Ohio Compendium of Resources on Mobile Integrated Healthcare

(Community Paramedicine)

2016

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(community paramedicine)

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- Expanding the Roles of Emergency Medical Services Providers: A Legal Analysis, Association of State and Territorial Health Officials, 2014
- Community Paramedicine Evaluation Tool, U.S. Department of Health and Human Services/Health Resources and Services Administration, Office of Rural Health Policy, March 2012
- Principles for Establishing a Mobile Integrated Healthcare Practice, The Mobile Integrated Healthcare Practice Collaborative, 2014
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- Rural and Frontier Emergency Medical Services: Agenda for the Future, National Rural Health Association, 2004

Forward

The concept of Mobile Integrated Health Care (MIHC) has been a practice model in other states for roughly a decade. In Ohio, the concept has been an enabled practice since October 2015. While the development of local programs is a department base decision, all programs are restricted to maintaining Ohio's defined Scope of Practice for each certification level. Additionally, provider education considerations should commiserate with the complexity / depth of the MIHC services you deliver.

The demand for MIHC practice has developed over the recent years for many reasons. As we have cultivated robust 911 systems and taught citizens how to utilize it for any need they might have, we have developed ourselves as a community resource. Rightly so, we are able to help our residents with a multitude of needs; both emergent as well as other urgent concerns they may have. When they don't know where to turn to for help – they utilize us. We are that authority; that knowledge; that resource. We are their community and the help they need. MIHC is the concept of what we already are and are doing in our community. It formalizes our complete body of work.

Utilizing MIHC models, we can:

- Prevent exacerbations of illnesses and help keep our citizens on plateaus of health.
- Promote healthy habits, illness prevention and injury prevention, much like we currently do with fire prevention activities.
- Assist residents with identifying other agencies with resources that fulfill their needs.
- Fill the gaps in the existing health care model and work collaboratively with other community resources such as home health care, public health, hospice and others.
- Reduce monetary waste by utilizing the resource that best fits the need; both for our departments and for our citizens.
- Promote general wellbeing within our communities.

The legislative change that enables MIHC practice in Ohio is very open. It was drafted that way for a purpose, and it enables departments to perform a needs assessment of both their resources and their community's needs. Additional information and resources for fire and EMS leaders can be found in this Compendium. For most of your professional career, there was a law, rule or standard that you could reference that specifically explains guidelines to follow. This concept is very broad and may leave you with questions. The Compendium is meant to give you a starting point and some suggestions as you develop a MIHC program that is appropriate for your department and your community. As always, the Ohio Emergency Medical, Fire and Transportation Board remains committed to assisting you in this endeavor. Thank you for your service and commitment to your community!

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Ohio Emergency Medical, Fire and Transportation Services Board

Forward

The Evolution of Emergency Medical Services and Mobile Integrated Healthcare Systems

Over the past several decades, the model of medical care delivery has shifted significantly from the inpatient setting to the outpatient setting. The stimuli for the generation of this model includes, but is not limited to, advancements in medical technology and treatment modalities, a need for improved fiscal oversight and allocation of resources, and the desire of the general public to access and receive care without enduring a separation from their residential environment. In addition, our nation's philosophy of acceptable healthcare has shifted its focus placing a greater emphasis on health maintenance and on illness and injury prevention.

Mobile integrated healthcare is another step toward more aggressive maintenance of health and wellness in an outpatient setting, and EMS providers play an integral role in its administrative and operational framework. Secondary benefits of an effective mobile integrated healthcare system include the creation of a closer relationship between a patient and their local healthcare assets and the potential reduction in the need for inpatient care.

Community paramedics providing non-emergency care must function within the Ohio EMS scope of practice that is determined by the State of Ohio Board of Emergency Medical, Fire, and Transportation Services Board (EMFTS Board) and must have a medical director that meets the qualifications cited in the Ohio Administrative Code 4765-3-05. While both organizations can offer support, it is not the directive nor is it the desire of the EMFTS Board or the Ohio Department of Public Safety, Division of EMS to be prescriptive or to mandate the structure of a mobile integrated healthcare system.

The foundation of a mobile integrated healthcare system is based solely in the heart of the community. The local healthcare consumers and providers are in the best position to identify the deficiencies in medical resources and access to care. Therefore, a community's caregivers, consumers, patients, and healthcare stakeholders must unite in a spirit of collaboration to build a mobile integrated healthcare system that fills the existing gaps in medical care delivery and best meets the identified needs. Mobile integrated healthcare is a team sport, and the contributions of allied healthcare professionals, including EMS providers, are essential elements required for creation and launch of a success system.

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Legal Disclaimer

This document has been prepared for informational purposes only. Information provided herein does not constitute legal advice. Individuals and entities who are considering offering these services should contact their own legal counsel.

Ohio Revised Code 4765.361

4765.361 Performance of services in nonemergency situations.

An emergency medical technician-basic, emergency medical technician-intermediate, or emergency medical technician-paramedic may perform medical services that the technician is authorized by law to perform in nonemergency situations if the services are performed under the direction of the technician's medical director or cooperating physician advisory board. In nonemergency situations, no medical director or cooperating physician advisory board shall delegate, instruct, or otherwise authorize a technician to perform any medical service that the technician is not authorized by law to perform.

Amended by 131st General Assembly File No. TBD, HB 64, §101.01, eff. 9/29/2015.

State Board of Emergency Medical, Fire, and Transportation Services
Mobile Integrated Healthcare
EXECUTIVE SUMMARY

Problem: The healthcare landscape needs to evolve to better address how people access and utilize healthcare resources. The identified concerns include, but are not limited to:

- Some patients' access 9-1-1 and emergency medical services (EMS) frequently for non-emergency issues.
- Many calls for assistance do not require the high acuity resources of an emergency department. There are patients who require medical care that can be adequately delivered or initiated at the site to which the response is dispatched and followed by engagement with an outpatient care resource or transport to a more appropriate destination (e.g. dialysis center, physician's office).
- A growing segment of the population who lack primary medical care resources rely on EMS and emergency departments to access the healthcare system.
- Emergency department utilization for non-emergency medical issues contributes to longer wait times, decreased patient satisfaction, and emergency department overcrowding.
- Hospitals can be penalized financially for patients being readmitted to their system within 30 days from discharge.
- Accountable Care Organizations (ACOs) seek avenues to deliver healthcare in more patient-friendly and fiscally responsible ways.
- The lack of primary care physician resources in Ohio may result in episodic care for many patients rather than continuous monitoring and support for those with chronic illnesses.

What does Mobile Integrated Healthcare solve: Mobile integrated healthcare is a coordinated model of healthcare delivery that utilizes resources that are already well known and trusted in the community; specifically, paramedics, EMS providers, and dispatch centers paired with established outpatient medical service providers and the community's primary care physicians. The inclusion of EMS providers, particularly Paramedics, in this model does not displace visiting nurses, hospice, public health or other professionals and healthcare agencies. Supported by community assessment, mobile integrated healthcare has the capacity to fill the gaps and voids in healthcare needs throughout our state, both in rural and urban landscapes. Mobile integrated healthcare works in collaboration with many agencies and professionals to optimize an individual's health primarily through, but not limited to, the management of chronic disease states. It is also recognized that EMS providers, due to their primary visualization of the residence and interaction with family members, have access to critical information about the status of a patient's home and social environment that hospitals may not have or that a patient may not want to admit is negatively affecting their health status.
The Mobile Integrated Healthcare Committee (hereafter referred to as the Committee), an ad hoc committee of the Ohio Emergency Medical, Fire, and Transportation Services Board, has explored what other states' have implemented with this model of healthcare delivery. States from which we have sought expertise are Minnesota, Texas, Missouri, Pennsylvania, Indiana, and North Carolina. Of these states, Texas and Minnesota currently have the most developed mobile integrated healthcare systems.

What Ohio needs to enable Mobile Integrated Healthcare: EMS in Ohio is regulated by the Ohio Revised Code (ORC) 4765 and the Ohio Administrative Code (OAC) 4765. The definition of EMS in Ohio per ORC 4765.01(G) and ORC 4765.01(H) limits EMS to the delivery of care within the realm of emergency response

care. To enable the creation of mobile integrated healthcare in Ohio, a law change in ORC 4765 is required in order to broaden this definition and incorporate non-emergency care that may not require patient transport and to allow transport to appropriate non-hospital destinations.

The committee views this proposed law change as an avenue to enable, and not mandate, those communities who wish to implement mobile integrated healthcare as a gap-filling or supportive element for their local medical systems. If a community or agency doesn't believe their community will benefit from this type of care delivery model, they do not have to participate.

Finance: The committee recognizes that financial issues are a hurdle. Currently, the reimbursement of EMS by the Centers for Medicare and Medicaid Services (CMS) is linked to patient transport. However, there are multiple initiatives ongoing at the federal level to eliminate this requirement and to potentially create funding support for mobile integrated healthcare systems. It is anticipated that implementing mobile integrated healthcare in Ohio may be a two-step process. First, legislative change will need to be enacted, followed by the identification of viable funding resources. The website CMS.gov contains statistical data and funding information, especially the areas of chronic conditions that may be useful to reduce the existing reimbursement hurdles until amendments in federal policy have been made (http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Chronic-Conditions/index.html). In addition, the pending Field EMS Bill (H.R. 809), if passed, will provide support of mobile integrated healthcare at the federal level. Analogous to what has occurred in other states, there may also be ways to partner with hospitals for support of mobile integrated healthcare systems since the 30-day readmission penalties that they soon will face may exceed the costs of including EMS participation. The committee acknowledges that funding is a critical component of this healthcare delivery system; however these challenges are not insurmountable.

Risks of not implementing Mobile Integrated Healthcare: There are many risks associated with not enabling this collaborative model for healthcare delivery. Foremost, EMS providers feel an obligation and a responsibility to the communities they serve and have a sincere desire that all residents and visitors remain as healthy as possible. Without a change in legislation, Ohio will be lagging behind other states in the nation and incongruent with the initiatives at the federal level to facilitate the creation of mobile integrated healthcare systems. The patients in Ohio will continue to receive episodic care instead of cost-effective patient-centered continuous preventative care. The overall cost of healthcare in Ohio will increase while EMS providers, a valuable and untapped resource, will be forced to remain on the sidelines except when they are dispatched for patient transport to an overburdened emergency department. The Patient Protection and Affordable Care Act is emboldening our entire healthcare system to develop innovative ways to deliver quality-driven medical care that is cost-effective. Mobile integrated healthcare is an excellent avenue to achieve this goal and to create a healthier status to the citizens and visitors of Ohio.

State Board of Emergency Medical, Fire, and Transportation Services
Mobile Integrated Healthcare:
A Viable Model for the Partnership of Ohio's Healthcare System with Ohio EMS

The concept of mobile integrated healthcare was fostered by the realization that the utilization of the current scopes of practice of healthcare practitioners in non-traditional settings is a valuable resource for promoting patient-centered health care delivery. Many states and healthcare systems in our nation have created mobile integrated healthcare systems that have demonstrated improved patient outcomes, patient care delivery, resource utilization, and significant cost savings. These successful programs have incorporated avenues that facilitate and encourage the inclusion of emergency medical services (EMS) personnel within their mobile integrated healthcare workforce.

Background:

Community paramedicine, which preceded the concept of mobile integrated healthcare, has previously demonstrated its utility in rural and metropolitan healthcare systems. The U.S. Department of Health and Human Services defines community paramedicine as "an organized system of services, based on local need, provided by emergency medicine technicians and paramedics that is integrated into the local or regional health care system and overseen by emergency and primary care physicians. This not only addresses gaps in primary care services, but enables the presence of EMS personnel for emergency response in low call-volume areas by providing routine use of their clinical skills and additional financial support from these non-EMS activities."[1] In late 2010, a National Association of State EMS Officials (NASEMSO)/National Organization of State Offices of Rural Health (NOSORH) Joint Committee on Rural Emergency Care (JCREC) discussion paper described challenges and opportunities for EMS to fill unmet or unrealized community needs in primary care and community health.[2] By utilizing EMS providers in an expanded role, community paramedicine increases patient-centered access to primary and preventative care, provides wellness interventions, decreases emergency department utilization, saves healthcare dollars, and improves patient outcomes.

In recent years, leaders in our nation's healthcare systems have recognized that community paramedicine, with its meritorious track record, was limited in its design. A broader discussion about the opportunity for EMS providers, functioning within their scope of practice, to become more closely merged into the healthcare system led to a more encompassing concept of mobile integrated healthcare. This concept was supported by the release of the *National Consensus*

Conference on Community Paramedicine: Summary of an Expert Meeting, a document written by the NASEMSO/NOSORH JCREC in 2013.[3] Mobile integrated healthcare, as defined by the National Association of Emergency Medical Technicians (NAEMT), is the provision of healthcare using patient-centered, mobile resources in the out-of-hospital environment. It may include, but is not limited to, mobile integrated healthcare component services such as providing telephone advice to 9-1-1 callers instead of resource dispatch; providing community paramedicine, primary care, or post-discharge follow-up visits; or transport or referral to appropriate care.[4]

The Historic Directive to EMS:

In August 1996, the National Highway Transportation Safety Administration, the agency that oversees EMS at the federal level, published a pinnacle report, *Emergency Medical Services: Agenda for the Future* (*Agenda for the Future*). At the beginning of this document, there is a statement titled "The Vision" that has embraced as the overarching quest and purpose of EMS. "The Vision" states "Emergency medical services (EMS) of the future will be community-based health management that is fully integrated with the overall health care system. It will have the ability to identify and modify illness and injury risks, provide acute illness and injury care and follow-up, and contribute to treatment of chronic conditions and community health monitoring. This new entity will be developed from redistribution of existing health care resources and will be integrated with other health care providers and public health and public safety agencies. It will improve community health and result in more appropriate use of acute health care resources. EMS will remain the public's emergency medical safety net."[5] With respect to the integration of health services, the *Agenda for the Future* provided the following recommendations for EMS:

- Expand the role of EMS in public health
- Involve EMS in community health monitoring activities
- Integrate EMS with other health care providers and provider networks
- Incorporate EMS within health care networks' structure to deliver quality care
- Be cognizant of the special needs of the entire population
- Incorporate health systems within EMS that address the special needs of all segments of the population

Emergency Medical Services at the Crossroads, a report published by the Institute of Medicine of the National Academies in June 2006, noted that the EMS systems remain fragmented. The report, like the *Agenda for the Future*, continued to support the evolution and incorporation of EMS as an integral component of the

overall healthcare system. One of the recommendations was for the Department of Health and Human Services, the Department of Transportation, and the Department of Homeland Security to jointly undertake a detailed assessment of the emergency and trauma workforce capacity, trends, and future needs, and develop strategies to meet these needs in the future. The report describes a vision of a 21st century emergency care and trauma system where 9-1-1 dispatchers, EMS personnel, medical providers, public safety officers, and public health officials are interconnected and united to ensure that each patient receives the most appropriate care, at the optimal location, with minimal delay.[6]

Identified Challenges:

The Center for Disease Control and Prevention (CDC) has stated that, due to longer life spans and aging baby boomers, the growth in the number and proportion of older adults in our nation is unprecedented. The population of Americans aged 65 years or older is expected to double during the next 25 years to 72 million people. By the year 2030, the CDC estimates that older adults will account for approximately 20% of the population of the United States. The state-by-state report card in *The State of Aging & Health in America 2013* identifies several categories where Ohio is currently in the lower 50th percentile in preventative health measures.[7] These current cited gaps of deficiency will surely increase the future demand for medical care as our population ages.

The American College of Emergency Physicians' National Report Card for 2014, an assessment of America's emergency care environment, also highlights state-specific gaps for Ohio. Although a grade of B- was earned for access to emergency care, Ohio received a grade of C- for public health and injury prevention. Within this report's recommendations, this report states that "the proportion of adults with no health insurance has increased, further limiting access to primary, mental, and behavioral health care. While Medicaid coverage increased for adults, Medicaid fee levels decreased compared to the national average, posing an additional challenge to accessing primary and behavioral health care for this population".[8]

Identified Needs:

The Patient Protection and Affordable Care Act (PPACA) has initiated significant modifications in the structure, administration, and operational status of our healthcare system with additional dynamic changes awaiting in the future. Within the PPACA, there are nine titles, and each of them addresses an essential component of reform. They are:

Title I: Quality, affordable health care for all Americans
Title II: The role of public programs
Title III: Improving the quality and efficiency of health care
Title IV: Prevention of chronic disease and improving public health
Title V: Health care workforce
Title VI: Transparency and program integrity
Title VII: Improving access to innovative medical therapies
Title VIII: Community living assistance services and supports
Title IX: Revenue provisions

Within Title III, the traditional fee-for-service reimbursement of hospitals will transition to a value-based purchasing program for Medicare payments. Physicians will receive incentives to report Medicare quality data. In the near future, long-term patient hospitals, inpatient rehabilitation facilities, and hospice providers will be asked to do the same and may be penalized if non-compliant. In addition, hospital payments will be adjusted based upon the dollar value of each hospital's percentage of potentially preventable Medicare readmissions.

The creation and implementation of measures to help increase the supply of health care workers is one the goals within Title V. There may inherently be a lag time between the time that the proposed training and education infrastructure can realistically generate an increase in the health care workforce.[9] This period of time heightens the need for the available health care workforce to apply the medical skills within their respective scopes of practice beyond the traditional work environments to fill the gap and meet the needs of their communities.

<u>The Evolution of Mobile Integrated Health Care</u>:

The first successful formally structured community paramedicine program in the United States was fostered by Gary Wingrove, a paramedic in Minnesota. There were and still are rural regions in Minnesota where there are no physicians within close vicinity to serve the population. Without community paramedicine, the residents of these areas would have no readily available access to health care. Since this program was launched, Mr. Wingrove created and currently oversees the North Central EMS Institute that provides a standardized education curriculum to EMS providers being trained to function in a mobile integrated health care system.[10]

Although originally touted as a resource to support rural areas, Dr. Jim Dunford was one of the first individuals to take Mr. Wingrove's community paramedicine model and mold it into a resource for a major metropolitan environment. He analyzed the EMS transport data for the city of San Diego and discovered that 6%

of the EMS dispatch calls were for non-emergent complaints or chronic illnesses. He also noted that there was a segment of the population (17.2%) who used EMS frequently to access health care by requesting transport to the emergency department. Specifically, he found that the most frequent users of EMS, who comprised 0.04% of the population of San Diego, generated 5.4% of the 911 calls. In one of several studies conducted within San Diego's community paramedicine system, Dr. Dunford tracked the reduction in emergency department visits, hospital admissions, and hospital lengths of stay for 51 patients over a 31-month period. He found that the overall cost savings for the management of these patients by community paramedics who provided outpatient assessment, medical care, and engagement with existing public health and social service resources was nearly $315,000.[11] Since the initiation of this program, San Diego has developed several mobile integrated healthcare networks that vary in configuration and purpose, one of which resulted in a net cost savings of $700,000 per year.[12]

Mobile integrated health care, a concept sown by community paramedicine, is well-established many countries including the United States. As the role of EMS has become more dynamic, states, such as Missouri and Minnesota, regional, and local health care systems have created paths legislatively to facilitate the creation of mobile integrated health care to better serve the needs of their communities.[413]

<u>The Current Landscape in Ohio</u>:

The access to health care remains a challenge in Ohio. Multiple hospitals with full-service emergency departments have closed during the past decade. Ohio currently has 34 critical access hospitals (CAH) with one CAH closure within the past five years. Distance to travel remains a challenge for many Ohio residents and visitors to access care. There are nine counties in Ohio that do not have a hospital within its boundaries (see Figure 1).

According to the Health Resources and Services Administration (HRSA) within the U.S. Department of Health and Human Services at the time of this report, 74 of Ohio's 88 counties are designated as Health Professional Shortage Areas (HPSA) in the primary medical care discipline. In addition to our rural areas, the HRSA's HPSA data indicates that there are medically underserved areas and populations in all of Ohio's major metropolitan areas despite a higher density of hospitals and medical centers in these regions.[14] Insufficient or lack of primary medical care resources is a substantial causative contributor to emergency department overcrowding, preventable hospital admissions, and overall dysfunctional utilization of available medical assets.

In the event of a gubernatorial declaration of emergency that affects the public's health, EMS providers may perform immunizations and administer medications within the parameters cited in the Ohio Administrative Code 4765-6-03. A prime example of the value of the EMS workforce was evident during the H1N1 influenza pandemic in 2009 when public health agency resources were overwhelmed by the demand for mass vaccination of the general public. With the declaration of emergency by the governor during this health crisis, Ohio EMS providers while functioning within their respective scopes of practice partnered with public health agencies in the administration of influenza immunizations. In fact, Ohio was one of the states in our nation highlighted by the Institute of Medicine where EMS providers, a previously untapped resource, played a significant role in the mass vaccination campaign and administered immunizations to a large segment of Ohio's population.[15]

Currently, Ohio law allows certified EMS providers to perform only emergency services, per Ohio Revised Code (ORC) 4765.01. Ohio law prohibits a certified EMS provider from performing non-emergency services if the provider is holding him or herself out as an EMS provider, or otherwise representing him or herself as a certified EMS provider, per ORC 4765.50. Immunity from civil liability applies only if a certified EMS provider is administering "emergency" medical services. Therefore, certified Ohio EMS providers who act in non-emergency circumstances will not have the immunity from civil liability afforded under ORC 4765.49. Additionally, if such a provider is working for a political subdivision, joint ambulance district, joint emergency medical services district, or other public agency, these entities will not have the immunity protections from civil liability under ORC 4765.49. Further, certified Ohio EMS providers and EMS agencies may be subject to disciplinary action by the State Board of Emergency Medical, Fire, and Transportation Services.

Statutory changes are required before Ohio certified EMS providers would be permitted to render non-emergency care. Ohio Revised Code 4765.01 was legislated on September 17, 2002. Despite the recommendations with the *Agenda for the Future* which was written in 1996, current Ohio law inherently restricts the ability of the EMS provider to become fully integrated into the health care system, a shared goal of the *Agenda for the Future* and *Emergency Medical Services at the Crossroads.*

Conclusion:

Our healthcare system is rapidly approaching a critical brink, and the need to maximize and appropriately utilize our available resources has become an imperative directive. As our population ages over the upcoming decades, the

delivery of primary care and preventative care must have an alternative avenue to be provided at sites outside of emergency departments and hospitals. Failure to create these paths of opportunity will needlessly push our healthcare system towards collapse.

Hospitals will soon be expected to meet performance measures to be eligible for reimbursement. The anticipated financial losses borne by hospitals for patient readmissions have not yet been projected for Ohio. However, if one translates the cost savings gleaned in San Diego for 51 patients served by their municipal community paramedicine program, the losses will surely be in the range of millions of dollars for healthcare systems that lack a mobile integrated health care resource. The widespread lack of primary care resources in the vast majority of Ohio counties underscores the need for mobile integrated health care in both our rural and metropolitan communities. A proactive home visitation that results in the avoidance of a 9-1-1 transport, an emergency department visit, or a hospital admission provides benefit to the patient and to the healthcare system. The skilled Ohio EMS providers can support the existing outpatient healthcare providers, reduce the fiscal burden of Ohio's hospitals, and help close the gaps the needs identified by a community.

Mobile integrated health care must be transitioned from a viable option to a purposeful reality for Ohio. In order for EMS to participate in this model, Ohio law must be changed to allow EMS providers to perform the services for which they are currently trained in non-emergency situations. This law must be amended to reflect the vision of EMS that is described in the *Agenda for the Future*. Once this task is completed, the State Board of Emergency Medical, Fire, and Transportation Services and the Ohio Department of Public Safety, Division of EMS can create the foundation that will allow local, regional, and state health care systems to incorporate Ohio EMS providers into their workforce and the mobile integrated health care networks they wish to build.

The State Board of Emergency Medical, Fire, and Transportation Services and the Ohio Department of Public Safety, Division of EMS support the inclusion of Ohio EMS providers as vital participants in mobile integrated health care systems. We will partner with hospitals, public health agencies, and other healthcare organizations in our ongoing commitment to ensure appropriate and quality care to the residents and citizens of Ohio.

Figure 1: Ohio Counties without a Hospital within its Boundaries*

**Based upon information provided by the Ohio Hospital Association on June 19, 2014*

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EMFTS BOARD

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State Board of Emergency Medical, Fire, and Transportation Services
Mobile Integrated Healthcare: A Guidance Resource for Ohio EMS

On June 30, 2015, the Ohio Revised Code was amended to allow certified Ohio emergency medical technicians (EMTs), advanced EMTs (AEMTs) and Paramedics to perform in non-emergency situations. Specifically, Ohio Revised Code (ORC) 4765.361 states "An emergency medical technician-basic, emergency medical technician intermediate, or emergency medical technician-paramedic may perform medical services that the technician is authorized by law to perform in nonemergency situations if the services are performed under the direction of the technician's medical director or cooperating physician advisory board. In nonemergency situations, no medical director or cooperating physician advisory board shall delegate, instruct, or otherwise authorize a technician to perform any medical service that the technician is not authorized by law to perform."

The Ohio EMS scope of practice, which is determined and approved by the State Board of Emergency Medical, Fire, and Transportation Services (EMFTS Board), and the requirement for qualified medical direction remains in effect for certified Ohio EMS providers in the emergency and non-emergency situations. For non-emergency situations, the EMFTS Board has not been granted the authority to promulgate regulations (rules). In addition, the citations in ORC 4765.49 that provide immunity in emergency situations to certified Ohio EMS providers, EMS agencies that employ certified Ohio EMS providers, and physician medical directors do not extend to non-emergency situations.

The U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA) defines community paramedicine as "an organized system of services, based on local need, provided by emergency medicine technicians and paramedics that is integrated into the local or regional health care system and overseen by emergency and primary care physicians. This not only addresses gaps in primary care services, but enables the presence of EMS personnel for emergency response in low call-volume areas by providing routine use of their clinical skills and additional financial support from these non-EMS activities."[1] Community paramedicine is one solitary element of mobile integrated healthcare. Mobile integrated healthcare, as defined by the National Association of Emergency Medical Technicians (NAEMT), is the provision of healthcare using patient-centered, mobile resources in the out-of-hospital environment. It may include, but is not limited to, mobile integrated healthcare component services such as providing telephone advice to 9-1-1 callers instead of resource dispatch; providing community paramedicine, primary care, or post-discharge follow-up visits; or transport or referral to appropriate care.[2]

The EMFTS Board is not legislatively authorized to oversee community paramedicine or mobile integrated healthcare (MIHC) in Ohio; however, this guidance is being provided as a resource for Ohio EMS. This guidance resource identifies some of the basic facets to consider during the development of a mobile integrated healthcare system, with referral to two selected federal resource documents, and highlights the key factors that apply specifically to Ohio EMS. It is not meant to be all-inclusive as there is a multitude of published literature on mobile integrated healthcare available, none of which has been deemed as the universally accepted standard model or method to design a mobile integrated healthcare system. The federal and national documents cited in this guidance resource are, respectively, the *Community Paramedicine: Evaluation Tool* published by HRSA and *Expanding the Roles of Emergency Medical Services Providers: A Legal Analysis* published by the Association of State and Territorial Health Officials (ASTHO).

Needs Assessment: The gaps in healthcare vary throughout Ohio as well as the available resources to bridge them. The needs may differ widely between rural and urban communities. In partnership with the stakeholders of a proposed MIHC, the first step is to perform an assessment of the community's needs.

Once the MIHC is initially designed and launched, the evaluation tool from HRSA (pp. 5-17)[1] can be used to assess the MIHC system and guide amendments to it.

Legal: Ohio EMS providers and EMS medical directors may not exceed the Ohio EMS scope of practice for the respective level of certification in emergency or non-emergency situations. The EMFTS Board retains the authority for investigative and disciplinary actions for Ohio EMS certificate holders who perform medical services in the emergency and non-emergency situations. As the immunity provisions in the ORC 4765.49 do not extend to non-emergency situations, **individuals and entities who are considering offering services in a non-emergency setting should contact their legal counsel to seek advice regarding potential civil liability issues.** There are a host of additional legal aspects that should be considered and addressed by the legal counsel of the respective participants and stakeholders, as noted by the ASTHO, to ensure compliance with state and federal laws and rules prior to and during the development of a MIHC system[3]. This includes, but is not limited to, compliance with the Stark Law (42 U.S. Code § 1395nn) and the anti-kickback statute (42 U.S. Code § 1320a-7b).

Medical Direction: Although primary care and participating physicians may collaborate within the MIHC system, Ohio EMS providers and EMS agencies must have an EMS medical director with the qualifications cited in the Ohio Administrative Code (OAC) 4765-3-05 in the emergency and non-emergency situations. The EMS medical director is responsible for the provision of a written protocol for EMS providers and EMS agencies performing medical services in non-emergency situations as well as performance improvement and education programs as cited in OAC 4765-3-05(A)(3). HRSA provides examples of benchmarking tools for the purpose of MIHC system assessment and quality improvement (pp. 34-45)[1].

Policies: The process of policy development among stakeholders within a MIHC system can be complex as the organizational, state, and federal regulatory requirements and administrative and operational needs of all participants should be considered. HRSA provides policy development benchmarking tools for the ultimate goal of creating a patient-centric MIHC system (pp. 18-33)[1].

Educational Needs of Staff: The EMS medical director is responsible for the determination and provision of education of EMS providers participating within an MIHC system. Despite the education provided by the EMS medical director or other parties, an EMS provider and EMS medical director may not exceed the Ohio EMS scope of practice.

Finance: The reimbursement of EMS providers, EMS agencies, and EMS medical directors for the provision of non-emergency services is determined at the local and federal levels and is not within the authority of the EMFTS Board. Only EMS agencies with the primary responsibility of providing continuous emergency medical services to the community pursuant to requests and/or calls from the public for an EMS response are eligible for Ohio EMS priority 1 grants. An EMS agency must meet all of the requirements in OAC 4765-5-02 to be eligible for priority 1 grants. Other entities who happen to employ EMTs, AEMTs, and Paramedics for emergency or non- emergency services do not qualify. EMS agencies that qualify to receive an Ohio EMS grant may not use the grant funds to purchase equipment that will be used solely in non-emergency situations nor may these funds be used for training personnel to perform services in a non-emergency capacity.

References:

1. U.S. Department of Health and Human Services, Health Resources and Services Administration, *Community Paramedicine: Evaluation Tool*, March 2012.
2. National Association of EMTs, *Mobile Integrated Healthcare & Community Paramedicine*: http://www.naemt.org/about_ems/MobileIntegrated HC.aspx.
3. Association of State and Territorial Health Officials, *Expanding the Roles of Emergency Medical Services Providers: A Legal Analysis*, 2014

OHIO
COMMUNITY PARAMEDICINE

MOBILE INTEGRATED HEALTHCARE

EVOLUTION

- 2012 EMS Board meeting: Concept / Request presented for discussion
- Feb 2013 EMS Board Retreat: Presentations about the concept: Gary Wingrove Larry Bennett
- Board voted to develop Ad Hoc Committee to develop the concept
- Oct 1, 2015 Enabling legislation permitted this practice

THANK YOU

- Ohio paramedic Joshua Tilton – requesting the Board to explore this concept
- Ohio Fire Chiefs Association, Chief Welch and Michelle Fitzgibbon for obtaining legislation change
- The MIHC ad hoc committee of the Emergency Medical, Fire and Transportation Services (EMTS Board) for their work on this concept

KEY CONCEPTS

- Enabling and **not** mandatory.
- Collaborative (Not displacing other disciplines)
- Gap filling
- Is applicable in both Rural and urban environments
- Does not extend scope of practice

KEY CONCEPTS

- Hospital model / community model may have different goals
  - Hospitals: avoid CMS penalties
  - Communities: reduce non emergent calls to 911, assist constituents find the services they need

- Hospitals are no longer volume based; transitioning to value based
  - Accountable Care Organizations (ACO's)
  - Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) http://www.hcahpsonline.org/home.aspx

COMPONENTS TO CONSIDER

- Needs Assessment
  - Community
  - Department
- Legal
  - Immunity
  - Permissible in your response area
  - Anti kick back laws / Stark law
- Medical Direction
  - Staying in scope of practice
  - QA/QI
  - Evidence based
  - Data Collection

COMPONENTS TO CONSIDER

- Policy / protocols
- Education
  - May be considerable or minimal depending on the programs you want to implement
- Resources

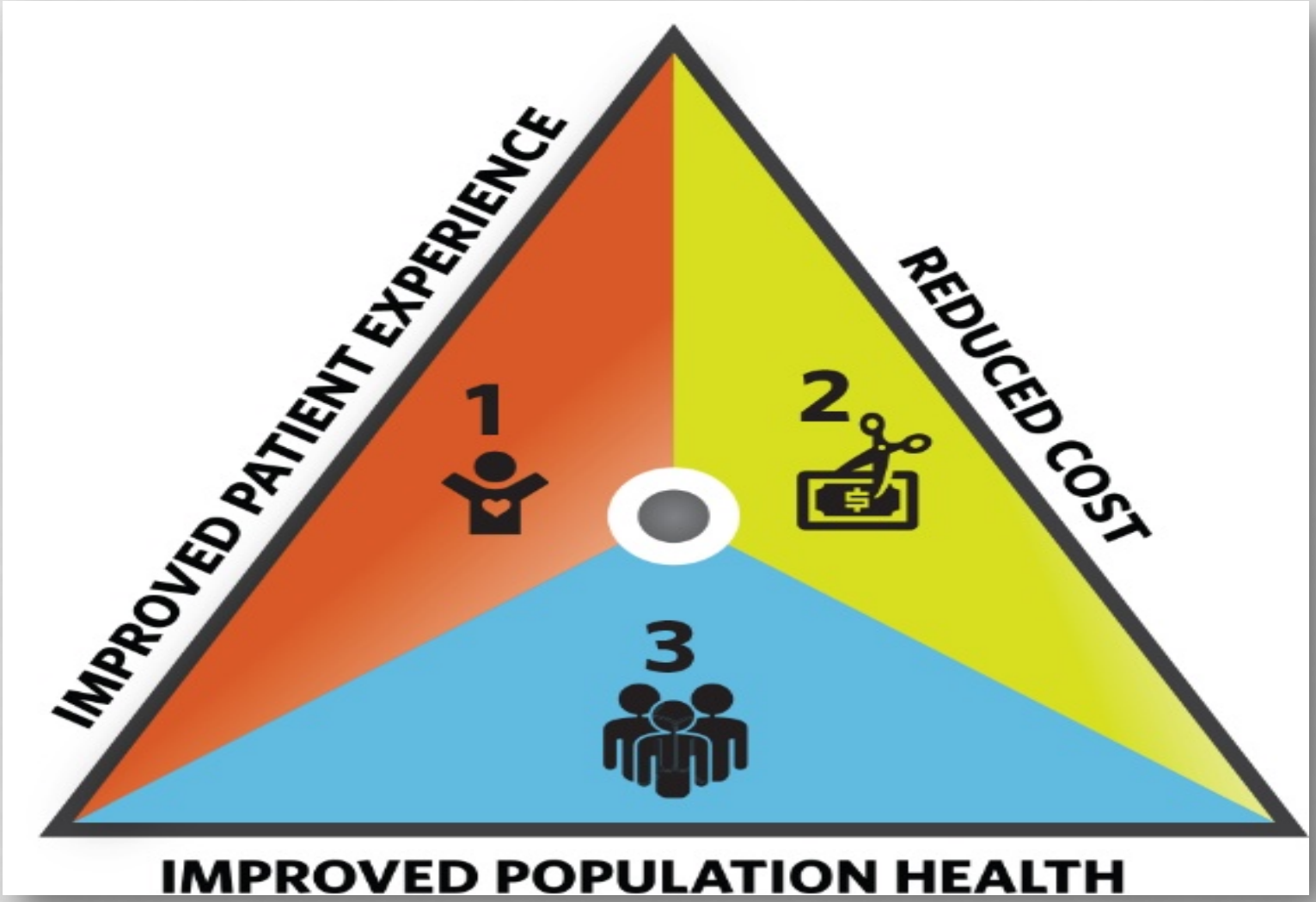
www.hrsa.gov/ruralhealth/paramedicine

www.ihi.org/engage/initiatives/TripleAim/

www.emsworld.com/integrated-healthcare

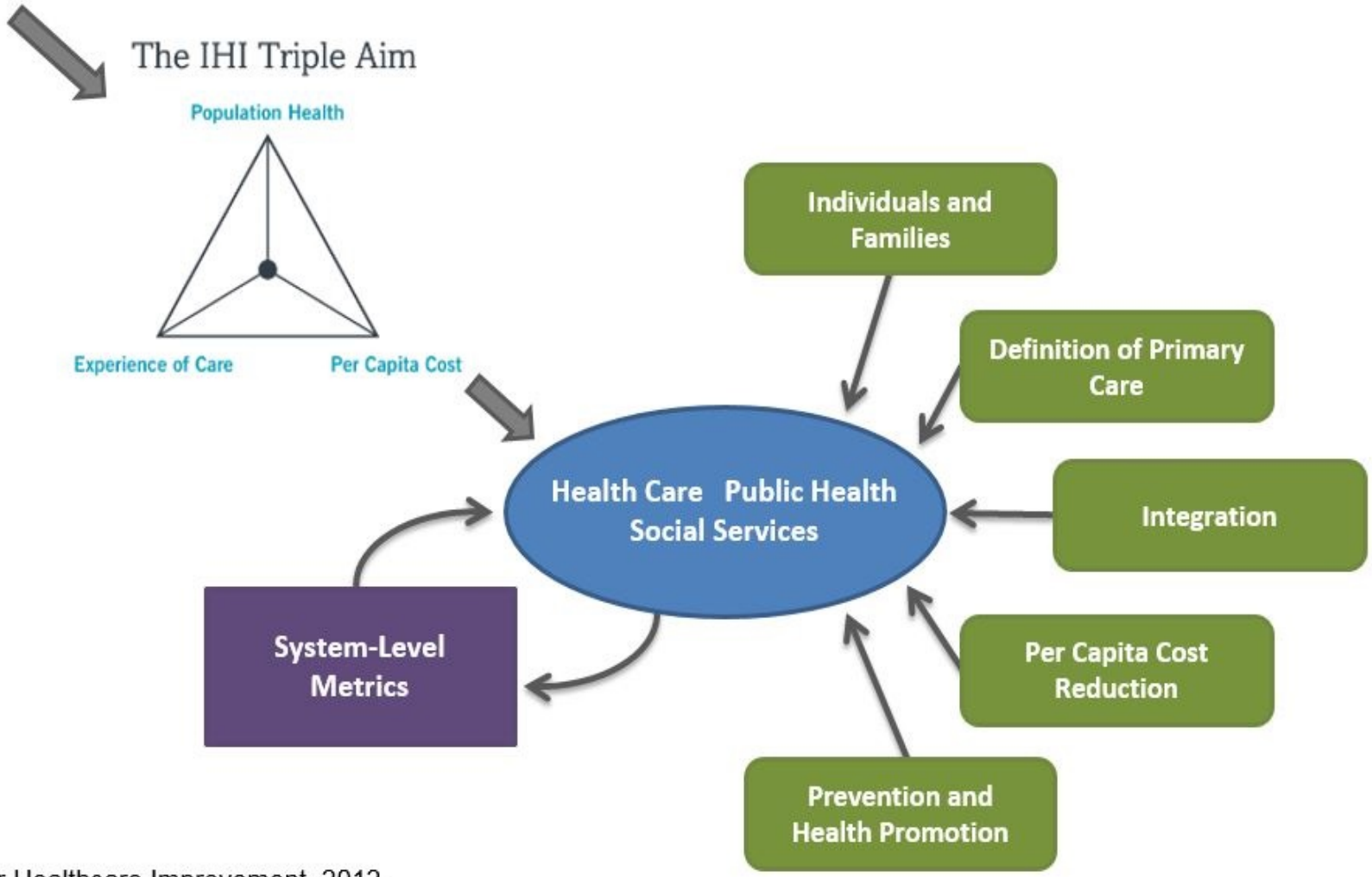
www.ems.ohio.gov (ODPS website)

TRIPLE AIM
INSTITUTE FOR HEALTHCARE IMPROVEMENT



Design of a Triple Aim Enterprise

Define "Quality" from the perspective of an individual member of a defined population



Institute for Healthcare Improvement, 2012

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Thursday, September 17, 2015

Health Study Committee Visits Cleveland to Talk Access, Coordination, Population Health

CLEVELAND -- Care coordination, looking at overall population health and overcoming primary access barriers to keep people from visiting the costliest care settings were main themes Wednesday as the House Healthcare Efficiencies Study Committee traveled to Cleveland's MetroHealth, which describes itself as Cuyahoga County's safety net hospital.

The committee also heard complaints about the MyCare Ohio program, with some witnesses saying the program designed for greater care coordination is actually creating procedural barriers to care.

Susan Mego, executive director of managed care programs for MetroHealth, discussed the hospital system's recent efforts to create patient-centered care, from its Partners in Care project through its federal Care Plus waiver to offer a miniature version of Medicaid expansion, and into statewide expansion of Medicaid.

Mego said the hospital system had little choice but to start its Partners in Care initiative, a medical home model, because it was already providing uncompensated care for about half of Cuyahoga County's uninsured population.

"Without proactively focusing on providing health care, instead of what our CEO calls 'sickcare,' MetroHealth would have to subsidize this care, challenging its ability to provide critical services to the community," Mego said.

Mego and Jim Peters, vice president of network operations for managed care organization CareSource, said they're now involved in a new collaborative project focused on population health.

"The first sign of this move from the inefficient system of fee for service into value-based reimbursement includes a payment model built upon population health and collaborative care management as well as the health plan/provider mutual incentive of shared savings for total cost of care. This step is combined with a strong investment into sophisticated informatics systems that focus on targeted care coordination and drives value through progressive patient outcomes," Mego said. "This can be articulated even further, by moving the existing collaboration into a future full risk contract. What does a full risk contract mean? I mean that the provider becomes fully accountable for managing the total medical costs and would receive a pre-agreed overall payment for each attributed patient instead of traditional claims reimbursement. If attributed patients' medical expenses are below that overall amount, then we will be able to earn the savings through avoided unnecessary cost. If expenses are higher, MetroHealth would cover that cost difference -- not the health plan. That is market efficiency."

"Relationships like the one we have with MetroHealth are crucial to aligning incentives, eliminating duplication of services, lowering administrative burden and increasing member participation in health care," Peters said. "The key to reaching our goals is to coordinate care management, quality management and to exchange data in a meaningful way -- this will provide efficiencies within the health care system and will allow better access to care, in the neighborhoods in which our members live."

Peters told Rep. Stephen Huffman (R-Tipp City), the committee chairman, that CareSource is pursing similar initiatives with other health systems around the state and recently entered an agreement with Akron Children's Hospital.

Susan Blankschaen, administrative director of ambulatory services for University Hospitals Case Medical Center, discussed her hospital system's efforts to reduce unnecessary visits to emergency departments in the wake of a nearby hospital's closing in 2011, which sparked a 20 percent increase in visits to the ER at UH Case Medical Center. The system developed its Medical Access Clinic (MAC), to which low-acuity patients are diverted from the emergency room.

"The goal of the MAC is to treat the problem for which they sought care, but more importantly, to reduce unnecessary visits to the emergency department by developing a point of entry into primary care. The process begins in the [ER] where patients are triaged by a nurse practitioner. When the patient is seen in the MAC, care is provided by a team of providers that can include a nurse practitioner or physician, nurses, medical assistants and a social worker," she said.

"Since opening we have seen about 5,300 patients in the MAC. That is 5,300 unnecessary emergency department [visits] avoided," Blankschaen said.

Rep. Mark Romanchuk (R-Mansfield) asked the root causes that drive people to the emergency room in the first place, and what remedies to those problems Blankschaen would recommend.

She said many of them have "chaotic" lives that make it difficult to plan medical appointments in advance. Transportation and telephone access are also barriers. She said providing education about the medical system in conjunction with care would be helpful in ensuring people can be healthy and prevent the issues that took them to the ER in the first place.

Eiran Gorodeski, a cardiologist at the Cleveland Clinic, discussed the clinic's initiative to serve high-risk patients -- those with multiple chronic conditions and

recent hospitalization for an acute episode -- by providing primary care visits in the home. This "Independence at Home" initiative, a demonstration project through the federal Centers for Medicare and Medicaid Services (CMS), saved $25 million for 8,400 enrolled patients across the U.S., about 260 of them in the Cleveland area, Gorodeski said.

"These patients represent a very high-risk population of people. They want to be at home, and the satisfaction they get out of having care delivered in their homes is much higher than any care we could provide in the hospital setting. For many patients, this type of program helps them to avoid a nursing home. This not only leads to high levels of patient satisfaction, but also has a large scale impact on the health system nationwide," Gorodeski said.

Semanthie Brooks of the Benjamin Rose Institute on Aging and Scott Fedor of Linking Employment Abilities & Potential (LEAP) testified on their concerns that managed care in the MyCare Ohio program for dual-eligible Ohioans isn't providing sufficient home- and community-based services.

"The delivery of long-term services and supports at home requires a fundamental culture change for managed care. Managed care plans essentially control the use of health care services, through network restrictions, prior authorizations and utilization controls. While these plans add 'long-term services and supports' as a benefit, they have little experience with the coordination and range of supports that help older adults and people with disabilities to live at home. After one year, MyCare Ohio has barely reached beyond adding transportation to medical appointments, and even that has been limited," Brooks said.

Fedor, a MyCare patient, said he's seen diminished care and choices since being enrolled in MyCare. He's been living at home with LEAP's assistance after breaking his neck in 2009 and becoming paralyzed from the neck down. "Today, I am still confused as to exactly what my care plan is and how it compares with my earlier waiver service package. I have a well-intentioned 'care coordinator' through the program, but she has to go through chains of command, and often never finds an answer," Fedor said.

Fedor says he can't get approval for a voice-activated life-alert system, despite the fact that his paralysis means his voice is his only tool to call for help.

"It appears to me we continue to step over dollars to pick up dimes," Fedor said.

Alice Randolph, a psychologist testifying at the request of the Ohio Psychological Association, said MyCare is complicating clinical efficiency by making it more difficult for older patients to receive behavioral health services. "Efficient behavioral health services require psychologists, social workers and counselors who are specialists in diagnoses and treatments. Currently there are enormous procedural barriers with the MyCare Ohio plans," she said in her written remarks, singling out preauthorization as one example. She said preauthorization was initially not required, then became a requirement but without notice, then changed again to provide a preauthorization number for providers -- all of which she only found out after experiencing "mysterious" denials for reimbursement.

"Now we are struggling with mass denials (again without notice) because we the providers can no longer obtain the preauthorization for patients in facilities; the facility must obtain the authorization. Facilities are already burdened and frankly they do not require an authorization number because their payments are bundled. Psychologists are at the mercy of uninterested or overburdened staff of the facilities who care for our patients," Randolph said.

"I have a backlog of thousands and thousands of dollars of claims since April," she said.

Summa Health Systems' Matthew Wayne, chief medical officer for New Health Collaborative and Summa Physicians, an accountable care organization, discussed how the organization achieved savings and quality improvements.

"Risk stratification is essential. We need to understand the population that we serve, and then we need to design interventions that meet the needs," Wayne said. "A key component of this is making sure our patients can access our services when they need it."

Josanne Pagel of the Ohio Association of Physician Assistants said her profession is "the answer" to meeting care needs of an increasing population. She told Rep. Stephanie Howse (D-Cleveland) that geriatric care has become a focus for programs training physician assistants because of anticipated care needs. She told Rep. Andrew Brenner (R-Powell) that physician assistant training is a master's level education program taking 27-32 months, with the second year dedicated to full-time clinical training.

The committee also heard an overview of Kasich administration health care initiatives from Medicaid Director John McCarthy and Department of Aging Director Bonnie Kantor-Burman.

Ohio's overall health value ratings -- it generally pays more and gets worse care -- drove Medicaid to pursue payment innovation with both public and private payers, McCarthy said.

Huffman asked McCarthy about recent drops in provider rates under the Affordable Care Act and whether fewer doctors will accept Medicaid patients.

McCarthy said providers have been telling him they're likely to accept fewer patients, but he has yet to see that reflected in the data. He said there are some access protections on the managed care side, because providers sign contracts about providing appointments within a certain timeframe and serving a certain number of patients. "It is a concern of mine. We are paying about 50 percent of Medicare rates," McCarthy said.

With electronic medical records a frequent topic in health care innovation discussions, Rep. Robert Cupp (R-Lima) asked about McCarthy's confidence in the security of sensitive personal data, given high-profile hacks of retail stores and the federal government.

McCarthy said Medicaid works closely with the Ohio Department of Administrative Services on system security, and noted it can sometimes be "like getting into Fort Knox" just to visit the Medicaid offices because of the sensitive data it houses. But he also noted that while Medicaid has claims and eligibility data, it does not receive actual medical records. "We are putting into place everything we can in this area to keep our risks down," he said.

Kantor-Burman told the committee the definition of efficiency might be "a little different" for older populations. "Sometimes the most efficient may not be the most effective as we age," she said. "The most significant thing we can do is keeping people well," she said. "How do we talk about efficiency in such a system?"

She discussed the Music and Memory program, which tries to help people suffering from dementia and behaving in a withdrawn manner "come alive" by

exposing them to music they're familiar with from earlier in their lives.

"We are doing Music and Memory in about 300 nursing homes … with very, very similar results," she said. "When we do this, we are creating a better life for older Ohioans. Is it efficient? Depends on how you define it."

After the hearing, Huffman told *Hannah News* that what stands out to him from the committee's hearings is the need for cooperation to address the needs of the "whole patient," from transportation to social services to nutrition.

"The real way to save money in Medicaid is the collaboratives," he said.

Huffman said he doesn't have specific ideas for legislation stemming from the hearings but expects the education he and committee members receive will inform work on pending and forthcoming bills.

Written remarks of those submitting testimony to the committee Wednesday are available at the *Hannah News* website, www.hannah.com.

Also submitting testimony Wednesday were Shelly Kiser of the American Lung Association of Ohio; Ed Stockhausen of the Mental Health and Addiction Advocacy Coalition; Ohio Academy of Nutrition and Dietetics members Karen Stanfar and Cora Martin; Janice Dzigiel of the Council of Older Persons at the Center for Community Solutions; Barbara Palmisano and Margaret Sanders of Northeast Ohio Medical University; Lori Weinstein of the Diabetes Partnership of Cleveland; Dr. David Peter of Akron General Health System; Dr. Jerry Goldberg of Case Western University School of Dental Medicine; Dr. David Chand and Sheryl Valentine of Akron Children's Hospital; and Greg Lawson of the Buckeye Institute.

The committee next meets at 2 p.m. Tuesday, Sept. 22 at Mercy Health in Fairfield.

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ORC §4765.361 Information Sheet*

Sec. 4765.361.
An emergency medical technician-basic, emergency medical technician-intermediate, or emergency medical technician-paramedic may perform medical services that the technician is authorized by law to perform in nonemergency situations if the services are performed under the direction of the technician's medical director or cooperating physician advisory board. In nonemergency situations, no medical director or cooperating physician advisory board shall delegate, instruct, or otherwise authorize a technician to perform any medical service that the technician is not authorized by law to perform.

- **Effective date: This was signed into law by the governor on June 30, 2015, and will go into effect 90 days thereafter.**

What this law does:

- **Allows currently certified EMTs, advanced EMTs, and paramedics to perform all services that they are currently certified to perform when responding to an emergency, in non-emergency settings.**

- **It does not apply to providers certified as emergency medical responders.**

- **EMTs, advanced EMTs, and paramedics who practice or provide services in a non-emergency setting are still required to have the same training that is required to act in emergency settings, must still complete the required CEs, and are responsible for following all requirements to maintaining their certification, including following the ethical standards set forth in 4765-9-01 of the Ohio Administrative Code. http://codes.ohio.gov/oac/4765-9-01**

- **EMTs, advanced EMTs, and paramedics who practice or provide services in a non-emergency setting must do so only under the direction of the technician's medical director or cooperating physician advisory board.**

- **EMTs, advanced EMTs, and paramedics who practice or provide services in a non-emergency setting must not provide services that are outside of their scope of practice as set forth in chapter 4765. of the Revised Code, and**

chapter 4765 of the Administrative Code.
http://www.publicsafety.ohio.gov/links/ems_scope_practice.pdf

- Physicians wishing to serve as a medical director for EMTs, advanced EMTs, and paramedics who practice or provide services in a non-emergency setting must meet all requirements set forth in OAC 4765-3-05
http://codes.ohio.gov/oac/4765-3-05

What this law does not do:

- **Immunity:** 4765.361 does **not** specifically extend the immunity that is afforded in section 4765.49 of the Revised Code to EMTs, advanced EMTs, and paramedics who provide services in a non-emergency setting, physicians who provide medical direction in a non-emergency situation, or public EMSOs who employ certificate holders that provide services in a non-emergency setting. ***Individuals and entities who are considering offering services in a non-emergency setting should contact their legal counsel to seek advice regarding potential civil liability issues.***

Effect on Priority 1 EMS grants:

- Only emergency medical service organizations (EMSOs) with the main responsibility of providing continuous emergency medical services to the community pursuant to requests and/or calls from the public for emergency medical service response are eligible for priority 1 grants. An EMSO must meet all the requirements set forth in OAC 4765-5-02 http://codes.ohio.gov/oac/4765-5-02. Other entities who happen to employ EMTs, advanced EMTs, and paramedics for emergency or non- emergency services do not qualify.

- EMSOs who qualify to receive a grant cannot use grant money to purchase equipment that will be used solely in non-emergency situations.

- EMSOs who qualify to receive grant funding cannot use grant money for training personnel to perform services in a non-emergency capacity.

**this document has been prepared for informational purposes only, certificate holders and EMSOs or other entities wishing to offer services in a non-emergency setting should consult their legal counsel for advice.*

July 15, 2016

The Honorable Gregg Marx
Fairfield County Prosecuting Attorney
239 West Main Street, Suite 101
Lancaster, Ohio 43130

SYLLABUS: 2016-023

1. An emergency medical technician-basic, an emergency medical technician-intermediate, and an emergency medical technician-paramedic employed by Violet Township may provide medical services in nonemergency situations pursuant to R.C. 4765.361, so long as the medical services are performed under the direction of the emergency medical technician's medical director or cooperating physician advisory board, are within the scope of practice of the emergency medical technician, and do not conflict with the emergency medical services described in R.C. 4765.37, R.C. 4765.38, R.C. 4765.39, and the rules adopted by the State Board of Emergency Medical, Fire, and Transportation Services.

2. An emergency medical technician-basic, an emergency medical technician-intermediate, and an emergency medical technician-paramedic employed by a township is immune from civil liability for injury, death, or loss to person or property resulting from the provision of medical services in a nonemergency situation unless the services are provided in a manner that constitutes wanton or willful misconduct, the services are manifestly outside the scope of the emergency medical technician's employment, or the services are performed with malicious purpose, in bad faith, or in a wanton or reckless manner.

3. An emergency medical technician-basic, an emergency medical technician-intermediate, and an emergency medical technician-paramedic employed by a township may not provide medical services on a routine, day-to-day basis outside the boundaries of the township when revenue from a township tax levy pays the emergency medical technician's compensation, unless the township has entered into a contract with another political subdivision pursuant to R.C. 9.60 or R.C. 505.44, or the township

provides the medical services to the territory of another township or municipal corporation as a member of a joint fire district pursuant to R.C. 505.371, a fire and ambulance district pursuant to R.C. 505.375, or a joint ambulance district pursuant to R.C. 505.71.

4. A board of township trustees may establish reasonable charges for the use of medical services that are provided by an emergency medical technician-basic, an emergency medical technician-intermediate, and an emergency medical technician-paramedic employed by the township in nonemergency situations and may collect those charges from a private hospital system that agrees to pay those charges on behalf of the recipient of the medical services.

5. A board of township trustees may contract with a private hospital system to provide medical services in nonemergency situations by an emergency medical technician-basic, an emergency medical technician-intermediate, and an emergency medical technician-paramedic employed by the township to patients of the hospital who are residents and nonresidents of the township, so long as the private hospital system is a nonprofit corporation and the medical services are performed within the territory of the township.

6. A contract between the Violet Township Board of Trustees and a private hospital system for the provision of medical services in nonemergency situations may provide that the private hospital system will pay the township a sum of money for each visit performed by an emergency medical technician-basic, an emergency medical technician-intermediate, and an emergency medical technician-paramedic pursuant to the contract and that emergency medical technicians will provide medical services in nonemergency situations during the emergency medical technicians' regular work hours.

MIKE DEWINE
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July 15, 2016

OPINION NO. 2016-023

The Honorable Gregg Marx
Fairfield County Prosecuting Attorney
239 West Main Street, Suite 101
Lancaster, Ohio 43130

Dear Prosecutor Marx:

You have requested an opinion about the authority of a board of township trustees to enter into a contract with a private hospital system for the provision of medical services in a nonemergency situation by emergency medical technicians (EMTs)[1] of the township fire department to residents and nonresidents of the township.[2]

You have explained that the Violet Township Board of Trustees would like to enter into a contract with a private hospital system. Under the contract, an EMT, who is employed on a full-time basis by Violet Township, would provide medical services to specific patients in their homes in nonemergency situations. The patients may or may not be residents of Violet Township. The medical services contemplated in the proposed contract include checking a patient's home for dangers that could cause falls, providing health coaching, communicating with other health care providers, scheduling appointments with medical providers, arranging transportation to appointments, and assisting in goal setting. An EMT would provide the medical services during the EMT's regular working hours and the hospital will pay the Violet Township Fire Department $153.85 for each visit an EMT makes to a patient's home. You also explain that the Violet Township Fire Department receives revenues from seven continuing fire

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[1] You ask about the provision of medical services in nonemergency situations by an emergency medical technician-basic (EMT-basic), an emergency medical technician-intermediate (EMT-I), and an emergency medical technician-paramedic (EMT-paramedic). For the purpose of this opinion, we use "emergency medical technician" (EMT) to refer collectively to an EMT-basic, EMT-I, and an EMT-paramedic. For the purpose of this opinion, EMT does not include a first responder.

[2] For the purpose of this opinion, we understand "nonemergency situations" to mean those situations that do not constitute emergencies. An "emergency" is a situation where there is "an urgent need for assistance or relief[.]" *Merriam-Webster's Collegiate Dictionary* 407 (11th ed. 2005). Thus, a "nonemergency situation" is a situation in which there is a need for assistance from an EMT, but it is not needed on an urgent basis.

and emergency medical services tax levies in excess of the ten-mill limitation. When each levy was presented to the electorate, the ballot stated that the levy was "for the benefit of Violet Township[.]"

You ask the following specific questions:

1. Whether, pursuant to Revised Code Section 4765.361 an EMT may, in nonemergency situations, perform services other than those delineated in Revised Code Sections 4765.35, 4765.37, 4765.38, and 4765.39?[3]

2. Whether, in the performance of nonemergency services pursuant to Revised Code Section 4765.361, an EMT is covered by the immunity afforded pursuant to Revised Code Section 4765.49 or any other immunity granted to township employees pursuant to the Ohio Revised Code?

3. Whether, pursuant to Revised Code Section 4765.361, an EMT-employee of a township may provide nonemergency services outside the geographic confines of that township where that EMT is compensated through levies passed by the residents of that township?

4. Whether, pursuant to Revised Code Section 4765.361, an EMT may provide nonemergency services for compensation with a private third party hospital or medical provider?

5. Whether, pursuant to Revised Code Section 4765.361, a township fire department or an EMT during her regular work hours may provide nonemergency services to nonresidents of the township where such services are provided pursuant to a contract with a private third party hospital or medical provider for compensation?

6. Whether, pursuant to Revised Code Section 4765.361, a township fire department or an EMT during her regular work hours may provide nonemergency services to residents of the township where such services are provided pursuant to a contract with a private third party hospital or medical provider for compensation?

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[3] R.C. 4765.35 sets forth the emergency medical services that a first responder may perform. Because your questions ask about the medical services that an EMT-basic, EMT-intermediate, and an EMT-paramedic may perform when providing medical services in nonemergency situations, we focus our analysis on R.C. 4765.37, R.C. 4765.38, and R.C. 4765.39, the statutes governing the services that an EMT-basic, EMT-intermediate, and an EMT-paramedic, respectively, may perform.

R.C. 4765.361: Authority to Perform Medical Services in Nonemergency Situations

R.C. 4765.361 provides:

> An emergency medical technician-basic, emergency medical technician-intermediate, or emergency medical technician-paramedic may perform *medical services* that the technician is authorized by law to perform *in nonemergency situations* if the services are performed under the direction of the technician's medical director or cooperating physician advisory board. In nonemergency situations, no medical director or cooperating physician advisory board shall delegate, instruct, or otherwise authorize a technician to perform any medical service that the technician is not authorized by law to perform. (Emphasis added.)

R.C. Chapter 4765 does not expressly define the medical services that an EMT is authorized to perform in nonemergency situations. We conclude, however, that "medical services" in R.C. 4765.361 means the services that an EMT is authorized to perform, as appropriate, pursuant to R.C. 4765.37, R.C. 4765.38, and R.C. 4765.39 and the administrative rules adopted under R.C. Chapter 4765.

R.C. 4765.35 and 11B Ohio Admin. Code 4765-12-04 (2015-2016 Supplement) set forth the services that a first responder may perform.[4] R.C. 4765.37 and 11B Ohio Admin. Code 4765-15-04 (2015-2016 Supplement) delineate the services that an EMT-basic may perform. The services that an EMT-intermediate may perform are set forth in R.C. 4765.38 and 11B Ohio Admin. Code 4765-16-04 (2015-2016 Supplement). The services that an EMT-paramedic may perform are set forth in R.C. 4765.39 and 11B Ohio Admin. Code 4765-17-03 (2015-2016 Supplement). Pursuant to R.C. 4765.11(A)(18), the State Board of Emergency Medical, Fire, and Transportation Services may authorize EMTs to perform emergency medical services in addition to those identified in R.C. 4765.37, R.C. 4765.38, R.C. 4765.39, and the corresponding regulations. *See* R.C. 4765.37(C); R.C. 4765.38(B)(6); R.C. 4765.39(B)(7); 11B Ohio Admin. Code 4765-6-01.

The purpose of requiring a person to obtain a license or certificate to practice a profession or occupation is to protect the health and safety of the public by ensuring that the person is qualified to competently and safely perform a service. *See State ex rel. Copeland v. State Med. Bd.*, 107 Ohio St. 20, 28, 140 N.E. 660 (1923) ("[t]he underlying purpose of conferring upon the [State Medical Board] the power to issue licenses to practice medicine and surgery is protection

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[4] Reference to the statute and administrative rule regarding the scope of practice of first responders is made because 11B Ohio Admin. Code 4765-15-04 (2015-2016 Supplement), 11B Ohio Admin. Code 4765-16-04 (2015-2016 Supplement), and 11B Ohio Admin. Code 4765-17-03 (2015-2016 Supplement), which set forth the scope of practice of EMT-basics, EMT-intermediates, and EMT-paramedics, incorporate the services that a first responder may perform.

against inexperience and incompetency"); 1995 Op. Att'y Gen. No. 95-045, at 2-247 ("[t]he ultimate goal, or intent, of such regulation by the state is the preservation of the health, safety, and general welfare of every person who is served by a practitioner of the profession in question"). An EMT is permitted by statute, rule, or the written or verbal authorization of a medical director or physician advisory board to perform certain services because the General Assembly, the State Board of Emergency Medical, Fire, and Transportation Services, and the medical director or physician advisory board have determined that the education, training, and certification received by an EMT has prepared the EMT to safely perform those services. *See, e.g.*, 11B Ohio Admin. Code 4765-6-02(A) ("[a]n EMS training program for a certificate to practice as an emergency medical responder, emergency medical technician, advanced emergency medical technician and paramedic shall meet all knowledge and skill standards set forth in rules 4765-12-05, 4765-15-05, 4765-16-06, and 4765-17-04 of the Administrative Code"); rule 4765-15-04(D) ("[a]n emergency medical technician shall not perform emergency medical services within this rule unless the emergency medical technician has received training as part of an initial certification course or through subsequent training approved by the board"); 11B Ohio Admin. Code 4765-15-05(B) ("[t]he EMS training program [for a certificate to practice as an EMT] shall be conducted in accordance with … the scope of practice set forth in rule 4765-15-04 of the Administrative Code").

Insofar as the General Assembly and the State Board of Emergency Medical, Fire, and Transportation Services have determined that R.C. 4765.37, R.C. 4765.38, R.C. 4765.39, and the corresponding Ohio Administrative Code provisions delineate the services that an EMT is qualified to safely perform, those services are the medical services that an EMT is legally authorized to perform in emergency and nonemergency situations.[5] Accordingly, the "medical services" that an EMT may perform in nonemergency situations pursuant to R.C. 4765.361 are the services that R.C. 4765.37, R.C. 4765.38, R.C. 4765.39, and the rules adopted by the State Board of Emergency Medical, Fire, and Transportation Services authorize an EMT to perform. Essentially, R.C. 4765.361 authorizes an EMT to perform "emergency medical services" as defined in R.C. 4765.01(G) in nonemergency situations.

"Emergency medical service" is defined for the purpose of R.C. Chapter 4765 as "any of the services described in [R.C. 4765.35 (first responders), R.C. 4765.37 (EMT-basic), R.C. 4765.38 (EMT-I), and R.C. 4765.39 (EMT-paramedic)] that are performed by first responders, emergency medical technicians-basic, emergency medical technicians-intermediate, and

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[5] In this opinion, we use the term "medical services," rather than "emergency medical services," to refer to the services that an EMT may perform in nonemergency situations pursuant to R.C. 4765.361. We do this because R.C. 4765.361 refers to those services as "medical services." Even though the medical services authorized by R.C. 4765.361 are the same services included in the definition of "emergency medical services" in R.C. 4765.01(G), it would be confusing to the reader to use "emergency medical services" to refer to the services an EMT is authorized to perform in nonemergency situations under R.C. 4765.361.

paramedics." R.C. 4765.01(G). The second sentence of R.C. 4765.01(G) states that "'[e]mergency medical service' includes such services performed before or during any transport of a patient, including transports between hospitals and transports to and from helicopters." That the General Assembly used the word "includes" indicates that the provision of "emergency medical service" is not limited exclusively to services performed before or during transport of a patient to a hospital. *See State v. Colvin*, 19 Ohio St. 2d 86, 92, 249 N.E.2d 784 (1969) (when the General Assembly uses the word "includes," it does not intend for the list that follows to be an exhaustive or exclusive list).

Additionally, although "medical service" is preceded by "emergency" in R.C. 4765.01(G), the statute's definition of "emergency medical service" does not require that the medical service be performed in an emergency.[6] Rather, "emergency medical service" is any service that the Revised Code authorizes an EMT to perform.

The legislative history of R.C. 4765.01(G) further supports our conclusion that "emergency medical service" is not necessarily limited to medical services that are performed in emergency situations. In 1992, R.C. 3303.08(G), a predecessor of R.C. 4765.01(G), was amended and renumbered. 1991-1992 Ohio Laws, Part I, 467 (Am. Sub. S.B. 98, eff. Nov. 12, 1992). Prior to the amendment, R.C. 3303.08(G) provided:

> "Emergency medical service" means a public or private organization using EMT-A's, ADV EMT-A's, or paramedics, or a combination of EMT-A's, ADV EMT-A's, and paramedics, to provide *emergency medical care to victims of serious illness or injury* prior to the victims receiving professional medical care or hospitalization.

1985-1986 Ohio Laws, Part II, 3894 (Sub. H.B. 428, eff. Dec. 23, 1986) (emphasis added). The enactment of Am. Sub. S.B. 98 renumbered R.C. 3303.08(G) as R.C. 4765.01(F) and amended the definition of "emergency medical service" to read:

> "Emergency medical service" means any of the services described in [R.C. 4765.37, R.C. 4765.38, and R.C. 4765.39] that are performed outside a hospital by emergency medical technicians-ambulance, advanced emergency medical

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[6] We recognize that some of the delineated services are performed only in a situation constituting an emergency. *See, e.g.*, R.C. 4765.37(B) ("[i]n an emergency, an EMT-basic may determine the nature and extent of illness or injury and establish priority for required emergency medical services"); R.C. 4765.38(B)(4) (an EMT-intermediate may "[a]dminister epinephrine"). However, not all the services an EMT may perform are necessarily performed in a situation constituting an emergency. *See, e.g.*, R.C. 4765.37(B) (an EMT-basic may perform emergency medical services including "bandaging"); R.C. 4765.38(B)(2) (an EMT-intermediate may perform "cardiac monitoring").

> technicians-ambulance, and paramedics. "Emergency medical service" includes such services performed during any transport of a patient, including transports between hospitals and transports to and from helicopters.

Accordingly, the amendment changed the definition's operative factor from the nature of the service performed or the situation in which the service is performed ("emergency medical care to victims of serious injury or illness") to the identity of the actor performing the service ("any of the services described in [the statutes] that are performed … by emergency medical technicians-ambulance, advanced emergency medical technicians-ambulance, and paramedics"). Therefore, a medical service performed by an EMT in a nonemergency situation that otherwise meets the definition of "emergency medical service" in R.C. 4765.01(G) constitutes an "emergency medical service." In other words, medical services that are within the scope of practice of the EMT, whether performed in an emergency or not, constitute "emergency medical services" for the purpose of R.C. Chapter 4765.

Although interpreting "emergency medical service" to include medical services that are provided in nonemergency situations is, at first glance, counterintuitive, we believe that our interpretation is consistent with R.C. Chapter 4765. If the fact that "emergency" precedes "medical service" leads to the conclusion that "emergency medical services" shall be conducted in emergency situations only, then the fact that "emergency" precedes "medical technician" should also be construed to mean that an EMT is a person that acts only in emergency situations. However, the enactment of R.C. 4765.361 directly refutes that conclusion. The General Assembly has expressly authorized EMTs to perform medical services in nonemergency situations. R.C. 4765.361 repeatedly refers to the medical services that an EMT may perform in nonemergency situations as those services that the EMT is "authorized by law to perform." The law authorizes an EMT to perform "emergency medical services," which are those services that are within the scope of practice of an EMT.

If the General Assembly had intended R.C. 4765.361 to authorize an EMT to perform medical services in nonemergency situations that are different than the "emergency medical services" that an EMT is authorized by statute and rule to perform, it could have expressly provided a definition for "nonemergency medical services." *See Lake Shore Elec. Ry. Co. v. P.U.C.O.*, 115 Ohio St. 311, 319, 154 N.E. 239 (1926). Alternatively, the State Board of Emergency Medical, Fire, and Transportation Services could have adopted a rule expanding an EMT's scope of practice to include "nonemergency medical services," as distinguished from "emergency medical services." *See* rule 4765-6-01(A) ("[t]he board shall evaluate whether emergency medical responders, emergency medical technicians, advanced emergency medical technicians, and paramedics may perform additional services beyond those contained in [R.C. Chapter 4765] and Chapters 4765-12, 4765-15, 4765-16, and 4765-17 of the Administrative Code"). That neither alternative has occurred is further support for the conclusion that "medical services" in R.C. 4765.361 means the emergency medical services that an EMT is authorized to

perform pursuant to R.C. 4765.37, R.C. 4765.38, R.C. 4765.39, and the rules adopted by the State Board of Emergency Medical, Fire, and Transportation Services.[7]

Authority of a Board of Trustees of a Home Rule Township to Adopt a Resolution Authorizing an Emergency Medical Technician to Provide Medical Services that Differ from the Services Specified in R.C. 4765.37, R.C. 4765.38, and R.C. 4765.39

Violet Township has adopted a limited home rule government pursuant to R.C. Chapter 504. We shall determine whether the Violet Township Board of Trustees may exercise the township's home rule powers to authorize an EMT employed by the Violet Township Fire Department to perform in nonemergency situations medical services that differ from those services delineated in R.C. 4765.37, R.C. 4765.38, and R.C. 4765.39.

The board of township trustees of a limited home rule township may, by resolution, exercise in the unincorporated area of the township limited powers of local self-government that are not in conflict with general laws. R.C. 504.04(A)(1). The board of township trustees may also "[a]dopt and enforce within the unincorporated area of the township local police, sanitary,

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[7] We have concluded that "medical services" in R.C. 4765.361 means the emergency medical services that an EMT is authorized to perform by R.C. 4765.37, R.C. 4765.38, R.C. 4765.39, and the rules adopted by the State Board of Emergency Medical, Fire, and Transportation Services. R.C. 4765.11 provides, in pertinent part:

> (A) The state board of emergency medical, fire, and transportation services shall adopt … rules … that establish all of the following:
> …
> (2) Standards for the performance of emergency medical services by first responders, emergency medical technicians-basic, emergency medical technicians-intermediate, and emergency medical technicians-paramedic;
> …
> (18) Procedures for approving the additional emergency medical services first responders are authorized by [R.C. 4765.35(C)] to perform, EMTs-basic are authorized by [R.C. 4765.37(C)] to perform, EMTs-I are authorized by [R.C. 4765.38(B)(5)] to perform, and paramedics are authorized by [R.C. 4765.39(B)(6)] to perform;
> ….
> (B) The board may adopt …
> (4) Any other rules necessary to implement [R.C. Chapter 4765].

Thus, pursuant to its general rule-making authority, R.C. 4765.11, the State Board of Emergency Medical, Fire, and Transportation Services is authorized to adopt rules that define an EMT's scope of practice in nonemergency situations.

and other similar regulations that are not in conflict with general laws or otherwise prohibited by [R.C. 504.04(B)]." R.C. 504.04(A)(2).[8] The adoption of a limited home rule government "'grants a limited home rule township authority to exercise a greater measure of authority, in a greater number of matters, than the authority granted to townships generally by the other provisions of R.C. Title 5.'" 2014 Op. Att'y Gen. No. 2014-041, at 2-362 (quoting 2002 Op. Att'y Gen. No. 2002-032, at 2-210 n.2).[9]

For the Violet Township Board of Trustees to adopt a resolution that authorizes an EMT employed by the Violet Township Fire Department to perform in nonemergency situations medical services that differ from those services specified in R.C. 4765.37, R.C. 4765.38, and R.C. 4765.39, the resolution, whether an exercise of a power of local self-government or a local police regulation, shall not conflict with a general law. Thus, our first step is to determine whether R.C. 4765.37, R.C. 4765.38, and R.C. 4765.39 constitute general laws.

The Ohio Supreme Court has held that:

> to constitute a general law for purposes of home-rule analysis, a statute must (1) be part of a statewide and comprehensive legislative enactment, (2) apply to all parts of the state alike and operate uniformly throughout the state, (3) set forth police, sanitary, or similar regulations, rather than purport only to grant or limit legislative power of a municipal corporation to set forth police, sanitary, or similar regulations, and (4) prescribe a rule of conduct upon citizens generally.

City of Canton v. State, 95 Ohio St. 3d 149, 2002-Ohio-2005, 766 N.E.2d 963, at ¶ 21. When determining whether a statute is a general law, the statute shall not be examined in isolation, but in the context of the overall statutory scheme. *Mendenhall v. Akron*, 117 Ohio St. 3d 33, 2008-Ohio-270, 881 N.E.2d 255, at ¶ 27.

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[8] The board of township trustees of a limited home rule township may also adopt resolutions that govern the supply of water and sewer services, R.C. 504.04(A)(3), and regulate adult entertainment establishments and the residency of sex or child-victim offenders, R.C. 504.04(A)(4).

[9] "The home rule authority granted to townships by R.C. 504.04(A) to exercise all powers of local self-government and to adopt and enforce police, sanitary, and similar regulations that do not conflict with general laws mirrors the home rule authority granted to municipalities by Ohio Const. art. XVIII, § 3." 2014 Op. Att'y Gen. No. 2014-041, at 2-362. Insofar as the home rule authority of counties that have adopted a charter pursuant to Ohio Const. art. X, § 3 parallels municipal home rule authority, 1996 Op. Att'y Gen. No. 96-043, at 2-162, the home rule authority granted to townships is also similar to the home rule authority granted to counties. Accordingly, case law and opinions of the Attorney General that address the home rule powers of municipal corporations and counties are instructive when determining the scope of authority of a home rule township. *See* 2014 Op. Att'y Gen. No. 2014-041, at 2-363.

With respect to the first factor of the *Canton* test, R.C. 4765.37, R.C. 4765.38, and R.C. 4765.39 are part of a statewide and comprehensive legislative enactment. R.C. Chapter 4765 regulates emergency medical services and providers of those services on a statewide basis. In addition, insofar as R.C. Chapter 4765 addresses many aspects of the provision of emergency medical services by emergency medical services personnel, R.C. 4765.37, R.C. 4765.38, and R.C. 4765.39 are part of a comprehensive legislative enactment.

A single state agency, the State Board of Emergency Medical, Fire, and Transportation Services, is responsible for the administration and enforcement of R.C. Chapter 4765. R.C. 4765.10(A)(1); *see also* R.C. 4765.101(A) ("[t]he state board of emergency medical, fire, and transportation services shall investigate any allegation that a person has violated [R.C. Chapter 4765] or a rule adopted under it"); R.C. 4765.111 (disciplinary proceedings are conducted by the State Board of Emergency Medical, Fire, and Transportation Services). The State Board of Emergency Medical, Fire, and Transportation Services divides the state into prehospital emergency medical services regions, each of which is supervised by a regional director or a regional advisory board, for the purpose of "overseeing the delivery of adult and pediatric prehospital emergency medical services."[10] R.C. 4765.05(B). The Board makes "recommendations for the operation of ambulance service organizations, air medical organizations, and emergency medical service organizations[,]" R.C. 4765.09, and adopts guidelines for the care of trauma victims, R.C. 4765.12(A).[11] *See also* R.C. 4765.40 (establishment of written state protocols and approval of regional protocols for the triage of trauma victims). The Board is authorized to adopt rules establishing, *inter alia*, "[s]tandards for the performance of emergency medical services by first responders, emergency medical technicians-basic, emergency medical technicians-intermediate, and emergency medical technicians-paramedic" and "[p]rocedures for approving the additional emergency medical services" that the various EMTs may perform. R.C. 4765.11(A)(2), (A)(18). Certificates to practice as a first responder, an EMT-basic, an EMT-intermediate, or an EMT-paramedic are issued by the State Board of Emergency Medical, Fire, and Transportation Services based upon whether an applicant satisfies statutory criteria. R.C. 4765.30. R.C. 4765.36 and R.C. 4765.361 set forth the circumstances in which emergency medical service personnel may provide emergency medical services in a hospital and in nonemergency situations. R.C. 4765.49 sets forth the immunity afforded emergency medical service personnel, political subdivisions, and other organizations that provide emergency medical services. Therefore, R.C. 4765.37, R.C.

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[10] "Prehospital emergency medical services" is defined as "an emergency medical services system that provides medical services to patients who require immediate assistance, because of illness or injury, prior to their arrival at an emergency medical facility." R.C. 4765.05(A).

[11] An "emergency medical service organization" is "a public or private organization using first responders, EMTs-basic, EMTs-I, or paramedics, or a combination of first responders, EMTs-basic, EMTs-I, and paramedics, to provide emergency medical services." R.C. 4765.01(H).

4765.38, and R.C. 4765.39 satisfy the first factor of the *Canton* test as they constitute statutes that are part of a comprehensive and statewide legislative enactment.

The second factor to consider is whether R.C. 4765.37, R.C. 4765.38, and R.C. 4765.39 "apply to all parts of the state alike and operate uniformly throughout the state[.]" *City of Canton v. State* at ¶ 21. The provisions of R.C. 4765.37, R.C. 4765.38, and R.C. 4765.39 apply to all EMT-basics, EMT-intermediates, and EMT-paramedics regardless of where the professional performs emergency medical services. Therefore, the second factor of the *Canton* test is satisfied.

The third factor of the *Canton* test considers whether the statutes at issue set forth police, sanitary, or similar regulations, rather than purport only to grant or limit local legislative power to set forth police, sanitary, or similar regulations. *City of Canton v. State* at ¶ 21. Regulation of a profession or occupation is an exercise of police power. *Bouquett v. Ohio State Med. Bd.*, 123 Ohio App. 3d 466, 475, 704 N.E.2d 583 (Franklin County 1997) ("a state may act pursuant to its police powers to regulate or prohibit a business or profession so long as its actions are necessary for the public welfare"); *Pierstorff v. Bd. of Embalmers and Funeral Dirs.*, 68 Ohio App. 453, 455, 41 N.E.2d 889 (Lucas County 1941) ("[t]he state has power to regulate a business, profession or occupation under its police power, in the interests of public health, morals or general welfare"); 2003 Op. Att'y Gen. No. 2003-011, at 2-86 ("[s]tate statutes establishing programs for licensing types of occupations or activities have been found to be police regulations"). Accordingly, R.C. 4765.37, R.C. 4765.38, and R.C. 4765.39 set forth police regulations and are not a grant or limitation of a township's power to set forth police regulations.

The final factor of the *Canton* test requires us to determine whether R.C. 4765.37, R.C. 4765.38, and R.C. 4765.39 "prescribe a rule of conduct upon citizens generally." *City of Canton v. State* at ¶ 21. The statutes satisfy this factor insofar as they establish the emergency medical services that any citizen who is an EMT-basic, an EMT-intermediate, or an EMT-paramedic may perform.

Having found that R.C. 4765.37, R.C. 4765.38, and R.C. 4765.39 satisfy each of the factors of the *Canton* test, we conclude that the statutes are general laws. Therefore, the board of trustees of a home rule township may not adopt a resolution, as either an exercise of a power of local self-government or the adoption or enforcement of a police, sanitary or other similar regulation, that conflicts with R.C. 4765.37, R.C. 4765.38, and R.C. 4765.39.

A conflict exists between a general law and a township resolution when the resolution "'permits or licenses that which the statute forbids and prohibits, and vice versa.'" *Mendenhall v. Akron* at ¶ 29 (quoting *Am. Fin. Servs. Ass'n v. Cleveland*, 112 Ohio St. 3d 170, 2006-Ohio-6043, 858 N.E.2d 776, at ¶ 40 and *Cincinnati v. Baskin*, 112 Ohio St. 3d 279, 2006-Ohio-6422, 859 N.E.2d 514, at ¶ 19). If the township resolution and the state statute provide contradictory

guidance or if the resolution "'declares something to be right which the state law declares to be wrong, or vice versa[,]'" then a conflict exists. *Mendenhall v. Akron* at ¶ 29 (quoting *Struthers v. Sokol*, 108 Ohio St. 263, 268, 140 N.E. 519 (1923)). A township resolution may also conflict with a state statute by implication when the resolution "indirectly prohibit[s] what a state statute permits or vice versa." *Mendenhall v. Akron* at ¶ 31; *see also Am. Fin. Servs. Ass'n v. Cleveland* at ¶ 46 ("any local ordinances that seek to prohibit conduct that the state has authorized are in conflict with the state statutes and are therefore unconstitutional").

A township resolution authorizing an EMT to perform services that R.C. 4765.37, R.C. 4765.38, and R.C. 4765.39 do not, impermissibly conflicts with the statutes and exceeds the powers of a home rule township. Because the medical services referred to in R.C. 4765.361 are those services that an EMT is authorized to perform pursuant to R.C. 4765.37, R.C. 4765.38, R.C. 4765.39, and the rules adopted under R.C. Chapter 4765, an EMT may not, pursuant to R.C. 4765.361, perform services that conflict with those delineated in R.C. 4765.37, R.C. 4765.38, R.C. 4765.39, and the rules adopted by the State Board of Emergency Medical, Fire, and Transportation Services. Therefore, an EMT-basic, an EMT-intermediate, and an EMT-paramedic employed by the Violet Township Fire Department may provide medical services in nonemergency situations pursuant to R.C. 4765.361, so long as the medical services are within the scope of practice of the EMT and do not conflict with the emergency medical services described in R.C. 4765.37, R.C. 4765.38, R.C. 4765.39, and the rules adopted by the State Board of Emergency Medical, Fire, and Transportation Services.

Your letter provides the following examples of medical services that are contemplated by the proposed agreement between Violet Township and the private hospital system: checking a patient's home for dangers that could cause falls, providing health coaching, communicating with other health care providers, scheduling appointments with medical providers, arranging transportation to appointments, and assisting in goal setting. Whether a township resolution that authorizes an EMT to provide those services in a nonemergency situation conflicts with R.C. 4765.37, R.C. 4765.38, and R.C. 4765.39 hinges upon whether those services are encompassed within the services delineated in R.C. 4765.37, R.C. 4765.38, R.C. 4765.39, and the rules adopted by the State Board of Emergency Medical, Fire, and Transportation Services. A component of that analysis is whether the education and training of an EMT-basic, EMT-intermediate, and EMT-paramedic adequately prepares the EMT to safely and competently perform the service. For example, if health coaching involves providing recommendations regarding nutrition and exercise, then the provision of health coaching by an EMT likely conflicts with the services contemplated by R.C. 4765.37, R.C. 4765.38, and R.C. 4765.39. Many of the services described in your letter seem to extend beyond the services that an EMT is certified to perform and the purpose for which an EMT is employed by a township. Determining whether a service is encompassed within the services authorized by R.C. 4765.37, R.C. 4765.38, and R.C. 4765.39, and whether an EMT's education and training are sufficient depends, in part, upon factual findings. Those determinations are best made by the State Board of Emergency Medical, Fire, and Transportation Services and the local officials involved.

Immunity when Providing Medical Services in Nonemergency Situations Pursuant to R.C. 4765.361

Your second question asks whether an EMT is immune from civil tort liability pursuant to R.C. 4765.49, or any other statute conferring immunity on a township employee, when the EMT provides medical services in nonemergency situations pursuant to R.C. 4765.361.

R.C. 2744.03(A)(6) provides, in pertinent part:

> In addition to any immunity or defense referred to in [R.C. 2744.03(A)(7)[12]] and in circumstances not covered by that division or [R.C. 3314.07 (contracts for a community school) and R.C. 3746.24 (immunity from tort liability resulting from the release of a hazardous substance or petroleum)], the employee [of a political subdivision] is immune from liability unless one of the following applies:
> (a) The employee's acts or omissions were manifestly outside the scope of the employee's employment or official responsibilities;
> (b) The employee's acts or omissions were with malicious purpose, in bad faith, or in a wanton or reckless manner;
> (c) Civil liability is expressly imposed upon the employee by a section of the Revised Code. (Footnote added.)

R.C. 4765.49(A) expressly imposes civil liability on an EMT and provides, in pertinent part:

> A first responder, emergency medical technician-basic, emergency medical technician-intermediate, or emergency medical technician-paramedic is not liable in damages in a civil action for injury, death, or loss to person or property resulting from the individual's administration of emergency medical services, unless the services are administered in a manner that constitutes willful or wanton misconduct.

Thus, an EMT may be liable in damages in a civil action for injury, death, or loss for the provision of emergency medical services when the services are manifestly outside the scope of the EMT's employment or official responsibilities, R.C. 2744.03(A)(6)(a), provided with

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[12] R.C. 2744.03(A)(7) provides:

> The political subdivision, and an employee who is a county prosecuting attorney, city director of law, village solicitor, or similar chief legal officer of a political subdivision, an assistant of any such person, or a judge of a court of this state is entitled to any defense or immunity available at common law or established by the Revised Code.

malicious purpose, in bad faith, or in a wanton or reckless manner, R.C. 2744.03(A)(6)(b), or provided in a manner that constitutes wanton or willful misconduct, R.C. 4765.49(A). *See generally Herron v. Columbus*, 10th Dist. No. 14-AP-1063, 2016-Ohio-503, 2016 WL 561843, at ¶ 9 (defining "willful misconduct," "wanton misconduct," and "reckless conduct"); *Blair v. Columbus Div. of Fire*, 10th Dist. No. 10AP-575, 2011-Ohio-3648, 2011 WL 3073870, at ¶¶ 29-30 (defining "wanton misconduct" and "willful misconduct").[13]

Additionally, a township that employs an EMT may be subject to civil liability in connection with the provision of emergency medical services by an EMT pursuant to R.C. 2744.02(B)(5). *See generally* R.C. 2744.01(F) (a township is a "political subdivision" for the purpose of R.C. Chapter 2744). Generally, political subdivisions are immune from civil liability for "injury, death, or loss to person or property allegedly caused by any act or omission of the political subdivision or an employee of the political subdivision in connection with a governmental or proprietary function." R.C. 2744.02(A)(1). The provision of emergency medical services is a governmental function. R.C. 2744.01(C)(2)(a); *Riffle v. Physicians & Surgeons Ambulance Serv., Inc.*, 135 Ohio St. 3d 357, 2013-Ohio-989, 986 N.E.2d 983, at ¶ 2. Unless one of the defenses set forth in R.C. 2744.03 applies, a political subdivision may be liable for injury, death, or loss to person or property resulting from the provision of emergency medical services, if civil liability is expressly imposed upon a political subdivision by another statute. R.C. 2744.02(B)(5).[14]

R.C. 4765.49(B) expressly imposes civil liability on a political subdivision. *Riffle v. Physicians & Surgeons Ambulance Serv., Inc.* at ¶ 11 ("[b]ecause R.C. 4765.49(B) expressly imposes liability on a political subdivision when emergency medical services are provided in a manner that constitutes willful or wanton misconduct, the exception to immunity contained in R.C. 2744.02(B)(5) applies"). R.C. 4765.49(B) provides:

> A political subdivision … that provides emergency medical services … is not liable in damages in a civil action for injury, death, or loss to person or property arising out of any actions taken by a first responder, EMT-basic, EMT-I, or paramedic working under the officer's or employee's jurisdiction, or for injury,

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[13] An EMT is protected by R.C. 2305.23, Ohio's good samaritan statute. *See* 1993 Op. Att'y Gen. No. 93-062 (syllabus, paragraph 3). However, R.C. 2305.23 does not apply in nonemergency situations. *See* R.C. 2305.23 ("[n]o person shall be liable in civil damages for administering emergency care or treatment *at the scene of an emergency* outside of a hospital, doctor's office, or other place having proper medical equipment, for acts performed at the scene of such emergency, unless such acts constitute willful or wanton misconduct" (emphasis added)).

[14] If injury, death, or loss is caused by the negligent operation of a motor vehicle by a member of an emergency medical service owned or operated by a political subdivision, then R.C. 2744.02(B)(1)(c) applies to determine whether the political subdivision is immune from civil liability.

> death or loss to person or property arising out of any actions of licensed medical personnel advising or assisting the first responder, EMT-basic, EMT-I, or paramedic, unless the services are provided in a manner that constitutes willful or wanton misconduct.

