction, reduction in emergency department visits and downstream health care cost savings.
2. Mobile Healthcare Practitioners. Under a new expanded scope of practice model, paramedic-initiated programs are implemented for treatment with referral and no transport and transport to alternative destinations. These expanded models require investments in additional education and training, strong medical oversight, and comprehensive quality management program (Millin et. al, 2011). Early pilot programs have demonstrated reductions in readmissions, improved patient outcomes and general downstream health care cost savings. These programs require additional funding of the upfront financial investment in additional training, oversight and quality improvement.
3. Continuum of Care Coordination by Medical Communications (9-1-1) Centers. The call-talking and triage capacity of medical communications/9-1-1 centers is utilized to achieve better coordination and more efficient access to the most appropriate type and level of care.

According to the NAEMSP Resource Document, third-party payers may be able to realize some cost savings by providing appropriate reimbursement for non-transport-related services provided by EMS Systems that possess adequate resources and choose to adopt the additional necessary program elements.

C: Conclusions

Conclusion 1. The systematic cost of providing emergency ambulance services in the US exceeds currently available revenue. This mismatch can be resolved with one of two actions: 1) increase reimbursement or subsidies or 2) decrease costs. With fixed costs required to provide a clinically acceptable level of service, decreasing dollars spent on will result in a direct negative impact on the quality of care provided. The NEMSAC has previously recommended to FICEMS that it increase reimbursement for ambulance services utilizing the existing payment structure (NEMSAC Finance Committee Final Report, 2009). The NEMSAC recommends to FICEMS that reimbursement to ambulance services at a minimum be no less than the cost of providing service.

NEMSAC recommends that FICEMS support building the temporary add-ons that were enacted by the U.S. Congress in the Balanced Budget Act of 2018 (BBA 2018) permanently built into the current payment structure. The systematic cost of providing emergency ambulance services in the US exceeds currently available revenue. With fixed costs required to provide a clinically acceptable level of service, decreasing dollars spent on will result in a direct negative impact on the quality of care provided.

Conclusion 2. A comprehensive evaluation of total EMS System cost must not be limited to ambulance transport, but include each of the individual system functions and activities.

NEMSAC recommends that FICEMS support the implementation of the cost survey under development by the Centers for Medicare & Medicaid Services that was enacted by the Congress in the BBA 2018. In order to protect EMS for the future and leverage its potential for reducing overall health care spending, it is important to understand the cost of providing services, which includes not only transportation, but also the cost of readiness, personnel, equipment, supplies, health care services, and other cost centers.

Conclusion 3. Historically, EMS systems have been significantly underfunded; that funding crisis continues to get worse every day. It is also believed the transition of other health care providers away from user fees or payment per procedure to other payment models is the trend and EMS should also evaluate other models for reimbursement. The NEMSAC believes this crisis may result in large part from the misperception of the role of EMS agencies in the broader health care system, by both government oversight agencies and the general public. One can argue the funding crisis is a direct result of these misperceptions. The NEMSAC proposes the following pathway to enhance current and support the development of new payment models for the next generation of EMS. It is believed the pathway will develop a comprehensive approach to a more sustainable readiness-based funding and reimbursement model.

Move toward a pathway to move EMS response to a more sustainable readiness-based funding and reimbursement model that takes into account the significant impact that ambulance services and EMS systems have and can have on the safety and health of the public through the following

strategies:

1. Develop and adopt a comprehensive list of EMS functions and activities
2. Standardize language used to define EMS functions, specifically as it relates to EMS finance building on prior industry work in this area (Moran Co. and AAA)
    a. Define terms that clearly articulate EMS response and EMS Systems
    b. Define readiness and all-inclusive terms
3. Develop model set of performance standards for ground and air ambulance minimum levels of service in urban, suburban, rural, and remote regions taking the following factors into consideration:
    a. Clinical Sophistication (EMR, EMT, Advanced EMT, Paramedic)
    b. Response Performance
    c. Quality (Accreditation, STEMI, Stroke, Trauma Programs)
    d. Cost and Cost Savings (Current and Downstream)
    e. Surge Capacity
    f. Geographic Diversity
    g. Population Density
    h. Age of Population
    i. Other Evidence-based Standards
4. Develop economic models to determine cost of the defined EMS functions at a level necessary to achieve the identified performance standards
5. Develop sustainable funding models that incorporate all the EMS functions and adequately recognize the contributions of EMS Systems to health care, public health, public safety, and emergency medical preparedness
6. Identify necessary actions to effectively implement funding models based on performance, including but not limited to:
    a. Congressional action
    b. CMS rule changes
    c. State insurance statutes/regulatory changes
    d. Creation of appropriate model insurance contracts/payment provisions
    e. Federal, State, and local funding options

Conclusion 4. The NEMSAC recognizes that EMS functions are a combination of local, state, and federal government requirements with services driven by user demand and payer limitations. There is no direct relationship between the regulators, patients, and payors. This disconnect results in below cost reimbursement for services, It is expected that both public funding and user fees will continue to be primary funding mechanisms in the future. The summary matrix below attributes EMS functions and proposed anticipated funding to either User Fees via Payers or EMS System via Government (public tax dollars). Therefore, the pathway to move EMS response to a more sustainable readiness-based funding and reimbursement mechanism must incorporate all of these functions.

EMS System Finance Matrix -- Summary	User Fees via Payers	EMS System Via Govt
Financing of EMS System Functions via User Fees or Government Funding		
Community Outreach/Prevention Activities	X	
EMS System Regulatory Oversight		
External Medical Control / Clinical Performance Standards / Scope of Practice		X
Response Time / Level of Service Performance Standards		X
Personnel Licensing & Certification		X
Agency Accreditation	X	
Regional Coordination		X
EMS Research		X
EMS Administration	X	
Ambulance Dispatch Services		
Interfacility Dispatch Services	X	
Emergency (911 Primary PSAP - Fire, Police)		X
Emergency (911 Secondary Medical PSAP)	X	
Alternative Response / Referral	X	
First Response Dispatch, Response, Extrication, Hazmat & Technical Rescue		X
On Scene Medical Care - Without Transport		
Treatment On Scene and Transition (for transport)	X	
Attempted Resuscitation No Transport	X	
Treatment with Refusal of Transport	X	
Treatment with Referral and No Transport	X	
On Scene Medical Care with Ambulance Transport		
Paramedic Intercept (with transport)	X	
Interfacility	X	
Emergency	X	
Air Ambulance	X	
Transport to Alternative Destination	X	
Disaster Management		
Planning		X
Response		X
Recovery		X
Mitigation		X
Mutual Aid / Surge Capacity	X	
Medical Standbys	X	
Hospital Interface	X	
Community Paramedicine/Population Health/Follow-up Care	X	

Conclusion 5. EMS Systems exists concurrently within the realm of health care, public health, public safety, and emergency medical preparedness systems, yet, reimbursement by user fees (health care) is often the only reliable source of funding. This concurrent existence directly leads to chronic underfunding of EMS Systems. Therefore, each of these stakeholder communities (health care, public safety, public health, and emergency medical preparedness) must recognize the contribution of EMS services to each of their individual missions and thus must undertake responsibility to provide appropriate financial support of EMS Systems.