Accordingly, under R.C. 4765.49(B), a township in which an EMT provides emergency medical services may be liable in a civil action if the services are provided in a manner that constitutes wanton or willful misconduct.

As discussed above, the "medical services" that an EMT may provide in nonemergency situations pursuant to R.C. 4765.361 are the medical services that an EMT may provide pursuant to R.C. 4765.37, R.C. 4765.38, R.C. 4765.39, and the rules adopted by the State Board of Emergency Medical, Fire, and Transportation Services. *See generally* R.C. 4765.01(G) (defining "emergency medical service" as "any of the services described in [R.C. 4765.35, R.C. 4765.37, R.C. 4765.38, and R.C. 4765.39] that are performed by first responders, emergency medical technicians-basic, emergency medical technicians-intermediate, and paramedics"). In other words, "medical services" in R.C. 4765.361 are "emergency medical services" as defined in R.C. 4765.01(G). Thus, the immunity and liability provisions of R.C. 2744.02, R.C. 2744.03, and R.C. 4765.49 apply to the medical services that an EMT provides in nonemergency situations.[15]

In sum, an EMT employed by a township is immune from civil liability for injury, death, or loss to person or property resulting from the provision of medical services in a nonemergency situation unless the services are provided in a manner that constitutes wanton or willful misconduct, R.C. 4765.49(A), the services are manifestly outside the scope of the EMT's employment, R.C. 2744.03(A)(6)(a), or the services are performed with malicious purpose, in bad faith, or in a wanton or reckless manner, R.C. 2744.03(A)(6)(b). A township in which medical services are provided by an EMT is immune from civil liability for injury, death, or loss to person or property resulting from the provision of medical services in a nonemergency situation, unless the services are provided in a manner that constitutes wanton or willful misconduct, R.C. 4765.49(B), and a defense set forth in R.C. 2744.02 or R.C. 2744.03 does not apply.

Provision of Medical Services in Nonemergency Situations outside the Boundaries of the Township

In your third question, you ask whether an EMT who is employed by a township and whose compensation is paid with revenue generated by township tax levies may provide medical

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[15] Even if "medical services" in R.C. 4765.361 did not mean "emergency medical services," and R.C. 4765.49 does not apply, the provisions of R.C. 2744.02 and R.C. 2744.03 will apply to provide immunity to an EMT and a political subdivision when medical services are provided in a nonemergency situation by an EMT that is employed by a political subdivision.

services in a nonemergency situation outside the territory of the township. Violet Township may levy a tax against the real property located within the township to pay for emergency medical services provided by the Violet Township Fire Department pursuant to R.C. 5705.19(I) ("[f]or … the payment of … emergency medical service … personnel … or the provision of ambulance, paramedic, or other emergency medical services operated by a fire department or firefighting company") or R.C. 5705.19(U) ("[f]or providing ambulance service, emergency medical service, or both").[16]

Generally, a political subdivision's fire department is authorized to provide services within the boundaries of the political subdivision. *See* 2011 Op. Att'y Gen. No. 2011-016, at 2-151 ("a municipal fire department generally is authorized to serve the municipality within its territorial boundaries"); 2005 Op. Att'y Gen. No. 2005-036, at 2-371 ("[i]f the township does not establish a fire district, it may not deny services to any property located within the township …. If a township chooses to create one or more fire districts, it has no obligation to serve any part of the township not located within the fire district, but it may not deny service to any property located within the fire district"); 1997 Op. Att'y Gen. No. 97-060, at 2-369 ("[t]he duty of a township fire district to provide emergency medical and rescue services … extends only to the boundaries of the district"). A political subdivision's fire department may provide services outside the political subdivision's boundaries, if the political subdivision has contracted with another political subdivision to provide services within the boundaries of the second political subdivision. 2011 Op. Att'y Gen. No. 2011-016, at 2-151; *see* 1997 Op. Att'y Gen. No. 97-060, at 2-369 ("pursuant to R.C. 9.60, a township fire district may provide emergency medical or rescue services to a state instrumentality located outside the territory of the fire district").

With respect to the provision of emergency medical services by a fire department, R.C. 9.60(B) provides "[a]ny firefighting agency[17] … or emergency medical service organization[18] may contract with any governmental entity in this state or another jurisdiction to provide … emergency medical services[.]" (Footnotes added.) In addition, R.C. 505.44 provides, in pertinent part:

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[16] We presume that the fire and emergency medical services levies referenced in your letter were imposed pursuant to R.C. 5705.19(I) or (U).

[17] A "firefighting agency" is "a municipal corporation, township, township fire district, joint ambulance district, joint emergency medical services district, or joint fire district and the office of the state fire marshal." R.C. 9.60(A)(3).

[18] An "emergency medical service organization" is "a public or private organization using first responders, EMTs-basic, EMTs-I, or paramedics, or a combination of first responders, EMTs-basic, EMTs-I, and paramedics, to provide emergency medical services." R.C. 9.60(A)(1); R.C. 4765.01(H).

> In order … *to obtain* the services of emergency medical service organizations … *a township may* enter into a contract with one or more state agencies, townships, municipal corporations, counties, nonprofit corporations, joint emergency medical services districts, fire and ambulance districts, or private ambulance owners, regardless of whether such state agencies, townships, municipal corporations, counties, nonprofit corporations, joint emergency medical services districts, fire and ambulance districts, or private ambulance owners are located within or outside the state, upon such terms as are agreed to by them, *to furnish or receive services* from ambulance or emergency medical service organizations … or may enter into a contract for the interchange of services from ambulance or emergency medical service organizations … *within the several territories of the contracting parties*, if the contract is first authorized by the respective boards of township trustees, the other legislative bodies, or the officer or body authorized to contract on behalf of the state agency. Such contracts shall not be entered into with a state agency or nonprofit corporation that receives more than half of its operating funds from governmental entities with the intention of directly competing with the operation of other ambulance, emergency medical, or nonemergency patient transport service organizations in the township unless the state agency or nonprofit corporation is awarded the contract after submitting the lowest and best bid to the board of township trustees. (Emphasis added.)

Pursuant to R.C. 505.44, a township may enter into a contract with one of the listed governmental entities to obtain, furnish, or receive services from an emergency medical services organization within the territories of the contracting entities. 1986 Op. Att'y Gen. No. 86-044, at 2-237; 1977 Op. Att'y Gen. No. 77-087, at 2-294 ("[t]he phrase 'to furnish' in R.C 505.443 [(the predecessor of R.C. 505.44)], irrespective of the modifying words 'to obtain', enables a township to furnish ambulance and emergency services to other governmental units"). A township may also provide emergency medical services outside its boundaries if it provides those services as a member of a joint fire district pursuant to R.C. 505.371(A), a fire and ambulance district pursuant to R.C. 505.375, or a joint ambulance district pursuant to R.C. 505.71.[19]

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[19] A township fire department of a township that is a participant in the intrastate mutual aid compact pursuant to R.C. 5502.41 may provide services outside the township's boundaries. Services may be provided "to another participating political subdivision that is impacted by an incident, disaster, exercise, training activity, planned event, or emergency" as authorized by R.C. 5502.41. R.C. 5502.41(F). Although R.C. 5502.41 authorizes a township fire department to provide services outside the township's boundaries, those services are provided in exceptional or temporary circumstances. Accordingly, R.C. 5502.41 is not a source of authority for a township fire department to provide services in a nonemergency situation within the boundaries of another political subdivision on a day-to-day basis.

Article XII, section 5 of the Ohio Constitution provides: "[n]o tax shall be levied, except in pursuance of law; and every law imposing a tax, shall state, distinctly, the object of the same, to which only, it shall be applied." *See also* R.C. 5705.10(C) ("[a]ll revenue derived from a special levy shall be credited to a special fund for the purpose for which the levy was made"); R.C. 5705.10(I) ("[m]oney paid into any fund shall be used only for the purposes for which such fund is established"); *Bd. of Rootstown Twp. Trs. v. Rootstown Water Serv. Co.*, 11th Dist. No. 2011-P-0084, 2012-Ohio-3888, 2012 WL 3645340, at ¶ 22. Additionally, "the contemplated uses of the proceeds of a levy can be no broader than the powers of the taxing authority of the subdivision levying the tax." 1994 Op. Att'y Gen. No. 94-053, at 2-267.

When a township does not have a contract to provide services of the township fire department within the boundaries of another political subdivision, or the township does not participate in a joint fire district, a fire and ambulance district, or a joint ambulance district, the township fire department is authorized to provide services on a routine, day-to-day basis only within the boundaries of the township. Consequently, in the absence of a contract or participation in a joint fire district, a fire and ambulance district, or a joint ambulance district, the township's EMTs that are compensated with revenue generated by township tax levies may not provide services in areas outside the boundaries of the township during the EMTs' working hours on a routine, day-to-day basis. *See* 1994 Op. Att'y Gen. No. 94-053, at 2-266 ("because a township of which a city and village are part has no authority to maintain a cemetery owned by, and located within, a municipal corporation within the township, it may not use the proceeds of a tax levied upon the township under R.C. 5705.19(T) for the maintenance of such a cemetery" (footnote omitted)). Thus, a township fire department that provides emergency medical services may provide those services only within the township's boundaries on a routine, day-to-day basis, unless the township has contracted with another political subdivision to provide services within the boundaries of the subdivision pursuant to R.C. 9.60(B) or R.C. 505.44, or the township is a member of a joint fire district pursuant to R.C. 505.371(A), a fire and ambulance district pursuant to R.C. 505.375, or a joint ambulance district pursuant to R.C. 505.71.

Violet Township's home rule powers may not be exercised to authorize the township fire department to provide medical services outside the boundaries of the township on a routine, day-to-day basis when the township has not entered into a contract with another political subdivision or created a joint fire district, fire and ambulance district, or joint ambulance district. Providing medical services in nonemergency situations outside the boundaries of Violet Township is not a matter that is strictly local and, therefore, is not a matter within the home rule powers of the township. *See U.S. v. Bd. of Hamilton Cnty. Comm'rs*, No. 1:02-cv-107, 2014 WL 2918676, at *14 (S.D. Ohio June 26, 2014) ("[b]ecause the City is acting outside its territorial boundaries in managing and operating … a county sewer district, neither its home-rule authority nor its power of local self-government is implicated in the bidding of contracts"); *Am. Fin. Servs. Ass'n v. Cleveland* at ¶ 30 ("the Home Rule Amendment was designed to give the 'broadest possible powers of self-government in connection with all matters which are *strictly* local,'" (quoting *State ex rel. Hackley v. Edmonds*, 150 Ohio St. 203, 212, 80 N.E.2d 769 (1948))); *Cleveland Taxpayers for Ohio Constitution v. Cleveland*, 8th Dist. No. 94327, 2010-Ohio-4685, 2010 WL 3816393, at ¶ 21 ("'[i]f the result [of local legislation] affects only the municipality itself, with

no extra-territorial effects, the subject is clearly within the power of local self-government and is a matter for the determination of the municipality'" (quoting *Beachwood v. Cuyahoga Cnty. Bd. of Elections*, 167 Ohio St. 369, 371, 148 N.E.2d 921 (1958)); 1986 Op. Att'y Gen. No. 86-008, at 2-34 ("'the powers of local self-government are limited to the territory within the municipality'" (quoting 1985 Op. Att'y Gen. No. 85-034, at 2-119 to 2-120)).

Charging and Collecting a Fee for the Provision of Medical Services in Nonemergency Situations

Your fourth question asks whether an EMT may provide medical services in a nonemergency situation when a private hospital system pays for the services. Your fourth question describes the moneys that the private hospital system will pay as "compensation," however, you have explained that the private hospital system will pay the township fire department for the medical services and none of the moneys will be paid directly to an individual EMT.

R.C. 505.84 provides, in pertinent part, "[a] board of township trustees may establish reasonable charges for the use of fire and rescue services, ambulance services, or emergency medical services." Moneys collected as charges shall be paid into a separate fund called "the fire and rescue services, ambulance services, and emergency medical services fund." *Id.* Moneys in that fund "shall be used for the payment of the costs of the management, maintenance, and operation of fire and rescue services, ambulance services, and emergency medical services *in the township*." *Id.* (emphasis added). A board of township trustees administers and appropriates moneys from the fire and rescue services, ambulance services, and emergency medical services fund. *Id.* A board of township trustees may establish reasonable charges for the use of fire and rescue services, ambulance services, or emergency medical services provided directly by the township or pursuant to a contract. 2008 Op. Att'y Gen. No. 2008-001, at 2-3; 1990 Op. Att'y Gen. No. 90-065, at 2-274; 1984 Op. Att'y Gen. No. 84-048, at 2-152 ("under R.C. 505.84 township trustees may establish reasonable charges for the use of ambulance or emergency medical services which are provided through a contract pursuant to R.C. 505.44" (modified on other grounds by 2003 Op. Att'y Gen. No. 2003-017, at 2-131 n.6)). Thus, insofar as the medical services that an EMT provides in a nonemergency situation pursuant to R.C. 4765.361 are the emergency medical services defined in R.C. 4765.01(G), a board of township trustees may charge and collect reasonable charges for the use of medical services performed in nonemergency situations.

There is no requirement in R.C. 505.84 that the charges be collected directly from the person who receives the services. *See* 2014 Op. Att'y Gen. No. 2014-006, at 2-42 to 2-43 ("reasonable charges incurred by a township in the provision of fire and rescue services, ambulance services, or emergency medical services may be billed to township residents and nonresidents or to their respective insurance companies" (footnote omitted)); *cf.* 1988 Op. Att'y Gen. No. 88-042, at 2-203 ("R.C. 505.84 … does not specify which persons may be … charged" for the use of ambulance and emergency medical services, but a public entity may not be charged for those services because the statute does not expressly authorize charging a public entity

(overruled, in part, and expanded, in part, on other grounds by 2005 Op. Att'y Gen. No. 2005-036, at 2-373 n.4)). It reasonably follows that a private hospital system may pay the charges on behalf of the recipient. A private hospital system may not be required to pay the charges incurred when an EMT provides medical services in a nonemergency situation; however, an agreement between a private hospital system and a township may include a provision that the hospital system will pay those charges. Therefore, a board of township trustees may establish reasonable charges for the use of medical services that are provided in nonemergency situations by an EMT employed by the township and may collect those charges from a private hospital system that has agreed to pay those charges. Insofar as we have concluded that R.C. 505.84 permits a private hospital system to pay on behalf of the recipient the charges for the use of medical services provided by an EMT employed by a township in a nonemergency situation, it is unnecessary to consider this question in the context of Violet Township's home rule powers.

Authority of the Board of Township Trustees to Contract with a Private Hospital System for the Delivery of Medical Services by an Emergency Medical Technician in Nonemergency Situations

We now determine whether the Violet Township Board of Trustees may contract with a private hospital system to provide medical services by EMTs employed by the township fire department in nonemergency situations for compensation. If the township is permitted to contract with a private hospital system, you ask whether an EMT who is employed by the township fire department may provide medical services in nonemergency situations to residents and nonresidents of the township during the EMT's regular work hours.

As discussed above, R.C. 9.60 and R.C. 505.44 authorize a township to contract with another entity to provide emergency medical services or the services of an emergency medical services organization. There is no authority in R.C. 9.60 for a township to contract with a private hospital system. Therefore, we focus on R.C. 505.44, which provides, in pertinent part:

> In order … to obtain the services of emergency medical service organizations … a township may enter into a contract *with* one or more state agencies, townships, municipal corporations, counties, *nonprofit corporations*, joint emergency medical services districts, fire and ambulance districts, or private ambulance owners, regardless of whether such state agencies, townships, municipal corporations, counties, nonprofit corporations, joint emergency medical services districts, fire and ambulance districts, or private ambulance owners are located within or outside the state, *upon such terms as are agreed to by them*, *to furnish or receive services* from ambulance or emergency medical service organizations … or may enter into a contract for the interchange of services from ambulance or emergency medical service organizations … *within the several territories of the contracting parties*, if the contract is first authorized by the respective boards of township trustees, the other legislative bodies, or the officer or body authorized to contract on behalf of the state agency. (Emphasis added.)

Attorneys General have concluded that R.C. 505.44 authorizes a township to contract to obtain or to furnish emergency medical services. 1986 Op. Att'y Gen. No. 86-044, at 2-237; 1977 Op. Att'y Gen. No. 77-087, at 2-294 (explaining the meaning of R.C. 505.443, the predecessor of R.C. 505.44). The parties may agree to compensation for the services provided pursuant to the contract. R.C. 505.44. Thus, pursuant to R.C. 505.44, a township may contract with "state agencies, townships, municipal corporations counties, nonprofit corporations, joint emergency medical services districts, fire and ambulance districts, or private ambulance owners" to furnish services from an emergency medical services organization within the territory of the township for compensation.

Applying R.C. 505.44 to your situation, the Violet Township Board of Trustees may contract with a private hospital system to furnish medical services in a nonemergency situation from the Violet Township Fire Department, which is an emergency medical services organization, to patients of the hospital for compensation, so long as the private hospital system is a nonprofit corporation and the services are provided within the territory of the township. It is our understanding that the private hospital system with which Violet Township would like to contract is a nonprofit corporation. Insofar as the Violet Township Board of Trustees may contract with a private hospital system, which is a nonprofit corporation, to provide medical services in nonemergency situations to patients of the hospital, EMTs employed by the township may provide those services during their regular work hours to residents and nonresidents of the township within the territory of the township.[20] Because the Violet Township Board of Trustees

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[20] You have explained that the medical services would be provided to patients of the hospital in the homes of the patients and not in the hospital. Because R.C. 505.44 authorizes a township to contract to furnish, within the territory of the township, the services of an emergency medical services organization, the services provided pursuant to that contract may not be provided in homes that are not located within the boundaries of the township. Services may be provided to nonresidents of the township in a location that is within the boundaries of the township. *See* 1990 Op. Att'y Gen. No. 90-065, at 2-273 ("I assume that the ambulance services in question are provided by the township within its territory, and that they are made available to anyone who needs ambulance services while located within the township, regardless of whether such person is a resident of the township").

The compensation the hospital system and township agree that the hospital system will pay pursuant to the contract may include a higher charge for services that are provided to nonresidents of the township. *See* R.C. 505.44 ("[t]he contract may provide for compensation upon such terms as the parties may agree"); R.C. 505.84 ("[a] board of township trustees may establish reasonable charges for the use of fire and rescue services, ambulance services, or emergency medical services. The board may establish different charges for township residents and nonresidents"); 1990 Op. Att'y Gen. No.

is authorized by R.C. 505.44 to contract with a private hospital system that is a nonprofit corporation to furnish medical services in a nonemergency situation, it is unnecessary for us to discuss this question in the context of Violet Township's home rule powers.[21]

Even though we have concluded that EMTs employed by Violet Township may provide by contract medical services in nonemergency situations to patients of a private hospital system that is a nonprofit corporation, we recommend the board of township trustees and the Violet Township Fire Department consider carefully the practical consequences of such a contract. The primary duty of an emergency medical services organization is to provide emergency medical services, which includes responding to 9-1-1 calls for medical services in an emergency. A fire department shall ensure that sufficient EMTs are available to adequately provide emergency response, as well as nonemergency response, in accordance with statutory and administrative requirements.

Conclusions

Based on the foregoing, it is my opinion, and you are hereby advised that:

1. An emergency medical technician-basic, an emergency medical technician-intermediate, and an emergency medical technician-paramedic employed by Violet Township may provide medical services in nonemergency situations pursuant to R.C. 4765.361, so long as the medical services are performed under the direction of the emergency medical technician's medical director or cooperating physician advisory board, are within the scope of practice of the emergency medical technician, and do not conflict with the emergency medical services described in R.C. 4765.37, R.C. 4765.38, R.C. 4765.39, and the rules adopted by the State Board of Emergency Medical, Fire, and Transportation Services.

90-065, at 2-275 ("[t]he fact that R.C. 505.84 permits charges for residents to be lower than those for nonresidents and permits charges for residents to be waived appears to reflect an understanding that residents may be supporting the availability of ambulance services through the payment of taxes").

[21] Providing medical services outside the territory of the township is not a matter of local self-government. *See Am. Fin. Servs. Ass'n v. Cleveland*, 112 Ohio St. 3d 170, 2006-Ohio-6043, 858 N.E.2d 776, at ¶ 30; *Cleveland Taxpayers for Ohio Constitution v. Cleveland*, 8th Dist. No. 94327, 2010-Ohio-4685, 2010 WL 3816393, at ¶ 21. Consequently, Violet Township's home rule powers may not be exercised to authorize EMTs employed by the township to provide medical services outside the territory of the township.

2. An emergency medical technician-basic, an emergency medical technician-intermediate, and an emergency medical technician-paramedic employed by a township is immune from civil liability for injury, death, or loss to person or property resulting from the provision of medical services in a nonemergency situation unless the services are provided in a manner that constitutes wanton or willful misconduct, the services are manifestly outside the scope of the emergency medical technician's employment, or the services are performed with malicious purpose, in bad faith, or in a wanton or reckless manner.

3. An emergency medical technician-basic, an emergency medical technician-intermediate, and an emergency medical technician-paramedic employed by a township may not provide medical services on a routine, day-to-day basis outside the boundaries of the township when revenue from a township tax levy pays the emergency medical technician's compensation, unless the township has entered into a contract with another political subdivision pursuant to R.C. 9.60 or R.C. 505.44, or the township provides the medical services to the territory of another township or municipal corporation as a member of a joint fire district pursuant to R.C. 505.371, a fire and ambulance district pursuant to R.C. 505.375, or a joint ambulance district pursuant to R.C. 505.71.

4. A board of township trustees may establish reasonable charges for the use of medical services that are provided by an emergency medical technician-basic, an emergency medical technician-intermediate, and an emergency medical technician-paramedic employed by the township in nonemergency situations and may collect those charges from a private hospital system that agrees to pay those charges on behalf of the recipient of the medical services.

5. A board of township trustees may contract with a private hospital system to provide medical services in nonemergency situations by an emergency medical technician-basic, an emergency medical technician-intermediate, and an emergency medical technician-paramedic employed by the township to patients of the hospital who are residents and nonresidents of the township, so long as the private hospital system is a nonprofit corporation and the medical services are performed within the territory of the township.

6. A contract between the Violet Township Board of Trustees and a private hospital system for the provision of medical services in nonemergency situations may provide that the private hospital system will pay the township a sum of money for each visit performed by an emergency medical technician-basic, an emergency medical technician-intermediate,

and an emergency medical technician-paramedic pursuant to the contract and that emergency medical technicians will provide medical services in nonemergency situations during the emergency medical technicians' regular work hours.

Very respectfully yours,

MICHAEL DEWINE
Ohio Attorney General

Expanding the Roles of Emergency Medical Services Providers: A Legal Analysis

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This report was made possible through funding from the Assistant Secretary for Preparedness and Response (ASPR). The report was researched and prepared for the Association of State and Territorial Health Officials by faculty at Arizona State University's Sandra Day O'Connor College of Law.

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ACA	Patient Protection and Affordable Care Act	EMTALA	Emergency Medical Treatment and Active Labor Act
ACO	Accountable Care Organization	HIPAA	Health Insurance Portability and Accountability Act
ASPR	Assistant Secretary for Preparedness and Response, HHS	HWPP	Health Workforce Pilot Project
ASTHO	Association of State and Territorial Health Officials	LPN	Licensed Practical Nurse
CDC	Centers for Disease Control and Prevention	MIH	Mobile Integrated Healthcare
CMS	Centers for Medicare and Medicaid Services	NACCHO	National Association of County and City Health Officials
CP	Community Paramedicine	NAEMT	National Association of Emergency Medical Technicians
HHS	Department of Health and Human Services	NHTSA	National Highway Traffic Safety Administration
ED	Emergency Department	NP	Nurse Practitioner
EHBs	Essential Health Benefits	OSHPD	Office of Statewide Health Planning and Development
EKG	Electrocardiogram	PA	Physician Assistant
EMS	Emergency Medical Services	RN	Registered Nurse
EMSA	Emergency Medical Services Authority	SDMAC	State Disaster Medical Advisory Committee
EMT	Emergency Medical Technician	TOPS	Top Options, Practices, or Solutions

Acknowledgements

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Disclaimer

Funding for this report is provided by ASTHO through ASPR. Information provided herein does not constitute legal advice. Please consult your legal counsel for specific legal guidance.

Executive Summary/Introduction

With support and guidance from the Office of the Assistant Secretary for Preparedness and Response (ASPR), the Association of State and Territorial Health Officials (ASTHO) seeks to identify feasible approaches to increasing the opportunities to engage emergency medical services (EMS) providers for day-to-day activities in communities across the United States. A primary component of this project is an exploration of state legal and policy issues as described by ASTHO as "Activity 1.3" of the larger proposal, summarized below:

Activity 1.3: ASTHO, in collaboration with the National Association of County and City Health Officials (NACCHO) and other partner organizations such the National Association of State EMS Officials (NASEMSO) (an ASTHO affiliate), will conduct a review and analysis of the existing statutory and regulatory provisions that either facilitate, or impose barriers to, expanded roles of EMS. These include community paramedicine (CP) and mobile health services in daily operations and during disasters/public health emergencies. This review will also identify and catalogue promising strategies, tactics, practices and supporting resources to further integrate public health and EMS in building community resilience. This includes assessments of the roles of different types of consultative entities found in various state and local communities, such as State Disaster Medical Advisory Committees (SDMACs).

This project's primary objective is to conduct innovative and relevant legal and policy research to ascertain core issues that may impede activities of health professionals in routine community paramedicine (CP)[1] or mobile integrated healthcare (MIH) activities. In addition to identifying issues, this report examines potential law and policy best practices, options, or solutions, based in part on research of specific jurisdictions selected in collaboration with ASTHO and its advisory group which includes representatives from Arizona, California, Delaware, Florida, Georgia, Idaho, Illinois, Massachusetts, Mississippi, Montana, North Dakota, Oregon, and Utah.

Project Limits. Although the scope of this project is extensive, there are several limits:

1. Although there are many issues related to the roles of EMS professionals during declared emergencies, this project is focused on routine, day-to-day activities consistent with discussions with ASTHO and ASPR.
2. For the purposes of this report, licensing, certification, or scope of practice laws or policies related to EMS professionals are considered "fixed," and thus not subject to state-based amendments or alterations.
3. Primary legal themes entail potential issues and corresponding options, practices, or solutions regarding the extent of activities that EMS professionals, supervisors, and their entities conduct related to:
    a. Triggers for deploying providers (e.g., via request through 9-1-1 calls or other mechanisms).
    b. Assessing patients on site, in transport, or after arrival at the healthcare facility.
    c. Altering patients' treatment destinations (other than hospital emergency departments [EDs]), when applicable.

Within these limitations, multiple legal and policy issues and approaches are ripe for exploration. Identifying and addressing these issues involve examining interrelated constitutional provisions, statutes, regulations, judicial cases, and policies within and across states. The project goal is to unravel and simplify these key legal issues, suggesting options, best practices, or solutions for practitioners and law and policymakers to effectuate continued expansion of the use of EMS providers nationally. Current and potential law and policy strategies are identified throughout the report in text boxes titled "Top Options, Practices, or Solutions" (TOPS), which are reproduced in **Table 1**, below, for ease of reference.

Project Organization. The report is divided into four major parts. **Part I** provides brief foundational information on core elements of existing projects and emerging approaches that may be adapted to expand EMS usage in new jurisdictions. **Part II** evaluates underlying legal "triggers" that authorize deployment of EMS personnel, and identifies new protocols, modifications, or waivers that may be necessary to authorize CP or similar initiatives in some jurisdictions. It also addresses coordinating limited resources, including contractual elements that support efficiency and avoid conflict, as well as initial liability concerns. **Part III** focuses on potential legal challenges and opportunities concerning expanding patient assessment. This section analyzes concerns related to scope of practice, standard of care, venue restrictions, and medical supervision requirements, as well as potential liability of EMS practitioners and organizations. It presents a series of options to enable EMS professionals to expand their roles while adhering to existing scope of practice limitations and health information privacy laws. **Part IV** explores legal and policy issues that may hinder or support the alteration of patient destinations through these initiatives, other than to hospital EDs. Key themes include the role of patient choice, potential for patient "dumping" or abandonment, reimbursement for services, impact of the Patient Protection and Affordable Care Act (ACA), and continued concerns over liability of practitioners, medical directors, and service providers.

Report Format: The format of this report, including citations and references, is consistent with the *Bluebook: A Uniform System of Citation*, the standard approach for legal reports.

Table 1. "Top Options, Practices, or Solutions" (TOPS) in Law or Policy Concerning Expanded EMS

"Top Options, Practices, or Solutions" (TOPS)
Ready, Set, Go*:* Legal Issues Underlying the Triggers for Expanded EMS Activities
TOPS # 1. Because existing trigger protocols in some states only address 9-1-1 EMS situations, state or local development of enhanced, flexible protocols under existing legal authority can provide oversight and address procedures such as clinic or health department referrals and home visits.
TOPS # 2. To support efficient use of CP, MIH, or similar programs, public and private sector entities must equitably share costs for essential resources and benefits of core services through contractual terms that seek advance agreements on issues of allocation.
TOPS # 3. In localities that are limited in their ability to contract with ambulance or other providers because of strict state or local bidding requirements, exceptions for localities to enter into new or expanded contracts for these programs may be considered.
TOPS # 4. To avoid potential liability for failures to properly operate or follow known triggers for EMS personnel, state and local government must avoid creating a special duty to provide care for specific individuals. Programs seeking to reduce their potential liability may frame implementation in broad terms related to communal health benefits rather than specific health services for identified persons.
On Closer Inspection*:* The Changing Nature of Patient Assessment and Corresponding Legal Challenges
TOPS # 5. Legal authority for EMS professionals to fully engage in activities like CP may be constrained by existing scope of practice limitations. Provisions authorizing ranges of activities, rather than specific and enumerated tasks, may facilitate expanding the traditional EMS role without altering legal scopes of practices.
TOPS # 6. Adherence to appropriate decision making tools (e.g., protocols and standing orders), medical supervision, and consultation requirements mitigates the risk of overstepping clinical decision making authority. Viewing follow-up care and similar actions as a continuation of, or prelude to, care by other medical professionals reflects key legal distinctions between medical and field diagnoses.
TOPS # 7. Nonemergency care may exceed lawful scopes of practice for EMS professionals. However, broadly defined scope of practice provisions may readily allow such care. Even narrower constructions may permit such care consistent with additional statutory authorizations or favorable interpretations of laws defining "emergency condition" or similar terms.
TOPS # 8. Medical professional oversight and supervision are required for EMS activities, but may be limited by physician availability. Expanded use of appropriate decision support tools and centralized on-line supervision models can increase the supervision potential of existing, available personnel, including non-physicians.
TOPS # 9. In the face of potential escalating liability claims, protections from ordinary negligence claims available to EMS personnel responding to an emergency may apply to other activities in select contexts. However, proper training, medical consultation, and observance of protocols and standing orders are essential to ensure that EMS practitioners with expanded roles comply with established standards of care.
TOPS # 10. To deter potential health information privacy violations or infringements, CP, MIH, or similar programs may require training for key personnel on privacy protections and develop of formal, HIPAA-compliant written policies addressing permissible uses and disclosures of identifiable health data.
Down the Road*:* Altering Patient Destinations
TOPS # 11. CP, MIH, or similar programs that do not explicitly authorize alternative destinations for patients may rely on broad and flexible statutes and regulations with protocols and supporting flowcharts that allow

sufficient discretion to alter destinations. Waivers may also permit pilot programs to transport patients to alternative destinations.
TOPS # 12. EMS licensing requirements based on necessity can limit opportunities to alter destination for patients in CP or similar programs. State and local officials with discretionary authority to approve ambulance licensure may interpret these regulations to include such programs, particularly those including nonemergency transport.
TOPS # 13. To address budget crisis limiting the expanded use of EMS providers, states may consider authorizing reimbursement for patient transport and EMS services through Medicaid programs for cases involving transportation to EDs or acute care centers.
TOPS # 14. To expand funding of CP, MIH, and similar projects through private health insurance, states may amend their benchmark plans to cover services including home health services, preventative care, and emergency services.
TOPS # 15. To avoid potential Emergency Medical Treatment and Labor Act (EMTALA) infractions, protocols determining patient destinations should clearly designate hospital EDs as the primary destination for any patient with a known or suspected emergency condition. Procedures should also require a patient's written informed consent, where possible, if the patient refuses emergency transport.
TOPS # 16. To avoid liability for patient abandonment, CP, MIH, and similar programs should ensure adequate patient monitoring and communication with appropriate healthcare facilities during medical care and transfer. These programs may also establish written policies regarding patient refusal and accompanying patient rights, as well as patient consent procedures for enrollment and mutually agreed upon outcomes.
TOPS # 17. False imprisonment and related claims can arise if patients are forcibly held or transported to locations without the patients' valid consent. Programs that use EMS providers in expanded roles should abide by patient choice regarding destination whenever possible. State emergency hold procedures for appropriate mental health patients should be relied on where applicable.
TOPS # 18. Liability protections stemming from vehicular transport of patients outside of an emergency setting are limited. States seeking to increase the use of EMS providers in expanded roles may consider extending immunity laws to nonemergency care consistent with a careful balancing of patient and community safety.
TOPS # 19. Medical directors should adequately supervise EMS practitioners operating in CP, MIH, or similar programs and set protocols that properly direct patients to appropriate medical facilities. Use of approved, vetted flowcharts or other tools may help protect against claims of negligence in the transportation of emergency patients, while still allowing flexibility to alter destinations as needed.

I. Setting the Stage: Brief Primer on Expanded EMS Practices

The National Highway Traffic Safety Administration (NHTSA) predicts that "EMS of the future will be community-based health management that is fully integrated with the overall health care system."[2] Expanded EMS roles and programs are increasingly bringing medical care to people and places in need across the United States.[3]

These programs offer tangible benefits for patients and communities to bridge gaps between emergency services and primary care.[4] For example, community paramedics may (1) provide in-home preventive services to patients who might otherwise go to the ED for primary care treatment, obviating unnecessary emergency visits, or administer influenza or other vaccines; (2) conduct home health visits for households with children younger than age 5 to assess potential risks of injuries; or (3) assess special public health needs. In turn, emergency physicians, nurses, and other medical personnel can focus on patients with urgent needs, leading to decreases in patient and provider costs for healthcare services across communities. [5]

CP services may especially benefit rural populations. One quarter of Americans live in rural areas,[6] but only 10 percent of physicians practice in these locales.[7] Other healthcare practitioners may provide essential care and improve healthcare access in these areas (e.g., NPs operating with full practice authority, as currently permitted in 20 jurisdictions),[8] but significant gaps in access remain. Accordingly, nearly 40 percent of existing CP programs serve rural areas.[9] Patients in these settings may be aging or elderly, impoverished, and in poor health due to a lack of preventive care and follow-up treatment.[10] Through CP, they may receive treatment for essential health services for which they otherwise may lack access.

State and Local Programs

State and local governments are in various stages of considering and implementing programs using EMS providers in expanded roles. Taos County, New Mexico, implemented one of the first CP programs in the United States in 1995. Local paramedics received enhanced training to provide the town of Red River's rural population with primary care and treatment. The program ended five years later when additional physicians established practices in the community, but it inspired the creation of other programs nationally.[11] In 1997, the University of Pittsburgh Medical Center established another early CP program known as Emed Health. Emed Health later became part of the larger Center for Emergency Medicine of Western Pennsylvania.[12]

States have approached program implementation in various ways. California authorized paramedics to perform specific activities outside their usual roles via regulation.[13] EMS personnel are statutorily required to transport patients to a hospital with at least a basic ED.[14] However, the state has provisionally accepted 12 CP pilot projects, which are awaiting final approval.[15] These pilot programs, if approved, will be authorized through a legislatively-enacted program called the Health Workforce Pilot Project (HWPP). HWPP calls for innovative projects to improve the effectiveness of healthcare delivery in a wide range of fields and permits limited waivers of restrictive state laws.[16]

Nebraska implemented a CP program legislatively with support from its state EMS Office program and Office of Rural Health, which sought statewide CP standards.[17] Minnesota initially offered a training program to interested paramedics, which later developed into a full CP program due in part to legislation establishing CP certification for EMTs in 2011.[18] Minnesota also authorized medical assistance reimbursement to cover CP services to high-risk individuals in 2012.[19] Colorado's program began through grassroots efforts.[20] Maine amended its statutes in 2012 to allow the state EMS Board to establish 12 pilot CP programs, which may last up to three years.[21] North Dakota's state legislature appropriated $276,000 in 2013 to research the potential for CP programs within the state.[22] Florida and Kentucky are developing new programs in 2014.[23] As noted by the Flex Monitoring Team—a collaborative effort between the Universities of Minnesota, North Carolina at Chapel Hill, and Southern Maine—in its February 2014 report, determining which types of state-led programs are most effective is difficult given insufficient research and studies on CP nationally.[24]

In addition to state-based programs, local governments in San Francisco and Wake County, North Carolina, have run their own CP programs.[25] In Texas, Fort Worth's MedStar program directs advanced practice paramedics to patients who frequently call 9-1-1 for primary care. The program is credited with saving hospitals and state governments millions of dollars through more efficient use of local ambulances.[26] The CP program in rural Eagle County, Colorado,[27] links current EMS personnel to existing public health services. Under physicians' direction, paramedics obtain extra training to perform services like blood draws and wound care.[28]

The use and development of CP, MIH, and similar programs are increasing. Based on its survey of EMS personnel in October 2013, the National Association of Emergency Medical Technicians (NAEMT) found 232 unique CP programs and MIH programs in existence nationally, which represented 6 percent of the respondents.[29] Another 15 percent of the respondents indicated that their EMS systems were developing or considering similar programs.[30]

Federal Support for Public/Private Collaborations

CP and MIH programs involve significant collaborations among federal, state, and local governments and private sector entities. Delivery models may include partnerships between municipalities, public hospitals, fire departments, EMS systems, home health organizations (also known as patient navigation organizations), nonprofits, and for-profit entities.[31] Federal agencies including ASPR, Centers for Medicare and Medicaid (CMS), and the Office of Rural Health Policy may help fund state and local programs demonstrated to be effective in terms of cost and quality.[32]

The Patient Protection and Affordable Care Act (ACA) offers potential opportunities to support an expanded role for EMS as an integral part of the healthcare system.[33] First, ACA is projected to significantly increase the number of insured Americans through expanded employer coverage, insurance subsidies, and expansion of Medicaid programs in 27 states (as of March 26, 2014).[34] HHS' list of 10 Essential Health Benefits (EHBs), which most health insurance plans must cover, includes ambulatory and emergency services, chronic disease management, and possibly preventive and wellness care, each of which may be provided via CP or similar programs. ACA also promotes accountable care organizations

(ACOs), defined generally as a "group of healthcare providers who give coordinated care [and] chronic disease management…tied to achieving healthcare quality goals and outcomes that result in cost savings."[35] The flat rate, quality-driven reimbursement model for ACOs may further promote integration of CP or similar programs within hospitals and other providers given its cost-efficient medical care.[36] Finally, ACA funds community health centers and development of innovative primary care models, which may afford new resources for these programs.

Future of Community Paramedicine and Mobile Integrated Healthcare

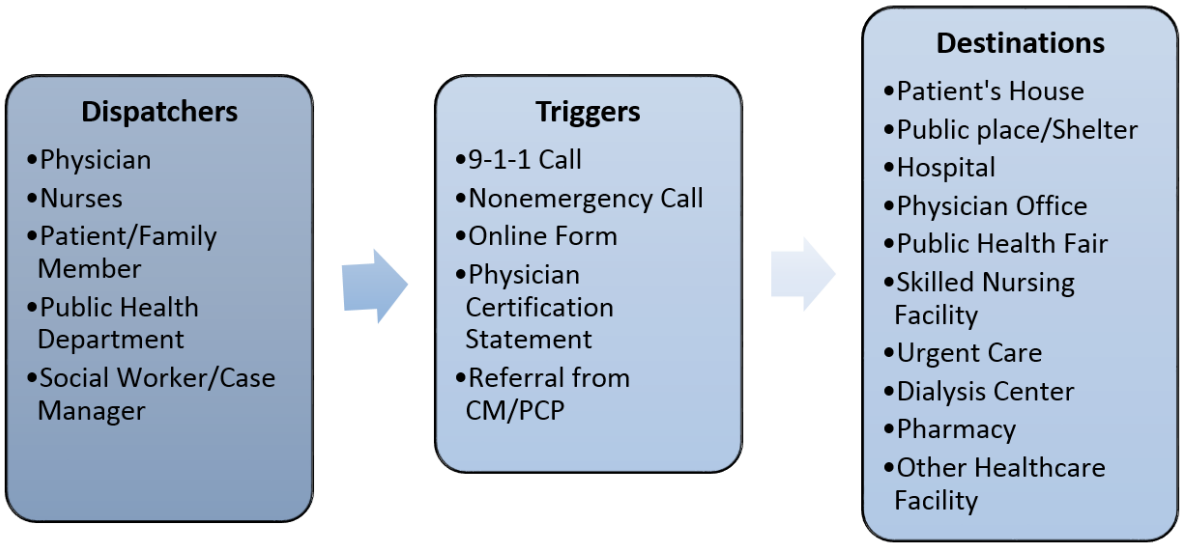
CP and MIH have the potential to revolutionize how patients receive healthcare services, especially among rural, elderly, and economically disadvantaged communities. Although they vary, these programs are on the rise in conjunction with a national shift to MIH.[37] At a 2012 conference focused on CP, attendees suggested several goals related to its growth, including: (a) expanding health practitioners' roles beyond their basic EMT or paramedic qualifications;[38] (b) integrating CP with other health service providers; (c) designing CP services to fill major gaps in healthcare; (d) sharing information for effective, coordinated patient care; and (e) utilizing enhanced technology.[39]

The MIH's potential for expanded access to essential health services and increased cost savings suggests that it may be a viable future for EMS personnel.[40] However, realizing this goal will mean overcoming some significant challenges, including perceived or actual issues of law and policy that may impinge the expansion of EMS into CP, MIH, and similar services. These issues and related options, practices, or solutions are the foci of this Report, beginning with the potential legal and policy concerns related to the triggers for the deployment and expanded use of EMS personnel discussed next in Part II.

II. Ready, Set, Go: Legal Issues Underlying Expanded EMS Activity Triggers

EMS personnel seeking to address specific health needs of patients and communities must be empowered to provide care through existing or emerging legal "triggers," or authorizations. For physicians or nurses working in hospitals or health clinics, a typical trigger for providing care to patients is often either (1) the appearance of a new patient seeking care, or (2) the request by existing patients for additional health services. However, EMS personnel traditionally do not wait for patients at a fixed location. Rather, they are dispatched to patients' locations, often because the patient may be experiencing an emergency condition requiring rapid, stabilizing care and transportation to a hospital ED or other urgent healthcare setting. As illustrated in **Figure 1**, potential trigger options may arise through various dispatches via multiple means of communication designed to authorize deployment of EMS personnel to different destinations.

Figure 1. Triggers for EMS Activities



To the extent that CP, MIH, or similar programs expand the role of paramedics and other EMS personnel to fill healthcare gaps,[41] triggers for their deployment are changing. In Eagle County, Colorado, for example, CP personnel are authorized to respond not only through 9-1-1 dispatches, but also through requests from:

- Primary care providers seeking follow-up after a patient's recent appointment.
- State-based adult and child protection case workers who believe there is a known or potential unmet medical need in the home.
- Medical providers' orders as an alternative to a primary care provider conducting a medical, home-safety, or social assessment.[42]

There are additional triggers for these services. Localities recognize the overwhelming burden on the healthcare system of dispatching EMS resources via 9-1-1 to nonemergency callers. In 2008, 21 people

in Fort Worth, Texas, called 9-1-1 at least twice per week. Together, they accounted for almost $1 million in ambulance charges.[43] The following year, Fort Worth's MIH program identified high-frequency users and developed individual care plans for them, including regularly scheduled home visits by medical personnel. Since creating its "EMS Loyalty" program, Fort Worth is credited with saving more than $3.3 million in healthcare expenditures and reducing 9-1-1 calls from these patients by 86.2 percent.[44] Minnesota's CP program identifies patients in need prior to them arriving at the ED (e.g., via physician or clinic request).[45]

Local public health departments may ask EMS personnel to assist with community-based services (e.g., immunizations, disease investigations, blood draws, and fluoride varnish applications). Physicians' orders[46] can mobilize community paramedics to provide primary care services in a patient's home. While each visit necessitates a discrete order with physician instructions, these visits may be particularly beneficial for chronically ill patients who have difficulty getting to their medical providers' offices, frequently cancel their medical appointments, or require in-home monitoring following their recent hospitalizations.

Many ambulance companies use online request forms[47] or telephone numbers[48] for various providers, including physicians, nursing facilities, other healthcare providers, so patients or family members can request nonemergency transportation (e.g., from the patient's home to the physician's office, behavioral health office, urgent care, skilled nursing facility).[49] Determining who will pay for these services can be problematic, however. Medicare reimburses for nonemergency ambulance transport only when the patient's condition contraindicates another form of transportation because the patients is bed-confined or transport by ambulance is medically necessary.[50] Generally a physician certification statement completed by the patient's physician, stating that transportation is medically necessary, is required.[51] Allowing providers, patients, or family members to request medical assistance rather than mere transportation opens doors for EMS personnel to address multifarious, nonemergency situations. Yet, authorizing and establishing these varied triggers depends on law and policies across states.

Authorizing and Establishing Protocols

The authority to establish and use trigger protocols (i.e., policies and procedures relating to the dispatch of EMS or other CP/MIH personnel)[52] varies between state and local governments. Most existing trigger protocols determine how to prioritize emergency calls, what communication system should be used, what information EMS personnel should receive, and which ambulance supplier should be contacted.[53]

Programs in Texas and Las Vegas, for example, are working to establish trigger protocols designed specifically for CP/MIH programs, based in part on the model noted above in Eagle County, Colorado.[54] Although the types of protocols often remain the same, such as which communication system should be used and what information the EMS provider should receive, protocol content differs.[55] For example, Eagle County's CP manual outlines the specific procedures for clinic referrals, county health department referrals, and home visits. [56]

Developing new trigger protocols involves multiple entities, including state or local health departments or boards of emergency health services, supervising physicians, ambulance suppliers, and hospitals.

State laws often assign broad discretion to local boards,[57] medical directors,[58] and even hospitals and ambulance suppliers[59] to develop detailed protocols. Arizona's statute concerning ambulance services dictates, "In consultation with the medical director of the EMS and trauma system, the EMS council and the medical direction commission, the director of the department of health services shall establish protocols for ambulance services."[60]

Supervising physicians or medical directors may also provide specific guidance in advance of a patient visit.[61] Although physicians' directives typically occur during patient visits, as discussed further in Part III, their orders may also include pre-visit directives for the purposes of CP. Variations in authorities to create new protocols and resulting oversight can impact how well and efficiently CP, MIH, and similar programs are implemented.[62]

Some states offer legal exceptions to protocol enforcement. California statutory law allows flexibility in the scope of practice of EMS professionals in rural areas.[63] "In rural or remote areas ... where patient transport times are particularly long and where local resources are inadequate to support an EMT-P program for EMS responses, the director [of the EMS authority] may approve additions to the scope of practice of EMT-IIs serving the local system."[64] Illinois allows its EMS director or the Illinois Department of Public Health director to waive any state law regarding EMS where compliance is a "hardship,"[65] pursuant to requests by EMTs, hospitals, or others.[66] Such flexibility can facilitate the local practice of EMS providers in ways that may otherwise violate state protocols. As discussed further in Part III, although such changes may facilitate expanded roles for EMS providers by enhancing authority related to scope of practice, they generally will not provide specific, independent authorization for CP, MIH, or similar programs.

Although many existing engagement and dispatch protocols still address only 9-1-1 EMS, establishing new protocols and policies at the state or local level can enable implementation of novel EMS programs in rural, urban, or suburban areas. Conversely, insufficient coordination of limited resources can delay the implementation of new protocols. In 2005, for example, the American Heart Association released new guidelines to improve results of out-of-hospital cardiac arrest events.[67] It took about 450 days on average for EMS agencies to implement these guidelines.[68] In a study done by U.S. and Canadian researchers of 34 EMS agencies, 38 percent of the agencies reported implementation delays because of inadequate supplies and decision making issues.[69] New trigger protocols can improve coordination of limited resources, provision of and payment for supplies, and provider selection.

TOPS # 1. To the extent that existing trigger protocols in some states only address 9-1-1 EMS situations, state or local development of enhanced, flexible protocols under existing legal authority can provide oversight and address procedures such as clinic or health department referrals and home visits.

Coordinating Limited Resources

Provision and Payment. Operationalizing programs that expand the use of EMS requires the acquisition of, and payment for, essential resources through effective coordination among state and local officials,

participating physicians, and the EMS agencies involved. To ensure the availability of these resources, EMS providers should consider which entity is responsible for their provision consistent with contractual or other legal authority.

Many ambulance services are provided directly via municipal fire departments (or other public entities) without the need for specific contracts. However, in some jurisdictions, the provision of supplies for EMS may be addressed via contracts between (1) localities (including fire districts) and their preferred ambulance suppliers and (2) ambulance suppliers and their associated hospitals. [70] In a typical contract for emergency services, the ambulance company must procure and track essential supplies.[71]

Contracts for nonemergency services such as community outreach, public access defibrillation programs, and other health improvement projects also typically assign responsibility of program coordination, including provision of supplies, to ambulance suppliers. Where these suppliers are hospital-owned, like the Jeff STAT ambulance services operated by the Thomas Jefferson University Hospitals in Pennsylvania, New Jersey, and Delaware,[72] the hospital may directly pay for the supplies. This contractual approach may work well for CP or MIH programs because hospitals directly experience cost savings.[73] However, it may also be problematic if patients are served through EMS personnel who are not affiliated with the contracted hospital.

Under another contractual model, localities and private ambulance suppliers share these programs' costs and profits. Still, conflicts may arise. For example, Marengo Memorial Hospital and Iowa County disagreed over who owned a majority share of their county ambulance service.[74] To avoid divisiveness, shared contracts must contain terms to equitably split costs and profits.[75] The locality may also pay for some programs, such as when EMS personnel administer vaccines at a community health fair. For example, the CP program in Wake County, North Carolina, offers both in-home services and community health fairs with direct support from the county.[76]

TOPS # 2. To support efficient use of CP, MIH, or similar programs, public and private sector entities must equitably share costs for essential resources and benefits of core services through contractual terms that seek advance agreements on issues of allocation.

Limitations on Selection Among Competing Providers. Development of trigger protocols also raises issues of how providers are chosen. As with resources, local government decision makers, such as city councils and mayors, can choose the ambulance or other providers. If fire districts or departments do not provide EMS, these contracts may be exclusive, single-source agreements with private providers.[77]

Large, multi-million dollar county contracts with ambulance suppliers may lead to disputes.[78] Clackamas County, Oregon, awarded a $30 million ambulance contract to American Medical Response after having rejected it the previous month.[79] The county's approval came after American Medical Response threatened to sue on grounds that the county rejected the only contract in consideration.[80] Typically local government contractual decisions are upheld so long as they are not made in an arbitrary way. For example, a former Mississippi ambulance supplier in 2003 argued unsuccessfully that the county was

bound to renew the contract so long as the ambulance company provided adequate services.[81]

Localities seeking to develop CP or MIH programs may have to determine whether they are contractually able to use different providers or must adhere to an existing contract. Contract negotiations between localities and providers may also be subject to state or local laws governing bidding processes among government contractors. In California, for example, each ambulance service area can establish an exclusive provider, but must follow a strict bidding system for selection to avoid antitrust issues[82] (except for providers acting in the same "manner and scope").[83] CP programs in such "grandfathered" areas may have to confine their services or engage in bidding processes.

Not all states place tight limitations on these contracts. In *Trans-Care, Inc. v. Board of Commissioners of the County of Vermillion*, in 2005, the Indiana Court of Appeals found that ambulance supplier contracts were not subject to the state's public purchasing statute because they were bids for personal services.[84] The court also held that the losing bidder could not legally contest the outcome of the bidding process, in part because public policy favors certainty in a contract concerning public safety.[85] Under similar legal guidance, localities may be better positioned to expand EMS of a current contracted ambulance service or opt for another provider. Even in jurisdictions that restrict ambulance suppliers, CP, MIH, or other similar programs may not be implicated if they do not offer emergency services or use ambulances.

TOPS # 3. In localities limited in their ability to contract with ambulance or other providers because of strict state or local bidding requirements, exceptions for localities to enter into new or expanded contracts for these programs may be considered.

Liability Concerning EMS Response

No matter how it is triggered, patients generally expect prompt assistance through EMS or CP. System failures related to inconsistent application, execution, or use of existing triggers may lead to patients bringing claims against responsible entities.[86] Patients or their families may argue that public or private entities are legally obligated to respond efficiently and professionally pursuant to triggers designed to mobilize personnel for persons in need.[87] Resulting liability claims may arise.

Whenever state or local governmental entities are directly involved in the administration of a CP, MIH, or a similar program, potential constitutional issues may arise. Patients may argue that failure to properly attend to persons seeking government-run EMS deprives patients of life or liberty interests in violation of constitutional principles of due process. However, the U.S. Supreme Court clarified in *DeShaney v. Winnebago County Department of Social Services* (1989) and subsequent cases that government is not required generally to provide citizens with protective services or aid.[88] Government's mere failure to assist or respond to individuals in need is not itself a constitutional violation.

In contrast, if government actors undertake steps to provide care for specific individuals, an affirmative duty to carry out these services may arise, leading to potential claims if services are performed negligently or the individual is within government's custody (e.g., a minor held via child protective

services).[89] Whether an individual that requests a paramedic via a government-operated 9-1-1 system and relies on a response may be owed some "special duty" to assistance depends on the jurisdiction.[90] If EMS or CP services are determined via statute or regulation to benefit the entire community, courts tend to find they do not owe persons any special duties.[91]

For example, in the 1990 case *Johnson v. District of Columbia,* a woman called 9-1-1 and indicated that she needed an ambulance.[92] The dispatcher told her that an ambulance was coming. The woman suffered a heart attack, but no ambulance was sent. Still, the District of Columbia Court of Appeals determined that DC owed her no "special duty" because there was no (1) "specific undertaking to protect a particular individual," and (2) she was not entitled to rely on the service.[93] In such cases, government is effectively immune from liability based upon a failure to respond.[94] Parts III and IV discuss additional liability themes.

TOPS # 4. To obviate potential liability for failures to properly operate or follow known triggers for EMS personnel, government must avoid creating a "special duty" to provide care for specific individuals. Programs seeking to reduce their potential liability may frame implementation in broad terms related to communal health benefits rather than specific health services for identified persons.

III. On Closer Inspection: The Changing Nature of Patient Assessment and Corresponding Legal Challenges

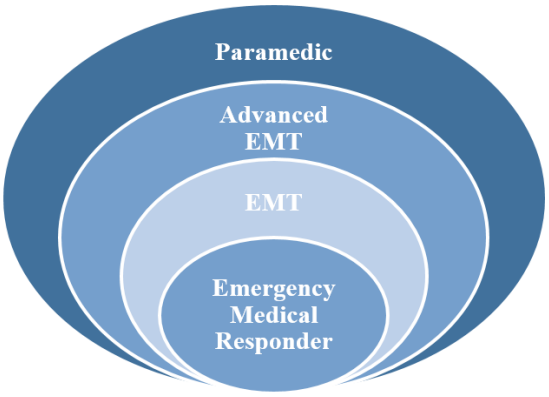
So long as EMS providers are responding to appropriate events via lawfully authorized triggers discussed in Part II, they may engage in a spectrum of routine and emergency patient assessment activities. Specific activities depend on the scope of practice associated with their professional designation and training, among other factors. Although many assessment activities translate readily to CP, expanding the role of existing EMS professionals presents potential legal impediments.

In addition to scope of practice limitations, EMS professionals may be restricted to practicing in certain locations (e.g., the scene of an emergency or in transit to a hospital) that might limit authority to engage in nonemergency care. Requirements that certain classes of healthcare professionals supervise EMS programs may pose practical and legal obstacles to broadening the community role of EMS. Potential civil liability may also increase as the roles of EMS professionals, supervisors, and entities expand through CP and MIH. Protecting patients' health information privacy throughout the delivery of nonemergency services in varied settings implicates additional law and policy concerns. Although these issues have the potential to impede expansion of EMS service, a bevy of legal options, practices, and solutions provide meaningful opportunities to address these concerns.

Scope of Practice for EMS Professionals

Classifications. EMS personnel include a diverse range of professionals with specific training and education requirements, all of whom may play a potential role in CP and MIH. As illustrated in **Figure 2**, each professional classification also features a specific authorized scope of practice. EMS functions may be performed by individuals licensed or certified as emergency medical responders, EMT, advanced EMT, or paramedics, among other designations, each with broadly authorized scopes of practice.[95]

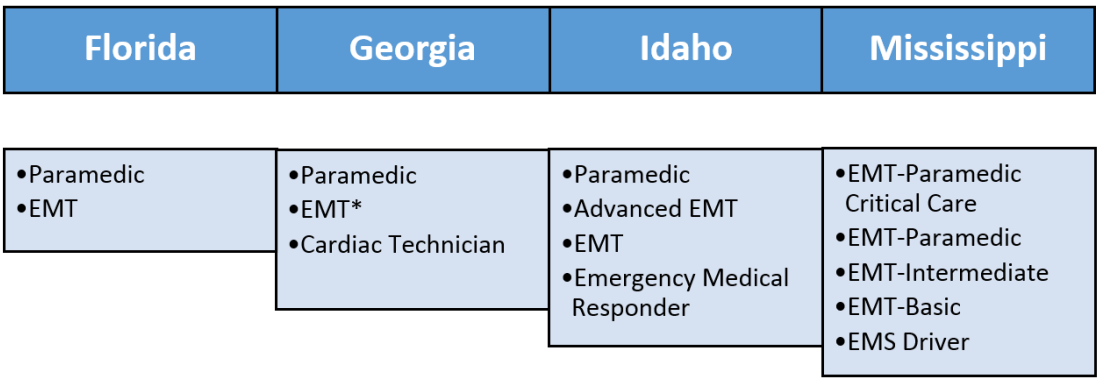
Figure 2. EMS Scopes of Practice



States vary in their approaches to distinguishing scope of practice between these classes of professionals, as per the examples in **Figure 3**. Florida recognizes two types of EMS personnel: (1) EMT

and (2) paramedic.[96] Georgia statutes recognize three classes: (1) EMT; (2) paramedic; and (3) cardiac technician,[97] and state administrative regulations and guidance documents further distinguish EMT, EMT-intermediate, and advanced EMT licensure.[98] Idaho recognizes four classifications: (1) EMT; (2) advanced EMT; (3) emergency medical responder; and (4) paramedic.[99] Mississippi recognizes five classifications.[100] In each state, these classifications are associated with authorized scopes of practice.

Figure 3. Select State EMS Personnel Classification Examples



Other healthcare professionals may also provide services as part of CP or MIH initiatives. These individuals (e.g., RNs, NPs, PAs, physicians, community health workers) also have specific scope of practice authorities and limitations with associated legal issues that may incorporate issues concerning EMS personnel. These professionals may also act in supervisory or delegating capacities with respect to EMS in some circumstances (e.g., when EMS responds to patients under the care of a home care nurse or referred by a NP with an independent practice), raising additional legal considerations underlying scope of practice, delegation authority, and liability.

Authorized Activities. Some basic patient assessment tasks may fall within the scope of practice for most, or all, classifications of EMS professionals. Other authorized patient assessment activities may "ramp up" with higher levels of training. For example, the NHTSA National EMS Scope of Practice Model recommends that all EMS professionals be allowed to perform manual blood pressure monitoring. However, it recommends that only advanced EMTs and paramedics perform blood glucose monitoring, and only paramedics perform electrocardiogram (EKG) interpretation or blood chemistry analysis.[101]

Utah has adopted NHTSA's education standards as the scope of practice for EMS professionals.[102] Idaho has considered NHTSA's model in developing and revising its scope of practice standards.[103] Some states (e.g., Georgia and California) authorize not only specific enumerated functions, but also broader activities ordered by a supervising physician and for which EMS professionals are properly trained to perform. Georgia specifically authorizes some categories of EMS professionals to perform:

- Comprehensive patient assessments.
- Taking and recording of vital signs.
- Basic and advanced airway management.
- Gastric decompression.

- Oxygen management via various devices.
- Management of soft tissue injuries and suspected fractures.
- Blood glucose monitoring.
- EKG initiation, monitoring, and interpretation.
- Blood sample collection.
- Medication administration.
- Prescription drug assistance.[104]

Georgia also authorizes paramedics to "perform any other procedures which they have been both trained and certified to perform" upon the order of a licensed physician.[105] California similarly authorizes paramedics[106] and EMTs[107] to perform additional functions when appropriately trained and authorized by the relevant medical director. These "local optional scopes of practice" may support development of CP, MIH, or similar programs by circumventing limiting aspects of scope of practice statutes, but do not specifically authorize such programs. Moreover, any additions to scopes of practice require approval of the California's Emergency Medical Services Authority (EMSA), among others.[108]

In states that explicitly list authorized EMS patient assessment activities, practice may be limited to these activities. Expanding the role of EMS personnel may also be constrained by explicit scope of practice limitations premised on emergency- and transportation-oriented conceptions of EMS patient assessment. For example, in a state with an exclusive list of authorized activities (e.g., Oregon),[109] a less traditional activity for EMS (e.g., vaccination in public health context) may fall outside the authorized scope of practice. In contrast, in a state that more broadly authorizes properly trained EMS personnel to perform activities upon physician orders (e.g., Delaware, Georgia, and California),[110] the range of legally permissible activities may be more expansive, allowing maximum utilization of EMS personnel at various certification levels. Alternatively, each activity may need to be specifically authorized by law, such as North Dakota's statutory authorization for paramedics to provide flu vaccination to adult patients as part of established medical protocols if the paramedic has completed the applicable training course (*see* citation for specific statutory language).[111]

TOPS # 5. Legal authority for EMS professionals to fully engage in activities like CP may be constrained by existing scope of practice limitations. Provisions authorizing ranges of activities, rather than specific and enumerated tasks, may facilitate an expansion of the traditional EMS role without altering legal scopes of practices.

Standard of Care. Issues concerning scope of practice differ from the legally required standard of care.[112] As noted above, scope of practice—generally derived from statutes and regulations—dictates the boundaries of allowable activities and services among EMS personnel based on their level of licensure, certification, and training. In contrast, standard of care refers to the legal standard used to evaluate whether a health professional has adequately and appropriately performed these duties. The applicable standard of care depends on the circumstances in which care is delivered, as determined by general practice within the profession and locale.

The legal standard of care for health professionals, including EMS personnel, will generally be that of a reasonable professional of the same classification operating in like circumstances. Education and training requirements (commonly at the state level and tied to licensure or certification) play a significant role in defining specific standards of care. For example, California paramedics have a legal duty to conform their actions to the learning, skills, and degree of care generally used by reputable paramedics in the same or a similar location and circumstances.[113] A California court in 1990 upheld a jury verdict against a paramedic who failed to perform an adequate examination because his conduct was "an extreme departure from the standard of care for a paramedic in such a situation."[114] The paramedic performed only a visual examination on a man who had been in a fight and was being detained by police. The man later died of complications from sickle cell crisis that would have been uncovered and corrected if appropriate tests were performed consistent with the expected standard of care for paramedics.[115]

High-level education and training programs, from local programs to potential national curricula and education standards, can improve patient care and help to define legal standards for EMS professionals. Expanded EMS functions may depend on additional, targeted training reflecting specific patient care goals.

Clinical Decision Making. Among the limitations imposed by scope of practice restrictions is the distinction between clinical decision-making authority granted to physicians and some other medical professionals, such as PAs and NPs, compared to EMS personnel. Although these personnel may evaluate a patient's symptoms and presentation, EMS patient assessment does not include providing a medical diagnosis, which focuses on the root causes of a patient's illness or disease.[116] Furthermore, EMS personnel are not authorized generally to prescribe medications, though they may administer them in some jurisdictions when prescribed by a physician.[117] Still, EMS personnel, particularly paramedics, develop and use significant clinical decision-making skills. This includes developing differential diagnoses, field diagnoses, or field impressions based on clinical presentation and assessment to make critical decisions regarding patient care and implement a patient management plan.[118]

EMS personnel will likely increasingly use these clinical decision making skills through CP, MIH, and similar programs, which necessitates clear guidance as to the proper role of EMS personnel to avoid conflict with state scope of practice restrictions. Although distinctions between clinical decision-making by EMS personnel and prohibited medical diagnosis may be subtle, they are legally significant. EMS practitioners with expanded roles, like other health professionals, must determine the immediate causes of a patient's current symptoms, including relevant medical history, and initiate appropriate responses.

Clinical decision-making in traditional roles of EMS personnel rarely conflicts with the legal prohibition against their rendering medical diagnosis because care is typically transferred to physicians or medical teams (e.g., upon arrival at an ED or shortly thereafter). Legal conflicts may increase, however, in the context of expanded EMS roles. These expanded functions may also raise liability concerns. More extensive patient medical history evaluations, additional types of available care, and greater opportunities for patient contact may find these personnel straddling the line between EMS and the

practice of nursing or medicine, particularly when care is provided primarily by EMS personnel, such as during a follow-up visit after hospital discharge. Follow-up care, prescription assistance, and chronic disease management, among other services, may be seen as extensions of primary or specialist care, rather than independent care events, thus providing appropriate context for clinical decision-making as part of this practice.

TOPS #6. Adherence to appropriate decision making tools (e.g., protocols and standing orders), medical supervision, and consultation requirements mitigates the risk of overstepping clinical decision making authority. Viewing follow-up care and similar actions as a continuation of, or prelude to, care by other medical professionals reflects key legal distinctions between medical and field diagnoses.

Location Restrictions. Scopes of practice for EMS personnel may restrict not only the lawful types of activities, but also where such activities may take place. EMS personnel are generally authorized to assess and treat patients at the scene of an emergency, during patient transportation, or, in some jurisdictions, within a healthcare facility.[119] However, as further discussed in Part IV, some states may limit the circumstances in which EMS personnel may be deployed (e.g., responding to a medical emergency or transporting a patient to a hospital ED). These restrictions may also constrain EMS professionals' scopes of practice to only these circumstances, which may hamper anticipated broader settings for expanding EMS services.

For example, California EMTs are authorized to perform various functions only "[d]uring training, while at the scene of an emergency, during transport of the sick or injured, or during inter-facility transfer." [120] While patient assessment activities may be fully authorized in these settings, assessment at a patient's home or other locations for nonemergency purposes (e.g., oral health assessment, immunization, or post-discharge follow-up) may fall outside this authority. Other states (e.g., Idaho) more broadly authorize EMS personnel to provide services in various settings as part of documented and planned personnel and resource deployments.[121] A recent trend, especially in rural locations, also utilizes EMS personnel as team members within hospital EDs.[122]

Other laws may permit some patient assessment functions outside traditional EMS settings. Georgia authorizes EMS personnel to evaluate persons who present themselves with an "emergency condition,"[123] defined as "any medical condition of a recent onset and severity" that would lead a layperson to believe immediate medical care is necessary to protect against serious jeopardy to health, impairment of bodily functions, or serious dysfunction.[124] Similarly, Utah defines an "emergency medical condition" as one with symptoms, including pain, that are severe enough to lead a person to expect it would result in "placing the individual's health in serious jeopardy;" "serious impairment of bodily functions;" or "serious dysfunction of any bodily organ or part" absent immediate medical care.[125] Virginia defines "emergency medical services" as those in response "to an individual's perceived needs for immediate medical care in order to prevent loss of life or aggravation of physiological or psychological illness or injury."[126] Such provisions could facilitate assessment activities for conditions that are serious and sudden (but do not require hospital-based care) irrespective of where the assessment takes place, though other restrictions may apply.

Some states authorize EMS personnel to provide nonemergency care in some circumstances, but this may still be insufficient to enable the full range of activities contemplated in CP, MIH, or similar programs. For example, although Illinois authorizes EMS personnel to provide emergency and nonemergency services, it limits the definition of nonemergency services to care or monitoring "before or during transportation ... to or from healthcare facilities."[127] Providing nonemergency care to patients who are not being transported to or from a healthcare facility may fall outside authorized EMS scope of practice in jurisdictions with similar definitions.

In contrast, other states explicitly allow EMS professionals to perform patient care and assessment functions in nonemergency and non-transportation-related circumstances. Florida permits properly trained paramedics and EMTs, as supervised by a medical director, to perform health promotion and wellness activities and blood pressure screenings in nonemergency situations. Paramedics can also immunize persons in nonemergency settings with county health department agreement.[128] These provisions encourage using EMS professionals in community healthcare.[129] Waivers and statutory flexibility in some other states may also further these expansions of the traditional role of EMS providers by authorizing location- or circumstance-dependent expansions of scope of practice.

TOPS #7. Nonemergency care may exceed lawful scopes of practice for EMS professionals. However, broadly defined scope of practice provisions may readily allow such care. Even narrower constructions may permit such care consistent with additional statutory authorizations or favorable interpretations of laws defining "emergency condition" or similar terms.

Supervision Requirements. Supervision requirements may curtail EMS personnel's independent abilities to conduct patient assessment activities in some jurisdictions. For example, Delaware authorizes paramedics to provide services only (a) under the supervision of a physician; (b) with voice contact monitored by a physician via radio or telephone; (c) as authorized by a physician for advanced life support; or (d) when the life of a patient is in immediate danger and direct voice communication fails or is not possible.[130] In states with similar provisions, this would require paramedics operating in CP, MIH, or similar programs to be supervised directly or through radio or telephone contact with a physician, much as they do for emergency care. In many instances, supervision requirements can be accomplished in large part through use of decision-support tools (e.g., standing orders, protocols).[131] However, alterations to standard procedures or standing orders generally require direct orders from a supervising medical professional, such as an approved base station physician.[132] Although every patient encounter is potentially unique, expanded functions may entail increased direct, real-time guidance.

Some jurisdictions (e.g., Arizona[133] and Oregon[134]) authorize only physicians to supervise EMS personnel. Georgia requires each ambulance service to be supervised by a medical adviser, who must be a physician.[135] Physician availability may place practical limitations on the extent of services that can be offered. Georgia allows various other medical professionals, including nurses, paramedics, and PAs, to communicate with EMS personnel to relay authorization for specific medical services.[136] Arizona lets

physicians providing online medical direction to relay guidance through other individuals, including PAs, nurse practitioners, RNs, paramedics, and EMT-intermediates.[137]

Other states (e.g., Illinois and Montana) authorize a more expansive array of health practitioners to provide supervision for EMS, including PAs[138] or qualified RNs.[139] Designees may also provide advice or orders, but this may be limited to pre-hospital or inter-facility transport circumstances.[140] Treatment activities that incorporate assessment components that diverge from established protocols or guidelines may still require physician authorization in many states. This could be problematic in rural areas where there are an inadequate number of physicians appropriately trained, available, and willing to undertake these supervisory roles.[141] In some jurisdictions, other practitioners, such as NPs, may be able to help address such gaps either directly or as an intermediary, if legally permissible. Availability problems may be accentuated by potential need for multiple supervising practitioners with different specialties (e.g., primary care, specialty care, emergency care) to advise and supervise the full scope of clinical activities.[142] Emergency medicine physicians are authorized under their own scope of practice to provide guidance on a variety of medical issues, but they may not be ideally trained to respond to all the issues that may arise under CP, MIH, or similar programs. Models utilizing medical control hospitals, where feasible and appropriate, may help provide access to a wider variety of medical professionals.

Some states currently require physicians providing on-line medical direction for EMS to be emergency medicine specialists. For example, Arizona requires on-line physicians either to have emergency medicine certification, prior training in an emergency medicine residency program, or be currently practicing in emergency medicine.[143] Such limitations may exclude otherwise qualified individuals from providing on-line medical direction regarding relevant aspects of programs that expand the role of EMS providers.

Availability concerns of supervising practitioners can be mitigated through developing appropriate decision-support tools, including standing orders and treatment or triage protocols. These tools provide established training and guidance for engaging in specific patient assessment and care activities, and can allow EMS personnel to act without on-line medical direction.[144] Treatment protocols may be developed for precise functions (e.g., flu vaccination),[145] as well as broader disease evaluation and response (e.g., diabetes)[146] and specific populations (e.g., children with special healthcare needs).[147] Consistent with appropriate clinical decision making authority, treatment protocols and other decision-support tools allow physicians or other authorized health professionals to provide advance clinical guidance for patient assessment activities by EMS personnel, rather than requiring consultation for every step and component of clinical decision- making.

TOPS #8. Medical professional oversight and supervision are required for EMS activities, but may be limited by physician availability. Expanded use of appropriate decision-support tools and centralized on-line supervision models can increase the supervision potential of existing, available personnel, including non-physicians.

Civil Liability and Available Protections

EMS Personnel. Potential civil liability for EMS personnel engaged in CP or MIH activities may typically be grounded in claims of negligence, particularly malpractice. Negligence suits require a claimant to prove 4 elements: (1) a duty; (2) breach of that duty; (3) causation; and (4) damages. As discussed in Part II, a duty is generally established through the existence of some form of professional-patient relationship. A breach of that duty in the context of expanded EMS service may be shown if the practitioner's conduct did not meet the applicable professional standard of care. Causation and damages are established by proving that the failure to meet the standard of care caused or exacerbated a patient's injury.

Expanding the role of EMS personnel into new or emerging areas of patient assessment may escalate claims for malpractice if their actions fall below the required standard of care. For example, two Florida paramedics were found liable in a 1990 case for the death of a young child from congestive heart failure after they failed to transport her to a medical center following an inadequate examination and history without a physician consultation.[148] Proper training, physician consultation, and adherence to established protocols and other aspects of the standard of care will help insulate EMS personnel from liability in most circumstances. EMS personnel following an established protocol or standing order may be protected from liability in some jurisdictions,[149] provided they follow physician instructions[150] and their acts do not constitute "gross negligence" (involving a higher degree of carelessness than simple negligence) or intentional, "willful misconduct."[151]

EMS personnel may also be statutorily protected from liability in carrying out their duties at the scene of an emergency. For example, Illinois protects EMS personnel acting in the normal course of their duties unless their actions constitute willful and wanton misconduct (e.g., intentional harm or reckless disregard for safety).[152] Idaho protects EMS professionals from liability provided they do not behave recklessly or in a grossly negligent manner.[153] Georgia provides broad civil liability protection to persons licensed to provide ambulance service when rendering emergency care in good faith.[154] California provides similar protections for EMS personnel and several other professionals, such as police officers, who act in good faith and are not grossly negligent.[155] However, some states' statutory protections apply only to individuals who provide emergency services without compensation (e.g., Georgia),[156] which may severely limit their application to CP and MIH services. Administrative and transportation fees charged by government entities to defray a portion of costs for providing ambulance service may not be viewed as compensation,[157] but Medicaid reimbursement to contracted private ambulance service providers may, potentially rendering statutory protections inapplicable.[158]

These types of civil liability protections can also be limited to specific circumstances, such as the scene of an emergency or during patient transport. EMS personnel in Illinois receive protection for emergency and nonemergency services, but nonemergency services include only those before or during patient transport to or from a healthcare facility.[159] California protects EMS personnel providing services at the scene of an emergency, during transport, or for activities to protect patient health and safety when in "imminent peril."[160]

In states that do not specifically immunize pre-hospital care providers, protections may still be available under Good Samaritan laws, which broadly protect persons who provide care at the scene of an emergency. Some states (e.g., Florida)[161] explicitly include medical professionals under their Good Samaritan laws. In other states courts may scrutinize claims that Good Samaritan statutes apply to those with a pre-existing duty to provide aid, such as EMS personnel.[162] Additionally, Good Samaritan statutes typically apply only to care provided at the scene of an emergency or emergency care generally,[163] but not apply to many EMS activities in the context of CP, MIH, or similar programs. For example, a Wisconsin court found in 2006 that Good Samaritan protections applied only to care provided before transfer to a hospital or other location was possible and did not apply to nonemergency care provided hours after an initial assessment and evaluation.[164] Although this case involved laypersons, this legal interpretation of a Good Samaritan statute could also apply to care provided by EMS personnel as part of these programs. Courts may look to the legislative purpose in enacting Good Samaritan protections to determine how broadly to apply such provisions.[165]

TOPS #9. In the face of potentially escalating liability claims, protections from ordinary negligence claims available to EMS personnel responding to an emergency may apply to other activities in select contexts. Proper training, medical consultation, and observance of protocols and standing orders are essential to ensure that EMS practitioners with expanded roles comply with established standards of care.

Supervising Professionals and Entities. In addition to direct liability risks for EMS personnel, supervising professionals, hospitals, and other entities may also face liability for actions or omissions by these personnel under their control or direction. For example, in 1990 a Florida regional medical center was held liable for the death of a 5-year-old child because it failed to properly supervise, train, and instruct paramedics involved in the patient's care.[166] Even when EMS professionals individually are protected from civil liability, their employers may not be. In 1983, a Massachusetts city was precluded from claiming immunity for the actions of EMTs it employed that improperly transported a patient to a private home rather than a hospital.[167] While alternative protections may be available for some governmental entities under principles of "sovereign immunity" that bar lawsuits directly against the state, these protections often do not apply to municipalities or private-sector employers.

Some states extend liability protections to medical professionals who advise EMS personnel. Georgia, for example, immunizes physicians acting as medical advisers to ambulance services unless their conduct constitutes willful and wanton negligence.[168] Montana protects physicians, PAs, and RNs from civil liability who provide on-line medical direction to EMS, but only if (a) they do so without compensation or for limited compensation, and (b) their instructions are consistent with established protocols.[169] Utah similarly protects uncompensated physicians, PAs, and RNs who provide oral or written instructions to EMS professionals.[170]

Protecting Patient Health Information Privacy

Like most other health professionals, EMS personnel must protect the privacy of identifiable patient health information consistent with federal and state health information privacy laws. EMS providers

with expanded roles may obtain and use more sensitive patient information than is common in emergency response activities. For example, a more extensive patient history may be obtained while providing follow-up care after a hospital stay, compared to a focus on immediate medical history in responding to a sudden onset of symptoms requiring transportation to an ED.[171] Similarly, these professionals may utilize more sensitive patient information in performing prescription drug compliance functions, compared to emergency-focused EMS.[172] Some states provide explicit privacy protections for medical records related to EMS care, in addition to other privacy protections in state and federal law. Arizona does not allow the release of any information from medical records "developed and kept by a prehospital component of the statewide trauma system" without written consent by the patient or the patient's representative unless other laws permit or require such disclosures.[173]

Federal and state health information privacy laws apply to a wide variety of healthcare providers, insurers, and others. The HIPAA Privacy Rule[174] generally prohibits individuals and entities from acquiring, using, or disclosing individually identifiable health information without written authorization by the patient or the patient's representative except in limited, specific circumstances. State privacy laws may provide additional protections or apply to broader classifications of professionals and entities.

These privacy laws allow for use and disclosure of health data in limited circumstances without patient authorization, including, among other purposes, to: (1) provide or coordinate treatment or seek reimbursement; (2) perform healthcare operations, including quality assessment and improvement activities, and (3) notify appropriate governmental and contracted private entities based on specific public health purposes (e.g., communicable disease surveillance).[175] Mandatory reporting requirements for communicable diseases or suspected child or elder abuse may obligate EMS practitioners to provide patient information to designated public health and legal authorities, regardless of whether they are operating in a traditional or expanded role.[176] For these and other specifically authorized uses and disclosures, patient authorization, consent, or notification are not legally required under federal law, though state laws may provide additional requirements and discussions with the patient may be preferable in practice.

Increased patient contact and interaction through programs that expand EMS providers' roles will likely increase the amount of protected health information that these personnel acquire while performing their duties. Expanded access and use of existing data for specific purposes (e.g., protecting vulnerable populations during emergencies) raise further privacy concerns.[177] To avoid potential breaches and resulting administrative sanctions or civil liabilities, these personnel should be trained and supervised in their access, use, and disclosure of such data as their roles expand. Among other benchmarks, HHS sees privacy training and appropriate written policies as hallmarks of a well-designed CP program.[178]

TOPS # 10. To deter potential health information privacy violations or infringements, CP, MIH, or similar programs may require training for key personnel on privacy protections and develop of formal, HIPAA-compliant written policies addressing permissible uses and disclosures of identifiable health data.

IV. Down the Road: Altering Patient Destinations

Assuming EMS personnel are lawfully triggered to respond and provide adequate patient assessment on the scene, they must then determine where to transport the patient when necessary. The typical destination for most patients following an interaction with EMTs or paramedics is the nearest hospital ED. However, in the context of CP, MIH, and similar programs, the ED may not be an appropriate or cost-effective facility to treat the patient, especially when all the patient needs is follow-up or other nonemergency medical care from the patient's primary care physician, urgent care clinic, or other source. This section focuses on issues of law and policy related to altering the patient's destination from the usual ED and acute care hospitals to other medical or care facilities.

As discussed in Part III, state statutes and regulations may limit EMS personnel's ability to practice outside of a pre-hospital setting, including requirements that patients be taken to the nearest ED. Absent statutory requirements, many states delegate the decision of patient destination to local trauma systems and designated medical control physicians, which often follow medical control protocols directing patient destination and care. Other legal obstacles arise from reimbursement structures. Possible EMTALA violations and other liability concerns may result in patients being funneled to hospitals rather than more appropriate facilities, hindering these expanded practices. Despite these legal hurdles, there are multiple options for programs to alter patient destinations.

Legal Opportunities to Alter Destinations

Transporting patients to healthcare destinations other than EDs is legally supported in select ways. A few states, like Illinois, explicitly permit patients to be taken to alternate destinations, such as physicians' offices.[179] In some states, flexible legal provisions allow EMS personnel to take patients to the closest and most appropriate medical facility, whether it is an ED or a facility such as a behavioral health unit or urgent care. Additionally, a state's EMS structure may allow medical directors in charge of EMS personnel and ambulance services to establish written protocols directing patient care and destination as needed for the population, locality, and situation.

California's EMSA, noted in Part I above, interprets its state's statutes to require EMS personnel to transport patients to a hospital with at least a basic ED[180] based on requirements to make available "advanced life support" [181] through EMS and delivery to an ED.[182] However, through its HWPP program, California has provisionally selected 13 CP pilot projects, four of which allow for patients' destinations to be altered.[183] Establishment of a HWPP allows for the temporary waiver[184] of health code sections that (a) limit destinations to which paramedics may transport patients, or (b) limit paramedics to providing services in emergency settings.

Arizona's director of health services, in conjunction with local EMS medical directors, can establish protocols allowing EMS personnel to transport patients without life-threatening conditions to the most appropriate healthcare institution based on patient choice and provider.[185] Healthcare institutions are defined broadly to incorporate "every place, institution, building or agency…that provides facilities with medical services, nursing services, health screening services, other health-related services, supervisory

care services, personal care services or directed care services."[186] Consistent with this statutory allowance, the City of Mesa Fire Department has partnered with Mountain Vista Medical Center to create a PA Unit, which places PAs and NPs aboard smaller fire department units.[187] Not only can PAs and NPs prescribe drugs and suture small wounds, they can transport patients to numerous locations other than EDs, such as a behavioral health authority or a child's pediatrician, pursuant to statutory allowance.[188]

Delaware allows EMS personnel to take patients to locations other than EDs by defining "pre-hospital care" to include emergency medical care prior and during transport to hospitals and other facilities.[189] Similarly, Oregon allows EMS personnel and medical directors'[190] discretion to determine where to transport a patient.[191] Regulations setting the standards for area trauma system plans require EMTs and paramedics to follow the flowchart,[192] "Guidelines for Field Triage of Injured Patients,"[193] indicating when a patient must be taken to a level I or II trauma hospital (usually under clear emergency circumstances).[194] Otherwise, state or local medical control protocols, which set forth guidelines suggesting appropriate locations for patients based upon their present condition, are used to assess where patients are transported.[195]

TOPS # 11. CP, MIH, or similar programs that do not explicitly authorize alternative destinations for patients may rely on broad and flexible statutes and regulations allowing sufficient discretion to alter destinations through protocols and supporting flowcharts. Waivers may also permit pilot programs to transport patients to alternative destinations.

Legal Mandates to Transport Patients to EDs

Although programs that expand the role of EMS providers could be instituted in many states based on explicit or interpretative authority, some states' laws may still require patient transport to an approved ED. In addition, licensing standards may dictate how patients are cared for, including where they must be transported.

Regulatory restraints in Massachusetts, for example, may forbid alternate destinations. Massachusetts' definition of "emergency medical services" appears to allow alternate destinations by defining these services to include pre-hospital assessment and treatment during transport to appropriate healthcare facilities.[196] However, the state's Department of Public Health limits "appropriate healthcare facility" to an ED that is located within an acute care hospital or an approved satellite emergency facility.[197] For programs in Massachusetts to alter patient destinations, the department would likely have to amend this regulatory definition to include other healthcare facilities.

Licensing Requirements. Licensing requirements may present other obstacles, requiring patients to be taken to acute care facilities or permitting ambulance licensure only when deemed necessary. For example, a city ordinance in Independence, Missouri, only allows ambulance licenses to be issued when "public convenience and necessity require the proposed ambulance service."[198] In 1997, Lifeguard

Medical Services, a licensed emergency ambulance supplier in Missouri, applied for a license in Independence to provide nonemergency transport in the city.[199] Independence's health director denied the license on the basis that the service would not provide emergency care, and was thus unnecessary.[200] When challenged, a local court found that the city's health director was empowered to determine necessity in the jurisdiction and upheld the decision to deny the license for nonemergency transport.[201]

TOPS # 12. EMS licensing requirements based on necessity can limit opportunities to alter destination for patients in CP or similar programs. State and local officials with discretionary authority to approve ambulance licensure may interpret respective regulations to include such programs, particularly those including nonemergency transport.

Contracts. As discussed in Part II, most EMS response and transport is delivered by local fire departments or public third-service agencies. Some localities, however, require contracts, memoranda of understanding, and prior approval between the municipalities and private EMS providers within their boundaries.[202] These agreements may restrict the types of healthcare facilities where patients may be taken.[203] Contracts between cities, hospitals, and ambulance services may limit patient destinations to previously contracted facilities. For example, Jersey City Medical Center (JCMC) has exclusively held the ambulance contract with Jersey City, New Jersey. Allegations that JCMC diverts patients to its own hospital chain against patient wishes based on internal policies led the city to consider offering contracts to new ambulance services.[204]

Hospitals may also contract with specific ambulance suppliers for nonemergency transport when a patient needs to be taken to a different facility.[205] A patient may prefer a specific provider. Patient choice may be a legally-recognized factor in selecting transportation for medical services, but it is not always determinative.[206] Fresno County, California, has a Hospital Diversion of Ambulance Patients policy that allows the patient to "refuse to be diverted to a facility that is not their primary choice. The ambulance crew will explain to the patient the reason for diversion. If the patient continues to refuse to be diverted, the ambulance crew will consult with the base hospital, have the patient sign a Refusal of Medical Care and Transport…form, [and] transport the patient to the hospital of patients choice (unless the facility is on General Diversion)."[207]

Reimbursement Hinged on Emergency Medical Care

While programs that expand the roles of EMS providers may improve access to healthcare and reduce overall costs, funding models for these programs can be problematic.[208] Many existing projects may not be reimbursed through private health plans or public insurance options like Medicaid or Medicare.[209] Instead they rely on external grants or other funding, leading to budget shortfalls. At the nexus of this funding dilemma are existing EMS reimbursement models that hinge on only paying for limited and essential emergency care. These approaches do not consider care by EMS personnel in settings outside the typical 9-1-1 response and emergency transportation framework as reimbursable.[210]

Public Insurance. Currently, CMS covers ambulance services through Medicare when an emergency exists or other transportation would be detrimental to the patient's health.[211] However, only certain destinations are reimbursed. Medicare covers ambulance transport to the nearest appropriate facility to obtain diagnostic or therapeutic services, as well as return transport under certain circumstances.[212] However, it only allows ambulance transport for emergencies and only to hospitals, critical access hospitals, skilled nursing facilities, the patient's home, and dialysis centers.[213] CMS specifically states that a "physician's office is *not* a covered destination."[214] Other possible destinations, such as behavioral health facilities or urgent care clinics, are not covered.

State Medicaid reimbursements for CP, MIH, or similar services vary, but tend to be limited. In 2012, Minnesota adjusted its Medicaid reimbursement policies to include CP programs that were legislatively authorized the year prior.[215] However, its coverage is limited to a set group of recipients that are known "common users" of EDs, identified as an individual (a) who has received ED services at least three times in a period of four consecutive months in the last year, or (b) whose primary care provider has determined that CP services would likely prevent admission or readmission to a hospital or skilled nursing facility, or allow discharge.[216]

TOPS # 13. To address budget crises that limit expanding the use of EMS providers, states may consider authorizing reimbursement for patient transport and EMS services through Medicaid programs beyond cases involving transportation to EDs or acute care centers.

Private Insurance and ACA. ACA's healthcare reforms may change how CP or similar services are delivered and reimbursed, specifically through provisions governing EHBs and promoting ACOs. Pursuant to ACA, HHS set forth its list of 10 EHBs, establishing categories of healthcare services that must be covered by health plans sold on the individual and small group market (*see* Figure 4).[217]

Figure 4. Ten Essential Health Benefits[218]

CMS issued final rules specifying the EHB Benchmark and setting a minimum standard each plan must meet.[219] The exact benefits of plans differ across states, but essentially cover the same services,[220] including EMS.[221] What may vary significantly is the number of services (e.g., the number of office visits per year) that plans must cover, or who can provide the care (e.g., allowing only RNs from a licensed home health agency to make home visits).

Covered EMS are generally limited to actual emergency care, ED services, and transportation by ambulance to an ED during an emergency and nonemergency transport when medically required. For example, California's EHB benchmark limits "emergency transport/ambulance" to instances where an individual reasonably believes a medical condition "requires ambulance services" or the treating physician determines the patient "must be transported to another facility because [the patient's] condition is not stabilized and services are not available."[222] Although most EHBs require plan coverage of ambulance transport only in emergencies or when medically necessary, covered alternate destinations could include skilled nursing facilities, urgent care clinics, and behavioral health facilities.[223] EHBs may not include actual EMS care and transport, coverage of the patients' medical services upon arrival at other facilities may enhance the development of CP, MIH, and similar programs.

Additionally, EHBs merely set a floor for health insurance plans. States' EHB plans may extend coverage to EMS care. In Oregon, home health services are limited to services provided by RNs, LPNs, specific therapists, and social workers provided by licensed home healthcare agencies. Preventative care is limited to a routine physical once every year for those older than 60 years old or once every few years for those under 60.[224] CP, MIH, or similar programs serving patients covered under plans ruled by the EHBs in Oregon could not be reimbursed for programs utilizing preventative care screenings or home visits. Arizona limits the number of home healthcare service visits per year, but does not require the visits to be provided by a licensed home healthcare agency or specific types of health practitioners. Additionally, it allows coverage of only one physical and preventative care screening per year for adults.[225] In contrast, Colorado allows broader and more flexible reimbursements, eliminating many restrictions that would bar these programs from being reimbursed for preventative home healthcare.[226]

TOPS # 14. To expand funding of CP, MIH, and similar projects through private health insurance, states may amend their benchmark plans to cover services including home health services, preventative care, and emergency services.

Role of ACOs. ACA support for developing ACOs may incentivize hospitals and other clinic partnerships to support an expanded role for EMS. ACOs entail collaboration among doctors, hospitals, and other providers to coordinate care to Medicare patients as a means to lower their overall per patient costs, leading to financial incentives.[227] Abandoning the typical fee-for-service model, CMS pays approved ACOs a flat rate for providing care to a certain group of Medicare beneficiaries, rather than reimburse for each service provided,[228] and will not reimburse for patient readmissions within 30-days for the same medical condition.[229] Because ACOs are not paid by CMS each time a patient enters the ED, they may seek to partner with EMS providers focused on efficient and cost effective healthcare outside of the ED

when medically appropriate. Fort Worth's Medstar partners with a local ACO to provide overnight at-home visits to patients in-home who otherwise would require all-day observation in the hospital.[230]

Liability Related to Transportation and Destination

As discussed in Parts II and III, EMS personnel and supervisors may be subject to many liability claims, but they can also be insulated from liability through various laws.[231] To the extent that these programs allow employees to set new destinations for patients beyond the ED and acute care settings, additional liability avenues may arise for EMS personnel, their medical directors, ambulance suppliers, and the healthcare institutions treating these patients.

The Emergency Medical Treatment and Labor Act (EMTALA). EMTALA[232] is a federal law designed to curb patient-dumping practices concerning under- or uninsured patients with emergency conditions, largely at Medicare-participating hospitals operating EDs.[233]Generally, EMTALA is invoked when a patient with an emergency condition, including active labor, comes to the ED and requests treatment.[234] EMTALA may apply beyond a traditional ED and include urgent care clinics, labor and delivery departments, and psychiatric departments, depending on the number of unscheduled emergency patients seen in the department.[235] In such cases, patients cannot be turned away, but rather must (1) be screened to determine if an emergency condition exists, and (2) if so, stabilized on site or transported to another facility that is willing and able to provide care with patient authorization.[236]

EMTALA's essential purposes may be thwarted through CP, MIH, or similar programs if patients with emergency conditions are improperly transported directly to other healthcare facilities (e.g., an outpatient center) that may refuse patients' admission because these entities are not covered by the act. Although this potential exists, there are safeguards to avoid it.

First, EMTALA's application is not limited solely to patients on participating hospital grounds. It also extends to hospital-owned ambulances. If a hospital ambulance engaged in CP, MIH, or similar activities receives a patient with an emergency condition, EMTALA prohibits the ambulance from dropping off the patient anywhere other than the hospital ED[237] absent patient authorization,[238] though there is an exception when participating in local EMS protocols.[239] In addition, EMTALA may apply to hospital-owned urgent care clinics that use the same Medicare billing number as the qualifying hospital.[240] These clinics are similarly required to screen and stabilize patients if transported to the site. Finally, most EMS personnel are attuned to the need to transport emergency patients to hospital EDs consistent with their existing training and protocols.

TOPS # 15. To avoid potential EMTALA infractions, protocols determining patient destinations should clearly designate hospital EDs as the primary destination for any patient with a known or suspected emergency condition. Procedures should also require a patient's written informed consent (where possible) if the patient refuses emergency transport where possible.

Patient Abandonment. Patient abandonment concerns may arise if healthcare personnel terminate an existing, legally-recognized relationship with a patient without the patient's consent at an unreasonable time or without the patient having a sufficient opportunity to procure alternative care.[241] If the abandonment leads to direct harms to the patient, liability may flow. Although cases of patient abandonment are rare, the threat of liability is genuine. In the 1984 case *McCluskey v. United States*, an EMS practitioner left a patient unattended in a hospital lobby following a patient transfer without notifying the hospital of the patient's presence or condition, and the patient died.[242] The court found that the EMS provider and ambulance supplier were liable for abandoning the patient, leading to the patient's death.[243] In this case, the abandonment claim arose from leaving the individual without properly turning over care to the hospital staff. To obviate claims of patient abandonment when EMS personnel transport patients to hospital ED staff, EMS practitioners follow specific protocols.[244] The crux of these policies is that EMS personnel may not leave a patient until the receiving facility's staff (who are comparably trained, certified, and licensed)[245] are briefed on the patient's condition and assume care for the patient.[246]

Abandonment may also occur if a patient requiring advanced life support is transferred to a facility incapable of providing the necessary medical care.[247] In most 9-1-1 emergencies, hospital staff members know in advance when a patient is en route and the patient's condition. However, through CP, MIH, and similar programs, patients may be taken to different medical facilities (e.g., pediatrician's office) that do not usually interact with EMS personnel and are not subject to EMTALA, increasing the chance of inefficient or unsuccessful patient transfers and potential claims of abandonment. Newly-enacted regulations in Arizona require patients transported by EMS to healthcare facilities other than hospitals to first notify the institution of the intent to transport the patient and receive confirmation that the facility is willing to take the patient.[248]

Other issues of patient abandonment surface when a patient refuses medical treatment or transfer to an appropriate medical facility. In such cases, some EMS agencies require their personnel to contact medical control to determine whether the patient is sufficiently positioned to refuse treatment (e.g., competent adult compared to a minor in an emergency condition).[249] States like Louisiana statutorily endow residents with a right to refuse medical care and transport.[250] Massachusetts extends a right to refuse emergency medical care (though not absolute) based on court decisions and constitutional rights to privacy.[251] To combat issues arising from lack of consent, California pilot CP programs plan to institute a number of protocols and require specific CP consent forms. CP personnel will inform the patient of the program and what it entails. If the patient refuses treatment, CP personnel may immediately transport the patient to the nearest ED. In addition, policies will require patients who lack capacity to consent (e.g., inebriation, mental disability, minors) to be treated according to local EMS rules and regulations.[252]

TOPS # 16. To avoid liability for patient abandonment, CP, MIH, and similar programs should ensure adequate communication with appropriate healthcare facilities and patient monitoring by personnel present during medical care and transfer. These programs may also establish written policies regarding patient refusal and accompanying patient rights, as well as patient consent procedures for enrollment and mutually-agreed-upon outcomes.

False Imprisonment/Inappropriate Medical Facility. Although rare, a patient may legally claim that he or she was falsely imprisoned by EMS personnel if forcibly held or transported to a destination without consent, especially if he or she lacks capacity due to age, homelessness, mental or developmental disabilities, or emotional distress.[253] For example, CP, MIH, and similar programs may involve EMS personnel transporting patients with mental health conditions to behavioral health facilities.[254] Following established protocols and emergency treatment and hold procedures, as applicable, can insulate EMS providers from resulting claims of liability.[255]

Sometimes patient choice can be at odds with the patient's well-being, financial interests, and EMS providers' liability. [256] In one case from 1991, a father sued following his son's death after the son was transported to a level II (rather than level I) trauma center based on the son's wishes, but contrary to EMS protocols given the son's condition.[257] The court agreed with the hospital and EMS service that applicable protocols require following a patient's wishes regarding hospital choice so long as the patient is capable of making a decision. In this case, the patient had the capacity to choose which hospital the ambulance took him.[258] Accordingly, some states and many EMS providers encourage EMTs and paramedics to transport patients to a hospital of the patient's choice, unless inappropriate or unreasonable based on the hospital's location or patient's condition.[259] In Arizona, for example, when the patient's condition does not "pose a threat to life or limb," factors to consider in determining destination include "patient choice, the patient's healthcare provider, specialized healthcare facilities, and local protocols."[260]

TOPS # 17. False imprisonment and related claims can arise if patients are forcibly held or transported to locations without the patients' valid consent. Programs that use EMS providers in expanded roles should abide by patient choice regarding destination whenever possible. State "emergency hold" procedures for appropriate mental health patients should be relied on where applicable.

In Transit. Negligent operation of ambulance or other emergency vehicles presents potential liabilities for EMS personnel and their companies.[261] Many states' laws allow emergency vehicles to obviate common traffic laws, but do not fully insulate them from all liability when no intentional incidents lead to patient injuries.[262] New York, for example, allows emergency vehicles to exceed speed limits and proceed through red lights while responding to emergencies, but does not relieve the duty to "drive with due regard for the safety of all person nor … from the consequences of [one's] reckless disregard for the safety of others."[263] California similarly provides EMS personnel with exemptions to standard traffic laws and immunity protections, but only while responding to emergencies calls and situations.[264] Most jurisdictions apply immunity provisions only to designated emergency response vehicles (generally those with lights and sirens) during emergency response or transport, which would exclude most CP, MIH, or similar programs.

However, liability protections can extend to nonemergency transport in some states. Illinois law states that "any person … licensed or authorized who in good faith provides emergency or nonemergency medical services during a department-approved training course, in the normal course of conducting their duties, or in an emergency shall not be civilly liable as a result of their acts or omissions."[265] The Illinois Appellate Court has upheld this provision to apply to a patient's nonemergency transport to a nursing care facility.[266] This may extend immunity related to patient transport to these programs.

To the extent that programs using EMS providers in nontraditional ways increase transportation of patients to varied destinations, liability related to their transportation in ambulances or other vehicles may increase. A survey of EMS practitioners yielded that existing CP and MIH programs utilize a number of types of vehicles, including ambulances (65%), fire trucks (17%), SUVs (51%), cars (18%), and other response vehicles.[267] Use of nontraditional vehicles for emergency transport may heighten liability risks due to substandard restraint mechanisms for patients as compared to ambulances. Vehicular insurance policies can adequately protect personnel and their companies from personal liability, although the costs of these policies will likely rise.

TOPS # 18. Liability protections stemming from vehicular transport of patients outside of an emergency setting are limited. States seeking to increase the use of EMS providers in expanded roles may consider extending immunity laws to nonemergency care consistent with a careful balancing of patient and community safety.

Medical Directors. Potential liability risks confront not only EMS personnel, but also medical directors, ambulance suppliers, and healthcare entities. Because most states' laws require a medical director to supervise EMTs and paramedics, resulting liability of these personnel may potentially extend to their director through vicarious liability. Vicarious liability states that a supervisor can be held liable for the actions of subordinates based largely on supervisory failures or negligence.

Extending liability for EMS personnel to medical directors depends, in part, on whether such personnel practice under the director's license. A common misconception in the EMS field is that EMTs and paramedics work under the medical director's license, which would make the medical director directly liable for EMS personnel's acts and omissions.[268] Generally, EMS personnel operate under their own state-authorized, limited licenses or certifications (e.g., Illinois).[269] In Texas, however, EMS personal actually practice under the medical director's license.[270]

Although successful lawsuits are few, online physicians and EMS medical directors can be liable to patients for giving inappropriate medical orders, failing to properly supervise, or because EMS personnel act negligently.[271] In *Estate of Stephanie Stephens v. Geoffrey Mount-Varner, MD,* an injured patient's estate alleged that the medical director of EMS personnel who provided her emergency care was liable for the wrongful acts of the personnel.[272] The claim was based on a DC Official Code section stating that the provision of prehospital care is under the license of the medical director.[273] However, the code

clarifies that the director is not personally liable for the results of the medical direction of EMS personnel unless the director acts with willful misconduct or gross negligence.

Some states provide additional liability protections for any physician providing on-line medical control. Massachusetts extends liability protections for good faith acts and omissions to any physician providing on-line medical control in the course of EMS oversight.[274]

TOPS # 19. Medical directors should adequately supervise EMS practitioners operating in CP, MIH, or similar programs and set protocols that fully and properly direct patients to appropriate medical facilities. Use of approved, vetted flow charts, or other tools may help insulate against claims of negligence in the transportation of emergency patients, while still allowing flexibility to alter destinations as needed.

Conclusion

CP, MIH, and similar programs have the potential to bridge gaps between emergency medical services and primary care by utilizing existing EMS and other health personnel to increase patient access to care, lower healthcare costs, and improve health outcomes. Although programs that expand the role of EMS providers have clear benefits, there are multiple legal and policy hurdles stemming from the deployment and use of EMS and other personnel outside the normal emergency framework.

Statutory or regulatory constraints may limit the triggers for EMS personnel to known emergencies through 9-1-1 calls. They may be permitted to provide care and transport only under emergency conditions due to scope of practice limitations. Risks of liability may hinder active CP, MIH, or similar program participation among personnel, medical directors, and healthcare entities. Liability protections usually afforded to EMS and associated professionals generally apply only in emergency situations, leaving aside services provided by EMS personnel outside typical emergency responses. Healthcare reimbursement schemes may not include CP services causing programs to rely on grants or other resources. Restrictions on when and where patients may be transported to alternate destinations can thwart these programs.

Against these and other legal challenges, federal, state, and local governments, in partnership with private sector entities and stakeholders, are crafting meaningful options, best practices, and solutions. States are amending or waiving laws that prohibit or hinder these practices. Some jurisdictions are specifically authorizing CP reimbursement through pilot programs or Medicaid coverage. ACA provides new avenues for reimbursement and encourages hospitals and ACOs to establish cost-saving programs consistent with CP, MIH, and similar programs. Rapid and extensive development of these programs is contingent on successful navigation and resolution of key law and policy issues among partners within and across jurisdictions.

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OREGONLIVE.COM (Feb. 20, 2014), http://www.oregonlive.com/clackamascounty/index.ssf/2014/02/clackamas_county_commissioners_20.html; Liam Dillon, *What San Diego's Ambulance Contract Is Worth*, VOICEOFSANDIEGO.ORG (Oct. 3, 2013), http://voiceofsandiego.org/2013/10/03/what-san-diegos-ambulance-contract-is-worth/(San Diego's ambulance contract is worth about $54 million).

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[80] *Id.*

[81] MALONE V. LEAKE COUNTY BOARD OF SUPERVISORS, 841 So. 2d 141, 143 (Miss. 2003).

[82] CAL. HEALTH & SAFETY CODE § 1797.224.

[83] *California's Ambulance Industry*, THE-CCA.ORG, http://www.the-caa.org/cai.asp (last visited Mar. 27, 2014); CAL. HEALTH & SAFETY CODE § 1797.224.

[84] 831 N.E.2d 1255, 1258-62 (Ind. App. 2005).

[85] *Id.* at 1259.

[86] *See, e.g.,* LA. REV. STAT. ANN. § 33:4791.1(1)(A) (2014) ("The provision of consistently high quality emergency medical care, and any and all aspects attendant to ambulance operation to be provided within a medically acceptable response time is essential to the health, safety, and welfare of the state and its people.").

[87] *See, e.g.,* Archie v. City of Ravine, 627 F. Supp. 766 (E.D. Wis. 1986), *aff'd* 847 F.2d 1211 (7th Cir. 1988), *cert. denied*, 489 U.S. 1065 (1989) (failure to dispatch an ambulance to the home of a hyperventilating woman who later died did not violate the Due Process Clause).

[88] 489 U.S. 189 (1989). In *DeShaney*, a child was abused by his father. The Wisconsin Department of Social Services was aware of the circumstances but took no action to protect the child, leading to the child's permanent disability. On behalf of the child, the argument was that the State deprived the child of liberty interests in bodily integrity, in violation of the substantive component of the Fourteenth Amendment's Due Process Clause.

[89] Estelle v. Gamble, 429 U.S. 97 (1976) (holding that the Eighth Amendment requires government to provide healthcare to prisoners); City of Revere v. Massachusetts Gen. Hosp., 463 U.S. 239 (1983) (holding that the Fourteenth Amendment requires government to provide medical care to pretrial detainees).

[90] One jurisdiction has listed the requirements for establishing a special duty as: "1) [w]hether the victim . . . was in legal custody at the time of the incident . . . 2) [w]hether the state has expressly stated its desire to provide affirmative protection to a particular class or specific individuals." Jensen v. Conrad, 747 F.2d 185, 195-96, n.11 (4th Cir. 1984). Another jurisdiction's requirements are: "1) the municipality must be uniquely aware of the particular danger or risk to which plaintiff is exposed, 2) there must be allegations of specific acts or omissions on the part of the municipality, 3) the specific acts or omissions must be either affirmative or willful in nature, and 4) the injury must occur while the plaintiff is under the direct and immediate control of employees or agents of the municipality." Barth v. Board of Educ., 490 N.E.2d 77, 84-85 (Ill. App. Ct. 1986). The Restatement (Second) of Torts § 314A provides that "one who is required by law to take or who voluntarily takes the custody of another under circumstances such as to deprive the other of his normal opportunities for protection" gives rise to a special duty to aid or protect.

[91] Handley v. City of Seagoville, 798 F. Supp. 1267, 1272 (N.D. Tex. 1992); Hendon v. Dekalb County, 417 S.E.2d 705, 712 (Ga. Ct. App. 1992) (finding no liability to stroke victim for failure to respond to a 9-1-1 call); Doe v. Calumet City, 609 N.E.2d 689, 694 (Ill. App. Ct. 1992) (finding no liability for failure to respond to a 9-1-1 call).

[92] Johnson v. District of Columbia, 580 A.2d 140, 141 (D.C. 1990).

[93] *Id*. at 142; *see also* Wazner v. District of Columbia, 580 A.2d 127 (D.C. 1990) (A man called 9-1-1 requesting an ambulance because of bad headaches. The dispatcher suggested he take an aspirin and did not send an ambulance. Nine hours passed and a neighbor requested an ambulance again. The man with the headaches died of a stroke 2 days later. His daughter alleged the District breached its duty to provide an ambulance because the

dispatcher was ill-trained or improperly supervised. The court held that D.C. was not liable because it owed the father no special duty.)

[94] Wazner, 580 A.2d at 136.

[95] *See, e.g.*, NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., NATIONAL EMS SCOPE OF PRACTICE MODEL 28–31 (2007), *available at* http://www.ems.gov/education/EMSScope.pdf; "*What is EMS*?," NAT'L REGISTRY OF EMERGENCY MED. TECHNICIANS, https://www.nremt.org/nremt/about/What_is_EMS.asp (last visited April 6, 2014); IDAHO CODE ANN. § 56-1012.

[96] FLA. STAT. § 401.27.

[97] GA. CODE ANN. §§ 31-11-53, -54, -55.

[98] GA. COMP. R. & REGS. 511-9-2-.09(6), 511-9-2-.12(1); Office of Emergency Medical Services and Trauma, Georgia Department of Public Health, Scope of Practice for EMS Personnel (2011), *available at* http://dph.georgia.gov/sites/dph.georgia.gov/files/Georgia%20Scope%20of%20Practice%20-%20Effective%207-1-2011%20-%20Updated%207-1-2011%20-%20ALL%20LEVELS%20%28no%20EMR%29.pdf.

[99] IDAHO CODE ANN. § 56-1012.

[100] MISS. CODE ANN. § 41-59-35.

[101] NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., NATIONAL EMS SCOPE OF PRACTICE MODEL 29 (Feb. 2007), *available at* http://www.ems.gov/education/EMSScope.pdf.

[102] UTAH ADMIN. CODE r. 426-5-200.

[103] IDAHO ADMIN. CODE r. 16.02.02.100(02)(b).

[104] GA. DEP'T. OF HUMAN RES., DIV. OF PUB. HEALTH, OFFICE OF EMERGENCY MED. SERVS., R-P01A: SCOPE OF PRACTICE FOR EMS PERSONNEL (2007), *available at* http://dph.georgia.gov/sites/dph.georgia.gov/files/R-P01-A-%20Scope%20of%20Practice%20for%20EMS%20Personnel.pdf.

[105] GA. CODE ANN. § 31-11-54(a).

[106] CAL. CODE REGS. tit. 22, § 100146(c) (2) (A); CAL. HEALTH & SAFETY CODE § 1797.172.

[107] CAL. HEALTH & SAFETY CODE § 1797.171.

[108] CAL. CODE REGS. tit. 22, § 100146(c) (2).

[109] *See generally* OR. ADMIN. R. 847-035-0030 (listing authorized scope of practices for various categories of EMS personnel); *see also* OR. ADMIN. R. 847-035-0030(2) ("The scope of practice is the maximum functions which may be assigned to an emergency medical services provider by a Board-approved supervising physician.")

[110] DEL. CODE ANN. tit. 16, § 9807 (authorizing "such services as are set forth in the paramedic's certificate if . . . provided under the supervision of a physician.")

[111] N.D. CENT. CODE § 23-27-04.9(1) ("A licensed emergency medical technician-paramedic working for a hospital or an emergency medical services operation may administer the influenza vaccine to an individual who is at least eighteen years of age if: a. The physician providing oversight for the emergency medical services operation or the hospital medical director has established protocols that meet department standards that may be based on the advisory committee on immunization practices of the federal centers for disease control and prevention; and b. The emergency medical technician-paramedic has satisfactorily completed a department-approved course on administering vaccines.")

[112] *See, e.g.,* NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., NATIONAL EMS SCOPE OF PRACTICE MODEL 15 (2007), *available at* http://www.ems.gov/education/EMSScope.pdf. (distinguishing elements of scope of practice from those of standard of care).

[113] CAL. CIV. PRAC. TORTS § 32:39, Medical Malpractice (citing Wright v. City of Los Angeles, 219 Cal. App. 3d 318 (Cal. Dist. Ct. App. 1990)).

[114] Wright v. City of Los Angeles, 219 Cal. App. 3d 318, 347–48 (Cal. Dist. Ct. App. 1990).

[115] *Id*.

[116] OR. REV. STAT. ANN. § 682.025(3).

[117] *Id.* § 682.025(3), 682.025(8).

[118] NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., NATIONAL EMS CORE CONTENT, APP. 4: OUT-OF-HOSPITAL/EMS TASK

DEFINITIONS/ELEMENTS 31 (2005), *available at* http://www.ems.gov/education/EMSCoreContent.pdf; [2 PATIENT ASSESSMENT]; BRYAN E. BLEDSOE, ROBERT S. PORTER & RICHARD A. CHERRY, PARAMEDIC CARE: PRINCIPLES & PRACTICE 239 (2d ed. 2005).

[119] 210 ILL. COMP. STAT. 50/3.55.

[120] CAL. CODE REGS. tit. 22, §§ 100063, 100146(c).

[121] IDAHO ADMIN. CODE r. 16.02.02.100.

[122] *See* NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., NATIONAL EMS SCOPE OF PRACTICE MODEL 18 (2007), *available at* http://www.ems.gov/education/EMSScope.pdf; Ryan Oglesby, *Recruitment and Retention Benefits of EMT-Paramedic Utilization During ED Nursing Shortages*, 33 J. EMERGENCY NURSING 21 (2007).

[123] GA. CODE ANN. § 31-11-82(a).

[124] GA. CODE ANN. § 31-11-81(1).

[125] UTAH CODE ANN. § 26-8a-102.

[126] 12 VA. ADMIN. CODE § 5-31-10.

[127] 210 ILL. COMP. STAT. 50/3.10(g).

[128] FLA. STAT. § 401.272.

[129] FLA. STAT. § 401.272(1).

[130] DEL. CODE ANN. tit. 16, § 9807.

[131] *See, e.g.*, DEL. OFFICE OF EMERGENCY MED. SERVS., STATEWIDE STANDARD TREATMENT PROTOCOL DELAWARE: BASIC LIFE SUPPORT PROTOCOLS, GUIDELINES AND STANDING ORDERS FOR PREHOSPITAL AND INTERFACILITY PATIENTS (2013), *available at* http://statefireschool.delaware.gov/pdfs/BLSStandingOrders2013.pdf (last visited May 23, 2014).

[132] *Id.* at 2.

[133] ARIZ. REV. STAT. ANN. § 36-2201(1).

[134] OR. REV. STAT. ANN. § 682.245.

[135] GA. CODE ANN. § 31-11-50(a).

[136] GA. CODE ANN. § 31-11-60.1 (b).

[137] ARIZ. ADMIN. CODE § R9-25-205(D).

[138] MONT. CODE ANN. § 50-6-302(8)–(9).

[139] 210 ILL. COMP. STAT. 50/3.10 (allowing Emergency Communications RNs to provide verbal authorization for various types of EMS).

[140] MONT. CODE ANN. § 50-6-302(9).

[141] *See, e.g.*, JOINT COMM. ON RURAL EMERGENCY CARE, NAT'L ASS'N OF STATE EMERGENCY MED. SERVS. OFFICIALS & NAT'L ORG. OF STATE OFFICES OF RURAL HEALTH, STATE PERSPECTIVES DISCUSSION PAPER ON DEVELOPMENT OF COMMUNITY PARAMEDIC PROGRAM 8 (2010), *available at* https://www.nasemso.org/Projects/RuralEMS/documents/CPDiscussionPaper.pdf.

[142] *See* KENNETH W. KIZER, KAREN SHORE & AIMEE MOULIN, COMMUNITY PARAMEDICINE: A PROMISING MODEL FOR INTEGRATING EMERGENCY AND PRIMARY CARE, UC DAVIS, INST. FOR POPULATION HEALTH IMPROVEMENT 12–13 (2013), *available at* https://www.nasemso.org/Projects/RuralEMS/documents/IPHI_CommunityParamedicineReport_Final-070913.pdf.

[143] ARIZ. ADMIN. CODE § R9-25-205(A).

[144] *See, e.g.,* ARIZ. ADMIN. CODE §§ R9-25-101(66) ("'Standing order' means a treatment protocol or triage protocol that authorizes an EMT to act without online medical direction."), R9-25-101(70) ('Treatment protocol' means a written guideline that prescribes . . . [h]ow an EMT shall perform a medical treatment on a patient or administer an agent to a patient; and . . . [w]hen online medical direction is required, if the protocol is not a standing order."); R9-25-101(71) ('Triage protocol' means a written guideline that prescribes . . . [h]ow an EMT shall . . . [a]ssess and prioritize the medical condition of a patient[; s]elect a health care institution to which a patient may be transported, and . . . [t]ransport a patient to a health care institution; and . . . [w]hen online medical direction is required, if the protocol is not a standing order.").

[145] N.D. CENT. CODE § 23-27-04.9.

[146] OR. HEALTH AUTH. – PUB. HEALTH DIV., TRAINING PROTOCOL: EMERGENCY GLUCAGON PROVIDERS (2013), *available at* https://public.health.oregon.gov/DiseasesConditions/ChronicDisease/Diabetes/Documents/Glucagon_Training_Protocol_Manual.pdf.
[147] *See Emergency Medical Services for Children*, HEALTH RES. & SERVS. ADMIN., http://mchb.hrsa.gov/programs/emergencymedical/ (last visited May 22, 2014); *EMS for Children*, D.C. DEP'T OF HEALTH, http://doh.dc.gov/service/ems-children (last visited May 23, 2014).
[148] Tallahassee Memorial Regional Medical Center, Inc. v. Meeks, 560 So. 2d 778 (Fla. 1990).
[149] *See, e.g.*, Bowden v. Cary Fire Protection Dist., 710 N.E.2d 548 (Ill. Ct. App. 1999).
[150] *See, e.g.*, Browning v. West Calcasieu Cameron Hosp., 865 So. 2d 795 (La. Ct. App. 3d Cir. 2003).
[151] *See, e.g.*, McCoy v. Hatmaker, 763 A.2d 1233 (Md. Ct. Spec. App. 2000).
[152] 210 ILL. COMP. STAT. 50/3.150(a); Meck v. Paramedic Services of Illinois, 695 N.E.2d 1321 (Ill. App. Ct. 1998).
[153] IDAHO CODE ANN. § 56-1014.
[154] GA. CODE ANN. § 31-11-8(a).
[155] CAL. HEALTH & SAFETY CODE § 1799.106.
[156] GA. CODE ANN. § 31-11-8(c).
[157] *E.g.*, Thomas v. DeKalb County, 489 S.E.2d 58, 61 (Ga. Ct. App. 1997).
[158] *E.g.*, Martin v. Fulton-DeKalb Hospital Authority, 551 S.E.2d 415 (Ga. Ct. App. 2001).
[159] 210 ILL. COMP. STAT. 50/3.150(a), 50/3.10(g).
[160] CAL. HEALTH & SAFETY CODE § 1799.106.
[161] FLA. STAT. § 768.13.
[162] *See* Willard v. Vicksburg, 571 So. 2d 972 (Miss. 1990) (declining to interpret a Good Samaritan statute, but recommending that the legislature review and amend the statute to clarify application to those with a duty to provide care).
[163] FLA. STAT. § 768.13.
[164] Meuller v. McMillian Warner Ins. Co., 290 Wis. 2d 571 (2006); *see also* 68 A.L.R.4th 294 (discussing application of Good Samaritan statutes generally).
[165] *See, e.g.*, Leang v. Jersey City Bd. of Educ., 969 A. 2d 1097 (N.J. 2009) (finding that New Jersey's Good Samaritan Act did not apply to situations where care or transportation was provided to a person who was not the victim of an accident or emergency as envisioned by the legislature in passing the Act); *see also* 68 A.L.R.4th 294.
[166] Tallahassee Memorial Regional Medical Center, Inc. v. Meeks, 560 So. 2d 778 (Fla. 1990).
[167] Taplin v. Chatham, 453 N.E.2d 421 (Mass. 1983).
[168] GA. CODE ANN. § 31-11-8(b).
[169] MONT. CODE ANN. § 50-6-317.
[170] UTAH CODE ANN. § 26-8A-601(1).
[171] *See* KENNETH W. KIZER, KAREN SHORE & AIMEE MOULIN, COMMUNITY PARAMEDICINE: A PROMISING MODEL FOR INTEGRATING EMERGENCY AND PRIMARY CARE, UC DAVIS, INST. FOR POPULATION HEALTH IMPROVEMENT 11 (2013), *available at* https://www.nasemso.org/Projects/RuralEMS/documents/IPHI_CommunityParamedicineReport_Final-070913.pdf ("Patients recently discharged from a hospital may benefit from assistance prior to regular scheduled follow-up care in understanding post-discharge instructions, medications, self-care, and the timing and importance of follow-up appointments. CPs could review these with patients and, if applicable, their families. The CP could ensure there is a safe home environment for the patient to recover in and could provide feedback to primary care and emergency care providers about the patient's function at home. . . . CPs will need additional training with protocols for patient assessment, and there will need to be greater and potentially additional types of online medical control . . . for consultation on patients with complex medical conditions . . . .").
[172] *See Beyond 911: State and Community Strategies for Expanding the Primary Care Role of First Responders*, NAT'L CONFERENCE OF STATE LEGISLATURES, http://www.ncsl.org/research/health/expanding-the-primary-care-role-of-first-responder.aspx (last visited May 9, 2014).

[173] ARIZ. REV. STAT. ANN. § 36-2220(B).
[174] U.S. DEP'T OF HEALTH & HUMAN SERVS., SUMMARY OF THE HIPAA PRIVACY RULE (2003), *available at* http://www.hhs.gov/ocr/privacy/hipaa/understanding/summary/index.html.
[175] 45 C.F.R. § 164.512 (2010); *see also* U.S. DEP'T OF HEALTH & HUMAN SERVS., SUMMARY OF THE HIPAA PRIVACY RULE (2003), *available at* http://www.hhs.gov/ocr/privacy/hipaa/understanding/summary/index.html.
[176] *E.g.*, ARIZ. REV. STAT. ANN. § 13-3620(A) (duty to report abuse, physical injury, neglect and denial or deprivation of medical or surgical care or nourishment of minors, including by any person with responsibility for treatment of the minor); ARIZ. REV. STAT. ANN. § 36-664(A) (7) (disclosures mandated by federal or state law are an exception to communicable disease confidentiality requirements); ARIZ. ADMIN. CODE R9-6-202 (reporting requirements for health care providers regarding infectious diseases).
[177] *See, e.g.*, Sheri Fink, *U.S. Mines Personal Health Data to Find the Vulnerable in Emergencies*, N.Y. TIMES, May 15, 2014, at A18.
[178] U.S. DEP'T OF HEALTH & HUMAN SERVS., OFFICE OF RURAL HEALTH POLICY, COMMUNITY PARAMEDICINE EVALUATION TOOL (2012), http://www.hrsa.gov/ruralhealth/pdf/paramedicevaltool.pdf.
[179]*See e.g.,* 210 ILL. COMP. STAT. 50/3.5 (defining healthcare facility to include a physician's office); 210 ILL. COMP. STAT. 50/3.10(g) (non-emergency medical services includes transport to any healt care facility).
[180] *Introduction to Community Paramedicine*, CAL. EMERGENCY MED. SERVS. AUTH., http://www.emsa.ca.gov/Community_Paramedicine (last visited Apr. 14, 2014).
[181] CAL. HEALTH & SAFETY CODE § 1797.52.
[182] CAL. HEALTH & SAFETY CODE § 1797.218.
[183] *Id.*; COMMUNITY PARAMEDICINE PILOT PROJECTS, CALIFORNIA EMERGENCY MEDICAL SERVICES AUTHORITY, *available at* http://www.emsa.ca.gov/Community_Paramedicine (Last visited May 28, 2014).
[184] COMMUNITY PARAMEDICINE PILOT PROJECT, HWPP #173, OFFICE OF STATEWIDE HEALTH PLANNING & DEV. 5 (2014), *available at* http://www.oshpd.ca.gov/hwdd/pdfs/HWPP/CP_OSHPD_Community_Paramedicine_App.pdf.
[185] ARIZ. REV. STAT. ANN. §36-401(A) (20).
[186] *Id.*
[187] Maria Polletta*, Mesa's PA unit eases load for 1st responders*, Apr. 22, 2013, AZCENTRAL, http://www.azcentral.com/community/mesa/articles/20130418mesa-trv-medical-response.html.
[188] *Id.*
[189] DEL. CODE ANN. tit. 16, § 9802(19).
[190] OR. REV. STAT. ANN. § 682.025(14); OR. REV. STAT. ANN. § 333-250-0010(11).
[191] OR. REV. STAT. ANN. § 682.027.
[192] OR. REV. STAT. ANN. § 333-200-0080 Exhibit 2.
[193] OR. ADMIN. R. 333-200-0080(4); OR. REV. STAT. ANN. § 333-200-0080 Exhibit 2.
[194] OR. REV. STAT. ANN. § 333-200-0080(4); OR. REV. STAT. ANN. § 333-200-0080 Exhibit 2.
[195] OR. REV. STAT. ANN. § 333-200-0080(4); OR. REV. STAT. ANN. § 333-200-0080 Exhibit 2.
[196] Emergency Medical Services, MASS. GEN. LAWS ch.11, §1.
[197] 105 MASS. CODE REGS. § 170.020.
[198] INDEPENDENCE, MISS. CODE §§ 19.590–19.711.
[199] Missouri, ex rel. Lifeguard Medical Services, Inc., v. City of Independence, 939 S.W.2d 522 (Mo. App. 1997).
[200] *Id.* at 523.
[201] *Id.* at 524-25.
[202] Agreement for 9-1-1 Ambulance Response and Emergency Medical Services, Augusta, Georgia, Nov. 1, 2005, *available at* http://appweb.augustaga.gov/Planning_and_Zoning/docs/Comprehensive%20Plans/911%20Ambulance11-1.pdf; An Ordinance: Establishing the Terms and Conditions for a Contract Regulating Participating EMS Providers Operating with York County, South Carolina, 2013, *available at* http://rhems.org/images/EMS.pdf.

[203] Agreement for 9-1-1 Ambulance Response and Emergency Medical Services, Augusta, Georgia, Nov. 1, 2005, *available at* http://appweb.augustaga.gov/Planning_and_Zoning/docs/Comprehensive%20Plans/911%20Ambulance11-1.pdf.
[204] Terrance T. McDonald, *War over Jersey City Ambulance Contract Escalates with Charge that JCMC Diverts Patients Against Wishes*, THE JERSEY JOURNAL (Dec. 16, 2013), *available at* http://www.nj.com/hudson/index.ssf/2013/12/war_over_jersey_city_ambulance_contract_escalates_with_charge_that_jcmc_diverts_patients_against_the.html.
[205] *Interfacility Ambulance*, RURALMETROWEST.COM, *available at* http://www.ruralmetrowest.com/our-services/interfacility-ambulance.html (last visited Mar. 27, 2014).
[206] CENTRAL CAL. EMERGENCY MED. SERVS., EMERGENCY MEDICAL SERVICES ADMINISTRATIVE POLICIES AND PROCEDURES: HOSPITAL DIVERSION OF AMBULANCE PATIENTS 3 (Feb. 15, 1993), *available at* http://www.co.fresno.ca.us/uploadedFiles/Departments/Public_Health/Divisions/EMS/content/Policies,_Procedures_and_Memos/content/Fresno,_Kings_and_Madera_Counties/500_-_699/547.1.pdf; ARIZ. DEP'T OF HEALTH SERVS., BUREAU OF EMERGENCY MED. SERVS. & TRAUMA SYSTEM, STATUTES & RULES 12 (Dec. 1, 2013), *available at* http://www.azdhs.gov/bems/documents/statutes-rule-book.pdf.
[207] CENTRAL CALI. EMERGENCY MED. SERVS., EMERGENCY MEDICAL SERVICES ADMINISTRATIVE POLICIES AND PROCEDURES: HOSPITAL DIVERSION OF AMBULANCE PATIENTS 3 (Feb. 15, 1993), *available at* http://www.co.fresno.ca.us/uploadedFiles/Departments/Public_Health/Divisions/EMS/content/Policies,_Procedures_and_Memos/content/Fresno,_Kings_and_Madera_Counties/500_-_699/547.1.pdf.
[208] KENNETH W. KIZER, KAREN SHORE, & AIMEE MOULIN, COMMUNITY PARAMEDICINE: A PROMISING MODEL FOR INTEGRATING EMERGENCY AND PRIMARY CARE, UC DAVIS, INST. FOR POPULATION HEALTH IMPROVEMENT 2, 6 (2013).
[209] *Beyond 911: State and Community Strategies for Expanding the Primary Care Role of First Responders*, NAT'L CONFERENCE OF STATE LEGISLATURES, http://www.ncsl.org/research/health/expanding-the-primary-care-role-of-first-responder.aspx (last visited Apr. 14, 2014).
[210] KENNETH W. KIZER, KAREN SHORE & AIMEE MOULIN, COMMUNITY PARAMEDICINE: A PROMISING MODEL FOR INTEGRATING EMERGENCY AND PRIMARY CARE, UC DAVIS, INST. FOR POPULATION HEALTH IMPROVEMENT 2, 6 (2013).
[211] MEDICARE MANAGED CARE MANUAL, MC86 Chapter 4 Section 20.1 (Aug. 23, 2013), *available at* http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/mc86c04.pdf.
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[213] *Id*.
[214] *Id*. (emphasis added).
[215] John Erich, *How Minnesota Got Its Community Medics Paid*, EMSWORLD, (May 1, 2013), http://www.emsworld.com/article/10913443/medicaid-reimbursement-for-community-paramedics-in-minnesota.
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[233] Emergency Medical Treatment and Active Labor Act, § 1867, 42 U.S.C.A. § 1395dd; Beller v. Health and Hosp. Corp. of Marion County, Indiana, 703 F.3d 388 (7th Cir. 2012).

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[235] Dedicated Emergency Department under EMTALA is defined as "any department or facility of the hospital that either 1) is licensed by the state as an emergency department; 2) held out to the public as providing treatment for emergency medical conditions; or 3) on one-third of the visits to the department in the preceding calendar year actually provided treatment for emergency medical conditions on an urgent basis." 42 C.F.R. § 489.24 (b) (4).

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[238] Hospitals meet the stabilization requirement of EMTALA if they offer further treatment, explain the risks and benefits of the treatment to the patient, and the patient refuses. 42 C.F.R. §489.24(d)(1) & (3). Hospitals should attempt to get patients' written informed consent. *Id.* Courts have found that patients have the right to refuse emergency medical treatment, but the right is not absolute. *Norwood Hospital v. Munoz,* 409 Mass. 116, 122-126 (citing to a common law right and statutory right of privacy). Other states' statutes specifically provide a person rights to refuse medical treatment (Nothing contained [in the Louisiana Medical Consent Law] shall be construed to abridge any right of a person 18 years of age or over to refuse to consent to medical or surgical treatment as to his own person, LA. REV. STAT. ANN.§ 40:1299.56) which courts have used to defeat a plaintiff's claim that paramedics were liable for failing to bring the patient to an ED following refusal of medical care by a competent

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Community Paramedicine

Evaluation Tool

March 2012

U.S. Department of Health and Human Services
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This publication lists non-Federal resources in order to provide additional information to consumers. The views and content in these resources have not been formally approved by the U.S. Department of Health and Human Services (HHS) or the Health Resources and Services Administration (HRSA). Listing these resources is not an endorsement by HHS or HRSA.

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SELF-ASSESSMENT FOR COMMUNITY PARAMEDICINE PLANNING, DEVELOPMENT, AND EVALUATION

Background

Community Paramedicine is an emerging field in health care where EMTs and Paramedics operate in expanded roles in an effort to connect underutilized resources to underserved populations. Although EMTs and Paramedics have operated in expanded roles in several foreign countries, such as Canada, England, and New Zealand, for many years, in the U.S. the concept first came to the attention of the EMS community, particularly the rural EMS community, with the publication of the Rural and Frontier EMS Agenda for the Future in 2004 (Appendix D: Additional Resources). That document described community paramedicine as a potential framework that might allow rural communities to transition from largely volunteer EMS agencies to ones with at least some full time staff based not solely on their emergency response but on the other community health roles. The Rural and Frontier EMS Agenda for the Future defined community paramedicine as "an organized system of services, based on local need, which are provided by EMTs and Paramedics integrated into the local or regional health care system and overseen by emergency and primary care physicians. This not only addresses gaps in primary care services, but enables the presence of EMS personnel for emergency response in low call-volume areas by providing routine use of their clinical skills and additional financial support from these non-EMS activities."

Because community paramedicine programs expand the roles of EMS professionals to provide health services where access to physicians, clinics and/or hospitals may be difficult, there has been significant movement toward the implementation of such programs across rural America. Additionally, there have been programs that have evolved in more urban areas that serve a similar role in the provision of community health/public health activities. In rural areas community paramedicine programs are often focused on efficiently allocating scarce health care resources and improving access to care in these underserved areas. In urban areas, many community paramedicine programs have been designed to keep "frequent fliers" out of the emergency care system by ensuring their health care needs are met in other ways. Many programs, both rural and urban, take health care into the patient's home.

Community paramedicine programs might focus on specific medical needs such as diabetic monitoring or on broader health care issues such as mental health. Most importantly, each of the successful programs now in place across the country was uniquely and specifically designed to meet one or more health care needs essential to that community. Additionally, successful programs capitalize on linkages, collaboration and integration with other health care resources in the community.

Given the emergence of community paramedicine programs in the U.S., key organizational and government leaders felt that by establishing a common evaluation framework the growth and development of these community paramedicine programs could be captured and described. In

capturing such data in a standardized way, the characteristics and best practices of early successful adopters can be emulated by emerging programs.

While the assessment tool contained in this document is designed to allow existing programs to conduct self-assessments across the broad public health elements of assessment, policy development and assurance, the tool also serves as a potential framework to guide in the development of new community paramedicine programs. By looking at each indicator the leadership of potential community paramedicine programs will be more likely to include, or at least consider, all of the elements that seem to be common in successful programs.

Introduction

In the absence of validated national benchmarks, or norms, this document stresses the need for each community paramedicine program to define its system-specific health status benchmarks and performance indicators and to use a variety of community health and public health interventions to improve the community's health status. The document also addresses reducing the burden of illness, chronic disease, and injury as a community-wide public health problem, not strictly as a patient care issue.

Opportunities to review community paramedicine programs are beneficial because they allow for the assessment of the status of EMS activities and move systems forward in developing inclusive and comprehensive systems of care. Many EMS programs conduct their own internal or external reviews, and it is hoped that this document will serve as another tool used by these programs to assess the current status of community paramedicine programs and to provide guidance on future system enhancements.

The assessment tool also provides a common framework by which data can be collected from multiple community paramedicine programs and aggregated to develop a snapshot of common successes and challenges. While the tool should be useful across both urban and rural programs it is specifically designed to address rural settings where community health/public health resources are often very limited. By encouraging emerging rural community paramedicine programs to use this evaluation framework as a planning tool, it should be possible to create stronger partnerships and linkages with scarce rural resources.

The tool that follows was developed using a consensus-based process by a group of experts representing key national organizations and existing community paramedicine programs. The group consulted with a number of community paramedicine programs in both rural and urban settings to better understand their depth, breadth and scope (a brief description of the programs consulted can be found in Appendix C). Given the community health/public health nature of the community paramedicine efforts that emerged from those discussions, an evaluation framework common to public health was ultimately selected as the structure for the evaluation tool.

Because the services and activities of community paramedicine programs are so closely linked to public health issues, approaches and terminology familiar to public health are used in this evaluation tool. The benchmarks, indicators and scoring criteria contained in the assessment tool are organized in a classic public health circle. There are three core functions of public health: assessment, policy development, and assurance. There are ten essential services of public health that fall within the three core functions. These core functions and essential services are supported by research and infrastructure elements. Figure 1 illustrates the three core functions and ten essential services of public health.

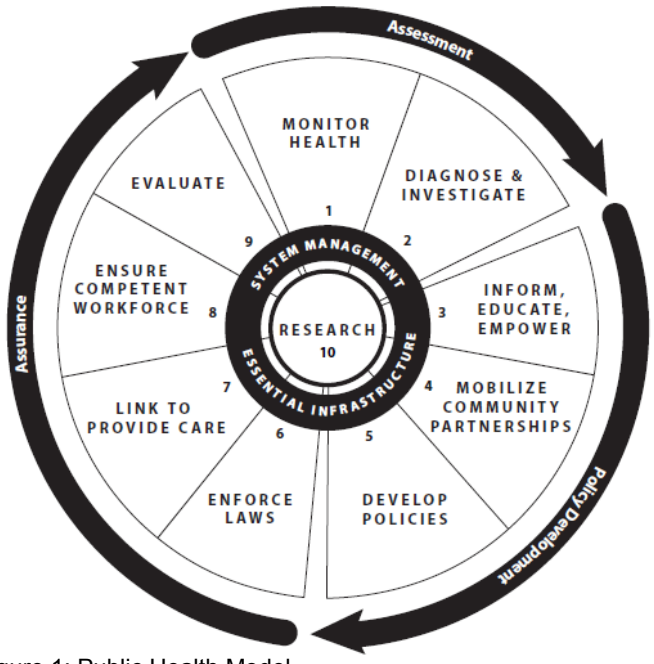

Figure 1: Public Health Model

Using the Tool

This objective community paramedicine self-assessment tool can be used by communities that wish to assess the current status of their paramedicine program. It is recommended that a group consisting of key representatives from the community including public health, hospital, primary care, regulatory agencies, EMS and other health care and social service areas impacted by the community paramedicine program, be assembled to form a multi-disciplinary advisory committee. How a question is answered will depend on a group agreement on the program being assessed. Such an agreement is essential to ensuring consistency among participants during the assessment. Once there is agreement among the group about what is being rated in each section, the tool can aid in identifying and prioritizing areas that need attention. It also provides the State lead agency with guidance on community paramedicine next steps or improvements to be made along a continuum of a maturing and developing EMS system. Many of the benchmarks and indicators are qualitative, and will require judgment and discretion by those completing the assessment—a recognized limitation of this methodology.

Communities considering the development of a community paramedicine program are also encouraged to use the process as a planning tool. In this case the group should not score the tool but rather study each benchmark and indicator to determine which ones are applicable to their program and how the indicator will be addressed in the future. By undertaking this exercise the program planners may well be reminded of aspects of the program that might, otherwise, be overlooked at the outset.

Within each core function (assessment, policy development, and assurance) are a variety of

benchmarks. These benchmarks are based on current literature on community paramedicine program development, interviews with existing community paramedicine programs, and public health systems. For each benchmark, a number of indicators further define the benchmark. Scoring for each indicator is defined to assist in identifying progress, efforts, or compliance, or any combination of these. Each indicator contains a scoring-mechanism ordering of statements to assess progress to date. The following criteria are used to assess progress in complying with each indicator.

Score	Progress Scoring
0	Not known
1	No
2	Minimal
3	Limited
4	Substantial
5	Full

The following table provides an example of how the above criteria are used to assess community paramedicine program progress for a specific indicator.

Table 1. Example of Scoring

Indicator	Scoring
101.1: There is a description of illnesses and injuries within the community paramedicine service area including the distribution by geographic area, high-risk populations (pediatric, elder, distinct cultural/ethnic, rural, and others), incidence, prevalence, contributing factors, determinants, morbidity, and patient distribution using any or all of the following: vital statistics, emergency department (ED) data, EMS data, hospital discharge data, State police data (those from law enforcement agencies), medical examiner data, and other data sources. The description is updated at regular intervals.	**0.** Not known. The scorer does not know enough about the indicator to evaluate it effectively. **1.** There is no written description of illness and injuries within the community paramedicine service area. **2.** One or more population-based data sources (e.g., vital statistics) describe illness and injury within the jurisdiction, but clinical data sources are not used. **3.** One or more population-based data sources and one or more clinical data sources are used to describe illness and injury within the jurisdiction. **4.** Multiple population-based and clinical data sources are used to describe illness and injury within the jurisdiction, and the description is systematically updated at regular intervals. **5.** Multiple population-based and clinical data sources (e.g., ED data, hospital discharge data, and others) are electronically linked and used to describe illness and injury within the jurisdiction.

The rater would review the criteria listed and select the one that best describes the program's current ability to describe injury and illness in their service area ranging from none in newly developing systems to very complex analyses that can help frame future community paramedicine interventions.

It is important to note that a program must complete all of the criteria associated with previous scores before being awarded a higher score. As an example, a program should not score itself a 4 if it has not met all of the criteria outlined in 1-3.

The Optimal Scoring Process

Based on nearly a decade of experience in using a similar tool contained in the HRSA Model Trauma System Planning and Evaluation document to evaluate trauma programs (Appendix D: Additional Resources), the most effective method of conducting the evaluation is to have each member of the multi-disciplinary advisory committee score the program independently. Following that, a facilitated meeting that assists the group as a whole to come to consensus on each score should be conducted. This allows for each member to hear varying perceptions and breaks down communication silos, providing for a broad-based understanding of the program for all members. At that same, or a subsequent meeting, the group should analyze the results and prioritize areas in which they would like to see improvements. These foci should become part of a strategic/tactical plan for the program and a commitment to re-evaluate the program on a periodic basis (every 1-2 years) should be made.

Many evaluation or assessment criteria used by EMS professionals as they relate to patient care must be repeated at various intervals to be of the greatest value. Just as a single Glasgow coma score is meaningless in the long-term evaluation of someone with a head injury, so too will be a single application of this tool. The best uses of this tool are as a process to help identify where the program is at this moment in time, establish future benchmarks to strive towards (for instance moving a score from a 2 to a 4 in a certain area), and then to re-measure to determine the overall progress and evolution of the program. No program is likely to score a 5 on each indicator. There are a myriad of issues specific to the geographic area's politics and resources that might preclude a high score for one or more indicators. That should be noted and attentions turned elsewhere where true and lasting progress can be made. This tool provides one way of measuring, documenting and quantifying that effort over time.

It is important to remember that the intent of the tool is to allow an individual community paramedicine program to identify its own strengths and weaknesses, prioritize activities, and measure progress against itself over time. Additionally, the tool is seen as a planning document that can assist developing programs. The tool is not intended to measure one community paramedicine program against another.

Interpreting the Score

At first glance it might appear that it would be possible to add all of the scores together and come up with an aggregate score for the program, or to use the average (mean) response. Because the scores are derived from a consensus-based process which is inherently subjective and since the numbers are rank ordered, programs must use caution in analyzing the scores. The following section summarizes the appropriate use for the scores. That use is, primarily, to serve as a way to measure progress within a single community paramedicine program over time through a repeated measures process.

Benchmark 101

There is a thorough description of the epidemiology of the medical conditions targeted by the community paramedicine program in the service area using both population-based data and clinical databases.

Indicator	Score
Indicator 101.1	5
Indicator 101.2	3
Indicator 101.3	2
Median Score Expectation 101	**3**

In this benchmark, the median score of "3" would indicate that, overall, there is evidence of limited, but demonstrable progress in meeting the expectation. The same process can be used for each of the core functions of assessment, policy development and assurance; e.g., the median for each of these can be similarly calculated. The key is to achieve consensus on each score prior to calculating the median.

Limitations

Although this scoring mechanism provides a quantitative descriptor of each indicator and, ultimately, of the entire community paramedicine program, the scoring process has a number of methodological limitations:

- The benchmarks focus primarily on process measures, not on outcomes. It is assumed that meeting these process measurements will result in improved outcomes.

- The self-assessment is but *one* tool to use in assessing the progress a program has made in meeting the above-referenced benchmarks and indicators. Any community paramedicine program review should include outcome measures (such as improvements in individual health measures, decreases in return visits to the emergency department, etc.) as a full measure of system performance.

- While this evaluation methodology is designed to be as objective as possible, it still relies on the qualitative judgments of those completing the assessment.

- The data presented are rank ordered. Therefore, it is not possible to do parametric statistical analysis such as a mean.

100: Assessment

Regular systematic collection, assembly, analysis, and dissemination of information on the health of the community.

Benchmark 101: *There is a thorough description of the epidemiology of the medical conditions targeted by the community paramedicine program in the service area using both population-based data and clinical databases.*

Indicator	Scoring
101.1 There is a description of illnesses and injuries within the community paramedicine service area including the distribution by geographic area, high-risk populations (pediatric, elder, distinct cultural/ethnic, rural, and others), incidence, prevalence, contributing factors, determinants, morbidity, and patient distribution using any or all of the following: vital statistics, emergency department (ED) data, EMS data, hospital discharge data, State police data (those from law enforcement agencies), medical examiner data, and other data sources. The description is updated at regular intervals.	**0.** Not known. **1.** There is no written description of illness and injuries within the community paramedicine service area. **2.** One or more population-based data sources (e.g., vital statistics) describe illness and injury within the jurisdiction, but clinical data sources are not used. **3.** One or more population-based data sources and one or more clinical data sources are used to describe illness and injury within the jurisdiction. **4.** Multiple population-based and clinical data sources are used to describe illness and injury within the jurisdiction, and the description is systematically updated at regular intervals. **5.** Multiple population-based and clinical data sources (e.g., ED data, hospital discharge data, and others) are electronically linked and used to describe illness and injury within the jurisdiction.

Indicator	Scoring
101.2 Collaboration exists between the community paramedicine program, public health officials, and health system leaders to complete risk assessments.	**0.** Not known. **1.** No illness/injury risk assessments are conducted. **2.** Community paramedicine officials conduct illness/injury assessments; however, there is no involvement of the broader health care community or public health officials in those assessments. **3.** Public health officials, along with health care and community paramedicine participants, assist with the design of illness/injury risk assessments. **4.** Public health officials, along with health care and community paramedicine participants, assist with the design and analysis of illness/injury risk assessments. **5.** The public health epidemiologist, along with health care and community paramedicine participants, is involved in the development of illness/injury reports. There is clear evidence of data sharing, data linkage, and well-defined reporting roles and responsibilities.
101.3 There is an established electronic information system (EIS) for ongoing targeted surveillance and system performance assessment. The community paramedicine EIS may be freestanding or an extension/adaptation of other databases (e.g. EMS or hospital).	**0.** Not known. **1.** A community paramedicine EIS exists as an extension of other databases, e.g. EMS or hospital, but it is not routinely used for targeted surveillance and system performance. **2.** The community paramedicine EIS is used to inform performance improvement activities but is not used in any community surveillance activities. **3.** The community paramedicine EIS is used for both surveillance and performance improvement activities. **4.** The community paramedicine EIS has been integrated or linked to one or more administrative databases, e.g. billing. **5.** The community paramedicine EIS is linked to both administrative and clinical databases to provide a comprehensive overview of the community paramedicine program and its effect on current and future community healthcare needs.

Indicator	Scoring
101.4 The EIS database captures all patient/client contacts.	**0.** Not known. **1.** There is no database that captures patient/client contacts. **2.** There is a simple log (electronic or paper based) that identifies demographic information about the patient/client contact, e.g. patient and provider identifier, date, time, etc. **3.** There is a medical record that documents each patient/client contact with summary information in an electronic searchable database of all contacts. **4.** There is an electronic medical record documentation of each patient/client contact that can be accessed by primary care physicians and case managers. **5.** The community paramedicine electronic medical record is fully integrated with the patient/client's formal health care record in the patient/client's medical home.
101.5 Reports can be generated from the community paramedicine EIS to help guide performance improvement activities and to document the effectiveness and/or efficiency of the program.	**0.** Not known. **1.** No community paramedicine EIS database exists. **2.** A community paramedicine EIS database exists but is not used to generate reports to guide either daily operations or future planning. **3.** Special reports can be generated as needed and used by the program director to assist in scheduling or other administrative issues. **4.** Reports are generated on a regular basis and used by the program director and medical director to inform performance improvement activities and processes. **5.** Reports are generated on a regular basis and are used to inform oversight bodies, funding agencies, and the general public about the impact of the community paramedicine program.

Benchmark 102: *A resource assessment for the community paramedicine program has been completed and is regularly updated.*

Indicator	Scoring
102.1 The community paramedicine program has completed a comprehensive inventory that identifies the availability and distribution of current capabilities and resources from a variety of partners and organizations throughout the community.	**0.** Not known. **1.** There is no community-wide resource assessment. **2.** A community-wide resource assessment has been completed that documents the frequency and distribution of resources for at least two of the following categories: community paramedicine, prehospital and hospital personnel, education programs, facilities, and prehospital equipment. **3.** A community-wide resource assessment has been completed that documents the frequency and distribution of resources for more than two of the following categories: leadership, system development, regulation, finances, illness/injury prevention, wellness promotion, workforce resources, education, EMS, transport, communications, health care facilities, medical oversight, system evaluation, performance improvement, and research. **4.** The community-wide resource assessment has identified one or more targeted clinical condition groups/individuals that can be addressed with the resources identified above. **5.** The community-wide resource assessment has identified strategies to meet the needs of the targeted clinical condition groups/individuals and methods for supporting those activities financially.

Indicator	Scoring
102.2 The community paramedicine program has completed a gap analysis based on the inventories of internal and external system resources as well as system resource standards.	**0.** Not known. **1.** There are no resource standards on which to base a gap analysis. **2.** The community paramedicine advisory committee has begun to develop resource standards so that a gap analysis can be completed. **3.** The community paramedicine resource standards have been approved by the appropriate authority. **4.** A gap analysis of community paramedicine program has been completed based on the adopted resource standards. **5.** A gap analysis of community paramedicine resources has been completed and is updated at regular intervals based on the adopted resource standards.
102.3 There has been an initial assessment (and periodic reassessment) of overall program effectiveness.	**0.** Not known. **1.** There has not been an assessment of the effectiveness of the community paramedicine program. **2.** There has been at least one formal written assessment of the effectiveness of the community paramedicine program. **3.** Program effectiveness is assessed on at least an annual basis and formal reports are generated. **4.** There is an ongoing program assessment and formal reports are published annually and distributed to all stakeholders including: patients/clients, oversight bodies, funding sources, and the general public. **5.** There is ongoing assessment of multiple program objective outcomes over time as the outcomes relate to changes within the program for specific program interventions.

Indicator	Scoring
102.4 The community paramedicine program has undergone an external independent analysis of all aspects of the program.	**0.** Not known. **1.** No external examination of the community paramedicine program overall or individual components has occurred. **2.** An external assessment is in the planning stages. **3.** An external assessment is scheduled and/or has been completed and the agency is awaiting the formal report. **4.** An outside group of community paramedicine system "experts" has conducted a formal community paramedicine external assessment and has made specific recommendations to the system. **5.** Independent external reassessment occurs regularly, at least every 5 years.

Benchmark 103: *The community paramedicine program assesses and monitors its value to its constituents in terms of cost-benefit analysis and societal investment.*

Indicator	Scoring
103.1 The benefits of the community paramedicine program, in terms of cost savings, decreased EMS transports, decreased hospital visits, improved health/wellness, and so on, are described.	**0.** Not known. **1.** There are no cost data from the EIS database, or other sources, available to calculate the program's benefits. **2.** Community paramedicine costs are included in the EIS that can serve as the basis for these calculations. **3.** Additional sources of data, in terms of other economic and quality of life measures, (e.g., reduction in return hospital visits / readmissions, fewer 911 calls, shorter return to work interval, etc.) are available. **4.** Cost and quality of life measures can be analyzed and presented in descriptive and graphic form. **5.** A series of reports and fact sheets are available and regularly updated to descriptively and graphically illustrate the costs and benefits of the community paramedicine program.

Indicator	Scoring
103.2 Cases that document the societal benefit are reported on so the community sees and hears the benefit of the community paramedicine program while simultaneously protecting patient privacy.	**0.** Not known. **1.** No effort is made to gather, catalogue, or report cases that document the benefits of the community paramedicine program so that the community sees and hears the benefit of the program to society. **2.** Dramatic improvements in wellness and functional outcome returns are documented sporadically or within various components of the program. **3.** Cases concerning dramatic improvements in wellness and return to a quality life are on file (at a system level) but not reported unless asked for by the press. **4.** Cases concerning dramatic improvements in wellness and return to a quality life are on file (at a system level) and are reported to the press. **5.** Cases are used as part of information fact sheets that are distributed to the press and other segments of the community. These information fact sheets document the cost-benefit of the community paramedicine program to the community.
103.3 An assessment of the interests of public officials concerning community paramedicine program information has been conducted and communications mechanism developed based on the results of the assessment.	**0.** Not known. **1.** There is no routine or planned contact with the public officials. **2.** Plans are in place to feed information to public officials in response to a particular event. **3.** Public officials have been formally asked about what types of information would be helpful in reporting on community paramedicine and community health issues. **4.** Information resources for public officials have been developed, based on the stated needs of the public officials; public official representatives are included in community paramedicine informational events. **5.** In addition to routine public official contact, public officials are involved in various oversight activities such as the community paramedicine advisory council.

Indicator	Scoring
103.4 An assessment of the needs of health insurers/payers concerning community paramedicine program information has been conducted and communications mechanism developed based on the results of the assessment	**0.** Not known. **1.** There is no routine or planned contact with health insurers/payers. **2.** Plans are in place to provide information to health insurers/payers during a response to a particular payment, reimbursement, and cost issue. **3.** Health insurers/payers have been formally asked about what types of information would be helpful in reporting on community paramedicine cases and issues to assist them in payment determinations. **4.** Information resources for health insurers/payers have been developed based on the stated needs of the insurers; insurance representatives/payers are included in community paramedicine informational events. **5.** In addition to routine contact, health insurers/payers are involved in various oversight activities such as the community paramedicine advisory councils.
103.5 An assessment of the needs of the general medical community, including physicians, nurses, prehospital care providers, and others, concerning community paramedicine program information has been conducted and communications mechanism developed based on the results of the assessment.	**0.** Not known. **1.** There is no routine or planned contact with the broad medical community. **2.** Plans are in place to provide information to the broad medical community in response to a community paramedicine event or issue. **3.** The broad medical community has been formally asked about what types of information would be helpful in reporting on community paramedicine events and issues. **4.** Information resources for the general medical community have been developed based on the stated needs of the general medical community; general medical community representatives are included in community paramedicine informational events. **5.** In addition to routine contact, the broad medical community is involved in various oversight activities such as the community paramedicine advisory council.

200: Policy Development

Promoting the use of scientific knowledge in decision making that includes building constituencies, identifying needs and setting priorities, legislative authority and funding to develop plans and policies to address needs, and ensuring the public's health and safety.

Benchmark 201: *Comprehensive statutory authority and administrative rules support community paramedicine program infrastructure, planning, provision, oversight, and future development.*

Indicator	Scoring
201.1 Community paramedicine activities are allowable/supportable within EMS regulations, licensure, certification, and scope of practice.	**0.** Not known. **1.** No effort has been made to inform the state EMS agency concerning community paramedicine program activities to determine if such activities are allowable within the state's regulations. **2.** The state EMS agency has been made aware of the community paramedicine program but has not confirmed that the program is operating within state regulations. **3.** The EMS agency has approved the community paramedicine program on a "pilot" or other restricted basis. **4.** The EMS agency has approved the community paramedicine program without any restrictions. **5.** Specific statutes, rules, and regulations govern community paramedicine programs statewide.

Indicator	Scoring
201.2 The community paramedicine program is not in conflict with other licensing agencies or authorities, including: nursing, physician assistants, home health care, primary care, or others.	**0.** Not known. **1.** No effort has been made to inform the state regulatory agencies governing nursing, advanced practice nurses, physician assistants, home health care providers, primary care, or others concerning community paramedicine program activities to determine if such activities are allowable within the state's regulations. **2.** The regulatory agencies governing nursing, physician assistants, home health care, primary care, or others has been made aware of the community paramedicine program but has not confirmed that the program is operating within state regulations. **3.** The regulatory agencies governing nursing, physician assistants, home health care, primary care, or others have approved the community paramedicine program on a "pilot" or other restricted basis. **4.** The regulatory agencies governing nursing, physician assistants, home health care, primary care, or others have approved the community paramedicine program without any restrictions. **5.** Specific statutes, rules, and regulations govern community paramedicine programs statewide.

Benchmark 202: *Community paramedicine program leaders (sponsoring agency, community paramedicine personnel, and/or other stakeholders) use a process to establish, maintain, and constantly evaluate and improve a community paramedicine program in cooperation with medical, payer, professional, governmental, regulatory, and citizen organizations.*

Indicator	Scoring
202.1 The program leaders have developed and implemented a multidisciplinary, multi-agency advisory committee to provide overall guidance to the community paramedicine planning and implementation strategies. The committee meets regularly and is in compliance with local or state open-meeting or transparency regulations and protects patient privacy.	**0.** Not known. **1.** There is no community-wide multidisciplinary, multi-agency advisory committee providing guidance to the program leadership in planning and developing a community paramedicine program. **2.** There is no community-wide multidisciplinary, multi-agency advisory committee and attempts to organize one have not been successful but are continuing. **3.** There is a community-wide multidisciplinary, multi-agency advisory committee, but its meetings are infrequent and guidance to the community paramedicine program is not always sought or available. Collaborative working arrangements are not apparent. **4.** There is a community-wide multidisciplinary, multi-agency advisory committee. Committee members and stakeholders regularly attend meetings. Collaboration and consensus concerning the role and direction of the community paramedicine program are beginning. **5.** There is a community-wide multidisciplinary, multi-agency advisory committee with well-defined goals and responsibilities relative to the development and oversight of the community paramedicine program that meets regularly. The committee routinely provides guidance and assistance to the community paramedicine program on system and program issues. There is strong evidence of consensus building among system participants. The committee is in compliance with all open meeting or transparency regulations and protects patient privacy.

Indicator	Scoring
202.2 A clearly defined and easily understood structure is in place for the community paramedicine program decision-making process at the local administrative level to continually improve the program.	**0.** Not known. **1.** There is no defined decision-making process (written policy and procedure) regarding the community paramedicine program within the sponsoring agency or its committees. **2.** There is an unwritten decision-making process that stakeholders use when convenient, although not regularly or consistently. **3.** The decision-making process is articulated within the community paramedicine program plan, although it has not been fully implemented. Policies are not written. **4.** The decision-making process is contained within the community paramedicine program plan, and there are current policies and procedures in place to guide decision making. Use of the decision-making process is infrequent. **5.** There is a clearly defined process for making decisions affecting the community paramedicine program. The process is articulated in the community paramedicine program plan and is further identified within system policies. Stakeholders know and understand the process and use it to resolve issues and to improve the program.

Indicator	
202.3 Community paramedicine program leaders have adopted and use goals and objectives that are specific, measureable, attainable, realistic, and timely for the community paramedicine program.	**0.** Not known. **1.** There are no goals or time-specific, quantifiable, and measurable objectives for the community paramedicine program. **2.** Community paramedicine program leaders have met to discuss time-specific, quantifiable goals. **3.** Community paramedicine program leaders are beginning the process of identifying measurable program goals and outcome-based, time-specific, quantifiable, and measurable objectives. **4.** Community paramedicine program leaders have adopted goals and time-specific, quantifiable, and measurable objectives that guide program performance. **5.** Community paramedicine program leaders, in consultation with their community-wide multidisciplinary, multi-agency advisory committee, have established measurable program goals and outcome-based, time-specific, quantifiable, and measurable objectives that guide system effectiveness and program performance.
202.4 The community paramedicine program has comprehensive protocols that guide personnel to ensure consistency of care delivered, to decrease unwarranted variation in care, and to ensure patient care activities remain within scope of practice boundaries.	**0.** Not known. **1.** There are no protocols to guide community paramedicine personnel. **2.** Community paramedicine personnel operate under the protocols for general emergency care response as approved by the agency's medical director. **3.** Specific protocols for community paramedicine activities that are outside of the general emergency care response activities of the agency are being drafted. **4.** Specific protocols for community paramedicine activities have been drafted and are undergoing review. **5.** Specific protocols for community paramedicine activities have been formally adopted and guide the assessment and treatment of patients/clients and serve as a basis for ongoing performance improvement.

Indicator	Scoring
202.5 The community paramedicine program assures confidential (HIPAA compliant) two-way communication of patient care records related to the program's care between the program providers and the affiliated hospital/physician/medical home providers.	**0.** Not known. **1.** No formal exchange of patient/client information occurs between community paramedicine and other health care providers. **2.** There is an informal, one way transmission of health care information from the community paramedicine providers and other health care providers and entities. **3.** There is a formal written policy that governs the one way transmission of health care information from the community paramedicine providers and other health care providers and entities. **4.** There is informal, two way transmission of health care information between community paramedicine and other health care providers and entities. **5.** There is a formal written policy, HIPAA compliant, that governs the two way transmission of health care information between community paramedicine and other health care providers. Community paramedicine personnel have received specific training in HIPAA compliance.

Indicator	Scoring
202.6 The exchange of data and any peer review or performance improvement processes are protected from discoverability.	**0.** Not known. **1.** The community paramedicine program does not engage in any peer review or performance improvement activity. **2.** The community paramedicine program conducts peer review and performance improvement under the rules and regulations pertaining to such protection for traditional EMS activities. There is no formal engagement with other health care providers in these activities. **3.** The community paramedicine personnel actively engage in multi-disciplinary, multi-agency peer review under the rules and regulations pertaining to such protection for traditional EMS activities. **4.** Multi-disciplinary, multi-agency peer review including community paramedicine personnel is conducted at a non-EMS location, e.g. hospital, under the protection from discoverability outlined for that entity. **5.** Specific peer review and performance improvement protection exist in state statute, rule, or regulation for multi-disciplinary, multi-agency peer review including community paramedicine personnel.

Benchmark 203: *The community paramedicine program has a comprehensive written plan based on community needs. The plan integrates the community paramedicine program with all aspects of community health including, but not limited to: EMS, public health, primary care, hospitals, psychiatric medicine, social service and other key providers. The written community paramedicine program plan is developed in collaboration with community partners and stakeholders.*

Indicator	Scoring
203.1 Community paramedicine program, in concert with a multidisciplinary, multi-agency advisory committee, has adopted a community paramedicine program plan.	**0.** Not known. **1.** There is no community paramedicine program plan, and one is not in progress. **2.** There is no community paramedicine program plan, although some individuals or groups have begun meeting to discuss the development of a community paramedicine program plan. **3.** A community paramedicine program plan was developed and adopted by the sponsoring agency. The plan, however, has not been endorsed by community paramedicine stakeholders. **4.** A community paramedicine program plan has been adopted, developed with a multidisciplinary, multi-agency advisory committee, and has been endorsed by the respective agencies. **5.** A comprehensive community paramedicine program plan has been developed, adopted in conjunction with community stakeholders, and includes the integration of other systems (e.g., EMS, public health, community health, and primary care).

Indicator	Scoring
203.2 The community paramedicine program plan clearly describes the system design (including the components necessary to have an integrated program) and is used to guide system implementation and management. For example, the plan includes references to regulatory standards and documents and includes methods of data collection and analysis.	**0.** Not known. **1.** There is no community paramedicine program plan. **2.** The community paramedicine program plan does not address or incorporate the parallel and convergent resources (prehospital, communication, transportation, acute care, rehabilitation, and others), nor is it inclusive of all-hazards preparedness or public health/community health integration. **3.** The community paramedicine program plan provides general information about all the program activities including all-hazards preparedness, EMS, and public health/community health integration; however, it is difficult to determine who is responsible and accountable for the community paramedicine programs performance and implementation. **4.** The community paramedicine program plan addresses every component of a well-organized and functioning program including all-hazards preparedness and public health/community health integration. Specific information on each component is provided, and the program design is inclusive of providing for specific goals and objectives for system performance. **5.** The community paramedicine program plan is used to guide system implementation and management. Stakeholders and policy leaders are familiar with the plan and its components and use the plan to monitor system progress and to measure results.

Benchmark 204: *Sufficient resources, including those both financial and infrastructure related, support program planning, implementation, and maintenance.*

Indicator	Scoring
204.1 The community paramedicine program plan clearly identifies the human resources and equipment necessary to develop, implement, and manage the community paramedicine program both clinically and administratively.	**0.** Not known. **1.** There is no method of assessing available resources or of identifying resource deficiencies in either the clinical or administrative areas of the community paramedicine program. **2.** The community paramedicine program plan addresses resource needs and identifies gaps in resources within the community health system, but no mechanism for correcting resource deficiencies has been identified. **3.** Resource needs are identified, and a draft plan, inclusive of goals and timelines, has been prepared to address the resource needs. The plan has not been implemented. **4.** Resource needs are clearly identified, and action plans are being implemented to correct deficiencies in both clinical areas and administrative support functions. **5.** A resource assessment survey has been completed and is incorporated into the community paramedicine program plan. Goals and measurable objectives to reduce or eliminate resource deficiencies have been implemented. Evaluation of progress on meeting resource needs is evident and, when necessary, the plan has been adapted.

Indicator	Scoring
204.2 Financial resources exist that support the planning, implementation, and ongoing management of the administrative and clinical care components of the community paramedicine program.	**0.** Not known. **1.** There is no funding to support the community paramedicine program planning, implementation, or ongoing management and operations for either program administration or community paramedicine clinical care. **2.** Some funding for the community paramedicine program has been identified, e.g. grants, but ongoing support for administration and clinical care outside of the third-party reimbursement structure is not available. **3.** There is current funding for the development of the community paramedicine program within the sponsoring agency organization consistent with the community paramedicine program plan, but costs to support clinical care support services have not been identified (transportation, communication, uncompensated care, standby fees, and others). No ongoing commitment of funding has been secured. **4.** There is funding available for both administrative and clinical components of the community paramedicine program plan. A mechanism to assess needs among various activities has begun. Implementation costs and ongoing support costs of the sponsoring agency have been addressed within the plan. **5.** A stable (consistent) source of reliable funding for the development, operations, and management of the community paramedicine program (clinical care and lead agency administration) has been identified and is being used to support planning, implementation, maintenance, and ongoing program enhancements.

Indicator	Scoring
204.3 Operational budgets (program administration and operations and in-field operations) are aligned with the community paramedicine program plan and priorities.	**0.** Not known. **1.** There are no operational budgets. **2.** There are limited operational budgets not sufficient to cover related program costs for the EMS system. **3.** There are operational budgets that may be sufficient to cover most program costs, but they are without regard to the community paramedicine program plan or priorities. **4.** There are operational budgets that have some ties to the community paramedicine program plan and that include consideration for the extraordinary costs to the system (e.g. providers). **5.** An operational budget exists for each component in the plan and matches system needs and priorities with program and operational expenditures.

Benchmark 205: *Collected data are used to evaluate system performance and to develop public policy.*

Indicator	Scoring
205.1 The community paramedicine program electronic information systems (EIS) is used to assess system performance, to measure system compliance with applicable standards, and to allocate program resources to areas of need or to acquire new resources.	**0.** Not known. **1.** There is no community paramedicine EIS. **2.** There is a limited community paramedicine EIS consisting of a patient registry, but no data extraction is used to identify resource needs, to establish performance standards, or to routinely assess and evaluate program effectiveness. **3.** There is a community paramedicine EIS that routinely reports (written, on-line, or electronic) on system-wide management performance and compliance. Linkage between management reports, resource utilization, and performance measures has begun. **4.** Routine community paramedicine EIS reports are issued at the community as well as at the provider level. Reports focus on management strengths, compliance with standards, and resource utilization. Trends are used to improve system efficiency and performance. **5.** Community paramedicine EIS reports are used extensively to improve and report on program performance. The sponsoring agency issues regular and routine reports to providers. Program leaders assess reports to determine deficiencies and to allocate resources to areas of greatest need. Program performance and standard compliance are assessed and reported.

Indicator	Scoring
205.2 Continuing education for community paramedicine providers is developed based on review and evaluation of EIS data.	**0.** Not known. **1.** There is no correlation between training programs for providers and the community paramedicine EIS. **2.** There is limited use of community paramedicine EIS reports to target educational opportunities. **3.** There is evidence that some providers are using community paramedicine EIS reports to identify educational needs and to incorporate them into training programs. **4.** Many educational forums have been conducted based on an analysis of the performance data in the community paramedicine EIS. Clear ties link education of providers with identified areas of need from the EIS reports. **5.** Routine analysis of community paramedicine information and educational opportunities is being conducted. Integrated program objectives tying program performance and education are implemented and routinely evaluated. Regular updates to community paramedicine information and education are available. Community paramedicine EIS data are used to measure outcomes and effectiveness.

Indicator	Scoring
205.3 Community paramedicine leaders, including the multidisciplinary, multi-agency advisory committee, regularly review system performance reports and system compliance information to monitor community paramedicine program performance and to determine the need for program modifications.	**0.** Not known. **1.** There is no community paramedicine specific multidisciplinary, multi-agency advisory committee, and there are no regular reports of system performance. **2.** There is a community paramedicine program community-wide multidisciplinary, multi-agency advisory committee, but it does not routinely review program data reports. **3.** The community paramedicine program community-wide multidisciplinary, multi-agency committee meets regularly and reviews process-type reports; no critical assessment of program performance has been completed. **4.** The community paramedicine program community-wide multidisciplinary, multi-agency advisory committee meets regularly and routinely assesses reports from community paramedicine data to determine program compliance and operational issue needing attention. **5.** The community paramedicine program community-wide multidisciplinary, multi-agency advisory committee and related stakeholder groups meet regularly and review data reports to assess program performance over time looking for ways to improve effectiveness and patient outcomes.

Benchmark 206: *The community paramedicine, EMS, public health, community health, and primary care systems are closely linked and working toward a common goal.*

Indicator	Scoring
206.1 The community paramedicine program, EMS, public health and community health system, and primary care leaders have established linkages including programs with an emphasis on population-based public health surveillance and evaluation for acute and chronic disease prevention and health promotion.	**0.** Not known. **1.** No community health risk assessments are conducted. **2.** Community paramedicine program officials conduct health risk assessments; however, there is no involvement of EMS, community health, public health, or primary care officials in those assessments. **3.** Public health/community health officials along with EMS, primary care providers, and community paramedicine participants assist with the design of community risk assessments. **4.** Public health/community health officials along with EMS, primary care providers, and community paramedicine participants assist with the design and analysis of community risk assessments. **5.** The public health/community health epidemiologist along with EMS, primary care providers, and community paramedicine participants is involved in the development of risk assessment reports. There is clear evidence of data sharing, data linkage, and well-defined reporting roles and responsibilities.

300: Assurance

Assurance to constituents that services necessary to achieve agreed-on goals are provided by encouraging actions of others (public or private), requiring action through regulation, or providing services directly.

Benchmark 301: *The electronic information system (EIS) is used to facilitate ongoing assessment and assurance of system performance and outcomes and provides a basis for continuously improving the community paramedicine.*

Indicator	Scoring
301.1 The community paramedicine program collects and uses patient data as well as provider data to assess system performance and to improve quality of care.	**0.** Not known. **1.** Patient care data are not collected electronically by the program. **2.** Patient care data are collected electronically but are not used to assess system performance or quality of care. **3.** Patient care data are collected electronically and are used to assess system performance. **4.** Patient care data are collected electronically and are used to assess both system performance and to improve quality of care across the program. **5.** Patient care data are used to identify and meet additional health care/social welfare needs as they are identified.

Indicator	Scoring
301.2 Community paramedicine care providers collect patient care and administrative data for each episode of care and provide these data to the community paramedicine program which is evaluated including monitoring trends and identifying outliers.	**0.** Not known. **1.** There is no jurisdiction-wide community paramedicine data collection. **2.** Community paramedicine providers have a patient care record for each episode of care, but it is not yet automated or integrated with the community paramedicine EIS. **3.** The community paramedicine patient care record electronically captures patient care provided by field personnel and can be transferred or entered into the community paramedicine EIS. **4.** The community paramedicine patient data system is integrated into the community paramedicine EIS and is used by community paramedicine and other health care personnel to review and evaluate community paramedicine system performance. **5.** The community paramedicine patient data system is fully integrated with all affiliated health care entities and with the public health surveillance system to help monitor community health needs.

Benchmark 302: *The financial aspects of the community paramedicine program are integrated into the overall performance improvement system to ensure ongoing "fine-tuning" and cost-effectiveness.*

Indicator	Scoring
302.1 Cost data are collected and provided to the community paramedicine program EIS for each major component of the program.	**0.** Not known. **1.** No cost data are collected. **2.** Administrative and program cost data are collected and included in the annual community paramedicine program report. **3.** In addition to administrative and program costs, clinical charges and costs are included in one or more major component areas and are provided to the community paramedicine EIS for inclusion in the annual community paramedicine program report. **4.** The costs associated with individual system components, for example, home visitation, can be determined and are provided to the EIS registry for inclusion in the annual community paramedicine program report. **5.** The cost of an aggregate system can be determined and is provided to the system registry for inclusion in the annual community paramedicine program report.
302.2 Cost, charge, collection, and reimbursement data are aggregated with other data sources including insurers and data system costs and are included in annual community paramedicine program reports.	**0.** Not known. **1.** No outside financial data are captured. **2.** Outside financial data are collected from one or more sources (e.g. Medicaid or private insurers). **3.** Extensive financial data, for example, cost, charge, collection, and reimbursement, are routinely collected from the hospital, registry data, or more sources. Sufficient expertise is available to the community paramedicine program to analyze and report complex fiscal data. **4.** Outside financial data are combined with internal community paramedicine program data and are used to estimate total program costs. **5.** Outside financial data are combined with internal community paramedicine program data and are used to estimate total system costs. These financial data are described in detail in the annual community paramedicine program report.

Indicator	Scoring
302.3 Financial data are combined with other cost, outcome, or surrogate measures, for example, avoidance of EMS transports, avoidance of hospital visits, improved wellness measures, and others, to estimate and track true system costs and cost benefits.	**0.** Not known. **1.** No nonfinancial burden of disease costs and outcome measures are collected or modeled. **2.** Estimated savings using various burdens of disease costs or outcome measure models are calculated for all community paramedicine programs. **3.** Estimated savings using various burdens of disease costs or outcome measure models are calculated for actual community paramedicine program costs. **4.** Estimated savings using various burdens of disease costs or outcome measure models are calculated for all community paramedicine programs and activities and are combined with other system cost data to determine costs and savings of the total system. **5.** Estimated savings using various burdens of disease costs or outcome measure models are calculated for all community paramedicine programs and activities, are combined with actual system cost data to determine costs and savings of the total system, and are described in detail in the annual community paramedicine program report.

Benchmark 303: *The community paramedicine program ensures competent medical oversight.*

Indicator	Scoring
303.1 There is authority for a community paramedicine medical director and a clear job description, including requisite education, training, and certification, for this position.	**0.** Not known. **1.** There is no requirement for a community paramedicine program medical director, and no job description has been developed. **2.** There is an EMS agency medical director that serves as medical director for the community paramedicine program, but no job description or expectations have been formally developed beyond those required of an EMS agency medical director. **3.** There is authority for a community paramedicine program medical director, a job description, and expectations have been developed. This individual may or may not also serve as the EMS agency medical director. **4.** There is authority for a community paramedicine program medical director, and the job description, including requisite education, training, and certification for the community paramedicine program medical director, is clear. A physician appropriately credentialed has been hired, and the job classification is routinely assessed for appropriateness of the duties required. **5.** If separate individuals, the EMS agency medical director and CP program medical director regularly meet together with program leadership to coordinate and integrate the EMS and CP aspects of the agency's services.

Benchmark 304: *The community paramedicine program is supported by an EMS system that includes communications, medical oversight, and transportation; the community paramedicine program, EMS system, and public health and community health agencies are well integrated.*

Indicator	Scoring
304.1 There is clear-cut legal authority and responsibility for the community paramedicine program medical director including the authority to adopt protocols, implement a performance improvement system, ensure appropriate practice of community paramedicine providers, and generally ensure medical appropriateness of the community paramedicine program based on regulatory agency scope of practice and accepted standards of medical care.	**0.** Not known. **1.** There is no community paramedicine program medical director. **2.** There is a community paramedicine program medical director with a written job description; however, the individual has no specific legal authority or time allocated for those tasks. **3.** There is a community paramedicine program medical director with a written job description. The community program medical director has adopted protocols, implemented a performance improvement program, and is generally taking steps to improve the medical appropriateness of the community paramedicine program. **4.** There is a community paramedicine program medical director with a written job description and whose specific legal authorities and responsibilities are formally granted by law or by administrative rule. **5.** There is written evidence that the community paramedicine program medical director has, consistent with the formal authority, adopted protocols, implemented a performance improvement program, is restricting the practice of community paramedicine program providers (if indicated), is making significant efforts to improve the medical appropriateness of the community paramedicine program, and is working to fully integrate the program into the community health/primary care systems. Sufficient resources have been allocated for the medical director's participation and oversight to ensure that an appropriate amount of his/her time is dedicated to program responsibilities.

Benchmark 305: *The community paramedicine program ensures a competent and safe workforce.*

Indicator	Scoring
305.1 In cooperation with the prehospital certification and licensure authority, established guidelines exist for community paramedicine personnel for initial and ongoing training including community paramedicine specific courses.	**0.** Not known. **1.** There are no community paramedicine training guidelines for prehospital personnel as part of initial or ongoing certification or licensure. **2.** Some community paramedicine personnel have completed initial training using a state, national, or internationally accepted community paramedicine curriculum. **3.** All community paramedicine personnel that provide medical services to patients/clients have completed initial training using a state, national, or internationally accepted community paramedicine curriculum. **4.** The program has established continuing education (CE) requirements for all community paramedicine program providers that are specific to community paramedicine program skills. These CE requirements exceed the CE courses for EMS personnel in time required and must cover topics specific to the community paramedicine program. **5.** The community paramedicine program CE requirements are based upon identified knowledge or competency gaps in providers, are specific to address these gaps, and are altered over time to address newly identified gaps.

Indicator	Scoring
305.2 The community paramedicine program has established, with oversight by the medical director, a credentialing process that assures each community paramedicine provider has proven competence in performing the skills within the scope of practice.	**0.** Not known. **1.** There is no credentialing process for community paramedicine personnel. **2.** A written credentialing process has been developed that assures that the community paramedicine program is staffed by professional, reasonable, and well-trained individuals. This includes documentation of appropriate background checks and successful completion of required educational programs. **3.** A credentialing process documents evaluation of competence performing at least three skills that are specific to the community paramedicine program beyond the skills of an EMS provider within the agency. **4.** A credentialing process evaluates each community paramedicine program provider including a structured assessment of competence, professionalism, interpersonal communications skills, medical care, and system-based integration of healthcare resources. **5.** In addition to local credentialing, state and/or national recognition in the form of certification or licensure has been attained for all community paramedicine personnel.

Indicator	Scoring
305.3 Conduct at least one multidisciplinary community paramedicine/community health conference annually that encourages system and team approaches to community health.	**0.** Not known. **1.** There are no multidisciplinary community paramedicine conferences conducted within geographic boundaries of the community. **2.** There are sporadic multidisciplinary community paramedicine conferences conducted. **3.** Multidisciplinary community paramedicine conferences are conducted occasionally, and attendance by community paramedicine practitioners is monitored and reviewed. **4.** Multidisciplinary community paramedicine conferences are conducted at least annually. **5.** Multidisciplinary (EMS, physicians, nurses, physiatrists, policy makers, consumers, and others) community paramedicine conferences are conducted regularly, new findings from quality assurance and performance improvement processes are shared, and the conferences are open to all practitioners within the system. Regular attendance is required.
305.4 There are mechanisms within the system performance improvement processes to identify and correct systemic personnel deficiencies within the community paramedicine program.	**0.** Not known. **1.** There is no mechanism to identify through performance improvement processes systemic personnel deficiencies within the community paramedicine program. **2.** The community paramedicine program has begun to identify systemic personnel deficiencies. **3.** The community paramedic program has a mechanism to identify systemic personnel deficiencies and is working on a process for corrective action. **4.** The community paramedic program has a mechanism to identify systemic personnel deficiencies and is instituting corrective actions across the program. **5.** Community paramedicine leadership and other stakeholders, including hospitals and the lead agency, monitor and correct personnel deficiencies as identified through quality assurance and performance improvement processes. A method of corrective action has been instituted, and appropriate follow-up is occurring. Monitoring of program deficiencies and corrective actions is ongoing.

Indicator	Scoring
305.5 There are mechanisms in place within agency and institutional performance improvement processes to identify and correct deficiencies in practice patterns of individual practitioners within the community paramedicine programs.	**0.** Not known. **1.** There is no mechanism in place to routinely assess the deficiencies in community paramedicine practice patterns of individual practitioners. **2.** The community paramedicine program has begun a process to evaluate deficiencies in practice patterns of individual practitioners. **3.** A mechanism is in place to monitor and report on deficiencies in practice patterns of individual practitioners within the community paramedicine program. The process is evolving as part of the quality assurance and performance improvement processes. **4.** There is a well-defined process to assess care provided by practitioners within the community paramedicine program. The quality assurance and performance improvement processes identify deficiencies, and corrective action plans are instituted. **5.** Practice patterns of individual practitioners performing outside the standards of care are routinely assessed by the medical director and sponsoring agency. Corrective actions (training, additional education, and disciplinary), as appropriate, are instituted, and trends are monitored and reported to the sponsoring agency and/or other licensing agency.