Conclusion 6. The public expects the around the clock availability of high quality EMS response. In many communities, EMS response is the only available health care safety net service. Unfortunately, EMS is not considered an essential service by most policy makers. This failure to be recognized as an essential service also contributes to the chronic underfunding of EMS Systems. Therefore, EMS should be considered an essential service, and as such, appropriate steps must be taken by all stakeholder communities to ensure continued sustainable funding mechanisms for EMS Systems

Conclusion 7. Emergency services must be ready to respond 24/7. There is simply no way to determine prior to arrival what the request for service will entail with certainty. Yet, ambulance reimbursement is restricted by the healthcare system's medical necessity rules. Therefore, ambulance response reimbursement should be based upon the prudent layperson standard and/or based on the care provided by EMS to the patient and not be denied or reduced based on retrospective ambulance medical necessity review.

Conclusion 8. EMS must be integrated into the broader health care system to fully realize improved patient outcomes, efficiencies, and patient satisfaction. EMS funding mechanisms must take into account the important role that EMS systems play in producing these improved outcomes, efficiencies, and satisfaction levels.

Conclusion 9. As the community healthcare safety net, EMS always responds to emergency requests for service regardless of the patient's ability to pay. Federal regulations regarding access to care (Section 1902(a)(30)(A) of the Social Security Act) should not be used as justification to reduce reimbursement rates for EMS providers since no "reduction in response" would occur. While EMS will still respond, the timeliness and quality of service can be dramatically reduced and negatively impact patient outcomes.

Conclusion 10. New service delivery paradigms, including community Paramedicine, mobile integrated healthcare, continuum of care coordination by medical communications (9-1-1) centers and other components of preventative care provided by ambulance agencies have shown promising early results. These programs appear to deliver better patient outcomes, efficiencies, decreased costs, and improved patient satisfaction within the health care delivery systems in areas that have launched these innovative programs. These programs should be encouraged, studied, and financed to provide definitive confirmation of program success. If proven by demonstrated efficiencies and quality metrics, these programs should be expanded across the continuum to better impact the overall health care delivery system. A shared savings model could be used to fund EMS agencies. A shared savings model will evaluate total downstream health care saving produced by these programs with a portion of the saving used to research, develop, implement, and expand these innovative services.

Conclusion 11. The federal government should support and endorse efforts in local, state and federal policy arenas to assure the financial stability and improved performance of all of the functions of the EMS System. Specifically, the EMS industry should collaborate and adopt position statements regarding all of the following:

- Based on the IOM's 2007 recommendation, EMS systems must achieve improved coordination among all EMS functions, expanded regionalization, and increased transparency and accountability to patients, internal and external stakeholders, interested policymakers, and oversight agencies.
- EMS Systems should optimize economies of scale, system efficiencies and standards of care through various mechanisms including regionalized planning activities (IOM recommendation, 2007).
- EMS Systems should sponsor stakeholder processes with the goal of establishing local EMS System performance standards in preparation for future pay for performance initiatives; the objectives should include: establishment of patient outcome definitions and goals, creation data linkages between EMS and other health care system components, and development of policies and procedures for continuous quality improvement (NEMSAC Finance Committee recommendation, 2012).
- EMS Systems have unique infrastructure that exists at the intersection of all of the following disciplines: healthcare, public health, public safety, and emergency medical preparedness; therefore, commensurate government funding should be made available to the EMS System from each respective discipline (NEMSAC Finance Committee recommendation, 2012).
- EMS Systems are an essential component of each community's health care safety net, therefore, EMS response, care, and transport should be rationally reimbursed (NAEMSP position statement, 2011). In addition, EMS response, care, and transport reimbursement mechanisms should be based on the prudent layperson standard (ACEP position statement, 2002).
- EMS response reimbursement should not be denied or reduced based upon retrospective medical necessity reviews which ignore local and state EMS medical protocols and medical control regulations (NAEMSP position statement, 2011).
- State laws should require reimbursement for emergency medical services to be remitted directly to EMS providers and not directly paid to patients, regardless of the EMS provider's assignment status with the payer. EMS providers should not be forced to collect payments from patients covered by insurance (NEMSAC Finance Committee recommendation, 2012).
- Federal / State laws should require hospitals to retrospectively share patient demographic and billing information with EMS providers. (NEMSAC Finance Committee recommendation, 2012).

Recommended Actions:

National Highway Traffic Safety Administration

- **Recommendation 1:** NHTSA, in coordination with FICEMS, should support efforts to create a cost survey of the ambulance component of EMS. The cost survey should consider factors such as, but not limited to, the urban, rural, and super-rural nature of the area being served, level of clinical care, and the cost of readiness, for example.
    - **Goal Statement:** The project will provide essential data toward accomplishing the first four steps in the pathway and will develop a baseline from which to develop a comprehensive EMS System Finance study (Recommendation 3).

- **Recommendation 2:** NHTSA, in coordination with FICEMS, should support efforts to update CMS regulations such that emergency medical services is identified as a "*provider" type*, enabling the establishment of conditions of participation and health and safety standards.
    - **Goal Statement:** The project will establish a foundation for payment reform which could include establishment of new performance metrics and payment models.

- **Recommendation 3:** NHTSA, in coordination with FICEMS, should review existing industry-sponsored efforts to initiate an ambulance service cost survey and develop a comprehensive EMS System finance study that accounts for all costs and revenues including the following:
    1. EMS System Components. EMS System costs to be determined by calculating the dollars to achieve minimum performance standards for each component of the EMS system.
    2. Total EMS System Costs. The cost components will use EMS functions at a granular enough level to adequately reflect true system costs regardless of EMS system design.
    3. Cost of Readiness. NHTSA and FICEMS should adopt the IOM's definition for cost of readiness and ensure that accounting for that cost is included in the EMS finance study.
    4. Finance Models. Models should address both current and proposed future cost and revenue potentials.
        a. Finance models must evaluate the cost of EMS functions, potential funding streams from the various disciplines, and the Return on Investment (ROI) of EMS on the health care system, public health systems, public safety system, and emergency medical preparedness system.
        b. Finance models must specifically address direct and indirect grant, tax, and user fee funding sources.
        c. Finance model should also establish EMS-specific definitions of charity care and uncompensated care for both policy and tax purposes as described on pages 12-15 (Review of Healthcare financing of the EMS Safety Net) and calculate the total uncompensated care costs incurred by the nation's EMS System. It will identify

sources for funding the current significant uncompensated care burden carried by EMS Systems in order to transition away from shifting the cost of this care to commercial insurers and other payers.

d. Given the unique role of EMS Systems in patient outcomes management, the study should include a shared savings model related to EMS performance enhancement and improved patient outcomes, while preserving the existing funding for the transport system, utilizing existing Medicare and Medicaid authorities.
    i. Deliverable: Healthcare is funded by many different mechanisms with the federal government. The recommendation would include an analysis of existing health care payment models to determine if another payment process would better serve EMS for representative and readiness costs for providing EMS. The recommendation would also serve as the basis for developing a template for a shared saving model for EMS and other health care plans for services provided by EMS that result in downstream health care savings and reducing uncompensated care by the health care system. Shared savings to the health care system would be partially or completely re-invested back into EMS to further develop or expand their cost saving programs.