Benchmark 306: *The program acts to protect the public welfare by enforcing various laws, rules, and regulations as they pertain to the community paramedicine program.*

Indicator	Scoring
306.1 The program works in conjunction with the prehospital and other regulatory agencies to ensure that community paramedical care provided by licensed individuals is in compliance with any rules, regulations, or protocols specific to community paramedicine delivery.	**0.** Not known. **1.** There is no evidence that the community paramedicine sponsoring agency and the prehospital regulatory agency work together to ensure appropriate provider agency licensure and compliance. **2.** The community paramedicine sponsoring agency refers complaints concerning issues of prehospital agency performance to the prehospital regulatory agency. **3.** The community paramedicine sponsoring agency and the prehospital regulatory agency work together to resolve complaints involving prehospital personnel performance. **4.** The community paramedicine sponsoring and the prehospital regulatory agency work together to monitor compliance of prehospital providers with any rules, regulations, or protocols specific to prehospital practice. **5.** The prehospital regulatory agency, working cooperatively with the community paramedicine sponsoring agency, is involved in ongoing community paramedicine program performance improvement processes and prehospital provider compliance with any rules, regulations, or protocols specific to prehospital practice.

Indicator	Scoring
306.2 The program refers issues of personnel noncompliance with laws, rules, and regulations to appropriate boards or licensure authorities.	**0.** Not known. **1.** Individual personnel performance is not monitored. **2.** Complaints about individual personnel noncompliance with laws, rules, and regulations go directly to appropriate boards or licensure authorities. **3.** Community paramedicine sponsoring agency personnel collaborate actively with licensure authorities to resolve complaints involving individual personnel noncompliance with laws, rules, and regulations governing community paramedicine personnel. **4.** Individual personnel performance issues are addressed within community paramedicine program's performance improvement processes unless they involve breaches of State or Federal statute. **5.** Appropriate boards or licensure authorities are involved in the system performance improvement processes addressing individual personnel performance issues.

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Appendix A: Program Information Worksheet

This descriptive information serves as a program summary and will be useful as a source of data for State and Federal agencies and organizations interested in community paramedicine programs. It is suggested that the form be completed, updated at least annually, and kept on file as a resource to provide other entities who may request summary information concerning your program.

Name of Program: _____

Program Location (city, state): _____

Where does the Program Operate?: ☐ Urban ☐ Rural

Program Sponsor/Agency: _____

Agency Type: _____

Population Served: _____

Description of Program (What services do you provide): _____

_____

Number of Community Paramedics in Program: _____

Call Volume (Indicate whether daily/monthly/annually): _____

Program Start Date (Month/Year): ___/____

Continuous Operation Since Start: ☐Yes ☐No

If No, What Caused the Interruption: _____

_____

How is the Program Funded/Supported: (check all that apply)

- ☐ Agency funds
- ☐ Grant support
- ☐ 3rd party payers
- ☐ Tax revenue
- ☐ Other (describe) _____

Who is the community paramedicine program Medical Director:

_____

Who is the EMS agency medical director (if different): _____

Under what state or local authority does the program operate:

_____

Healthcare Affiliations:

Contracted health plans/insurers: _____

Contracted hospitals: _____

Contracted physician practices/medical homes: _____

_____

Other contracted healthcare organizations (home health agencies, etc):

_____

Appendix B: Definitions

Accountable Care Organization: Teams of doctors, hospitals, and other health care providers and suppliers working together

Benchmarks: Global overarching goals, expectations, or outcomes. In the context of the community paramedicine program, a benchmark identifies a broad system attribute.

Certification: The issuing of certificates by a private agency based upon standards adopted by that agency that are usually based upon minimum competence.

Community Paramedic: A state licensed EMS professional that has completed a formal internationally standardized Community Paramedic educational program through an accredited college or university and has demonstrated competence in the provision of health education, monitoring and services beyond the roles of traditional emergency care and transport, and in conjunction with medical direction. The specific roles and services are determined by community health needs and in collaboration with public health and medical direction.

Community Paramedicine: An organized system of services, based on local need, which are provided by EMTs and Paramedics integrated into the local or regional health care system and overseen by emergency and primary care physicians. This not only addresses gaps in primary care services, but enables the presence of EMS personnel for emergency response in low call-volume areas by providing routine use of their clinical skills and additional financial support from these non-EMS activities.

Credentialing: An institution's or individual's authority or claim of competence for a course of study or completion of objectives.

EMS Professionals: Paid or volunteer individuals who are qualified, by satisfying formalized existing requirements, to provide some aspect of care or service within the EMS system.

EMS Professionals - Emergency Medical Technician (EMT): Acting under the oversight of a medical director, an EMT "initiates immediate lifesaving care to critical patients". EMT's perform numerous tasks in the prehospital setting including, but not limited to, basic airway management, cervical spine immobilization, cardiopulmonary resuscitation, and bleeding control.

EMS Professionals - Advanced Emergency Medical Technician (AEMT): Acting under the oversight of a medical director, an AEMT builds upon the knowledge and skills of an EMT by expanding treatment utilized to patients in the prehospital setting. AEMT's perform numerous tasks in addition to an EMT including, but not limited to, intravenous access and advanced airway management.

EMS Professionals - Paramedic: Acting under the oversight of a medical director, a Paramedic possesses "complex knowledge and skills necessary to provide patient care and transportation". Paramedics perform numerous tasks including, but not limited to, intravenous access, advanced airway management, obtainment and interpretation of electrocardiograms, and administration of lifesaving medications.

EMS Systems: A comprehensive, coordinated arrangement of resources and functions organized to respond to medical emergencies in a timely manner.

Health: Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.

Indicators: Those tasks or outputs that characterize the benchmark. Indicators identify actions or capacities within the benchmark. Indicators are the measurable components of a benchmark.

International Roundtable on Community Paramedicine (IRCP): An collaborative developed to promote the international exchange of information and experience related to the provision of flexible and reliable health care services to residents of rural and remote areas using novel health care delivery models, and to be a resource to public policy makers, systems managers, and others.

Joint Committee on Rural Emergency Care (JCREC): Joint committee between NASEMSO and NOSORH dedicated to advancing policy and practice to ensure access to timely, affordable, and high quality emergency care services in rural America.

Licensure: The act of a State granting an entity permission to do something that the entity could not legally do without such permission. Licensing is generally viewed by legislative bodies as a regulatory effort to protect the public from potential harm. In the health care delivery system, an individual who is licensed tends to enjoy a certain amount of autonomy in delivering health care services. Conversely, the licensed individual must satisfy ongoing requirements that ensure certain minimum levels of expertise. A license is generally considered a privilege and not a right.

Medical Oversight: Supervision of the medical aspects of systems designed to provide emergency care in the out-of-hospital setting.

National Association of EMS Physicians (NAEMSP): An organization of physicians and other professionals partnering to provide leadership and foster excellence in out-of-hospital emergency medical services.

National Association of EMTs (NAEMT): An organization of physicians and other professionals partnering to provide leadership and foster excellence in out-of-hospital emergency medical services.

National Association of State EMS Officials (NASEMSO): The lead national organization for EMS, a respected voice for national EMS policy with comprehensive concern and commitment for the development of effective, integrated, community-based, universal and consistent EMS systems.

National EMS Information System (NEMSIS): A nationally recognized prehospital patient care data standard, including comprehensive data dictionary and the supporting XML standard to ensure portability of the data; NEMSIS was developed to help states collect more standardized data elements and eventually submit data to a national EMS database.

National Organization of State Offices of Rural Health (NOSORH): Organization established to help State Offices of Rural Health in their efforts to improve access to, and enhance the quality of, health care for America's 61 million rural citizens.

National Registry of Emergency Medical Technicians (NREMT): A national certifying agency that establishes uniform standards for training and examination of personnel active in the delivery of emergency ambulance service.

Scope of Practice: Defined parameters of various duties or services that may be provided by an individual with specific credentials. Whether regulated by rule, statute, or court decision, it represents the limits of services an individual may legally perform.

Scoring: Breaks down the indicator into completion steps. Scoring provides an assessment of the current status and marks progress over time to reach a certain milestone.

Standard Curriculum: With goals and objectives to improve the quality of emergency medical care, the standard curriculum consists of core curriculum of minimum required information to be presented within each respective EMS certification levels.

Appendix C: Overview of the Community Paramedicine Programs Interviewed

Fort Worth, Texas

Name of Program: MedStar Community Health Program
Active Dates: 2009 – Present
Funding: Cost savings in reducing unnecessary 9-1-1 responses

Core Activities: The goal of the Community Health Program is to reduce the unneeded 9-1-1 calls and EMS transports that put strain on an already overloaded emergency system, provide the patient more appropriate health care (as opposed to the emergency room), as well as reducing overall healthcare costs. Since its' inception, it is estimated that the program has saved more than $1.3 million in emergency room charges, and reduced 9-1-1 use by these patients by nearly 50 percent, saving nearly $1 million in EMS charges.

San Francisco, California

Name of Program: San Francisco Fire/EMS Homeless Outreach and Medical Emergency (HOME) Team
Active Dates: 2004 – 2009
Funding: City general fund

Core Activities: Originally conceived as a means to stop sending expensive EMS resources to repetitive, non-emergency calls. HOME Team members were veteran SFFD paramedics who had been selected and trained to be paramedic outreach workers. They were clinically experienced, empathetic and had good street sense from their tenure on the job.

HOME Team members concentrated on areas where high populations of chronically homeless people congregate. Team members were taught to motivate these people to accept care and treatment through a series of specialized interventional techniques. They started with a psychosocial assessment of the client's perceived needs. They asked the client's view of why he/she repeatedly calls 9-1-1. They assumed a positive and supportive role, but were more directive than traditional social work.

The program is not currently operating due to a funding shortage.

Scott County, Minnesota

Name of Program: Scott County Community Paramedicine
Active Dates: 2008 – 2010; 2011 – Present
Funding: Grants and 3rd party payers

Core Activities: Free fixed and mobile clinics to reduce inappropriate use of 9-1-1 resources. Community paramedics have been primarily used in the mobile clinic. They've seen between 300-400 patients who have visited the clinic for various reasons. The community paramedics have also done clinical work with the physician medical director and other providers.

The program underwent a one year hiatus in the absence of funding. Minnesota recently passed legislation that will allow community paramedic programs to bill for their services.

University of Pittsburgh, Pennsylvania

Name of Program: Emed Health
Active Dates: 1997 – Present
Funding: University Health Plan, 3rd party payers

Core Activities: Emed Health promotes prevention and disease management using emergency medical service (EMS) agencies and their personnel to deliver community, emergency department and home-based prevention and disease management services. Community paramedics have immunized more than 50,000 people since start and have recently begun biometric screening. Trained paramedics have conducted those screenings on employees at university and other large employers with 30-40,000 screenings to date. They also have asthma prevention and fall prevention programs. A very successful component includes the Safe Landing program where community paramedics are sent out to homes to work with patients who have been discharged from the hospital. This occurs within 48 hours of discharge and community paramedics ensure that the patients understand discharge instructions and connect with their primary care provider to prevent readmission.

Vail, Colorado

Name of Program: Western Eagle County Ambulance District – Community Paramedicine
Active Dates: 2009 – 2010; 2011 – Present
Funding: Grant funds

Core Activities: Patients are referred to emergency medical services personnel by their primary care physician to receive services in the home, including hospital discharge follow-up, blood draws, medication reconciliation and wound care. The program will initially operate with two specially trained community paramedics who will coordinate with the referring physician to ensure quality of care and appropriate oversight. In addition, paramedics will work with Eagle County's Public Health Department to provide preventative services throughout the community.

This program underwent a several month hiatus to resolve regulatory issues with state agencies.

Appendix D: Additional Resources

Rural and Frontier EMS Agenda for the Future:
http://www.ruralcenter.org/sites/default/files/rfemsagenda.pdf

HRSA Model Trauma System Planning and Evaluation: The complete report can be found at: http://www.ncdhhs.gov/dhsr/EMS/trauma/pdf/hrsatraumamodel.pdf. The Trauma System Self-Assessment Supplemental Tool: Benchmarks, Indicators, and Scoring can be found at: http://www.publicsafety.ohio.gov/links/ems_self_assessment_tool.pdf

International Roundtable on Community Paramedicine (IRCP): The IRCP promotes the international exchange of information and experience related to the provision of flexible and reliable health care services to residents of rural and remote areas using novel health care delivery models and to be a resource to public policy makers, systems managers, and others.
http://www.ircp.info

Joint Committee on Rural EMS Care (JCREC): In 2009 the National Association of State EMS Officials (NASEMSO) and National Organization of State Offices of Rural Health (NOSORH) created a Joint Committee on Rural Emergency Care (JCREC). This Committee is dedicated to advancing policy and practice to ensure access to timely, affordable, and high quality emergency care services in rural America.
State Perspectives Discussion Paper on Development of Community Paramedic Programs:
http://www.ruralcenter.org/sites/default/files/community_paramedic_programs.pdf

Community Paramedicine Insight Forum (CPIF): The Community Paramedicine Insights Forum (CPIF) is a project sponsored by the Joint Committee on Rural Emergency Care (of the National Association of State EMS Officials and the National Organization of State Offices of Rural Health) and the Center for Leadership, Innovation and Research in EMS (CLIR). It is intended to serve as a regular meeting place, educational opportunity and discussion group for those folks trying to establish community paramedicine services or systems on a local, regional or statewide basis.
http://cpif.communityparamedic.org

Appendix E: Project Team

Minnesota – Community Paramedicine Program
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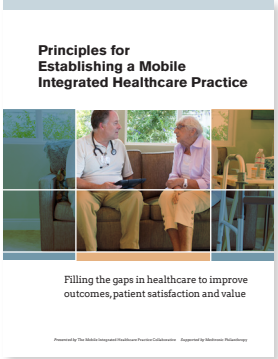
Principles for Establishing a Mobile Integrated Healthcare Practice

Filling the gaps in healthcare to improve outcomes, patient satisfaction and value

Presented by The Mobile Integrated Healthcare Practice Collaborative *Supported by* Medtronic Philanthropy

About This Guide



Mobile Integrated Healthcare Practice (MIHP) is a novel healthcare delivery platform intended to serve a range of patients in the out-of-hospital setting by providing patient-centered, team-based care using mobile resources.

Medtronic Philanthropy's mission is to expand access to care for underserved populations worldwide. Medtronic sees the practice of Mobile Integrated Healthcare as an important step in filling the existing gaps in healthcare and fulfilling our mission.

Medtronic Philanthropy appreciates the work of the Mobile Integrated Healthcare Practice Collaborative in producing this document. Written by leading researchers, educators, medical directors and practitioners, this guide pulls together and places in context the basic tenets that should be a part of every Mobile Integrated Healthcare Practice.

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Medtronic, Inc. (medtronic.com), headquartered in Minneapolis, is the global leader in medical technology—alleviating pain, restoring health and extending life for millions of people around the world. Medtronic Philanthropy focuses on expanding access to quality chronic disease care among underserved populations worldwide, in addition to supporting health initiatives in communities where Medtronic employees live and give.

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Principles for Establishing a Mobile Integrated Healthcare Practice

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Introduction

Critics of the U.S. healthcare system often point out that, despite skyrocketing costs for patients, payers and society overall, health outcomes in this country remain less than optimal.[1] Frequently cited healthcare failures include lack of access to care for many patients; billions of dollars wasted due to inefficient delivery models and excessive administrative costs; inadequate efforts to prevent illness and disease; fragmentation of acute and chronic care; and outdated and complex reimbursement plans.

The fragmentation and inefficiencies of healthcare services in the United States are notably evident in the care of patients outside of the hospital setting; this is particularly true for the chronically ill, the elderly and the mobility-impaired. Multiple providers offer only niche care (and often only during certain hours), which does not match the actual needs of these patient populations.

As a result, patients who require care outside of normal business hours are routinely referred to the emergency department (ED), even when it is clear that the ED is not the most appropriate place for them to receive care. Furthermore, care gaps, such as a lack of post-acute transitional care, make preventable readmissions a virtual inevitability—one that is both undesirable and expensive for patients, their caregivers and the healthcare system.

Mobile Integrated Healthcare Practice: a delivery strategy for interprofessional medicine

Mobile Integrated Healthcare Practice (MIHP) offers a strategy for correcting some of these shortcomings. In its simplest form, MIHP is a novel healthcare delivery platform intended to serve a range of patients in the out-of-hospital setting by providing patient-centered, team-based care using mobile resources.

This healthcare practice accomplishes these goals by emphasizing the importance of providing the right care, at the right time, in the right location and at the right cost.

In order for MIHP programs to succeed, all three elements of the Triple Aim must be addressed. The programs also must be designed to be scalable and sustainable. MIHP programs can achieve these objectives by engaging and integrating existing infrastructure and resources, incorporating interprofessional expertise and leadership, and developing sustainable financial frameworks based on a value-based population health model.

MIHP is designed to achieve the goals of the Institute for Healthcare Improvement's Triple Aim[2,3]:

- **Improve the health of the population**
- **Enhance the patient experience of care, including quality, access and reliability**
- **Reduce or control the per-capita cost of care**

MIHP programs will vary from community to community based on specific needs and available resources. However, a unified strategy and framework will make aspects of these programs easier to reproduce and allow for evaluation of their impact on patients, communities, population health and the healthcare system.

Features of a comprehensive and accountable MIHP program

Ideally, MIHP is a restructuring of existing healthcare resources, not a new means to increase healthcare spending. Indeed, programs that operate only as "additions" to the current healthcare infrastructure have demonstrated a consistent inability

to establish economic sustainability. In contrast, an MIHP strategy is designed to support and augment other patient-centered delivery models—including the patient-centered medical home, the chronic care model and the accountable care organization—by providing an optimized mix of healthcare and patient navigation at a lower cost than traditional models. MIHP may find funding within one of those four models as a cost-optimization strategy that is based on shared savings. However, while financial sustainability is critical, MIHP programs must retain a patient-centered focus with an emphasis on accessibility, development of non-traditional portals of entry, continuity of care and transparency.

MIHP programs must retain a patient-centered focus with an emphasis on accessibility, development of non-traditional portals of entry, continuity of care and transparency.

Comprehensive and accountable MIHP programs will include many of the following features:

- Program and healthcare outcome goals informed by a population health needs assessment
- Patient access through a patient-centered mobile infrastructure
- Delivery of evidence-based interventions using multidisciplinary and interprofessional teams composed of providers operating at the top of their respective scopes of practice
- Improved access to healthcare and health equity through 24-hour availability
- Patient-centered healthcare navigation and population-specific healthcare services
- Full utilization of existing infrastructure and resources, including telemedicine technology
- Integrated electronic health records and access to health information exchanges
- Provider education and training based on assessments of program needs and provider competencies
- Physician medical oversight in program design, implementation and evaluation
- Strategic partnerships engaging a spectrum of healthcare providers and other key stakeholders
- Financial sustainability
- Quality outcomes performance measurement and program evaluation

MIHP programs that rely on a single type of provider or healthcare entity—and are thus not fully engaged with a patient's other healthcare and social service needs—will be too limited in their scope and capacity to efficiently use healthcare resources, and are thus unlikely to achieve either financial sustainability or better healthcare for patients. By contrast, interprofessional collaboration and multistakeholder partnerships—defined by local needs and resources—will set MIHP apart from previous mobile healthcare efforts, and will allow MIHP programs to break down the healthcare silos that often result in the uncoordinated, expensive and ineffective healthcare that we see today.

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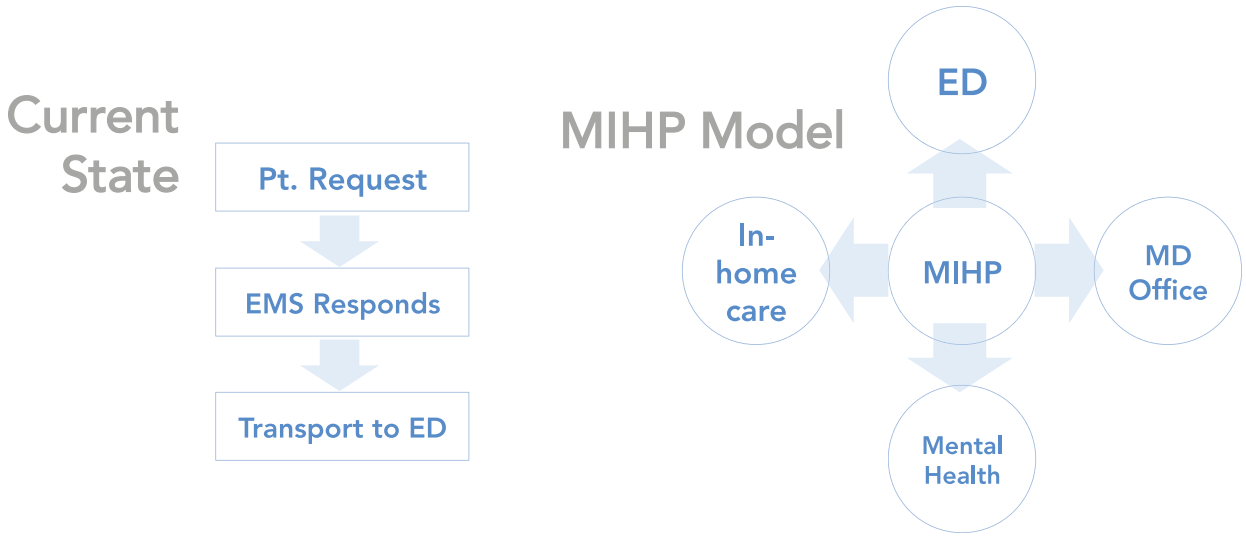

MIHP Logical Model

POPULATION NEEDS!	INPUTS!	OUTPUTS!	OUTCOMES!
Assessment	**Resources**	**Activity**	**Evaluation**
What are the health needs? *What are the service gaps?*	*What do we invest?* *Who are the stakeholders?*	*What do we do?* *Who do we reach?*	*What are the results?* *How/when do we measure?*
Example Assessment Tools • Mobilizing for Action through Planning & Partnerships (MAPP) • HRSA Community Paramedicine Evaluation Tool • CDC Community Health Assessment and Group Evaluation (CHANGE) Action Guide • HHS Healthy People	Core Components • Interprofessional education/ competency • Clinical leadership/ medical director • Community assessment • Strategic partnerships • Patient-centered access • Communications • Tele-presence • Capacity of navigation • Healthcare providers • Transportation/mobility • Integrated health record • Sustainable funding • Measurement	Example Services • Patient Navigation • Care Coordination • Preventative Healthcare • Post-acute care • Mental Health/Substance Abuse • Hospice/Palliative Care • Transitional Care • Acute Care • Injury Prevention • Advocacy/Education	Performance Dimensions (Short, Intermediate, Long Term) • Patient experience • Clinical • Integration • Provider experience • Cost effectiveness • Impact

CHANGING THE PARADIGM

These figures are reproduced from a scientific poster presented by Eric Beck, DO, at the November 2013 annual meeting of the American Public Health Association. Mobile Integrated Healthcare Practice challenges the current system of care and offers a novel approach to integrating services from multiple disciplines.

CHAPTER 1

Population Health Needs Assessment

Introduction

Mobile Integrated Healthcare Practice (MIHP) provides a framework for collaborative efforts between diverse sets of healthcare professionals and services. MIHP programs that seek to compete, rather than collaborate, with existing healthcare services will thus encounter a difficult path to success. Indeed, an MIHP program should be carefully targeted to address an existing gap in service or an emerging healthcare need. Specifically, an MIHP program should provide a service or connection that currently does not exist in a particular community or for a specific population.

An MIHP program should provide a service or connection that currently does not exist in a particular community or for a specific population.

A population health needs assessment is critical to identifying gaps and unmet needs in a community's healthcare system. Accordingly, it is an important first step in any MIHP project. While many similar healthcare problems can be found in communities across the country, subtle (and not-so-subtle) differences do exist between the needs of different communities. Geography, demographics, economics, politics and culture of communities can all impact which resources are available, which are needed and which can be provided by an MIHP program.

What is a population health needs assessment?

A population health needs assessment is a systematic and comprehensive method of examining the current status of a population in order to determine what outcomes must be achieved.[4] Once the relevant outcomes have been identified, programs can then be developed specifically around them. A successful MIHP needs assessment will incorporate tools from epidemiology, economics and health policy; it will also include the perspectives of communities, healthcare providers and patients. Needs assessments can range in size and scope but should always use all available information, both quantitative and qualitative, to ensure that decisions are made based on facts rather than assumptions.

Traditionally, population health needs assessments have been the realm of public health professionals. Local and state health departments often produce population health needs assessments that focus on major health issues for an entire community. More recently, however, population health needs assessments have also become commonplace among other healthcare organizations. The Affordable Care Act, for example, requires hospitals with 501(c)(3) status to conduct population health needs assessments every three years. Many community health centers, hospice agencies, patient-centered

medical homes and large employers are also now conducting population health needs assessments.

Why conduct an MIHP population health needs assessment?

Conducting a needs assessment prior to developing an MIHP program promotes greater sustainability and acceptance of the program. An MIHP program that simply replicates the model of programs in other communities might find that its services are not needed, that it competes with existing programs or that the community does not want the program. For example, a population health needs assessment may spur one community to develop an MIHP program to divert substance abusers who are not in need of emergency medical care away from the ED by transporting them directly to detoxification centers. Another community may try to replicate this program, only to find that substance abusers make up such a small percentage of ED volume that the program is neither necessary nor sustainable.

A population health needs assessment is the best method for determining what health outcomes are desired but not being achieved in a particular community, how to prioritize those needs and what resources are necessary in order to achieve them.

The process of conducting a population health needs assessment can also provide a good foundation for the implementation of the MIHP programs that ensue. A thorough population health needs assessment requires interacting with, and gathering information from, several different community stakeholders that are likely to play an important role in the establishment of any MIHP program. They include healthcare organizations such as public health departments and hospitals, individual healthcare providers, public and private social service agencies, and other relevant groups and individuals. A population health needs assessment can also inform the development of performance measures and targets, which are critical pieces of any community health program.

How does one conduct a population health needs assessment?

A population health needs assessment can be broad, encompassing an entire community or region; or it can be narrow, focusing on a specific sub-population within a community. For many organizations involved in MIHP, the first step in conducting a population health needs assessment will be to choose the relevant population. Sometimes, that choice will be easy—an insurer, for example, may conduct an assessment of the needs of its own members or beneficiaries. Similarly, a hospital might focus on patients with a specific diagnosis that is prone to readmission, such as congestive heart failure. And an EMS agency might choose to look at its most frequent 911 callers.

Conducting a needs assessment prior to developing an MIHP program promotes greater sustainability and acceptance of the program.

Ideally, population health needs assessments should be conducted in collaboration with local health organizations, community leaders, academic institutions, and other community stakeholders with pertinent expertise and experience. Developing new partnerships with community stakeholders will be critical when producing a truly comprehensive population health needs assessment. Relevant stakeholders will include healthcare payers,

accountable care organizations, home health providers, hospice agencies, public health departments, social service providers, hospitals, EMS systems, community groups and patients.

A population health needs assessment should be informed by quantitative data as well as qualitative information. Epidemiological and demographic information, if available, will be a key resource. Gaps in services may also be identified through surveys, discussions with stakeholders and the use of other information sources. Some resources that may be relevant to a population health needs assessment include the following:

- Previous community health assessments and reports
- Existing data (e.g., local health department statistics or CMS data)
- Literature reviews
- Surveys
- Focus groups
- Interviews
- Expert panels
- Case studies
- GIS (geographic information systems) mapping
- Community forums

A successful MIHP needs assessment will incorporate tools from epidemiology, economics and health policy; it will also include the perspectives of communities, healthcare providers and patients.

In addition to identifying gaps and unmet needs in existing healthcare services, a population health needs assessment can help identify potential resources and partners for an MIHP program. The population health needs assessment may also help an MIHP program prioritize its efforts, particularly when it uncovers several gaps in care that cannot be addressed simultaneously. If this is the case, the needs assessment should be used to assist with determining the scope of each problem, identifying the consequences of not addressing any particular problem, calculating the costs associated with both the status quo and potential solutions, and weighing other factors that will be critical in setting program priorities.

There is no one-size-fits-all approach to performing a population health needs assessment. Conducting such an assessment in the context of MIHP will require the incorporation and local adaptation of many different tools, techniques and approaches. The Association of Community Health Improvement, in partnership with the American Hospital Association, recommends a six-step framework for needs assessment and program planning that may be useful for MIHP programs:[5]

1. Establishing the Assessment Infrastructure
2. Defining the Purpose and Scope
3. Collecting and Analyzing Data
4. Selecting Priorities
5. Documenting and Communicating Results
6. Planning for Action and Monitoring Progress

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Questions to Ask as Part of a Population Health Needs Assessment

GENERAL QUESTIONS

- What is the target population?
- What is the goal?
- Who are the relevant stakeholders?
- What can be changed?
- What are the barriers to change?
- What evidence-based interventions or programs can help fill the gaps that the assessment finds?

IDENTIFYING RESOURCES

- Where and when is the current population receiving care or service?
- What existing assets could be leveraged to improve health for the population?
- What capacity exists locally for the population?
- What health services currently exist that are complementary or overlapping?
- How are existing healthcare services funded?
- What partnerships already exist?

PROFILING THE POPULATION

- What are the key characteristics of the population (or sub-population) in question?
- What is the current health status of the population?
- What problems is the population facing?
- What factors are contributing to those problems, and what impact do they have on population outcomes?
- What services are currently being provided? Are they adequate?
- What are the local perceptions about the population (professional perceptions, patient perceptions, payer perceptions, government perceptions, etc.)?
- What are the local priorities related to this population?
- What do the members of this population want?
- Are there appropriate, clinically effective, cost-effective interventions for the population?

CHAPTER 2

Program Taxonomy

Introduction

The framework for Mobile Integrated Healthcare Practice (MIHP) is built on a continuum of healthcare, ranging from direct provision of care in the field to patient navigation. At one end of this continuum, the focus is on the direct provision of preventive care, as well as the extension of primary care to rural and underserved environments. On the other end of this continuum, the focus is not on providing care directly but rather on patient navigation—specifically, helping patients access an appropriate destination for care in urban and suburban environments.

The MIHP framework promotes diversity by proposing team-based and multi-provider care schemes that can each engage EMS, but are not limited to EMS.

The concept of deploying mobile resources to provide preventive care or extend primary care services to underserved communities is not new and has been embraced by EMS programs around the globe under the umbrella of "community paramedicine." Indeed, the development of community paramedicine programs has offered the promise of newfound roles for EMS providers beyond the existing confines of emergency treatment and transport to the emergency department.

More recently, however, novel programs aimed at addressing increasingly complex and specialized clinical needs in the out-of-hospital* arena have demonstrated a rapid growth in scale, scope and diversity beyond the existing community paramedicine model. The MIHP framework promotes this diversity by proposing team-based and multi-provider care schemes that can each engage EMS, but are not limited to EMS. Mobile Integrated Healthcare Practice and community paramedicine are, thus, complementary concepts and can form the basis for a natural partnership.

The growing diversity of MIHP programs can be better understood by organizing them into a preliminary taxonomy. The taxonomy provided here encompasses several different types of MIHP programs, ranging from those focused on managing patients who place high demands on the healthcare system to those that provide around-the-clock support to in-home hospice programs. It remains to be seen, however, whether MIHP programs will also benefit from a standardized approach to education, operational and clinical metrics, and regulatory constructs.

Expanding the nomenclature

Over the past several decades, a growing number of EMS systems have developed programs aimed at tackling the issues of non-emergent and unplanned healthcare. The goal of such programs has often been not only to address local community needs,

* Throughout this publication, we purposely use the term "out-of-hospital" rather than "prehospital" because so much of MIHP is predicated on the concept of keeping patients out of the hospital.

but also to promote the professionalization of EMS providers and expand the scope of their activities beyond simply responding to "emergency" incidents. In many cases, these programs have proposed a new adjunct provider—the community paramedic—to fill gaps in community healthcare, such as by providing vaccinations or extending certain primary care services in the absence of a local physician. Some of these programs, many initially developed as pilot programs, have now become permanent features of their local EMS systems and have grown to include training programs specific to the local community paramedic mission.

In recent years, EMS systems have begun to experiment more broadly with non-emergent healthcare programs that are aimed at addressing increasingly complex and specialized clinical needs, such as the management of chronic medical problems and prevention of hospital readmissions. These programs have expanded the scope of EMS-based non-emergent healthcare programs beyond the limits of community paramedicine, and even beyond the traditional boundaries of EMS. Consequently, the emerging concept of Mobile Integrated Healthcare Practice reflects a growing understanding that EMS-centric descriptors may now be insufficiently precise, and perhaps even obsolete, to describe the growing scope and diversity of such programs.

Despite the diversity of MIHP programs, common themes and defining characteristics are now present with sufficient maturity to warrant a descriptive taxonomy that expands beyond the community paramedicine model. For those considering implementation of an MIHP program, this taxonomy offers a window on the many venues and services that might be considered.

This taxonomy addresses four general types of programs:

- **Patient navigation** Programs designed to optimize a patient's connection with the health services that are most appropriate for his or her needs, often with the intention of reducing the patient's reliance on EMS or emergency department care

Despite the diversity of MIHP programs, common themes and defining characteristics are now present with sufficient maturity to warrant a descriptive taxonomy that expands beyond the community paramedicine model. For those considering implementation of an MIHP program, this taxonomy offers a window on the many venues and services that might be considered.

- **Adjunctive mobile care** Programs intended to fill specific gaps in the healthcare continuum, often with the goal of reducing the need for ED visits and hospital readmissions

- **Occupational and community health services** Programs focused on reducing absenteeism and supporting health and safety in the workplace and the broader community, including injury assessment, drug and alcohol use screening, workers' compensation case management support and injury prevention

- **Medicine in underserved and austere**

environments Comprehensive primary care medical services provided in underserved remote communities or in locations where conventional medical care is impractical

Patient navigation

- **Management of frequent EMS users** These programs are among the most frequently undertaken MIHP projects and seek to determine the needs of patients who regularly call 911 for medical care, sometimes as often as several times per day. Interventions may include:
  - Patient education about alternatives to EMS care
  - Analysis of unmet patient needs, such as mobility issues or medication access
  - Improving patient connection to existing resources such as primary care physicians, substance abuse and mental health services, community clinics or home care
  - Real-time provider consultation with a medical control physician, with options including on-site treatment and alternative transport destinations
- **Clinical triage** These programs employ nurses in public safety dispatch centers and nurse call centers to triage callers with non-emergent medical conditions. Callers may be redirected to non-emergent healthcare resources, such as a physician's office or urgent care center, or to an appropriate social services provider. They may also be referred to another MIHP program within the community (e.g., a frequent EMS user program).
- **EMS alternative destination** These programs use enhanced medical oversight and carefully developed protocols to identify EMS patients who do not require transport to the ED and to transport them to a more appropriate setting for care (e.g., clinic, urgent care, detoxification center, etc.).
- **Management of serial inebriates** These programs intervene with patients who present repeatedly with acute alcohol or drug intoxication. Interventions may include EMS diversion from the ED to detoxification centers, intensive case management and enforcement of abstinence-based court orders. Engagement may be as broad as system-wide diversion to detox centers or as limited as simply reporting new intoxication to court-appointed case managers.
- **Mental health intervention** These programs make use of interprofessional crisis intervention teams to defuse a confrontation or disruptive behavior, to provide alternatives to arrest or use-of-force, and to reduce ED visits arising from 911 calls. In some programs, MIHP providers may provide on-scene medical clearance to allow for direct admission to a mental health facility without an intervening ED visit.

Adjunctive mobile care

- **Readmission reduction** These programs are designed to reduce the frequency of ED visits and hospital readmission by patients who have been recently discharged from the hospital, most frequently for patients emerging from a congestive heart failure admission. Unassisted, CHF patients are very likely to return to the ED (particularly in the first 48 hours following discharge).
- **Hospice support** These programs seek to extend the timeliness and scope of support available to those caring for palliative care patients outside of the hospital and include partnerships between hospice providers and EMS to provide assessment and intervention on scene in order to resolve a crisis and determine the need for on-scene response by hospice staff.

- **Discharge transition care** These programs are intended to improve the quality and perception of a patient's transition from hospital to home and may include specialized transportation, home safety assessment, reconnection with primary care physicians, medication access and family education. Care may also include disease-process-specific visits, assessments and monitoring to bridge the first 24 to 48 hours after discharge until other home care providers assume care.

- **Episode-specific surveillance and monitoring** These programs are focused on risk reduction and improved patient safety through home monitoring of patients who might otherwise be admitted to the hospital for short-term observation following an acute episode, such as a TIA or syncope.

- **Observed dosing services** These programs consist of directly observed medication dosing and adherence support for mental health patients, tuberculosis management and similar care.

- **Laboratory services** These programs use home sample collection and point-of-care assays to promote patient adherence to care plans, improve patient acceptance and convenience, and reduce lab-related transportation costs.

Occupational and community health services

- **Workplace injury assessment** These programs employ MIHP providers to perform on-site assessment and documentation of minor occupational injuries in order to minimize inappropriate ED "report-only" visits and to reduce the risk of missed serious injuries.

- **On-site intoxicant surveillance** These programs provide testing for recreational drug use and blood-alcohol breath analysis in pre-employment screening as part of "for-cause" intervention, or following workplace incidents such as a motor vehicle collision. Programs may include on-site "quick testing" and sample collection for forensic analysis.

- **Workers' compensation case support** These programs offer at-workplace access to rehabilitation, return-to-work planning and physical limitation assessments.

- **Primary injury prevention** These programs consist of both general community education programs and targeted activities, such as home safety assessments to prevent fall injuries in the elderly population.

- **Health assessment and promotion** These programs are focused on health promotion and include blood pressure screening, smoking cessation, body mass index assessment, and baseline 12-lead electrocardiogram acquisition and interpretation.

- **Immunizations** These programs seek to increase the number of immunized children by providing immunizations in non-traditional settings, such as public safety facilities.

Medicine in underserved and austere environments

- **Rural primary care** These programs employ MIHP providers to offer clinic-based, mobile and in-home primary care in remote communities or austere environments where on-site physician care is unavailable. Providers may possess an extended scope of practice and are frequently supported by telemetry, real-time medical consultation and physician telepresence.

- **Physician extender services** These programs provide basic medical services, such as medical histories, physical exams, diagnostic studies, un-

complicated treatments and referrals. Services are delivered by MIHP providers acting under the direct supervision of a physician.

The great diversity in MIHP programs reflects the inherent diversity of health needs that exist in local communities.

- **Remote industrial on-site care** These programs provide a range of emergency and primary care services to isolated industrial workers, such as those located on ocean oil platforms or remote construction sites. Telemetry, real-time medical consultation and physician telepresence are commonly required to definitively manage care or stabilize patients until transport off-site.

Standardization of MIHP

The great diversity in MIHP programs reflects the inherent diversity of health needs that exist in local communities. For example, MIHP programs that focus on the management of frequent EMS users may be more relevant to large urban centers than to small rural communities seeking greater access to primary care services.

This diversity, however, is problematic when it comes to developing a standard regulatory construct for MIHP across different localities and states. This is particularly true in the context of EMS in the United States, which is governed by a patchwork of state-level authorities and views the development of MIHP as an opportunity to promote professional development for EMS providers nationwide. As a result, certain EMS stakeholders have advocated for the standardization of MIHP programs in order to bring more clarity to EMS educational programs and scope of practice. Some have even advocated for the rejection of the MIHP designation altogether, preferring instead to try to marshal new programs under the existing framework of community paramedicine.

It remains to be seen whether continuing to advocate for the EMS-specific framework of community paramedicine is in the long-term professional interests of this subgroup of MIHP providers. Nevertheless, some standardization of MIHP concepts may ultimately prove useful in helping to overcome certain regulatory hurdles to EMS participation in MIHP. Existing calls for standardization, however, have been almost exclusively focused on promoting new and diversified roles for EMS providers, rather than on defining the need for more diverse care teams and broader modalities of mobile healthcare.

It is likely too early in the development and innovation life cycle of MIHP to pursue standardization through regulation. We believe the discussion of standardization of MIHP should instead focus on the development of a common taxonomy and lexicon that embraces both the diversity of MIHP programs and the diversity of healthcare providers required for such programs to be successful. Most important, any standardization should not endorse interprovider boundaries at the expense of the partnerships and interprofessional design that are inherent in MIHP.

CHAPTER 3

Infrastructure and People

Introduction

As already discussed, Mobile Integrated Healthcare Practice (MIHP) programs will only succeed if they are the product of a collaborative effort among a diverse set of organizations and individuals. Each partner in this collaborative will bring different key elements of patient-centered mobile healthcare to the table, including components of program infrastructure and necessary personnel.

MIHP programs will fail if they do not take advantage of the pre-existing healthcare infrastructure. While certain aspects of the existing infrastructure will undoubtedly require modification and adaptation, part of the appeal of MIHP programs is their ability to use existing resources more effectively to address unmet needs. Adding significantly to the existing infrastructure will, however, lead to increased costs and inefficiencies, which is exactly what regulators and payers strive to avoid.

While MIHP programs can—and should—involve a variety of different types of healthcare and social service providers, the infrastructure and workforce of EMS is well suited to provide the foundation for MIHP and to coordinate service delivery by multiple types and levels of healthcare providers.

MIHP infrastructure basic needs

A robust, successful MIHP program will require the following basic elements:

- A professional workforce, including but not limited to:
  - EMS providers
  - Mid-level providers, including nurses, nurse practitioners and physician assistants
  - Physicians
  - Community health workers
  - Pharmacists
  - Home health providers
  - Hospice workers
  - Nutritionists
  - Data analysts
- Medical direction
- Strategic partnerships
- Training and education resources
- Communications
- Mobile resources and transportation
- Integrated health records
- Sustainable funding
- Evaluation and measurement resources

EMS resources and MIHP

The MIHP programs described in the previous chapter and throughout these pages are characterized by a diverse mix of healthcare providers beyond EMTs and paramedics, as well as by multi-agency and institutional partnerships. MIHP's explicit pursuit of interprofessional healthcare design builds capacity for ambitious and complex programs by ensuring that the provider mix can be continually modulated to the evolving needs of each patient, a process that protects patient safety and extends the reach and potential of each MIHP program.

At the same time, many MIHP programs use EMS

systems as a central hub to coordinate the various resources necessary for an effective program. In most communities, the existing EMS system not only can provide the infrastructure to support MIHP programs, but it can also contribute to the pool of interprofessional healthcare providers. In addition, EMS systems, while they vary widely, exist in virtually every community, are already linked to multiple levels of the healthcare and social services community, and respond 24 hours a day, seven days a week. These elements of an EMS system, already in place, can be adapted to coordinate the efforts of all the partners in an MIHP program—and they cannot be reproduced without significant expense.

EMS providers offer a combination of skills and decision-making capability that makes their integration into MIHP very appealing.

EMS workforce

EMS providers offer a combination of skills and decision-making capability that makes their integration into MIHP very appealing. The EMS workforce treats between 5 percent and 10 percent of the U.S. population each year; with fewer than 3 percent of those patient contacts involving life-threatening injury or illness, some have already started referring to the services they provide as "unscheduled healthcare" (rather than emergency medical care). Indeed, EMS providers make regular and repeated contact with patients of all ages who are suffering from a wide range of ailments that are not necessarily the result of acute sickness or injury.

EMS providers also have significant experience operating in the relatively austere out-of-hospital arena, where they triage and evaluate patients and perform medically appropriate interventions. The ability of EMS providers to quickly and reliably respond to, assess, treat and, if needed, transport patients in the out-of-hospital environment makes them ideally suited to play an important role in MIHP programs. The EMS workforce also often includes experts in planning, coordination and communications.

In many existing MIHP programs, EMS providers receive additional program-specific training and are referred to as advanced practice paramedics or community paramedics. These designations—which are not yet officially recognized at the national level and are only beginning to be recognized in states such as Minnesota and Maine—are intended to acknowledge the expanded training that these EMS providers receive in subjects such as behavioral health, chronic disease management and relevant community resources. In many cases, these designations permit EMS providers operating within an MIHP program to exercise an expanded role—but not an expanded scope. This means that, while they may have additional diagnostic tools, patient navigation skills and decision-making responsibilities, the range of medical interventions they can provide is not actually different from other EMS providers at their level. These providers are said to operate "at the top of their license."

Other MIHP programs actually seek to expand EMS providers' scope of practice by employing them to perform interventions not typically included in their initial training. EMS providers participating in such a program must receive additional training and may require special approval from the appropriate regulatory or legislative body to practice outside the boundaries of their existing license. It remains to be seen which of these two models will become the standard—or if the use of EMS providers in MIHP programs continues to vary according to the needs of a particular community. Nevertheless, EMS providers engaged in MIHP programs

are already demonstrating that, with some additional education, they can provide patient-centered healthcare that addresses previously unmet needs.

In addition to operating independently, EMS providers have experience working under the direction of physicians using established protocols and decision trees and with the support of on-line consultation. Accordingly, EMS physicians can be employed to facilitate the provision of integrated around-the-clock, needs-based, in-home acute, chronic and preventive care. Indeed, EMS physicians are well versed in helping to integrate and coordinate patient care between the hospital and out-of-hospital environments and can use that experience to broaden the working dialogue to include other key community providers, including mental health, public health, social services and others.

EMS infrastructure

An MIHP program could take advantage of several aspects of an EMS system. These elements include the availability of a high-functioning readiness and response infrastructure that features near-universal access via call-takers, call triage and dispatch functions; 24/7 vehicle availability; and pre-existing communications systems linked with hospitals and medical directors, as well as treatment and documentation capabilities.

The mobility of an EMS system is one of its greatest assets and an aspect of existing infrastructure that would be difficult and impractical to replicate for an MIHP program. This mobile capacity enables EMS systems to access hard-to-reach patients and provide healthcare in diverse rural, suburban and urban settings across the country. Not surprisingly, partnerships between EMS and other community health services have long used EMS's mobile capabilities to provide immunizations, screenings, drug testing and other services in some communities. In the same vein, ambulances could serve as mobile exam rooms for MIHP programs that provide adjunctive primary care services.

While much of an EMS system's mobile capability derives from the fact that EMS providers typically operate from ambulances as part of the traditional EMS transport model, early MIHP adopters have also begun to employ other specialized vehicles to efficiently match system resources with patient needs. The mobile health resources provided by EMS go beyond the vehicles themselves: EMS providers also carry equipment that, while primarily intended for unscheduled and emergent medical care, can be adapted for MIHP as well.

As an example, most paramedics already carry cardiac monitors with 12-lead EKG capability, blood pressure and blood glucose monitors, and other diagnostic tools required for MIHP programs. Many of these devices have the ability to transmit information to other locations as part of a telemedicine system, allowing for real-time consultation with other interprofessional providers.

The mobility of an EMS system is one of its greatest assets and an aspect of existing infrastructure that would be difficult and impractical to replicate for an MIHP program.

The existing communications infrastructure of an EMS system can also be leveraged by MIHP programs. Some MIHP programs are already using public safety dispatch centers to help coordinate care by serving as 24/7 access points for patients enrolled in MIHP programs. Other programs are employing nurses at dispatch centers to triage non-emergent calls, ensuring that patients get the most appropriate response to their call (traditional EMS, other healthcare or even social services).

Public safety dispatch centers offer a vast information technology infrastructure for MIHP to build on, including a variety of address-linked information and geographic information systems (GIS). Linking this information with population health data has the potential to create a powerful tool for launching and supporting MIHP programs. Dispatch centers could also be used to collect and monitor biometric data on patients, allowing for real-time tracking of both patient and population health. Especially if allowed to access electronic health records, MIHP programs could employ public safety dispatch centers to bring together the best practices of hospital and insurance provider hotlines, telemetry and remote monitoring systems to create a truly integrated healthcare delivery system.

EMS systems are easily scalable to absorb the additional loads arising from new or expanded MIHP programs at minimal added cost.

Finally, much of the EMS infrastructure features planned redundancies and excess capacity essential to emergency preparedness. As a result, EMS systems are easily scalable to absorb the additional loads arising from new or expanded MIHP programs, at minimal added cost. The use of EMS infrastructure can thus allow communities to coordinate existing resources to create a sustainable, patient-centered and cost-effective MIHP solution that leverages the proven success of EMS as a reliable and trusted community healthcare resource.

CHAPTER 4

Competency and Education

Introduction

Ensuring that healthcare providers possess the necessary competencies for Mobile Integrated Healthcare Practice (MIHP) presents a unique challenge. On the one hand, healthcare providers delivering care as part of an MIHP program will have been educated (and credentialed) to practice within their respective disciplines. On the other hand, that education (including any relevant clinical experience) is likely to have been based on numerous assumptions about the location, independence and nature of a particular clinical practice—assumptions that may be inapplicable to the context of mobile integrated healthcare.

Furthermore, the education of healthcare providers generally is focused on a clinician's interaction with patients and other professionals within his or her own discipline, with little meaningful education or experience related to collaborative practice between different disciplines (e.g., medicine, allied health, social services, mental health and public health). Such collaboration, known as interprofessional practice, is at the core of MIHP. For these reasons, it will be necessary for MIHP programs to evaluate all potential MIHP providers to identify "gaps" in their competence, and to provide the education (classroom and supervised clinical experience) necessary to fill those gaps.

Competencies for MIHP

MIHP offers a rich opportunity to use the skill sets of many different types of practitioners to provide more effective and efficient healthcare to the community. In order to maximize both clinical benefit and patient safety, however, it is essential for MIHP programs to anticipate inadequacies in the education and experience of healthcare providers in all levels and disciplines when it comes to certain key areas.

Practice setting

Traditionally, the training of healthcare providers has focused on practice in a specific setting. For example, physician, nursing and respiratory therapy education often focuses on the provision of in-hospital care, with the support structures that typically accompany that environment (e.g., laboratory testing, imaging and administrative support). In contrast, EMS education trains prehospital providers to practice in a variety of different settings, including the back of a moving ambulance. The provision of healthcare outside of an anticipated setting (including in the "virtual" setting of telemedicine) does not change the cognitive, affective and psychomo-

Most healthcare professionals will need additional training and clinical experience to prepare them for practice in the mobile healthcare environment.

tor skills that are required. It does, however, necessitate the adaptation of assessment and therapeutic processes to work in the new setting. Consequently, most healthcare professionals will need additional training and clinical experience to prepare them for practice in the mobile healthcare environment.

Clinical decisions and safeguards

Medical, nursing and allied health education also prepares healthcare providers for a predictable model of clinical decision-making. Physicians evaluate and prescribe referrals, medications and procedures based on their level of credentialing within the hospital; nurses deliver care based on individualized nursing care plans with prescribed medications; and EMS professionals deliver a narrow set of therapeutic interventions according to standing protocols. Those decisions always come with familiar safeguards: Physicians can order more tests or consult with colleagues; nurses can also consult with colleagues and physicians; and EMS providers can simply default to transporting a patient to the emergency department.

The concept of interprofessional competencies has only recently started to be addressed across the healthcare disciplines.

MIHP replaces some of the "traditional" patient care safeguards with ongoing and consistent communication between MIHP providers, access to longitudinal health records and telemedicine strategies. Accordingly, it is important to plan for changes in available safeguards, including by developing and requiring the use of new safeguards in the MIHP environment.

In addition to patient care safeguards, the availability of some assessment strategies may be reduced in the MIHP setting as compared to the hospital environment. In addition, some medical interventions may simply be unavailable, while others (such as home monitoring or transport to alternative outpatient settings) may be new to MIHP providers.

Evolving body of evidence

The safety and efficacy of clinical care as practiced by all health disciplines should be closely aligned with a supporting body of evidence. In addition, healthcare practice should be evidence-based and evolve with changes in the available evidence. As the development of MIHP is still in the early stages, however, a substantial body of evidence does not currently exist to guide its practice. As a result, clinical leaders and healthcare providers in MIHP must be able to adapt evidence from other disciplines in order to inform their practice. MIHP providers must also anticipate that their practice will change—potentially in significant ways—as the body of evidence supporting MIHP develops.

Interprofessional competencies

Interprofessional competencies are particularly important to MIHP. Indeed, what sets MIHP apart from other healthcare delivery models is not its mobility (EMS and home health care already deliver care to the home), its particular knowledge base (the clinical principles of MIHP remain based in the foundation of medicine) or its targeted patient needs. Rather, it's the MIHP model's emphasis on interprofessional collaboration between a diverse set of disciplines and healthcare providers that sets it apart.

The concept of interprofessional competencies has only recently started to be addressed across the healthcare disciplines, and most healthcare education programs are still unfamiliar with them. A number of organizations, however, including the

World Health Organization and the Interprofessional Education Collaborative, have developed competencies for interprofessional practice.[6] One commonly used model focuses on the relationship between three types of competencies in collaborative practice: common, complementary and interprofessional.[7]

Common competencies are skills and knowledge that are present across most disciplines within a collaborative health practice. A common competency in the MIHP context may include the fundamental assessment of cardiovascular function (e.g., evaluating skin color, vital signs, mental status, cardiac output and signs of cardiac failure), as most clinicians (i.e., physicians, nurses, EMS providers and cardiac rehabilitation specialists) will have some or all of these skills.

Complementary competencies are skills and knowledge that are unique to a specific discipline within the practice and complement the common competencies. In an MIHP program treating patients with heart failure, these individual professional competencies may include hemodynamic monitoring of cardiac function (specialized physicians or nurses), stress testing (specialized physicians or physical therapists), assessment of activities of daily living (occupational therapists) or medication reconciliation (nurses, physicians or pharmacists). These complementary skills are not all possessed by any particular member of a collaborative healthcare team but, when combined in an integrated healthcare practice, provide the basis for a team-based approach to care that uses each healthcare provider's unique capabilities.

Interprofessional collaborative competencies are skills and knowledge that are required in order to ensure that the common and complementary competencies possessed by multiple disciplines and healthcare providers are applied in a manner that maximizes patient and community benefit. Common and complementary competencies are of limited value if they are not integrated in a collaborative manner to provide patient care. Examples of interprofessional competencies include the ability to recognize one's own limitations and role, communicate with patients and other healthcare providers, and perform as a productive member of a team.

Identifying and assessing required competencies

Successful implementation of MIHP programs will require the identification of the common, individual complementary, and interprofessional competencies needed for MIHP providers to meet the unique needs of the population they serve. This evaluation will be critical to ensuring that all necessary competencies are available; program leaders should not assume they know the competencies of individual providers based solely on their levels of certification or education. Evaluating competencies will also guide the assessment of provider competency gaps and educational interventions undertaken to fill them. Eager communities may attempt to move forward without taking this step, but doing so may unnecessarily subject the population to care by a disconnected and potentially conflicted delivery team that will not meet the community's needs.

Required competencies may be classified according to two attributes: type of competence (common, complementary or interprofessional); and type of knowledge or skills required (cognitive, psychomotor or affective). In the MIHP context, essential cognitive knowledge may include an understanding of the physiology and signs of heart failure. Similarly, necessary psychomotor skills may include the ability to auscultate lung sounds, palpate for pedal edema and measure a blood pressure. In the affective domain, the ability to demonstrate empathy to patients and collaborate with other providers may be most important. Indeed, affective domain issues are critical in the development of MIHP programs because such programs represent a significant change from the healthcare status quo; change

management is dependent on understanding and dealing with affective judgments and values.

There are many different methods available to assess for required competencies in MIHP providers, and consideration should be given to the most appropriate method for measuring each specific type of competency. Some of the methods of assessing competencies, and examples of the types of competencies they can be used to assess, include:

- Written exams (cognitive)
- Case studies (cognitive, affective)
- Simulations (interprofessional, psychomotor)
- Isolated skills demonstrations (psychomotor)
- Essays (affective)
- Interviews (affective, interprofessional)

Filling competency gaps

Resources

Once competency gaps have been identified, MIHP programs should conduct an assessment of the educational resources available in a particular community, in order to determine whether the capacity exists to provide the training and education necessary to fill those gaps. Often, healthcare delivery organizations only look inward and rely on internal resources to address educational needs. However, in many communities, capable resources exist that may be able to develop and deliver educational and training content that meets the needs of MIHP. Some of those educational resources include:

- Medical and nursing schools
- Allied health programs
- Online education programs
- Public and mental health agencies
- Local healthcare providers
- Local organizations or associations

As an example, several MIHP programs have sought out local cardiologists to provide instruction to MIHP providers who will be conducting home visits to cardiac patients. The use of local healthcare professionals to address individual professional competency gaps also serves to promote interprofessional competencies by allowing instructors and students—who will be collaborative partners in the program—to learn from and about each other.

Curriculum

Because MIHP encompasses a diverse range of individual programs, specific MIHP program competencies—and therefore educational needs—will vary widely. Accordingly, a "core curriculum" should be developed based on gaps that are found across different disciplines and healthcare providers. As an example, an MIHP core curriculum should include interprofessional competencies, which are not adequately addressed in most healthcare education programs.

Competency gaps that are confined to specific disciplines or providers should be addressed through needs-based education tailored to those specific groups. This education will typically focus on complementary competencies that were not part of providers' prior education and training, or did not receive enough emphasis. Topics might include cognitive competencies (for example, providing advanced pharmacology education to paramedics), psychomotor skills (such as teaching nurses or behavioral health specialists to operate an ambulance stretcher) or affective skills (such as providing EMS providers with the resources necessary to provide effective advice to patients regarding changes in their behavior). The needs-based training will also be influenced by the specific types of programs being developed; for example, a program aimed at working with hospice patients will likely require some education on hospice and end-of-life issues for all providers.

Educational initiatives related to MIHP should also take advantage of opportunities to train healthcare providers to communicate more effectively with patients, enhance provider awareness of the wide range of health literacy and decision-making skills

that exist among consumers, and instruct providers on the need to respond appropriately to cultural and language preferences. Indeed, all medical and allied health education and training will eventually need to be revamped in order to become more patient-focused, to incorporate education on patient communication, to teach healthcare providers of all types to foster patient autonomy and self-management, and to encourage patient engagement in healthcare decision-making.

Delivery methods

Because of the distributed nature of MIHP, the delivery methods for MIHP educational content should be as flexible as possible—while still allowing for the development of interprofessional competencies such as teamwork and a multidisciplinary approach to healthcare. Options for delivering MIHP content, which may be classified according to location, timing and method, include the following:

Location

- Face to face
- Remote presence
- Online

Timing

- Synchronous (all learning occurs at the same time)
- Asynchronous (students learn at a time convenient to them)

Method

- Lecture (one way)
- Discussion (two way)
- Demonstration (of a skill)
- Modeling (of behavior)

Some MIHP educational content may not be appropriate for every delivery option. For example, teaching psychomotor skills often requires at least some direct interaction with the instructor to ensure competent performance. Student characteristics may help to identify the most appropriate delivery option. For example, mature learners are often better able to succeed in self-paced online learning experiences than younger learners. At the same time, younger learners may be more comfortable with online education platforms. In any case, careful matching of MIHP educational content with the most appropriate delivery strategy will enable MIHP programs to create learning opportunities that make the most efficient use of student time and available educational resources.

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Barr's Three Types of Professional Competencies

CHAPTER 5

Clinical Leadership and Medical Oversight

Introduction

Medical oversight is essential to the effective and efficient performance of Mobile Integrated Healthcare Practice (MIHP) programs. Differences in legal requirements, program design and other factors, however, mean that no one model exists for MIHP medical direction.

Generally, the oversight of a community paramedicine program is the responsibility of the local EMS medical director. While a need for these programs may exist in rural systems that lack full-time paid medical directors, direction of community paramedicine programs is ideally not relegated to a volunteer director. Because they involve the practice of medicine, true medical oversight is required.

For many MIHP programs that involve collaboration among many different types of providers, clinical leadership need not be provided by any particular professional and, in many instances, it may be determined organically. The specific needs of the target population may require content expertise from non-physician clinicians. Nevertheless, a clinical leader should serve as the program's hub and help integrate the team. As MIHP programs are developed in response to community needs, the appropriate individuals to lead and retain oversight responsibilities may become readily apparent. These individuals should possess relevant competencies and expertise.

In any given community, there may be multiple MIHP programs serving different target populations with different needs. These programs may be led by different individuals with specific content expertise. Nevertheless, active partnerships and shared responsibility with local public health and specialty groups will play an essential role in the success of all MIHP programs, regardless of type.

The clinical leader will need to assume the roles of patient advocate, community liaison and political problem-solver.

Responsibilities of the clinical leader

Leadership of an MIHP program involves direct medical oversight, patient care and administrative responsibilities. Oversight activities will encompass clinical direction of the program, protocol development (including the development of screening tools and precise inclusion/exclusion criteria) and clinical evaluation (including case review). In addition, the clinical leader will be responsible for ensuring that competent and appropriately educated professionals staff these programs and that appropriate metrics, including patient experience and safety, are developed and evaluated.

The clinical leader will need to assume the roles of patient advocate, community liaison and political problem-solver. Meetings with stakeholders and

serious efforts to develop access to health information exchanges will be critical. When challenges emerge, intervention and problem-solving will also fall under the scope of the clinical leader, as will the responsibility to develop a strategy for shared risk among partners and a method for assessing and reporting savings to the community, patients and stakeholders. The casual involvement of an advisory physician to perform clinical leadership functions will not be sufficient to fulfill these wide-ranging responsibilities.

Additional issues and considerations that will require the attention of a clinical leader may include:

- Scope of practice, including the possible need to advocate for an extended role
- Regional variations in licensure and credentialing
- Special requirements of the particular out-of-hospital or mobile practice environment
- Needs and expectations of the healthcare system and payers
- Program financing, including reimbursement and other funding models
- Multi-agency collaboration
- Community needs and the perception of local medical societies and other stakeholders
- Legal issues, including contractual arrangements with providers and other participants
- Regulatory oversight and general administrative program requirements
- Statutory mandates and regulations regarding physician involvement in medical practices, including state and board requirements, scope of practice restrictions and professional liability

Qualifications of the clinical leader

Leading an MIHP program requires several different skill sets. Excellent leadership skills are, of course, necessary, as is basic clinical acumen for population-based care delivery. Yet one of the most important clinical leadership skills necessary is the ability to liaise and build consensus among community leaders and stakeholders. This is a role that has been termed the "integrator" by Donald Berwick and his colleagues.[8] In order to be a champion of interprofessional collaborative practice, an awareness of the spectrum of practitioners that can potentially become involved in MIHP is also essential.

Qualifications of a clinical leader include the ability to:

- **Partner effectively with other medical professionals in the community**
- **Work in conjunction with public health agencies**
- **Advocate before policymakers and other government officials**
- **Communicate effectively to a diverse set of audiences**
- **Develop, measure and evaluate appropriate process and outcome measures**

Relevant expertise

Leaders of MIHP programs must have expertise in clinical areas and program management and have a knowledge of local and community resources. Duties may include establishing and maintaining relationships with hospitalists, discharge planners, primary care providers, mental health professionals and other clinicians involved in the program. Members of the clinical leadership team will also need some expertise in program planning (a responsibility that should be shared with other agencies and organizations) and program evaluation.

Additional areas of relevant expertise may include:

- General public health concepts and principles

- Interprofessional values and ethics associated with team-based care, including the roles and responsibilities of team members, teamwork strategies and accountability sharing
- Healthcare financing and reimbursement
- Existing laws and regulations and current regulatory climate
- Available communications technologies
- Relevant modes of transportation
- Electronic medical records and documentation
- Appropriate medical tools and equipment
- Personal protective equipment and safety gear
- Applicable medical literature and other decision support resources
- Physician continuing medical education and lifelong learning tools
- Information resources regarding specific patient conditions and circumstances
- Hospice and advanced illness care
- Hospital at home concepts
- Mobility impairment issues
- Mental health concepts and resources

An EMS medical director who is active with public health officials and knowledgeable about local community needs and resources may be able to take on the clinical leadership of an MIHP program. Indeed, the core content established for EMS medicine includes a thorough review of public health emergency topics.

In other instances, clinical leadership responsibilities may be dictated by the type of program being established, as well as the types of providers involved. The clinical leader may be the content expert for a specific program (e.g., a social worker for a mental health-focused program). Alternatively, the clinical leader may wish to work in conjunction with a content expert. In any case, it will be important to recognize situations in which the population needs require the use of interprofessional teams in order to assemble the expertise necessary to meet both patient and program needs.

Clinical culture and evidence-based medicine

Clinical leaders of any MIHP program must understand the unique challenges of out-of-hospital medicine and be able to establish an effective clinical culture. Care that is provided outside of the hospital often occurs in unstructured environments and may be subject to unforeseen environmental factors. In addition, exam resources and treatment options will likely not be the same as they would be in a clinical facility. Family and caregiver interactions may also require that providers employ additional resources and strategies.

Among the goals of the interprofessional collaboration inherent in MIHP programs is to ensure that the healthcare provided is evidence-based and that patients benefit from a healthcare system that is continually learning through clinical research. The development and implementation of evidence-based, interdisciplinary protocols or guidelines will ultimately become the responsibility of the clinical leader, including the development of alternative destination programs and delivery of end-of-life education.

MIHP generally should be informed by the best evidence, and resources should be allocated to expand the evidence base through additional research. MIHP activities should also be structured to provide both patients and providers with a better understanding of the value of evidence-based medicine and its contribution to patient outcomes and improved quality. At the same time, however, the clinical leader should maintain realistic expectations and remain mindful that evidence-based medicine is not yet well understood or widely accepted by either patients or providers.

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CHAPTER 6

Financial Considerations

Introduction

The primary motivation for developing a Mobile Integrated Healthcare Practice (MIHP) program must be to address unmet community health needs. MIHP programs designed with profit as the central motivator are unlikely to be successful from a financial or health outcomes perspective. Nevertheless, financial considerations cannot be ignored and are critical to creating a sustainable MIHP program.

Cost of service and program funding are the two most important financial considerations and should be addressed at all stages of an MIHP program's development, from program planning to program evaluation. Indeed, almost immediately after a population health needs assessment has been completed, the focus should turn to projecting the costs of a particular MIHP program and identifying what funding options may be available.

Cost of service

The cost of service for any particular MIHP program will vary based on the size of the program, the nature of its mission, the scope of its activities, and the pre-existing relevant services and infrastructure. Included in this cost will be capital expenses for any additional equipment that may be required to operate the program, personnel costs for program providers and staff, and costs associated with the development and delivery of specialized training. The use and redeployment of existing resources and personnel may result in some initial cost savings but, ultimately, may not be in the best interests of a program's long-term sustainability or quality of service.

Personnel costs will likely account for the greatest proportion of overall service cost. In order to employ personnel in the most cost-effective manner, MIHP programs should look to the integrated health delivery model already employed by many hospital systems. These systems use a wide range of healthcare providers to match the most appropriate level of care to each healthcare need. Clinicians, including EMS providers operating in non-traditional roles, operate at the top of their respective scopes of practice and training in this model.

The cost of "readiness" must also be factored into overall service cost if an MIHP program intends to offer services around the clock or include an on-call response component. Because making program resources available at all times is expensive, an MIHP program should seek to balance readiness against productivity. Achieving an optimal balance may prove difficult but, at the very least, an MIHP program should be conscious of both the readiness and productivity of its resources. This will allow the program to accurately calculate its overall cost of service, determine the most appropriate allocation of program resources and promote a cost-effective operation.

Program funding

There is no standard model for funding or cost reimbursement for MIHP programs. Financing often varies depending on the population being served,

the types of organizations involved in the program (e.g., public, private, EMS, insurance companies or hospitals) and the program's mission (e.g., addressing frequent 911 callers vs. reducing hospital readmissions). Funding models that are most relevant to MIHP programs include the following:

- Fee-for-service
- Public subsidy
- Private subsidy
- Shared savings
- Risk sharing

Fee-for-service

The delivery of most healthcare services today is based on a fee-for-service model in which a healthcare provider receives a fee for the delivery of services to a patient. The fee is billed to a healthcare payer, which may be public (e.g., Medicare and Medicaid) or private (e.g., an insurance company or the patient). Bills for healthcare are based on a diagnosis included in the International Classification of Diseases (ICD). Each diagnosis has a billing code that is traceable from billing to reimbursement.

Expanding the scope of EMS fee-for-service reimbursement to include non-transport MIHP services has been contemplated at both the state and federal levels.

Limited ICD billing codes currently exist for MIHP. Physicians and some non-physician providers (such as advanced practice nurses or physician assistants) may bill for providing direct services if a patient meets specific requirements. An EMS-based MIHP program, however, will likely not be able to bill for non-transport healthcare services. This is because the federal reimbursement plan for emergency medical services (which has been adopted by most private payers) requires that a patient be transported to the hospital in order for the service to qualify for reimbursement. A few EMS-based MIHP programs have sought reimbursement for certain services under ICD codes for discharge transitional care (e.g., follow-up home visits), but reimbursement for such care is generally limited to physicians or home health and hospice providers.

Expanding the scope of EMS fee-for-service reimbursement to include non-transport MIHP services has been contemplated at both the state and federal levels. In 2012, Minnesota established a program for Medicaid reimbursement of certain MIHP activities in the realm of community health services and adjunctive mobile care (including health assessments, immunizations, disease management, lab sample collection and discharge transition care). This outcome was the culmination of a legislative lobbying campaign that lasted several years and included the earlier passage of a law granting legal recognition to community paramedics. Similar efforts in other states and at the federal level are still in the very early stages.

Public subsidy

Several MIHP programs, specifically those implemented by public EMS systems, rely on taxpayer funding. Most often, these programs focus on patient navigation as a means to address the problem of frequent 911 callers, avoid unnecessary ambulance transports and connect people who access the healthcare system through the portal of EMS to more appropriate healthcare resources. The ultimate goal of these MIHP programs is usually to reduce the burden on EMS resources resulting from the use of 911 for non-emergent conditions, and consequently increase the state of EMS readiness without additional resources.

EMS systems that implement such programs are not necessarily concerned with recouping MIHP

program costs. Instead, they are seeking to generate overall cost savings by efficiently managing calls for non-emergency healthcare service.

Public grant funding for pilot programs is another example of public tax subsidy funding. Federal and state authorities have awarded substantial grants to MIHP programs exploring the best way to connect patients to cost-effective healthcare. Many of these grants have been funded by government healthcare payers (e.g., the Center for Medicare and Medicaid Innovation) seeking to identify evidence of overall cost savings rather than to recoup program costs. Indeed, it is estimated that Medicare would save almost $600 million annually if non-emergent patients were diverted from the ED and instead provided more cost-effective, appropriate healthcare options.[9] Grant funding, however, is not a sustainable source of funding for MIHP. MIHP programs seeking a public subsidy should thus focus on developing long-term relationships with local government agencies and stakeholders.

Private subsidy

Private subsidies are also an important source of funding for MIHP programs. This is often the case for MIHP programs associated with hospitals and private healthcare payers. As with publicly subsidized programs, the financial goal of these programs is often to generate overall cost savings rather than to recoup program costs. Hospitals are particularly interested in MIHP programs that aim to reduce hospital readmissions through adjunctive mobile care, because they have the potential to generate significant cost savings by avoiding financial penalties under the Hospital Readmissions Reduction Program.[10] In the Pittsburgh area, for example, two private insurance companies have jointly funded a two-year pilot program that employs EMS providers to deliver discharge transition care for CHF and COPD patients, with the goal of reducing hospital readmissions.[11]

Like public healthcare payers, private healthcare payers such as insurance companies have also shown a willingness to fund MIHP programs that aim to reduce healthcare costs. Programs that focus on community health (e.g., health assessment and immunizations) or mobile adjunctive care (e.g., discharge transition care and disease management for asthma patients) may be able to partner with private healthcare payers who are willing to pay for those services to be provided to their members. The key for MIHP programs will be to determine which MIHP services are needed in a particular population, identify those organizations that may benefit from the provision of such services (in terms of lower overall healthcare costs) and then seek to collaborate with them.

Hospitals are particularly interested in MIHP programs that aim to reduce hospital readmissions through adjunctive mobile care.

In addition to insurance companies, other sources of private subsidy funding may include home health agencies, hospice agencies and other out-of-hospital providers, as well as private grant money.

Shared savings

Rather than seek direct reimbursement for healthcare services provided or subsidies for program costs, an MIHP program may instead seek to share in the cost savings generated by the program. For example, an MIHP program that partners with a local hospital to reduce readmissions may negotiate to receive a certain portion of the cost savings (in terms of readmission penalties avoided) that result from adjunctive mobile care services (such as follow-up visits and periodic health assessments).

Similarly, an MIHP program that focuses on reducing visits to the ED may negotiate with an insurance company to receive a portion of the healthcare cost savings (relative to the expected cost of care) that result from patient navigation services.

Population-centered reimbursement models currently represent only a small spectrum of healthcare reimbursement, but they can provide a strong incentive for ACOs and other at-risk entities to deliver effective healthcare at a lower cost.

Prior to adopting a shared savings model for program funding, an MIHP program will need to determine the magnitude of potential healthcare cost savings in the target community (e.g., the volume of hospital readmissions or the percentage of patients that can be safely diverted from the ED). If projected healthcare cost savings alone will not be sufficient to provide sustainable program funding, an MIHP program may seek to combine them with other funding mechanisms (e.g., as a performance-based bonus to direct subsidies).

Risk sharing, accountable care organizations and the future of healthcare financing

Each of the reimbursement models discussed thus far presumes that the fee-for-service model will continue to form the basis for healthcare reimbursement in the United States. There is growing support, however, for a move away from fee-for-service reimbursement and toward population-based payment models. Such "risk sharing" models were expressly contemplated in the Patient Protection and Affordable Care Act, which created the Medicare Shared Savings Program and allowed Medicare to contract with accountable care organizations (ACOs) for the care of defined sets of Medicare beneficiaries.

Under one such model, an ACO (or another "at-risk entity") will contract with healthcare payers to assume financial responsibility for the healthcare of specific patient populations. In exchange, the ACO will receive payments based on the total expected cost of care for each population, rather than fee-based reimbursement for each healthcare service provided. In a fully capitated payment system, the ACO will be paid a fixed, per-capita amount for all of the healthcare services provided to a population.

Population-centered reimbursement models currently represent only a small spectrum of healthcare reimbursement, but they can provide a strong incentive for ACOs and other at-risk entities to deliver effective healthcare at a lower cost. These models also offer an opportunity for MIHP programs to capitalize on the primary value proposition of MIHP: providing the right care, at the right time, in the right place, and at the right cost. An MIHP program that is able to deliver cost-effective healthcare to a particular population may be able to share risk with, and secure funding directly from, an ACO.

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CHAPTER 7

Legal and Political Considerations

Introduction

Mobile Integrated Healthcare Practice (MIHP) can arguably be characterized by its non-traditional nature: employing interprofessional providers in non-traditional roles to provide new and innovative services in non-traditional settings. As a consequence, leaders of MIHP programs must be prepared to address legal and political concerns regarding how to apply existing regulatory structures to this new practice model. Chief among them are issues relating to scope of practice and opposition from existing healthcare providers.

Scope of practice

Scope of practice regulations vary greatly between states but have generally been constructed without a view of the unique roles envisioned by integrated and interprofessional healthcare practice. For example, many states restrict EMS providers from practicing outside the context of ambulance transport.

In California, scope of practice regulations narrowly define paramedics as healthcare providers only when operating at an emergency incident arising through the 911 system, and then only within a tightly prescribed scope of practice designed 40 years ago to provide out-of-hospital resuscitation and related care. This rigid framework fails to acknowledge the ability of paramedics to effectively assess both emergent and non-emergent patients, communicate their assessment findings to medical control for consultation and care direction, and even provide definitive care to certain patients in their homes—skills that are valuable to MIHP and not universal in the healthcare system.

The simplest way to address the question of scope of practice is with a truly integrated and interprofessional MIHP program in which healthcare providers from various disciplines act within their respective scopes of practice. Indeed, one of the goals of MIHP is to provide each patient with the most appropriate and cost-effective care, at least in part by ensuring that each healthcare provider who cares for a patient is practicing efficiently at the top of his or her established scope of practice. Expanding the scope of practice for any practitioner should be seen as a last resort, a solution only if there is no other cost-effective and practical way to achieve the desired outcomes.

The simplest way to address the question of scope of practice is with a truly integrated and interprofessional MIHP program in which healthcare providers from various disciplines act within their respective scopes of practice.

Certain existing scope of practice regulations, however, may ultimately prove too restrictive to allow for effective MIHP. In such cases, it will be necessary for proponents of MIHP to petition state regulators and policymakers to expand existing scopes of practice or recognize a new category of MIHP provider with an expanded scope of practice. Such efforts will likely require MIHP proponents to dedicate significant time and effort.

Indeed, a law granting official recognition to community paramedics in the state of Minnesota underwent 19 revisions and required a concerted lobbying effort over several years before it was finally passed by the state legislature in 2011. In California, the state is considering authorizing several pilot programs in order to evaluate a possible expanded role for EMS providers before making any major regulatory or legislative changes.

The use of MIHP providers to provide healthcare services in non-traditional roles and settings may be perceived as an intrusion into the domains of other healthcare providers.

Opposition from existing healthcare providers

The use of MIHP providers to provide healthcare services in non-traditional roles and settings may be perceived as an intrusion into the domains of other healthcare providers. If this issue is not carefully addressed, MIHP programs are likely to encounter significant political resistance from various healthcare stakeholders. For example, nursing groups may oppose the use of other healthcare providers to deliver immunizations or provide discharge transition care. Similarly, home health care agencies may resist the delivery of adjunctive mobile care and physician extender services in the setting of a patient's home. Accordingly, it is absolutely essential that MIHP programs seek to collaborate rather than compete with existing healthcare providers in a community.

Competition should be avoided in the first place by identifying the healthcare services that are already being provided in a particular community. Instead of replicating existing services, an MIHP program should target gaps in the services being provided. For many communities, one such gap is the provision of out-of-hospital healthcare services outside of normal business hours. An MIHP program may be able to partner with home health care or hospice providers to triage and appropriately navigate their patients when they require assistance outside of normal business hours (e.g., when they call 911). MIHP programs can also avoid competition by using existing healthcare providers to provide MIHP services (e.g., employing nurses to triage non-emergent calls to 911).

Other legal issues

MIHP programs may also encounter other legal issues, ranging from compliance with billing and privacy regulations (such as HIPAA) to possible violations of federal and state anti-kickback laws. It is recommended that MIHP programs obtain legal consultation regarding such issues and incorporate legal review into their program development processes.

CHAPTER 8

Health Information Technology

Introduction

Integration of health information is a vital component of any Mobile Integrated Healthcare Practice (MIHP) program and must be considered at the outset of the planning process. While the importance of face-to-face and telephone communication should not be ignored, health information technology (IT) can play a critical role in providing coordinated care in a cost-effective manner. Indeed, such technology can facilitate communication, data collection and reimbursement, and also improve overall access to care.

Healthcare delivery that truly integrates available health information will be linked from the point of patient care to a variety of other sources, potentially including hospitals, health information exchanges (HIEs), medical laboratories, billing centers and other healthcare providers. Otherwise, lack of access to relevant information during patient encounters may negatively impact patient health and lead to excess costs.

Integrating medical records

Improving both care coordination and access to health information can help prevent medical errors, reduce costs and improve overall patient health. Stories abound of physicians prescribing medications that interact with medications prescribed by another physician, or tests being performed on the same patient multiple times because one provider had no way of knowing whether it was already performed by another provider. One way to prevent these potentially deadly and costly errors is to integrate health records using HIEs.

The U.S. Office of the National Coordinator for Health IT has described three types of health information exchanges:[12]

1. **Directed exchange** A healthcare provider can send specific information about a patient to another provider. Example: A primary care physician electronically sends a patient's record to a specialist prior to the patient's appointment with the specialist.

2. **Query-based exchange** A healthcare provider can search a database for patient information. Example: An emergency room physician can search for and electronically download the cardiologist's record for a patient who arrives at the ED with chest pain.

3. **Consumer mediated exchange** A patient can manage the electronic storage of his or her own health information. Example: A patient logs in to a commercial website following a visit with her primary care doctor and adds any new medications to her health record. At a visit with a specialist, the patient can log in with the physician and review that information.

Ideally, integrated electronic health records (EHRs) should be as comprehensive as possible and allow data to be shared in all directions (allowing providers to both access and enter information). Unfortunately, however, the complete integration of health

records faces several barriers. For instance, records systems are frequently incapable of communicating with each other, and expensive and complicated interfaces must often be built to link them. In addition, patients are often seen by several different healthcare providers using a wide range of IT products, which may also require the development of multiple interfaces in order to be integrated together.

Having health information that is readily accessible, integrated and easy to use will be critical to the long-term success and sustainability of an MIHP program.

MIHP programs should, in theory, be able to take advantage of HIEs. However, this may prove difficult in practice. For example, hospitals may balk at sharing health information with outside agencies, including EMS. In addition, a patient might see providers in several different offices, each using different EHRs, which may not integrate with EHRs from home health, EMS, lab and hospital providers.

More important, unlike hospital-based providers (who often already have access to hospital and physician patient health records) and traditional outpatient providers (who usually have agreements with hospitals for read-only access to patient health records), EMS agencies typically track patient health information using patient care reports (PCRs) that are independent of other patient health records and also are incident-based (i.e., for each interaction with a patient, a record exists, and each record is separate and distinct from the rest).

Consequently, one critical task of any EMS-based MIHP program will be to develop a patient-based system that can integrate PCRs into the overall health record for a patient. Out-of-hospital MIHP programs have tackled this problem in different ways, from using commercially available software to creating their own programs to draw patient health information from PCRs.

There is no single solution to integrating health records. At the national and regional level, the development of HIEs is a promising step toward the creation of a single electronic medical record for all patients. But privacy and security concerns, as well as questions of funding (some large, regional HIEs created with grant funding have been unable to secure commitments for continued financial support), may stall the progress of regional HIEs. Moreover, the existence of multiple HIEs in the same region may actually make accessing health records more difficult, especially if all of the HIEs must be linked together in order to provide useful information to an MIHP program.

In the short term, MIHP programs may have to rely on creative solutions for integrating health records, such as obtaining read-only access to several different sources. There may also be creative ways to convert incident-based EMS reports to medical records by linking them to patient identifiers and reorganizing PCR information on that basis. Regardless of how the information is obtained and shared, having health information that is readily accessible, integrated and easy to use will be critical to the long-term success and sustainability of an MIHP program.

Telemedicine

Telemetry

Advances in mobile technologies have created significant opportunities for patients to be monitored remotely. MIHP programs can use these technologies to monitor, record and transmit health information directly into a patient's medical record. This can happen when an MIHP provider is with the patient (in order to share the information with

other MIHP providers), or even when a provider is not present.

For example, mobile technologies may be used to alert an MIHP provider that the weight of a CHF patient has increased, allowing for earlier interventions that prevent the condition from worsening. Other possibilities include remote monitoring of blood pressure, heart rate, blood sugar and more.

Real-time teleconsult

Mobile technologies also make it possible for MIHP providers to consult with physicians, behavioral health workers and other healthcare professionals. Video conferencing using computers, tablets and mobile phones can allow MIHP providers to practice within their scope of practice while also receiving real-time assistance from specialists and more advanced providers who can visualize patients and see what the MIHP providers are seeing. Essentially, MIHP programs can use technology to connect MIHP providers operating in the out-of-hospital environment with advanced resources that can provide clinical guidance.

For example, an MIHP paramedic whose patient's pedal edema appears to be worsening can share pictures and video with the patient's cardiologist, who can then work with the paramedic to develop a care plan to prevent the patient's condition from worsening, while also avoiding a costly trip to the physician's office or ED. The goal of teleconsults is not to replace regular, in-person appointments with physicians or specialists, but rather to allow MIHP providers to practice at the top of their scope of practice by providing them with real-time decision support.

Physician telepresence

In remote regions or underserved areas that lack adequate access to primary or specialty care, it may not be possible for physicians and patients to meet in person. In these settings, MIHP providers may be able to visit a patient instead and, using mobile technologies such as videoconferencing, serve as the "hands" of a physician who is only present in a virtual sense. For example, a physician may be able to speak with a patient in real-time while the MIHP provider performs hands-on skills, such as assessing vital signs, drawing labs or performing an ECG.

REFERENCES

12. healthit.gov/providers-professionals/health-information-exchange/what-hie.

CHAPTER 9

Program Evaluation

Introduction

Much of the attention surrounding Mobile Integrated Healthcare Practice (MIHP) has been focused on program development, operational requirements and potential benefits (both clinical and societal). However, the long-term viability of any MIHP program ultimately rests on its ability to measure and evaluate the program's impact on patient health, the provision of healthcare and healthcare costs. Data collection and performance measurement are essential for qualifying and quantifying those impacts. They also provide the foundation for accurate and meaningful program evaluation.

Program evaluation is necessary in order to ensure that MIHP programs provide the patient-centered benefits they promise. In the history of medicine, many cases exist in which interventions were initially touted as medical successes but later found to provide no true clinical improvement. Out-of-hospital cardiac arrest resuscitation provides a good example: After several decades of measuring success (and interventional effectiveness) in terms of return of spontaneous circulation (ROSC), acute care providers eventually realized that, while ROSC is required for survival, it falls far short in terms of measuring resuscitation success from the patient's perspective. In its place, they adopted survival to discharge from the hospital, a measure of performance that was more appropriate in light of the ultimate goal: for cardiac arrest patients to be discharged from the hospital and return to their previous quality of life.

Researchers have now created a carefully defined data set for resuscitation outcomes that measures ROSC, survival to discharge and level of neurologic function at discharge.[13] These data have allowed for a more meaningful evaluation of clinical interventions (and have informed several changes in clinical practice) for out-of-hospital cardiac arrest.

MIHP programs should develop appropriate performance measures, collect relevant data and engage in focused program evaluation in order to ensure effectiveness, sustainability and patient satisfaction. Performance measurement and program evaluation should also serve as the basis for developing and implementing future initiatives and for weighing the MIHP program options, particularly when it comes to allocating limited funding and resources.

Performance measures

Performance measures for an MIHP program should be developed prior to implementation and be based on the stated goals of that particular program. Indeed, the main purpose of performance measures is to help define the successful achievement of program goals. They are also useful in determining whether progress is being made toward those goals. Accordingly, one of the first things to be done when implementing an MIHP program is to craft relevant performance measures.

There are several different types of performance measures that may be employed by an MIHP program. *Structure measures* (such as the number of

MIHP providers) may be helpful in determining the effectiveness of efforts to establish and build out a program. Similarly, *process measures* (such as the number of patients seen by an MIHP program) may be helpful in determining the program's success in reaching out to target populations. Most important, however, *outcome measures* (such as improvements in individual patient health or the overall health of a community) can provide a true picture of the success of an MIHP program in achieving its goals. They can also inform a program's continuous quality improvement efforts. Finally, *efficiency measures* (such as the cost of care per patient) may be helpful in determining whether an MIHP program is providing healthcare in a cost-effective manner.

Once an MIHP program has developed relevant performance measures, it should establish targets for each measure and then regularly monitor progress. Initially, performance targets may consist of incremental steps toward program goals. Ultimately, however, an MIHP program should evaluate its performance against the full achievement of its program goals.

MIHP performance measures, regardless of type, should encompass three important areas: operational performance, healthcare quality and total cost of care.

Operational performance

- Types of performance measures: structure, process, outcome
- Sample performance measures for operational performance:
  - Number of interventions delivered (e.g., immunizations)
  - Proportion of patients recruited who agree to participate
  - Proportion of patients who are assigned a care manager

In measuring operational performance, it is important to review and quantify resource utilization. After all, resource utilization should be tied to an MIHP program's needs assessment, and its performance on this measure will inform judgments regarding the program's sustainability.

Healthcare quality

- Types of performance measures: process, outcome
- Sample performance measures for improved healthcare quality:
  - Rate of low-acuity ED visits (reducing inappropriate ED utilization)
  - Proportion of patients with weight screening and follow-up (increasing recommended and/or evidence-based healthcare interventions)
  - Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey (increasing patient satisfaction)
  - Proportion of urgent-visit patients seen the same day (increasing patient access)
- Sample performance measures for improved individual and population health:
  - HbA1C level (improved clinical outcomes)
  - Proportion of patients using tobacco (improved health behaviors)
  - SF-12 survey (better health-related quality of life)

Total cost of care

- Types of performance measures: process, outcome, efficiency
- Sample performance measures for medical expenditures:
  - Expenditures by cost category (inpatient care, outpatient care, etc.)
  - Proxy measures (e.g., measures of resource utilization)

It is vitally important for an MIHP program to calculate any savings generated by the program with respect to the total cost of care for a targeted population. Evidence of a program's impact on costs may be demonstrated by building a financial model

that explains the logic behind calculated savings. Improvements in the total cost of care may also be evidenced by net healthcare savings over a specific period of time or a reduction in medical costs.

Data collection

Data collection should take place from the start of an MIHP program's operational activities and continue as part of an ongoing process of program evaluation. Timely and accurate data collection is absolutely crucial to MIHP program evaluation. Performance measures should be analyzed on a regular basis and supported by an IT infrastructure that provides data analytics and electronic reporting. Whenever possible, the data collected should be incorporated into the electronic medical record in order to reduce the need for double entry.

In selecting what data to collect, an MIHP program should focus on discrete and reproducible information regarding program activities that are relevant to established performance measures. Meaningful data should also include elements that are patient-centric, reflecting both individual patient healthcare and overall community health. In addition, the data collected should include data points that are objective (for CHF patients, these may include medication compliance, weight maintenance, blood pressure control, rates of hospital readmission within 30 days and mortality), as well as subjective (such as patient satisfaction scores and patient willingness to comply with medical advice).

Program evaluation

The success of an MIHP program should ultimately be evaluated in terms of the Triple Aim set forth by the Institute for Healthcare Improvement: improving the individual experience of care (better healthcare), improving the health of populations (better health) and reducing the per-capita costs of care (lower costs).[14]

1. **Better healthcare** An improved experience of care in the domains of safety, effectiveness, patient-centeredness, timeliness, efficiency and equity. Performance measures should address elements such as patient satisfaction and experience, resource utilization, clinical quality and patient access.

2. **Better health** An improvement in the overall health of a population. Performance measures should include metrics focused on both individual and population health.