Appendix A

EMS System Functions by Discipline

What discipline has responsibility
for the indicated portion of EMS Delivery?

P = Primary (score=3) S = Secondary (Score=2)
M = Multiple (score = 1)

	Health Care (Acute Care Medicine)			Public Health (Epidemiology, Surveillance, Research)			Public Safety (911 response, LEO, Fire)			Emergency/ Disaster Management		
	P	S	M	P	S	M	P	S	M	P	S	M
Community Outreach/Prevention Activities				3								
EMS System Regulatory Oversight												
External Medical Control / Clinical Performance Standards / Scope of Practice	3											
Response Time / Level of Service Performance Standards			1			1			1			
Personnel Licensing & Certification			1			1						
Agency Accreditation (State, CAAS, CAMTS)-meeting standards Regional			1			1			1			1
Coordination			1			1			1			1
EMS Research EMS			1			1						1
Administration Ambulance			1			1			1			1
Dispatch Services												
Interfacility Dispatch Services Emergency	3											
(911 Primary PSAP - Fire, Police)							3					
Emergency (911 Secondary Medical PSAP)		2					3					
Alternative Response / Referral	3							2				
First Response Dispatch, Response, Extrication, Hazmat & Technical Rescue			1				3					
On Scene Medical Care - Without Transport												
Attempted Resuscitation No Transport	3											
Treatment with Refusal of Transport	3											
Treatment with Referral and No Transport	3											
On Scene Medical Care with Ambulance Transport												
Paramedic Intercept (with transport) Treatment	3											
on scene with transfer of care (with transport)	3											
Interfacility	3											
Emergency Air	3											
Ambulance	3											
Transport to Alternative Destination	3											
Disaster Management												
Planning										3		
Response		2					3					
Recovery										3		
Mitigation			1			1			1			1
Mutual Aid/Surge Capacity			1			1			1			1
Medical Standbys (Special Events)			1			1			1			1
Hospital Interface	3											
Community Paramedicine/Population Health/Follow-up Care	3				2							
Total Number of Primary	14			1			4			2		
Total Number of Secondary		2			1			1			0	
Total Number of Multiple			10			9			7			7
Score	42	4	10	3	2	9	12	2	7	6	0	7
Total Score	56			14			21			13		
Percentage of EMS functions by Discipline	53.8%			13.5%			20.2%			12.5%		
	Health Care			**Public Health**			**Public Safety**			**Emergency/ Disaster Management**		

Notes:

This worksheet is purely the number of functions and the discipline it relates to. This does not indicate the time, resources, or dollars spent on each function.

Conclusions:

Health care is the primary function of EMS Systems by nearly a 3:1 margin to the next closest discipline, Public Safety

Appendix B
EMS System Finance Matrix – Current and Proposed

EMS System Finance Matrix -- Current **Key** **P = Primary** **S = Secondary** **R = Rarely N** **= Never M** **= Multiple** **I = Indirect (Funding flows through EMS agency as direct agency expense)**	**Direct Funding Local Govt**	**Direct Funding State Govt**	**Direct Funding Fed Govt**	**Direct Funding Payers**	**Direct Funding User**	**Direct Funding HC Facility**	**Indirect Funding EMS Age**	**Other**
Current EMS System Functions (NEMSAC Finance Committee)								
Community Outreach/Prevention Activities	S	S		I	I		P	
EMS System Regulatory Oversight								
External Medical Control / Clinical Performance Standards / Scope of Practice	P	P	P	I	I	I	S	
Response Time / Level of Service Performance Standards	S			I	I		P	
Personnel Licensing & Certification	P	P	P	I	I		S	
Agency Accreditation	P	P	P	I	I		S	
Regional Coordination	P	P	P					
EMS Research	P	P	P					
EMS Administration				I	I		P	
Ambulance Dispatch Services								
Interfacility Dispatch Services				I	I	I	P	
Emergency (911 Primary PSAP - Fire, Police)	P	P	S	R	R		R	
Emergency (911 Secondary Medical PSAP)	R			I	I		P	
Alternative Response / Referral							R	
First Response Dispatch, Response, Extrication, Hazmat & Technical Rescue	P	S	S				S	
On Scene Medical Care - Without Transport								
Treatment On Scene and Transition (for transport)								
Attempted Resuscitation No Transport				R	R	I	P	
Treatment with Refusal of Transport				I	I	I	P	
Treatment with Referral and No Transport	I			I	I		R	
On Scene Medical Care with Ambulance Transport								
Paramedic Intercept (with transport)				R	R		P	
Interfacility				P	P	P	S	
Emergency	S			P	P		S	
Air Ambulance				P	P			
Transport to Alternative Destination								
Disaster Management								
Planning	P	P	P	I	I	S	P	
Response	P	P	P	I	I	S	P	
Recovery	P	P	P	I	I	S	P	
Mitigation	P	P	P	I	I	S	P	
Mutual Aid / Surge Capacity				I	I		P	
Medical Standbys								P
Hospital Interface				I	I	R	P	

Community Paramedicine/Population Health/Follow-up Care		R		I	I		R	

EMS System Finance Matrix -- Proposed

Key
P = Primary
S = Secondary
R = Rarely N
= Never M
= Multiple
I = Indirect (Funding flows through EMS agency as direct agency expense)

	Direct Funding Local Govt	Direct Funding State Govt	Direct Funding Fed Govt	Direct Funding Payers	Direct Funding User	Direct Funding HC Facility	Indirect Funding EMS Age	Other
Proposed EMS System Functions (NEMSAC Finance Committee)								
Community Outreach/Prevention Activities				P	P	P		
EMS System Regulatory Oversight								
External Medical Control / Clinical Performance Standards / Scope of Practice	P	P	P					
Response Time / Level of Service Performance Standards				P	P			
Personnel Licensing & Certification	P	P	P	I	I		S	
Agency Accreditation	P	P	P	P	P			
Regional Coordination	P	P	P					
EMS Research	P	P	P					
EMS Administration				I	I		P	
Ambulance Dispatch Services								
Interfacility Dispatch Services				I	I	I	P	
Emergency (911 Primary PSAP - Fire, Police)	P	P	S	R	R		R	
Emergency (911 Secondary Medical PSAP)				P	P			
Alternative Response / Referral				P	P	P		
First Response Dispatch, Response, Extrication, Hazmat & Technical Rescue	P	S	S					
On Scene Medical Care - Without Transport								
Treatment On Scene and Transition (for transport)								
Attempted Resuscitation No Transport				P	P			
Treatment and No Transport				P	P			
Treatment with Referral and No Transport				P	P	S		
On Scene Medical Care with Ambulance Transport								
Paramedic Intercept (with transport)				P	P			
Interfacility				P	P	P		
Emergency				P	P	S		
Air Ambulance				P	P			
Transport to Alternative Destination				P	P	S		
Disaster Management								
Planning	P	P	P	I	I	S	P	
Response	P	P	P	I	I	S	P	
Recovery	P	P	P	I	I	S	P	
Mitigation	P	P	P	I	I	S	P	
Mutual Aid / Surge Capacity				I	I		P	
Medical Standbys								P
Hospital Interface						P		

Community Paramedicine/Population Health/Follow-up Care				P	P	P		

Footnotes:

- Colors indicate recommended changes: Red = Shift Costs Towards / Green = Shift Costs Away

- References: IOM, Lerner Article, GAO, NAEMSP, ACA / HCR, NHTSA Agenda, Workforce, Scope Papers (details to come)

- EMS Administration Costs Include: administrative, building, facilities and other operating costs (see Cost Categories)

- Direct Service Costs Include: operations labor, vehicles, maintenance, medical supply, equipment, dispatch costs (See Cost Categories)

Comments
Increase transparency and accountability for establishing and enforcing performance standards
Increases in scope of practices are increasing costs of service
Response time greatest driver of cost of readiness
Reference NHTSA EMS Workforce Paper
S = EMS agencies sometimes fund oversight via franchise fee paid to local government, self funding accreditation (CAAS, CAMTS, ACE)
Additional systems required, such as, IAED PSIAM, nurse advice
EMS agencies sometimes fund first response via pass through payments to fire departments
Current Medicare reimbursement at BLS only
Currently no Medicare reimbursement
Frequent flyer programs
Current Medicare reimbursement in NY only
S = EMS agencies experience significant uncompensated care and under compensated care
S = EMS agencies experience significant uncompensated care and under compensated care; receive rare local subsidy
Currently no Medicare reimbursement
Significant problems due to diversion and ambulance parking at hospitals

Limited Medicaid reimbursement or agency funded (Programs are currently rare)

Comments
Additional funding would boost these essential activities for accident prevention and wellness promotion
Systems should move towards regionalized systems with improved local coordination
Increases in scope of practice increase costs of service; need more research on medically-appropriate level of care
RT greatest driver of CR; need more research on evidence-base for local RT requirements; system financing key component of EMS system performance
Reference NHTSA EMS Workforce Paper; no change
EMS agencies sometimes fund oversight via franchise fee paid to local government; agencies often self fund accreditation (CAAS, CAMTS, ACE)
No change
No change; funding required in order to strengthen evidence base
No change; costs included in GAO Cost Categories Tab
No change
No change
Insurers must adequately fund
New service lines required, such as, continuum of care role, expanded IAED PSIAM, nurse advice capacity
Population based funding from local govt for initial access to 9-1-1 medical care; need to address indirect cost of FR resupply by trans provider
Establish payments for medically justified treat/release; repatriate downstream savings; need to account for additional liability costs due to non-trans
Establish ALS payments for on scene treatment according to certain local protocols
Establish payments for treatments under current protocols following patient transport refusals, i.e., diabetic and asthma patients
Limited situations as referenced in NAEMSP Paper with additional research necessary; healthcare facility could be primary payer as HCR evolves
All insurers (govt and commercial) need to pay for cost of readiness; costs included in GAO Cost Categories Tab
Consider expanded use in rural areas via existing NY-only Medicare reimbursement mechanism [FURTHER DIALOGUE NEEDED]
Level of transport determined by medically appropriate level of care; post-service utilization review must be medically appropriate (PCS issue)
Payers pay full cost of readiness using Prudent Layperson standard; efforts to reduce readmissions recognize PL standard; HCR reduces # of uninsured
Level of transport determined by medically appropriate level of care [NEW COMMENT]
Limited situations as referenced in NAEMSP Paper with additional research necessary
With the exception of insurance reimbursement for actual transports, government is primary funding source for disaster planning
No change
No change
No change
No change
No change; generally transports under mutual aid agreements are covered by insurance reimbursement
No change
Reduce ambulance diversion, eliminate patient parking at hospitals
Explore new models of care under HCR using existing EMS capacity

Appendix C

Proposed EMS System Functions and Definitions (NEMSAC Finance Committee, 12-2011)

Community Outreach/Prevention Activities

The planning, coordination and provision of community education programs regarding EMS as well as initiatives to improve the health and safety of the population served. These may include such programs as;

- *CPR training and certification*
- *Citizen first aid classes*
- *AED training*
- *Guest speaker programs for community groups*
- *Tours of facilities and ride along programs*
- *Provision of standby EMS personnel or units at community events*
- *Health screening activities; blood pressures, heart monitor checks, pulse oximetry, blood glucose*
- *Student mentorship and internship programs*

EMS System Regulatory Oversight

External Medical Control / Clinical Performance Standards / Scope of Practice

The medical oversight of EMS, including the treatment protocols to be utilized, the level and breadth of EMS interventions to be provided and the skills required to do so, the quality and successful rate of performance by practitioners, and the quality assurance and improvement processes to monitor both practitioners and agencies

Response Time / Level of Service Performance Standards

Establishment of standards for the provision of EMS. This usually includes such parameters as response time requirements, level of EMS care to be provided, types of EMS units to be available, etc.

Personnel Licensing & Certification

Establishment of standards for the level of education needed for each level of EMS practitioner, including knowledge and performance evaluation parameters. Also includes the establishment of, and process to accomplish, the testing of candidates, awarding of credentials, maintenance of credentials and decertification.

Agency Accreditation

Official recognition of the EMS agency as attaining certain standards. This includes licensure to provide service by a cognizant authority and the attainment of certification by a professional accrediting organization.

Regional Coordination

Organizing and synchronizing EMS services between multiple agencies, often over a multi-jurisdictional geography, to improve response of services and plan for episodes of excess demand which exceeds local resources

EMS Research

The attainment and accumulation of essential, scientifically sound, medical evidence of the effectiveness of EMS services, especially the outcomes of patients who are provided

EMS care, as well as the resulting morbidity and mortality associated with certain EMS medical treatments and skills

EMS Administration

All activities necessary for the bureaucracy of an EMS organization to manage its operations. This includes, but not limited to, management and administrative support salaries, benefits, and payroll taxes; general and professional liability insurance; utilities; office supplies and equipment; postage and freight; dues and subscriptions; travel; accounting and audit; legal; billing; payroll; purchasing; human resources; marketing; public education; quality improvement; training and education; risk management; information technology; business licenses and taxes; interest; performance penalties; performance security; medical director fees; accreditation; miscellaneous costs; billing and collections costs, including salaries associated with this activity; and any shared services

Ambulance Dispatch Services

Interfacility Dispatch Services

Services that process non-9-1-1 requests for, and arrange the provision of, the medical transportation of patients, typically between healthcare facilities or discharges from hospitals.

Emergency (911 Primary PSAP - Fire, Police)

A PSAP to which 9-1-1 calls are routed directly from the 9-1-1 Control Office

Emergency (911 Secondary Medical PSAP)

A PSAP to which 9-1-1 calls are transferred from a primary PSAP for the purposes of additional interrogation of, and provision of advice and direction for providing care until first responders or EMS care givers arrive on the scene, to the caller

Alternative Response / Referral

The intervention of specially trained medical practitioners, such as registered nurses, during the 9-1-1 call in-take process that results in the decision to send resources other than EMS providers to aid the patient, or the referral of the patient to non-EMS assistance

First Response Dispatch, Response, Extrication, Hazmat & Technical Rescue

First Response Dispatch – The notification to, and sending of, initial personnel and units to the scene of an unexpected, acute medical, psychological or traumatic emergency, who are trained to provide at least very basic care to the patient, but who are not normally capable of transporting the patient to a hospital Emergency Department
Response – The immediate movement of an EMS resource(s) to the location needed
Extrication - Removal from entrapment or a dangerous situation or position
Hazmat - substance or material posing serious risk to health, safety, property
Technical Rescue - refers to those aspects of saving life or property that employ the use of tools and skills that exceed those normally reserved for emergency services. This includes high angle, trench, confined space and swift water

On Scene Medical Care - Without Transport

Treatment On Scene and Transition (for transport)

EMS medical care provided at the scene of an emergency by one agency which results in the transfer of the patient and their care to another agency for transport to a hospital Emergency Department

Attempted Resuscitation No Transport

EMS resuscitative medical care provided at the scene of an emergency to a patient in cardiac arrest which results in no transport to a hospital Emergency Department, typically because the efforts to revive the patient are unsuccessful and the patient is pronounced deceased at the scene.