3. **Lower costs** A reduction in the total per-capita cost of healthcare. Performance measures should focus on the cost to the patient as well as the healthcare system.

The program evaluation process for an MIHP program should include the compilation of collected data into relevant performance measures, the benchmarking of results against established performance targets, and the use of effective reporting tools to provide a combination of patient-centered, payer-centered and community health-focused reporting. The conclusions drawn from the performance of an MIHP program will need to resonate with partially aligned yet still disparate groups of healthcare practitioners and stakeholders.

Once an MIHP program evaluation has been completed, the results should be made available to all program partners. Finally, in order for program evaluation to be truly effective, an MIHP program must ensure that a mechanism exists not only to review, but also to improve, the program's clinical care and operational performance.

REFERENCES

13. Jacobs I, et al: Cardiac arrest and cardiopulmonary resuscitation outcome reports: update and simplification of the Utstein templates for resuscitation registries: a statement for healthcare professionals from a task force of the International Liaison Committee on Resuscitation. *Circulation*, 110:3385–3397, 2004.

14. Berwick DM, et al: The Triple Aim: care, health, and cost. *Health Affairs*, 27:759–769, 2008.

APPENDIX 1

Glossary

Community paramedic "A state licensed EMS professional that has completed a formal internationally standardized Community Paramedic educational program through an accredited college or university and has demonstrated competence in the provision of health education, monitoring and services beyond the roles of traditional emergency care and transport, and in conjunction with medical direction. The specific roles and services are determined by community health needs and in collaboration with public health and medical direction." (Health Resources and Services Administration, 2012.)

Community paramedicine "An organized system of services, based on local need, which are provided by EMTs and Paramedics integrated into the local or regional health care system and overseen by emergency and primary care physicians. This not only addresses gaps in primary care services, but enables the presence of EMS personnel for emergency response in low call-volume areas by providing routine use of their clinical skills and additional financial support from these non-EMS activities." (Health Resources and Services Administration, 2012.)

Interprofessional collaborative practice "When multiple health workers from different professional backgrounds work together with patients, families, caregivers and communities to deliver the highest quality of care." (World Health Organization, 2010.)

Interprofessional Intentionally defined and educated for team-based care.

Mobile Integrated Healthcare Needs-based, patient-centered, 24/7 acute care, chronic care and prevention services delivered in the home or mobile environment by the cost-effective synchronization of existing providers, infrastructure and resources in a system of care.

Mobile Integrated Healthcare Practice The interprofessional collaborative practice of Mobile Integrated Healthcare.

Multidisciplinary Work in parallel.

APPENDIX 2

MIHP Population Assessment and Program Planning Worksheet

	Needs Assessment
	Gather data and conduct qualitative research regarding community healthcare resources
	Determine stakeholders and establish a dialogue regarding community healthcare needs
	Identify target population
	Ascertain population healthcare needs
	Establish population-level healthcare goals (outcomes)
	Prioritize desired outcomes on the basis of level of need and available resources
	Create a "resource map" for the relevant population • Capacity, assets, providers
	Identify gaps in population healthcare resources • Existing services, providers, competency
	Evaluate feasibility of options for Mobile Integrated Healthcare Practice • Financial sustainability • Regulatory and legal issues • Community receptiveness
	Program Planning
	Identify intended outputs
	Align program inputs with outputs
	Create a business plan
	Establish clinical leadership
	Formalize partnerships with stakeholders
	Establish performance measures and benchmarks
	Assess provider competencies
	Develop and implement provider education and training plan

	Data Plan and Informatics Management
	Establish system for collecting, analyzing and reporting relevant program data
	Regularly examine structure, process, outcome and efficiency measures
	Decision Support
	Develop processes for teleconsults and other online decision support
	Implement a comprehensive program for quality assurance/improvement
	Safety Process Planning
	Care Planning and Management
	Create a care plan template
	Develop processes for care management and coordination
	Develop evidence-based protocols for patient evaluation and treatment
	Implementation Planning
	Implement pilot program with established start and end dates • Real-time QI process • Transparent goals and performance measures • After-action review
	Plan for scalability
	Evaluate pilot program performance and re-launch
	Program Evaluation
	Evaluate operational performance
	Determine impact on healthcare outcomes
	Re-align program activities to promote program goals
	Communications Planning

APPENDIX 3

MIHP Program Profiles

The profiles included in this guide provide a sampling of various MIHP programs across the country; information was compiled through data submitted by each organization. For more examples, please visit MIHPresources.com.

MIHP Program Summary
AMR "PRIME Medic" CHF Readmission Reduction Program

LEAD ORGANIZATION/AGENCY:
American Medical Response

PROGRAM NAME:
AMR "PRIME Medic"CHF Readmission Reduction Program

LATEST UPDATE:
September 2014

LOCATION:
Arlington, Texas

FOR MORE INFORMATION:
Shane Smith, general manager, AMR Arlington
Buford.Smith@AMR.net

POPULATION SERVED:
Select patients discharged following treatment for CHF.

THE NEED:
Patients hospitalized for treatment of CHF have disappointingly frequent readmission rates. Improving patients' connection to their post-discharge care plan can substantially reduce avoidable readmission arising from medication non-adherence, poor access to prescription drugs and failure to reconnect effectively with their primary care physician.

THE GOAL:
AMR's PRIME Medics visit post-discharge CHF patients assigned by Arlington Memorial Hospital to facilitate reintegration into the home, confirm access to medications, review discharge instructions, ensure reconnection with their PCP, monitor weight and blood pressure, and confer with the hospital sponsor about changes in patient condition.

MEDICAL OVERSIGHT:
AMR local medical director

PARTNERS:
AMR and Arlington Memorial Hospital

PERSONNEL:
AMR critical care paramedics

FUNDING:
Not disclosed

PLANS FOR SUSTAINABILITY:
Long-term plans include linking sustainable program funding to savings accruing to system payers from reduced readmission rates.

TECHNOLOGY USED:
None

PROGRAM RESULTS:
Of the more than 200 patients seen in this program, only 27 were readmitted following their involvement with the PRIME program, compared with 173 readmissions among the same patients prior to care by the PRIME program.

MIHP Program Summary
Hospital Readmission Reduction Project

LEAD ORGANIZATION/AGENCY:
AMR/Abbott EMS–St. Louis

PROGRAM NAME:
Hospital Readmission Reduction Project

LATEST UPDATE:
September 2014

LOCATION:
Barnes–Jewish Hospital at Washington University Medical Center, St. Louis, Mo.

FOR MORE INFORMATION:
Mark L. Corley, general manager
Mark.Corley@amr.net

POPULATION SERVED:
Elderly patients admitted for pneumonia, COPD, CHF or acute MI who are screened for high risk potential for readmission defined as having a LACE score of 10 or greater (PMCID: PMC 2845681) who do not qualify for, or refuse, home health services.

THE NEED:
Hospitals face growing scrutiny from payers and governmental oversight bodies regarding hospital readmission rates for key diagnoses. Abbott EMS recognized that it could play a vital role in assisting local hospitals with focused patient populations deemed at risk for hospital readmission but who refuse home health or do not qualify for home health visits.

THE GOAL:
To provide personalized and goal-directed care for patients who are discharged from the hospital with pneumonia, COPD, CHF or acute MI by working with hospital case management teams to specifically identify patient needs for disease education, outpatient clinic visits, transport planning, and empowerment for understanding and managing their chronic conditions to lessen their chances of acute exacerbations leading to readmission within 30 days.

MEDICAL OVERSIGHT:
The medical director for Abbott EMS, David K. Tan, MD, serves as the program's medical director. Rob Hackleman, a Stay Healthy Outpatient Program (SHOP) social worker, leads the hospital screening process and is involved in patient selection and operational quality assurance and quality improvement, giving direct feedback to the medical director. Protocol checklists and patient feedback go directly to SHOP and the patient's chart.

PARTNERS:
Barnes–Jewish Hospital, Stay Healthy Outpatient Clinic

PERSONNEL:
Six advanced practice paramedics

FUNDING:
This pilot program is a shared risk model between Abbott EMS and Barnes–Jewish Hospital. Future funding will depend largely on the overall success of the program, in addition to value-added benefits realized by both parties.

PLANS FOR SUSTAINABILITY:
Develop a sustainable fee structure using demonstrated cost savings to the hospital.

TECHNOLOGY USED:
The CAD system in our current infrastructure is able to keep track of resources sent to the enrolled patients who are flagged in the system as part of the Hospital Readmission Reduction Project. The patients are also given a special number to call 24 hours a day, seven days a week should they feel the need to discuss a problem with their assigned primary care paramedic. The number is identifiable by the dispatcher that the caller is part of this program.

PROGRAM RESULTS:
This pilot program has a goal of 100 patients to enroll for data analysis. Currently, 24 patients have been enrolled.

MIHP Program Summary
Ventura Tuberculosis Directly Observed Therapy Project

LEAD ORGANIZATION/AGENCY:
Ventura County Health Agency/American Medical Response/Gold Coast Paramedics

PROGRAM NAME:
Ventura Tuberculosis Directly Observed Therapy Project

LATEST UPDATE:
September 2014

LOCATION:
Ventura County, Calif.

FOR MORE INFORMATION:
Mike Taigman, general manager,
AMR Ventura/Gold Coast Paramedics
Mike.Taigman@AMR.net

POPULATION SERVED:
Patients requiring daily medication for active TB

THE NEED:
Successful treatment of TB requires strict adherence to a daily medication regimen. Many of these medications have significant side effects. Directly observed therapy (DOT) is the most effective process for supporting adherence and for providing a supportive relationship with these patients. This patient population has a high percentage of people who are marginally housed or economically disadvantaged, or who lack citizenship documentation. All patients in the project are seen daily in the community by consistently assigned AMR and Gold Coast paramedic supervisors, provided with their medications and assessed for signs of malabsorption or side effects.

THE GOAL:
Improve adherence to daily medication regimen for patients with TB in Ventura County and manage side effects/complications quickly and effectively.

MEDICAL OVERSIGHT:
County health agency and AMR local medical director

PARTNERS:
AMR Ventura, Gold Coast Paramedics and Ventura County Health Agency

PERSONNEL:
AMR paramedic supervisors

FUNDING:
Not disclosed

PLANS FOR SUSTAINABILITY:
Program currently meets the needs of all identified patients.

TECHNOLOGY USED:
None

PROGRAM RESULTS:
The AMR MIH staff consistently DOT more than 90 percent of patients in daily census.

MIHP Program Summary
Hospice Revocation Avoidance

LEAD ORGANIZATION/AGENCY:
MedStar Mobile Healthcare

PROGRAM NAME:
Hospice Revocation Avoidance

LATEST UPDATE:
September 2014

LOCATION:
Fort Worth and 14 suburban cities in north Texas

FOR MORE INFORMATION:
Matt Zavadsky, director of Healthcare & Community Integration
MZavadsky@medstar911.org

POPULATION SERVED:
Patients/families at risk for voluntary disenrollment in hospice. A total of 142 patients have been enrolled to date.

THE NEED:
Many patients/families call 911 at the last moment in panic for a hospice patient. This often results in an ambulance trip to the ED and potential disenrollment in hospice.

THE GOAL:
- Improve the patient's experience of care, including outcome
- Improve population health
- Reduce the cost of care
- Help the patient transition to desired state in the safety and security of home, without an unnecessary ED trip or revocation of hospice status

MEDICAL OVERSIGHT:
The hospice agency medical director (delegated by the EMS medical director); in absence of this, the EMS medical director.

PARTNERS:
VITAS Innovative Hospice

PERSONNEL:
Specially trained mobile healthcare practitioners and critical care paramedics; RN for case management

FUNDING:
Per enrolled patient/per month fee

PLANS FOR SUSTAINABILITY:
Fee for enrollment (per enrolled patient/per month referring sources)

TECHNOLOGY USED:
SharePoint EMR

PROGRAM RESULTS:
Approximately 92 percent reduction of hospice revocation/voluntary disenrollment of enrolled patients.

MIHP Program Summary
Home Health Partnership

LEAD ORGANIZATION/AGENCY:
MedStar Mobile Healthcare

PROGRAM NAME:
Home Health Partnership

LATEST UPDATE:
September 2014

LOCATION:
Fort Worth and 14 suburban cities in north Texas

FOR MORE INFORMATION:
Matt Zavadsky, director of Healthcare & Community Integration
MZavadsky@medstar911.org

POPULATION SERVED:
Patients on home health service at risk for a 911 call; patients on home health service who require after-hours visits.

THE NEED:
- Some home health-enrolled patients call 911 without the knowledge of the home health agency for care coordination
- Home health agencies are held accountable for ED visits/admissions by referring hospital
- After-hours calls for a home RN visit are expensive to the home health agency

THE GOAL:
- Improve the patient's experience of care, including outcome
- Improve population health
- Reduce the cost of care
- Coordinate care with the home health nurse knowledgeable about the patient's needs
- Avoid unnecessary ED visits
- Avoid unnecessary home health nurse visits

MEDICAL OVERSIGHT:
The home health agency medical director (delegated by the EMS medical director); in the absence of this, the EMS medical director

PARTNERS:
Klarus Home Care

PERSONNEL:
Specially trained mobile healthcare practitioners and critical care paramedics; RN for case management

FUNDING:
Patient contact fee

PLANS FOR SUSTAINABILITY:
Fee for contact

TECHNOLOGY USED:
SharePoint EMR; Kinser Home Health EMR (we log in to this)

PROGRAM RESULTS:
28 patient contacts; reduced ED visits in enrolled population by 36 percent

MIHP Program Summary
EMS Loyalty Program

LEAD ORGANIZATION/AGENCY:
MedStar Mobile Healthcare

PROGRAM NAME:
EMS Loyalty Program

LATEST UPDATE:
September 2014

LOCATION:
Fort Worth and 14 suburban cities in north Texas

FOR MORE INFORMATION:
Matt Zavadsky, director of Healthcare & Community Integration
MZavadsky@medstar911.org

POPULATION SERVED:
Patients who call 911 15 or more times in 90 days; or patients referred by agencies (hospitals, first responders, payers) that believe these patients would benefit from intervention. A total of 390 patients have been enrolled to date.

THE NEED:
Patient education on better ways to manage medical issues and navigation to resources other than an ED or EMS agency that can better serve as a patient-centered medical home.

THE GOAL:
- Improve the patient's experience of care, including outcome
- Improve population health
- Reduce the cost of care
- Educate on ways to better manage medical needs
- Connect with resources necessary to reduce 911 and/or ED use
- Reduce 911 and ED use

MEDICAL OVERSIGHT:
The patient's assigned primary care physician (delegated practice); in absence of this, the EMS medical director.

PARTNERS:
- Medical Control Authority (Emergency Physician's Advisory Board)
- John Peter Smith Health Network
- Texas Health Resources
- HCA–Plaza Medical Center
- Baylor Scott & White–Fort Worth
- Tarrant County Mental Health/Mental Retardation Agency
- United Way
- Area Agency on Aging
- Catholic Charities
- Resource Recovery Council
- Perrone Pharmacy
- Tarrant County Homeless Coalition
- Tarrant County Public Health
- Day Resource Center
- Care Now Medical Clinics
- Concentra Medical Clinics
- Federally Qualified Health Center

PERSONNEL:
Specially trained mobile healthcare practitioners and critical care paramedics; RN for case management

FUNDING:
Outside referrals; fee for enrollment

PLANS FOR SUSTAINABILITY:
Continued fees for enrollment (hospitals and other referring sources); move to capitated arrangement for payers (Cigna-HealthSpring, Amerigroup, Silverback Care Management, etc.).

TECHNOLOGY USED:
Standard ALS medical equipment; digital scale; IStat point of care testing; SharePoint EMR. Also testing several telemedicine and telemonitoring platforms.

PROGRAM RESULTS:
- Approximately 29 percent reduction in ED/EMS use during enrollment
- Approximately 82 percent reduction in ED/EMS use post-graduation

APPENDIX 4

Resources

Books

- Institute of Medicine: *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, D.C.: National Academy Press.

Journal Articles

- Munjal K, Carr B: Realigning reimbursement policy and financial incentives to support patient-centered out-of-hospital care. *Journal of the American Medical Association*, 309(7):667–668, 2013.

- Berwick DM, Thomas W, Nolan TW, Whittington J: The Triple Aim: care, health, and cost. *Health Affairs*, 27(3): 759–769, 2008.

Web Resources

- U.S. Department of Health and Human Services Health Resources and Services Administration, Office of Rural Health Policy Community Paramedicine Evaluation Tool: hrsa.gov/ruralhealth/pdf/paramedicevaltool.pdf.

- Mobile Integrated Healthcare Practice Collaborative: mobileintegratedhealthcare.com.

- Full text of the Patient Protection and Affordable Care Act (H.R. 3590): gpo.gov/fdsys/pkg/BILLS-111hr3590enr/pdf/BILLS-111hr3590enr.pdf.

- Watkins R, Meirs M, Visser Y: A guide to assessing needs: essential tools for collecting information, making decisions and achieving development results. The World Bank, 2012. Free PDF: needsassessment.org.

- Association of Community Health Improvement, Community Health Assessment Toolkit: assesstoolkit.org.

- The National Association of County & City Health Officials: Mobilizing for Action Through Planning and Partnerships (MAPP): naccho.org/topics/infrastructure/mapp/.

- Centers for Disease Control and Prevention: Community Health Assessment and Group Evaluation (CHANGE) Action Guide: Building a Foundation of Knowledge to Prioritize Community Needs: cdc.gov/healthycommunitiesprogram/tools/change/pdf/changeactionguide.pdf.

- U.S. Department of Health and Human Services Office of Disease Prevention and Health Promotion: Healthy People 2020: healthypeople.gov.

- Core Measurement Needs for Better Care, Better Health, and Lower Costs: Counting What Counts: Workshop Summary. Healthcare quality and its affordability have become pressing issues in the United States. All sectors of the country are attempting to push forward initiatives that will improve the healthcare system as well as the health of the patient. Available at nap.edu.

Other Resources

- Community-Based Needs Assessment: Assisting Communities in Building a Stronger EMS System. U.S. Department of Health and Human Services Health Resources and Services Administration Office of Rural Health Policy, 2009.

- Leadership commitments to improve value in Health Care. Finding Common Ground: Workshop Summary. Institute of Medicine (US) Roundtable of Evidence-Based Medicine. Washington, D.C.: National Academies Press; 2009ISBN-13: 978-0-309-11053-2ISBN-10: 0-309-11053-X. This volume relates discussions among multiple stakeholders regarding methods for transforming healthcare in the United States. The U.S. healthcare system consists of a complex network of decentralized and loosely associated organizations, services, relationships and participants. Each of the healthcare system's component sectors—patients, healthcare professionals, healthcare delivery organizations, healthcare product developers, clinical investigators and evaluators, regulators, insurers, employers and employees, and individuals involved in information technology—conducts activities that support a common goal: to improve patient health and well-being. Implicit in this goal is the commitment of each stakeholder group to contribute to the evidence base for healthcare—that is, to assist with the development and application of information about the efficacy, safety, effectiveness, value and appropriateness of the healthcare delivered.

APPENDIX 5

A Unique Organization: The American Telemedicine Association

Located in Washington, D.C., the American Telemedicine Association (ATA) is the leading resource for telemedicine information in the U.S. and offers useful resources for the public.

ATA describes its guidelines as such: "ATA's practice guidelines for telemedicine are the critical foundation for the deployment of telemedicine services. Standards form the basis for uniform, quality patient care and safety, grounded in empirical research and clinical experience. The establishment of such standards also accelerates the adoption of telemedicine by payers, administrators and providers who are full partners with ATA in their development along with industry, government agencies, medical societies and other stakeholders."

American Telemedicine Association standards and guidelines

On the ATA website (americantelemed.org) there are lists of, and links to, standards and guidelines relating to various aspects of telemedicine released from 1999 to the present, as well as a list of guidelines scheduled for completion in the next one to two years. These include remote healthcare data management, remote prescribing and urgent primary care. These are available for download at no cost.

Other resources available on the site include a list of up-to-date state information on private and Medicaid telemedicine implementation, as well as proposed legislation on telemedicine bills pertaining to coverage and access. A glossary of telemedicine nomenclature is also provided, which provides clear definitions for many potentially confusing concepts.

Below is a sample of publications available on the website.

- **A Lexicon of Assessment and Outcome Measures for Telemental Health** Published in November 2013, this lexicon is a research tool developed to aid telemental health professionals in the selection of assessment and outcome measures. This resource will help increase understanding in the field, allow for broader comparisons and support better generalization of findings.

- **Practice Guidelines for Video-Based Online Mental Health Services** Published in May 2013, these guidelines cover the provision of mental health services when using real-time videoconferencing services transmitted via the Internet, including a personal computer with a webcam or a mobile communications device (e.g., "smart

phone," laptop or tablet) with two-way camera capability.

- **Expert Consensus Recommendations for Videoconferencing-Based Telepresenting** Published in October 2011, this consensus includes administrative, technical and clinical standards for health professionals using videoconferencing-based telepresenting to connect patients with remote medical providers.

- **A Blueprint for Telerehabilitation Guidelines** Published in October 2010, these guidelines feature the key administrative, clinical, technical and ethical principles that should be considered in the course of providing telerehabilitation services. They are based primarily on the American Telemedicine Association's Core Standards for Telemedicine Operations and describe additional considerations that are present across applications within telerehabilitation and its related fields.

- **Practice Guidelines for Videoconferencing-Based Telemental Health** Published in October 2009, these guidelines aim to assist in the development and practice of coherent, effective, safe and sustainable telemental health practices. The guidelines focus on telemental health services delivered through two-way, interactive (synchronous) videoconferencing.

- **Evidence-Based Practice for Telemental Health** Published in July 2009, this document is a companion piece to ATA's Practice Guidelines for Videoconferencing-Based Telemental Health, with reference and support for decision-making in developing and providing telemental health services.

- **Core Standards for Telemedicine Operations** Published in February 2008, these are fundamental requirements to be followed in providing remote medical services, interactive patient encounters and any other electronic communications between patients and practitioners for the purposes of healthcare delivery. Administrative, clinical and technical aspects are addressed.

- **Home Telehealth Clinical Guidelines** Published in 2003, these guidelines encompass the diverse applications for home telehealth technology and establish a set of universal principles guiding the development and deployment of home telehealth in the future.

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Mobile Integrated Healthcare and Community Paramedicine (MIH-CP)

Insights on the development and characteristics of these innovative healthcare initiatives, based on national survey data

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[1]Meaney PA, et al. *Circulation.* 2013;128:417-35

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IMAGE PROVIDED BY PINNACLEHEALTH/COMMUNITY LIFETEAM

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NAEMT

Mobile Integrated Healthcare and Community Paramedicine (MIH-CP): A National Survey

Over the past several years, two new types of patient care offered by EMS agencies have generated tremendous interest within EMS and the wider health care community. Called mobile integrated healthcare and community paramedicine (MIH-CP), many believe these innovations have the potential to transform EMS from a strictly emergency care service to a value-based mobile healthcare provider that is fully integrated with an array of healthcare and social services partners to improve the health of the community.

Though still evolving, MIH and CP programs operating around the nation are providing a range of patient-centered services, including:

- Sending EMTs, paramedics or community paramedics into the homes of patients to help with chronic disease management and education, or post-hospital discharge follow-up, to prevent hospital admissions or readmissions, and to improve patients' experience of care.
- Navigating patients to destinations such as primary care, urgent care, mental health or substance abuse treatment centers instead of emergency departments to avoid costly, unnecessary hospital visits.
- Deploying telemedicine to connect patients in their homes with caregivers elsewhere.
- Providing telephone advice or other assistance to non-urgent 911 callers instead of sending an ambulance crew.

To add to the EMS profession's understanding of the development, characteristics and status of MIH-CP in the United States, NAEMT conducted a comprehensive survey in late 2014 of the nation's currently operating MIH-CP programs.

This summary analysis reports the results of that survey, and the conclusions that can be drawn from the data. Analysis was provided by our author team, which includes several of the nation's MIH-CP thought leaders, medical directors and MIH-CP program administrators.

Survey finds much enthusiasm, significant obstacles

The survey identified more than 100 EMS agencies that have worked diligently over the past several years to determine their communities' needs, build partnerships to launch these innovative programs and contribute to solving the key issues facing American healthcare.

The promise of these programs has garnered the attention of a broad spectrum of stakeholders, ranging from hospitals to physicians groups, private insurers and the Centers for Medicare and Medicaid Services (CMS). The interest has enabled some MIH-CP programs to secure grants to cover the initial development and operation of their programs. The largest and most well publicized funding came from the CMS Innovation Center, which awarded grants to several EMS agencies and their partners beginning in 2012 to study the effectiveness of MIH-CP programs in achieving the Institute for Healthcare Improvement's Triple Aim: improving the patient experience of care, improving the health of populations and reducing the per capita cost of healthcare.

Outside of the federal grants, other EMS agencies have been successful in securing grants from foundations, or in negotiating contracts with partners such as hospitals, Medicaid managed care organizations, home health agencies, hospice agencies and private insurers. Those contracts may include payments for MIH-CP services based on fee-for-service, a per-patient or capitated fee, or other shared savings arrangements.

Yet most EMS agencies launching MIH-CP programs have and continue to fund these programs out of their existing budgets – a sign of their dedication but worrisome from a financial perspective.

Compounding these challenges, the newness of EMTs and paramedics taking on new responsibilities, albeit ones within their scope of practice as defined by state laws and regulations, has also raised concerns among some regulators, nurses and other health professionals who question whether EMS should be permitted to offer MIH-CP.

Data provides a national snapshot

To date, the data collected by this survey and analyzed in this summary represents the only compendium of information from the nation's currently operating MIH-CP programs. Respondents, who included EMS agency directors, medical directors, and MIH-CP program managers and practitioners, represent diverse communities and provider types, from 33 states and the District of Columbia.

NAEMT would like to thank the respondents who took the time to tell us about their programs. We would also like to thank NAEMT's Mobile Integrated Healthcare-Community Paramedicine Committee for developing the survey questionnaire, and our author team for generously providing their time and insights in analyzing the data.

IMAGE PROVIDED BY KEVIN PIEPER/THE BAXTER BULLETIN

Community paramedics from Baxter Regional Medical Center in Arkansas provide post-discharge follow-up visits and connect patients to primary care.

Survey Targets

Between April and October 2014, NAEMT conducted a thorough search to identify MIH and CP programs in the United States. Sources included:

- An earlier NAEMT MIH-CP survey widely distributed in 2013 by NAEMT and several other national EMS organizations as part of the Joint National EMS Leadership Forum.
- Media reports and Google searches.
- Other written materials, such as white papers and research studies, that referenced MIH or CP programs.
- Interviews with EMS industry contacts.
- Information provided by state EMS offices.
- Phone calls and emails to individual EMS agencies.

To determine inclusion as an MIH-CP program, we used the definition for MIH-CP contained in the MIH-CP Vision Statement, spearheaded by NAEMT and endorsed by more than a dozen national EMS and emergency physicians' organizations in 2014. The Vision Statement defines MIH-CP as being fully integrated; collaborative; data-driven; patient-centered and team-based. Examples of MIH-CP activities can include, but are not limited to, providing telephone advice instead of resource dispatch; providing chronic disease management, preventive care or post-discharge follow-up; or transport or referral to care beyond hospital emergency departments.

Because there is no strict definition of MIH-CP, however, we had to make judgment calls about inclusion. For example, one EMS agency in a remote mining area of Alaska indicated they utilized telemedicine to connect patients with physicians in larger cities; this agency was not included because the goal was to provide assistance with acute situations, not education, preventive care or assistance with chronic disease management. We also did not include EMS agencies that described a high level of community involvement, such as providing community education on accident or falls prevention, teaching CPR, or conducting health screenings, but did not include any of the other elements of MIH-CP.

Questionnaire covers all aspects of MIH-CP

The survey was crafted with the input of the NAEMT MIH-CP Committee and included more than 50 questions asking respondents to describe all aspects of their MIH-CP program, including program activities, partners, agency demographics, medical direction, funding, revenue, goals and data collection.

In September and October 2014, the survey was distributed to approximately 150 agencies that were either known or thought to have an MIH-CP program. During that time, NAEMT continued to do outreach to refine the list of agencies with confirmed MIH-CP programs.

As of November 2014, we received a total of 137 responses. Of those, 26 did not have MIH-CP programs; 111 did. Two did not provide any identifying information and were eliminated; two were significantly incomplete and could not be used. Four were duplicate answers from the same agency, so only one from each agency was included, for a total of 103 completed surveys.

Based on our search, we can say with confidence that this represents the vast majority of MIH-CP programs nationwide at the end of 2014.

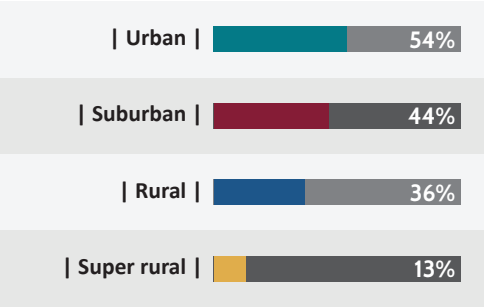
However, it should be noted that new programs are coming on board every month, so by now there may be more. Our search also yielded many programs reportedly in the final stages of development or awaiting final grant or regulatory approval, such as the dozen programs that are part of the California pilots slated for launch in the first half of 2015 and six programs slated to launch in Michigan, also this year. These were not included.

NAEMT

100+ Agencies in 33 States, Wash., D.C. and Counting: Who's Doing MIH-CP

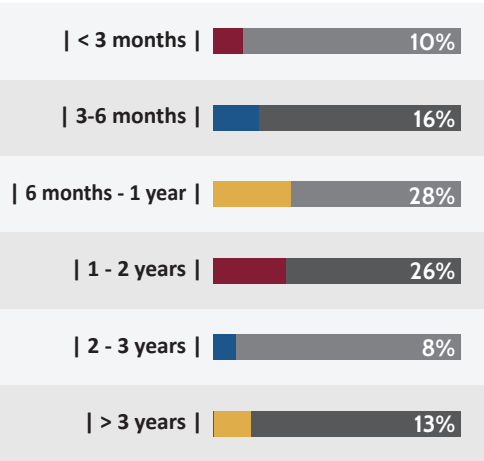
Though the concept of community paramedicine had its start in rural areas, today mobile integrated healthcare and community paramedicine programs operate in a range of community types.

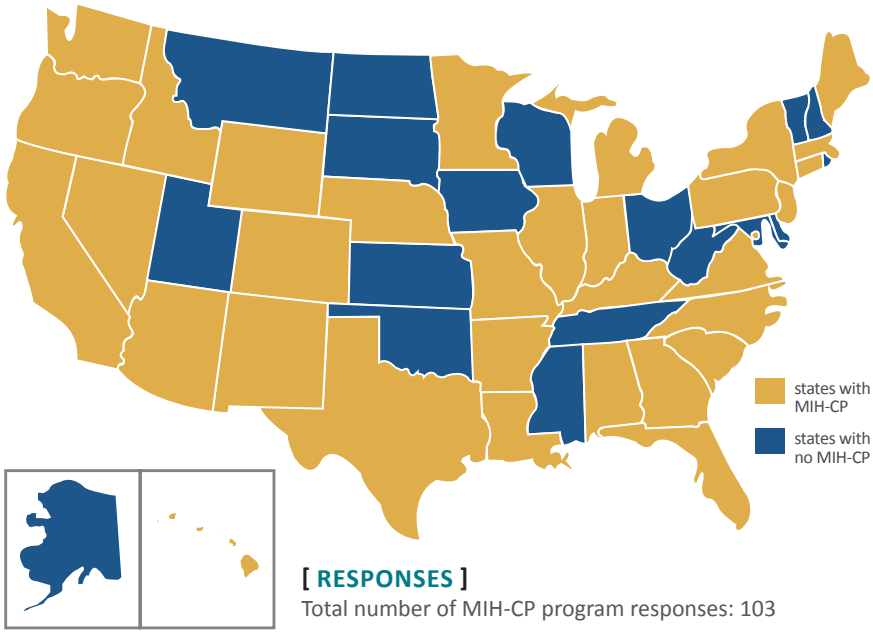
[COMMUNITY TYPES]



About half (53 percent) of MIH-CP programs launched in the past year. Only 20 percent have been in operation two years or longer.

[TIME IN OPERATION]



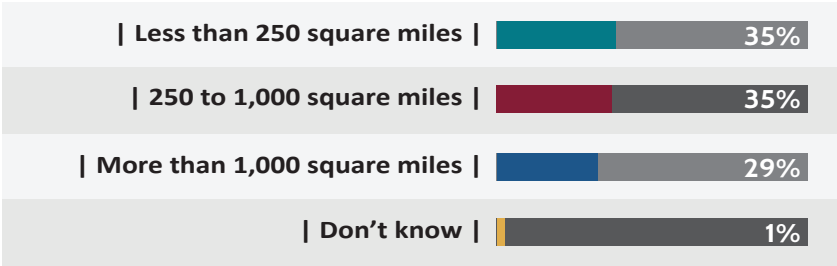


[RESPONSES]
Total number of MIH-CP program responses: 103

**Information about MIH-CP in Alabama came in after the survey concluded.*

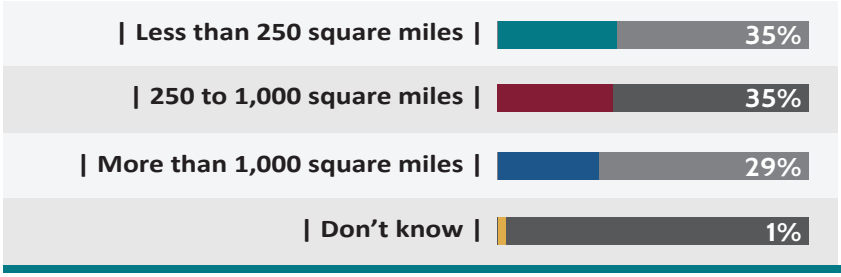
Agency geographic service areas range from compact cities to sprawling rural and super rural regions.

[GEOGRAPHIC AREA COVERED]



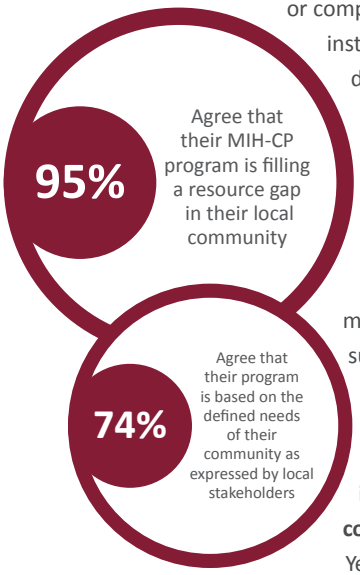
Call volume is also divided among high-volume urban and low-volume rural EMS.

[CALL VOLUME]



The Important Role of the Community Needs Assessment

There is broad consensus within EMS that MIH–CP programs are not one-size-fits-all, but should be developed to meet community needs. It's also widely accepted that MIH-CP programs should not duplicate or compete with already existing services, and instead fill gaps in existing services. The way to determine where those gaps are is through a community needs assessment as part of the MIH-CP planning process.



While that premise seems self-evident, "community needs assessment" is a term more familiar to public health professionals than first responders, and may mean many things to many people. The survey sought to describe the nature and source of community needs assessments within operating MIH-CP programs.

According to survey responses, **three in four agencies (77 percent) report conducting a community needs assessment.** Yet when a question about conducting a community needs assessment was asked in a slightly different way – whether they agree or disagree with the statement, "Your program is based on a formal community needs assessment" – the responses were somewhat different. Only half (51 percent) agreed, 25 percent were neutral, and 21 percent disagreed. This perhaps indicates confusion over what constitutes a "formal" versus an "informal" community needs assessment.

Sources of data, stakeholder input

Of agencies that conducted a community needs assessment, the most commonly used data source is EMS data (87 percent), followed by population demographics (63 percent), hospital discharge data (55 percent), emergency department data (54 percent), public health data (41 percent), other data (12 percent), and law enforcement data (11 percent). Only 2 percent of agencies say they used no external data.

When asked to describe their community assessment, many agencies report having meetings, roundtables and establishing working groups or steering committees involving a variety of stakeholders, including hospitals, social services, mental health, law enforcement, assisted living facilities, public and private payers and public health departments.

MIH-CP programs should strive to reach patients before they become frequent users

Based on this survey, EMS agencies engaged in MIH-CP rely predominantly on data from individuals who utilize EMS services or have been cared for by the hospital system. This focus may hinder the MIH-CP system from gaining a full understanding of the needs of their community, such as individuals who have not accessed the 911 or hospital system but who may have significant care needs. As MIH-CP continues to develop, a long-term goal may be to reach members of the community before their health or psychosocial issues have deteriorated to the point where they become frequent users of hospitals and EMS systems.

Programs in existence for over two years were more likely to use a wider variety of data in assessing community need.

A narrow focus on patients already on the radar of hospitals and EMS may also restrict available payer sources. While focusing on this group of patients offers the opportunity for a "cost savings" source of revenue, it misses other potentially reimbursable patient encounters from the large pool of individuals who have not been hospitalized.

To identify these patients and gain a more complete look at community needs, MIH-CP systems should strive to use as many data sources as possible to identify the needs of a much broader population within the community.

It's worth noting that programs in existence were more likely to use data other than EMS data – 86 percent used population demographics, 62 percent used public health data, 62 percent used emergency department data, 19 percent used law enforcement data, and 19 percent used other data – suggesting that longer-duration programs use a broader set of community health data when evaluating healthcare gaps in their community.

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Medical Direction Involves Multidisciplinary Collaboration

In emergency response, the role of the physician medical director is to ensure quality patient care. Responsibilities include involvement with the design, operation, evaluation and quality improvement of the EMS system. The medical director has authority over patient care, and develops and implements medical protocols, policies and procedures.

The role of medical direction in MIH-CP is in some ways similar, with protocol development (88 percent) topping the list of responsibilities. However, because MIH-CP focuses on coordinating care over a longer period than the typical EMS call, medical direction in the MIH-CP context may include additional responsibilities, often done in collaboration with primary care or other healthcare providers outside of the EMS agency. That can include the development and approval of care plans (62 percent), phone consultations (64 percent) and telemedicine consultation (18 percent).

EMS Medical Director Role

88% Protocol development/ approval

64% Phone consultation

62% Development/approval of care plans

42% Guidance on alternative destinations

18% Live online telemedicine consultations

Hours of medical direction/ oversight provided per week

Less than 10..... **79%**

10 to 20 ..... **16%**

More than 20..... **4%**

Others who provide medical direction and advice to MIH-CP programs

Primary care physicians (52 percent), on-call emergency physicians (29 percent) and specialty physicians (32 percent) are also called upon to provide medical direction or advice regarding MIH-CP patient care. Other sources of medical direction named by one or more respondents included other hospital physicians, physician assistants, surgical nurse practitioners, RN case managers and psychiatrists.

This collaboration is evident in the more than half (51 percent) of respondents who say that they obtained approval from partner organizations for their clinical protocols.

Breaking down silos: MIH-CP is team-based

From medical homes to care teams to accountable care organizations, the concept of collaborative, integrated, patient-centered care is a major theme of healthcare reform – and MIH-CP.

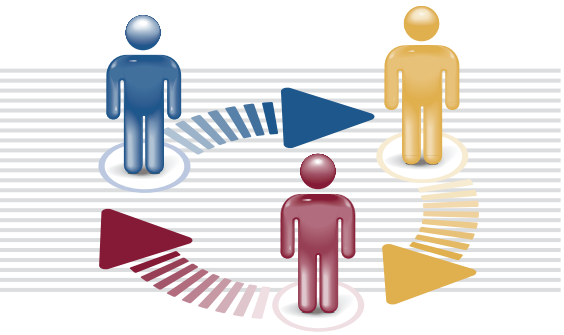
77% **Agree that their program is a multidisciplinary practice of medicine overseen by physicians and other healthcare practitioners**

70% **Agree that their program is team-based and incorporates multiple providers, both clinical and non-clinical**

96% **Agree that their program is patient-centric and focused on the improvement of patient outcomes**

1 in 4 agencies

report using telemedicine in their MIH-CP programs. It was not specified whether that involves specific telemedicine applications or more commonplace EMS activities, such as ECG transmission.



MIH-CP Programs Partner With an Array of Healthcare, Social Services Agencies

69%

of MIH-CP programs receive referrals from hospitals

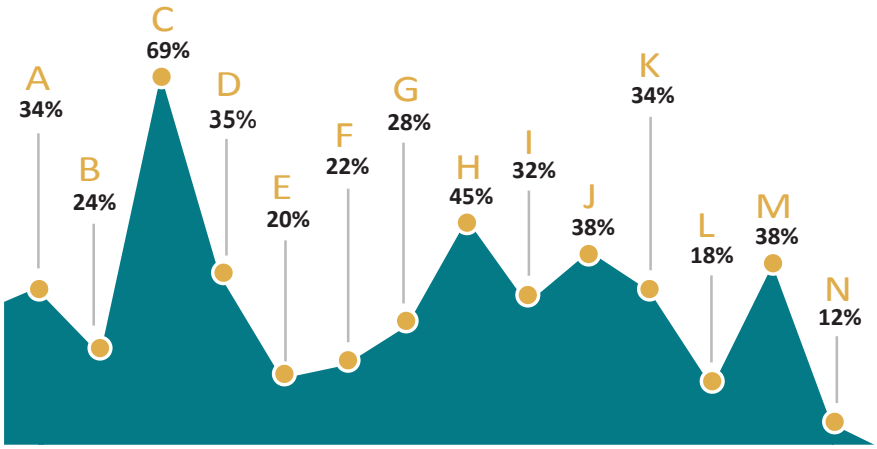
Mobile integrated healthcare by definition integrates with all entities that impact patient care and wellness. This integration is necessary for multiple reasons.

Patients who have frequent contact with EMS and hospitals often have multiple medical problems, comorbidities and complex psychosocial circumstances. These health issues cannot be solved by a single entity, but instead require the expertise of a variety of healthcare providers, social services agencies and community resources. For EMS, these partnerships enable MIH-CP programs to match each patient's needs with the right resource.

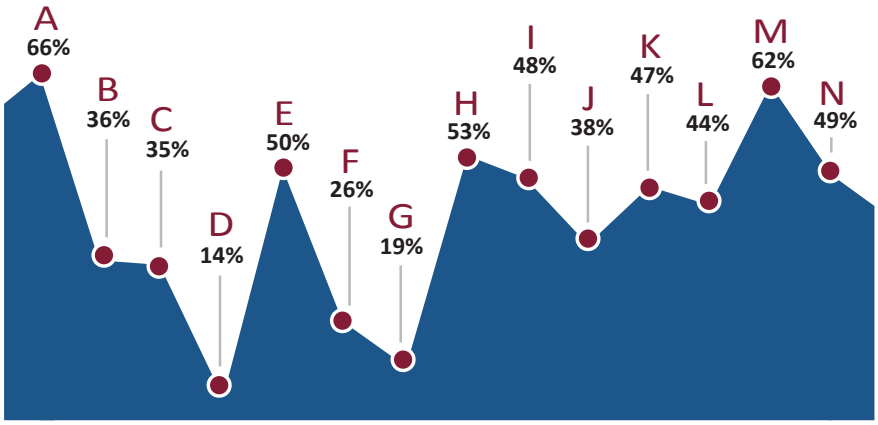
Referrals go both ways

Partnering works in two directions: the MIH-CP program can receive referrals from the partner agency, or the MIH-CP program can refer patients to the partner agency.

According to survey responses, **hospitals are the most commonly cited source of referrals *to* MIH-CP programs**, with 69 percent of MIH-CP programs reporting receiving referrals from hospitals, followed by



[REFERRALS]
The partner organization refers patients to the MIH-CP program



[REFERRALS]
The MIH-CP program refers patients to the partner organization

Organization Key

A. Home Health Organizations
B. Hospices
C. Hospitals
D. Law Enforcement Agencies
E. Mental Health Care Facilities
F. Nursing Homes
G. Other EMS Agencies
H. Primary Care Facilities
I. Public Health Agencies
J. Physician Groups
K. Community Health Clinics
L. Urgent Care Facilities
M. Social Service Agencies
N. Addiction Treatment Centers

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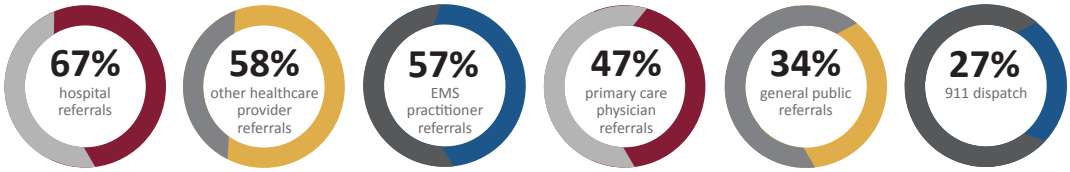
[SOURCES]
of MIH-CP program enrollment



primary care facilities (45 percent), physicians groups (38 percent), social services agencies (38 percent), law enforcement (35 percent), home health (34 percent) and community health clinics (34 percent).

66%
of MIH-CP programs refer patients to home health

In seeking solutions for their patients, **MIH-CP programs are most likely to refer their patients *to* home health** (66 percent), followed by social service agencies (62 percent), primary care (53 percent), mental health facilities (50 percent), addiction treatment centers (49 percent), public health agencies (48 percent) and community health clinics (47 percent).

How patients come to the attention of MIH-CP programs

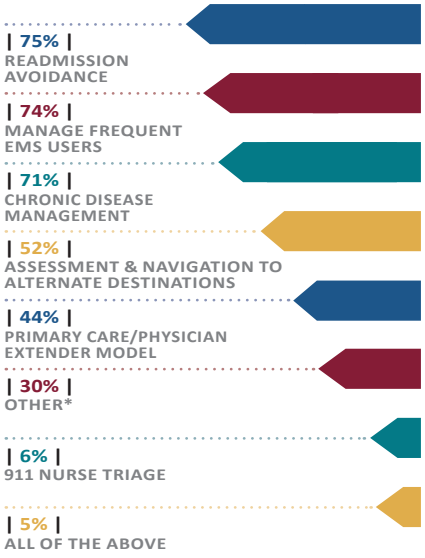
MIH-CP programs are made aware of prospective patients from a variety of sources. Hospital referrals are the primary portal to MIH-CP programs (67 percent), followed by referrals from other healthcare entities (hospices, home health care, mental health care and others) at 58 percent and primary care physicians (46 percent).

EMS sources, including referrals from fellow EMS practitioners (57 percent) and dispatch (27 percent) are also important in making MIH-CP programs aware of potential patients.

Awareness of the value of MIH-CP programs appears to grow over time

When isolating the data for programs with two or more years of experience, fellow EMS practitioners become the most likely to refer to MIH-CP programs (81 percent). While hospital referrals remain strong at 67 percent, referrals from other healthcare providers now come in at 71 percent, followed by dispatch and primary care, both at 52 percent. **The increased percentage of referrals from nearly all sources may indicate that over time, EMS practitioners and other healthcare providers accept MIH-CP and see the value it can bring.**

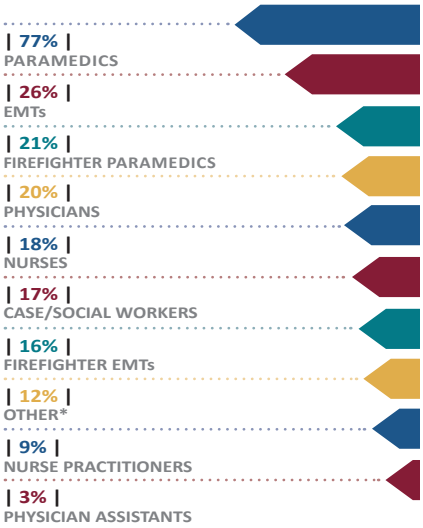
[CHARACTERISTICS OF MIH-CP PROGRAMS]



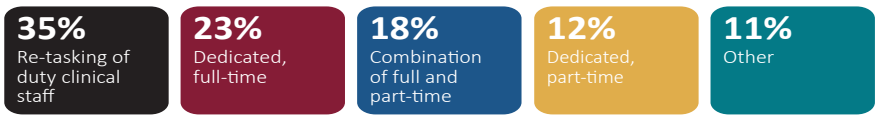
** mental health, hospice support, fall prevention*

[STAFFING]

Respondents report employing or contracting with many types of practitioners for MIH-CP programs



** pharmacists, crisis counselors, patient navigators, residents, physical and occupational therapists*



[MIH-CP CLINICAL STAFFING MODEL]

Some MIH-CP practitioners are dedicated full-time to MIH-CP; others split their time between MIH-CP and emergency response or other duties.

Partnerships Are About More Than Referrals

Partnering with stakeholders is not only about referrals. Some partners provide financial support, which may include direct payments for services, but can also include assistance with staffing, supplies or other resources, while others provide oversight and direction to MIH-CP programs.

[DIRECT FINANCIAL SUPPORT]
Who provides direct payments for MIH-CP services?

- **15%** hospitals
- **5%** hospice
- **4%** public health agencies
- **4%** nursing homes
- **2%** physician groups

[OTHER FINANCIAL SUPPORT]
Who provides other financial support for MIH-CP services?

- **25%** hospitals
- **5%** physician groups
- **5%** primary care facilities
- **4%** home health organizations
- **3%** mental health facilities

[OVERSIGHT/DIRECTION]
Who provides direction and oversight?

- **33%** hospitals
- **12%** public health agencies
- **12%** physician groups
- **11%** primary care facilities
- **9%** home health organizations
- **7%** hospices

Is EMS doing everything it can to develop partnerships?

With more than half (54 percent) of respondents reporting that their programs are a year old or less, it is understandable that some may not have fully developed the necessary partners within their communities.

Still, more than half (58 percent) of respondents view their MIH-CP program as fully integrated into the healthcare system. Among programs in operation for two or more years, 66 percent agree that their program is fully integrated.

EMS agencies report challenges establishing partnerships for a variety of reasons, including:

- other healthcare providers not understanding the EMS role in an MIH-CP program
- fears among home health agencies that EMS participation in providing services in the home outside of answering 911 calls represents competition
- potential partners not seeing a clear financial incentive for partnering with EMS.

Though 34 percent of respondents agree that "opposition from other healthcare providers such as physicians, nurses or home health is a significant obstacle to sustaining or growing their MIH-CP programs," an almost equal number (32 percent) disagree that opposition is a barrier.

And there is reason for optimism.

87% **Agree that support for MIH-CP programs is growing among partners such as hospitals and other healthcare providers**

96% **Agree that the number of patients served by their MIH-CP program will grow in the next five years.**

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Experience Tops Qualifications Sought in MIH-CP Practitioners

61% Developed internally
20% College-based
13% Used another MIH-CP program's training
5% Outside contractor

[TRAINING PROGRAM DEVELOPMENT]

While the medical skills performed by EMS personnel participating in MIH-CP tend to be consistent with their emergency response training and experience, the *focus* and *context* of their clinical roles are very different. The practice of EMS is focused on rapid assessment, provision of resuscitative or supportive care within a narrow set of protocols, and transport to a hospital-based emergency department. In contrast, the practice of MIH-CP is focused on longitudinal assessment, participation in an existing, multidisciplinary, interprofessional treatment plan, and communication with and referral to other members of the treatment team based on changing patient needs. Contextually, care shifts from episodic evaluation and care of patients independent of their existing medical care plan to longitudinal monitoring and adjustment of care as a part of a medical care plan.

Asked what specific training or experience qualifications are required of MIH or CP employees, field experience was most often mentioned, with about one in four respondents specifying that MIH-CP practitioners had to have between one and 10 years of field work experience (usually paramedic).

Smaller numbers mentioned communications skills, positive attitude and a customer service focus as specific candidate competencies. As for specific credentials, several stated that critical care transport paramedic training was required or preferred, while several stated other certifications were required, including EMT, registered nurse, nurse practitioner and social work.

A few require some college or a college-based community paramedic certification. About one in four answered there were no special requirements.

"Borrowed" training programs include: Eagle County Paramedic Services, Wake County EMS, MedStar Mobile Healthcare, Mesa Fire Department and FD CARES.

Training topics

Nearly all respondents require some type of additional training for their MIH-CP practitioners. Clinical topics (67 percent), patient relations/communications (66 percent), accessing community programs and social services (63 percent) and patient navigation (59 percent) topped the list.

Length of training

The length of training varied widely, as did the inclusion of clinical rotations or field training hours.

[CLASSROOM HOURS REQUIRED]

43% Less than 40 hours
18% 40-80 hours
18% 80-120 hours
11% 120-140 hours
4% More than 240 hours
6% Don't know

[CLINICAL ROTATIONS/FIELD TRAINING HOURS REQUIRED]

49% Less than 40 hours
16% 40-80 hours
10% 80-120 hours
16% 120-140 hours
4% More than 240 hours
6% Don't know

Hennepin Technical College in Brooklyn Park, Minn. and Colorado Mountain College are the two most-often mentioned college-based training programs.

Wide variations in training, education and certification requirements may jeopardize reimbursement opportunities

Overall, the survey data suggests that the majority of programs select experienced EMS practitioners for MIH-CP programs, and that they require additional training to perform these roles. However, the nature, duration and content of that training is widely variable, suggesting that the preparation, knowledge base and level of skill of EMS personnel who currently practice within MIH-CP systems is inconsistent.

This inconsistency could raise concerns among potential partners or payers about patient safety, clinical results or patient experience, and may reduce opportunities for reimbursement from payers who are more accustomed to well-defined and seemingly more clinically predictable providers of care.

EMS must continue to work toward creating consensus among stakeholders to define what MIH-CP clinical practice is, and from there create standards for skills, training, education and proof of competency.

Clinical Services Seek To Avoid Unnecessary Emergency Department Visits, Hospital Stays While Improving Patient Quality of Life

The clinical services provided by MIH-CP practitioners can be broadly grouped into three categories that may be part of an ongoing health maintenance program, or as part of a goal directed therapy or lifestyle modification.

1. **Assessment and evaluation**
2. **Post-discharge follow-up**
3. **Prevention and education**

Common to all is that the MIH-CP program facilitates this without the requirement for a hospital or clinic visit, although the assessment may result in a recommendation to visit a clinic or other healthcare provider. The goal is always to direct patients to the most appropriate, convenient, least costly type of healthcare or social services provider qualified to take care of their needs.

1 Assessment and evaluation

While the vast majority of MIH-CP programs indicate they assess patients, the survey does not make clear what is being done with the information gathered, including whether clinical decision-making is autonomous, based on an algorithmic process or in consultation with the EMS medical director or other healthcare provider.

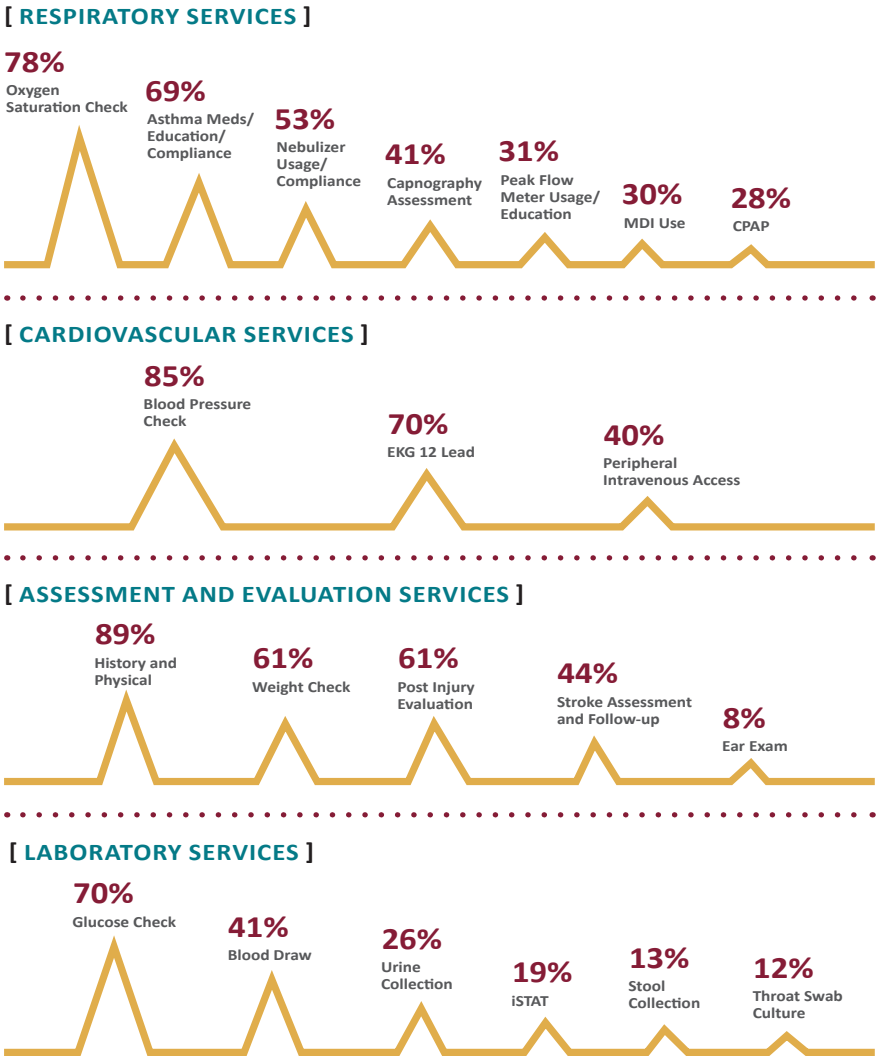
Assessment and evaluation encompasses multiple service lines, including general assessment, which most often includes history and physical (89 percent) and medication reconciliation (82 percent); along with laboratory tests and disease-specific care.

In-home lab services key to MIH-CP assessment and evaluation services

As with disease-specific care, respondents were most likely to offer services that were already within the scope of practice of typical EMS agencies such as blood glucose measurement (70 percent) and blood draw services (41 percent). About one in five (19 percent) agencies report the addition of iSTAT (blood analysis) point of care testing. A surprising number of agencies had expanded their services to include urine collection (26 percent) stool collection (13 percent) and throat swab cultures (12 percent).

Disease-specific care relies on standard EMS equipment, skills

Disease-specific care offered by MIH-CP is most often targeted at common cardiovascular and pulmonary diseases such as congestive heart failure (CHF), chronic obstructive pulmonary disorder (COPD) and asthma. Most of these services utilize equipment and training readily available to EMS providers, such as blood pressure (85 percent), 12 lead EKG (70 percent) and oxygen saturation measurement (78 percent).



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The important role of patient navigation

While many of the clinical MIH-CP services provided seem directed at managing patients at home, the number of patients that can be meaningfully impacted and the cost effectiveness of this approach remain to be proved. Another area where MIH-CP may have significant impact on patient outcomes and costs is through improved patient navigation, or the direction of patients to the appropriate resource.

59% provide practitioners with training in patient navigation

EMS agencies should make effective use of their unique role in the healthcare system. EMS is often patients' initial contact with healthcare. Patients may not know the optimal resource for their current clinical need. Yet they do know that they can call 911 when they need help and EMS practitioners will come to their aid, quickly. These patients represent an opportunity for EMS to have meaningful impact on healthcare costs by navigating each patient to the correct resource at their initial contact with the healthcare system.

That said, it's important to note that the ultimate goal of MIH-CP is not merely to move the burden of caring for patients to other parts of the healthcare system, but to help patients get on the road to self-management, and better health and quality of life so that they need fewer healthcare resources overall.

63% of MIH-CP programs provide practitioners with training in accessing community programs and social services

Some MIH-CP programs, however, have significantly expanded their assessment and management of these disease processes beyond what EMS would typically do. For example, at least one program indicated that they offered in-home diuresis of CHF patients. For pulmonary disease, more than half of respondents indicated they offered education related to asthma medication compliance (69 percent), nebulizer use (52 percent) and peak flow meters (31 percent).

2 Post-discharge follow-up

Given the financial ramifications of extended hospital stays for non-acute care and the financial penalties assessed on hospitals with high rates of readmissions, follow-up visits in the home in the hours or days after hospital discharge is a potentially important way for MIH-CP programs to show value. Still, the data suggests some uncertainty about the specifics of the services delivered – for example, 44 percent of respondents say they do stroke assessment and follow-up, while only 27 percent said they do neurologic assessments.

3 Prevention and education

Prevention and education play an important role in preventing the next unscheduled acute care event or 911 call. MIH-CP practitioners are highly involved in providing these services to their communities.

[POST-DISCHARGE FOLLOW-UP SERVICES]

- 70% | Discharge follow-up
- 38% | Dressing changes/wound check
- 31% | Post-surgery care
- 27% | Neurological assessment

[PREVENTION SERVICES]

- 92% | Falls risk assessment
- 71% | Social evaluation/support
- 43% | Nutrition assessment
- 25% | Psychiatric assessment

[PATIENT EDUCATION SERVICES]

- 62% | hypertension screening/education
- 59% | diabetes screening/education
- 48% | physical activity screening/education
- 28% | Dietary sodium reduction
- 25% | Obesity screening/education
- 12% | Cholesterol screening/education
- 5% | Cancer self-exam awareness

How long do patients stay enrolled in MIH-CP programs?

The goal of MIH-CP programs is typically to "graduate" patients out of the program, which is often the point where they no longer rely on frequent contact with the 911 or hospital system. Often, getting patients ready for graduation first means getting them connected with primary care, mental healthcare providers and other services best equipped to take care of complex medical and psychosocial issues.

The average time patients are seen by MIH-CP practitioners is highly individual, with respondents reporting a range of less than 30 days (41 percent), 31 to 90 days (36 percent), 91 to 180 days (14 percent) and greater than 180 days (8 percent).

22% say their MIH or CP practitioners have an advanced scope of practice

77% say their MIH or CP practitioners do not

Tri-County Health Care EMS

Rural, hospital-based ambulance provider takes referrals from physicians to reduce readmissions, improve access to care

In 2012, Minnesota became the first (and still only) state to pass legislation authorizing Medicaid reimbursement of EMS-based community paramedics.

The rate is 80 percent of a physician assistant's office visit charge, or $17.25 per 15-minutes of patient interaction. There is no payment for drive time, fuel or supplies.

To be seen by a community paramedic, a physician has to give an order, and it must be part of a care plan established by the physician. In December 2013, community paramedics at Tri-County Health Care EMS, based in rural Wadena, Minn., began receiving referrals from hospital physicians and primary care physicians at the hospital's five rural clinics.

IMAGES PROVIDED BY TRI-COUNTY

"We provide post-hospital discharge visits for patients at high-risk of readmission," says Allen Smith, Tri-County Health Care emergency response manager. "We also work with primary care physicians to help prevent unnecessary ambulance trips and emergency department visits and to ensure patients are accessing all of the health resources available to them in the community."

Tri-County community paramedics also work closely with the hospital's nurse care coordinator, and function as part of the hospital's "medical home" clinical team.

Help from grants

Funding for the program came from a Minnesota Department of Health grant, which sent five paramedics to the community paramedic course at Hennepin Technical College. A three-year, $300,000 grant from the South Country Health Alliance, a Medicaid managed care organization that serves a four-county area, covers the cost of data analysis and staffing a community paramedic 24 hours a week. The hospital also funds community paramedic staffing for 24 hours, while the remainder comes out of the EMS budget.

To achieve 24-7 community paramedicine coverage, five community paramedics also answer 911 calls during their shift.

Starting small to prove safety, effectiveness

Prior to launch, Tri-County sought input from community partners, including public health, mental health, home health and members of the public. Wanting to proceed cautiously and build confidence in their program among physicians who they rely on for referrals, they started with a limited number of patients, Smith says.

The Tri-County team also worked with the hospital's electronic medical records software experts to enable community paramedics to access and input information into patients' medical records.

"Without that connection to the electronic medical record, the information would not get back to the physician. At our rural hospital, we use almost no paper charts," says Dr. John Pate, EMS medical director and a family practice physician.

Community paramedics aim to see patients within 24 hours of referral. Enrolled patients receive a home visit and

"We have to show that what we do is making an improvement in patients' health, their ability to have a good quality of life and that they are satisfied with the care received."

– Allen Smith, Emergency Response Manager, Tri-County Health Care EMS

assessment; a review of their care plan and education about managing chronic diseases; medication reconciliation; and any tests or treatments ordered on the care plan, such as blood draws, wound care or injections.

Patients are seen as often as daily for two to four weeks. The first visit is typically 60 to 90 minutes; subsequent visits last 30 minutes. Every two weeks, a multidisciplinary team, which includes a community paramedic, social worker and nurse care coordinator, evaluates each patient's progress and determines if the patient is ready to graduate or needs additional help. "It's all individualized based on the patient's needs," Smith says. "There is a lot of gray to this."

In 2014, community paramedics saw 203 patients with diagnoses that include COPD, asthma, congestive heart failure and psychiatric issues. Most are elderly and need the extra support to continue to live independently, Pate says.

Other referrals come from an orthopedic surgeon, who sends community paramedics into the homes of knee and hip replacement patients to conduct falls risk assessments, and an area nursing home, which brings in community paramedics to do blood draws, tracheostomy care and feeding tube care to prevent their patients from needing to travel to a clinic or hospital.

While EMS agencies in other states have reported conflicts with home health, this is not an issue in Minnesota, he says. "We are not home health. For patients to receive home health, they must have a payer source that covers it, and they must be homebound," Smith says. "We see patients who don't qualify for home health. We are also affiliated with a licensed home health agency, and we also refer patients there."

Getting on a path to financial sustainability

Even though the only available reimbursement is for the 15 percent of patients who have Medicaid, Tri-County's community paramedics see patients regardless of their insurance status. In 2014, reimbursements from Medicaid totaled about $10,000 – not enough to cover costs. They hope to eventually have data to share with commercial insurers so that they can negotiate shared savings arrangements.

One challenge, however, has been deciding what data to collect and what outcomes to measure. Unlike urban areas, frequent users are not a big problem for the Wadena area. They do have a few though, and estimate that their community paramedic program saved $100,000 in ambulance transport and emergency department charges in 2014.

"A lot of the activities our community paramedics do involve checking up on patients. They might go out and see if an oxygen generator is working properly, or if they know how to use a nebulizer machine, or whether the medicine they have is what they were supposed to get," Pate says. "In one case a gentleman was sitting there trying to use a nebulizer but he hadn't turned on the machine. He would have ended up back in the ER. But how do you measure the impact of that? What is the true benefit?"

One strategy they plan to try is having patients fill out a quality of life questionnaire before and after enrollment. They will have their first results in the next six months.

"Part of our hospital's mission statement is to achieve the Triple Aim, which is improving patient health, improving the patient experience of care, and reducing costs," Smith says. "So how do I make sure my EMS agency is of value to my hospital? How do I ensure my people have jobs in the future? It's no longer, 'You call, and we haul.' We have to show that what we do is making an improvement in patients' health, their ability to have a good quality of life and that they are satisfied with the care received."

Tri-County's tips for success

1. **Start small** and gradually build acceptance of your program among physicians and other healthcare providers who you will need to provide your program with referrals.
2. **Think local.** "My program wouldn't work in Ft. Worth, or in New York City, and their program wouldn't work here. Your program needs to fit local needs," Smith says.

MedStar Mobile Healthcare paramedics conduct post-discharge home visits with patients in Ft. Worth.

Regulatory Barriers Pose Challenges

EMS is governed by laws and regulations that vary from state to state. In launching MIH-CP programs, one challenge for agencies is determining whether their state's statutes and regulations allow or prohibit EMS from engaging in MIH-CP.

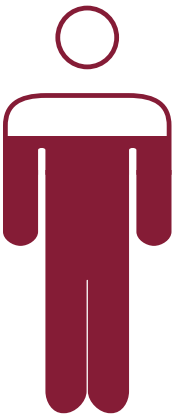
Surveys of state EMS offices by the National Association of State EMS Officials (NASEMSO) indicate that in a large number of states, laws and regulations are interpreted as permitting MIH-CP; in others, statutory and/or regulatory language is interpreted as prohibiting it; while some have not yet interpreted their statutes. Anecdotally, EMS agencies frequently report that it can be hard to discern what, if any, MIH-CP activities their local regulations or their state attorney general would permit.

It is perhaps for that reason that **more than half of respondents (57 percent) see statutory or regulatory policies as obstacles to MIH-CP**.

It should be noted these responses include only the states where there are operating MIH-CP programs. In the states where there are no MIH-CP programs, prohibitive statutes or regulations, or perceptions of those, may be a reason why programs are unable to get off the ground. Another possibility is there isn't enough interest in MIH-CP yet.

"Don't give up. It's going to be one of the most difficult things you do as an EMS agency due to all of the regulations. If you remember this is the next step in helping the citizens of your jurisdiction and you repeat that to anyone who questions the program, you will maintain a positive attitude and be a champion for your program."

– Survey respondent



80% **Agree** that their programs are legally compliant at the local, state and federal levels

57% **Agree** that statutory or regulatory policies are a significant obstacle to sustaining or growing their MIH-CP program

23% **Disagree** that statutory or regulatory barriers get in the way of their MIH-CP program

Moving ahead with innovation despite barriers

Even in states in which regulations are seen as barriers to MIH-CP, some EMS agencies are finding ways to work within

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the law to launch programs.

- In California, state law says EMS must respond "at the scene of an emergency" and must transport patients to the hospital. But another statute permits pilot programs that use healthcare personnel in new roles to study improving patient outcomes and reducing costs. In mid 2015, about a dozen California EMS agencies are slated to launch community paramedicine pilots.
- When Maine's state EMS officials wanted to bring CP to the state, the Attorney General issued an opinion stating that the Maine EMS Board could not authorize community paramedicine because it is outside the scope of emergency response. The state legislature approved an amendment to the EMS statute authorizing 12, three-year CP pilots, which are currently underway.
- In Michigan, the state EMS office determined their state laws did not prohibit MIH-CP. After consulting with the state Bureau of Legal Affairs, the EMS office determined that EMS agencies could apply for approval of CP programs via a "special study," three-year pilots to test new healthcare strategies. So far, at least two programs have launched and six more are approved.
- On the other end of the spectrum is Texas, a delegated practice state, meaning there is no statewide scope of practice for EMS. Instead, medical directors determine what EMS can do – perhaps one reason why Texas is considered a national leader in MIH-CP.

"Regulations must be updated to support this kind of work."

– Survey respondent

What's in the law that makes it difficult for EMS to take on these new roles?

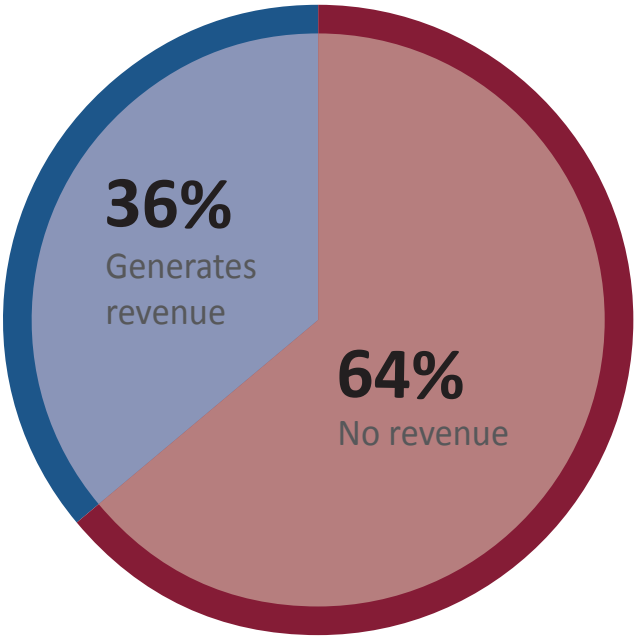
While EMS is often described as being at the crossroads of public safety, public health and medicine (and so, perfectly positioned to provide MIH-CP), it is more common that EMS is more narrowly defined in law or regulation as an emergency service.

When asked to describe what legal barriers were hindering their programs, the most commonly cited issues were regulations that confine practice to 911 emergency response. Several mentioned there is no legal ability to transport patients to destinations other than the emergency department.

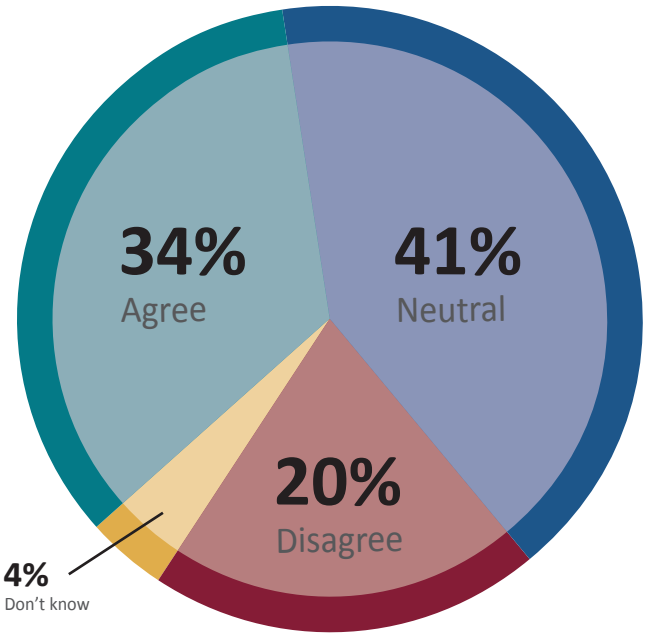
Home health licensing laws were also mentioned by several respondents. In conducting scheduled, in-home visits, there is the potential for MIH-CP services to be interpreted as falling under home health regulations. In Colorado, some MIH-CP programs have sought home health licenses, while one respondent from Virginia noted that the state Office of the Attorney General issued an opinion that MIH-CP programs wanting to perform in-home services should seek home health licenses.

A few also mentioned the lack of clarity in the law, confusion over which regulatory body should have jurisdiction over EMS practitioners when acting outside of the 911 response capacity, difficulties working with city and state attorneys and hospital legal counsel, and questions about whether MIH-CP activities are within the paramedic/EMT scope of practice.

Limited Funding, Reimbursement for MIH-CP Makes Long-term Outlook Cloudy



[ARE MIH-CP PROGRAMS GENERATING REVENUE?]



[IS YOUR MIH-CP FINANCIALLY SUSTAINABLE?]

Reimbursement for transport and mileage is the bread and butter of EMS agencies. While public organizations, such as fire departments, often receive substantial tax support to fund operations, even these organizations say they are increasingly reliant on billing Medicare, Medicaid and private insurance to keep up with the increasing volume of medical calls.

When it comes to MIH-CP, however, there is only one state in which community paramedicine is a billable service, and even there it's only for patients with Medicaid. [See Tri-County Health Care Case Study]. Unable to bill for services, the vast majority of EMS agencies operating MIH-CP programs say the lack of payments and reimbursements is an obstacle.

89% Agree that reimbursement/funding is a significant obstacle

Yet respondents were not entirely pessimistic about their financial prospects. When asked if they agree or disagree with the statement "Your program is financially sustainable," the most common answer was "neutral," perhaps indicating that many are simply unsure.

Few MIH-CP programs generate substantial revenue – Yet

While many agencies fund their programs out of their own operating budgets, some have secured contracts that provide payment for MIH-CP services. **Of the 99 respondents who answered the revenue questions, 36 – about one in three – report that their program generates revenue.** For the most part, the revenue is minimal.

Seven receive under $10,000 annually; four report earning between $10,001 and $25,000; and one generates between $25,001 and $50,000.

A few MIH-CP programs bring in considerably more. Four report earning between $50,000 and $100,000 annually; two bring in $100,000 to $150,000 annually; two receive payments of $300,000 to $500,000; and two generate $500,000 or more annually.

A Wake County (N.C.) EMS advanced practice paramedic conducts outreach.

Economic model for MIH-CP payments

When asked how the MIH-CP program receives payments, the most common answer was fee-for service (15 agencies, or 15 percent). Eleven agencies indicate they receive an enrollment fee or fee-per-patient, 12 say they operate in a shared savings model with partner organizations, and two say they receive a fee for referral. Twenty-three respondents indicated they were receiving other sources of revenue, with grants most commonly cited.

50%

of respondents believe their program will continue to grow as a source of revenue for their EMS agency

Is the financial outlook more promising than these early revenue figures suggest?

In the overall cycle of testing new business models, it is very common for innovations to take years to generate enough revenue to be considered a financial success. This is especially true in healthcare, where EMS-based MIH-CP services are still in their infancy. It is also very typical for healthcare innovations to take years to generate enough outcome data to become recognized as a valuable service line for payers to invest in. Healthcare payment policy is not often considered nimble.

For most EMS agencies, CMS (Medicare and Medicaid) represents the lion's share of revenue derived from fee-for-service transports, and making major changes in CMS payment policy literally require an act of Congress. Compounding this issue, most commercial payers generally follow CMS guidelines for payment policy. Therefore, it is not surprising that the revenue rates are so low during this time of innovation incubation.

It should also be noted that there are other potential sources of revenue outside of direct payments for services, including taxpayer support. Agencies that rely on tax revenue for a portion of their budget may have their programs funded, in whole or in part, through tax dollars if the community values the MIH-CP services or sees MIH-CP services as an overall means of cost savings.

Yet these survey findings also underscore the urgent need to prove that value – to the community, to private insurers, to CMS and to other entities that may provide payments. For insurers or other external sources of payments, demonstrating value will likely include showing a reduction in expenditures coupled with effective patient outcomes and positive surveys of patient experience.

[ANNUAL OPERATING COSTS OF MIH-CP PROGRAMS]

2%	16%	16%	5%	12%	11%	13%	11%	13%
$0	$1-$10,000	$10,001-$25,000	$25,001-$50,000	$50,001-$100,000	$100,001-$150,000	$150,001-$300,000	Over $300,000	Don't know

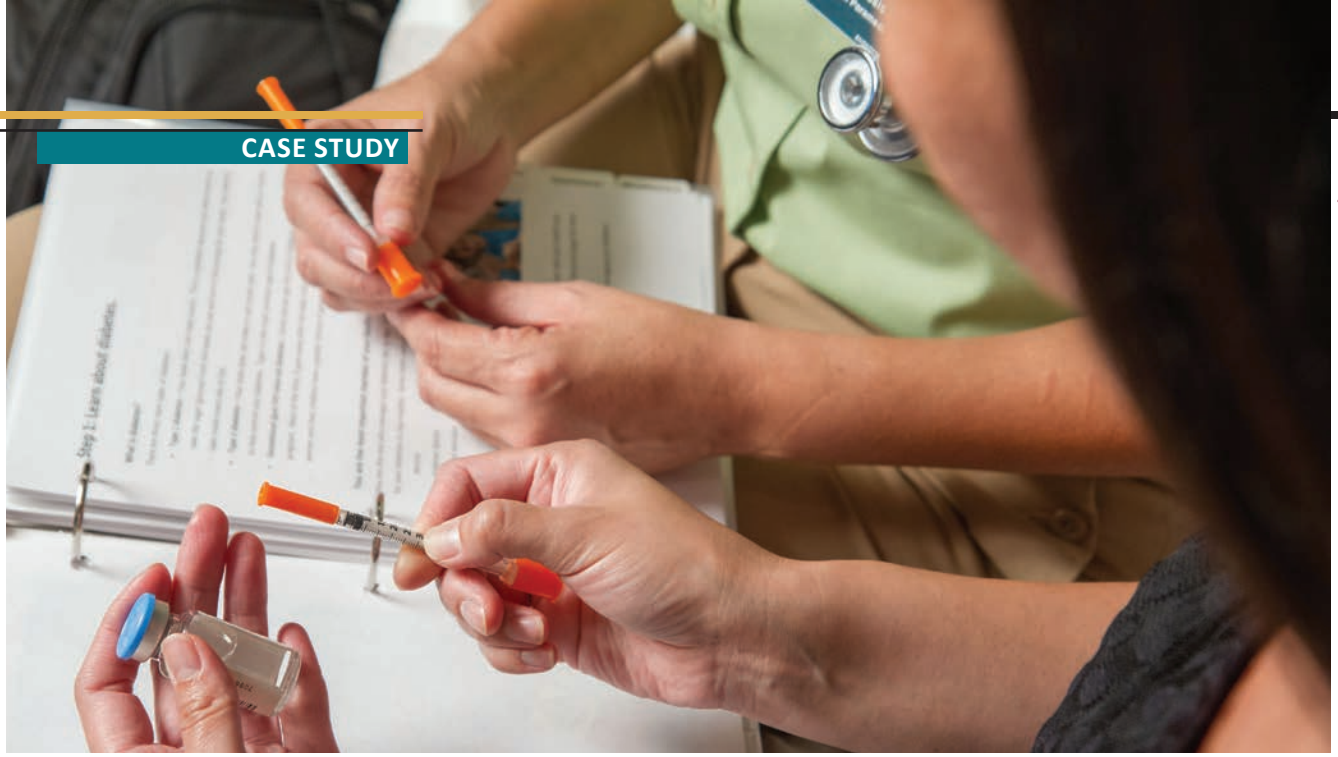


IMAGE PROVIDED BY ACADIAN

Acadian Ambulance

Private ambulance company partners with Medicaid managed care organization to improve pediatric asthma care

Acadian Ambulance, which serves 30 counties in Texas, 33 Louisiana parishes and one Mississippi county, is one of the nation's largest private ambulance providers, answering half a million calls for service annually.

In 2013, inspired by the work being done by MedStar Mobile Healthcare in Ft. Worth, Texas, Acadian decided to launch an MIH-CP program. The Acadian team started where many EMS agencies begin – by analyzing EMS data for frequent 911 users who might benefit from better navigation and a more coordinated approach to care.

Gaining experience with frequent users

Their search identified about 15 people in the Lafayette, La. area who were calling 911 at least once a week. Paramedics arranged home visits with them. Many had complex medical and mental health issues that required individualized solutions, says Richard Belle, Acadian's mobile healthcare and continuing education manager.

For one elderly woman, medics arranged mail-order prescriptions to prevent her from calling 911 every time she ran out of her medications. They reduced trip hazards in her home, and worked with United Way to have a rotted staircase replaced and a railing installed. Another patient was a paraplegic who suffered from frequent, painful urinary tract infections but could not get in to see a urologist quickly enough, so he went to the emergency department. Acadian's medical director got involved to get him an appointment. The man no longer calls 911 with regularity.

Of those initial 15 patients, all but one has significantly curtailed their use of 911 and the emergency department, Belle says. "There is a small population of people out there who are system abusers, and many of them have substance abuse problems," he says. "But most are using 911 because they don't have a primary care provider, they don't have transportation to get to a primary care provider or to get prescriptions filled, or they just don't know how to get plugged into community resources that are available to them."

Expanding to diabetes, pediatric asthma care

Encouraged by their success, Acadian began outreach to potential partners. The first pilot to come out of that was with a private insurer, which contracted with Acadian to do home visits with diabetic patients to cut down on emergency department visits. During the four-month pilot, Acadian medics provided education on managing diabetes, and supplied glucometers and test strips to those who didn't have them. Though early results showed patients A1C levels had improved, the insurer ended the pilot without explanation, Belle says.

About a year ago, Louisiana Healthcare Connections, a Medicaid managed care organization, began working with Acadian on a pediatric asthma intervention. Acadian's Chief Medical Officer Dr. Chuck Burnell worked with Louisiana Healthcare Connections' clinical team to develop protocols.

"Last summer, we were looking for

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"After six months, we've seen better management of asthma for the children in this program. Their emergency room utilization has decreased and their medication compliance has improved."

– Lani Roussell, Quality Improvement Manager, Louisiana Healthcare Connections

a way to help our young members with asthma, which is particularly problematic due to environmental factors in our state. Asthma causes more hospitalizations than any other childhood disease and is the number one cause of school absences from a chronic illness," says Lani Roussell, Louisiana Healthcare Connections quality improvement manager. "Because of their reputation for quality service and technological innovation, we partnered with Acadian Ambulance on a pilot program to bring mobile healthcare to New Orleans area children with asthma. The mobile healthcare program identifies Louisiana Healthcare Connections members who have pediatric asthma and are at a high risk of emergency room utilization. Then over the course of four weeks, Acadian Ambulance's trained paramedics visit the member at home to conduct preventive screenings, perform an in-home risk assessment, and provide personalized health coaching on managing asthma."

Program set to expand further

Acadian has received referrals for 362 children. An unexpected challenge was that a high number (133) were unreachable; either the address and phone on record with the insurance company were incorrect, or the family didn't return calls, Belle says.

Thirty families refused to participate; 107 are considered "inactive" because the family expressed interest in participating and received one or more home visits but then became unresponsive. As of March 2015, 33 families had completed the program and graduated.

"After six months, we've seen better management of asthma for the children in this program. Their emergency room utilization has decreased and their medication compliance has improved," Roussell says. "Together, Louisiana Healthcare Connections and Acadian Ambulance are developing innovative ways to address pediatric asthma and making a lifelong difference in the health, education and happiness of Louisiana's children."

Today, 19 families are enrolled in the program; 14 have a first visit scheduled and 23 have expressed interest. Among participating families, the response has been overwhelmingly positive, Belle says.

Some of the "fixes" are relatively easy, such as explaining to one family that their asthmatic toddler should not sleep in a crib with two cats. Others are more difficult. Some families live in substandard housing with mold and pest infestations. "We do very little clinical care. Most of what we do is education and navigation of patients, getting them to understand that when their child starts to feel bad, they need to contact the child's physician. Don't wait and then go to the emergency department," Belle says.

Moving toward financial viability

Acadian medics receive a fee per visit from the managed care organization. But it still costs Acadian more to administer the program than it recoups, Belle says. With the program slated to run until the end of 2015, next steps will be re-negotiating their fee with the managed care organization, adding more patient groups, and sharing their positive results with other potential partners.

"This program will be revenue generating for Acadian in the coming months," Belle says. "We are going to take these results to other hospital systems, and public and private payers as a proof of concept, and show them how much money they can save by doing this."

Acadian's tips for success

1. **Frequent user programs** are a good place for EMS agencies to start developing an MIH-CP program. The agency can use internal data, and can use any successes to demonstrate effectiveness to potential partners.
2. **Tap into your local community health worker network.** Community health workers, who may be volunteer or paid workers, typically have little medical training, but instead conduct outreach, provide social support, do informal health behavior counseling and provide basic health education or screenings to members of the community. In Louisiana, the community health workers network shared valuable information about community resources such as social services, non-profits and charitable organizations. Acadian mobile healthcare paramedics also attend community health worker monthly meetings.
3. **Understand that every patient group has different needs.** The children in the Medicaid pediatric asthma group, for example, had a pediatrician. So one goal was to get the family to rely on the primary care provider instead of the emergency department. In a frequent user group, however, many patients are likely to lack primary care access, posing a different challenge for the mobile healthcare team.

Measuring Outcomes and Patient Satisfaction to Show Value

With healthcare entities increasingly expected to show that treatments and interventions are worth the price, developing systems of collecting and analyzing data is a high priority across the healthcare spectrum.

Traditionally, EMS hasn't been expected to collect or report performance data, with the exception of response times and resource deployment. But it's only a matter of time before major payers such as CMS and private insurers will expect EMS to transition, along with the rest of healthcare, away from strictly fee-for-service reimbursement and toward reimbursement that takes into account costs and outcomes – in other words, value.

90%

of respondents say their MIH-CP program collects data

In the MIH-CP context, collecting and reporting data internally and to healthcare stakeholders is beneficial for two major reasons. First, data can prove to the EMS agency and partners that the program is having the desired impact. Second, if the program is not achieving the desired outcome, the data serves as the foundation for developing, testing and comparing alternate models and strategies.

Consistent with the importance of partnerships and collaboration in MIH-CP, 65 percent of respondents indicate that they share data with their MIH-CP partners. Fewer but still sizable numbers share with other entities, including local government or other local stakeholders (36 percent), their state Medicare/Medicaid office (21 percent), state public health department (20 percent), insurance companies (15 percent) and CMS (12 percent). Only 7 percent say they don't share data.

64%

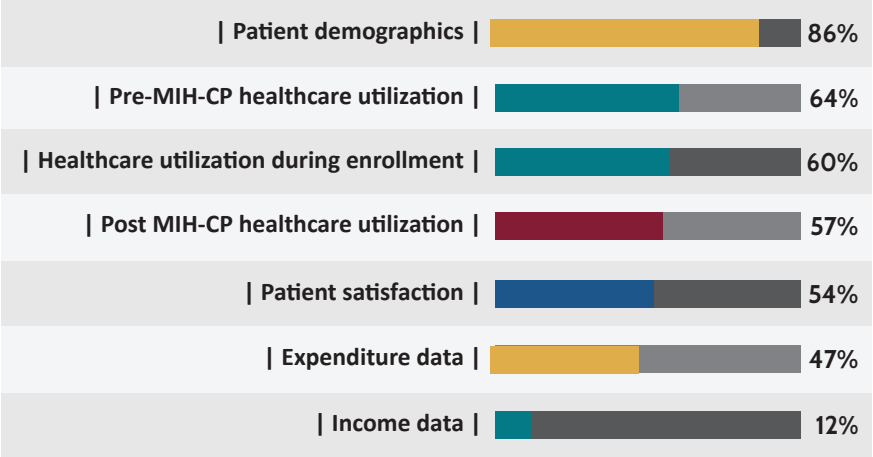
collect pre-MIH-CP enrollment healthcare utilization, while 56% collect post-enrollment usage too

MIH-CP must grapple with what to measure and how to measure it

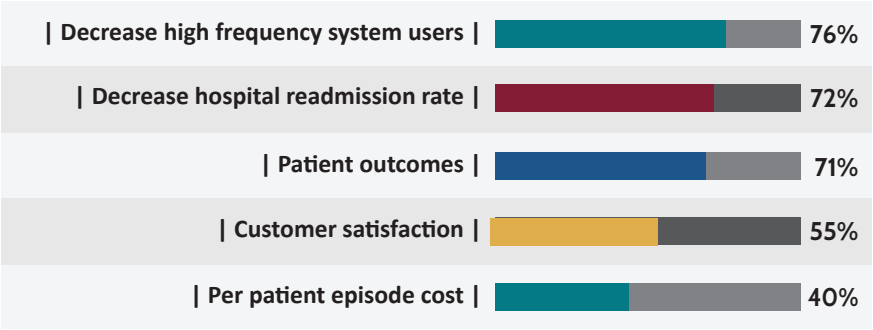
That so many respondents indicate they collect and analyze data for both MIH-CP program development and outcome measurement is very encouraging. This means that the basic infrastructure and commitment to tracking and reporting data is in place, a key step in demonstrating the value proposition that payers may want to see as a condition of widespread payments or reimbursement for MIH-CP services.

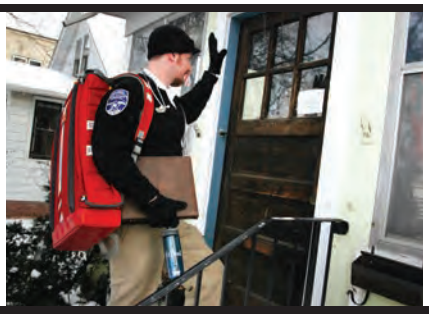
But determining the most important data to collect, the most feasible way to collect it and how to share it brings up complex questions that all of healthcare is grappling with – MIH-CP included.

[DATA COLLECTED BY MIH-CP PROGRAMS]



[OUTCOMES MEASURED BY MIH-CP PROGRAMS]





Community paramedics from North Memorial Ambulance Services in Robbinsdale, Minn. seek to prevent 911 calls.
IMAGE PROVIDED BY DAVID JOLES/MINNEAPOLIS STAR TRIBUNE

In this survey, only one agency reports collecting and reporting patient health status as a core measure. Though the specifics of data collection may vary from agency to agency, the patient's assessment of their health status upon enrollment and at graduation is a key measure that should be used by all EMS agencies conducting MIH-CP programs.

In addition to challenges in determining which outcomes to measure, there are also technological obstacles, including the dismaying inability of many electronic patient care reporting (EPCR) systems used by EMS to fully integrate with the data systems of hospitals and other partners, and vice versa. Another issue is that many EPCR systems used by EMS are not designed to collect longitudinal data. The incompatibility of various data systems and barriers to health information exchange is hardly exclusive to EMS or MIH-CP, but is an area that needs attention to make possible the bi-directional flow of information between the multi-disciplinary teams involved in MIH-CP.

EMS agencies describe strong early successes in reducing reliance on 911 and emergency departments

With the majority of programs in operation for a year or less, it's not surprising that one in four respondents say that it's too soon to tell how much success they are having in key areas such as reducing costs, reliance on 911, the emergency department and 30-day readmissions. Yet a sizable percentage say they are seeing success in a variety of areas.

54% Rate their program as highly or somewhat successful in showing cost savings for a defined group of patients

60% Rate their program as highly or somewhat successful in reducing 911 utilization among specific patient groups

59% Rate their program as highly or somewhat successful in reducing reliance on the emergency department for a defined group of patients

81%

of programs in operation for two years or longer report success in reducing costs, 911 use and emergency department visits for defined groups of patients

46% Rate their program as highly or somewhat successful in reducing 30-day readmissions for specific patient groups

62% Rate their program as highly or somewhat successful in achieving patient satisfaction

With which groups of patients do MIH-CP programs report success?

MIH-CP programs are most likely to report success with frequent 911 users – 54 percent say they are highly or somewhat successful in improving outcomes for this group while 51 percent say they are highly or somewhat successful in reducing per patient healthcare costs.

One patient group that seems to be particularly challenging for MIH-CP programs is patients referred because of substance abuse or alcoholism. About 26 percent of MIH-CP programs report improving outcomes for this group, while 18 percent report lowered healthcare costs.

[MIH-CP Programs Report Improved Outcomes for Various Patient Groups.]

	Improved Outcomes	Too Soon To Tell	Not Applicable
Frequent 911 users	54%	0	16%
COPD, asthma, diabetes	54%	25%	17%
Congestive heart failure	37%	25%	30%
Substance abuse/alcoholism	26%	20%	35%
Hospice/terminal illness	26%	19%	44%

[MIH-CP Programs Report Lowered Costs for Various Patient Groups.]

	Lowered Costs	Too Soon To Tell	Not Applicable
Frequent 911 users	51%	29%	14%
COPD, asthma, diabetes	42%	33%	21%
Congestive heart failure	33%	33%	28%
Substance abuse/alcoholism	18%	31%	32%
Hospice/terminal illness	18%	29%	41%

Colorado Springs Fire Department

Partnering with hospitals, Medicaid care coordination organization to reduce 911 calls

With medical 911 calls increasing by about 8 percent annually and data showing that about 50 percent of 911 responses are for non-urgent situations, Colorado Springs Fire Department, which answers 60,000 calls annually, wanted to find ways to redirect some of those callers to resources other than the emergency department.

As a first step, in 2012, the fire department, in partnership with University of Colorado Health-Memorial Hospital and Centura Health System's Penrose-St. Francis Hospital, set out to study the reasons underlying the overuse of 911 and emergency departments. Teams made up of a physician and an EMT or paramedic went into the homes of frequent 911 users to assess the patient and their home environment. The hospitals covered the cost of the physician time, while a Kaiser Permanente grant covered data analysis.

"We told them to look, listen and connect," says Jefferson Martin, Colorado Springs Fire Department's community and public health administrator. "We quickly came to the determination that there was nothing acute medically that we needed to do during those visits." Instead, patients needed education about managing chronic diseases, lacked transportation to pharmacies or doctor's offices, or were in need of resources to assist with psychosocial or economic issues. "The easy button was 911. That system couldn't turn them away," he says.

Three months into their investigation, they determined that a physician wasn't needed for the assessments. Instead, they sent an EMT or paramedic with a nurse or nurse practitioner, and eventually, only EMTs and paramedics.

IMAGE PROVIDED BY COLORADO SPRINGS FD

Three in four have mental health issues

Over a one-year period, the teams visited 200 homes. Their analysis showed that three in four (77 percent) patients had mental health issues, often with other chronic medical conditions.

Calling their program CARES (Community Assistance Referral and Education Services), a name coined by Battalion Chief Mitch Snyder of Kent Fire Department in Washington, they launched a program in which EMTs and paramedics would continue the home visits, providing assistance with education and navigating patients to mental health or other community resources.

"This is about delivering the right care, at the right time, in the right place," says Dr. Robin Johnson, an emergency physician at Memorial Hospital who has since become a deputy medical director for CARES. "It is never about saying no to care, but about redirecting to the best healthcare for the patient."

With funding from Penrose-St. Francis Hospital, the fire department hired a licensed clinical social worker/behavioral health specialist to provide guidance and case management. The fire department also shifted the responsibilities of a nurse practitioner, already on staff as the fire department's quality assurance officer, to assist.

"In EMS, we are fixers," Martin says. "We don't think in terms of long-term behavioral modification, so it's great to have an expert to come in and help us. One thing we've been taught by the behavioral health specialist is that we don't want to enable or reward negative behaviors, so we are not supposed to do everything for patients. Instead, we set health goals that include steps they can take, and steps we can do for them. Our patients may have 10 issues that are contributing to the way they are accessing the system, but we try not to overwhelm

them. We have to prioritize."

Patients are seen at home up to five times. They are also given the phone number for a mental health crisis line that's answered 24-7, and a number for non-urgent problems, which goes directly to voice mail. There's a reason behind not having a live person answering those calls, Martin says. "Our behavioral health clinician has said we need to teach them how to plan ahead. The lesson is, 'We will still help you, but not in 8 minutes or less'," he says.

In 2013, the CARES program saw 200 patients. In 2014, they upped that to 500 patients – and are seeing results. Among two-thirds of patients, 911 use dropped by 50 percent.

agree to work together to improve care coordination for Medicaid patients. The RCCO pays the fire department $1,000 per patient for a 90-day intervention, with a total of $100,000 budgeted, and also covers the cost of a pharmacist to assist with medication reconciliation.

A pilot involving 13 patients found a 75 percent decrease in hospital readmissions during the three months post-intervention, an estimated cost savings of $145,000 in Medicaid claims, says Kelley Vivian, the RCCO's community strategies director.

"The CARES program is a wonderful way to interact with our clients that we refer to as super-utilizers – the well-known faces in the 911 system, the emergency department

with a nurse practitioner who respond to low-acuity (Alpha or Bravo) calls, and a Community Response Team, which includes a paramedic, behavioral health clinician and law enforcement officer who respond to 911 calls that are psychiatric in nature.

The state Office of Behavioral Health provided funding, while the medical directors of the fire department, emergency department and a psychiatric facility worked together to develop protocols that enable the team to do the exam, blood draws and toxicology screening necessary to medically clear patients in the field, without needing transport to an emergency department. Launched Dec. 1, 2014, the first call came in 8 minutes later, Martin says.

Other additions to the program include one full-time and three part-time nurse navigators, whose salaries are paid for through a combination of the fire department budget; grants from Aspen Point, a behavioral health organization, and Kaiser Permanente.

With so many healthcare and community entities seeing value in the CARES program, the RCCO, Vivian says, is considering increased funding for CARES next year.

"We think there are more clients who can be served. Firefighters are trusted, thorough and they do a good job of explaining what is going on in the home back into the system of care," Vivian says. "We think this is a really great way of bringing hospitals, emergency services, a payer source and others together to address community needs, and that there will be payers in addition to Medicaid that will be interested in this."

"We think this is a really great way of bringing hospitals, emergency services, a payer source and others together to address community needs, and that there will be payers in addition to Medicaid that will be interested in this."

– Kelley Vivian, Community Strategies Director,
Colorado Medicaid Regional Care Collaborative Organization

The other third have been harder to reach, he says. "These patients are incredibly complex. For them it's not about access to primary care, or education, or transport. Those are issues we can solve," he says. "The patients we've been less successful in moving the needle on are those with medical, behavioral, mental health and substance abuse issues." As a last resort, the CARES team will enlist the help of the legal system, including law enforcement and the court system, to compel a psychiatric evaluation or commitment.

Medicaid Regional Care Collaborative gets involved

Seeking a strategy to reduce costs among frequent emergency department users, the next organization to get involved with the CARES program was the Colorado Medicaid Regional Care Collaborative Organization, or RCCO, a non-profit made up of multiple area healthcare entities that

and even in their doctor's office," Vivian says. "These are patients that need that extra level of interaction, to help them become more proactive in their health and so they can take better care of their health."

Program expands to include other teams

The next step for the fire department was expanding the program to include two additional units – a mobile urgent care unit, which includes a paramedic or EMT paired

Colorado Springs Fire Department's tips for success

1. **Conduct a thorough community needs assessment**, for your own information and to present to partners. "Anecdotes are not enough," Martin says.
2. **Collaborate and seek guidance from pharmacists**, licensed clinical social workers/behavior specialists and other healthcare specialties.

Lessons Learned – Tips from the experts

One of the most revealing questions in the survey relates to lessons learned and advice respondents offered to other EMS agencies seeking to launch MIH-CP programs. The answers of the 86 respondents who offered their input can be summarized in seven themes.

1 Collaborate, don't compete. MIH-CP programs work in partnership with other healthcare stakeholders to fill gaps in healthcare delivery, not replace services already available within the community. The most oft-cited recommendation was to involve stakeholders early in the planning process.

"Early identification of stakeholders is essential … make sure they are at the table from the beginning." – Survey respondent

"Develop a community stakeholders list and begin to have regular informative meetings." – Survey respondent

The purpose of early stakeholder consultation is to inform potential partners about MIH-CP, to share agency plans, to ensure the regulatory environment is understood at the outset, to allay fears of competition and to secure buy-in, according to respondents.

"Help stakeholders see that EMS is committed to better outcomes of population health and better stewardship of healthcare dollars." – Survey respondent

"Rather than view EMS as merely the 'ambulance drivers' that deluge a hospital, EMS should be seen as the critical link that is driving the dissolution of barriers to coordinated care." – Survey respondent

2 Do a community needs/gap analysis. Prior to launch, learn the resources that are available within the community, determine where there are gaps and find out if your EMS agency can have a role in filling those gaps.

"As every community is different, the most important component of program development is focusing on the specific needs of the population served and designing a program around them." – Survey respondent

"Although various programs may have common principles, the key to success is creating one that's right for your community's needs." – Survey respondent

3 Start small and build on success. Another common piece of advice was to start with a limited number of patients and build upon experience. Several also urged EMS agencies to avoid trying to address all needs simultaneously. They also encouraged patience and perseverance, saying that getting programs up and running always seems to take longer than planned.

4 Focus on the patient. Several respondents reminded EMS agencies to above all, keep the patient at the center of the program design.

"Always view this type of initiative in light of what is best for the patient, your community and then your organization. The incentives to begin these programs shouldn't be money as a primary factor. Collaborate, innovate, execute, retool, re-execute." – Survey respondent

5 Integrate. Integration with the existing healthcare system includes the gap and resource analysis highlighted above, as well as other integrations in health information technology, referral processes and patient navigation to the most appropriate care.

"We work closely with patient navigation to address non-medical, access, insurance, behavioral health and social needs." – Survey respondent

"Develop the network of resources you will need for the patients enrolled in the program." – Survey respondent

6 Collect Data. Another common theme was encouraging MIH-CP programs to collect data relevant to measuring patient outcomes, patient experience and impact on patient costs. Some emphasized the need to integrate with local, regional or state electronic health information exchanges (HIE).

"Join or create local HIE and share your data and interpret its significance for your patients, your system and primary healthcare and services providers." – Survey respondent

7 Learn from other MIH-CP programs. Multiple respondents also recommended consulting with established MIH-CP programs.

"Do not reinvent the wheel. There are a lot of resources available to study and emulate. Replicate best practices and learn from the agencies that have been running programs to help avoid potholes." – Survey respondent

NAEMT

Conclusion: What Will It Take for MIH-CP to Become a Success?

The growing movement to compel more efficient healthcare spending and the widely acknowledged need for integration and collaboration to solve complex patient issues represents an enormous opportunity for EMS to cement its future in a changing healthcare world.

This survey shows that through MIH-CP, many agencies are proactively redefining the role of EMS, from one associated mainly with emergency response to one involved with prevention, patient education and effective navigation. This is no small feat, given obstacles such as opposition from other healthcare entities; confusing and sometimes prohibitive legislative or regulatory barriers; and limited reimbursement.

Those obstacles are perhaps one reason why, out of an estimated 17,000 EMS agencies nationwide, only 100 or so have launched MIH-CP programs. And many of those agencies, despite their enthusiasm and strong belief that they are doing what's right for their communities and their patients, admit their long-term sustainability is by no means guaranteed.

How to define success?

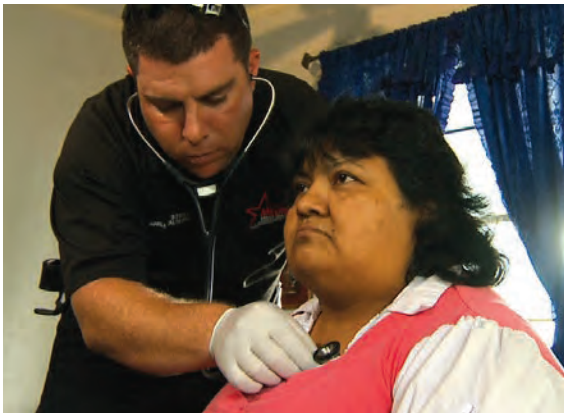
Defining "success" for a healthcare program such as MIH-CP can be considered from multiple angles. For individual patients or groups of patients, success is defined by impact and costs, and measuring it is dependent on collecting and analyzing the sort of clinical and outcomes data discussed earlier in this summary analysis.

Success can also be considered from the EMS agency perspective, and could include factors such as whether an MIH-CP program is revenue generating or self-sustaining; how the program impacts the EMS agency's relationships and reputation within the community; whether MIH-CP provides opportunities for professional growth for the EMS workforce; and the extent to which MIH-CP enables the agency to achieve its mission of serving its community.

A third way to look at success is at the macro level – that is, to what extent can MIH-CP impact patient outcomes and achieve sustainability on a large scale, nationwide? Although answering that question is premature, what can be discussed are the key factors that will contribute to the ability of MIH-CP programs to become firmly established as cost-effective, value-added healthcare service providers in the months and years to come.

Three key factors

1 **State level statutory and regulatory change** – Today, many state laws and regulations expressly limit EMS agencies to emergency or 911 response and limit their activities to providing medical care only at the scene of an emergency.



Through MIH-CP, many agencies are proactively redefining the role of EMS, from one associated mainly with emergency response to one involved with prevention, patient education and effective navigation.

Conclusion: What Will It Take for MIH-CP to Become a Success?

MIH-CP should be included in healthcare policy change and reimbursement reform that transition EMS into a value-based health services provider that is adequately funded to continue its vital role in safeguarding the health and well-being of our nation's population.

IMAGE PROVIDED BY MEDSTAR MOBILE HEALTHCARE

In practice, EMS practitioners know many 911 calls are not life threatening, and instead are patients who could be better served by less expensive resources, such as primary or urgent care. Moreover, the narrow view of EMS as emergency-only represents an outdated, siloed view of the provision of patient care that is rapidly falling by the wayside elsewhere in the healthcare system. The findings of this survey, along with the case studies, suggest that the narrow view of EMS is beginning to change among other healthcare providers as well.

2 **Data proving value** – The most powerful case for convincing payers or healthcare partners to invest in MIH-CP programs is to provide proof that the programs achieve the Triple Aim of improved patient experience of care, improved population health and reduced per capita cost of care.

Some MIH-CP programs have already secured contracts with hospitals, home health, hospice, nursing homes, Medicaid care coordination and managed care organizations, and even a state department of behavioral health. But to turn that trickle into a flood, EMS agencies need to engage in collecting, analyzing and reporting data.

In a positive sign, many MIH-CP programs say they collect data and are showing positive results. Yet there are almost no peer-viewed, published studies on MIH-CP outcomes. In addition, the EMS profession is still working toward a consensus on the best method for demonstrating value, including determining what to collect, how to report it and to whom.

3 **Reimbursement reform** – Today, EMS is paid via a transportation-based, fee-for-service model, specifically for delivering patients to an emergency department. "This provides a disincentive for EMS agencies to work to reduce avoidable visits to emergency departments, limits the role of prehospital care in the US health system, is not responsive to patients' needs, and general downstream healthcare costs," wrote Dr. Kevin Munjal in a Feb. 20, 2013 *JAMA* editorial. "Financial and delivery model reforms that address EMS payment policy may allow out-of-hospital care systems to deliver higher-quality, patient-centered, coordinated healthcare that could improve the public health and lower costs."

Hospitals, physicians, and other medical providers are increasingly subject to value-based reimbursement, including receiving penalties for unnecessary hospital readmissions. Thus far, EMS hasn't had its reimbursement tied to performance or outcomes measures, but it's only a matter of time before CMS and private insurers will expect EMS to fall in line with the rest of healthcare.

Individual EMS agency contracts with hospitals and other healthcare partners will continue to be an important source of revenue to support MIH-CP programs. But MIH-CP should also be included in healthcare policy change and reimbursement reform that transition EMS into a value-based health services provider that is adequately funded to continue its vital role in safeguarding the health and well-being of our nation's population.

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Rural and Frontier Emergency Medical Services

Agenda for the Future

By Kevin K. McGinnis, MPS, WEMT-P

National Rural Health Association

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October, 2004

To the Reader:

As rural health advocates, we know that it is not always true that what works for "them" will work for "us." That is why ongoing work between the National Rural Health Association, the federal Office of Rural Health Policy, and the National Organization of State Offices of Rural Health is so vitally important to rural America. In response to the National Highway Traffic Safety Administration's *EMS Agenda for the Future*, these partners have come together with the National Association of State EMS Directors to do the work of targeting national goals to meet the needs of rural communities. These partner organizations are proud to present the *Rural/Frontier EMS Agenda for the Future*.

This document will mean different things to different audiences. To members of the National Rural Health Association, the voices of rural health, it serves as a policy blueprint for the future. To members of Congress and others who make funding decisions, it is a practical outline of what needs to be done and what needs to be funded to make EMS work in even the most remote community. To communities, it is a valuable tool that shows what can be done with the resources already in place, and how to plan for the future of EMS in your community.

Finally, this document is a tribute to rural America, to the spirit and the drive of those who are willing to take what they have and make it work for them. Rural America is unique and therefore requires unique solutions. We value the skills of every person in each rural community, and we have learned that these skills can be used in a non-traditional way, to serve the needs of the community. For that reason we remain open-minded, adaptive, and above all else, vigilant in our pursuit of equity in health care.

Thank you for your attention to this critical issue. We look forward to working with all stakeholders in rural America to make the vision of the *Rural/Frontier EMS Agenda for the Future* a reality.

D. David Sniff
President

October 2004

Since its creation, HRSA's Office of Rural Health Policy (ORHP) has had a commitment to strengthening and supporting the rural emergency medical services (EMS) system of care. Originally this commitment was demonstrated through the Rural Health Care Services Outreach and Rural Health Research grant programs, and through partnerships and collaboration with rural EMS stakeholders. More recently, ORHP's grant portfolio has expanded to include demonstration projects and infrastructure support that responds to some of the needs in rural EMS. Specifically, these five grant programs include: Rural Access to Emergency Devices, Public Access Defibrillation Demonstration, Rural Emergency Medical Service Training and Equipment Assistance, State Offices of Rural Health and the Medicare Rural Hospital Flexibility grant programs. All of these programs support rural EMS.

The publication of the *Rural and Frontier EMS Agenda for the Future* marks an important moment in EMS and rural health care. The rural Agenda comes at an important time, when the nation's health care system must prepare to protect the homeland, plan at the State level for emergency preparedness and implement changes in payment systems for rural health care providers and ambulance services. This document demonstrates that rural and community-based EMS must play a key part in the rural health care delivery system. Access to these services is a critical concern for residents of rural communities across the country. The Agenda will raise rural EMS concerns to the attention of State and National policymakers and focus community attention on the need to strengthen and support the EMS system of care.

We are grateful to all of those who played a key role in producing this document, but particularly we want to thank Lt. Evan Mayfield of the U.S. Public Health Service and Denny Berens of the Nebraska State Office of Rural Health. Along with their many partners in the rural health and EMS communities, they put in the hard work that took this document from concept to reality. We also wish to acknowledge the guidance and support of the National Rural Health Association, the National Organization of State Offices of Rural Health and the National Association of State EMS Directors.

It is my hope that you will find this to be an informative and valuable document and that it will be embraced by the rural heath, EMS and trauma community in discussions and in actions that strengthens the rural EMS system. This document furthers the spirit and concepts of the original *EMS Agenda for the Future* and ORHP is hopeful that it will be utilized by other entities, Federal and State, interested in a similar Agenda or for any updates of such Agendas. EMS is an important component of the rural system of care and it must be integrated with other services and systems that are intended to maintain and improve rural community health and to ensure its safety. Through working on this document many important partnerships were developed, partnerships that now share a common vision for rural EMS. Together, these partnerships will make a difference in the nation's emergency medical safety net for rural America.

Sincerely,

Marcia K. Brand, Ph.D.
Director
Office of Rural Health Policy

October 2004

Dear Reader:

The *Rural Frontier EMS Agenda for the Future* has been a vision of NOSORH since September, 2000. At that time 13 of our state office leaders met to discuss what our organization could do to help rural EMS in our states and throughout the nation.

This led to the creation of the 3R Document, which highlighted the need to address reimbursement, recruitment/retention and restructuring for EMS in rural and frontier areas. This document led us to work harder with the Rural Hospital Flexibility grant program leaders to help Critical Access Hospitals address the issue of EMS in their areas. We were also fortunate that the National Association of State EMS Directors were willing partners to discuss the 3R Document and together create a list of 8 priority recommendations for rural and frontier EMS.

The process has always been collaborative and we want to thank the hundreds of people and organizations that have given all of us valuable information that is being used in this AGENDA. The local, state, and federal partnership that has been developed and utilized has been a joy to be part of. We believe you will see that in this document.

So what should be next? That depends on you, the reader and user of this document. Our goal as State Offices of Rural Health is to distribute this Agenda through our partners within each state. We are also reviewing the present Rural Health Grants, through HRSA, to ascertain their availability to rural/frontier EMS units. We also plan to continue our efforts at advocating for EMS at the state and national levels. So what can you do?

May I suggest the following:

1. Connect with your state EMS and state Office of Rural Health.
2. Identify the other partners listed in the Agenda that you have or could have contact with about this Agenda.
3. Share this document with your local EMS service and work to identify the most pressing issue in your area that was identified in the Agenda and create a strategy to address that issue.
4. Get this document to local and state policy makers that can help communities to address the issues identified
5. Use your passion to move this Agenda.

Four years of concentrated work on EMS has led NOSORH to create a long standing committee that is charged with continuing the work that was started in September, 2000. We cherish the partnerships that we have created and were asked to be part of on this journey. These partnerships/collaborations will enable this AGENDA to have an impact for our nations' rural and frontier populations. Our vision is for a larger circle of collaborators to carry on the work for the next four years. We ask our members and you, the reader, to become part of this very important mission. The vision, the challenges and the recommendations are now available for us all. Our hope is that you will see the importance and join the effort.

Sincerely,

Dennis Berens, President
National Organization of State Offices of Rural Health

October 2004

The *Rural and Frontier EMS Agenda for the Future* is an example of collaboration and consensus building at its finest. The National Rural Health Association, the National Organization of State Offices of Rural Health and the National Association of State EMS Directors, with the support of the Health Resources Services Administration of the Department of Health and Human Services, partnered to zero in on issues pertaining to the provision of EMS in rural and frontier America. In addition, these associations were strongly supported in this effort by the National Highway Traffic Safety Administration of the Department of Transportation.

The findings of this historic document and recommendations to assist in improvement of community-based emergency medical services are contained herein. Many of the concepts discussed are problems or barriers that have existed in rural and frontier areas of the U.S. since the inception of modern EMS. Numerous communities throughout the country have creatively overcome these difficulties. Some are overwhelming and certainly, many are common and need serious study, planning and application of resources to achieve acceptable outcomes.

I am proud of the effort of our three associations and their Federal partners, and I hope this document stimulates creative thought and actions for improving EMS systems throughout the rural and frontier segments of the country.

Mark King
President

The Vision

The rural/frontier emergency medical service (EMS) system of the future will assure a rapid response with basic and advanced levels of care as appropriate to each emergency, and will serve as a formal community resource for prevention, evaluation, care, triage, referral and advice. Its foundation will be a dynamic mix of volunteer and paid professionals at all levels, for and determined by its community.

EXECUTIVE SUMMARY

"Rural and Frontier areas in America represent 80 percent of our landmass and 20 percent of our population. Representative legislators, at all governmental levels, must work on the public's behalf to address the changes needed to ensure EMS equity, parity and accessibility.'

– Dennis Berens, Coordinator, Nebraska Office of Rural Health

The face of rural/frontier EMS has changed dramatically since the 1966 National Academy of Sciences, National Research Council (NAS-NRC) white paper "Accidental Death and Disability: the Neglected Disease of Modern Society" marked the conception of modern EMS.[1] Ambulance service of that era was more about a fast ride than medical care. It was provided as a low-investment by-product service of funeral homes and others whose primary business already had the requisite type of vehicle. The NAS-NRC white paper revealed the ill-equipped, ill-trained nature of these services, as well as the potential to do more harm than good.

Subsequent reforms led to the birth of modern EMS with the Emergency Medical Services Systems Act of 1973. As standards for training, equipment and care changed, so, too, did the providers of rural/frontier EMS. Dedicated ambulance vehicles staffed by trained EMTs operated by independent volunteer organizations, volunteer fire departments, local hospitals, and others replaced hearses. Many of the previous operators balked at the required investment to meet emerging standards.

In the past three decades, the EMS field, with its capabilities and role as a unique discipline at the crossroads of medicine, public health and public safety, has matured dramatically. At a rural car crash, the gold standard medical response has gone from hearse to helicopter. The pressure to provide advanced life support (ALS), created at first by enthusiastic EMTs within EMS agencies themselves, has become compounded by media-generated public expectation. The drive to provide ALS has had an effect similar to that experienced by funeral home ambulance operators pressed to provide safe, basic care in the early 1970s.

EMS agencies dependent on volunteers for staffing and fund-raising for revenue, have found advancement difficult. Indeed, it is often a challenge to continue to assure the timely response of a basic life support ambulance in these settings. In the current era of preparing public safety for effective response to manage terrorist and other events, the reality of rural/frontier EMS is that the infrastructure upon which to build such a response is itself in jeopardy.

The 1996 NHTSA *"EMS Agenda for the Future,"*[41] the visionary guide upon which this document is based, states that "EMS of the future will be community-based health management which is fully integrated with the overall health care system." A theme running through the *Rural/Frontier EMS Agenda for the Future* is that such EMS integration is not only a reasonable approach to making community health care more seamless and to meeting community health care needs that might not otherwise be met, but that providing a variety of EMS-based community health services may be crucial to the survival and advancement of many rural/frontier EMS agencies.

Another related theme is that EMS should not only weave itself into the local health care system but into the fabric of the community itself. Communities can objectively assess and publicly discuss the level and type of EMS care available, consider other options and accompanying costs, and then select a model to subsidize. Where this happens through a well-orchestrated and timely process of informed self-determination, community EMS can be preserved and advanced levels of care can be attained.

This document suggests other means of maintaining an effective EMS presence as well such as alternative methods of delivering advanced life support back-up, and the formation of regional cooperatives for medical oversight, quality improvement, data collection and processing.

The *Rural/Frontier EMS Agenda for the Future* is built on the foundation of the 1996 *EMS Agenda for the Future*. With one minor change, the *Rural/Frontier EMS Agenda for the Futur*e also proposes continued development of the following 14 EMS attributes:

- Integration of Health Services
- EMS Research
- Legislation and Regulation
- System Finance
- Human Resources
- Medical Oversight
- Education Systems
- Public Education
- Prevention
- Public Access
- Communication Systems
- Clinical Care and Transportation Decisions/Resources
- Information Systems
- Evaluation

The rural/frontier EMS system of the future will assure a rapid response with basic and advanced levels of care as appropriate to each emergency; and will serve as a formal community resource for prevention, evaluation, care, triage, referral, and advice. Its foundation will be a dynamic mix of volunteer and paid professionals at all levels, as appropriate for and determined by its community. Fulfilling this vision requires the application of significant federal, state, and local resources as well as committed leadership at all levels to address such issues as:

- Staff recruitment and retention
- The role of the volunteer
- Adequate reimbursement and subsidization
- Effective quality improvement
- Appropriate methods of care and transportation in remote, low-volume settings
- Assurance of on-line and off-line medical oversight
- Adequacy of data collection to support evaluation and research
- Adequacy of communications and other infrastructure
- Ability to provide timely public access and deployment of resources to overcome distance and time barriers

Rural/frontier EMS providers are acutely aware of the challenges that they face. This document is intended to arm them with information about future directions in which their services and systems might best head to assure their survival, advancement and growth. It is also, more importantly, targeted to local, state and national makers of policy and funding decisions to underscore the fragility of rural/frontier EMS, identify the barriers to success, and propose solutions and highlight successful practices that they must consider in their spheres of influence.

INTRODUCTION

October, 2009 *— At 6 AM, Paramedic Sheila Paul began her 24-hour tour of duty at the Western Mountains Ambulance and Rescue (WMAR) base on the tribal reservation overlooking the remote, lakeside town of Chamberlain. She reflected that only three years ago there had been an ambulance service down in the town as well as the tribal emergency medical services (EMS) ambulance, at the ambulance base where she now stood, only two miles away. Paramedic Paul is one of the former tribal EMS staff now partnering with former Chamberlain Ambulance staff to operate WMAR. Each service had been doing 150 to 175 emergency calls per year at the basic Emergency Medical Technician (EMT) level. Both depended on dwindling volunteer staffs, and rarely interacted except when emergency mutual aid circumstances dictated. Then "it" happened.*

October, 2006 *— The chairman of the Chamberlain town council had a heart attack in his coffee shop one weekday. In the first ten minutes after the 9-1-1 call, Jefferson County dispatch had sent out three page alerts to the Chamberlain Ambulance, raising only a fire department member who volunteered to go to the base to drive. The service had no regular crew scheduling, depending on a group of three or four volunteers who were usually around town on weekdays. After the fourth page, dispatch had asked if mutual aid from the nearby tribal EMS agency was desired. One of the Chamberlain crew finally radioed in to say that he and another ambulance service member were heading to the scene, and mutual aid wouldn't be needed. Arriving at the coffee shop ten minutes later, they found that a large crowd had formed around the patient, who had become unconscious and was now receiving CPR. Confirming a lack of pulse, Chamberlain's crew requested that tribal EMS respond with an automatic external defibrillator (AED). It was too late.*

After the council chairman's death, there was huge controversy in town when it was realized that it had taken nearly 25 minutes for the Chamberlain crew to arrive. Tribal EMS volunteers had been available with their AED, and could have been on scene before the patient's heart had apparently stopped. Neither service had the advanced level emergency medical technicians, cardiac and respiratory equipment and medications regularly featured in popular television shows.

Town and tribal leaders asked the state EMS office for assistance in conducting an evaluation of EMS in their communities. State EMS officials were able to provide a community EMS assessment program based on a national model. They brought in a team to work with a local group of interested citizens, EMS providers, other medical professionals and tribal and town leaders. Over a two-day period, the team interviewed community members and delivered a set of recommendations to town and tribal leaders. Foremost in these findings was recognition that the citizens and leaders interviewed appreciated their EMS providers greatly but assumed that they would have advanced levels of care available and were surprised that this was not the case. The report therefore encouraged the holding of public information meetings to explain the level and type of EMS response available, the cost and benefit of alternative. It recommended that this be followed by a community vote to select the type and level of response desired.

As a result of the public information sessions and a subsequent community-wide voting process, the Chamberlain town council requested an ambulance service merger with tribal EMS. By tribal council resolution, the merger was approved. The two services' members also elected to merge. The community-wide vote authorized funding the new service to hire a full-time EMT and Paramedic crew to supplement the combined volunteer force. The service was to be housed in the former tribal EMS base, which could more easily be upgraded to accommodate resident staff. Western Mountains Ambulance and Rescue was born.

INTEGRATION OF HEALTH SERVICES

October, 2009 *— The Western Mountains Ambulance and Rescue (WMAR) EMS-Based Community Health Services (or "community paramedicine") program began last year, when the small Chamberlain Valley Hospital was forced to close and became a rural health clinic. The next nearest hospital, in Centertown, is 57 miles away — at best, a one-hour trip over the rugged mountain road. The EMTs and Paramedics in the program now provide services ranging from wellness and diagnostics clinics, and homebound and hospice support visits, to follow-up care. They work in the clinics, at community sites and events, and visit patients at home. They perform services primarily for the staffs at the two local health clinics as well as Centertown and University Medical Center physicians, who channel feedback and requests for service through the clinic staffs via telemedicine consultation. WMAR and the clinics are reimbursed for most of their preventive and primary care services as well as for acute assessment and treatment services provided on emergency calls that do not require patient transport.*

The computer shows that Paramedic Sheila Paul is scheduled to do 20 flu shots at the retirement home, help out as she is available at a blood drive at the local mill, cover for the nurse and physician's assistant at the tribal clinic at lunch, and complete two home visit service requests. She will take a quick response vehicle for her rounds. Her EMT partner, Pat, will take the ambulance to do two home safety checks (one for a family with a new baby and one for a family with an elderly relative visiting), and a home visit for general assessment of a hospice patient. All EMS-based community health services are provided on an "as available," basis and requesters know that the providers are subject to emergency calls.

> *"Rural/frontier EMS providers must be well integrated with their public safety partners in this era of domestic preparedness in order operate effectively in disaster situations. But EMS providers must learn to integrate as well with community health, medical and nursing partners if they are to bring the level and type of care to the community that it expects and are to continue to operate at all. Our survival depends on it."*
>
> — Kevin K. McGinnis, MPS, WEMT-P. Program Advisor, National Association of State EMS Directors; Crew Chief, Winthrop Ambulance Service, Maine

From 1996 NHTSA *EMS Agenda for the Future* on "Integration of Health Services":

> *"Integration of health care services helps to ensure that the care provided by EMS does not occur in isolation, and that positive effects are enhanced by linkage with other community health resources and integration within the health care system.*
>
> *EMS provides out-of-facility medical care to those with perceived urgent needs. It is a component of the overall health care system. EMS delivers treatment as part of, or in combination with, systematic approaches intended to attenuate morbidity and mortality for specific patient subpopulations."*[42]

WHERE WE ARE

The provision of rural/frontier EMS does not happen in isolation, and the importance of certain areas of integration has often been underscored by issues which these following areas have generated in the recent evolution of modern EMS:

- EMS and local health care providers and institutions
- EMS and distant health care providers and institutions and specialty centers and EMS providers
- EMS and local/regional public safety and emergency management responders
- EMS and the community it serves
- Volunteer and paid EMS providers
- Basic life support (BLS) and advanced life support (ALS) providers

Rural and frontier settings have limited and shrinking local health care resources (e.g., physician practices, hospitals);[2] and these are separated from other sources of care by geographic and organizational barriers. Many providers, particularly in health care facilities,

have limited contact and familiarity with EMS and its capabilities.[3] Local primary care and other providers, however, by virtue of the lack of resources and patient preferences for seeking them, are often shoulder to shoulder (or otherwise in contact) with EMS crews to handle patient episodes. These interactions are rarely guided by formal policy/procedures but rather by informal understandings and arrangements that become established over time.

As rural and frontier populations age, the need for primary care contacts and for cycles of episodic hospitalization increase. As a community's local health resources disappear, the more that community calls upon its EMS providers not only for traditional care and transportation to distant resources, but for a range of informal care, evaluation, and advice. This expectation, sometimes managed in concert with the informal arrangement with local primary care providers and sometimes not, may extend beyond the generally basic life support scope of practice of local EMS. It is not unusual for a service in an isolated community to have a 30 percent to 50 percent "no transport" rate in a state that runs a 10 percent to 20 percent rate overall.[56] It is also not unusual for members of such a service to provide episodes of informal evaluation, advice, and care that are never reflected in an EMS patient/run record.[57]

The further a patient is from an emergency medicine facility, the more that patient stands to benefit from higher levels of local emergency medical intervention. As hospitals close and outpatient services are less available to offer sophisticated resuscitation care, dependence for such intervention falls upon local EMS. Paradoxically, advanced life support (ALS) levels of EMS care are less likely to be available in the rural/frontier setting.[4] This "rural ALS paradox" or "paramedicine paradox" results because comprehensive ALS services are difficult to establish and maintain in systems that experience insufficient call volume to meet high fixed costs and to enable advanced providers to be paid and retain their skills.[58]

Out of the combination of increased need for community health care resources and the "rural ALS paradox" have evolved a variety of EMS-based community health solutions to augment local health providers, improve the continuum of care, and assure the basic and advanced life support safety net.[59]

"EMS-based community health service" or "community paramedicine" are terms that have been used to describe these locally developed solutions that not only fill a gap in a community's health needs but further assure that a higher level of EMS exists in the community. They describe a system of augmenting local resources through the use of EMTs, EMT-Intermediates, Paramedics, and other EMS providers as local needs dictate and resources allow. Services provided by EMS personnel may be found in physician practices, certified rural health clinics, hospitals, home health care and hospice services and other health care providers, or directly

by EMS agencies themselves. These sponsors sustain an EMS provider presence in the community by employing them to provide a needed resource to those facilities and/or the community, allowing them to practice, and perhaps expand upon, skills relevant to their emergency practice, and assuring that they are available to respond to emergencies when required.[59-63]

In most cases, as EMS providers are integrated into these other local health care resources the legal basis and formality of their practices become more established. In some states, this is facilitated by individual physician delegation of practice and hospital-defined duties based on EMS skills and knowledge leading to licensure/certification as EMTs or Paramedics.[64] In others, more uniform, statewide approaches involving EMS statutory, changes have enabled non-emergency, primary care and in-facility practice by virtue of EMS licensure.[65]

Examples of integration through EMS-based community health resources abound. The now classic Red River, New Mexico experiment demonstrated such potential.[66] In an isolated community that found itself without local medical providers, a task group of local, regional and state EMS members and others crafted a solution which involved enhancing the knowledge and skills of local Paramedics in prevention and primary care diagnosis and treatment. Linked closely with physician consultants in a distant facility, they were able to establish a clinic in the local firehouse. With the reintroduction of mid-level and physician medical providers in this community this arrangement ended. However, it effectively demonstrated the potential for one EMS-based community health service approach.

Increasingly, hospitals and other facilities have begun employing EMTs and Paramedics to ease staffing shortages.[5,6,59-63] This practice is widespread in some states, while in others it remains controversial. Such personnel are used between EMS calls to supplement hospital staff in some settings and as regular shift coverage in others. Some further examples:

- EMS providers in some mining and other industrial settings not only provide emergency care for those settings, but also serve as emergency and primary care resources for the community.[67]
- In some states, Paramedics are trained as field medical examiners to augment state forensic physicians, and provide immunization and testing services to public safety personnel.[59]
- The tribal Community Health Representative (CHR) program began with a linkage between nursing and EMS personnel to provide CHR services. A potential EMS-based community health service model for tribal EMS has not been completely realized. EMS and CHR workers have been programmatically and fiscally linked with the establishment of Native American self-determination contracts (PL 93-638). Some are still linked, but many have separated, with CHR programs being linked to public health nursing.

The reversal in the CHR programs of the last example above, as well as experience from attempts to expand scope and location of EMS practice in state statute, emphasizes the political and practical ramifications of attempting to expand EMS-based community health programs into underserved areas that have traditionally been the practice domain of nursing and other medical/health care provider groups.

Providers in distant hospitals and referral centers often have limited connection with rural/frontier EMS providers who bring patients to them. Rural and frontier EMS providers are often volunteers who provide emergency medical care and transportation and then return to home, work, or another non-EMS setting.[4] They know their patient's condition, environment and needs at the time of the emergency call, but this information and other opportunities for clinical feedback or consultation by distant hospital staff may be lost as time and distance from the call increase.

Aeromedical services are vital in rural areas not only to whisk critically ill or injured patients from the scene or local hospital to specialty centers, but as the sole source of advanced life support in many areas. Many aeromedical services report back to local EMS on their patients and fill a feedback void that trauma and other specialty centers may leave. Other services represent an additional "step-removed" in patient information and feedback flow between local EMS providers and distant medical centers. This may become more pronounced as improved Medicare aeromedical service reimbursement brings more providers, sometimes in an uncoordinated/unregulated fashion, into the EMS continuum. In addition, there may be increased call to use air medical services for rural/frontier patient access to time-dependent interventions (e.g., emergency cardiac catheterization and angioplasty for chest pain patients).

Local EMS providers have grown into formal and informal relationships with EMS mutual aid, specialty response, and public safety partner agencies and personnel that, by virtue of the relatively few staff involved overall in rural/frontier settings, tend to result in adequately coordinated operations at emergency scenes. The communications interoperability problems of urban settings are less prevalent and formal/informal sharing of radio frequencies is one example of these agencies' general cooperation. Urban radio telecommunications and other interagency, interoperability issues following September 11, 2001 which prompt nationwide solutions, as well as quirks in the distribution of federal "first responder" grant funds may help or worsen local EMS/public safety integration.

The presence of an ambulance service in town does not mean that the service is well-integrated into the community. Members of the community at large, and even its leaders, often do not understand the type and level of care that EMS provides.[3] While citizens may expect an advanced level of care in their community because of film and television images of EMS, these expectations are rarely discussed. Tourism and the migration of residents from urban/suburban locales to rural/frontier areas may also import expectations of urban levels and type of EMS response.

The lack of an accurate understanding of what local EMS is providing, what other options exist, and what the community's cost would be for such options, is a barrier to community integration of EMS. Many rural/frontier services have come to the brink of extinction, or have closed their doors, before a community discussion has taken place. In other communities, where such discussions have been held, communities have diverted scarce local tax dollars to preserve a more rapid, local advanced level of care. Regardless of outcome, the community's ability to understand, know options for, discuss, and choose the type and level of care it wishes to have and fund, a process of "informed self-determination", appears important to the community integration of EMS.[68] Volunteer and other rural/frontier EMS providers often lack preparation with which to best serve certain community groups and members such as children, the elderly, minority groups, migrant/immigrant workers, farm/ranch families, and persons with disabilities.

Volunteer EMS agencies have historically provided not only a vital community service, but an opportunity for social membership, community service fulfillment and recognition, self-improvement and diversion for its members. Volunteer service chiefs find themselves in their positions for a number of good reasons, but not often because of their leadership and management experience or training. As a result, they and their services vary greatly in their ability to successfully integrate paid compensation into traditionally volunteer work, paid staff into an organization with volunteers, and advanced life support personnel into a largely basic life support environment. The more successful an agency is at accomplishing these types of integration, the more likely it appears that it will survive.

WHERE WE WANT TO BE

Community EMS providers have an excellent working knowledge of local and regional health care resources. They are able to provide and be reimbursed for prevention, emergency and primary care, triage and referral, as well as medical transportation and other services dictated by community need. Their interactions with local providers are guided by policies and procedures under a system of medical oversight. This continuity extends from tribal and industrial-setting health, medical and EMS services through their off-reservation or out-of-facility counterparts resources.

There are well-understood paths for provider interaction and feedback between local EMS and health care facilities and distant hospitals and specialty centers. Aeromedical programs help to assure continuity of information flow from scene to specialty center and back to originating EMS agency and are effectively integrated response resources. These and other regional or statewide systems of care, such as ground critical care transport units, are proactively planned and integrated into the EMS system and are reasonably regulated.

An EMS-based community health services program supplements the traditional EMS response model and is one method routinely employed for bridging both community health service and EMS coverage gaps. EMS personnel at all levels are able to contribute to EMS-based community health services. Those who are paid to provide EMS through such arrangements are well-integrated with their volunteer EMS colleagues. EMS medical oversight, including its quality improvement elements, includes (or is well coordinated with) the medical oversight for EMS-based community health service activities. The existing potential for tribal EMS-based community health service programs is developed and implemented in a fashion complementary to, and well integrated with, Community Health Representative programs and personnel.

As EMS-based community health service models develop, they also address the needs of new and special populations that have sometimes been overlooked. These include cultural groups, children, the elderly, members of minority groups, migrant/immigrant workers, farm/ranch families, and persons with disabilities.

EMS continues to be effectively linked with public safety partners (dispatch, law enforcement and fire service), and with nearby EMS providers for mutual aid. EMS personnel are able to draw upon fire, emergency preparedness, law enforcement and public works personnel for assistance; and they provide assistance to these agencies as needed. They are well-integrated with these agencies for the purpose of multiple and mass casualty response and have effective mutual aid agreements with surrounding jurisdictions. EMS agencies are effective players in trauma patient care and transfer to appropriate facilities. EMS is recognized as a categorical entity in domestic preparedness planning and funding at all levels.

EMS services that have relied on volunteers have successfully integrated paid compensation into traditionally volunteer work, paid staff into organizations with volunteers, and advanced life support personnel into a largely basic life support environment. Models such as EMS-based community health service programs, regionalization or cooperatives, alternative models of ALS intercept, informed self-determination, patient billing and/or increased local or regional financial support are pursued by services whose ability to provide basic life support care and transportation is jeopardized by a lack of volunteers, and/or which cannot provide advanced levels of care.

HOW TO GET THERE

Congress should fund pilot EMS-based community health service projects to demonstrate, and gather successful practice and other information on a variety of these approaches in meeting the needs for increased community health and basic and advanced life support services in medically underserved areas. These should include

- Demonstrating projects to assist EMS personnel in maintaining competence in knowledge and skills
- Expanding EMS skill bases
- Exploring expanded scopes of practices

CMS and other payers should enable the patient care and prevention activities of EMS providers, under physician-directed EMS-based community health service projects to be reimbursable. Evaluations of community EMS, as a part of the “informed self-determination” process recommended in the section on “Public Information, Education and Relations”, should assess opportunities to establish EMS-based community health services.

Federal and state funding should support state EMS offices in developing incentives for local EMS programs to become more integrated into the larger health care system. These incentives should focus on the continuum of care and communication from emergency event through rehabilitation, as well as addressing gaps in community health services. This may include the development of inclusive systems of trauma and other specialty care. States should plan and regulate aeromedical services and other regional and statewide systems of care and encourage their integration as partners in the continuum of patient care and communication.

All local, state, and federal all-hazards preparedness planning efforts and rural funding programs should include EMS as an explicit and categorical activity. These programs should take into account the differences between rural and urban approaches to these issues and to maintaining effective infrastructure. Federal programs to meet the needs of special rural populations, including children, farm families, the elderly, culture-based groups, and persons with disabilities should encourage EMS licensees and services as participants.

States should facilitate EMS-based community health service programs by making statutory changes or otherwise enabling EMS providers to participate in them as recommended in the section on Clinical Care and Transportation Decisions/Resources.

State offices of rural health should establish, preferably in statute, multi-disciplinary rural health care committees including EMS. These committees should provide planning; guide and facilitate EMS-based community health services integration; debate and advocate rural/frontier health issues; and promote legislation.

The Indian Health Service should encourage the development of tribal EMS-based community health service programming complementary to and well integrated with Community Health Representative programming.

RECOMMENDATIONS

- Encourage EMS-based community health service program development through the funding of pilots, cataloguing of existing successful practices, exploration of opportunities for expanded EMS scopes of practice, and on-going reimbursement for the provision of such services.
- Federal and state incentives should exist for participation in EMS-based health care services and for other forms of EMS integration with the greater health system, public safety services, academic centers, and the community at large.
- Establish statewide rural/frontier health care committees which include EMS.
- Federal, state and local programs addressing all-hazards planning, and addressing the specific needs of special rural populations, should include EMS as a categorical component. Statewide and border-state networks of formal regional EMS mutual aid agreements, including EMS licensee recognition, should be established.
- The Indian Health Service should integrate tribal EMS-based community health service and Community Health Representative programming, and consider the use of both tribal and non-tribal sources of care.

EMS RESEARCH

October, 2009 — WMAR's EMS-Based Community Health Services program has received a research grant, along with University Medical School, to evaluate the effectiveness of the use of EMS providers in performing in an "expanded-EMS" (E-EMS) model and its effects on health care delivery in the rural/frontier community of Chamberlain. WMAR and University Medical School are one of several EMS research grants awarded by a federally sponsored National EMS Research Center. An EMS Fellow, who is a selected physician in an Emergency Physician Residency Program at University Medical Center, has been appointed as the Principal Investigator for the three-year evaluation. All of the advanced level EMS staff at WMAR has received specialized education and training in E-EMS clinical areas, expanded medical protocols, specialized triage, and expanded medical oversight. All E-EMS patient encounters are recorded and reviewed by the Medical Director. Program changes are implemented to assure quality patient encounters and outcomes. Ultimately, the grant's final report will report on the effectiveness of the EMS-Based Community Health Service Program and its impact on the community. The study will also be published in appropriate EMS journals and other periodicals so that all readers will be able to learn about the evaluation and its outcomes.

> *"With such low call volumes, Rural/Frontier EMS providers are at a disadvantage in trying to demonstrate the clinical effectiveness of interventions they suspect will work well in this setting. Cooperative efforts among test sites must be encouraged to overcome this shortcoming."*
>
> — Eli Briggs, National Rural Health Association, Virginia

From 1996 NHTSA *EMS Agenda for the Future* on "Research":

> *"Research involves pursuit of the truth. In EMS, its purpose is to determine the efficacy, effectiveness, and efficiency of emergency medical care. Ultimately, it is an effort to improve care and allocation of resources."*[43]

WHERE WE ARE

It has often been said that the growth of EMS has occurred more often as a result of influences such as individual interest and persuasion, financial resources and incentives, transferability of practices and equipment from hospital to prehospital settings, and product vendors than it has from research.

The lack of consistent data with which to conduct EMS research has been a key obstacle. The first national Uniform Prehospital EMS Dataset was not developed until 1993 and is still not consistently used across the country.[8] The fragmented nature of local EMS delivery systems has contributed to this issue by creating barriers to systematic data collection and analysis by researchers or the states in which the services are provided.[8] Research in the EMS field has also lagged because of slow development in areas such as field provider interest, organized EMS system research centers, and funding.[7,9] Federal research grant programs do not generally invite research in rural/frontier EMS issues.

The emergency medicine and EMS literature and organized academic emergency medicine have grown much more rapidly in the past 10 years. A network of pediatric emergency medical service research centers was created by HRSA two years ago. At each of the last two annual meetings of the National Association of EMS Physicians, over 80 research abstracts were accepted for presentation. The National EMS Information System project has provided a new version of the NHTSA EMS Uniform Prehospital dataset. Forty-five states have agreed to push toward adoption of the data elements as defined by that dataset, as their data systems evolve.[69]

NHTSA recently sponsored an EMS research planning process through NAEMSP which resulted in the 2003 publication of "The National EMS Research Agenda" (http://www.nhtsa.gov/people/injury/ems/EMS03-ResearchAgenda/home.htm). It recommends, among other things:

1. The recognition and funding of five national EMS research centers (NEMSRC)
2. The recognition and funding of two additional national centers to coordinate multi-center research (NCCMCR) for research questions involving low call volumes

3. Additional research methodology training opportunities for candidates with doctoral degrees interested in pursuing EMS research

In rural/frontier areas, call volumes are low and the communities served are relatively small. Rural research in EMS is therefore hampered by the scarcity of data, and the time that it takes to collect data on enough of the events being studied to draw meaningful conclusions. Also problematic are data inconsistency, resistance to submitting data, and the protection of patient subjects. Even urban and suburban system researchers shy away from including rural components in their work because of the added time and difficulty of access to source data encountered. If field providers generally lack the background and/or motivation to pursue research questions, rural/frontier providers (especially volunteers) are in a worse position. They most often practice at levels for which training does not include any orientation to research purpose or methodology, and have little extra time for EMS outside of duty and training commitments.

Many practices, such as wound care and reduction of dislocations, have been endorsed in the literature and written into protocols tailored for the delayed transport setting without research support. Other issues of scope and method of practice, such as rapid sequence intubation, field administration of thrombolytics, and field triage of incipient MI to a catheterization lab (bypassing local hospitals and possibly using resources such as a helicopter) are debated, but require more research in the rural/frontier setting for which they are proposed. The effectiveness of alternative training methods for rural providers and the impact of low call volume on skill retention have not been adequately researched.

There is a need for on-going research in the use of aeromedical and other major systems of treatment and transportation in rural/frontier settings, to assist in planning and decision-making in the seamless and effective use of these resources. Generally, research efforts are needed to investigate the appropriate roles of Critical Access Hospitals and other rural hospitals as members of inclusive systems of trauma and other care, especially in areas where distances to specialty centers are vast.

There is little understanding between rural/frontier EMS providers about how to connect to the research community to pursue questions relevant to their practice, nor are there resources actively promoted in this regard other than one national resource, the National EMSC Data Analysis Resource Center (NEDARC). The Open Source EMS Initiative (OSEMSI) is also pursuing the development of system performance indicators which may be useful in future research, as well as quality improvement efforts (http://www.mhf.net/OpenSource/default.htm).

WHERE WE WANT TO BE

The recommendations of the NHTSA "EMS Research Agenda for the Future"[7] are endorsed as published with the following recommended amendments:

1. No less than two of the five national EMS research centers (NEMSCRs) named and funded have rural/frontier EMS research missions and qualifications.
2. Both of the additional national centers for the coordination of multi-center research (NCCMCRs) have missions, in part, and a specific percentage of their projects, dedicated to rural/frontier EMS.
3. All these centers with rural/frontier EMS research missions coordinate their rural/frontier activities with one another and with other national resources including the National EMSC Data Analysis Resource Center (NEDARC), the agency operating the National EMS Information System (NEMSIS), the rural health research center network, the Rural EMS and Trauma Technical Assistance Center (REMSTTAC), and state EMS offices and offices of rural health.
4. These centers with rural/frontier EMS research missions specifically address the role of EMS-based community health care and prevention, service regionalization, alternative modes of ALS intercept, appropriate local-county-state-federal mixes of rural/frontier EMS system funding, and other models to preserve and develop the BLS/ALS safety net in rural/frontier areas.
5. These centers with rural/frontier EMS research missions address the roles of CAHs, the use of aeromedical and other major systems and technology, the application of clinical/operational practices specific to delayed transport settings, the impact of skills retention on performance, and other clinical/operational practices relevant to rural/frontier EMS.

6. Availability of research methodology training opportunities is expanded to candidates with Bachelor's and Master's degrees, particularly those with on-going, first-hand involvement in the clinical operations of rural/frontier EMS systems.
7. There is a well-identified set of resources among these centers and other agencies or organizations that offer materials, training and advice in basic research methodology for EMS system participants. These resources are well-communicated through every state and regional EMS system structure to all service providers. These centers pursue bringing researchers and service providers closer together to understand what they stand to gain from collaborating with each other.
8. one or more of these centers is charged with encouraging the formation of state-level EMS research committees, consisting of EMS medical directors, field professionals (volunteer and paid EMTs, Paramedics, and service managers), and researchers. These committees, affiliated with the state EMS office, would consider the need for and methods of research and evaluation projects from both practical application and research perspectives, and promote opportunities for needed research.

Existing federally funded rural health research centers, academic departments of emergency medicine (especially rural medicine residency and EMS fellowship programs, and emergency medicine residency programs in predominantly rural states) take on EMS research and integrate with the network of centers described above. They are well supported by the governmental resources listed above and by non-governmental foundations and other resources.

HOW TO GET THERE

Funding should be made available through federal agencies such as the Health Resources and Services Administration (HRSA), Center for Disease Control and Prevention, the National Institutes of Health, the Agency for Health Care Research and Quality, The Centers for Medicare and Medicaid Services, and the National Highway Traffic Safety Administration (NHTSA) to implement the recommendations of the "EMS Research Agenda for the Future" as amended above. Rural and frontier EMS systems development and operational/clinical practices research should be added as eligible areas of application for all rural, medicine, and health related federal grant program offerings.

Existing federally funded rural health research centers should be encouraged to take on EMS research, to connect with national EMS organizations in conducting research, and be added to the network of centers described above. Academic departments of emergency medicine, (especially rural medicine residency and EMS fellowship programs, and emergency medicine residency programs in predominantly rural states) should be similarly encouraged.

Non-governmental foundation resources such as the Robert Wood Johnson Foundation, the National Association of EMS Physicians, the ACEP Emergency Medicine Foundation, and the Association for Air Medical Services (AAMS) Foundation for Air Medical Research and Education (FARE), should provide leadership in the support of these efforts. They should consider the integration of knowledgeable practitioners and strategists/researchers into the research and funding agenda panels that they form to shape future foundation efforts.

RECOMMENDATIONS

- Fund and implement the recommendations of the NHTSA "EMS Research Agenda for the Future" but address the following needs and challenges of rural/frontier EMS systems research:
  - No less than two of the five national EMS research centers (NEMSCRs) named and funded have rural/frontier EMS research missions and qualifications.
  - Both of the additional national centers for the coordination of multi-center research (NCCMCRs) have missions, in part, and a specific percentage of their projects, dedicated to rural/frontier EMS.
  - All these centers with rural/frontier EMS research missions coordinate their rural/frontier activities with one another and with other national resources including the National EMSC Data Analysis Resource Center (NEDARC), the agency operating the National EMS Information System (NEMSIS), the rural health research center network, the Rural EMS and Trauma Technical Assistance Center (REMSTTAC), and state EMS offices and offices of rural health.
  - These centers with rural/frontier EMS research missions specifically address the role of EMS-based community health care and prevention, service regionalization, alternative modes of ALS intercept, appropriate local-county-state-federal mixes of rural/frontier EMS system funding, and other models to preserve and develop the BLS/ALS safety net in rural/frontier areas.
  - These centers with rural/frontier EMS research missions address the roles of CAHs, the use of aeromedical and other major systems and technology, the application of clinical/operational practices specific to delayed transport settings, the impact of skills retention on performance, and other clinical/operational practices relevant to rural/frontier EMS.
  - Availability of research methodology training opportunities is expanded to candidates with Bachelor's and Master's degrees, particularly those with on-going, first-hand involvement in the clinical operations of rural/frontier EMS systems.
  - There is a well-identified set of resources among these centers and other agencies or organizations that offer materials, training and advice in basic research methodology for EMS system participants. These resources are well-communicated through every state and regional EMS system structure to all service providers. These centers pursue bringing researchers and service providers closer together to understand what they stand to gain from collaborating with each other.
  - One or more of these centers is charged with encouraging the formation of state-level EMS research committees, consisting of EMS medical directors, field professionals (volunteer and paid EMTs, Paramedics, and service managers), and researchers. These committees, affiliated with the state EMS office, would consider the need for and methods of research and evaluation projects from both practical application and research perspectives, and promote opportunities for needed research.
- Make rural and frontier EMS systems research an eligible category of application for all rural, medicine, and health related federal grant program offerings.
- Existing federally funded rural health research centers, academic departments with rural and EMS interests, rural EMS fellowship programs, and other research-related entities should engage in EMS research. Integrate these entities into the proposed network of rural/frontier EMS research centers.
- Encourage non-governmental funding sources, such as foundations, to provide leadership and resources in rural/frontier EMS research efforts (e.g., Robert Wood Johnson).
- Make data that are collected through information systems at state and federal levels available for community based assessment and research, and provide tools to promote community-based research.

LEGISLATION AND REGULATION

October, 2009 *— Before WMAR was created, the EMS services in the area were experiencing financial challenges and a decline in population, in addition to recruitment and retention issues. Quality of patient care was becoming a major concern for both communities and the state EMS Office. EMS leaders soon realized that they could not ignore the issues, especially since the potential closing of the Chamberlain Valley Hospital was looming in the near future. Both the tribal and Chamberlain EMS agencies could no longer isolate themselves from each other, the community and state. They needed to work together and solicit help from outside resources to survive. County, town and tribal leaders utilized the resources of the state EMS office to implement an EMS assessment program based on a national model. Interested citizens, EMS providers, medical professionals, county government officials, tribal and town leaders were brought together to assess emergency medical services and provide solutions.*

Thanks to the cooperative efforts of all involved, Western Mountains Ambulance and Rescue (WMAR) was organized and now provides advanced level EMS services to the tribal community and the community of Chamberlain. WMAR assumed a leadership role in forming a multi-county collaborative network of EMS agencies. It now has the resources and personnel to advocate and monitor EMS legislation and regulations and pursue state and federal grant funds. Passage of legislation allowing advanced providers to provide patient care within their scope of practice in hospitals and rural health clinics is one example of WMAR's legislative activities.

> *"The State used to require that a service could only license at the level they could guarantee coverage 24 hours a day. Our closest hospital is 30 minutes from the nearest end of the peninsula and we cover multiple villages and islands. For us, and all of the other volunteer services around us, that regulation essentially prevented providing any advanced care to our town. In 1987 Maine EMS changed that Rule by requiring that the service license at the level they could guarantee but allowed them to "permit" to a higher level (which they couldn't advertise). Within a couple of years our service had advanced to Intermediate and now we have paramedics at least part of the time. The services around us were able to do the same and through mutual aid we can almost always find a paramedic if needed."*
>
> — Tim Polky, Fire Chief, St. George Volunteer Fire,
> EMT, St. George Volunteer Fire and Ambulance Association, St. George, ME

From 1996 NHTSA *EMS Agenda for the Future* on "Legislation and Regulation":

> *"Issues relating to legislation, and its resulting regulations, are central to the provision of EMS in the public's behalf. Legislation and regulations affect EMS funding, system designs, research, and EMS personnel credentialing and scope of practice."* [44]

WHERE WE ARE

The National Highway Traffic Safety Act of 1966 gave the U.S. Department of Transportation a lead role in funding improvements to management of crash injuries by ambulance services.[10] A short time later, the National Highway Traffic Safety Administration (NHTSA) EMS Division determined that the only effective way to improve medical response to motor vehicle crashes was to support training for and improvements in the overall EMS system.[10] NHTSA continues to take this more global approach to EMS system support.

The EMS Systems Act of 1973 created the first officially comprehensive federal EMS lead agency, and placed it in the U.S. Department of Health Education and Welfare (later the U.S. Department of Health and Human Services, or USDHHS).[10-13] A Federal Interagency Committee on EMS (FICEMS), consisting of all federal agencies with EMS missions, has met intermittently to discuss federal EMS issues, but without specific authority to act. An overview of FICEMS is at: http://www.usfa.fema.gov/fire-service/ems/ficems.shtm.

The USDHEW/USDHHS EMS Program continued until 1981, when the Administration's Omnibus Budget Reconciliation Act eliminated it as well as categorical EMS funding to state and regional EMS programs.[11] Federal EMS funds were moved into a general Public Health and Health Services Block Grant fund program, where other non-EMS programs had access to them.

Since 1982, the national EMS community has generally favored reestablishing such an over-arching federal EMS program. EMS organization coalition efforts to establish national EMS leadership such as the National EMS Coalition and the National EMS Alliance in the 1980's and 1990's have been short lived.

Also with the demise of the USDHHS EMS lead agency, the federal focus became shared among existing agencies, including the EMS Division within NHTSA, as well as new agencies created in response to congressional interest in EMS subsystem areas. These included "EMS for Children" and trauma systems development entities within the Health Resources and Services Administration (HRSA) in USDHHS, and more recently an EMS staff within the Office of Rural Health Policy (ORHP), also in HRSA. This entity has managed rural automatic external defibrillator distribution, and has developed a new Rural EMS and Trauma Technical Assistance Center (REMSTTAC). There is also an EMS system development component within the Rural Hospital Flexibility Program at ORHP.

While there is ongoing concern about the lack of focus on EMS system development in domestic preparedness federal agency shuffling and program funding, the need for a new overarching federal EMS agency is debated. The 2004 federal Gilmore Commission report made such a recommendation and some suggest creating a "U.S. EMS Administration" next to the U.S. Fire Administration in the new Department of Homeland Security.

Others feel that existing federal EMS programs have adequately served the cause of broader EMS system development in effective partnership with national EMS leadership organizations. It is argued that recommissioning, staffing and strengthening FICEMS to specifically coordinate the national EMS development efforts of these agencies would be more effective than pulling the EMS components and staff out of many agencies and centralizing them once more in an over-arching EMS program. The new Homeland Security Department's ability to support a centralized EMS agency at this time is also debated.

State EMS systems generally have had enabling legislation which provided a statutory basis. The mission of the state EMS agency varies greatly from state to state, however.[14] In some states, the agency is purely regulatory and it may license services, personnel and vehicles, and approve training programs.[14] In others, the state office embraces a broad mission of statewide EMS system development in addition to its regulatory role.[14] The NHTSA state EMS Technical Assistance Team first revealed the great variability in statutory approaches, and also encouraged states to consider a broader, more uniform authority for statewide system development.[15] Those state EMS offices whose roles are primarily regulatory may have inadequate resources to provide the special support and state-level leadership required to help rural/frontier EMS with their unique challenges. Particularly in states with a mix of urban and rural settings there may be no strong voice at the state EMS level, representing rural/frontier interests in policy development.

In rural/frontier states, volunteers have been the foundation upon which many EMS services have been built, and without which perhaps would never have existed.[4,16] The regulatory and system-facilitating roles of the state EMS office can create a dilemma of conflicting interests. Some states have, or have had, specific statutory language exempting volunteer services from some or all of the standards of service imposed on other EMS providers. Others do not make this distinction, and have not experienced requests from volunteer groups to do so.

States grant authority for EMS personnel and services to operate and provide care by either "licensing" or "certifying" them. While the significance of the distinction between these terms continues to be debated, it has taken on an importance in areas such as hospitals and primary care sites (including certified rural health clinics, Critical Access Hospitals, community health centers, private physician offices, and other ambulatory care settings) where EMS personnel are being considered for employment while they are not responding on EMS calls. Physicians and other health professionals who may be involved in their supervision may object to the use of "unlicensed" practitioners. This presents a barrier to EMS-based community health service efforts.

Tribally run EMS systems, to varying degrees from locale to locale, face significant operational issues caused by disconnects between sovereign nation status of tribal governments and state government coordination and regulation of EMS systems and providers. Among other areas, these issues impact:

- Ambulance inspection and certification
- Billing
- Mutual aid agreements
- Data sharing
- County emergency management
- State emergency powers acts

In areas where county-based EMS systems exist, there is occasional conflict among local ordinances, county oversight, and state regulations.

WHERE WE WANT TO BE

A strengthened and staffed FICEMS acts as the lead coordinating agency for federal EMS activities. Rural and frontier EMS interests continue to be represented by ORHP within the coordinated network. Also included in this network is a federal level training academy with a focus on EMS system development and management. The new formalized network facilitates the development of model systems, innovative demonstration programs, consensus standards; and information sharing; and assists states with funding, technical assistance and research. FICEMS staff provides a federal EMS presence in domestic preparedness response systems development.

Each state has an EMS lead agency whose authority includes leading EMS system planning and development on an on-going basis. The state EMS office is adequately funded and employs a network of regional or other technical assistance or program support resources to promote robust systems of recruitment and retention, data collection and use, training and education, medical oversight, quality improvement, and other components of strong local EMS systems. In this manner, expectations of EMS providers are made clear and there are adequate resources to assist providers in meeting those expectations. Rural and frontier EMS providers are explicitly represented in state-level EMS policy development. The state offices of rural health and EMS, the office charged with public health, and the office charged with emergency health preparedness collaborate on a routine basis. States participate in NHTSA Technical Assistance Team reassessments every five years.

In states where volunteers still comprise an important segment of the EMS work force, explicit state-level policy is developed on the utilization and support of volunteer EMS providers in the overall mission to assure the availability of advanced levels of care and to make EMS an integral component of local community health programming. Where volunteers are to continue as a fundamental building block of local EMS there is a clearly delineated role context for their use among other types of providers in the system, and there are adequate resources devoted to recruiting, retaining and nurturing them. If standards for participation in the system are different for volunteers than for paid providers, these standards are explicit in state policy, as are the means of assuring the public equal access to expected levels and type of care regardless of the type of personnel employed in the system.

All state EMS offices have transitioned to the term “license” and away from the term “certification” for authorizing EMS provider services to operate and personnel to practice. States do not lock scopes of EMS practice into statute, but encourage development of “EMS-based community health service” resources and programs in rural and frontier communities, by maintaining flexibility in

adapting scopes of practice to those uses. This may include expanding or narrowing a scope of practice to fit the needs of a particular type of setting or a particular locale.

Tribal sovereign nation status and state regulation and coordination of EMS systems and providers integrate effectively to the benefit of patients both on and off reservation.

There is clear articulation among local ordinances, county oversight and state regulations for EMS.

HOW TO GET THERE

Congress should staff and authorize the Federal Interagency Committee on EMS to coordinate and formalize the network of existing and new agencies with federal EMS responsibility. This entity should be adequately funded to ensure that its programs and the federal agencies it coordinates are focused to assist national, state and local EMS development. It should have an advisory committee representative of national EMS organizations and interests including rural/frontier EMS interests.

Congress should continue to assure funding for national, state and local EMS system development as represented by the current and planned activities of agencies such as:

- The NHTSA EMS Division (USDOT)
- The CDC Preventive Health and Health Services Block Grant (USDHHS)
- The HRSA (USDHHS):
    - Office of Rural Health Policy EMS Staff
    - Trauma/EMS Systems Program
    - EMS for Children Program
    - Rural Health Outreach Program EMS Component
    - Medicare Rural Hospital Flexibility Program EMS Component
- The Indian Health Services (IHS) Program for Community Health Representatives (CHR) and EMS. (USDHHS)

Just as federal highway funds are dispensed to states based upon achieving certain benchmarks, federal funds for trauma, equipment, bioterrorism and other related uses should be tied to establishment of inclusive trauma systems, implementation of community EMS evaluation programs, enactment of strong state authorizing statutes, and other benchmarks.

With federal resources as needed, the National Association of State EMS Directors should help states assess the status of statutes intended to authorize state EMS lead agencies. This activity should include the development of model state statutes. Through this activity, and through NHTSA Technical Assistance Team reassessments, states identify where legislation may be required to ensure that EMS has a sufficient legal basis, authority, resources and leadership to provide adequate training, communications, medical oversight, personnel, systems development and integration, vehicles and equipment, data collection, quality improvement and research. State EMS lead agencies are then adequately funded by state legislatures to carry out these responsibilities. Statutory language assures rural and frontier representation on state-level EMS advisory and policy-making panels.

In states where volunteers still comprise an important segment of the EMS work force, state legislatures should authorize and fund ad hoc study committees to delineate the role of volunteers and create related public policy on the support and treatment of volunteers, while fulfilling public expectation on level and type of EMS provided. They should also consider issues of cross-border relationships and the use of personnel and other scarce resources on a permissive compact basis, as opposed to rigid enforcement of state-by-state licensing requirements.

The EMS interface between tribal sovereign nation status and state government regulation and coordination of EMS should be addressed by each state and tribal government. The EMS interface among local, county and state governments should be similarly addressed where conflicts have existed.

RECOMMENDATIONS

- Authorize and fund a restructured Federal Interagency Committee on EMS to coordinate and formalize the network of existing and new agencies with federal EMS responsibility and provide national leadership.
- Fund FICEMS adequately to continue the current/planned activities of the agencies it coordinates.
- Create within ORHP, and coordinated by FICEMS, a dedicated, ongoing rural/frontier staff and focus. Create a FICEMS advisory board with rural/frontier representation.
- Adequately fund the state EMS lead agency to enable it to carry out its designated responsibilities.
- Create funding incentives and legislation models to help state EMS lead agencies acquire sufficient legal basis, authority, resources and leadership to broadly develop and implement EMS systems on an ongoing basis and to provide sufficient flexibility to adapt to the unique needs of rural/frontier EMS.
- Assure that state EMS lead agency advisory boards are representative of rural/frontier EMS interests.
- Create the opportunity for the development of state-level public policy to delineate the roles, support and treatment of EMS volunteers, while fulfilling public expectation on level and type of EMS provided. Give state EMS agencies the flexibility to effectively implement these policies.
- The EMS interface between tribal sovereign nation status and state government regulation and coordination of EMS should be addressed by each state and tribal government. An interface between Alaskan Native/American Indian sovereign nations and state government coordination of EMS should be generated by the lead federal agency in collaboration with appropriate tribal leadership agencies. The EMS interface among local, county and state governments should be similarly addressed where conflicts have existed.

SYSTEM FINANCE

October, 2009 *— Western Mountains Ambulance and Rescue's first challenge after being organized was to develop a financial plan. Revenue was projected to decline because of population losses and increased expenses for transportation due to the closure of Chamberlain Valley Hospital. To compensate for these projected losses, WMAR purchased a computer software billing system that utilizes a web-based service to enhance its patient billing services, allowing WMAR to capture allowable reimbursement it might otherwise have lost. County officials have realized the necessity to offer financial subsidies to most frontier and rural EMS services to enable them to serve unincorporated or unorganized townships despite low call volume. WMAR now provides billing services for the rural health clinic and seven rural ambulance services that formed the multi-county collaborative network. The network shares one medical director, while two of the other services provide the network with, respectively, quality improvement and purchasing services. All members of the network have reduced costs for these services while the agencies providing them derive income to support their staff. The collaborative network advocates for legislation, monitors federal reimbursement policies, and applies for state and federal grant funds. This network has allowed WMAR and the other ambulance services to develop community disaster response plans and receive increased grant funding from the federal government.*

New legislation was passed to allow advanced providers, like Sheila Paul, to provide EMS-Based Community Health Services within their scope of practice in a hospital and rural health clinic. WMAR is now able to share the cost of advanced providers plus increase their availability. Implementation of the advanced level EMS model for its service area allows WMAR to share the cost of providing an advanced provider during the day with the rural health clinic. The advanced provider responds to medical emergencies, provides patient care at the clinic and patient's homes plus coordinates community prevention programs. WMAR successfully advocated that CMS pilot reimbursing their expanded clinical care activities. This experiment was tied to the WMAR/University Medical Center research project measuring patient impact of EMS-Based Community Health Services. When the results were in, the study showed a decrease in hospitalizations, ED visits, and ambulance transports for the population served. CMS, followed by MCOs and third party payers, subsequently made this reimbursement universally available.

> *"Access to health care for rural Americans has to be examined according to the service needed. It is one thing for a resident to travel 30 to 60 miles for routine examinations or elective surgery. It is a whole different ball game when the emergency medical service needs to be delivered timely to the resident experiencing a heart attack."*
>
> — John Baerg, Emergency Medical Technician and Commissioner, Watonwan County, Minnesota

From 1996 NHTSA *EMS Agenda for the Future* on "System Finance":

> *"Emergency medical services systems, similar to all public and private organizations, must be financially viable. In an environment of constant economic flux, it is critical to continuously strive for a solid financial foundation."* [45]

WHERE WE ARE

Reimbursement for EMS has been tied primarily to the transportation function and not necessarily to the delivery of emergency medical care. Managed Care Organizations (MCOs) have in some cases sought to limit access to EMS for their beneficiaries by narrowing the definition of "medical emergency" and the need for "emergency care" to an after-the-fact medical decision, rather than one made by a prudent layperson at the time of the event.[17] Some MCOs also have instructed patients to call their primary care physicians prior to dialing 911,[18] which may unnecessarily delay needed emergency care.

Historically, rural and frontier services have kept their costs low by employing volunteers to provide a fairly austere set of basic life support services. Equipment and training support would come from community fund-raising and/or modest requests for local governmental subsidy. Volunteer EMS providers have been increasingly challenged in their staff recruitment and retention efforts.[16] As public and professional expectations of EMS increase, training and licensure have become more complex and difficult to support on a volunteer basis.[71,72]

Services have turned turn to paying stipends and/or to employing part-time and full-time staff at those times when it is most difficult to attract volunteers, and/or to provide EMT-Intermediate and Paramedic levels of care when they are not available on a volunteer basis.[71,72] This, in turn, places greater pressure on volunteer service leaders to employ more sophisticated business practices such as patient billing, reimbursement, staff employment (subject to complex requirements of the Fair Labor Standards Act, especially where volunteer staff are mixed), and to request government subsidization.

Many services have experimented with subscription programs. Some have been abandoned when state insurance rules interpreted that they may constitute illegal insurance offerings, when they require the billing of non-subscribing patients as well, or when Medicare requirements for documentation of fees became too complex for smaller services.

Many volunteer services, have considered patient billing as contrary to the community-service nature of their operation. Others simply have had no expertise or infrastructure for collecting fees or maintaining the business functions.[72] The absence of any billing among many providers in a geographic region caused Medicare and other reimbursement allowances, based on an average of the billing rates for all providers in that region ("prevailing charges"), to be artificially low. So, even where patient billing has been done in rural and frontier areas, low reimbursement rates and the relatively low volume of calls have historically generated inadequate revenue to underwrite the essential costs of full-time preparedness (as opposed to "preparedness based payment").

Recent efforts by the federal government to overhaul the Medicare reimbursement system for ambulances, have removed some of these historical under-reimbursement influences, and have attempted to account for the greater per-call expense of providing care in rural and frontier areas.[70] But this work stopped short of placing a cost figure on the provision of rural/frontier EMS care and reimbursing at that level.

Medicare now provides Medicare reimbursement for air medical interfacility transports that originate in rural areas when the sending provider simply certifies medical necessity for the flight. Yet similar interfacility transports by ground, while deemed "appropriate" from a Medicare safety standpoint ("EMTALA" — the Emergency Medical Treatment and Active Labor Act), may still be subjected to retrospective medical necessity determinations for reimbursement purposes, and inadequately reimbursed. Further, the transfer of rural/frontier patients from trauma and other specialty treatment centers back to local hospitals where family-access is improved is discouraged by present Medicare reimbursement practices.

While Medicare has recently provided increased rates of mileage reimbursement for rural ambulance services, these are tied to definitions of "rural" that do not include some rural areas and, overall, do not cover the fixed and other costs of maintaining the EMS safety net infrastructure in rural/frontier areas. The issue of responsibility for maintaining this infrastructure has not been resolved. The impact of closure of rural/frontier hospitals has been addressed in part by the establishment of Critical Access Hospitals. Other than reimbursement provisions for ambulance services attached to those hospitals, there has been no federal, and limited state, focus on maintaining a safety net of "critical access ambulance services".

Pressure on Congress to address the "rural problem" in EMS reimbursement and financing is countered by concerns over reducing reimbursement for urban services in a federal health policy that resists increasing the overall EMS patient care reimbursement "pot". Surveys of state EMS directors in 2000 and 2004 placed "financing" among the top four most important issues for rural EMS.[73]

Consumers may subconsciously expect advanced levels of EMS care, but have little idea of the level of care actually provided in their community.[3] Therefore, if there is a discrepancy between the two, they do not realize it nor seek an opportunity to participate in determining the level of care to be afforded. The concept of "informed self-determination" (voters being informed of, and selecting among alternative levels and type of EMS response and their attached price tags) when implemented in several frontier towns in one state resulted in selection of paid, Paramedic staffing despite significant cost increases.[68]

Where a single rural/frontier service might be unable to sustain basic or advanced levels of care, or assure certain business, operations or clinical functions, multiple services have demonstrated the ability to regionalize or form a collective to do so. Regionalizing has enabled them to share services such as alternative forms of advanced life support intercept, medical oversight, billing, quality improvement, and to seek financial support on a greater geographic basis such as a county or regional tax district.[74-76]

Currently, EMS service providers that do bill, have at least two major choices for doing so.

First, they may use a billing service which could charge $10 to over $20 per invoice processed, a $5,000 to $10,000 annual cost for a small service with no guarantee of return. Other billing services charge based on a percentage of amounts billed or actually received. Using a billing service still requires a service chief or other service representative to review patient/run records and other materials submitted to the billing service.

Second, they may employ billing staff or assign a billing function to staff with other responsibilities. In rural/frontier areas, smaller services are less likely to have the call volume to justify the cost of full-time billing staff who would be able to set up a billing system tailored to the particular service. Increasingly, service chiefs or their designees are responsible for submitting patient bills and reimbursement claims. A number of computer assisted billing services are available, with a range of accessibility considerations for rural/frontier providers.[77] Some software packages are installed on a local computer. They may cost thousands or tens of thousands to install and implement and hundreds or thousands in annual maintenance fees, plus the cost of a computer with adequate processing power. At least one web-based service is now available which significantly reduces the initial cost to under a few thousand dollars and half that in subsequent years. It also introduces a Medicare form quality review function to reduce the frequency of denials.

For the purposes of program administration, the Federal government has created many different methods for defining rural America. To date, there is no universally accepted definition of "rural" across Federal agencies and various definitions are used simultaneously in developing policies for grant formulas or adjusting payment for services purchased by the Federal government. While it may be appropriate to use multiple definitions of rural, the definition used for a particular program or purpose should adequately describe the geography that the program or purpose is intended to serve.

EMS is different from other health care services because it is a service delivered directly to the consumer often during life-threatening events when minutes count. In accessing emergency care, time and miles are as much key determinates in mortality and morbidity as the specific injury or illness. In emergency care, access is a combination of resource availability and time based care.

There is general agreement in the ambulance industry that the current method of defining urban and rural for the purposes of Medicare reimbursement is problematic.[70, 72] This method defines "rural" at the county level using Metropolitan Statistical Areas, with some modification using the ORHP-developed Goldsmith modification. The use of county boundaries, even with the Goldsmith modification, leaves large areas rural in nature within urban boundaries. Literature supports this conclusion (see *Appendix J* for specific citations).

There are other methods that could be used or developed to better distinguish between the urban and rural landscape for the purpose of defining ambulance reimbursement. In recent years, significant progress has been made at the Federal level in developing adequate funding and resource availability through cost based reimbursement for physician and hospital services in the Federally Qualified Health Centers, Rural Health Clinics, and Medicare Rural Hospital Flexibility (Critical Access Hospital) Funding Programs. There are no equivalent programs for EMS. In addition, existing definitions and funding mechanisms do not adequately describe rural for the purpose of assuring timely access to emergency healthcare.

The issue of using county boundaries as a rural EMS definition and a specific recommended model is explained in detail in *Appendix J*. This method would combine several existing federal approaches (Urbanized Areas, Zip Code Tabulation Areas and Rural-Urban Commuting Areas) into a model that achieves a unit of measurement that is flexible, precise, stable and more consistent than using county boundaries and yet practical as the RUCA areas are mapped to zip codes.

WHERE WE WANT TO BE

Adequate primary revenue streams currently exist for EMS, including fees for service (Medicare, Medicaid, private insurance, private pay and special service contracts), governmental subsidies (local or statewide) and, in some cases, subscription services. Rural and frontier providers explore regional relationships, to effect economies of scale for certain components that contribute to needed costs (e.g., support of paid advanced life support staff).

MCOs and other payers fully integrate EMS into their provider networks, do not limit access to the 911 emergency response system, and compensates rural and frontier EMS providers at a level of preparedness based payment, which covers the cost of providing the basic and advanced life support safety net service in a low volume setting. Patient billing and reimbursement is based on care, advice and referral rendered as well as transportation provided as necessary. It does not require transportation. Reimbursement is predicated on signs and symptoms as they present to the dispatcher in an organized system of Emergency Medical Dispatch (EMD), which dictate the resources dispatched. In the absence of such an EMD system, reimbursement is predicated on signs and symptoms as they present to the responding EMS crew. In either case, reimbursement is not subject to retrospective determinations of medical necessity that may or may not depend on the patient's final diagnosis. The "patient condition codes", developed as part of the Medicare ambulance negotiated rule-making process at the turn of this century, are implemented by CMS.

EMS agencies are fairly reimbursed for interfacility transports when responding in good faith to the request of a sending facility. Interfacilty transports "appropriate" from an EMTALA perspective are fairly reimbursed and not subjected to retrospective medical necessity determinations. Medicare and other payers enable patients to migrate easily back to local community hospitals from trauma and other specialty centers for recuperation and access to family and local resources.

In domestic preparedness planning, federal emergency response agencies recognize and fund EMS systems and providers as an explicit category. There is a focus on enhancing day-to-day EMS response infrastructure, especially in rural and frontier areas where it tends to be less able to sustain itself robustly, so that there is adequate infrastructure upon which to construct disaster response capacity. The nature of the EMS provider agency is not a barrier to funding.

Rural and frontier EMS systems lead the nation in realizing the potential of the EMS system to fulfill broader public health and primary care outreach roles for traditionally underserved communities. Managed care organizations and other payers encourage pilot EMS-based community health service programs for integrating EMS into the provision of some primary care services, so that rural/frontier populations do not suffer by virtue of their distance from traditional medical care.

Community EMS assessment and informed self-determination programs (see "Public Information, Education and Relations" section) guide local government subsidization of community EMS.

Rural/frontier services have access to and utilize patient billing services which do not present barriers to use such as significant upfront or staffing cost, or need for expertise. The definition of "rural", and its degrees, are based on a fair model such as that presented in *Appendix J*.

HOW TO GET THERE

Congress should authorize and appropriate sufficient funds for the Centers for Medicare and Medicaid Services (CMS) to reimburse EMS providers based on the per-call cost of maintaining full-time response with specific recognition of the increased cost of doing so in rural/frontier areas.

Congress and/or CMS, as appropriate, should implement the following EMS reimbursements reforms:

- Call-components performed by first-response, ALS intercept, ambulance and other EMS response agencies which should be eligible for reimbursement, not duplicated on any given call, should include emergency response, assessment, treatment, triage and transportation or other disposition that may, or may not, involve traditional transportation.
- Retrospective review of medical necessity should not be done for emergency response calls.
- Immediately implement the patient condition codes model from the Negotiated Rule-Making process.
- Remove the "35 mile" restriction on cost-based reimbursement for EMS agencies that are owned and operated by Critical Access Hospitals.
- Employ definitions of "access" and "rural" (and its degrees) in reimbursement, such as those presented in Appendix J, which will help to maintain an adequate rural/frontier EMS infrastructure.
- Assure that interfacility transports that are "appropriate" from an EMTALA perspective are fairly reimbursed and not subjected to retrospective medical necessity determinations.
- Adopt reimbursement practices that encourage patient treatment and recovery at the facility closest to the patient's home that is desired by the patient and capable of providing the care required at the given stage of recovery.
- Facilitate the use of subscription services as a part of the overall funding of the EMS safety net infrastructure, in cooperation with state insurance authorities.
- Consider a single fiscal intermediary for all EMS providers, and develop a "successful practice" guide to assist EMS providers in maximizing billing efficiency and accuracy.

Domestic preparedness and response funding programs such as those of the Department of Homeland Security, CDC, HRSA, and ODP should be made available explicitly and categorically to EMS systems and providers to assure that there is adequate prehospital and hospital medical response infrastructure upon which to build disaster capacity. Private and for-profit providers of EMS should be eligible for funding to improve infrastructure, as they may be the sole providers in some rural/frontier communities. More specific language about EMS participation should be integrated into grant guidance, and technical assistance should be provided to assist EMS agencies in successfully competing for available grant dollars.

CMS should define EMS personnel as eligible care-providers under physician direction for the purpose of reimbursing that physician, and/or the EMS agencies directly, for primary care and prevention services they render. CMS, MCOs and other third-party payers should fund EMS-based community health care pilot projects.

Providers of EMS billing software, hardware and services should tailor turn-key products for the ease of use and low acquisition cost to make them attractive to smaller rural/frontier providers.

State EMS offices should encourage, and federal funding should support, demonstration projects and ongoing systems for regionalized approaches to assuring medical oversight and quality improvement, the provision of advanced levels of care, EMS education, patient billing, data collection and submission, and other key components of EMS delivery to which smaller rural and frontier services may not otherwise have access. Rural Hospital Flexibility, Rural Health Network and similar programs should be considered as means to facilitate regionalization efforts. County, regional, or state level taxing authorities should be considered to fund networks or regional programs where they effect economies of scale or improve access to EMS care. Congress should fund pilot projects of this nature to establish successful practice guidance.

RECOMMENDATIONS

- Authorize and appropriate sufficient funds for CMS (Medicare and Medicaid) to reimburse EMS providers based on the per-call cost of maintaining full-time response with specific recognition of the increased cost of doing so in rural/frontier areas. Third party payers must also recognize the increased cost of rural/frontier ambulance service.
- Implement the following federal reimbursement reforms for emergency and interfacility EMS clinical care and operations:
  - Call-components performed by first-response, ALS intercept, ambulance and other EMS response agencies which should be eligible for reimbursement, not duplicated on any given call, should include emergency response, assessment, treatment, triage and transportation or other disposition that may, or may not, involve traditional transportation.
  - Retrospective review of medical necessity should not be done for emergency response calls.
  - Immediately implement the patient condition codes model from the Negotiated Rule-Making process.
  - Remove the "35 mile" restriction on cost-based reimbursement for EMS agencies that are owned and operated by Critical Access Hospitals.
  - Employ definitions of "access" and "rural" (and its degrees) in reimbursement, such as those presented in Appendix J, which will help to maintain an adequate rural/frontier EMS infrastructure.
  - Consider a "critical access ambulance service" definition or other means to assure a minimal level of EMS infrastructure in all geographic areas.
  - Assure that interfacility transports that are "appropriate" from an EMTALA perspective are fairly reimbursed and not subjected to retrospective medical necessity determinations.
  - Adopt reimbursement practices that encourage patient treatment and recovery at the facility closest to the patient's home that is desired by the patient and capable of providing the care required at the given stage of recovery.
  - Facilitate the use of subscription services as a part of the overall funding of the EMS safety net infrastructure, in cooperation with state insurance authorities.
  - Consider a single fiscal intermediary for all EMS providers, and develop a "successful practice" guide to assist EMS providers in maximizing billing efficiency and accuracy.
- Make federal and state domestic preparedness and response funding programs such as those of the Department of Homeland Security, CDC, HRSA, and ODP available explicitly and categorically to EMS systems and providers including private and for-profit agencies.
- CMS, MCOs and other third-party payers should fund EMS-based community health care pilot projects and define EMS personnel as reimbursement-eligible care-providers under physician medical oversight for primary care, prevention, and other services they render.
- Form, and fund through county, regional, state or federal tax dollars, rural/frontier EMS operational or service-contracting networks in those areas where they provide economies of scale, improved access to EMS care, improved quality and/or increased tax payer value.