Treatment and No Transport

EMS medical care provided at the scene of an emergency which results in no transportation to a healthcare facility. This may be because the patient's immediate acute medical condition was resolved, and/or that the patient refused further medical care and/or transportation to a hospital Emergency Department.

Treatment with Referral and No Transport

EMS medical care provided at the scene of an emergency which resolves the patient's immediate acute medical episode and results in no transportation to a healthcare facility, but does result in the EMS provider advising the patient to seek future healthcare follow-up with the appropriate medical practitioner.

On Scene Medical Care with Ambulance Transport

Paramedic Intercept (with transport)

EMS medical care provided at the paramedic level by an ALS unit that responds separately from, and in addition to, a BLS ambulance, which concludes with the transport of the patient to a hospital Emergency Department in the BLS ambulance with the paramedic care provider in attendance of the patient.

Interfacility

Medical transportation of a patient between healthcare facilities which includes in-transit medical care.

Emergency

Medical transportation of a patient from the scene of an emergency to a hospital Emergency Department, which includes both on-scene and in-transit medical care

Air Ambulance

Medical transportation by helicopter or fixed aircraft of a patient from either the scene of an emergency to a hospital Emergency Department, or from a healthcare facility to another healthcare facility, which includes both on-scene and in-transit medical care

Transport to Alternative Destination

Medical transportation of a patient from the scene of an emergency to a healthcare facility other than hospital Emergency Department, which includes both on-scene and in-transit medical care

Disaster Management

Planning

The systematic identification of strategies and specific activities, including tools, to help reduce risks to life and property from hazardous incidents and/or disasters

Response

The active phase of deploying assets to the area affected by the incident or disaster

Recovery

The subsequent actions taken to restore property, jobs, and services to a pre-incident condition

Mitigation

The process used to reduce the consequences of a disaster both in terms of frequency and severity. This occurs prior to the other processes and involves implementation and enforcement of laws (building codes, flood plain management efforts, provision of emergency services, ect)

Mutual Aid / Surge Capacity

Mutual Aid is a request to outside agencies from the responsible EMS to provide emergent or immediate assistance to an incident location

Surge capacity is a measurable representation of ability to manage a sudden influx of patients. It is dependent on a well-functioning incident management system and the variables of space, supplies, staff and any special considerations (contaminated or contagious patients, for example)

Medical Standbys

Initial request for service which is not tied to a patient but to a situation where a person may become ill or injured

Hospital Interface

The transition of the patient and their care from the EMS transporting agency to the hospital Emergency Department. This includes the circumstances and activities that surround this transition, including hospital diversions and delays encountered.

Community Paramedicine/Population Health/Follow-up Care

The expanded scope of practice for EMS providers that includes nontraditional care of patients outside the realm of emergency treatment of unexpected acute medical conditions. This may include patient counseling on personal healthcare issues, preventative care for patients with chronic medical problems and post care referral to follow-up practitioners. Community paramedicine increases patient access to primary and preventative care, provides wellness interventions within the medical home model, decreases emergency department utilization (Joint Committee on Rural Emergency Care (JCREC) National Association of State Emergency Medical Services Officials National Organization of State Offices of Rural Health)

EMS System Finance Matrix

Definitions

Healthcare - the diagnosis, treatment, and prevention of disease, illness, injury, and other physical and mental impairments in humans (Wikipedia)

Public health - The science of providing protection and promotion of community health through organized community effort. (EMS Agenda for the Future)

Public Safety - A department which has the primary goal of protecting the public and keeping them safe. (BusinessDictionary.com) **Public safety** involves the prevention of and protection from events that could endanger the safety of the general public from significant danger, injury/harm, or damage, such as crimes or disasters (natural or man-made). (Wikipedia**) Public Safety** refers to the welfare and protection of the general public. It is usually expressed as a governmental responsibility. (Uslegal.com)

Emergency/Disaster Management - "An ongoing process to prevent, mitigate, prepare for, respond to, and recover from an incident that threatens life, property, operations, or the environment." (NFPA 1600, 2007, p. 7)

Admin/Oversight – required for all disciplines. The management of EMS or the cost of doing business.

Local Government – city, county, district or regional

State Government – state or territory

Federal Government – all executive, legislative, and judicial branches of the US government

Payers-Commercial, Medicare, Medicaid – Insurance; an entity which is responsible to pay for services even though it is not directly involved in the transaction (Agenda for the Future, definition for third party payer); includes Accountable Care Organizations (ACO) if the ACO becomes a payer.

Healthcare Delivery System - A specific arrangement for providing preventive, remedial, and therapeutic services; may be local, regional, or national. (Agenda for the Future)

Payers-User – payments from the person in need of assistance by EMS, including, user fees from the uninsured, co-pays and deductibles from the insured, and subscription programs fees.

EMS Agency – the organization providing EMS services

Cost of Readiness – EMS costs include the direct costs of each emergency response, as well as the readiness costs associated with maintaining the capability to respond quickly, 24-hours a day, 7-days a week." (Institutes of Medicine)

Service Cost Categories

Operations Labor Costs

Including, but not limited to, full-time, part-time, and overtime wages and salaries; health and miscellaneous benefits; retirement; continuing education and training; payments to volunteers; workers' compensation; replacement costs for paid time-off (i.e., vacation and sick); bonus pay for skills upgrade; payroll taxes; and miscellaneous personnel costs for operations, medical communications center, maintenance, operations support, and first line operations supervisor personnel

Vehicles and Fleet Maintenance Costs

Including, but not limited to, ambulance and other operations vehicle lease or purchase, vehicle licenses and taxes, vehicle insurance, fuel, fleet repairs and maintenance, and maintenance shop equipment

Medical Supply and Equipment Costs

Including, but not limited to, medical supplies (i.e., drugs, oxygen, sheets, and gloves), medical equipment (i.e., stretchers and defibrillators), medical equipment repairs and maintenance, and uniforms

Medical Communications Center Equipment Costs

Including, but not limited to, medical communications center equipment and software, and communications equipment and software maintenance

Building and Facilities Costs

Including, but not limited to, building rent, lease, or purchase; property taxes; property insurance; and repair and maintenance for operations, fleet maintenance, administrative, station, and medical communications center facilities

Administrative and Other Operating Costs

Including, but not limited to, management and administrative support salaries, benefits, and payroll taxes; general and professional liability insurance; utilities; office supplies and equipment; postage and freight; dues and subscriptions; travel; accounting and audit; legal; billing; payroll; purchasing; human resources; marketing; public education; quality improvement; training and education; risk management; information technology; business licenses and taxes; interest; performance penalties; performance security; medical director fees; accreditation; miscellaneous costs; and any shared services

Cost Accounting Terms

For cost-accounting systems, below are definitions for the important terms:

Fixed Cost – A cost that does not change as the number of ambulance transports changes in the short run, including, labor costs, vehicles, medical equipment, facilities, management and administrative support functions.

Full Cost – The total direct, indirect, and shared costs of ambulance service.

Direct Cost – A cost that can be traced specifically to ambulance transports, including costs for items or services that are provided by or shared with a parent hospital, government agency, corporation, or other operating division. Direct costs include operations labor, vehicles and fleet maintenance, medical supplies and equipment, and medical communications center equipment.

Indirect Cost – A cost that cannot be traced specifically to ambulance transports, including costs for items or services that are provided by or shared with a parent hospital, government agency, corporation, or other operating division. Indirect costs include administrative labor; building and facilities; and administrative support functions such as accounting, legal, billing, payroll, purchasing, human resources, marketing, public education, quality improvement, training and education, risk management, information technology, taxes, interest, performance penalties, performance security, medical director fees, accreditation, and other administrative and operations costs.

Marginal Cost – The direct cost of producing one additional ambulance transport.

Shared Cost – A cost that is provided by or shared among one or more operating divisions or departments of a hospital-based, government-based, or multi-jurisdictional provider. Shared direct costs include items or services such as loaned vehicles, loaned medical equipment, shared fleet maintenance services, and shared medical communications center services. Shared indirect costs include items or services such as shared facilities, shared management functions, and shared administrative support functions.

Appendix D
Uncompensated Care

ESTIMATED TOTAL EMS SYSTEM UNCOMPENSATED CARE IN US

Average Payer Mix

Payer Type	% of Transports by Payer Type
Medicare	44.0%
Medicaid	14.0%
Private Pay	14.0%
Comm Insurance	21.0%
Other	7.0%

Estimated Total Uncompensated Care in U.S.

$ 1,542,100,427	Charity Care
$ 1,327,307,867	Under-compensated Care
$ 2,869,408,294	Total Uncompensated Care

Estimated Ground Ambulance Transports in US

28,004,624	Est. 2009 U.S. EMS Transports (2011 National EMS Assessment)
280,046	(Less) Estimated 2009 Air Transports (1%)
27,724,578	Est. 2009 U.S. Ground Ambulance Transports

Calculation of Ambulance Charity Care

27,724,578	U.S. Ambulance Transports (E & NE)
14%	14% Private Pay/Uninsured
3,881,441	Private Pay/Uninsured Transports
$ 497	Cost/Transport (GAO)
$ 1,927,625,533	Cost of Care to Private Pay/Uninsured Patients
15%	(Less) Collect 15% the cost of service (AAA)
5%	(Less) Govt Funding Intended to Offset Charity Care (AAA)
$ 1,542,100,427	Total Charity Care to Uninsured

Calculation of Ambulance Under-compensated Care -- Medicaid

27,724,578	U.S. Ambulance Transports (E & NE)
14%	14% Medicaid
3,881,441	Medicaid Transports
$ 497	Cost/Transport (GAO)
$ 1,927,625,533	Cost of Care to Medicaid Patients
50%	Collect 50% the cost of service (Werfel, AAA)
$ 963,812,767	Total Collections from Medicaid
$ 963,812,767	Total Undercompensated Care - Medicaid

Calculation of Ambulance Under-compensated Care -- Medicare

27,724,578	U.S. Ambulance Transports (E & NE)
44%	44% Medicare
12,198,814	Medicare Transports
$ 497	Cost/Transport (GAO)
$ 6,058,251,677	Cost of Care to Medicare Patients
94%	Collect 94% the cost of service (GAO)
$ 5,694,756,576	Total Collections from Medicare
$ 363,495,101	Total Undercompensated Care - Medicare

Sources:

AAA, "EMS Structured for Quality: Best Practices in Designing, Managing and Contracting for Emergency Ambulance Service," McLean, VA, American Ambulance Association, 2008.
NASEMSO, "2011 National EMS Assessment," 2012, page 441. Includes ground emergency and interfacility ambulance transports, but excludes air ambulance transports.
U.S. Government Accountability Office (GAO), "Ambulance Providers: Costs and Expected Medicare Margins Vary Greatly," Report to Congressional Committees, GAO-07-383, May 2007.
Project Hope, "Findings from the 1999 National Survey of Ambulance Providers," March 2000.
Werfel, B, Werfel, D, "2008 Medicaid Ambulance Rate Survey," McLean, VA, American Ambulance Association, 2008.

Summary of Ambulance Cost Reports

		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
(1)	Amb Inflation Factor	3.0%	2.3%	2.1%	3.0%	3.7%	2.5%	1.1%	2.1%	3.3%	4.3%	3.0%	2.7%	5.0%	0.0%	1.1%	2.4%

	Report	Ambulance Cost Per Transport
(2)	HCFA (98)	$ 411.67
(3)	Project Hope (98)	$ 373.00
(4)	GAO (04)	$ 415.00
(5)	Hobbs,Ong (05)	$ 562.00

		$ 496.63
		$ 514.14

Sources

1 U.S. Dept of Labor, Bureau of Labor Statistics, "Consumer Price Index-Urban," at www.bls.gov/cpi. Actual ambulance inflation update varies slightly from published CPI-U due to Congressional action and CMS policy.

2 Health Care Financing Administration (HCFA), "Hospital-based Ground Ambulance Costs," September 2000, Federal Register, Vol. 65, No. 177, September 12, 2000, page 55085.

3 Project Hope, "Findings from the 1999 National Survey of Ambulance Providers," March 2000.

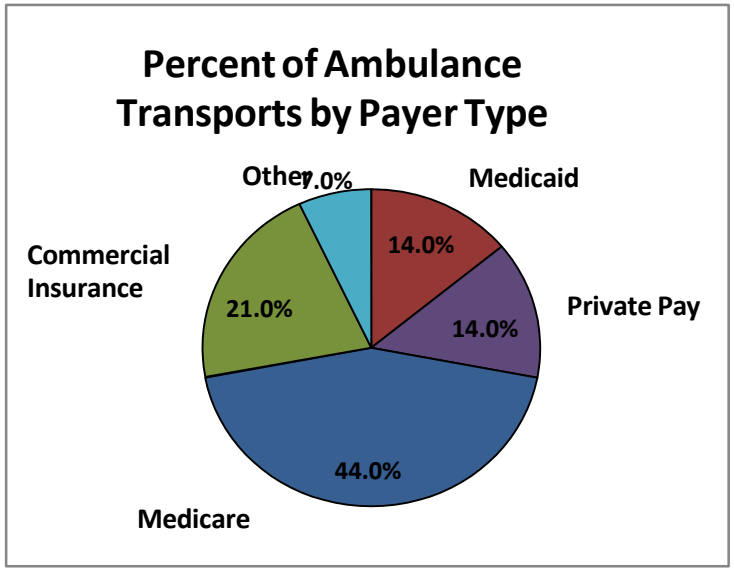
4 U.S. Government Accountability Office (GAO), "Ambulance Providers: Costs and Expected Medicare Margins Vary Greatly," Report to Congressional Committees, GAO-07-383, May 2007.