HUMAN RESOURCES

October, 2009 *— Western Mountains Ambulance and Rescue (WMAR) participates in rural/frontier EMS leadership management training offered by the National EMS Academy and State's EMS and Office of Rural Health Programs. It utilized team-building techniques to improve communications and job performance between paid and volunteers providers. WMAR monitors the work stress level of its personnel and utilizes the Critical Incident Stress Management Program. It takes advantage of federal, state and private grant monies to provide continuing education for its providers.*

Western Mountains Ambulance and Rescue developed a public relations plan to improve its image, media relations and community support. This plan, coupled with a newly initiated state retirement and recognition plan, has helped with recruitment and retention. To further enhance recruitment and retention efforts, WMAR is working with state and local representatives in developing a special health insurance package for its volunteers.

> *"Surveys of state EMS directors have consistently shown recruitment and retention of personnel to be the greatest barrier to the successful provision of rural/frontier EMS".*
>
> –Kevin K. McGinnis, MPS, WEMT-P. Program Advisor, National Association of State EMS Directors; Crew Chief, Winthrop Ambulance Service, Maine

From 1996 NHTSA *EMS Agenda for the Future* on "Human Resources":

> *"The task of providing quality EMS care requires qualified, competent, and compassionate people. The human resource, comprised of a dedicated team of individuals with complementary skills and expertise, is the most valuable asset to EMS patients."* [46]

WHERE WE ARE

Before the birth of the modern EMS system in 1973, rural and frontier ambulance services were largely provided by funeral homes,[19] which found it to be a convenient, low investment "down-time" use for its hearses and staff. The question of conflict of interest between their two businesses was apparently not considered significant at the time. Other areas had no local ambulance service. As it became customary and then, in the 1970's, increasingly mandatory to train and license ambulance attendants and provide more sophisticated and expensive patient care equipment, funeral home operators largely abandoned the field. Into these areas, and others that had no previous local ambulance service, began appearing organized groups of volunteer EMS providers. Without these volunteers, some communities would have continued without local ambulance service.

In the past 20 years, a number of forces have created conflicting interests regarding volunteers for state EMS agencies and EMS services. They are called upon to make decisions weighing the interests of patient care and worker safety against the ability to recruit and retain volunteers. Increasing public expectation about level and type of care may demand services that cannot easily be provided on a volunteer basis. The delay in volunteers' response from home or work, or failure to respond, has created concerns in some communities. While some rural and frontier volunteer services have been able to advance to the EMT-Intermediate level, few can support a full-time volunteer Paramedic level of care.

Many states have had entry-level licensure/certification standards for those providing patient care on ambulances requiring less training than the national standard Basic EMT level. These lower standards were often created to help recruit volunteers, but there has been increasing pressure for states to use Basic-EMT as the national minimum standard. Some service leaders feel that their services are jeopardized when states propose to eliminate the lower entry level standards. Keeping EMS personnel safe and healthy in the workplace has required increased annual training, testing and certification.

Adding to these pressures on volunteer services are the increase in two-wage- earner households, limited or lack of EMS pay, increasing exposure to danger in providing EMS, perceptions of increased personal liability, lack of enlightened leadership in some areas, and limited funding for training, equipment and supplies. Finally, as the population ages, volunteer services face an increase in call volumes concurrent with a decline in the physically qualified volunteer pool. For services that do them, nursing home and

routine transfer calls fill an increasing portion of the ambulance service's activity. This may drive away potential volunteers who are attracted by the emergency nature of EMS.

Surveys of state EMS directors in 2000 and 2004, indicated that the greatest need for rural services is the adequate recruitment and retention of staff.[73] In the same surveys, "24/7 coverage" rose from the 22nd most important rural EMS issue in 2000 to the second most important in 2004. "Response time" rose from 20th place in 2000 to 5th in 2004.

Many services have initiated stipend programs where pay per call, pay per hour while on a call, and/or pay for shifts or while available for call have been instituted to attract members.[78] Rural and frontier EMS remains one of the medical fields most dependent on volunteers. A multi-state region offered a volunteer service managers course from the late 1980's through the early 1990's,[79] but today there is no national model of training for service managers in how to recruit and retain volunteers, and manage the volunteer service. The FEMA "EMS Recruitment and Retention Manual" (FA-157), published in 1995,[20] remains available as a free tool for developing recruitment and retention strategies.

There is a new NHTSA initiative beginning in 2004 called "The EMS Workforce for the 21st Century". Its goal is to promote a sufficient, stable and well-trained workforce to sustain the nationwide EMS system, and will address strategies to develop a sufficient workforce and such issues as leadership and provider health and safety.

WHERE WE WANT TO BE

The community EMS assessment and informed self-determination processes (described in the section on Public Information, Education, and Relations) encourage the community to consider the contribution of EMS volunteers in the type and level of care that it selects and subsidizes. Rural and frontier services maintain a mix of paid and volunteer staff that assures fast response and an advanced level of care consistent with the results of the assessment and self-determination processes. Volunteers have adequate incentives to volunteer and paid staff are adequately compensated earn a comfortable living in their community. EMS-based community health services, regional partnerships, alternative ALS intercept methods, evidence-based EMT-I curricula addressing rural needs, and health service networks are used to assure tiered EMS response including advanced levels of care.

Trained service managers effectively recruit and locally train their staff, motivating and retaining them through a mix of incentive stipends (such as professional liability and health coverage and a retirement benefit), public education, excellent training resources, personal support, career ladders, and appropriate awards or recognition for dedicated providers. Such managers balance the needs of volunteer and paid staff effectively and create a cohesive and motivated team.

Other local health care providers have completed "bridge to EMT" courses, and assist in basic and advanced life support capacities. The trained service manager provides appropriate service oversight, and effective business practices that provide adequate revenue through patient billing and/or local subsidy and access to grant funds to support and improve operations. EMS worker safety is a part of every service's quality improvement system, orientation and policy/procedure guidance, and is the subject of on-going research at all levels.

HOW TO GET THERE

Federal rural health manpower recruitment and retention planning should be extended to EMS and, where necessary, funding strategies should be implemented through state EMS offices and offices of rural health to provide leadership, technical assistance and funding in programs to recruit, train and support rural and frontier EMS personnel and services. The NHTSA "EMS Workforce for the 21st Century" project should be implemented and supported. The U.S. Department of Labor should include funding for rural/frontier EMS in its recruitment and retention funding efforts, particularly with consideration of workforce retraining in areas hard hit by unemployment. State EMS offices and legislatures should create policy on the role of volunteers in the EMS workforce as recommended elsewhere in this document.

Grant funding should be directed to EMS-based community health service, regional cooperative and network formation and other demonstration projects to establish successful practices for the effective use of EMS human resources as recommended in other sections of this document. Successful practices in rural/frontier EMS recruitment and retention should be identified and maintained by the Rural EMS and Trauma Technical Assistance Center, and shared with all state EMS and rural health offices. Services are reimbursed and subsidized adequately to maintain the paid staff they need based on informed self-determination.

A national EMS service leadership and service management training model should be developed and shared with all states. This should contain successful practices in volunteer human resource management, governing board management, and cultural competence, as well as other aspects of EMS service management and leadership. Leadership training, systems of critical incident stress management based on accepted national models, occupational safety training and other support should be available to all rural/frontier EMS personnel.

National models for performance recognition programs (e.g., American Ambulance Association's "AAA Stars") should be disseminated as successful practices scaled to local application. Community employers who allow employees to respond to EMS calls should be targeted in similar programs.

RECOMMENDATIONS

- Extend federal and state rural and health manpower recruitment and retention planning leadership, technical assistance and funding specifically and categorically to rural/frontier/tribal EMS and implemented through state EMS offices, state offices of rural health or other appropriate entities.
- Analyze, at the state EMS agency level, rural/frontier workforce recruitment and retention efforts and develop statewide plans for improvement.
- Establish incentive programs to recruit and retain rural/frontier EMS human resources.
- Foster the development of a culture of volunteerism and community service through local schools in partnership with community agencies.
- A national EMS service leadership and service management training model should be developed and shared with all state, territorial and tribal governments. This model should include successful practices in EMS volunteer and paid human resources management.
- Target occupational safety in EMS for research funding and the development of guidance materials.
- The REMSTTAC should maintain and disseminate successful practices in implementing components of the national EMS service leadership and service management training model.

MEDICAL OVERSIGHT

October, 2009 *— At the beginning of her shift, WMAR Paramedic Sheila Paul's first order of business is to complete the inspection checklist of the patient care and communications equipment while her partner, EMT Pat Dawson, checks and services the two ambulances. With only 400 calls a year, the need for a second ambulance is based on the frequency of overlapping calls caused by the average four hour garage-to-garage time required to complete an ambulance call. The nearest mutual aid ambulance service is 30 miles away — down one mountain and up another. The two services are linked by a regional consortium through Centertown Hospital for mutual aid, local training, medical oversight, emergency medical dispatch, billing, purchasing, and quality improvement, but geography dictates their usual operational independence.*

One of Sheila and Pat's tasks this morning is to attend the regional trauma quality improvement meeting. This quarterly review is led by Dr. Debra Dean, the consortium's regional EMS medical director who is an emergency physician at Centertown Hospital. Dr. Dean is the medical director for two such regional groups, depending heavily on routine meetings with the QI coordinators via the telehealth system to monitor system and provider performance. Today's meeting involves representatives of each of WMAR's collaborative network EMS agencies, and is coordinated by the EMS agency that facilitates QI for the consortium. It also involves a wide range of personnel from the hospital. The group discusses key trauma cases from the previous quarter and seeks ways to improve outcomes for injured patients in their area. These reviews have already led to changes, allowing EMS providers to activate the helicopter service from the regional trauma center at University Medical Center. These protocol changes have resulted in precious time saving for critically injured patients. The helicopter often now arrives at a remote designated landing zone near the scene, or in other cases at the Centertown Hospital, at about the same time that the patient is arriving by ambulance.

Dr. Dean, received her medical director training using a web-based training program sponsored by the National Association of EMS Physicians and the state EMS agency. She uses the telehealth network to regularly collaborate with other physician medical directors across the state and has become a mentor, helping to train other providers about the responsibilities involved in medical oversight.

> *"Rural EMS medical oversight often resembles a hobby; activities occur during a physician's free time and have associated costs. The benefit is the satisfaction of improving patient care beyond the physician's usual practice environment. Our goal should be to make EMS medical direction a regular, accepted component of the rural physician's broad span of health care activities."*
>
> — Jim Upchurch, M.D., REMT-P; Indian Health Service

From 1996 NHTSA *EMS Agenda for the Future* on "Medical Direction":

> *"Medical direction involves granting authority and accepting responsibility for the care provided by EMS, and includes participation in all aspects of EMS to ensure maintenance of accepted standards of medical practice. Quality medical direction is an essential process to provide optimal care for EMS patients. It helps to ensure the appropriate delivery of population-based medical care to those with perceived urgent needs."*[47]

WHERE WE ARE

EMS medical oversight (medical direction) may be "direct" ("on-line") or "indirect" ("off-line"). Direct medical oversight is the provision of medical authority by a physician or physician-designee to the EMT in the field by radio, telephone or other device (or when physically present on-scene). Indirect medical oversight is provided by the physician who is responsible for the overall medical care provided by the EMS service or system.

Medical oversight intensity and availability vary from state to state, and may vary within a state depending on local interest and expertise.[21] In some states, every EMS provider service is supposed to have a medical director, while others assign regional medical directors and sub-regional medical directors to oversee the systems and still others have no local, regional or state level EMS medical oversight at all. Few states have funded medical oversight on the regional or local level, and many states do not fund state level

medical directors. Some states and locales extend physician medical director resources by employing Paramedics and nurses to perform support functions.

Where physician resources and the funds to compensate them for EMS medical oversight have been scarce, some states have been flexible in allowing regionwide consortia to form for medical oversight purposes. This may also mean, however, that a few physicians may have this responsibility for many more services and personnel than they can reasonably monitor. This may impact on-line medical oversight when it is provided by distant physicians who may be unfamiliar with local capabilities. This impacts off-line medical oversight by limiting opportunities for interaction between medical directors and EMS providers for case review, training, and other quality improvement purposes.

Dependence on volunteer medical directors at any level has become difficult as liability for medical director activities, resulting insurance considerations, and pressure by hospitals and other employers for increased productivity has reduced the availability of such volunteers. Additionally, the physician workforce in rural and frontier areas available to serve as EMS medical directors consists principally of Family Medicine and other primary care physicians. They typically are engaged in a full-time, primary care practice, and struggle to find time for EMS activities. Physician assistants are widely used in rural/frontier clinical settings, but in some states they lack the legal authority to delegate to EMS licensees. This is a barrier to on-line medical oversight where physicians are not available in an emergency facility on a 24 hour a day basis.

The primary care physicians who serve most often serve as candidates for EMS medical oversight in rural/frontier areas often lack the experience or training for this purpose, but find the training that is available to be geared to Emergency Medicine physicians. They find the training offered on an infrequent basis in places that are not accessible to most rural/frontier practitioners. This training may be unnecessarily time-consuming with content of questionable use in rural/frontier settings.

In 1996, the National Highway Traffic Safety Administration and the HRSA Maternal and Child Health Division sponsored the development of a "Guide for Preparing Medical Directors" through the National Association of EMS Physicians (NAEMSP) and the American College of Emergency Physicians (ACEP).[22] This one-day course was intended to be offered through state EMS offices and elsewhere to increase course accessibility. Some states have sponsored decentralized medical director training programs and have tailored them to meet local needs. The Indian Health Service has a 15 year history of providing an EMS medical directors course for physicians with little or no EMS experience who now have EMS medical oversight responsibilities. Other statewide and regionwide courses have been designed by Family and Emergency Medicine specialists to provide training for teams of rural health care providers in the management of a wide range of medical emergencies.[80]

Since 2002, there have been a number of new but disconnected rural EMS medical directors programs sponsored by state ACEP chapters and others. Some states have developed statewide protocols or guidelines to assist local medical directors in standard-setting and review.

EMS personnel, who are employed in clinics, emergency departments, and other capacities while not involved in EMS, are authorized to do so differently from state to state. In some states this amounts to no more than physician delegation of practice, which may differ from doctor to doctor or facility to facility.[65] In others, this is defined in statute and regulations[64] or is not allowed.

There is no statutory authorization for medical oversight in some states. Quality improvement and medical oversight activities may not be protected from discovery unless it is conducted under the umbrella of a hospital or medical practice. National insurance carriers may not provide coverage for activities related to the on-line and off-line activities of medical directors.

WHERE WE WANT TO BE

Every EMS provider service, basic life support and advanced life support, has a medical director who is ideally a physician and has received EMS medical director training and is actively involved in EMS and system components, such as dispatch protocol development, performance/quality improvement, education, and training.

The medical director is either directly responsible for all practice by EMS providers, both emergency and EMS-based community health care, or coordinates closely with those physicians responsible for the providers' community paramedicine activities. The medical director is linked to the wider medical and EMS communities to promote EMS/physician community integration, continuity of care, and the maintenance of accepted standards of medical practice.

Leadership development and educational programs for rural/frontier EMS medical oversight recognize the importance of primary care physicians in these roles. A statewide system of medical oversight is authorized by statute which provides specific authority for, job descriptions of, and defined relationships among, medical directors from the state to the local level.

Medical directors are adequately compensated for their services, and medical director compensation is at least partially reimbursable under Medicare. Where scarcity of physician medical directors dictates, regionalization of medical oversight is encouraged utilizing physician extenders to assist in local roles. These physician extenders may be physician assistants, nurse practitioners, nurses, or Paramedics who have attended an EMS medical director course.

HOW TO GET THERE

States should enact statutory provisions to authorize and fund a statewide system of medical oversight, to protect physicians and their hospital or other employers from liability related to their on-line and off-line responsibilities, and should mandate medical oversight for every BLS and ALS provider service. State EMS offices, hospital associations, and physician professional organizations should work together to expand existing quality assurance or peer review statutes to include EMS personnel and EMS agencies.

Federal and state funding should be made available to assist state EMS offices to disseminate rural/frontier medical director training programs (including the use of distance learning/telemedicine resources), to create effective medical oversight networks consistent with statewide EMS system design, and to recruit and retain rural and frontier physicians to serve as EMS medical directors.

Congress should fund Medicare to reimburse ambulance services which employ and compensate medical directors for EMS or EMS-based community health service purposes. To qualify, medical directors must attend an EMS medical director training program and be actively involved in off-line/indirect medical oversight of the service. Other federal programs which fund physician practice in rural/frontier areas should require physician involvement in local EMS medical oversight and consideration of opportunities for EMS-based community health service efforts to augment physician practice.

NAEMSP, ACEP, NRHA, the American Academy of Family Physicians (AAFP) and NASEMSD should coordinate, design and approve a rural/frontier EMS medical directors course model based on the "Guide to Medical Director Preparation" or some other standard they devise.

The IHS EMS medical director course should be strongly considered in the development of this model. This program should include considerations of integrating EMS providers into other aspects of community health care, and the provision/coordination of medical oversight for those purposes. This type of program should be incorporated into formal curriculum within medical schools and residencies of primary care specialties. It should also address ways of achieving the highest standards of emergency care possible with the limited resources available in rural/frontier areas.

The ability to use EMS personnel for patient care, the ability to be reimbursed for that patient care, and other incentives to serve as an EMS medical director should be provided to physicians in primary care sites and hospitals.

Firstly, the use of regionalized on-line medical oversight from hospitals distant to the scene should be considered by states given the availability of telecommunications technology today.

Secondly, using mid-level physician extenders to provide on-line medical oversight, and the use of standing orders in systems with an off-line medical director who has implemented an effective quality improvement program should be permitted.

The Rural EMS and Trauma Technical Assistance Center should maintain all examples of EMS medical director training and related statutes from states or other organizations for distribution to those requesting them.

RECOMMENDATIONS

- Establish statewide networks of EMS medical oversight, including medical directors at the local, regional, and state levels as appropriate in a given state to ensure the provision of EMS medical oversight for every EMS service.
  - Implement at least one full time equivalent position of state EMS medical director in every state with a job description as defined by consensus of EMS-related professional medical and state EMS director organizations.
  - Compensate EMS medical directors for the EMS medical oversight services which are provided. The level of compensation should be equivalent to the level of compensation the physician would experience (for the equivalent hours) in their normal clinical practice.
  - Require that EMS medical directors be physicians, but encourage the use of physician extenders and regionalized arrangements of medical oversight to increase the EMS medical oversight resources in rural/frontier areas.
  - EMS medical directors must actively participate in local, regional, and state EMS program planning and implementation. States must seek out and include rural/frontier medical directors for these purposes.
  - Implement EMS based community health programs and services through an interdisciplinary approach involving EMS operational and medical oversight components and primary care professionals.
- Assure federal and state funding resources to maintain these statewide networks of medical oversight.
  - States must assure funding of the state EMS medical director.
  - System/provider reimbursement should be based on the cost for providing EMS services and patient care delivery. The cost associated with trained and qualified EMS medical oversight should be included in this cost basis.
  - Federal programs which provide financial incentives to physicians serving in rural areas (underserved and hospital based programs, e.g., Critical Access Hospital program) should require involvement in the local EMS system. If the EMS system is without medical oversight, these physicians should be required to provide this service.
  - Federal agencies and professional EMS organizations should provide and maintain technical assistance resources for EMS medical oversight.
- Prepare and protect rural/frontier emergency and primary care physicians to serve as EMS medical directors and assure adequate systems of performance improvement to support their activities.
  - Legislate, at the state level, peer review protection for EMS system quality management and performance improvement initiatives to exist without fear of discovery and litigation.
  - Assure liability coverage for EMS medical oversight to be included in the normal liability coverage for primary care and emergency medicine physicians. This coverage should provide protection for both the clinical and administrative duties associated with EMS medical oversight.
  - Review all existing EMS medical oversight courses and establish a Rural/Frontier EMS Medical Directors Course which should be made available and distributed through multiple mechanisms to allow maximum access by EMS medical directors.
  - Introduce EMS medical oversight in medical schools and include in the curriculums of primary care residency programs (both MD and DO degree-granting institutions).

EDUCATION SYSTEMS

October, 2009 *— Because Western Mountains Ambulance and Rescue Service had been created through "informed self-determination" the new service became eligible for many equipment and training grants. These grants allowed the service to purchase new state-of-the-art advanced patient monitoring equipment for use by EMS providers; its first EMS Event Monitoring System or EMS[2] ("EM-Squared"); and computer hardware and software to support that system, and to start patient billing and reimbursement through a web-based service. The new monitoring devices have improved telemedicine patient monitoring for cardiac arrest and stroke with University Medical Center. The training grants enabled the Chamberlain Regional School to tie its distance-learning equipment into the telemedicine and distance-learning circuits linking the Chamberlain Valley and tribal health clinics with the Centertown Hospital, and with the University Medical Center, which serves as the regional trauma center and EMS training facility.*

These new capabilities allowed the new service chief to take an ambulance service management course entirely by distance learning, and he and his colleagues to take all classroom portions of the EMT-Intermediate and Paramedic programs while staying in Chamberlain. Two years later, enough local EMTs and Paramedics had graduated to replace the temporary staff brought in for this period. The combined staff now had eight full time EMTs and Paramedics, as well as some occasional "per diem" paid EMTs and Paramedics from Centertown to assure the core staffing. It also retained or attracted 18 volunteer EMTs and EMT-Intermediates who fill in on the first ambulance and respond to calls as needed, and who staff the second ambulance on a scheduled, on-call basis.

> *"The way we prepare EMS personnel of the future will be much different than it is today. Training curricula will evolve based on real data pertaining to the type and frequency of prehospital encounters. Emerging distance learning technologies need to be embraced as they become the best practice standards of achieving performance change. EMS education and training of the future should be competency based, that is oriented toward the attainment of knowledge, skills and performance competencies necessary to care for the sick and injured patient, rather than on requisite numbers of classroom hours. Each adult learner brings a differing amount of previous knowledge and experience to the training environment, the education and training system needs to recognize and build upon those competencies. Additional emphasis will be placed on the preparation of quality EMS educators/instructors, accreditation of training programs, and the attainment of national standards while retaining local flexibility. Structured performance improvement processes should guide both group and individual continuing education."*
>
> –Nels D. Sanddal, MS, REMT-B, Director, Rural EMS and Trauma Technical Assistance Center

From 1996 NHTSA *EMS Agenda for the Future* on "Education Systems":

> *"As EMS care continues to evolve and become more sophisticated, the need for high quality education for EMS personnel increases. Education programs must meet the needs of new providers and of seasoned professionals, who have a need to maintain skills and familiarity with advancing technology and the scientific basis of their practice."*[48]

WHERE WE ARE

EMS training and education have been guided by national standard curricula developed by NHTSA since 1971 when the first such curriculum, the 81 hour EMT-Ambulance, was released. Evolving local and statewide needs and/or constraints caused deviations from or adaptations to these curricula and in the scopes of practice implemented in each state. These and other issues, such as the consideration of expanded scopes of practice, led the National Registry of EMTs (NREMT), NHTSA and other partner organizations to move away from dependence on standard curricula and to develop a more general *"National EMS Education and Practice Blueprint"*.

Following development of this document and the dissemination of the EMS Agenda for the Future, both in 1996, the direction of EMS education was again studied by a NHTSA work group which ultimately produced *"Emergency Medical Services Education Agenda for the Future: A Systems Approach"* in 2000.[23] The five components describing an EMS education system are

- National EMS Core Content
- National EMS Scope of Practice Model
- National EMS Education Standards
- National EMS Education Program Accreditation
- National EMS Certification

A process of implementing the recommendations of this document is now underway.

As with all EMS system implementation issues in rural and frontier areas, education systems development is hampered by great distances, inadequate resources, and a sparse and largely volunteer target population, for whose members EMS is a secondary occupation. Federal EMS officials had identified and largely funded 304 EMS regions in the U.S. by 1978.[11,13] A central function of these regional programs became training.[13] After the federal program's demise in 1982 under the Omnibus Budget Reconciliation Act, many of these regional programs also evaporated, though many were able to continue through assistance from the states and through strong tuition-revenue generating training programs. These regional programs became important resources of training and education oversight, technical assistance, and training equipment and supply resources. They largely contributed to the availability of decentralized EMT courses.

Today, the accessibility of basic EMS training like EMT, ambulance vehicle operator, and CPR varies from state to state, with both distance and tuition costs serving as barriers. As education standards have become more sophisticated (e.g., increased emphasis on degree-granting programs and accreditation of EMS education institutions), they promote centralization of training and reduce access to training and education for rural/frontier providers. This phenomenon is less important at the basic EMT level but becomes more evident at intermediate and advanced levels of training as do other specific barriers to EMS education in rural and frontier areas, such as:

- A sparse and geographically scattered student pool that may include a high percentage of adult learners with little formal education, along with full-time jobs that require flexible scheduling.
- A small number of well-evaluated, qualified instructors.
- Insufficient course subsidization and funding of equipment and technical assistance support resources.
- Limited access to health care facilities for supervised clinical experiences;
- Limited understanding of other health and medical disciplines and lack of interdisciplinary training and collaboration.
- Limited exposure to various conditions and patient presentations during training.
- Problems with skill maintenance in low-volume systems.
- The lack of knowledgeable and active physician supervision.
- Inadequate quality assurance of the educational programs and instructors.

While there are some innovative mobile EMS training programs, the bulk of advanced training, and even basic training in many areas, requires EMS personnel to travel to a distant location. Travel, lodging, and staff replacement costs can make such training a more expensive proposition for rural/frontier services than for urban services. Satellite and cable television distance learning programs were offered by some state EMS programs as early as the late 1980's to bring continuing education to rural and frontier areas. Some of these were initially successful then discontinued because of dropping enrollment or the cost of satellite programming, but others have continued.[81, 83]

More recent federally funded telehealth and distance learning projects and systems have opened this resource further,[82] yet there is no EMS community consensus on a national model for its application in making basic through advanced training more accessible to rural and frontier providers. In fact, some distance learning and telehealth systems established by different federal and state agencies are not interoperable. Education consortia have been formed with local, regional, state and federal partnerships to provide EMS educational programming through local and distance learning resources on a nationwide basis.

The state to state variability of licensing levels and scopes of practice at the intermediate levels between above the EMT level and below the Paramedic level creates confusion. For rural/frontier volunteer services this is a problem because such an intermediate level may be the highest to which many such services may currently aspire.

Rural and frontier areas lose their young career-minded resources. Those who wish to advance or change careers must often relocate to obtain the requisite education. Once removed from the area, they often do not return, because career advancement is easier in more urban areas. There are career-bridging programs in some areas, but they are not universal or particularly accessible to rural/frontier health professionals.

There is great variability in the quality of EMS education programs and instructors, particularly in rural/frontier areas, where they are most decentralized by necessity. States have attributed some of the cause of this variability to the practice of directing resources to course-by-course approval rather than toward training program-by-training program approval, and are changing this. Nonetheless, where instructor resources are scarce, state and regional education officials face the dilemma of balancing course-quality regulation with access to education. Because training resources are often centralized in urban areas, training and education often take on an urban flavor.

EMS service managers are often appointed or elected because they are respected for their clinical and interpersonal skills, and may be among a scarce few willing to take on the attendant responsibilities. They often do not come prepared with, respectively, medical oversight or management experience or training. National EMS management training/education certificate models are lacking.

Training is needed in specialty situations. Rural/frontier providers practice in austere and often dangerous settings and their patients are often victims of injury due to those settings. The logging industry remained the occupation with the highest death rate in 2002 (117.8/100,000) according to the Bureau of Labor Statistics, followed by fishing in second place (71.1/100,000), and with agriculture ranking eighth (28/100,000).

Training programs for safely managing patients in these environments have been available to EMS for many years.[84] Nationally-renowned wilderness EMS programs are offered by several programs across the country.

WHERE WE WANT TO BE

The *Emergency Medical Services Education Agenda for the Future: A Systems Approach* is successfully implemented reflecting careful consideration of the needs of rural/frontier practice and the development of EMS-based community health services.

Once a community has conducted EMS assessment and informed self-determination processes and has determined the type and level of care it wishes to maintain and subsidize, there are adequate training and education resources made available to support that level of operation. Basic EMS programs, including EMT, Emergency Vehicle Operators Course, and CPR, as well as basic safety programs such as hazardous materials awareness and self-protection from airborne and blood-borne pathogens, are made available through local instructors and distance learning resources accessed in the community.

There is a national model for providing basic, intermediate, and advanced EMS training and continuing education to rural/frontier areas which uses a mix of distance learning, decentralized practical skills learning, and clinical learning and experiential content packaged in a manner appropriate to the level of training. This model includes consideration of appropriateness for the non-traditional

student and accessibility for rural/frontier providers. Courses and continuing education programs and the instructor, equipment supply, and technical assistance infrastructure to assure their accessibility are well-subsidized in rural and frontier areas.

There is a national model certificate program for training rural/frontier EMS provider service managers. These are especially geared to EMTs and others who are elected as service chief in volunteer organizations with no other management training or experience.

Training and education content at all levels emphasizes the means for integrating EMS into the community and regional health care systems for the continuity of emergency patient care, and to take advantage of EMS-based community health service type opportunities. There is an emphasis on accessing all clinical and practical skill resources in the local community, such as health clinics, home health and hospice programs, physician offices, school health offices and pharmacies. This not only reduces the dependence on more distant resources, but improves EMS integration as providers at these sites become familiar with EMS providers.

Advanced level training continues to be available through certificate as well as degree-granting programs. Within EMS practice levels, and between EMS and other health professions, there are career pathways supported by career-bridging training and education programs to support career advancement and change for those who desire to remain geographically in place. These are well-supported by distance-learning resources and telehealth systems which are locally available, and all such systems are interoperable. These are not only employed for training and continuing education, but as a part of EMS training program and instructor quality improvement.

State and regional training approval entities have the authority to evaluate and dismiss instructors, but also provide technical assistance to facilitate their meeting contemporary standards.

HOW TO GET THERE

NHTSA should assure that the implementation process for the *Emergency Medical Services Education Agenda for the Future: A Systems Approach* considers the needs of rural/frontier practice and EMS-based community health services, as well as other recommendations below.

Congress and the states should authorize and appropriate funding for an initiative to increase accessibility to EMS education systems in rural and frontier areas. This Rural/Frontier EMS Education and Training Initiative should include:

- Funding to geographic areas which considers progress in completing community EMS assessments and informed self-determination processes.
- Funding through state EMS offices where needed, to develop effective systems of training and education program/system quality review and approval.
- Development of flexible models for the implementation of a national model, including certificate and college-based programs, for providing basic, intermediate, and advanced EMS training and continuing education to rural/ frontier areas and its implementation through state EMS offices.
    - Development of this model should include strong consideration of the EMS education dissemination mechanisms, policies and procedures established by successful education programs and consortia.
    - Recognition within the model that EMS education will be provider-need specific, conducted with varied teaching techniques emphasizing hands-on training and, where appropriate, distance learning, to assist the transfer of learning and retention of essential skills and knowledge so as to provide state-of-the-art rural emergency care.
    - Recognition within the model that educational processes should include the evaluation of resources (e.g., EMS system, health care, public safety) and needs (e.g., for cultural competence) at a local level to encourage an integrated community-based approach to EMS education.
    - Recognition within the model that training and education should be driven by health risks of the local population and time-sensitive access to definitive care (e.g., mental health, trauma, stroke).

  - Emphasis within this model on integration of EMS within the health care system, EMS-based community health service. opportunities and program development, and the use of local health service resources as clinical and practical skills development settings.
  - Emphasis within the national model on the adult, non-traditional student.
- Development of a national model to enhance career mobility within EMS practice levels, and between EMS and other health professions, to enhance the ability of rural/frontier areas to retain health workers who wish to gain new skills or advance or change health careers.
- Emphasizing optimal interdisciplinary care of the ill or injured patient, including complex event management such as cardiac arrest and multiple casualty incidents.
- Subsidization of training courses and continuing education programs and the instructor, equipment supply, and technical assistance infrastructure necessary to make them accessible to rural/frontier areas
- The use of interoperable systems of telemedicine and distance learning to improve the accessibility of training courses, effective quality improvement, and continuing education programs.
- Incentives to increase the involvement of university medical centers and area health education centers to provide outreach educational programs to rural and frontier areas.
- Recognition of the need for flexible scheduling to accommodate the lifestyle realities of rural volunteers.
- Improved rural/frontier accessibility to training programs in emergency medical dispatch, critical incident stress management, and occupational safety training, as well as continuing education programs with curriculum content geared to rural/frontier application as appropriate.
- Improved rural/frontier accessibility to a training program for service managers which includes EMS leadership, public and elected official advocacy, public education, grant-writing, data collection, research, governing board management, and volunteer management among other topics.
- Encouraging the development of realistic, dynamic patient simulators and mannequins for case-based and psychomotor skill training and critical-decision making improvement. Support for the development of patient simulator outreach programs.
- Development of state/regional stockpiling, and sharing of expensive training devices such as mannequins and patient simulators and ongoing assessment by rural/frontier EMS agencies and local hospitals of their resources and needs, and searching for common educational opportunities.

RECOMMENDATIONS

- Address, as part of the development and implementation process for the Emergency Medical Services Education Agenda for the Future: A Systems Approach, the unique needs of rural/frontier practice and EMS-based community health services through the development of non-traditional education methods focused on:
  - Vocational training
  - Maintenance of clinical skills
  - Affordability

Fund at the state and national levels a Rural/Frontier EMS Education and Training Initiative including:

1. Funding to geographic areas which considers progress in completing community EMS assessments and informed self-determination processes.
2. Funding through state EMS offices where needed, to develop effective systems of training and education program/system quality review and approval.

3. Development of flexible models for the implementation of a national model, including certificate and college-based programs, for providing basic, intermediate, and advanced EMS training and continuing education to rural/ frontier areas and its implementation through state EMS offices.
   - Development of this model should include strong consideration of the EMS education dissemination mechanisms, policies and procedures established by successful education programs and consortia.
   - Recognition within the model that EMS education will be provider-need specific, conducted with varied teaching techniques emphasizing hands-on training and, where appropriate, distance learning, to assist the transfer of learning and retention of essential skills and knowledge so as to provide state-of-the-art rural emergency care.
   - Recognition within the model that educational processes should include the evaluation of resources (e.g., EMS system, health care, public safety) and needs (e.g., for cultural competence) at a local level to encourage an integrated community-based approach to EMS education.
   - Recognition within the model that training and education should be driven by health risks of the local population and time-sensitive access to definitive care (e.g., mental health, trauma, stroke).
   - Emphasis within this model on integration of EMS within the health care system, EMS-based community health service opportunities and program development, and the use of local health service resources as clinical and practical skills development settings.
   - Emphasis within the national model on the adult, non-traditional student.
4. Development of a national model to enhance career mobility within EMS practice levels, and between EMS and other health professions, to enhance the ability of rural/frontier areas to retain health workers who wish to gain new skills or advance or change health careers.
5. Emphasizing optimal interdisciplinary care of the ill or injured patient, including complex event management such as cardiac arrest and multiple casualty incidents.
6. Subsidization of training courses and continuing education programs and the instructor, equipment supply, and technical assistance infrastructure necessary to make them accessible to rural/frontier areas.
7. The use of interoperable systems of telemedicine and distance learning to improve the accessibility of training courses, effective quality improvement, and continuing education programs.
8. Incentives to increase the involvement of university medical centers and area health education centers to provide outreach educational programs to rural and frontier areas.
9. Recognition of the need for flexible scheduling to accommodate the lifestyle realities of rural volunteers.
10. Improved rural/frontier accessibility to training programs in emergency medical dispatch, critical incident stress management, and occupational safety training, as well as continuing education programs with curriculum content geared to rural/frontier application as appropriate.
11. Improved rural/frontier accessibility to a training program for service managers which includes EMS leadership, public and elected official advocacy, public education, grant-writing, data collection, research, governing board management, and volunteer management among other topics.
12. Encouraging the development of realistic, dynamic patient simulators and mannequins for case-based and psychomotor skill training and critical-decision making improvement. Support for the development of patient simulator outreach programs.
13. Development of state/regional stockpiling, and sharing of expensive training devices such as mannequins and patient simulators.
14. Ongoing assessment by rural/frontier EMS agencies and local hospitals of their resources and needs, and searching for common educational opportunities.

PUBLIC INFORMATION, EDUCATION AND RELATIONS

October, 2009 *— As part of the Chamberlain community emergency medical services assessment coordinated by the State EMS office at town and tribal leaders' request, staff used the opportunity to educate community members on the EMS system alternatives available in similar communities. Members of the Chamberlain Town Council and leaders of tribal EMS were sent several documents provided by the Rural EMS and Trauma Technical Assistance Center (REMSTTAC) on EMS system models, costs, and implementation strategies. Based on the assessment results, the leadership group chose a community advanced levels model that merged tribal EMS and Chamberlain Ambulance, and eventually became Western Mountains Ambulance and Rescue.*

Members of the community were kept informed about the new service through regular mailings. They were also provided a document on how to "Make The Right Call", which is part of a federal program to inform citizens on the proper use of 9-1-1 and access to emergency services. More recently, EMS leaders have engaged in a program, through WMAR staff, to educate the community members on injury prevention, under a program called "Safety Advice from EMS (SAFE)". As part of their public health mission, the WMAR Public Information Officer writes a monthly health column in the local newspaper to address health risks. Tribal and Chamberlain community members participate in monthly local EMS advisory committee meetings to provide input and support. A year after WMAR was formed, the EMS advisory committee conducted a review of WMAR operations. This included a comparison of baseline response and patient care information from the original assessment compared with the same measures from WMAR Quality Improvement data generated over the past year.

> *"...Despite the last 30 years of experience and an intense media profile, EMS remains mostly a mystery to public. They know we will show up when the call 911 but the public knows very little about who we are, how we are organized and funded, and quality in the system. If we are to assure the promise of a modern EMS system in the future, we need to make sure the community knows the intricacies of the challenges we face in delivering the promise. If our ultimate goal is to add value at every step of the patient interaction process–before, during, and post event our PIER program must be as sophisticated as the clinical care we bring to our patients. Our public interface must be designed to add value, not only to the individual patient, but all the potential patients — the community we serve...."*
>
> — Tom Judge, CCT-P, Executive Director, LifeFlight of Maine

From 1996 NHTSA *EMS Agenda for the Future* on "Public Information, Education and Relations":

> *"Public education, as a component of health promotion, is a responsibility of every health care provider and institution. It is an effort to provide a combination of learning experiences designed to facilitate voluntary actions leading to health."*[49]

WHERE WE ARE

A statewide consumer survey in a rural state in 1993 indicated that 87 percent of respondents expected Paramedic-level care if they had a heart attack and called EMS.[85] There is little reason to believe that this is an atypical expectation in 2004 for residents of rural/frontier areas, given the popular media portrayal of EMS care. It suggests a major disconnect between the service level expected and that actually delivered in areas where EMS is heavily dependent on volunteers and limited to primarily basic life support care.[68,76] There is poor understanding among town and county executives and elected officials at all levels of the cost and benefit considerations of EMS. An on-going NHTSA project is aimed at being better able to gauge community value placed on EMS.

Two state EMS offices have piloted community technical assistance team processes, where expert teams come to a community and evaluate the local EMS system.[86] Similar assessments have been performed of two tribal EMS systems and others by public and private organizations in other states.[87] These processes involve not only the EMS providers but local leaders and interested community members, thus providing them with a clear picture of what EMS can do, and what might be required to make improvements.

The National Highway Traffic Safety Administration has a long history of supporting activities to enhance the public's knowledge and appreciation of EMS. It partners with the American College of Emergency Physicians in promoting a nationwide "EMS week" recognition every year. Materials for this event are made available to all EMS provider services to conduct their own community-level events. NHTSA has also recently updated its Public Information, Education and Relations (PIER) training program, which has been a valuable resource to EMS providers for several years. It also offers injury prevention curricula for use by EMS providers ("Safety Advice from EMS (SAFE): A Guide to Injury Prevention," bystander care ("First There First Care" — developed in cooperation with IHS) and public access ("Children: Make the Right Call") educational materials.

The EMS for Children program at HRSA has generated many public education activities throughout the country over the years. These are available through the EMSC national resource centers. Other agencies and organizations, such as the American Red Cross and American Heart Association, have programs and materials geared to making the public better prepared to prevent and respond to medical emergencies.

Unfortunately, in communities served by volunteer EMS providers, there is a lack of EMS management, personnel and financial resources to take advantage of programs and materials such as these to conduct effective public education. The focus of these volunteers is primarily on staffing the ambulance for emergencies, keeping up with necessary training, and raising funds to stay in operation.

Most rural and frontier EMS personnel are known in their communities and garner credibility in health matters beyond just emergencies. This credibility is tempered by the provider's own health habits. This "health expert" status can be effective in trying to educate the community in health and medical and EMS system use issues. It can also limit EMS system advancement where the "experts" lack motivation or ability to provide care at a higher level, and stand in the way of others who might attempt to do so.

Rural/frontier areas are experiencing increases in minority populations,[24] which increase need for addressing cultural competency in the provision of EMS and in communicating effectively on the appropriate use of EMS and other community health services.

WHERE WE WANT TO BE

Every rural/frontier community has the opportunity to have a community EMS system assessment including an objective technical assistance team visit whose members come from outside that community. This assessment will provide baseline information for community leaders about the current capabilities of their local EMS. It will put this information in context with state and national standards of care and system capability. It will also present alternative models used in similar communities with their attendant cost/benefit considerations. The "informed self-determination" process then provides that information to the community. Finally, it guides community decision-makers in determining the type and level of EMS that it desires and the means with which it is funded.

As a result of informed self-determination, communities without access to systems of advanced levels of care, and/or that have difficulty raising sufficient crew to always respond, devote financial resources and/or find alternative methods of making more

effective use of existing resources (e.g., community paramedicine approach or combination of other community jobs) to increase levels of care and staff availability.

Annual EMS system evaluations are done by a local team including community members and local leaders, using the standards, recommendations, and baseline data contained in the original community EMS system assessment report. These evaluations are shared with the community, along with public education on the appropriate use of the EMS system.

Increased EMS staff availability in the community affords sufficient staff time to use nationally available EMS and health promotion public education resources to conduct effective programming in areas identified by the community EMS system assessment process, and by local public health and other agencies as areas of particular local need. These activities incorporate consideration of locally-specific cultural competency in the provision of EMS and in communicating effectively on the appropriate use of EMS and other community health services.

HOW TO GET THERE

Federal EMS partners should support the National Association of State EMS Directors and the National Organization of State Offices of Rural Health in considering the variety of experience across the country in community-level EMS system evaluation, and creating a national model for easily transferable community EMS system assessment and informed self-determination processes which may be offered through states to local communities. Community EMS evaluations of should assess opportunities to establish EMS-based community health services.

Congress and the states should appropriate funding annually, to assist states in implementing these community EMS system assessment and informed self-determination processes in rural and frontier communities. The Rural EMS and Trauma Technical Assistance Center and NASEMSD should be utilized to assist states in their delivery. Local EMS system development funding from state and federal sources should be contingent upon progress in completing and implementing the results of community EMS system assessments.

Federal and state EMS offices, in partnership with public health agencies, should continue to develop and distribute public information resources to local EMS providers to be tailored for local use. These materials should incorporate consideration of cultural competency issues. The NHTSA PIER and SAFE programs should be continued and widely disseminated. The Rural EMS and Trauma Technical Assistance Center should evaluate available EMS and other health-related public education resources appropriate to rural/frontier areas and make them known and available.

As with EMS week activities and materials, Federal partners should create on-going EMS public education activities which may tie in with state and local ongoing activities through the use of common themes and logos. Local EMS agencies should be pro-active in utilizing these materials to raise the profile of their service, to recruit members/employees, and to improve public understanding of the EMS system and its purpose and capabilities.

RECOMMENDATIONS

- Develop a national template for community EMS system assessment and informed self-determination processes to help communities determine and be accountable for their own EMS type, level and investment.
- Fund processes for community EMS system assessment and informed self-determination. Consider regional and statewide resources (e.g., aeromedical services) in implementing these processes.
- Federal and state EMS agencies, in partnership with public health agencies and national organizations, should continue to develop and distribute data-driven public information resources to local EMS providers which are coordinated with national campaigns but can be tailored for local use and cultural considerations. Develop materials which target the potential community volunteer pool, highlighting the educational and other benefits to volunteers and the benefits to businesses that support volunteers.

PREVENTION

October, 2009 *— WMAR staff participate regularly in community prevention projects to help reduce morbidity and mortality within the community. As part of their EMS-based Community Health Services (EMSCHS), EMS staff provide services ranging from home and playground safety checks, to community wellness and diagnostic clinics, homebound and hospice support visits, and hospital post-discharge follow-up care. These activities are reimbursed through private and public insurance providers. Other agencies, like the State Department of Transportation, provide funding to support prevention programs, such as WMAR's car seat safety program. The federal Regional Injury Control Research Center assists WMAR in establishing, funding, and evaluating other prevention activities.*

Paramedic Sheila Paul and EMT Pat Dawson are among several Paramedics and EMTs in the WMAR service who participate in the EMS-based Community Health Services. Most of the EMSCHS providers are paid full-time staff, but some of the volunteer EMTs and EMT-Intermediates regularly participate as their personal lives allow. Each has a specific set of services that they are qualified to provide by virtue of their EMS training. In some cases the knowledge or skills required are expanded through training by their EMSCHS medical director who is a family practitioner at both the Chamberlain Valley and tribal health clinics and who works closely with Dr. Dean, their EMS medical director. In all cases, their medical directors delegate to them the ability to provide those services, whether it as an extension of the state's EMS practice and protocol system for EMS calls or a delegation of his own licensed medical practice.

The EMCHS has been able to educate special populations including children and the elderly in such areas as poisonings, falls, electrocutions, and playground safety, using readily available materials and programs from state and national organizations and agencies. The WMAR uses every opportunity to prevent unintentional injury through courses in schools, associations, and community meetings. While it will take time to determine the overall impact of these programs, and share these findings with local and state officials, the prevention activities have been extremely successful in helping responders know and understand community issues and in getting community members to know and understand the EMS service and its capabilities.

> *"Preventable disease and injury are key public health priorities at a community, state and national level, and growing attention to these issues has led to the development of health objectives (such as Healthy People 1010) and associated planning at all levels. Rural America is not immune to unintentional injury and violence, and the aging rural population brings with it an increasing burden of chronic disease. In rural areas, EMS should and must play an important role in alliances committed to enhancing community health through prevention of disease and injury".*
>
> — Chris Tilden, Director, Kansas Office of Rural Health

From 1996 NHTSA *EMS Agenda for the Future* on "Prevention":

> *"Prevention provides an opportunity to realize significant reductions in human morbidity and mortality — all with a manageable investment. Engaging in prevention activities is the responsibility of every health care practitioner, including those involved with the provision of EMS."* [50]

WHERE WE ARE

As federally funded prevention programs have passed through our communities and states over the past 30 years, EMS providers have participated to varying degrees, but rarely as a central component of their mission. The Indian Health Service community-based Injury Prevention Committees, on the other hand, are an example of 25 years of successfully perpetuated prevention activities that have included tribal EMS as members.

When state EMS offices have taken a role in the dissemination of a prevention program, there seems to have been the most widespread penetration among EMS services. Examples of these activities include:

- Playground safety evaluation
- Infant/child car-seat sizing and distribution
- "Prom night" and "shattered dreams" drunk driving consequences demonstrations for teens
- "Buckle up" teaching in schools and communities
- CPR and first aid training in schools
- Blood pressure clinics
- Home-safety evaluations
- Teen suicide gatekeeper programs
- Farm equipment safety for farm families and workers
- NHTSA "Safety Advice From EMS" injury prevention programs for the public
- Injury Prevention In A Bag" resource kit for EMS providers

EMS providers in small communities are often looked to as authorities on health matters beyond emergency care, and have the potential to lend credibility to prevention messages. That credibility is affected, however, by the providers' own health habits. In rural/frontier areas, where personnel, and especially volunteers, are at a premium, insistence upon or promotion of good personal health behavior is not common.

WHERE WE WANT TO BE

In communities where the need for adequate EMS staffing has been addressed, community EMS staff serve as, or work closely with, formal local health advocates and are linked to community and regional health resources (e.g., transportation, mental health, food/shelter, substance abuse, weight control) for referral purposes. Needs assessments, conducted with community input, and community health surveillance determine the areas of primary focus, respecting cultural variety and needs.

Health plans, state and private agencies, and other promoters/providers of prevention services routinely work through local EMS staff to get their messages and services to the community.

Community EMS staff in these roles also serve as health advocates and safety officers for their EMS colleagues. They not only facilitate and enforce occupational health and safety requirement compliance, but actively seek incentives for members to pursue healthy habits. "Perks" for volunteering for, or being employed by, the EMS service may include health club memberships, or discounts on recreational equipment or access.

Prevention is built into EMS job descriptions and initial training curricula. "Are you safe to work on an emergency scene?" becomes as important a consideration as "is the scene safe?"

HOW TO GET THERE

As local EMS providers acquire staff to augment volunteers in an EMS-based community health service capacity, one of the roles of these professionals will be prevention. Health plans and other payers should be pursued to financially support local EMS providers to serve in an on-going prevention role as field workers and organizers, as well as other EMS-based community health service capacities in partnership with other healthcare system participants.

Programs funding and/or promoting the existence of community health advocates/ promoters should be encouraged to use EMS staff wherever possible. Local and state EMS agencies should communicate regularly with their public health counterparts to discover new ways that local EMS may help the latter's mission. Local and state EMS leaders should partner with public health, traffic safety and other counterparts to explore CDC, NHTSA and other funding sources that might support prevention projects and programs.

National organizations whose mission is one area of prevention or another should be encouraged by EMS leaders to collaborate in channeling their messages, materials, and financial support through local EMS.

The National Highway Traffic Safety Administration and all EMT training and education entities and EMS service and educational accreditation entities should include provider health, safety, and prevention content in all curricula, standards for curricula, and standards for EMS service and educational institution accreditation.

RECOMMENDATIONS

- Make prevention one of the EMS-based community health service roles of adequately staffed rural/frontier EMS provider agencies.
- Among local, state, federal and national EMS and public health agencies (and other agencies with prevention roles), cooperatively develop and fund community health advocacy roles and prevention programs for rural/frontier EMS personnel that are mutually beneficial.
- Federal agencies and national organizations with prevention roles should channel existing programs through state EMS agencies to local EMS provider agencies.
- Provider agency policy/procedures and innovative incentives, EMS curricula, and accreditation and other standards target EMS provider health, safety and prevention.

PUBLIC ACCESS

***October, 2009** — WMAR has been instrumental in advising the tribal community to install emergency call boxes in frontier areas of the reservation so that all people can access emergency services. These were also successfully placed on isolated areas of the interstate that traverses the community. These call boxes are automatically routed to the regional public safety answering point (PSAP) 9-1-1 call center located at Centertown Hospital. The PSAP provides emergency medical dispatch for all 9-1-1 calls, assuring that life-saving priority medical instructions are given to callers prior to the arrival of emergency responders. Responders are also kept up to date during the response by the trained dispatchers, who enter new call-related information to be displayed on their EMS^{2}screens in the ambulance. The crew is advised on patient condition from crashed vehicle ACN units or bystanders, on obstacles and best routes from roadside telematics devices, and on the level of response or status of specialty responders that may be needed.*

WMAR's new event and resource monitoring system (EMS^2) keeps all EMS staff fully aware of EMS activities that occur daily allowing them to see how the community is accessing the EMS system. During check-in, staff are updated on schedules and events, hospital and specialty responder status and all operational responses that are currently underway. Maps are available on the computer screen for access to all locations, but these are particularly useful when responding to special populations, such as assisted living homes, retirement centers, and developmentally disabled homes. Special instructions are also loaded into the system on how to access protected communities and locations. The system is able to track discharged patients and monitors home health units for emergency purposes.

> *"The focus of public access/communication must be the ability to secure prompt and appropriate EMS care regardless of socioeconomic status, age or special need. once the initial access occurs, the focus switches to ensuring continuous communication among all entities involved until the event concludes".*
>
> — Fergus Laughridge, Program Manager, Emergency Medical Services, Nevada State Health Division

From 1996 NHTSA *EMS Agenda for the Future* on "Public Access":

> *"The focus of public access is the ability to secure prompt and appropriate EMS care regardless of socioeconomic status, age, or special need. For all those who contact EMS with a perceived requirement for care, the subsequent response and level of care provided must be commensurate with the situation."*[51]

WHERE WE ARE

The further one is from an emergency medical facility, the more one may need an advanced level of local EMS capability. It is also less likely that that EMS capability will be available. Long distances, poor roads, austere terrains and extremes of climate are barriers to EMS access over which EMS planners have little control. For an increasing array of patient conditions in remote settings, chest pain for example, aeromedical resources may become the most appropriate choice. Other access barriers are attributable to remediable issues such as manpower, general financing and integration of services, and are dealt with elsewhere in this document. Below we focus on telecommunications systems barriers to access.

In rural/frontier settings, the need for residents to have telecommunication access to emergency services is more acute than in settings where fire boxes and close neighbors provide alternatives access. The 1999 U.S. Census Housing Survey indicates that 12 percent of rural occupied housing units to be without telephone service. Commercial systems for emergency alerting for the homebound, elderly and others ("Help, I've fallen and can't get up" systems) are growing rapidly, but are largely dependent on the availability of landline telephone systems. Other remote health monitoring capabilities are being developed but may be similarly constrained in rural/frontier areas.

In the United States at large, 93 percent of the population and 96 percent of the land is covered by Enhanced 9-1-1 hardwire (as opposed to wireless) service.[88,89] Some 407 counties and tribal nations still have no 9-1-1 service, or have only a basic voice response with no automatic data on the caller's location or call back number.[89] The Federal Communications Commission reports that while 65 percent of the nation's 6,000 or more emergency call centers have the ability to receive wireless 9-1-1, only 18 percent can determine the precise location of wireless callers to 9-1-1.[88]

Enhanced 9-1-1 (E-9-1-1) systems could and should have the ability to identify the physical location of the source of a 9-1-1 call, but all too frequently addressing of physical locations has not been adequately done. This means that rather than assigning specific systematic and mapable addresses to every location from which a hard-wired telephone call might be received, old address information (e.g., a rural delivery route or box number) may be used, jeopardizing the effectiveness of the E-9-1-1 system.

Where cellular service is available, increasing reliance on that technology for access to emergency services is shifting the balance between calls received in this manner and calls received from hard-wired phones. Nationwide, over 30 percent of emergency calls to 9-1-1 centers are now made by cell phones, with that number expected to exceed 50 percent in 2005.[88, 89] This means that while E-9-1-1 is finally present in a majority of areas, it is being decreasingly used.

While initial issues of assigning cellular emergency calls from specific cell towers to specific public safety answering points have been largely resolved, adoption of technology (Wireless Enhanced 9-1-1 or WE-9-1-1) to allow a cellular caller's location to be identified has been slow despite FCC deadlines encouraging it. Cellular service providers may elect to determine a cell phone's location by an imbedded GPS device in the phone or by triangulation among cell towers. This data is then to be passed to Public Safety Answering Points (PSAPs) along with the cell phone number identifier. Service providers have been slow to make and implement these elections despite penalties imposed, and PSAPs have been slow to implement changes to enable them to accept this data.

While cellular telephone service, and those Automatic Crash Notification services dependent on cellular service, are becoming more dependably available in rural areas, particularly along major interstate roads, their presence is less reliable or absent in frontier areas and many pockets in rural areas that are served by smaller roads and/or are blocked by topographical features.

Automatic Crash Notification systems rely on a mix of cellular and satellite communications, the latter suffering the same problems of coverage gaps as handheld cell phones. These ACN systems have already demonstrated their value particularly in isolated areas, but there remains a need for these technologies to be effectively integrated with EMS systems so that their potential may be realized.

Some areas are served by emergency call box systems. The proliferation of call box devices, and indeed funding for maintaining current call box systems, may decline because of an increasing availability of cellular and satellite technology. As the Rural Automated External Defibrillator (AED) and other programs make public access to such response resources available, some communities are publicizing their availability, while others may not.

Emergency Medical Dispatch (EMD) capability remains unavailable at many PSAPs and dispatch centers. This may delay decision-making about the dispatch of appropriate EMS resources and, therefore, the public's access to them. Further, in these areas, the public has no access to pre-arrival medical instruction, a particular difficulty where response is prolonged. In areas that have not centralized PSAP services, there may be limitations and variability in PSAP staff ability to deal effectively with foreign language callers and other issues of cultural competence. There is confusion in some areas about what specialty resources are available, such as aeromedical services, who may summon them and what their dispatch protocol is.

While enrollees of some health plans have access to health advice call centers, this is less common in rural areas where medical insurance coverage is becoming less affordable and/or available. Regardless, the integration of Emergency Medical Dispatch services and such health advice services rarely exists to effectively assure that a caller receives the appropriate type and level of care for the circumstances about which they are calling. This may result in undertriage and delay in access to needed emergency care, or overtriage with scarce EMS resources needlessly made unavailable.

WHERE WE WANT TO BE

All households have telephone or other direct telecommunication access to basic emergency services. Anyone with hard-wired telephone service has Enhanced

9-1-1 service that includes all physical locations reliably identified in the PSAP database and able to be usefully mapped for local responders. Wireless 9-1-1 callers can be accurately and rapidly located, and Automatic Crash Notification systems are well-integrated into EMS systems, providing the right amount of crash-related data to those in the EMS system who need it, when they need it.

All callers, regardless of the call method employed, are provided Emergency Medical Dispatch service, which quickly determines and dispatches, or connects the caller to, the right level and type of response. This EMD service is well-integrated into health event advice call-lines which serve to quickly transfer callers who require 9-1-1 response, and as a resource for those who called 9-1-1 but do not require such response. These advice lines may be operated by primary care sites (including certified rural health clinics, community health centers, private physician offices, and other ambulatory care settings), hospitals, or others, as long as they use proven health advice expert resource tools (e.g., algorithmic health advice software) and have no economic incentive to defer referral to higher levels of care. The EMD system includes a comprehensive list of specialty services, such as aeromedical, and their protocols for dispatch. The EMD system utilizes formal telephone treatment protocol and not informal "telephone aid". All PSAPs can handle callers effectively regardless of language spoken and other cultural competency issues that may arise.

Maintenance of existing call-box systems on roadways and development of new call-box systems is carefully considered in areas where the economic incentive to develop satellite or cellular communications lags. Locations of AEDs and access to other specialty care resources are well-known to residents, and their appropriate use in the overall response to an emergency is understood.

HOW TO GET THERE

Local and state governments and public utilities should provide the resources that assure basic telephonic or other access to 9-1-1 emergency services and completion of Enhanced 9-1-1 systems including reliable physical location addressing. State governments, particularly their public safety and homeland security agencies, should take a leadership role in the completion of Wireless Enhanced 9-1-1 systems, including all geolocation capabilities.

State EMS directors and medical directors should take a leadership role where development of fully operational Enhanced 9-1-1 and Wireless Enhanced 9-1-1 systems lags. The patient-centered, medical leadership model may succeed where other attempts have not.

Providers of Automatic Crash Notification services should continue to involve EMS systems developers, such as state EMS directors and medical directors, in determining how, when, where, and what ACN data will be employed to best serve emergency patient needs. Explore Department of Defense and Intelligent Transportation Systems technology to improve public access to EMS.

Federal and state governments should encourage the development of, and/ or access to, health event advice call lines and their integration with PSAPs and other EMD centers. NHTSA and other agencies should continue to assure the existence of public domain EMD systems as options for PSAPs and other communications centers with limited financial resources.

All PSAP and other dispatch centers should have effective EMD systems that are well-integrated with EMS response systems to enable quick, effective decisions about appropriate type and level of medical response. They should also serve to provide pre-arrival instruction. Regionalization/centralization of PSAPs should be considered as a means of being able to reliably incorporate effective technology and EMD and to address foreign language and other cultural competency issues.

Homeland security and other federal funding for any PSAP or other dispatch center development should be contingent upon proof of the ability of that center to accept and use Enhanced and Wireless Enhanced 9-1-1 data, and to assure a system of EMD available to all callers to that center. Any funding made available to PSAPs which fall short of these capabilities should be dedicated to addressing those deficiencies as the first priority.

Federal and state highway safety officials should evaluate the utility of roadside emergency call boxes and their further deployment versus expanded ACN and cell tower deployment in areas not now reliably served by cellular services. State EMS offices should encourage appropriate public notification of the location of public access defibrillators and other public access emergency care resources and public education in their appropriate use in the overall response to an emergency.

As home health monitoring devices and automated remote diagnostic technology develop, EMS leaders should pursue roles for EMS in their use to further EMS-based community health service approaches to staffing problems in rural/frontier areas.

RECOMMENDATIONS

- Assure telephonic or other access to completed Enhanced 9-1-1 (i.e. including accurate physical addressing) and Wireless Enhanced 9-1-1 (i.e. with geolocation of the calling device) through effective federal and state programs, mandates and funding.
    - State EMS offices should consider a patient-centered, medical leadership initiative to encourage E-9-1-1 and WE-9-1-1 system completion where other approaches have failed.
    - Federal funding for state and local public safety communications development should consider progress toward E-9-1-1 and WE-9-1-1 systems completion.
- Public Safety Answering Points should manage the 9-1-1 call system efficiently and effectively without redundancy (except as created for back-up protection), and assure a coordinated response across traditional, geographical, and jurisdictional boundaries.
- Integrate Automatic Crash Notification (and other Intelligent Transportation System and Department of Defense technology) and health event advice lines into the process of EMS public access and EMS resource deployment.
- Provide formal Emergency Medical Dispatch to every caller seeking EMS.
- States should establish formal plans for roadside call-box, satellite, and/or cellular networks to effectively cover all rural/frontier primary roads.
- State EMS offices should assure appropriate integration of AEDs and other public access emergency medical device into EMS systems.
- As home health monitoring devices and automated remote diagnostic technology develop, EMS leaders should pursue roles for EMS in their use to further EMS-based community health services.

COMMUNICATION SYSTEMS

October, 2009 *— In addition to the EMS[2] computer system used by the WMAR responders to communicate and monitor resources and events regularly, they also participate in the statewide EMS Communications System. The System tracks all EMS communications at a central State Radio Communications Center 24 hours a day, 7 days a week. Trained emergency medical dispatchers route communications via land line to any telephone or radio, connecting EMS personnel with physicians or hospitals for direct on-line medical oversight. All emergency responders are trained in the use of the system through regular trainings offered through the State EMS Office.*

WMAR utilizes a tiered approach to ambulance response and the use of advanced level providers. Dispatchers page first responders, when available, to provide the quickest level of EMS response. Ambulance resources are paged out simultaneously but may take longer to respond since their bases are even further from the incident. Air ambulance services may be accessed by any EMS responder in the system and are frequently put on alert by their EMS[2] system when 9-1-1 calls are received that may indicate a critical care level of response and rapid transport. Dispatchers throughout the State are licensed to provide emergency medical dispatch to 9-1-1 callers, and to provide critical response information to EMS responders. Communications are assessed during monthly local quality assurance meetings at WMAR.

> *"In over 20 years of EMS I do not recall that I have ever spoken directly to a dispatcher through the radio system."*
>
> — Larry D. Goldsmith, NREMT-I; Lemmon (South Dakota) Ambulance Service

From 1996 NHTSA *EMS Agenda for the Future* on "Communication Systems":

> *"Contemporary EMS systems and its personnel rely as heavily on their communications systems as they do on any other resource available to them. Effective communications networks provide: access to the EMS system, dispatch of EMS and other public safety agencies, coordination among EMS and other public safety agencies, access to medical oversight, communications to and between emergency health care facilities, communications between EMS and other health care providers, and outlets for disseminating information to the public."*[52]

WHERE WE ARE

Communications between those seeking EMS and dispatchers, between dispatchers and EMS responders, between EMS responders and other responders, and between EMS providers and sources of medical oversight encounter unique barriers in rural/frontier settings.

Long distances and topography interrupt communications between communications points such as public safety answering points (PSAPs), ambulance bases, and hospitals whose locations are known, and others such as callers and responders whose physical locations are often unknown or known only to themselves in the vast response area.

When EMS communications systems were developed in the early 1970's, certain Very High Frequency (VHF) and Ultra High Frequency (UHF) radio frequencies were allocated within a "Special Emergency Radio Service" designation which reserved them for EMS or other public safety purposes. Radio equipment was purchased with early EMS system development funds created by the EMS Act of 1973 (PL 93-154), and by similar era law enforcement radio systems development funds. Surveys of state EMS directors in 2000 and 2004 indicated that "communications equipment" is the greatest capital need in their rural EMS systems, and "communications" rose from the 11th most important rural EMS issue in 2000 to the 3rd most important issue in 2004.[73]

Rural/frontier EMS and its dispatch service providers still depend on this now aging infrastructure, which includes both increasingly crowded radio frequencies and decreasingly reliable radio equipment. While more urban settings have been forced to deal with these issues and have been able to adopt new, expensive solutions, such as 700 and 800 Megahertz trunking systems, these have only in recent years become rural/frontier issues for providers who find these urban solutions financially or operationally out of reach. EMS and dispatch providers in many locations therefore have adopted ad hoc technology to supplement or replace existing technology. Examples include:

- **Transition to cellular technology**: particularly attractive because of its affordability, the industry's willingness to "cut good deals" or give away service to public safety agencies and the perception of added communications privacy for patient-related discussions. Yet cellular technology has proven unreliable for the same distance and topography related reasons as radio, and is subject to unavailability when a major emergency event causes system overload by those in proximity to the event.
- **Transition to VHF low band**: available frequencies underused in rural/frontier areas have been adopted by public safety providers. An effort by electrical service carriers to bring broadband telecommunications to rural areas over power lines may jeopardize these low band capabilities.

Additional frequencies within the wireless communications spectrum are being created by narrowing the distances between assigned frequencies. To accomplish this, new radios capable of transmitting and receiving on those new, more narrowly separated frequencies must be employed. The FCC is encouraging this "migration" to new frequencies by setting deadlines after which older equipment can no longer be licensed. In the interim, if an FCC license holder fails to renew its license in a timely manner, it will not be allowed to relicense its older piece of equipment at all. This forces a costly purchase of a new unit which then may not be capable of communicating with other, older radios in their local system. Small rural hospitals and volunteer ambulance services may be most prone to encounter this problem because of a lack of personnel to attend to radio relicensing.

The 1996 NHTSA *EMS Agenda for the Future* reported that 14 states had statewide EMS communications plans.[90] A 2001 National Association of State EMS Directors Survey indicated that 21 out of 32 respondent states have such a plan.

Dispatch service providers in rural/frontier areas are often law enforcement based. In the past 30 years, some practices of these providers inconsistent with modern EMS response, such as sending a sheriff patrol car to "check out" the need for an ambulance before dispatching one, have faded from the scene. But others, such as not adopting a formal emergency medical dispatch (EMD) system, alleging that it would increase complexity, liability, and need for additional personnel, remain in many areas as barriers to the effective use of EMS resources. The availability of an organized EMD capacity is particularly important in rural/frontier areas, where decisions about dispatch of appropriate resources to geographically distant scenes must be accomplished early, and pre-arrival support of callers for extended periods may be especially useful. While NHTSA has historically provided access to free materials for EMD implementation, many training and development programs available nationally are expensive.

Many rural/frontier PSAPs and dispatch centers lack automated dispatch capacity to track EMS resources, making even rudimentary system status management difficult. Rural/frontier EMS providers often do not know the status of resources that they may need until they are needed. The availability of medical first responders and other additional personnel, ALS back-up, helicopter or extrication equipment response, additional ambulances, and hospital emergency rooms may be unknown until access is attempted.

In the domestic preparedness arena, efforts have accelerated to develop national and statewide alerting capacities. The ComCARE Emergency Provider Access Directory project seeks to create a non-proprietary device to appropriately alert responders to all nature of emergency on larger scales.[91] The Health Alert Network maintained by states is another system with EMS impact.[92] The ITS America Public Safety Advisory Group published *"Recommendations for ITS Technology in Emergency Medical Services"* in 2003 which addresses the integration of emerging intelligent transportation system (ITS) technology into EMS system planning.[93] Its content has specific potential impact for rural/frontier EMS. Nationally and on the state level, EMS is just beginning to be recognized as its own entity in communications planning and interoperability discussions.

WHERE WE WANT TO BE

Providers of EMS dispatch service are, or are connected to, public safety answering points that have the ability to fully use Enhanced 9-1-1 and Wireless Enhanced 9-1-1 capabilities, including caller geographic location, and are well-integrated into vehicular automatic crash notification (ACN) systems. These PSAPs and/or dispatch points have a fully operational emergency medical dispatch program that is routinely reviewed for quality improvement.

Well-integrated radio, cellular and other telecommunications systems provide robust and redundant service for both emergency and EMS-based community health service purposes. There are no communications blind spots that prevent required caller access,

dispatch, inter-agency, hospital notification, or medical oversight communications. All radio equipment is forward and backward compatible and affords full interoperability among users.

Every agency or facility with an EMS responsibility has an "EMS event monitoring system" ("EMSEMS" or "EMS2"). This consists of a computer, mobile data unit (MDU), and/or personal data assistant (PDA) screen or similar technology that encompasses its general geographic area of responsibility. This screen marks and labels all EMS and related resources. Selecting an icon reveals details about the availability of those resources. The screen locates an EMS call by type (e.g., cardiac) as soon as the PSAP enters it into its system. Information on the type of call, patient(s) status, and disposition can be obtained by looking at, or selecting the event icon-label. The screen updates the information available about the call as new data is entered by dispatch and response personnel, or by ACN/AVL and other notification systems. Hospital staff, aeromedical responders, and other EMS resources use the screen to anticipate their involvement in an EMS event and/or to call in additional resources. Physicians providing medical oversight click on icons to get real-time patient data and EMS crew capability upon which to base their orders.

Telemedicine and electronic patient monitoring and reporting technologies fully support emergency and EMS-based community health service operations.

State and national EMS leaders are involved in all planning processes concerning communications interoperability and system development.

HOW TO GET THERE

State EMS offices, with federal support and local cooperation, should conduct comprehensive EMS communications needs assessments and implement programs to address changing frequency management, telecommunications technology, and aging infrastructure. Results of these assessments should guide federal, state, and local investment in communications infrastructure improvement including access to Internet, and enhanced links to telehealth for clinical care consultation and distance learning resources.

The Universal Service Program fund, which helps support telecommunications for many rural health providers, rural schools, and rural libraries, excludes EMS providers. Congress should change the authorizing language to include rural/frontier EMS access to this program.

The Federal Communications Commission, frequency allocation agencies, and other national public safety communications organizations must work to assure that rural/frontier EMS communications are enhanced and not interrupted by the process of migration to narrower bandwidths and increased numbers of frequencies. Radio spectrum should again be dedicated to EMS and other public safety use.

Innovative communications and resource management technologies, including the EMS emergency monitoring system (EMS^2) concept, and satellite, cellular, and telemedicine should be explored by EMS leaders and supported by federal and state funders The Health Alert Network, the ComCARE Emergency Provider Access Directory (EPAD), and other models or programs to enhance provider alerting to EMS events should all be encouraged.

State and national EMS leaders should pursue every opportunity to participate in federal (e.g., FCC, DOJ, DOC, DHS, DOT,DOD) and state (e.g., public utilities or service commissions) planning processes on communications interoperability. The federal government should encourage discussions between EMS leaders and the Department of Defense and other federal agency developers of state-of-the art communications capabilities to explore EMS application of such technology.

Developers of Automatic Crash Notification and other intelligent transportation system technologies should continue to work with EMS leaders to promote smooth integration of these technologies into EMS systems. The ITS America Public Safety Advisory Group "Recommendations for ITS Technology in Emergency Medical Services" should be implemented.

RECOMMENDATIONS

- Conduct comprehensive state EMS communications needs assessments upon which to base federal, state, and local investment in communications infrastructure improvement.
- The Universal Service Program fund, Federal Communications Commission, frequency allocation and other national public safety communications organizations and agencies should work to assure that rural/frontier EMS communications are enhanced.
- Rededicate radio spectrum to EMS and other public safety use.
- Explore EMS applications of innovative communications and resource management technologies. Encourage federal and state agencies to provide pilot funding and access to their agencies' technology developers and resources for this purpose.
- EMS leaders should continue to develop ongoing paths of communication with state and federal telecommunications interoperability and Intelligent Transportation Systems industry planning entities.

CLINICAL CARE AND TRANSPORTATION DECISIONS/RESOURCES

***October, 2009** — Residents of the most rural areas surrounding Chamberlain benefit from the new state policy that allows licensed paramedics to respond by private vehicle. WMAR received federal funds to purchase and trial a "sport light" aircraft for Paramedic quick response to several response areas isolated by hills, valleys and poor roads. By ground or air, these Paramedics respond with jump kits that contain controlled substances, as well as life saving supplies and equipment. This has dramatically decreased response times and improved treatment outcomes for residents and visitors requiring EMS in these remote areas.*

Based on discussions between the medical director, EMS agencies, and hospitals within the collaborative network, transportation decisions have been carefully evaluated against clinical protocols, allowing any patient to receive the right level of care and transportation to the most appropriate facility. WMAR's regular participation in monthly quality improvement reviews with its medical director and staff at Centertown Hospital, along with the Regional Trauma Advisory Committee, have led to revised prehospital treatment and transportation protocols for victims of trauma and stroke. Based on the revised protocols, WMAR may activate air ambulance intercept or bypass Centertown Hospital for speedier transport to regional trauma centers and stroke centers.

> *"Many times our providers respond to patients whom we can see, but are difficult to obtain access to, much like our ongoing efforts to strive for the solutions of the Rural/Frontier challenges of time, distance, staffing and cost. We need to overcome the mindset 'You can't get there from here.'"*
>
> — Bethany Cummings, DO, EMS Medical Director, Winchester, Virginia

From 1996 NHTSA *EMS Agenda for the Future* on "Clinical Care":

> *"EMS provides care to those with perceived emergency needs and, when indicated, provides transportation to, from, and between health care facilities. Mobility and immediate availability to the entire population distinguish EMS from other components of the health care system."*[53]

WHERE WE ARE

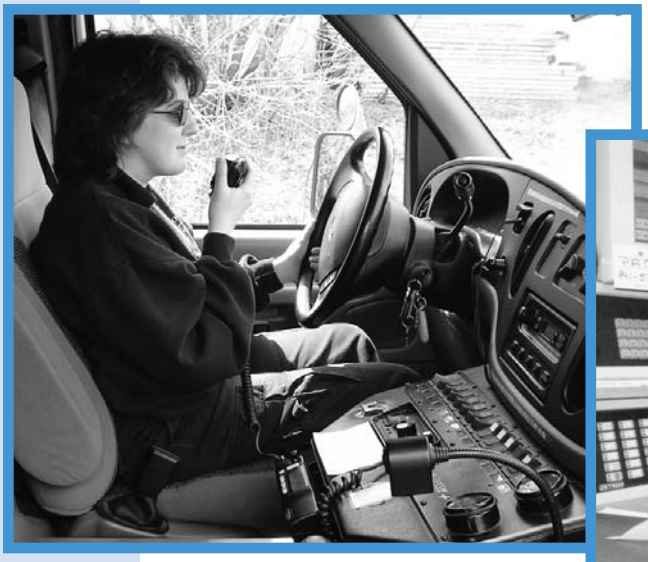
The further a patient is from an emergency medicine facility, the more that patient may benefit from advanced levels of local EMS care when "chain of survival" services are required.[94] Paradoxically, the less likely it is that advanced levels of EMS care will be available in that setting. This rural "paramedicine paradox" results because advanced levels of care are difficult to establish and maintain in systems that experience insufficient call volume to enable advanced providers to be paid and to retain their skills.

Volunteer EMS providers in low volume rural/frontier areas encounter significant barriers to providing EMT-Intermediate level and especially Paramedic level care. These include:

- Sufficient call volume to learn and retain skills and meet curriculum requirements
- Individual volunteer availability for training, on-going education, and coverage
- Cost of training
- Access to training
- Lack of medical oversight

Barriers also exist to the provision of paid advanced life support — especially Paramedic — care in rural/frontier areas. These include:

- Inadequate, volume-based, fee-for-service and reimbursement revenue to support staff
- Traditional volunteer approach has kept local subsidization down
- Communities don't realize that they don't have the higher level of care they might expect
- Skill/interest retention



Additionally, rural/ frontier residents are more likely to demand EMS services when access to other health care facilities and amenities (e.g., a hospital), traditionally accessible in urban areas, are not available.[25] The services sought may include care, evaluation, and advice beyond their generally basic life support scope of practice. It is not unusual for a service in an isolated community to have a 30 to 50 percent "no transport" rate in a state that runs a 10 to 20 percent rate overall.[56] It is also not unusual for members of such a service to provide episodes of informal evaluation, advice, and care that are never reflected in an EMS patient/run record.

Contributing to the rural-urban disparity in provision of EMS services, rural hospital and medical practice closures have increased, and as a result, place pressure on EMS providers to serve informally and perhaps illegally in clinical roles for which they are not prepared. In addition there is greater call for emergency and non-emergency medical transportation to even more distant locales. Local EMS providers in many rural and frontier areas have stopped offering non-emergency transportation, such as to distant doctor's office from home and back, in order to keep EMS resources locally available for emergencies. The decrease or discontinuation of non-emergency transports is likely attributable to a noticeable increase in potentially inappropriate patient utilization.[26-36]

The exact proportion of non-emergency or potentially inappropriate utilization nationally is not known, though research has shown that it is likely to affect rural EMS service provision differently than urban.[36] Abuse and misuse of the system directly affects the bottom line of EMS systems and the immediacy by which units can respond to true emergencies.[31] Additionally, potentially inappropriate utilization can and does have an effect on retention of volunteer and paid personnel.[37]

EMS system protocols, EMTALA concerns on the part of medical oversight facilities, training, and reimbursement create formal incentive to transport all patients to the hospital.[38] This de facto "treat and transport" or "no treat if no transport" standard may unnecessarily remove EMS resources from the community when transport is done, or result in inadequate care when transport is not done. Misinterpretations by service officers that HIPAA provisions prevent components of EMS quality improvement activities serve as a barrier to these activities.

Rural hospital capacity (e.g., CCU bed unavailability) affects rural ambulance services, causing them to have to transfer patients further. Changes in facility capability and hospital closures cause increased pressure on EMS to transfer patients out of area.

The expense of Joint Commission on the Accreditation of Healthcare Organizations accreditation and American College of Surgeons trauma system verification may cause rural and frontier hospitals not to apply. These processes encourage hospitals to integrate themselves into regional and statewide EMS systems. Unless states offer inclusive systems of trauma and emergency care in which they may participate, the effectiveness of rural/frontier hospitals in the continuum of emergency patient care is jeopardized.

Further complicating the provision of rural and frontier EMS care is inadequate physician-driven medical oversight and quality review in rural/frontier settings. A significant amount of work is still needed in the area of infrastructure stability, rural-frontier scope

of practice, oversight and regulation, and medical oversight in order to bring rural and frontier EMS systems of care to a more satisfactory level of out-of-hospital emergency care.

Another practice which may enhance the provision of ALS, but which is of questionable legal standing in some states, is the carrying of controlled substances by individual Paramedics or other providers in their own vehicles. The U.S. Drug Enforcement Agency permits this only in "wilderness" areas where the state has policies in place outlining its implementation. Some states, such as West Virginia, have facilitated this practice, while many states have yet to address it.

WHERE WE WANT TO BE

There is a process in place to allow communities to make informed decisions about the type and level of EMS response they desire and the amount of governmental subsidy to be invested. They are guided by state and national standards for EMS, which promote access to advanced levels of care in rural/frontier areas, and by objective, outside evaluation of their EMS capabilities. States give planning consideration to remote/satellite helicopter bases to reduce the time until definitive care and reduce the time until arrival of critical care providers at the bedside, as an alternative to attempting proliferation of ALS providers at all rural/frontier EMS services.

Health care transportation systems are subject to the same community planning and decision-making as EMS response itself, and afford a seamless, well-coordinated set of services that match need to type of transport resource. States effectively plan and regulate the availability and use of expensive transportation and care resources such as helicopters and critical care transport systems. Formal "auto-dispatch" criteria have been considered that allow simultaneous dispatch of helicopter EMS and ground EMS in areas with prolonged ground response times. Alternative transportation models are explored for providing effective regionally-based ALS intercept. "Jump medics" or ultralight/sport aircraft may provide solutions to ground distance and helicopter expense barriers.

EMS providers at the basic and advanced levels receive supplemental training, medical oversight, and reimbursement to formalize the EMS-based community health service types of patient evaluation, care and advice service that they had previously offered on an informal basis. With local and regional public health, medical, social service, behavioral health and EMS authorities, they explore new preventive, rehabilitation and primary care services to provide. In these capacities, in rural hospitals and health centers and out in the community, both basic and advanced providers use their skills routinely so that they are prepared to employ them on emergency calls. These services are so valued that they provide adequate patient billing, reimbursement, and /or local subsidy to support an advanced level EMS response presence on a full-time basis.

Rural/frontier EMS providers are trained, authorized, and work closely with medical oversight to make triage, treatment and transport decisions that make effective use of local resources and assure a disposition in the patient's best interest. Urban-based aeromedical, critical care transport and other ALS response resources are integrated into decisions about patient transportation and the use of local resources. Rural and frontier services are supported by state policy in their systems for deploying controlled substances to patients who require them in a rapid and safe manner.

Paid basic and advanced life support staff in the EMS-based community health service roles work well with their volunteer colleagues to maintain a depth of service that can expand to respond to a variety of EMS emergencies. There are well-articulated mutual aid plans, and states have EMS compacts allowing cross-border response and mutual assistance.

Medical oversight is provided for both EMS emergency response and EMS-based community health service activities, either by a single source or by a well-coordinated dual source system.

The Rural EMS and Trauma Technical Assistance Center serves as a valuable resource on rural/frontier EMS system development, successful practices, community EMS evaluation, service management, and provides technical assistance for rural/frontier EMS providers to deal with the variety of federal laws and regulations that impact them (e.g., EMTALA, HIPAA). Health care providers/entities have a working knowledge of HIPAA and recognize that protected health care information can be shared for QI/PI purposes in accordance with HIPAA.

State EMS offices and other health care leaders and providers assure statewide, "inclusive" systems of emergency care. As opposed to "exclusive" systems in which only specialty centers (e.g., nationally accredited trauma or stroke centers) have defined roles, inclusive systems define roles and expectations for all acute care hospitals offering any level of emergency care for those conditions.

HOW TO GET THERE

Congress should fund pilot and demonstration EMS-based community health service and transportation alternative projects (e.g., jump-medic, ultralight/sport aircraft ALS personnel delivery) for increased community access to primary care and basic and advanced life support services in medically underserved areas. These should include demonstration projects to assist EMTs in maintaining competence in practical EMT skills; expand EMT skill bases; and explore expanded scopes of practices. Federal transportation funds should be used to develop and support EMS infrastructure where there is a high frequency of motor vehicle crashes requiring EMS response.

The national model for easily transferable processes for community EMS system assessment and informed self-determination (recommended in the section on Public Information, Education and Relations) should include consideration of the systems of medical transportation available as well.

States, however, should define a minimum type and level of EMS to be provided to all communities including equipment standards, and should actively plan and regulate aeromedical, critical care transport, and other major systems of specialty care and transportation. States with multiple air ambulances should work with air ambulance providers to assure they are deployed geographically according to patient pick-up need instead of being based at destination facilities.

States should facilitate EMS-based community health service programs by making statutory changes or otherwise enabling EMS licensees to legally practice current and expanded scope skills in non-EMS settings. Similar provisions should be made for nurses and other health care professionals to easily participate in local EMS care. State EMS leaders should meet with their public health counterparts to consider local EMS roles public health functions such as administering immunizations, conducting screenings, and offering public health education.

States should develop policy and procedures to facilitate the provision of controlled substances by rural and frontier EMS providers to those emergency patients needing them which support the response patterns of those providers.

State EMS leaders should plan and implement inclusive systems of trauma and other emergency care which define the roles of rural/frontier hospitals in collaboration with key stakeholders.

RECOMMENDATIONS

- The national model for community EMS system assessment and informed self-determination (recommended in the section on Public Information, Education and Relations) should include systems and sources of local medical transportation.
- Define and require a statewide minimum type and level of EMS to be provided to all communities including equipment and clinical care standards. Fund services which demonstrate a reasonable inability to comply with minimum standards to enable compliance. Community EMS system assessments, and CMS and third-party payers, should utilize these state standards.
- Plan, integrate and regulate, at the state level, aeromedical, critical care transport, and other statewide or regionwide systems of specialty care and transportation. Consider the evolving role of telehealth resources and their application to EMS patient management and medical oversight.
- Improve community access to health care and advanced levels of EMS by creating mechanisms for EMS personnel to participate in EMS-based community health services, non-EMS personnel to participate in EMS care, and by exploring and integrating new roles and scopes of practice for all available providers.
- Create a statewide policy governing the use of controlled substances, devices, and procedures in rural/frontier settings for EMS responders in private vehicles.
- Facilitate a state-level process, guided by an appropriate multi-disciplinary committee, to ensure inclusive systems of trauma and other time-critical emergency care which define the roles of rural/frontier hospitals. Create a guide to assist these system development processes.
- Fund pilot EMS-based community health services, transportation and other alternative ALS delivery methods, and projects to support improved EMS infrastructure in rural/frontier areas where data demonstrate a particular unmet need.

INFORMATION SYSTEMS

***October, 2009** — Western Mountains Ambulance and Rescue's (WMAR) data collection process has greatly improved since the merger of tribal EMS and Chamberlain Ambulance. The Rural EMS and Trauma Technical Assistance Center (REMSTTAC) supported the service chief's efforts to develop and implement a new data collection system by linking WMAR to other available systems and successful practices. WMAR received state and federal grant funds to purchase computer hardware and software that enables their medics to collect patient care data quickly and accurately. Medics now electronically submit patient care data to their State EMS office, link to their web-based billing and quality improvement systems and retrieve aggregate data reports to effectively manage their resources. The data is linked locally, with other health and safety stakeholder agencies in the Chamberlain area, and nationally to Federal EMS Office.*

Through the National EMS Information System (NEMSIS), WMAR can evaluate their system performance based on a well-defined set of criteria listed in the national "Guide to Performance Measures". Their ability to compare their agency's performance to similar agencies throughout the country led to changes in agency protocols and training. WMAR is now able to implement program changes and improvements based on patient data and outcomes.

> *"Emergency Medical Services is the most complex and technically challenging component of the healthcare system. It truly is the intersection of public safety, public health, and healthcare. As our world changes with respect to population, technology, public expectations, and medical care capability, EMS must adapt to meet the future. It is only through information systems that EMS can define, measure, analyze and control its destiny."*
>
> — Greg Mears, MD, North Carolina EMS Medical Director; NEMSIS Principle Investigator

From 1996 NHTSA *EMS Agenda for the Future* on "Information Systems":

> *"The raw material for information is data. Information systems collect and arrange data to service particular purposes."* [54]

WHERE WE ARE

Systems for the collection of EMS system operational and clinical data have been in existence, in many forms, for many years. Some states have never had a statewide, centralized data collection system or universal patient/run record. A number of states have collected but not processed patient/run records. Yet others have had a statewide, paper-based centralized data system for years but have yet to establish a statewide electronic system. Some states are now going from little or no system to an electronic system statewide.

Rural/frontier EMS provider services, especially those dependent heavily or solely upon volunteers, may barely have sufficient manpower available to provide paper patient/run records to statewide systems. They generally do not collect data locally, and where they do, those efforts are often driven by software availability and are not connected to statewide data collection systems. Tribal EMS providers in some areas may not integrate with state data collection efforts as a result of sovereignty issues.

Many states have trauma, burn, head injury, and other registries on regional or statewide bases. Some registries use EMS system data, while others gather prehospital information from other sources, which may be a duplication of effort.

In 1993, a consensus conference produced the NHTSA "EMS Uniform Prehospital Dataset", a set of defined data elements recommended for inclusion in state EMS data systems.[8] In 2003, "Version 2" of the Dataset was released as an industry consensus document, as part of a broader National EMS Information System (NEMSIS) project.[95] This update provided a much larger universe of data elements to which definitions were assigned. It suggested a common dataset to be collected at the national level, but as importantly provides a resource from which EMS system managers may draw definitions for data elements.[39] In a National Association of State EMS Directors 2003 resolution, 45 states and territories have agreed "to promote and support all EMS data initiatives within their states to conform in the future to the national dataset definitions".[69]

In 2004, NHTSA is pursuing a "Performance Measures" project targeted at developing a universe of EMS systems performance questions defined using the "Version 2 Dataset" definitions.[96] The resulting "Guide to Performance Measures" is to be released in 2005.

The “Version 2.0 Dataset” and the NASEMSD resolution may make it easier for software vendors to assist in making local data collection systems more attainable. The Dataset and the Guide to Performance Measures will further comparability of data, measurement methods, and benchmarking. But all of these are just components of an anticipated nationwide EMS data collection information system – NEMSIS. The NEMSIS project has proposed a business model framework to establish state and national level data aggregation and reporting systems built upon facilitated local data collection.

A discrete emergency medical or other health event often cannot be tracked from onset through rehabilitation because linkages among the data collected at the various points of care do not exist. This makes outcome measurement difficult or impossible and jeopardizes system improvement efforts. Lack of integration of patient medical record technology across the overall health network can result in care being provided without benefit of a complete patient history.