5 Hobbs, Ong & Associates, Inc. (HO), "Industry Performance Survey," California Ambulance Association, September 2006.

NATIONAL

Percent of Transports by Payer Type

Medicaid = 14.0%	14.0%
Private Pay = 14%	14.0%
Medicare = 44%	44.0%
Commercial Insurance = 21%	21.0%
Other = 7%	7.0%
	100.0%



Reference: AAA, page 86

Appendix E
References with Descriptions

B: References

Below are the major studies and reports reviewed by the NEMSAC:

American Ambulance Association (AAA). "EMS Structured for Quality: Best Practices in Designing, Managing and Contracting for Emergency Ambulance Service." 2008.
The purpose of this guide book was to provide EMS administrators responsible for EMS system oversight as well as ambulance service executives and managers with tools to achieve the five hallmarks of a high performance EMS system and the four essential performance results.

American College of Emergency Physicians. "Policy Compendium." 2012 Edition.
The purpose of this reference guide is to provide the complete text of ACEP's policy statements as of December 31, 2011.

California Healthcare Foundation. "California's Health Care Safety Net: Facts and Figures." October 2010.
The purpose of this report was to provide a snapshot of the state's health care safety net prior to the implementation of the Accountable Care Act and other healthcare reforms.

Faul, Wald, Sullivent, Sasser, Kapil, Lerner, Hunt. "Large Cost Savings Realized from the 2006 Field Triage Guideline: Reduction in Overtriage in U.S. Trauma Centers." Prehospital Emergency Care. January/March 2012.
The purpose was to examine the potential cost savings associated with overtriage for the 1999 and 2006 versions of the Field Triage Guideline.

Goebel, Gorman and Jensen. "Costing Out Fire EMS: A Level Playing Field." FIRE CHIEF. May 1997.
The purpose of this article was to evaluate both private sector and public sector methods to predict the cost of delivering ambulance transport services.

Health Access. "The Affordable Care Act in California: After Two Years – Big Benefits, More Work to Do." March 2012.
The purpose of this report is to summarize implementation of the Affordable Care Act in California including accomplishments, new benefits and outstanding issues.

Institute of Medicine. The future of public health. Washington: IOM; 1988.
http://www.nap.edu/openbook.php?record_id=1091&page=7
The purpose of this report was to identify public health's three core functions and ten essential activities at all levels of government.

Institutes of Medicine (IOM). "Future of Emergency Care in the US: EMS at the Crossroads." National Academy of Sciences. 2007.
The purpose was to examine the emergency care system in the United States, to create a vision for the future of the system, and to make recommendations for helping the nation achieve that vision.

Lerner, Nichol, Spaite, Garrison and Maio. "A Comprehensive Framework for Determining the Cost of an EMS System." Annals of Emergency Medicine. March 2007.
The goal was to determine the cost of an EMS system in a community from a societal perspective.

MedPAC. "Report to the Congress: Medicare Payment Policy." Medicare Payment Advisory Commission. March 2012.
The purpose is to provide two reports per year to Congress containing the recommendations of the Medicare Payment Advisory Commission (MedPAC). MedPAC is an independent congressional agency that advises the U.S. Congress on issues affecting the Medicare program.

Millin, Brown, Schwartz. "EMS Provider Determinations of Necessity for Transport and Reimbursement for EMS Response, Medical Care, and Transport: Combined Resource Document for the National Association of EMS Physicians Position Statements)." Prehospital Emergency Care. October/December 2011.
The purpose was to outline the literature examining EMS provider determinations of medical necessity and the provision of on-scene medical care without transport, and to serve as a resource document to the National Association of EMS Physicians (NAEMSP) position statements on "EMS Provider Determinations of Medical Necessity for Transport," and "Reimbursement for EMS Response, Medical Care, and Transport."

Mohr, Cheng, Mueller and Good. "Findings from the 1999 National Survey of Ambulance Providers." Project Hope. March 2000.
The objectives were to determine: the relative average costs of providing different levels of ground ambulance services, how costs vary by urban/rural location and the major factors that influence the costs of providers' services.

National EMS Advisory Council. "EMS Makes a Difference: Improved Clinical Outcomes and Downstream Healthcare Savings: A Position Statement of the National EMS Advisory Council." NEMSAC. December 2009.
The purpose was to summarize the substantial evidence base documenting improved patient outcomes resulting from prehospital interventions and emergency medical services (EMS) systems.

National Highway Traffic Safety Administration. "The National EMS Assessment." 2012. Accessed online on May 21, 2012 at: http://www.ems.gov/pdf/2011/National_EMS_Assessment_Final_Draft_12202011.pdf.
The purpose of this report was to identify and analyze existing databases containing information on EMS, EMS emergency preparedness, and 911 systems at the state and national levels.

Ragone. "2010 JEMS 200-City Survey." Journal of Emergency Medical Services. February 2011.
The purpose of this article is to summarize the annual survey of the nation's 200 largest EMS systems.

Richardson and Gaumer. "Mandated Report: Medicare Payment for Ambulance Services." MedPAC. April 5, 2012.
The purpose of this presentation by MedPAC staff and public meeting was to provide an update on the completion of the MedPAC report regarding Medicare payment for ambulance services which is required by Congress and is due by June 15, 2013.

U.S. Congressional Budget Office. Press Release: Quality Initiatives Undertaken By The Veterans Health Administration. Washington, DC: Congressional Budget Office, 2009. http://www.cbo.gov/publication/24955 (accessed March 18, 2012).
"Determining whether VHA is a cost-effective provider of care is not simply a matter of comparing spending per enrollee. VHA spending per enrollee does not reflect the full amount of medical care received by those veterans from all sources. In this assessment, CBO took into account changes in the mix of enrollees and their reliance on VHA care and found that VHAs spending per enrollee was relatively flat from 1999 through 2002, but since then it has risen about as rapidly as spending per enrollee in the Medicare program. It is likely that rapid increases in annual appropriations for VHA, efforts to reduce waiting lists within the system, and expansion of mental health and other specialized services have contributed to the recent growth in spending per enrollee."

U.S. Government Accountability Office (GAO). "Ambulance Providers: Costs and Expected Medicare Margins Vary Greatly." Report to Congressional Committees. GAO-07-383. May 2007.
The purpose was to study ambulance service costs.

Weaver, Moore, Patterson, Yealy. "Medical Necessity in Emergency Medical Services Transports." American Journal of Medical Quality. December 2011.
The purpose was to generate national estimates of the prevalence of medically unnecessary ambulance transports to emergency department (EDs) over time and to identify characteristics that may be associated with medically unnecessary transports.

Werfel and Werfel. "2008 Medicaid Ambulance Rate Survey." American Ambulance Association. 2008.

The purpose was a national survey of the ambulance transport payment rates for each state's Medicaid program.

Appendix F
References with Descriptions

Below are the other national standards reviewed and cross walked by the NEMSAC.

Faul, Wald, Sullivent, Sasser, Kapil, Lerner, Hunt. "Large Cost Savings Realized from the 2006 Field Triage Guideline: Reduction in Overtriage in U.S. Trauma Centers." Prehospital Emergency Care. January/March 2012.
This study compared the 2006 Guidelines to the 1999 version that evaluated the triage decisions made by EMS personnel and the cost implications for transporting to trauma centers versus non-trauma centers. With approximately 5.4 million trauma patients being transported in 2007, the updated triage guidelines saved an estimated $568,000,000 in national health care costs. EMS integrated into the healthcare system has shown substantial savings in this one segment of EMS patients. With 18.1 million ambulance transports to hospital ED's, the trauma system is a minority of ambulance calls and great potential exists for additional savings. The nation's trauma systems also rely on inter-facility ambulance services to re-triage trauma patients between emergency departments on an urgent basis. Studies show effective trauma systems (with the goal for the right care, at the right place, at the right time) lower the risk of death by 25% (Mackenzie, 2006).

Weaver, Moore, Patterson, Yealy. "Medical Necessity in Emergency Medical Services Transports." American Journal of Medical Quality. December 2011.
EMS transports for medically unnecessary complaints increased steadily over a 10-year period, encompassing 17% of all EMS transports nationally in 2007. However, lack of insurance was not the major factor, and use by those with this condition dropped over the time interval. This nationally representative sample suggests that there is an opportunity for alternative patient delivery strategies for selected patients seeking EMS services.

National EMS Advisory Council. "EMS Makes a Difference: Improved Clinical Outcomes and Downstream Healthcare Savings." National Highway Traffic Safety Administration. Washington, DC, 2009.
The EMS Makes a Difference paper indicates "systems of care" improve patient outcomes and decrease overall downstream health care costs and EMS plays a major role. EMS produces downstream savings in healthcare costs because of actions taken in the field. The NEMSAC white paper identified several categories of EMS work that benefit patients and health care systems, including: EMS functioning with systems of care (cardiac, stroke, and trauma), use of 12-lead ECG, CPAP, termination of codes in the field, and treat, refer and release to name just a few. The paper also highlights how an integrated EMS System within health care can improve patient outcomes, decrease cost, and improve patient satisfaction.

Institute of Medicine. "Future of Emergency Care: Emergency Medical Services at the Crossroads." National Academy Press. Washington, DC: 2007.
In 2007, the Institutes of Medicine (IOM) of the National Academies of Sciences released its landmark publication titled, "Future of Emergency Care in the U.S." The publication encompassed three reports addressing hospital-based emergency care, emergency care for children and pre-hospital care. One of those reports, "*EMS at the Crossroads*," evaluates the development of EMS over the last 40 years resulting in the "fragmented system that exists today." The prestigious committee's findings and recommendations rest on three broad goals for the nation's "systems" of emergency care:

- improved coordination
- expanded regionalization
- increased transparency and accountability

U.S. Government Accountability Office (GAO). "Ambulance Providers: Costs and Expected Medicare Margins Vary Greatly." Report to Congressional Committees. GAO-07-383. May 2007
The GAO verified the Medicare ambulance fee schedule rates are an average of six percent (6%) below cost per ambulance transport in urban and suburban areas and seventeen percent (17%) in rural areas. Unfortunately, the report was not designed to calculate true EMS System costs and reported only the shortage of funding to transport providers.

National Highway Traffic Safety Administration. Emergency Medical Services Agenda for the Future. DOT HS 808 441. National Highway Traffic Safety Administration, Washington, DC, 1996.
The purpose of the *EMS Agenda for the Future* is to determine the most important directions for future EMS development, incorporating input from a broad, multidisciplinary spectrum of EMS stakeholders. The agenda provides guiding principles for the continued evolution of EMS, focusing on out-of-facility aspects of the system. The agenda proposes the continued development of 14 EMS attributes.

U.S. General Accounting Office. Veterans Affairs: Limited Support for Reported Health Care Management Efficiency Savings, GAO-06-359R. Washington, DC: General Accounting Office, 2006. http://www.gao.gov/products/GAO-06-359R (accessed March 18, 2012).

"VA lacked a methodology for making the health care management efficiency savings assumptions reflected in the President's budget requests for fiscal years 2003 through 2006 and, therefore, was unable to provide us with any support for those estimates. VA officials told us that the management efficiency savings assumed in these requests were savings goals used to reduce requests for a higher level of annual appropriations in order to fill the gap between the cost associated with VA's projected demand for health care services and the amount the President was willing to request.

Further, VA lacks adequate support for the $1.3 billion it reported as actual management efficiency savings achieved for fiscal years 2003 and 2004 because it lacked a sound methodology and adequate documentation for calculating and reporting management efficiency savings. Specifically, there was little consistency with respect to what VA's regional networks reported as management efficiency savings, how savings were calculated, and what type of documentation was available to support the savings figures reported. In addition**,** VA's regional networks sometimes reported savings resulting from cost-cutting measures as management efficiency savings. Although both can achieve savings, cost-cutting measures, unlike management efficiency initiatives, are not consistent with VA's objective of providing the same or higher quality and quantity of service at a lower cost. Finally, VA does not have a reliable basis for determining whether it has realized the management efficiency savings that were reflected in the President's budget requests for fiscal years 2003 and 2004. Specifically, VA's use of its savings calculation for its national procurement initiatives is misleading because VA calculates actual savings for these initiatives on a cumulative basis and compares these savings figures with savings goals that are reflected on an incremental basis.

In recent years, the VA OIG and we identified management inefficiencies that, if unaddressed, could contribute to requests for higher amounts of appropriations that could otherwise have been avoided. For example, although VA has instituted a number of procurement reform initiatives aimed at leveraging its purchasing power and improving the overall effectiveness of its procurement actions, the VA OIG and we continue to identify problems with VA's procurement processes. Moreover, the VA OIG identified deficiencies in VA's procurement practices as one of the agency's most serious management challenges. For instance, recent GAO and VA OIG reports disclosed significant problems with VA's acquisitions involving Federal Supply Schedule (FSS) contracts; procurement of health care services; VA construction; acquisition support weaknesses; and inadequate management and oversight of major system initiatives. In addition, recent GAO and VA OIG reports have identified both serious control weaknesses in the agency's inventory management and shortfalls in the agency's efforts to provide reliable cost data to accurately assess the efficiency and effectiveness of VA's programs and initiatives.

VA concurred with our recommendations but disagreed that it had used its management efficiency savings goals to fill the gap between the cost associated with VA's projected demand for health care services and the amount the President was willing to request. However, VA officials uniformly described VA's process for determining its management efficiency savings goals in this manner and it did not provide us any other explanation. Further, VA did not provide us with any support for the methodology used to develop its management efficiency savings goals. Accordingly, we continue to believe that this characterization is appropriate."

[i] doi: 10.1377/hlthaff.2013.0741 HEALTH AFFAIRS 32, NO. 12 (2013): 2142–2148

[ii] National Academies of Sciences, Engineering, and Medicine. 2016.
A national trauma care system: Integrating military and civilian trauma systems to achieve zero preventable deaths after injury. Washington, DC: The National Academies Press. doi: 10.17226/23511.

[iii] http://www.mcw.edu/Emergency-Medicine/Research/EMS-Cost-Analysis-Project.htm