State EMS offices have personnel and agency licensing/certification responsibilities that require information systems support. These systems are not always adequate to support the needs of license/certificate holders or EMS office staff. These systems are often not integrated with EMS patient/run record data systems despite the potential for such integration to be valuable from a performance improvement and licensing/certification perspective.

Rural and frontier states are limited in their ability to participate in the collection of outcomes data and in real-time surveillance monitoring because of the sparse population, and cost associated with data collection and monitoring of widely scattered, low-frequency events. However, in some states where electronic data collection systems have been developed, rural and frontier providers, when given the required technology, have proven to adapt as easily to those systems as their urban counterparts.

The need for valid, reliable data which is universally comparable is evident at every level of EMS system development and operation. It is necessary to every activity from patient care to performance improvement to research. All of the components of this Agenda are dependent on data. The success in the implementation and measurement of the progress associated with the Agenda will be dependent on data and information systems.

WHERE WE WANT TO BE

The National EMS Information System (NEMSIS) is fully implemented, and useful EMS data resides and is used at local, state and national levels. State EMS offices have adequate personnel and agency licensing/certification information systems support. These systems are well integrated with EMS patient/run record data systems and are routinely used for system performance improvement. EMS services and hospitals, regardless of size or location, are linked to the local-state-national data flow in both directions, being able to provide data from operations and to use data pooled at higher levels in a real time, or otherwise timely as appropriate to function, fashion. Even the smallest EMS provider service has an electronic connection to the statewide and, therefore, national databases for submitting and utilizing data. Data is used to define and measure system and clinical care issues. Its importance is universally respected as the foundation of all evaluation and research which provide evolutionary direction for every component of the EMS system. Communications and data systems are integrated as one, and are linked to medical devices.

Trauma and other specialty registries in all states use EMS data and link well to EMS data collection systems to reduce duplication of efforts. An emergency medical or other health event can be accurately described from onset through rehabilitation by the data that are collected and integrated from the various points of care. A patient’s care by one provider at a point in the overall network of health care benefits from data collected about that patient’s care through time at other points in the network. Sovereignty issues are overcome to incorporate tribal EMS providers into statewide data collection and information systems to enhance system operations performance improvement and system development.

The agency or organization operating NEMSIS, the Rural EMS and Trauma Technical Assistance Center, and other resources are available to facilitate data collection by offering assistance to states and EMS providers with issues such as HIPAA compliance.

All data is consistent with the NHTSA 2.0, or subsequent consensus-based version, Uniform EMS Prehospital Dataset. EMS system performance measurement at local, state and national levels uses measures defined in the NHTSA “Guide to Performance Measures” which is linked to the Uniform Prehospital Dataset definitions.

Multi-system data collection or data aggregation is commonly conducted to generate adequate call volume data to answer specific rural/frontier EMS clinical and operational questions. Systems to effectively conduct surveillance in rural/frontier areas have been established.

HOW TO GET THERE

Congress should fund the NEMSIS business model and offer grant funding through state EMS offices to local EMS provider services to establish a nationwide system of EMS data collection. State EMS offices and local EMS providers should be enabled to acquire software, hardware, and training in their use, that is not only compatible with the state and national data collection efforts, but which provides meaningful information on local, regional and statewide system performance. State EMS data systems should integrate with licensure/certification programs.

NEMSIS should encourage states to link or otherwise integrate medical information technology, such as the various types of medical records and registries, to facilitate communication among providers and tracking of emergency medical and other health events across the health network continuum from onset through rehabilitation. States should be encouraged to initiate a data-integration dialogue with tribal EMS providers with foreknowledge of and respect for sovereignty issues with regard to data sharing.

NHTSA should be funded to support on-going review and consensus-based updating of the Uniform Prehospital Dataset and of the "Guide to Performance Measures". The "Guide to Performance Measures" should include consideration of performance evaluation and research questions which are particularly pertinent to rural/frontier systems. An effective document should be developed for state officials to utilize in promoting the benefits of adequate data system funding to legislators and other decision-makers.

NEMSIS and the Rural EMS and Trauma Technical Assistance Center program should receive continued federal funding, and should have as one of its charges to support local EMS data collection efforts. HIPAA compliance and other issues which serve as barriers to effective local participation in data collection should be addressed.

Multi-system data collection and aggregation relationships should be formally encouraged by federal and state grant sources, with their focus on specific rural/frontier EMS clinical and operational performance improvement and research questions. The CDC and other agencies should develop systems of health surveillance monitoring that are appropriate to rural and frontier settings.

RECOMMENDATIONS

- Fund and implement the National EMS Information System (NEMSIS) to assure smooth, universal data flow from the local through national levels. Facilitate local EMS data collection and information system development.
  - Implement EMS information systems to provide for the aggregation of EMS data among systems at the local, regional, state, and national levels.
  - Implement and maintain a statewide EMS information system in every state. Maintain data on every EMS event in the state in a manner which is timely and of value to local and state EMS agencies.
  - Implement and maintain a local EMS information system at every local EMS service/agency. Maintain data on every EMS event in a manner which is timely and able to drive the quality of the EMS system service and patient care delivery.
  - As needed, share costs and resources required to implement and maintain an EMS information system among multiple systems to achieve an economy of scale.
  - Reflect the development and sophistication of each EMS system in the implementation of its EMS information system. The complexity of equipment and technology used by the EMS information system should be congruent with personnel, education, training, and capability of the EMS system.
  - EMS systems must provide analyzed and descriptive information on the service and patient care delivery which they provide to their EMS personnel, administration, and community.
  - Include the importance, need, and use of EMS service delivery and patient care data in the educational curriculums and continuing educational programs for EMS providers, administrators, and medical directors.
  - Assure a NHTSA or lead federal EMS agency mechanism for the support and every three to five year review of the Uniform EMS Prehospital Dataset, the Guide to Performance Measures and other components important to the NEMSIS effort.
  - Link/integrate EMS data systems with other relevant health information systems at all levels such as public health surveillance, crash, medical examiner, hospital discharge, and emergency department, including CDC surveillance monitoring systems.
  - Provide technical assistance for local EMS provider data system development through federal/state agency and professional EMS organization coordination.
  - Encourage multi-system data collection for specific research and performance improvement purposes.

EVALUATION

***October, 2009** — In the months following the merger, Western Mountains Ambulance and Rescue (WMAR) administrators participated in EMS-specific quality improvement and leadership courses. These courses were federally funded and offered by their State EMS office. The coursework provided agency administrators with the tools necessary to implement measures that continually assess agency and provider performance. WMAR leaders, through the regional network's QI service, now use data to assess training needs, provide feedback, and evaluate performance. Their on-going efforts to assess and improve their quality of care resulted in remarkable community support. Chamberlain area residents, and agency personnel, recognize and appreciate the significant improvements that have occurred since the town council chairman's death just three years ago. Using performance templates provided by NEDARC, augmented with benchmark measures selected from the national "Guide to Performance Measures", these improvements have been documented in an annual system report produced and distributed to key representatives by WMAR.*

> *"EMS providers — both public and private — are under increased pressure to justify what they do. It isn't enough for us to think we're helping- — we need to prove it. Unfortunately, EMS organizations often don't have the data to measure the quality of their services and to demonstrate their impact on morbidity and mortality. In fact, we don't even have good consensus on what we should be measuring. The EMS system is going to lose the fight for resources to those who can offer this type of proof."*
>
> — Richard A. Narad, D.P.A., Professor, Health Services Administration California State University, Chico

From 1996 NHTSA *EMS Agenda for the Future* on "Evaluation":

> *"Evaluation is the essential process of assessing the quality and effects of EMS, so that strategies for continuous improvement can be designed and implemented."*[55]

WHERE WE ARE

When modern EMS was born as a system in the EMS System Act of 1973 (PL 93-154), it was intrinsic that review and evaluation be conducted to assure that the system was performing as intended.[40] Early on, this took the form of quality assurance reviews of operational and clinical performance (typically reviews of patient/run records with or without specific criteria for comparison) within services or by agents of those with medical oversight/certification authority. More recently, contemporary practices of quality and performance improvement have been successfully applied in EMS systems.

The National Highway Traffic Safety Administration has supported several projects encouraging EMS system evaluation. In 1997, it produced the "Leadership Guide to Quality Improvement for Emergency Medical Services Systems" and funded its dissemination nationwide through orientation programs. More recently, work on EMS outcomes and the "value of EMS" have been or are being supported.[97] NHTSA is currently supporting a project to develop a "Guide to Performance Measures" which will contain a universe of local, state, and national system performance questions linked to specific data definitions as contained in the NHTSA 2.0 Uniform Prehospital Dataset.[96]

In recent years a national association of EMS quality managers was formed, and then reformed as a more broadly based National EMS Management Association, with its own quality-improvement focused journal.[98] In addition, the Open Source EMS Initiative (OSEMSI) provides a unique, on-going method of developing EMS system performance indicators which is accessible to the EMS community at large. The Medicare program's development of Quality Improvement Organizations (QIOs) has potential for benefit in EMS, though their focus is determined by CMS.

Despite the improved sophistication of EMS system evaluation in general, rural and frontier areas lag in applying these methodologies because of an absolute or relative lack of the human resources and/or computer technology to do so. Where individual EMS service chiefs or other service members may have a specific interest, service management software may be purchased and employed which provides service performance information. This is more the exception than the rule in rural/frontier areas, however, because of the expense to acquire such capacity and the human resources needed to maintain and operate it. Evaluation is generally

hampered by the lack of integrated data systems that can track patients from incident to definitive care and rehabilitation and that are linked to statewide and national databases.

Nor is there a common set of community-level EMS system performance benchmarks which might provide incentive to collect data to make comparisons for evaluation purposes. Even quality assurance review mechanisms, where they occur, tend to vary from service to service, or hospital to hospital, and rarely involve all system participants and levels of care. The perceived need to scrutinize performance at or below the Basic EMT level (the level at which many rural/frontier services operate) from a system medical oversight perspective varies. As a result, rural/frontier services and their staff, service/regional medical directors where they exist, and the public served have little other than anecdotal basis for understanding a particular EMS provider's competence or for improving a local system's performance.

A specific issue in this regard, is the absence of generally accepted standards for clinical and psychomotor skill competency and competency assessment as an integral part of an overall performance measurement system. Instead, most EMS systems rely on tally counts or "bean counts" (e.g., "number of 'successful' IV attempts") as markers for competency. Using this methodology, competency in endotracheal intubation could be indicated by performance of a certain number of successful field intubations over a defined period of time. For rural/frontier EMS medical directors, this type of "bean" is impractical due to low patient call volume. An often used substitute "bean", the operating room (OR) intubation, is also impractical because of OR access and other reasons in the rural/frontier setting. In addition, the OR intubation as well as another substitute "bean", the mannequin intubation, are not clearly associated with successful advanced airway management in the low volume, un-controlled, out-of-hospital arena.

The inability of rural/frontier EMS to identify and validate objective and measurable evidence-based skills and other performance criteria, which may or may not include tally or "bean" counts, makes it difficult to address such important issues as skills retention and retraining.

As pressure increases to pilot EMS-based community health service or other emergency care practices with special relevance to rural/frontier settings, so too will the need to have ongoing systems of evaluation of these services and practices.

WHERE WE WANT TO BE

Quality assurance and performance improvement is facilitated by the presence of integrated data systems that can track patients from emergency medical event through rehabilitation. As a part of these data systems, even the smallest EMS provider service has automated, electronic service and personnel performance evaluation tools that are easy to use and well supported by technical assistance.

System and service administrators and medical directors are trained to employ, and are provided with, quality management toolkits with which to approach decisions about system changes. Tools such as the NHTSA "Leadership Guide to Quality Improvement for Emergency Medical Services Systems" are adopted at service and larger system levels, and are included in service management training programs and other venues. States provide "quality assurance tool kits" to provider agencies. The NHTSA "Guide to Performance Measures" is widely employed to assist those designing service and system benchmarking plans. A nationally accepted

process and/or qualified organization is utilized on an on-going basis to update the "Guide to Performance Measures" and the application of performance indicators.

All EMS-based community health service and expanded scope emergency medical practices are piloted and evaluated under medical oversight.

The agency or organization operating NEMSIS, the Rural EMS and Trauma Technical Assistance Center, CMS QIOs, the National EMSC Data Analysis Resource Center and other resources are widely used by local EMS staff in establishing quality improvement systems.

Clinical and psychomotor skill competency is assessed using validated performance criteria in a robust system of quality and performance improvement. Skills retention and retraining issues are addressed using these criteria.

HOW TO GET THERE

The preceding chapter contained recommendations for establishing wall-to-wall EMS data collection systems in the US by funding NEMSIS and by making grants available through state EMS offices for the purchase of software, hardware and training. In the latter programs, software purchased under this program should provide turn-key, easy to use tools for service-level performance improvement/quality assurance processes.

Federal EMS programs should encourage states to create and facilitate quality improvement training and the development and dissemination of EMS quality improvement toolkits. CMS should direct QIOs to serve as resources for EMS provider agencies. The NHTSA Guide to Performance Measures should be supported and reviewed by NHTSA on an on-going basis.

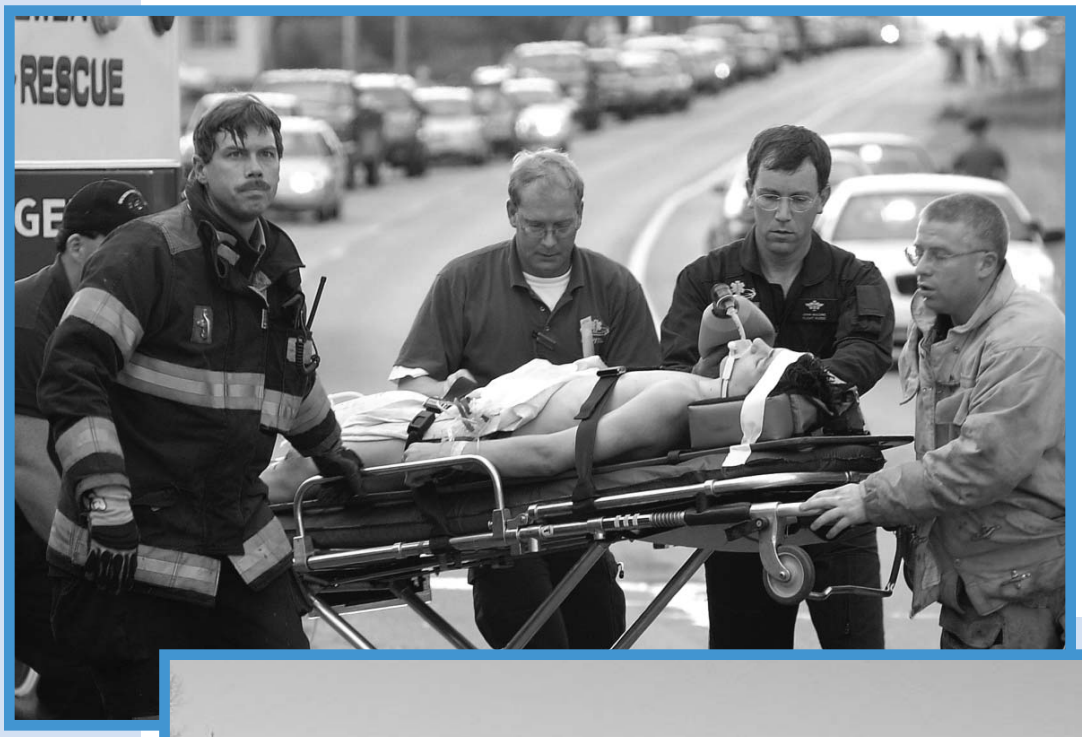
National education and training, certification, and EMS management associations and other qualified organizations should be funded to develop evidence-based competency criteria and to research volume-based skills retention issues.

State EMS offices should take leadership roles in facilitating or requiring all system and service administrators and medical directors to employ performance improvement tools in a systematic fashion.

Where state and federal agencies are involved in authorizing and/or funding EMS-based community health service or emergency medical expanded scopes of practice pilots or programs, they should require a system for evaluation directed by a physician, or by another health practitioner reporting to a physician.

RECOMMENDATIONS

- Federal and state funds should be made available to support the development and implementation of state EMS evaluation activities.
- Fund the availability of training and toolkits to encourage effective local service/system quality improvement processes.
- Assure a mechanism for the on-going support and review of the NHTSA "Guide to Performance Measures" and "Leadership Guide to Quality Improvement for Emergency Medical Services Systems" and encourage their use in services and systems.
- Encourage the development of evidence-based competency criteria.
- EMS-based community health services pilots and programs should have a physician-supervised evaluation system.


RESCUE

DOWNEAST

APPENDICES

APPENDIX A — DEVELOPMENT OF THE AGENDA

The *EMS Agenda for the Future*, published by NHTSA in 1996, has served as a visionary tool for EMS system planners across the nation as they guide their systems in changing and growing. More importantly and unlike any other document, except the original federal EMS Systems Act of 1973, it has had a profound impact on policy-making and funds allocation in EMS on all levels.

Since 1996, other spin-off EMS "agendas" in education, research, and trauma have furthered the spirit and concepts of the original *EMS Agenda for the Future*. These also have had their concepts embraced in federally-funded projects and promise to similarly impact the EMS field.

There have been a number of important works addressing the needs of rural/frontier EMS (for instance, NRHA's *"Rural And Frontier EMS Toward The Year 2000"*). Regardless, there has been little overall vision established for rural/frontier EMS in the policy-making and funding arenas that shape tomorrow. To create the best opportunity to accomplish this, the National Rural Health Association, the National Association of State EMS Directors, the National Organization of State Offices of Rural Health, and the federal Office of Rural Health Policy, decided to pursue a national consensus document in the rural health and EMS communities following the *EMS Agenda for the Future* process and format.

The Rural/Frontier EMS Agenda for the Future¸ endeavors to similarly define need and create priority for attention for EMS systems in America's vast spaces not found in urban/suburban centers. It does not attempt to recreate the *EMS Agenda for the Future*, but builds upon its foundation and notes variances from it made necessary by the realities of rural and frontier life.

A steering committee and a separate editorial board of rural health and EMS experts guided a principal author/investigator. Many volunteers contributed written pieces, input, copy editing, and data entry.

All major national EMS and rural health agencies, associations, and other organizations were contacted directly for input on the development of this document and for review of drafts as they evolved. Media-announced internet postings of four progressively more refined drafts over a period of eight months, allowed the rural health and EMS communities to provide input. A day-long review in March, 2004 at the annual NRHA meeting allowed additional input.

The *Rural/Frontier EMS Agend*a was rolled out at the NASEMSD annual meeting in Park City, Utah in October, 2004.

APPENDIX B — SUMMARY OF RECOMMENDATIONS

Integration of Health Services

- Encourage EMS-based community health service program development through the funding of pilots, cataloguing of existing successful practices, exploration of opportunities for expanded EMS scopes of practice, and on-going reimbursement for the provision of such services.
- Federal and state incentives should exist for participation in EMS-based health care services and for other forms of EMS integration with the greater health system, public safety services, academic centers, and the community at large.
- Establish statewide rural/frontier health care committees which include EMS.
- Federal, state and local programs addressing all-hazards planning, and addressing the specific needs of special rural populations should include EMS as a categorical component. Establish statewide and border-state networks of formal regional EMS mutual aid agreements including EMS licensee recognition.
- The Indian Health Service should integrate tribal EMS-based community health service and Community Health Representative programming and consider the use of both tribal and non-tribal sources of care.

Research

- Fund and implement the recommendations of the NHTSA "EMS Research Agenda for the Future" but address the following needs and challenges of rural/frontier EMS systems research:
  1. No less than two of the five national EMS research centers (NEMSCRs) named and funded have rural/frontier EMS research missions and qualifications.
  2. Both of the additional national centers for the coordination of multi-center research (NCCMCRs) have missions, in part, and a specific percentage of their projects, dedicated to rural/frontier EMS.
  3. All these centers with rural/frontier EMS research missions coordinate their rural/frontier activities with one another and with other national resources including the National EMSC Data Analysis Resource Center (NEDARC), the agency operating the National EMS Information System (NEMSIS), the rural health research center network, the Rural EMS and Trauma Technical Assistance Center (REMSTTAC), and state EMS offices and offices of rural health.
  4. These centers with rural/frontier EMS research missions specifically address the role of EMS-based community health care and prevention, service regionalization, alternative modes of ALS. intercept, appropriate local-county-state-federal mixes of rural/frontier EMS system funding, and other models to preserve and develop the BLS/ALS safety net in rural/frontier areas.
  5. These centers with rural/frontier EMS research missions address the roles of CAHs, the use of aeromedical and other major systems and technology, the application of clinical/operational practices specific to delayed transport settings, the impact of skills retention on performance, and other clinical/operational practices relevant to rural/frontier EMS.
  6. Availability of research methodology training opportunities is expanded to candidates with Bachelor's and Master's degrees, particularly those with on-going, first-hand involvement in the clinical operations of rural/frontier EMS systems.
  7. There is a well-identified set of resources among these centers and other agencies or organizations that offer materials, training and advice in basic research methodology for EMS system participants. These resources are well-communicated through every state and regional EMS system structure to all service providers. These centers pursue bringing researchers and service providers closer together to understand what they stand to gain from collaborating with each other.
  8. One or more of these centers is charged with encouraging the formation of state-level EMS research committees, consisting of EMS medical directors, field professionals (volunteer and paid EMTs, Paramedics, and service managers), and researchers. These committees, affiliated with the state EMS office, would consider the need for and methods of research and evaluation projects from both practical application and research perspectives, and promote opportunities for needed research.
- Make rural and frontier EMS systems research an eligible category of application for all rural, medicine, and health related federal grant program offerings.
- Existing federally funded rural health research centers, academic departments with rural and EMS interests, rural EMS fellowship programs, and other research-related entities should engage in EMS research. Integrate these entities into the proposed network of rural/frontier EMS research centers.

- Encourage non-governmental funding sources, such as foundations, to provide leadership and resources in rural/frontier EMS research efforts (e.g., Robert Wood Johnson).
- Make data that are collected through information systems at state and federal levels available for community based assessment and research, and provide tools to promote community-based research.

Legislation and Regulation

- Authorize and fund a restructured Federal Interagency Committee on EMS to coordinate and formalize the network of existing and new agencies with federal EMS responsibility and provide national leadership.
- Fund FICEMS adequately to continue the current/planned activities of the agencies it coordinates.
- Create within ORHP, and coordinated by FICEMS, a dedicated, ongoing rural/frontier staff and focus. Create a FICEMS advisory board with rural/frontier representation.
- Adequately fund the state EMS lead agency to enable it to carry out its designated responsibilities.
- Create funding incentives and legislation models to help state EMS lead agencies acquire sufficient legal basis, authority, resources and leadership to broadly develop and implement EMS systems on an ongoing basis and to provide sufficient flexibility to adapt to the unique needs of rural/frontier EMS.
- Assure that state EMS lead agency advisory boards are representative of rural/frontier EMS interests.
- Create the opportunity for the development of state-level public policy to delineate the roles, support and treatment of EMS volunteers, while fulfilling public expectation on level and type of EMS provided. Give state EMS agencies the flexibility to effectively implement these policies.
- The EMS interface between tribal sovereign nation status and state government regulation and coordination of EMS should be addressed by each state and tribal government. An interface between Alaskan Native/American Indian sovereign nations and state government coordination of EMS should be generated by the lead federal agency in collaboration with appropriate tribal leadership agencies. The EMS interface among local, county and state governments should be similarly addressed where conflicts have existed.

System Finance

- Authorize and appropriate sufficient funds for CMS (Medicare and Medicaid) to reimburse EMS providers based on the per-call cost of maintaining full-time response with specific recognition of the increased cost of doing so in rural/frontier areas. Third party payers must also recognize the increased cost of rural/frontier ambulance service.
- Implement the following federal reimbursement reforms for emergency and interfacility EMS clinical care and operations:
  - Call-components performed by first-response, ALS intercept, ambulance and other EMS response agencies which should be eligible for reimbursement, not duplicated on any given call, should include emergency response, assessment, treatment, triage and transportation or other disposition that may, or may not, involve traditional transportation.
  - Retrospective review of medical necessity should not be done for emergency response calls.
  - Immediately implement the patient condition codes model from the Negotiated Rule-Making process.
  - Remove the “35 mile” restriction on cost-based reimbursement for EMS agencies that are owned and operated by Critical Access Hospitals.
  - Employ definitions of “access” and “rural” (and its degrees) in reimbursement, such as those presented in Appendix J, which will help to maintain an adequate rural/frontier EMS infrastructure.
  - Consider a “critical access ambulance service” definition or other means to assure a minimal level of EMS infrastructure in all geographic areas.
  - Assure that interfacility transports that are “appropriate” from an EMTALA perspective are fairly reimbursed and not subjected to retrospective medical necessity determinations.
  - Adopt reimbursement practices that encourage patient treatment and recovery at the facility closest to the patient’s home that is desired by the patient and capable of providing the care required at the given stage of recovery.
  - Facilitate the use of subscription services as a part of the overall funding of the EMS safety net infrastructure, in cooperation with state insurance authorities.
  - Consider a single fiscal intermediary for all EMS providers, and develop a “successful practice” guide to assist EMS providers in maximizing billing efficiency and accuracy.

- Make federal and state domestic preparedness and response funding programs such as those of the Department of Homeland Security, CDC, HRSA, and ODP available explicitly and categorically to EMS systems and providers including private and for-profit agencies.
- CMS, MCOs and other third-party payers should fund EMS-based community health care pilot projects and define EMS personnel as reimbursement-eligible care-providers under physician medical oversight for primary care, prevention, and other services they render.
- Form, and fund through county, regional, state or federal tax dollars, rural/frontier EMS operational or service-contracting networks in those areas where they provide economies of scale, improved access to EMS care, improved quality and/or increased tax payer value.

Human Resources

- Extend federal and state rural and health manpower recruitment and retention planning leadership, technical assistance and funding specifically and categorically to rural/frontier/tribal EMS and implemented through state EMS offices, state offices of rural health or other appropriate entities.
- Analyze, at the state EMS agency level, rural/frontier workforce recruitment and retention efforts and develop statewide plans for improvement.
- Establish incentive programs to recruit and retain rural/frontier EMS human resources.
- Foster the development of a culture of volunteerism and community service through local schools in partnership with community agencies.
- A national EMS service leadership and service management training model should be developed and shared with all state, territorial and tribal governments. This model should include successful practices in EMS volunteer and paid human resources management.
- Target occupational safety in EMS for research funding and the development of guidance materials.
- The REMSTTAC should maintain and disseminate successful practices in implementing components of the national EMS service leadership and service management training model.

Medical Oversight

- Establish statewide networks of EMS medical oversight, including medical directors at the local, regional, and state levels as appropriate in a given state to ensure the provision of EMS medical oversight for every EMS service.
  - Implement at least one full time equivalent position of state EMS medical director in every state with a job description as defined by consensus of EMS-related professional medical and state EMS director organizations.
  - Compensate EMS medical directors for the EMS medical oversight services which are provided. The level of compensation should be equivalent to the level of compensation the physician would experience (for the equivalent hours) in their normal clinical practice.
  - Require that EMS medical directors be physicians, but encourage the use of physician extenders and regionalized arrangements of medical oversight to increase the EMS medical oversight resources in rural/frontier areas.
  - EMS medical directors must actively participate in local, regional, and state EMS program planning and implementation. States must seek out and include rural/frontier medical directors for these purposes.
  - Implement EMS based community health programs and services through an interdisciplinary approach involving EMS operational and medical oversight components and primary care professionals.
- Assure federal and state funding resources to maintain these statewide networks of medical oversight.
  - States must assure funding of the state EMS medical director.
  - System/provider reimbursement should be based on the cost for providing EMS services and patient care delivery. The cost associated with trained and qualified EMS medical oversight should be included in this cost basis.
  - Federal programs which provide financial incentives to physicians serving in rural areas (underserved and hospital based programs, e.g., Critical Access Hospital program) should require involvement in the local EMS system. If the EMS system is without medical oversight, these physicians should be required to provide this service.
  - Federal agencies and professional EMS organizations should provide and maintain technical assistance resources for EMS medical oversight.

- Prepare and protect rural/frontier emergency and primary care physicians to serve as EMS medical directors and assure adequate systems of performance improvement to support their activities.
  - Legislate, at the state level, peer review protection for EMS system quality management and performance improvement initiatives to exist without fear of discovery and litigation.
  - Assure liability coverage for EMS medical oversight to be included in the normal liability coverage for primary care and emergency medicine physicians. This coverage should provide protection for both the clinical and administrative duties associated with EMS medical oversight.
  - Review all existing EMS medical oversight courses and establish a Rural/Frontier EMS Medical Directors Course which should be made available and distributed through multiple mechanisms to allow maximum access by EMS medical directors.
  - EMS medical oversight must be introduced in medical schools and included in the curriculums of primary care residency programs (both MD and DO degree-granting institutions).

Education Systems

- Address, as part of the development and implementation process for the *Emergency Medical Services Education Agenda for the Future: A Systems Approach*, the unique needs of rural/frontier practice and EMS-based community health services through the development of non-traditional education methods focused on:
  - Vocational training
  - Maintenance of clinical skills
  - Affordability.
- Fund at the state and national levels a Rural/Frontier EMS Education and Training Initiative including:
  1. Funding to geographic areas which considers progress in completing community EMS assessments and informed self-determination processes.
  2. Funding through state EMS offices where needed, to develop effective systems of training and education program/system quality review and approval.
  3. Development of flexible models for the implementation of a national model, including certificate and college-based programs, for providing basic, intermediate, and advanced EMS training and continuing education to rural/ frontier areas and its implementation through state EMS offices.
     - Development of this model should include strong consideration of the EMS education dissemination mechanisms, policies and procedures established by successful education programs and consortia.
     - Recognition within the model that EMS education will be provider-need specific, conducted with varied teaching techniques emphasizing hands-on training and, where appropriate, distance learning, to assist the transfer of learning and retention of essential skills and knowledge so as to provide state-of-the-art rural emergency care.
     - Recognition within the model that educational processes should include the evaluation of resources (e.g., EMS system, health care, public safety) and needs (e.g., for cultural competence) at a local level to encourage an integrated community-based approach to EMS education.
     - Recognition within the model that training and education should be driven by health risks of the local population and time-sensitive access to definitive care (e.g., mental health, trauma, stroke).
     - Emphasis within this model on integration of EMS within the health care system, EMS-based community health service opportunities and program development, and the use of local health service resources as clinical and practical skills development settings.
     - Emphasis within the national model on the adult, non-traditional student.
  4. Development of a national model to enhance career mobility within EMS practice levels, and between EMS and other health professions, to enhance the ability of rural/frontier areas to retain health workers who wish to gain new skills or advance or change health careers.
  5. Emphasizing optimal interdisciplinary care of the ill or injured patient, including complex event management such as cardiac arrest and multiple casualty incidents.
  6. Subsidization of training courses and continuing education programs and the instructor, equipment supply, and technical assistance infrastructure necessary to make them accessible to rural/frontier areas.

7. The use of interoperable systems of telemedicine and distance learning to improve the accessibility of training courses, effective quality improvement, and continuing education programs.
8. Incentives to increase the involvement of university medical centers and area health education centers to provide outreach educational programs to rural and frontier areas.
9. Recognition of the need for flexible scheduling to accommodate the lifestyle realities of rural volunteers.
10. Improved rural/frontier accessibility to training programs in emergency medical dispatch, critical incident stress management, and occupational safety training; as well as continuing education programs with curriculum content geared to rural/frontier application as appropriate.
11. Improved rural/frontier accessibility to a training program for service managers which includes EMS leadership, public and elected official advocacy, public education, grant-writing, data collection, research, governing board management, and volunteer management among other topics.
12. Encouraging the development of realistic, dynamic patient simulators and mannequins for case-based and psychomotor skill training and critical-decision making improvement. Support for the development of patient simulator outreach programs.
13. Development of state/regional stockpiling, and sharing of expensive training devices such as mannequins and patient simulators.
14. On-going assessment by rural/frontier EMS agencies and local hospitals of their resources and needs, and searching for common educational opportunities.

Public Information, Education and Relations

- Develop a national template for community EMS system assessment and informed self-determination processes to help communities determine and be accountable for their own EMS type, level and investment.
- Fund processes for community EMS system assessment and informed self-determination. Consider regional and statewide resources (e.g., aeromedical services) in implementing these processes.
- Federal and state EMS agencies, in partnership with public health agencies and national organizations, should continue to develop and distribute data-driven public information resources to local EMS providers which are coordinated with national campaigns but can be tailored for local use and cultural considerations. Develop materials which target the potential community volunteer pool, highlighting the educational and other benefits to volunteers and the benefits to businesses that support volunteers.

Prevention

- Make prevention one of the EMS-based community health service roles of adequately staffed rural/frontier EMS provider agencies.
- Among local, state, federal and national EMS and public health agencies (and other agencies with prevention roles), cooperatively develop and fund community health advocacy roles and prevention programs for rural/frontier EMS personnel that are mutually beneficial.
- Federal agencies and national organizations with prevention roles should channel existing programs through state EMS agencies to local EMS provider agencies.
- Provider agency policy/procedures and innovative incentives, EMS curricula, and accreditation and other standards target EMS provider health, safety and prevention.

Public Access

- Assure telephonic or other access to completed Enhanced 9-1-1 (i.e. including accurate physical addressing) and Wireless Enhanced 9-1-1 (i.e. with geolocation of the calling device) through effective federal and state programs, mandates and funding.
    - State EMS offices should consider a patient-centered, medical leadership initiative to encourage E-9-1-1 and WE-9-1-1 system completion where other approaches have failed.
    - Federal funding for state and local public safety communications development should consider progress toward E-9-1-1 and WE-9-1-1 systems completion.
- Public Safety Answering Points should manage the 9-1-1 call system efficiently and effectively without redundancy (except as created for back-up protection), and assure a coordinated response across traditional, geographical, and jurisdictional boundaries.

- Integrate Automatic Crash Notification (and other Intelligent Transportation System and Department of Defense technology) and health event advice lines into the process of EMS public access and EMS resource deployment.
- Provide formal Emergency Medical Dispatch to every caller seeking EMS.
- States should establish formal plans for roadside call-box, satellite, and/or cellular networks to effectively cover all rural/frontier primary roads.
- State EMS offices should assure appropriate integration of AEDs and other public access emergency medical device into EMS systems.
- As home health monitoring devices and automated remote diagnostic technology develop, EMS leaders should pursue roles for EMS in their use to further EMS-based community health services.

Communication Systems

- Conduct comprehensive state EMS communications needs assessments upon which to base federal, state, and local investment in communications infrastructure improvement.
- The Universal Service Program fund, Federal Communications Commission, frequency allocation and other national public safety communications organizations and agencies should work to assure that rural/frontier EMS communications are enhanced.
- Rededicate radio spectrum to EMS and other public safety use.
- Explore EMS applications of innovative communications and resource management technologies. Encourage federal and state agencies to provide pilot funding and access to their agencies' technology developers and resources for this purpose.
- EMS leaders should continue to develop ongoing paths of communication with state and federal telecommunications interoperability and Intelligent Transportation Systems industry planning entities.

Clinical Care and Transportation Decisions/Resources

- The national model for community EMS system assessment and informed self-determination (recommended in the section on Public Information, Education and Relations) should include systems and sources of local medical transportation.
- Define and require a statewide minimum type and level of EMS to be provided to all communities including equipment and clinical care standards. Fund services which demonstrate a reasonable inability to comply with minimum standards to enable compliance. Community EMS system assessments, and CMS and third-party payers, should utilize these state standards.
- Plan, integrate and regulate, at the state level, aeromedical, critical care transport, and other statewide or regionwide systems of specialty care and transportation. Consider the evolving role of telehealth resources and their application to EMS patient management and medical oversight.
- Improve community access to health care and advanced levels of EMS by creating mechanisms for EMS personnel to participate in EMS-based community health services, non-EMS personnel to participate in EMS care, and by exploring and integrating new roles and scopes of practice for all available providers.
- Create a statewide policy governing the use of controlled substances, devices, and procedures in rural/frontier settings for EMS responders in private vehicles.
- Facilitate a state-level process, guided by an appropriate multi-disciplinary committee, to ensure inclusive systems of trauma and other time-critical emergency care which define the roles of rural/frontier hospitals. Create a guide to assist these system development processes.
- Fund pilot EMS-based community health services, transportation and other alternative ALS delivery methods, and projects to support improved EMS infrastructure in rural/frontier areas where data demonstrate a particular unmet need.

Information Systems

- Fund and implement the National EMS Information System (NEMSIS) to assure smooth, universal data flow from the local through national levels. Facilitate local EMS data collection and information system development.
    - Implement EMS information systems to provide for the aggregation of EMS data among systems at the local, regional, state, and national levels.
    - Implement and maintain a statewide EMS information system in every state. Maintain data on every EMS event in the state in a manner which is timely and of value to local and state EMS agencies.
    - Implement and maintain a local EMS information system at every local EMS service/agency. Maintain data on every EMS event in a manner which is timely and able to drive the quality of the EMS system service and patient care delivery.

- As needed, share costs and resources required to implement and maintain an EMS information system among multiple systems to achieve an economy of scale.
- Reflect the development and sophistication of each EMS system in the implementation of its EMS information system. The complexity of equipment and technology used by the EMS information system should be congruent with personnel, education, training, and capability of the EMS system.
- EMS systems must provide analyzed and descriptive information on the service and patient care delivery which they provide to their EMS personnel, administration, and community.
- Include the importance, need, and use of EMS service delivery and patient care data in the educational curriculums and continuing educational programs for EMS providers, administrators, and medical directors.
- Assure a NHTSA or lead federal EMS agency mechanism for the support and every three to five year review of the Uniform EMS Prehospital Dataset, the Guide to Performance Measures and other components important to the NEMSIS effort.
- Link/integrate EMS data systems with other relevant health information systems at all levels such as public health surveillance, crash, medical examiner, hospital discharge, and emergency department, including CDC surveillance monitoring systems.
- Provide technical assistance for local EMS provider data system development through federal/state agency and professional EMS organization coordination.
- Encourage multi-system data collection for specific research and performance improvement purposes.

Evaluation

- Federal and state funds should be made available to support the development and implementation of state EMS evaluation activities.
- Fund the availability of training and toolkits to encourage effective local service/system quality improvement processes.
- Assure a mechanism for the on-going support and review of the NHTSA “Guide to Performance Measures” and “Leadership Guide to Quality Improvement for Emergency Medical Services Systems” and encourage their use in services and systems.
- Encourage the development of evidence-based competency criteria.
- EMS-based community health services pilots and programs should have a physician-supervised evaluation system.

APPENDIX C — GLOSSARY

ACADEMIC — Based upon formal education; scholarly; conventional.

ACADEMIC INSTITUTION — A body or establishment instituted for an educational purpose and providing college credit or awarding degrees.

ACCREDITATION — The granting of approval by an official review board after specific requirements have been met.

AEROMEDICAL TRANSPORT — Emergency transport via rotor or fixed wing aircraft; may be from the scene (primary transport) or interfacility (secondary transport).

AUTOMATIC VEHICLE LOCATION — Technology or method used to track or determine a vehicle's location or position and report the position, usually by radio, to a communications or command center. Methods include geo- positioning satellite (GPS), electronic sensed sign-posts, loran navigation, and inertial guidance computer mapped systems.

AUTOMATIC CRASH NOTIFICATION — Systems, such as "On-Star", built into vehicles which can send voice and data to ACN dispatch centers, to be relayed to PSAPs, describing crash-related events such as airbag deployment, crash velocity, and occupant condition.

BRIDGING PROGRAM — An abbreviated educational program resulting in credentials that build on prior credentials in a related field; EMT certification for registered nurses.

BYSTANDER — A citizen responder, not part of the EMS response team, on the scene of an illness or injury incident irrespective of training.

CHAIN OF SURVIVAL — The four components of EMS response to out-of-facility cardiac arrest that are thought to effect the most optimal patient outcome. The four components include early recognition and EMS access, early CPR, rapid defibrillation, and advanced life support.

COMMAND AND CONTROL CENTER (Central Communications Center) — A place where responsibility rests for establishing communications channels and identifying the necessary equipment and facilities to permit immediate management and control of an EMS patient. This operation provides access and availability to public safety resources essential for efficient management of the immediate EMS problem.

COMMUNICATION — The act of communicating. The exchange of thoughts, messages or information, as by speech, signals, writing or behavior. The art and technique of using words effectively and with grace in imparting one's ideas. Something communicated; a message.

COMMUNICATIONS — A means of communicating, especially: a system, such as mail, telephone, television or radio, for sending and receiving messages. A network of routes or systems for sending messages. The technology employed in transmitting messages.

COMMUNITY HEALTH RESOURCE — Capability that may be offered within a neighborhood or community to aid in the detection, surveillance, and support of community health. This may include a municipal organization such as the fire service or EMS, department of public health, social service organization, volunteer organization, and others.

COMMUNITY PARAMEDICINE — An organized system of services, based on local need, which are provided by EMTs and Paramedics integrated into the local or regional health care system and overseen by emergency and primary care physicians. This not only addresses gaps in primary care services, but enables the presence of EMS personnel for emergency response in low call-volume areas by providing routine use of their clinical skills and additional financial support from these non-EMS activities.

COMPONENT — An individual element, aspect, subgroup, or activity within a system. Complex systems (such as EMS) are composed of many components.

CORE CONTENT — The central elements of a professional field of study and relations involved; does not specify the course of study.

COST-EFFECTIVE — Providing the maximal improved health care outcome improvement at the least cost.

COST-EFFECTIVE ANALYSIS — Analysis that determines the costs and effectiveness of an intervention or system. This includes comparing similar alternative activities to determine the relative degree to which they obtain the desired objective or outcome. The preferred alternative is the one that requires the least cost to produce a given level of effectiveness or provides the greatest effectiveness for a given level of cost.

CREDENTIALING OR ACCREDITING AGENCY — Organization which certifies an institution's or individual's authority or claim to confidence for a course of study or completion of objectives.

CURRICULUM — A particular course of study, often in a special field. For EMS education it has traditionally included detailed lesson plans. Customary Charge The amount that an individual company charges in the majority of claims for a specific item or service.

DATA — Crude, isolated, nonanalyzed measures that reflect the status or degree of a measured attribute of a component or system.

DIRECT MEDICAL OVERSIGHT — The moment-to-moment contemporaneous medical supervision/guidance of EMS personnel in the field, provided by a physician or other specialty qualified health professional via radio transmission, telephone, or on the scene.

EDUCATIONAL AFFILIATION — An association with a learning institution(s) (academic), the extent of which can vary greatly from recognition to integration.

EDUCATIONAL OBJECTIVE — The outcome/goal of the teaching/training conducted; the desired knowledge to be imparted.

EFFECTIVE — Capable of producing or designed to produce a particular desired effect in "real world" circumstances.

EFFICACY — The effect of an intervention or series of interventions on patient outcome in a setting that is most likely to be positive (e.g., the laboratory or other "perfect" settings).

EFFICIENCY — The effect or results achieved in relation to the effort expended (resources, money, time). It is the extent to which the resources used to provide an effective intervention or service are minimized. Thus, if two services are provided that are equally effective, but one requires the expense of fewer resources, that service is said to be more efficient.

EMERGENCY MEDICAL DISPATCH — The function of providing prompt and accurate processing of calls, for emergency medical assistance by trained individuals, using a medically approved dispatch protocol system and functioning under medical supervision.

EMERGENCY MEDICAL DISPATCHER (EMD) — A trained public safety telecommunicator with additional training and specific emergency medical knowledge essential for the efficient management of emergency medical communications.

EMERGENCY MEDICAL TECHNICIAN (EMT) — A member of the emergency medical services team who provides out-of-facility emergency care; includes certifications of EMT-Basic, EMT-Intermediate, and EMT-Paramedic progressively advancing levels of care.

EMERGENCY PHYSICIAN — A physician specialized in the emergency care of acutely ill or injured patients.

EMS-BASED COMMUNITY HEALTH SERVICES — An organized system of services, based on local need, which are provided by EMTs and Paramedics integrated into the local or regional health care system and overseen by emergency and primary care physicians. This not only addresses gaps in primary care services, but enables the presence of EMS personnel for emergency response in low call-volume areas by providing routine use of their clinical skills and additional financial support from these non-EMS activities.

EMS PERSONNEL — Paid or volunteer individuals who are qualified, by satisfying formalized existing requirements, to provide some aspect of care or service within the EMS system.

EMS PHYSICIAN — A physician with specialized knowledge and skills in the area of emergency medical services, including clinical care and systems management; a physician who specializes in emergency medical services system management, in which the provision of direct patient care is only one component.

EMS PROTOCOL — Written medical instructions or algorithms authorized by an EMS medical director to be used by personnel in the field without the necessity of on-line or real-time consultation with the physician or nurse providing medical direction.

EMS SYSTEM — An arrangement of medical, public health, and public safety resources to prevent occurrences of emergency illness and injury and to mitigate the impact of such occurrences which can't be prevented. May be local, regional, state, or national.

ENABLING EMS LEGISLATION — Law that grants authority to specific entities to undertake activity related to the provision or establishment of an EMS system. Generally, enabling legislation represents a legislature's delegation of authority to a state agency to regulate some or all aspects of an EMS delivery system. This may include technical support, funding, or regulation.

EXPANDED-EMS/EXPANDED SCOPE — Increased dimensions of the services, activities, or care provided by EMS.

FEDERAL COMMUNICATIONS COMMISSION — A board of five commissioners appointed by the president under Commission (FCC) the Communications Act of 1934 to formulate rules and regulations and to authorize use of radio communications. The FCC regulates all communications in the United States by radio or wireline, including television, telephone, radio, facsimile, and cable systems, and maintains communications in accordance with applicable treaties and agreements to which the United States is a party.

FIRST RESPONDER — The initial level of care within an EMS system as defined by the EMS Education and Practice Blueprint, as opposed to a bystander.

HEALTH CARE DELIVERY SYSTEM — A specific arrangement for providing preventive, remedial, and therapeutic services; may be local, regional, or national.

HEALTH CARE FACILITY — A site at which dedicated space is available for the delivery of health care. This may include physicians' offices and urgent care centers, as well as hospitals and other medical facilities.

HEALTH CARE PROVIDER NETWORK — Conglomerate of both community and hospital resources participating in a common contractual agreement to provide all health care needs to individual members of society.

INDIRECT MEDICAL OVERSIGHT — Ultimate authority and responsibility for the system of medical care provided by EMS. Includes the establishment of medical protocols, quality improvement and performance measurement programming, staff education and other components of the system that impact patient care.

INFORMATION — A combination of data, usually from multiple sources, used to derive meaningful conclusions about a system (health resources, costs, utilization of health services, outcomes of populations, etc.). Information cannot be developed without crude data. However, data must be transformed into information to allow decision making that improves a given system.

INFRASTRUCTURE — The basic facilities, equipment, services, and installations needed for functioning; the substructure, components, or underlying foundation of a community or system.

INJURY CONTROL — A systematic approach to preventing and mitigating the effects of all injuries.

INJURY PREVENTION — Activities to keep injuries from ever occurring (primary), or reducing further injury once it has occurred through acute care (secondary) and rehabilitation (tertiary).

LEGISLATION — Lawmaking; the procedure of legislating; law or laws made by such a procedure.

LICENSING — The act of granting an entity permission to do something which the entity could not legally do absent such permission. Licensing is generally viewed by legislative bodies as a regulatory effort to protect the public from potential harm. In the health care delivery system, an individual who is licensed tends to enjoy a certain amount of autonomy in delivering health care services. Conversely, the licensed individual must satisfy certain initial proficiency criteria and may be required to satisfy ongoing requirements which assure certain minimum levels of expertise. A license is generally considered a privilege and not a right.

LINKAGE — Connected; combining crude data from various sources to provide information that can be analyzed. This analyzed information allows meaningful inferences to be made about various aspects of a system. (An example would be linking EMS dispatch records, out-of-hospital patient care records, and hospital discharge data.)

MEDICAID — A federal program, administered by the states, designed to provide health care coverage to the indigent. Established by Title XIX of the Social Security Act.

MEDICAL DIRECTOR — The physician who provides indirect (off-line) medical oversight and who has the ultimate responsibility and authority to provide management, supervision, and guidance for all aspects of EMS in an effort to assure its quality of care (may be on a local, regional, state, or national level).

MEDICAL FACILITY — A stationary structure with the purpose of providing health care services (e.g., hospital, emergency department, physician office, and others).

MEDICAL OVERSIGHT — The ultimate responsibility and authority for the medical actions of an EMS system. The provision of management, supervision, and guidance for all aspects of EMS to assure its quality of care may be direct or indirect.

MEDICARE — A federal program designed to provide health care coverage to individuals 65 and over. Established on July 30, 1965, by Title XVIII of the Social Security Act.

NETWORK — A formal system linking multiple sites or units.

OUTCOME — The short, intermediate, or long-term consequence or visible result of treatment, particularly as it pertains to a patient's return to societal function.

PILOT PROJECT — A systematic planned undertaking which serves as an experimental model for others to follow.

PREPAREDNESS BASED PAYMENT — Reimbursing EMS agencies for the cost of being prepared to respond to an emergency.

PREVAILING CHARGE — The amount that falls within the range of charges most frequently billed in the locality for a particular service.

PROTOCOL — The plan for a course of medical treatment; the current standard of medical practice.

PROVIDER — An individual within an EMS system with a specific credential(s) that defines a specific level of competency (i.e., first responder, EMT- Basic, EMT-Intermediate, EMT-Paramedic, or other).

PUBLIC EDUCATION — Activities aimed at educating the general public concerning EMS and health related issues.

PUBLIC HEALTH — The science of providing protection and promotion of community health through organized community effort.

PUBLIC SAFETY ANSWERING POINT (PSAP) — A facility equipped and staffed to receive and control 9-1-1 emergency telephone calls.

PUBLIC SAFETY TELECOMMUNICATOR — An individual trained to communicate remotely with persons seeking emergency assistance, and with agencies and individuals providing such assistance.

REAL-TIME PATIENT DATA — Current patient information provided by a field technician at the patient location to a physician or health care facility at a remote site, potentially for the purpose of assisting the physician to make a better informed decision on patient treatment and/or transport.

RECIPROCITY — The ability for a license or certificate to be mutually interchangeable between jurisdictions.

REGIONAL EMS SYSTEM — A systematic approach to the delivery of Emergency Medical Services defined by distinct geographic boundaries that may or may not cross state boundaries.

REGULATION — Either a rule or a statute which prescribes the management, governance, or operating parameters for a given group; tends to be a function of administrative agencies to which a legislative body has delegated authority to promulgate rules/regulations to "regulate a given industry or profession. Most regulations are intended to protect the public health, safety and welfare.

REIMBURSEMENT — To compensate; to repay.

RESEARCH — The study of questions and hypotheses using the scientific method.

RURAL/FRONTIER — The wilderness of woods, hills, mountains, plains, islands and desert outside of urban/suburban centers.

SCOPE OF PRACTICE — Defined parameters of various duties or services which may be provided by an individual with specific credentials. Whether regulated by a rule, statute, or court decision, it tends to represent the limits of what services an individual may perform.

STATE-OF-THE-ART — The highest use of technology or technique known at the time.

STATUTE — An act of a legislative body which has been adopted pursuant to constitutional authority, by certain means and in such form that it becomes a law governing conduct or actions.

SUBSCRIPTION PROGRAM — A prepayment program; a prepayment made to secure future events; a prepayment made to secure a reduced ambulance bill either through assignment or discount. Must be actuarially sound.

TELEPHONE AID — Ad-libbed telephone instructions provided by either trained or untrained dispatchers, differing from "dispatch life support pre-arrival instructions in that the instructions provided to the caller are based on the dispatcher's knowledge or previous training in a procedure or treatment without following a scripted pre-arrival instruction protocol. They are not medically pre-approved since they do not exist in written form.

TELEPHONE TREATMENT PROTOCOL — Specific treatment strategy designed in a conversational script format that direct the EMD step-by-step in giving critical pre-arrival instructions such as CPR, Heimlich maneuver, mouth-to-mouth breathing, and childbirth instruction.

THIRD PARTY PAYER — Insurance; an entity which is responsible to pay for services even though it is not directly involved in the transaction.

APPENDIX D — LIST OF ACRONYMS AND ABBREVIATIONS

AAFP	American Academy of Family Physicians
AAMS	Association of Air Medical Services
ACEP	American College of Emergency Physicians
ACLS	Advanced Cardiac Life Support
ACN	Automatic Crash Notification
AED	Automated External Defibrillator
ALS	Advanced Life Support
AVL	Automatic Vehicle Locater
CAH	Critical Access Hospital
CCU	Critical Care Unit
CDC	Centers for Disease Control and Prevention
CHR	Community Health Representative
CMS	Centers for Medicare and Medicaid Services
CPR	Cardio Pulmonary Resuscitation
DHS	Department of Homeland Security
DOC	Department of Commerce
DOD	Department of Defense
DOJ	Department of Justice
E-EMS	Expanded EMS
E-9-1-1	Enhanced 9-1-1
EMD	Emergency Medical Dispatch
EMS	Emergency Medical Services
EMS^2	"EM-Squared" (fictitious event management database program)
EMSCHS	EMS-Based Community Health Services
EMSC	Emergency Medical Services for Children
EMT	Emergency Medical Technician (generic — refers to all levels of EMT)
EMTALA	Emergency Medical Treatment and Active Labor Act
EMT-B	Emergency Medical Technician — Basic
EMT-I	Emergency Medical Technician — Intermediate
EMT-P	Emergency Medical Technician — Paramedic (sometimes just referred to as Paramedic)
EPAD	Emergency Provider Access Directory
FARE	Foundation for Air Medical Research and Education
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FICEMS	Federal Interagency Committee on EMS
GPS	Global Positioning System
HIPAA	Health Insurance Portability and Accountability Act
HRSA	Health Resources and Services Administration
IHS	Indian Health Services
ITS	Intelligent Transportation Systems

MCO	Managed Care Organization
MDU	Mobile Data Unit
NAEMSP	National Association of EMS Physicians
NASEMSD	National Association of State EMS Directors
NAS-NRC	National Academy of Science — National Research Council
NCCMCR	National Centers to Coordinate Multi-Center Research
NEDARC	National EMS for Children Data Analysis Resource Center
NEMSIS	National EMS Information System
NEMSRC	National EMS Research Centers
NHTSA	National Highway Traffic Safety Administration
NOSORH	National Organization of State Offices of Rural Health
NREMT	National Registry of EMTs
NRHA	National Rural Health Association
ODP	Office of Domestic Preparedness
OR	Operating Room
ORHP	Office of Rural Health Policy
OSEMSI	Open Source EMS Initiative
PDA	Personal Digital Assistant
PI	Performance Improvement
PIER	Public Information, Education and Relations
PSAP	Public Service Answering Points
QI	Quality Improvement
QIO	Quality Improvement Organizations
REMSTTAC	Rural EMS and Trauma Technical Assistance Center
SAFE	Safety Advice from EMS
UHF	Ultra High Frequency
USDHEW	U.S. Department of Health Education and Welfare
USDHHS	U.S. Department of Health and Human Services
USDOT	U.S. Department of Transportation
VHF	Very High Frequency
WE-9-1-1	Wireless Enhanced 9-1-1

APPENDIX E — LITERATURE REVIEW AND REFERENCES

Literature Review

As a companion to this document, a rural/frontier EMS literature review was compiled and annotated. At the time of publication of this document, it could be found at https://www140.boca01-verio.com/nrharu/EMSagenda/ruralreport2.pdf (PDF Version) or https://www140.boca01-verio.com/nrharu/EMSagenda/Lit-review.htm (HTML version).

In the future, this literature review document will be maintained and updated by the Rural EMS and Trauma Technical Assistance Center, and will also appear on its website at http://www.ruralhealth.hrsa.gov/ruralems/.

References

The *Rural/Frontier Agenda for the Future* is an EMS community consensus document developed over several iterations with extensive opportunity for comment. As such, much of the material is the responsibility of the authors, Steering Committee, Editorial Board, and those reviewing the document from the EMS community. References are included for reader assistance and to note where some concepts originated. Otherwise, conceptual impressions of the past, present, and future are the responsibility of those who participated in this process.

APPENDIX F — SUCCESSFUL PRACTICES

Successful Practices

During the development of this document, successful practices in overcoming the barriers described were solicited. These have been noted by reference numbers in the text and are denoted by asterisks ("*") next to the reference numbers below.

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75.* Three Iowa EMS non-transporting services (Truro, St. Charles and, soon to be added, Peru) operate with volunteers out of fire/rescue departments. They consist mostly of basic EMTs and a response vehicle, but occasionally have an EMT-I or Paramedic available. The towns are approximately six miles apart from one another, but 12 to 25 miles away from the transporting ambulance (Madison County) in Winterset, depending on the call location. When they began to experience sever staffing shortages, they agreed to automatically respond to each other's calls. This has worked well for them, assuring a quicker response than otherwise might have occurred. The services also share a medical director.

76.* There were two hospitals in the neighboring cities of Bath and Brunswick, Maine which had become affiliated as Mid Coast Hospital. Closure of the emergency department in one town left some peninsula-based BLS ambulance services much further from definitive care. Following extensive "informed self-determination" work with the communities involved, the Hospital agreed to establish and staff a Paramedic intercept vehicle. Coverage for the vehicle has expanded to additional peninsula communities and continues after six years of operation.

77.* For over two decades, Big Horn County Ambulance has provided out-of-hospital medical care throughout the largely rural/frontier environment of Big Horn County and the Crow Indian Reservation in south central Montana. The ambulance service has survived financially year to year through a contract with the Indian Health Service, county funds and a cumbersome billing system. Continued funding was always on uneven ground…until the year 2003. That year the ambulance service participated in a research project that converted their paper based patient care report to an electronic form using personal data assistant (PDA…Palm Pilot) devices to collect the data. The opportunity to participate was made available through the Critical Illness and Trauma Foundation, an advocate of rural EMS. The study was a success for the ambulance service in more ways than one. Not only was the value of the electronic patient care record recognized in terms of better patient care documentation, but the financial foundation of the ambulance service was reinforced. With the ambulance director's small business background and the support of the county commissioners, a significant investment was made to purchase a billing software package that would interface with the palm pilot software. At the end of the PDA study there was a clear improvement in billing and collections. The director and commissioners made additional improvements that would further advance the billing process. The PDA hardware was updated to "EMT proof" lap top computers. A new field data collection software package was purchased that would seamlessly interact with the current billing software. The financial result was threefold: first and foremost, this rural/frontier ambulance service in on the best financial footing it has experienced in two decades; second, it has helped defray the burden on the county budget; and third, the Indian Health Service benefits every time a insured beneficiary has the bill sent to their insurance carrier instead of to the Indian Health Service. The investment in time and dollars was significant but are now dwarfed by the returns.

78.* San Saba County EMS is a service in Texas that is located 30 miles from the nearest hospital and ran 803 calls in 2002 with an all-volunteer crew. It tries to staff two three-person crews on 12 hour shifts around the clock. In order to attract new crew members and retain current crew, they began paying a $20 per shift stipend. They also encourage upgrading (the service is BLS with a handful of EMT-Intermediates) by paying for training. That training is 70 miles away, however, so the cost of personal time and gas is considerable. Between the stipends and a crew of local instructors offering an Emergency Care Attendant to EMT upgrade class, they have been better able to cover their schedule without raising patient fees from their current $100 per call level.

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81.* Maine and Oregon initiated distance-learning programs, wired and satellite respectively, in the late 1980's. Maine's initially ran to 5 - 10 sites with over 100 in attendance. Oregon's program was initially successful as well. Both fell victim to declining enrollment after the first year, and Oregon's satellite system costs became unsupportable. Virginia EMS has run a successful monthly program by satellite which is still in operation. See http://www.vdh.state.va.us/oems/EMSAT/emsat.asp.

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84.* The "Farmedic" program, now housed at Cornell University, has trained over 22,000 students since its inception in Rochester, N.Y. in 1981. See: http://www.farmedic.com/. Purdue University has offered similar training and provides a manual called "Farm Rescue" of which 135,000 copies have been sold nationwide. A new, 8 hour "Timber Medic" program is being piloted by the Agro Medicine Center at East Carolina University at sites in North Carolina, South Carolina, and Virginia.

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Christian Perry	Ambulance Service Management Corporation; Pennsylvania
Dov Pincus; EMT-P	Hatzalah Volunteer Ambulance Corps; New York
Marilyn Polito	Mary Greeley Medical Center; Iowa
Jacob "Mac" Qualls	Meadows Valley Ambulance Service; Idaho
Leslie Upledger Ray	American Public Health Association; California
Kathy Robinson, RN	Emergency Nurses Association; Pennsylvania
Kevin W. Rollins, EMT-PS	Director, Remsen Ambulance Service, Iowa
Sandy Ryman	Northeast Oregon AHEC; Oregon
Nels D. Sanddal	Rural EMS and Trauma Technical Assistance Center; Montana
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Jeff Schanhals	Northeast Colorado Regional EMS/Trauma Advisory Council; Colorado
Jeffrey K. Scott	EMS Director, Lodi Community Hospital; Ohio
Robert Seivert	Iowa E-9-1-1 Council; APCO
Jack M. Smith	North Slope Borough Fire Department; Alaska

Laura Snyder	CEO, Wendover Ambulance, Nevada
Tim Soyars, Chief Paramedic	Odyssey Adventure Racing Medical Service, Virginia
Kris Sparks	Office of Community and Rural Health; Washington
Cindy Stafford, EMT-I	San Saba County EMS; Texas
Cathy Stueckemann, JD, MPA	CHR and EMS Programs, Indian Health Service; Maryland
Daniel Swayze	EMED Health; Pennsylvania
Dave Taylor	National Association of Community Health Centers
Stephen J. Teale, EMS Director	Wisconsin Technical College System Office
Ken Threet	National Council of State Training Coordinators; Montana
David Tice	Operations Manager, AMR, Pennsylvania
Chebon Tiger	National Native American Emergency Medical Services Association; Texas
Chris Tilden	Kansas Rural Health Office; Kansas
Gretchen Tolsma	Agnesian Healthcare; Wisconsin
Leta Travis; EMT	Garfield County Health District; Idaho/Washington
Jim Upchurch; EMTP, MD	Indian Health Service; Montana
Ken Vanlandingham	Director of Operations, Stuart Rescue; Iowa
Michael Ward, Paramedic	Deputy Director, Jeff Davis County Ambulance; Texas
Cindy Wasserburger	C.A.C.A. VFD/Rescue; New Mexico
A. Robert Welte; EMTP-FF	Woodbury Co. Emergency Services; Iowa
Keith Wesley; MD	Eau Claire County EMS; Wisconsin
Timothy Whitaker	Sandusky County EMS; Ohio
Gary Wingrove	American Ambulance Association; Minnesota
Tami Wires; EMTP	Vinton County EMS; Ohio
John Wish	Association of Air Medical Services; Oregon
Edward Wronski	New York State EMS; New York
Russell Wyatt	Culberson Hospital EMS; Texas
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APPENDIX J — DEFINING "RURAL" FOR REIMBURSEMENT

Defining "Rural" and "Access" Appropriately for Emergency Medical Services

"Access to health care for rural Americans has to be examined according to the service needed. It is one thing for a resident to travel 30 to 60 miles for routine examinations or elective surgery. It is a whole different ball game when the emergency medical service needs to be delivered timely to the resident experiencing a heart attack."

— John Baerg, Emergency Medical Technician and Commissioner, Watonwan County, Minnesota

For the purposes of program administration the Federal government has created many different methods for defining rural America. To date, there is no universally accepted definition of "rural" across Federal agencies and various definitions are used simultaneously in developing policies for grant formulas or adjusting payment for services purchased by the Federal government. While it may be appropriate to use multiple definitions of rural, the definition used for a particular program or purpose should adequately describe the geography that the program or purpose is intended to serve.

Access to healthcare is an increasing challenge in rural communities. A year 2000 Blue Ribbon Commission in Maine noted that "given the distribution of Maine's population, geography is also a significant factor in access. Those in the more populous parts of the state have more opportunities for care."[1] A consumer accessing specific health care services like primary care physician or hospital care has different needs than farmers accessing funding formulas for crop support. Geographical need must be integrated with time in the access of emergent healthcare. Only recently has the Centers for Medicare and Medicaid Services (CMS) or the US General Accounting Office (GAO) explored alternatives for defining "rural" in relation to access to emergency medical services (EMS).

EMS is different from other health care services because it is a service delivered directly to the consumer often times during life-threatening events when minutes and even seconds count. Unlike other health care encounters swift response determines EMS outcomes. In accessing emergency care, time and miles are as much key determinates in mortality and morbidity as the specific injury or illness. In emergency care, access is a combination of resource availability and time based care.

In recent years, significant progress has been made at the Federal level in developing adequate funding and resource availability through cost based reimbursement for physician and hospital services in the Federally Qualified Health Centers, Rural Health Clinics, and Medicare Rural Hospital Flexibility (Critical Access Hospital) Funding Programs. There are no equivalent programs for EMS.[2] In addition, existing definitions and funding mechanisms do not adequately describe rural for the purpose of assuring timely access to emergency healthcare.

Federal programs that are geared toward ensuring a stable and vibrant EMS system need a better method of defining rural and access that is geared toward this unique combination of access issues. An appropriate EMS definition of "rural" must account for a combination of service availability, population coverage, and a time based geographic delivery of emergency services. To insure the existence of a stable and vibrant EMS system, Federal programs should define and serve rural communities with policies that encourage service availability with optimal response times to emergent events.

[1] Maine Emergency Medical Services Board. (2000) *Blue Ribbon Commission Report to the Governor.*

[2] The Medicare Rural Hospital Flexibility Program has a provision to provide cost-based ambulance services, but it is limited by federal legislation to ambulance services owned and operated by Critical Access Hospitals (CAHs) and then further limited to CAH ambulance services at least 35 miles from the next ambulance service. Very few ambulance services qualify for this reimbursement because rural ambulance services tend to be community operated and are spaced closer than 35 miles in order to maintain acceptable response and transport times.

Existing Federal Methods for Defining Urban and Rural

Metropolitan Statistical Areas & New England City and Town Areas

The most widely used definition of urban and rural was developed by the Office of Management and Budget (OMB) when it created "Metropolitan Statistical Areas" or MSAs in the 1940s.[3] This method designates rural counties by exclusion. Until 2000, each county (or in the case of New England, towns within counties) was metropolitan[4] because it is an MSA[5] or the county was non-metropolitan.

New England was treated differently than all other parts of the country with both an MSA county level designation and a further definition of New England County Metropolitan Areas (NECMA). NECMAs were not designated using entire counties, but individual towns and cities were designated metropolitan areas. All other areas, even those inside counties with metropolitan towns or cities were considered non-metropolitan.

In 2000 OMB changed this classification by adding a third component, Micropolitan,[6,7] counties, and changed the NECMAs to New England City and Town Areas (NECTAs).[8] The combination of Metropolitan and Micropolitan counties is now called Core-Based Statistical Areas (CBSA). All counties that are part of an MSA are considered urban. All other counties, including Micropolitan counties, are still considered non-metropolitan by the Department of Health & Human Service's (DHHS) federal Office of Rural Health Policy (ORHP) and the Department of Agriculture's (USDA) Economic Research Service (ERS). Counties that are not CBSAs are considered rural by OMB.

In this methodology, a county or counties is Metropolitan because they have either cities or urbanized areas with population exceeding 50,000 (MSA); or, at least 50 percent of the population resides in urban areas of 10,000 or more population; or, that contain at least 5,000 people residing within a single urban area of 10,000 or more population ("central county"). "Outlying counties" are included in the CBSA if they meet specified requirements of commuting to or from the central counties.

OMB creates a list of CBSAs (MSA and NECTA plus their Micropolitan components) for the single expressed purpose of collecting and reporting statistics. In fact, OMB expressly cautions federal agencies and Congress against the use of these county-based definitions for any purpose other than gathering and reporting statistics. OMB specifically states, *"The Metropolitan and Micropolitan Statistical Area Standards do not equate to an urban-rural classification;* many counties included in Metropolitan and Micropolitan Statistical Areas, and many other counties, contain both urban and rural territory and populations"[9] [emphasis added]. OMB stresses that there are "often unintended consequences" when using the definitions for non-statistical purposes.

CBSAs are based on county boundaries. County boundaries are established by states and are stable over time. Many county lines were arbitrarily drawn around physical features (e.g., lakes and rivers), property tracts, existing settlements, or existing political needs around populations. Over time, populations have re-organized to meet different needs. For example, at one time rivers were once essential for moving raw materials and products to different parts of the country and therefore mills and factories were established adjacent to water ways. As transportation evolved to rail, truck, or air and electrical generation became less dependent on rivers and streams, major waterways became less significant for industry and in production and population growth shifted towards rail lines, interstates and airports. County boundaries, though, remain stagnant. In the densely populated Eastern states, counties are relatively small in geographical size. Counties tend to be significantly larger in the Midwest and West.

Federal agencies have investigated a number of ways to modify CBSAs while still using county lines as the basis for urban-rural distinctions. ERS has created Rural-Urban Continuum Codes,[10] Urban Influence Codes[11] and Public Use Micro Data Sample-L Labor Market Areas.[12]

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[3] Washington State Department of Health. (2004) *Guidelines for Using Rural-Urban Classification Systems for Public Health Assessment.* http://www.doh.wa.gov/Data/Guidelines/RuralUrban.htm. p.8.

[4] http://www.census.gov/population/estimates/metro-city/03mfips.txt

[5] http://www.census.gov/population/estimates/metro-city/03msa.txt

[6] http://www.census.gov/population/estimates/metro-city/03mcsa.txt

[7] http://www.census.gov/population/estimates/metro-city/03nmifips.txt

[8] http://www.census.gov/population/estimates/metro-city/03nfips.txt

[9] Office of Management & Budget. 2003. http://www.whitehouse.gov/omb/bulletins/b03-04.html. OMB BULLETIN NO. 03-04. June 6, 2003.

[10] http://www.ers.usda.gov/Briefing/Rurality/RuralUrbCon/

[11] http://www.ers.usda.gov/briefing/rurality/UrbanInf/

[12] http://www.ers.usda.gov/DB/PUMSL/

The failure of county based methods in describing rural and urban geography as a means to distinguish market areas has been well documented. In 1998 Ricketts,[13] et al, stated "Metropolitan counties may include substantial rural areas…" and later stated "the criteria for identifying isolated rural areas have been applied to only very large counties though it is obvious there are equally isolated areas in many of the smaller counties of the nation."

In 1989 the Office of Technology Assessment[14] said, "Problems in MSA classification may occur when county boundaries do not conform to actual urban or suburban development. An MSA may inappropriately include nonsuburban areas located in the outlying sections of some counties." In 2000 Zelarney,[15] et al, said "metro boundaries based on counties can extend well past the dense urban core into much less densely settled – even frontier – territory."

In recognition of these issues, in 1993 the ORHP and ERS commissioned an investigation by Harold F. Goldsmith,[16] et al, to develop refinements in defining MSAs to better describe rural and urban geography. The paper noted that "when Federal programs are implemented to provide health services to rural areas, they immediately encounter the problem that there are no operational definitions of "rural areas" which precisely divide the population of the United States into "rural residents" and "urban residents." The two most commonly used dichotomous definitions are rural areas and urban areas, a Bureau of the Census (BC) designation based on density, and metropolitan areas and non-metropolitan areas, and Office of Management and Budget (OMB) designation based on the integration of counties with big cities (see Hewitt 1989 and OMB 1990). Both definitions are useful but imperfect."

This modification sought to identify large urban counties (1,225 square miles or more) that contained census tracts with urban pockets but low population density as "rural areas, with their small populations, sparse settlement and remoteness, often needed Federal government assistance in order to maintain a variety of essential health services. Under usual market conditions, health and related services tend to be concentrated in big cities and their suburban areas (see United States General Accounting Office, Nov. 1992, and Goldsmith, et al, in press). Thus, residents of small towns or the open country (rural residents) are considerably less likely than the residents of big cities and their suburbs to have easy geographical access to health services unless the development of such services is encouraged and supported."

Based on 1980 Census results, the researchers used the proposed modification formula to identify 75 counties nationwide for which only part of the county would be recognized as urban. In 1996 twelve additional counties were added to the list based on 1990 Census data. *ORHP has no plans to update the Goldsmith modification in the future.* ORHP has abandoned this method in favor of the Rural Urban Commuting Areas (RUCA) approach.

In the 1990s the ORHP and the USDA began collaborating and commissioned a study by the University of Washington[17] on a new way to define rural that would decrease the inherent defects of MSA distinctions between "urban" and "rural" communities. Rural-Urban Commuting Areas (RUCA) account for commuting patterns and build on definitions of urbanized areas and urban places developed by the Census Bureau. RUCAs are used to define eligibility for many programs administered through ORHP and can be mapped by census tract or zip code. They have proven a valuable resource for defining rural in terms of citizens having access to services they may travel to. RUCAs are established by assigning codes to Census Tracts that are then mapped to zip codes.[18] ORHP is planning to update RUCAs and publish a federal register notice in fall 2004.

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[13] Ricketts, Thomas C.; Johnson-Webb, Karen D.; and Taylor, Patricia. *Definitions of Rural: A Handbook for Health Policy Makers and Researchers.* Chapel Hill, NC: Cecil G. Sheps Center for Health Services Research, University of North Carolina, July, 1998. Pages 6-7.

[14] Hewitt, Maria. *Defining "Rural" Areas: Impact on Health Care Policy and Research.* Washington, DC: Office of Technology Assessment, Congress of the United States, July 1989. Page 8.

[15] Zelarney, Pearlanne T, and Ciarlo, James A. *Defining and Describing Frontier Areas in the United States: An Update – Letter to the Field No. 22.* Boulder, Colorado: Western Interstate Commission for Higher Education, December, 2000.

[16] Goldsmith, Harold F.; Puskin, Dena F; and Stiles, Diane J. *Improving the Operational Definition of "Rural Areas" for Federal Programs.* Washington, DC: Federal Office of Rural Health Policy, 1993. http://ruralhealth.hrsa.gov/pub/Goldsmith.htm

[17] http://www.fammed.washington.edu/wwamirhrc/rucas/rucas.html

[18] The methods used by the University of Washington to map Census Tract RUCA assignments to zip codes are available at http://www.fammed.washington.edu/wwamirhrc/rucas/methods.html. Population distribution across the RUCA codes resulted in less than 1 percent variation between CTs and zip codes.

According to the ERS,[19] RUCAs are "based on measures of urbanization, population density, and daily commuting." According to the Office of Technology Assessment,[20] "to study the geographic variation of access to health care, a typology that includes population size, density, and distance to large settlements is of interest." RUCAs meet all of these tests. The Washington State Department of Health[21] describes RUCAs as "a ten-tiered classification system based on census tract geography. Both population size and commuting relationships are used to classify census tracts…The RUCA system provides a great deal of flexibility as the codes can be collapsed or combined in several different ways."

EMS Urban-Rural Distinctions

Prior to 2002, ambulance reimbursement for Medicare Beneficiaries was based on traditional charge to cost profiles (for hospital-based providers) or a Health Care Finance Administration (HCFA) defined "reasonable charge" method (for non-hospital ambulance suppliers) developed for individual and groups of providers within sub-regional area. There was no urban rural distinction and charges and reimbursement varied widely throughout the country and even within regions.

As a requirement of the 1997 Balanced Budget Act, CMS issued a Final Rule in February 2002[22] creating a single national fee schedule for emergency and non-emergency ambulance services. Considerable effort was expended in the five year negotiated rule making process on defining an urban-rural distinction. The Final Rule defined "a rural area to be an area outside a Metropolitan Statistical Area (MSA) or a New England County Metropolitan Area, or an area within an MSA identified as rural, using the Goldsmith modification"

The Rule noted that "we could not easily adopt and implement, within the constraints necessary to implement the fee schedule timely, a methodology for recognizing geographic population density disparities other than MSA/non-MSA. However, we will consider alternative methodologies that may more appropriately address payment to isolated, low-volume rural ambulance suppliers. Thus, the rural adjustment in this rule is a temporary proxy to recognize the higher costs of certain low-volume rural suppliers." [23]

The Rule also said, "Several difficult issues will need to be resolved to establish more precise criteria for suppliers that should receive the rural adjustment. Examples of such issues include: (1) Appropriately identifying an ambulance supplier as rural; (2) identifying the supplier's total ambulance volume (because Medicare has a record only of its Medicare services); and (3) identifying whether the supplier is isolated, because some suppliers might not furnish services to Medicare beneficiaries (thus, Medicare would have no record of their existence) and one of these suppliers might be located near an otherwise ''isolated'' supplier. Addressing these issues in some cases will require the collection of data that are currently unavailable. We intend to work with the industry and with the Office of Rural Health Policy to identify and collect pertinent data as soon as possible." [24]

MSAs with the Goldsmith modification are the current method used by CMS to describe rural for the purposes of reimbursement under the Medicare Ambulance Fee Schedule.

CMS has taken these definitions and assigned a "rural" or "urban" designation to each United States Postal Service (USPS) zip code in the country. Ambulance providers are required to document the zip code of the point of origin for the ambulance transport. In the Rule, the first 17 miles for ambulance transports originating in a "rural" zip code are paid at a slightly higher rate.

The county based urban-rural distinction was seen as problematic from the beginning and ambulance providers have consistently proposed that a more precise definition of urban-rural geography is necessary to assure that there is reasonable and timely access to emergency healthcare in rural areas. The broad county line distinction often does not reflect ambulance service coverage areas and is neither specific nor sensitive in defining progressively rural areas with decreasing population density and often increasing geographic barriers to care. There is a general consensus in the ambulance industry that a definition of rural for ambulance payment must be made at a sub-county level.

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[19] http://www.ers.usda.gov/Briefing/Rurality/RuralUrbanCommutingAreas/

[20] Hewitt, page 24.

[21] http://www.doh.wa.gov/data/guidelines/ruralurban.htm

[22] Federal Register 2/27/2002, Vol. 67, No. 29, Part IV, 42 CFR Parts 410 and 414. *Medicare Program: Fee Schedule for Payment of Ambulance Services and Revisions to the Physician Certification Requirements for Coverage of Non-Emergency Ambulance Services, Final Rule.*

[23] Ibid page 9110

[24] Ibid page 9110

Recognizing continuing problems in assuring rural EMS coverage, the Medicare, Medicaid, and SCHIP Benefits Improvement Act of 2000 (BIPA) directed GAO to examine rural ambulance costs and make recommendations to CMS on improvements to the Final 2002 Rule "to address appropriate, payment for ambulance services furnished in rural, low-volume areas." [25]

The "temporary proxy" has undergone a number of modifications since the 2002 Final Rule with the most recent adjustments occurring in a Final Rule promulgated as required under Section 414 of the 2003 Medicare Prescription Drug, Improvement and Modernization Act.

Nonetheless, EMS reimbursement remains tied to county based geography and with a zip-code based point of pick up to determine if the origin of the service is in an MSA or non-MSA area and there is no current methodology to account on the challenges to provide service in progressively rural areas.

Medicare is the single largest payer for most ambulance providers. Adequate Medicare reimbursement is a key factor in assuring service availability in rural areas. As noted by the GAO, "refining Medicare's ambulance fee schedule to adequately account for cost differences in providing ambulance services across various geographic areas is important to ensuring beneficiaries' access to services. Access is a particular concern in rural areas, since providers' cost per trip is likely to be higher because they provide fewer trips. Moreover, our analysis shows that the cost per trip is likely to be highest in the least densely populated rural counties. While the fee schedule incorporates a rural adjustment to raise payments for trips provided in rural areas, its definition of "rural" is broad. As a result, the fee schedule's rural payment adjustment does not sufficiently target trips provided in the least densely populated rural counties." [26]

The challenge for policy makers is to develop a methodology that can blend the need with the tools available. Both county based borders and zip-code based point of pick-ups, which often cross county boundaries, have inherent weaknesses in defining "rural."

Targeting Appropriate Ambulance Reimbursement in Rural Areas

In both the 2002 Final Rule and the GAO report there is recognition of a need to develop a methodology that is both sensitive and specific enough to identify "rural" and target additional reimbursement for EMS services in progressively rural and frontier areas. This is necessary to assure that any additional targeted reimbursement be "sufficiently precise to limit the rural bonus payment to only those rural ambulances that are isolated, essential, (and) low-volume." [27] CMS further noted in response to the GAO report: "the complexity of the issues and the need for careful analysis to assure that the appropriate payments are made to only those ambulance suppliers/providers who require additional payment because of low volume and not because of some other reason (e.g., inefficiency or competition from another supplier)." [28]

The GAO ultimately determined that a blend of population density within a landscape is a key factor in defining "rural" but supported the CMS use of county level designation of urban and rural. Their report states, "The difference in the volume of Medicare ambulance trips provided in rural and urban counties largely reflects differences in their population density. Not surprisingly, the number of Medicare ambulance trips in a county is strongly related to its population, with counties with fewer residents having fewer trips. Trip volume is also related to a county's land area, although to a lesser extent. Population density — the ratio of population to land area — reflects both of these measures." [29]

The GAO analysis also "examined several other classification systems: urban influence codes (UIC), which classify counties based on each county's largest city and its proximity to other areas with large, urban populations; rural-urban continuum codes (RUCC), which classify metropolitan counties by the size of the urban area and non-urban counties by the size of the urban population and proximity to a metropolitan area; and rural-urban commuting areas (RUCA), which classify census tracts using patterns of urbanization, population density, and daily commuting patterns, and then map the census tracts into zip codes. These systems are more complex than the system we used, and we found that they did not help explain variation in trip volume as well as counties grouped by population density."

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[25] US General Accounting Office. *AMBULANCE SERVICES: Medicare Payments Can Be Better Targeted to Trips in Less Densely Populated Rural Areas.* GAO-03-986, (Washington, DC: September 2003), p.27. http://www.gao.gov/new.items/d03986.pdf

[26] Ibid. page 20

[27] Federal Register 2/27/2002.

[27] Ibid page 9110

[28] CMS Correspondence - Administrator Scully to GAO 9/11/2003 as attached to GAO Report.

[29] Ibid

In response to comments by provider associations suggesting that county level urban rural distinctions were too broad the GAO noted: "With respect to the geographic unit used to identify trips for the rural adjustment, we agree that, since counties are relatively large geographic units, it is possible for trips in some areas to be overpaid and others underpaid. Moreover, in principle, a rural classification system that uses a smaller geographic unit, such as zip codes, might better target payments to trips in areas with low population density. Yet our analysis indicates that zip codes do not explain variation in trip volume as well as counties. Further, county boundaries tend to be more stable over time than zip code boundaries. In addition, a variety of technical difficulties hinder the use of zip codes for ambulance payments, including the absence of zip codes for some rural areas."[30]

The GAO also noted that "with respect to multiple adjustment categories, we did not address whether there should be a single adjustment or whether there should be multiple adjustment amounts to reflect differing levels of population density. A decision on single or multiple categories would require balancing increased precision with increased complexity."[31]

Tools and Troubles

There is universal agreement within the ambulance industry that county boundaries and the MSA/Goldsmith model do not accurately describe rural areas for the provision of ambulance service[32] and that current CMS policy does not accurately target rural ambulance payments. There are problems in the use of zip codes as a determinate of ambulance payments. The definition of rural be exclusion — any area outside of a Goldsmith modified MSA – does not address the stratification of need in progressively rural and frontier areas.

To illustrate the problem with using counties as a baseline for defining rural, under current Medicare reimbursement[33] (Goldsmith-modified counties) there are 3,938 urban zip codes with population density less than 150 per square mile. 1,832 of these zip codes serve populations less than 2,500. Similarly, there are 199 rural zip codes with population density greater than 1,000 per square mile. 332 rural zip codes serve populations greater than 25,000, and 15 of these serve a population greater than 50,000.

Using zip codes as a means of identifying rural is also problematic. Zip codes are established by the USPS for the purposes of delivering mail. Zip codes areas are irregular in shape and in population (some zip codes are a single building and others encompass hundreds of square miles).

The main problem with using zip code population density as a rural proxy is that both the numerator and denominator are variable. Should one or the other (square miles or population) be constant it would be easy and logical to compare one area to another. Two variables, though, make it nearly impossible to make comparisons.

Table 1 illustrates the problem of zip code population density by showing how combinations of population and square miles can yield the same result of a density of 150 persons per square mile.[34]

TABLE 1

STATE	CMS DESIGNATION	ZIP CODE	SQUARE MILES	POPULATION	DENSITY
MN	Rural	55955	15.07	2272	150.72
CA	Rural	93015	123.06	18555	150.78
CT	Urban	06758	2.15	325	151.06
MS	Urban	39465	126.14	18965	150.34

Using a 150 per square mile density approach compared to the CMS zip code list,[35] 1,132 zip codes would no longer be rural-eligible although they include zip areas with as few as 10 people (92 zip codes under 500 population). Under this method, 3,938 currently urban zip codes would become rural, 7 with zip code populations exceeding 40,000 (including one with a density of 20).

[30] GAO-03-986, pg. 22

[31] Ibid, pg. 22

[32] Ibid, pg. 21.

[33] Data source: University of Missouri, Rural Policy Research Institute, http://www.rupri.org. There are 42,531 zip codes in the CMS ambulance zip code list on 7/1/2004. For this analysis, the following were subtracted: 9,713 zip codes for post office boxes; 2,661 zip codes whose geography and population was encased and reported within another zip code; 1,195 for which GIS data is not available and 111 zip codes with erroneous population data. 28,851 zip codes were analyzed.

[34] Data Source: 2004 Census Bureau ZCTA file.

[35] See footnote 15 for a description of the zip code data.

It is important to note that there is not a universally agreed upon definition of population density in regards to a rural definition. While the example above uses a density of 150, the GAO[36] references that the quarter of rural counties that are most densely populated begins with a population density of 52 persons per square mile, but it does not list the density of the most densely populated county in this group.

Problems associated with using zip code as a designation for rural have also been identified by the Office of Technology Assessment.[37] Extensive, detailed and regularly updated demographic and other data by zip code is available through the Census Bureau and other agencies.

Congress directed in the Medicare Modernization Act of 2003[38] Congress that pharmacy network access be defined using a Department of Defense (DoD) population density method. For pharmacy networks under the MMA using the DoD method, urban is defined as those 5 digit zip codes with a population density greater than 3,000 persons per square mile; suburban between 1,000 and 3,000 densities and rural less than 1,000 densities.

An analysis of the zip code density model designed by the Department of Defense compared to the CMS zip code list,[39] shows that of the 15,122 currently rural-eligible zip codes, 15,006 would be classified rural, 79 would be suburban and 37 would be urban. This would include 13 urban and 17 suburban zip codes with less than 1,000 population, and 17 zip codes with population exceeding 50,000 — two of which, due to large geography contained in the zip code, have a population density less than 100.

Although zip codes are problematic in pure form they are the only reliable and readily available mechanism to determine the point of origin for an EMS call and CMS has established and formalized their continued use as the key determinate to locate an urban or rural point of pick up.

A Way Forward

A sub-county geographic area with a specificity in population can be achieved through joining several existing methods of determining urban and rural continuums. This would allow greater specificity through the use of Census Bureau derived census block and census tract areas.

URBANIZED AREAS

Urbanized Areas (UA)[40] were last updated after the 2000 Census. The Census Bureau defines an UA area as "An area consisting of a central place(s) and adjacent territory with a general population density of at least 1,000 people per square mile of land area that together have a minimum residential population of at least 50,000 people." UAs are based on Census Blocks and Block Groups which are the smaller units that make up Census Tracts (CT). The US Census Bureau attempts to identify CTs as those areas optimally containing exactly 4,000 people.[41] While there is some variation of the population within CT, the variation is controlled.

According to Cromartie and Swanson,[42] "Census Tracts are large enough to have acceptable sampling error rates (containing an average of 4,000 people); are consistently defined across the Nation; are usually subdivided as population grows to maintain geographic comparability over time; and can be aggregated to form county [or zip code] level statistical areas when needed."

In describing the use of UAs as a Congressional definition for the Rural Health Clinic Program, Ricketts[43] notes that "it was apparent that both the OMB and Census definitions excluded certain areas which were clearly rural in nature but did not fall under existing definitions of "rural" or "nonmetropolitan"…the solution was to use the Census Bureau definition of "Urbanized Area"

[36] GAO-03-986, page 15.

[37] Hewitt. Page 17.

[38] P.L. 108-173

[39] See footnote 15 for a description of the zip code data.

[40] http://www.census.gov/geo/www/ua/ua_2k.html

[41] Census tract lines are drawn within county boundaries. While they will optimally contain exactly 4,000 people they may contain as few as 1,500 or as many as 8,000 because they follow the easily identifiable physical characteristics of land area. http://www.census.gov/geo/www/psapage.html

[42] Cromartie, John and Linda Swanson,"Census Tracts More Precisely Define Rural Populations and Areas." Rural Development Perspectives, vol 11, no 3. 1996.

[43] Ricketts, page 6.

…as the factor for excluding sites for Rural Health Clinic designation. Clinics located outside of "Urbanized Areas" are geographically eligible for RHC designation." RUCA series 1 is a nearly identical representation of urban as UAs.

ZCTAs

One alternative is to define rural areas by the population density of each zip code directly by obtaining the ZIP Code Tabulation Area (ZCTA) database from the U.S. Census Bureau. ZCTAs are derived from the area and population of each of the 8 million census blocks across the country, and are the most reliable measurement of the population and area of each zip Code. The ZCTA database offers the ability to remove the so called "point zip codes" that represent post office boxes and individual office buildings with high mail volume (e.g., Visa, MasterCard, etc.), where no one actually lives. Further, the ZCTA file assigns a zip code equivalent to 100 percent of the Country.

RURAL-URBAN COMMUTING AREAS

As noted earlier, the ORHP developed a geographic urban-rural continuum system to define eligibility for many programs administered through ORHP that can be mapped by census tract or zip code. A modified RUCA system is significantly more sensitive in determining "ruralness" than county borders. RUCA areas that are series 1 (1.0 and 1.1) are closely aligned with UAs as noted above.

Table 2[44] shows an analysis combining zip code files with 1998 RUCA files that identifies a rapid population stratification between RUCA 1 urban zones and all other RUCA areas.

TABLE 2

RUCA	POPULATION	PERCENT
1	178,219,568	65.80
2	24,021,976	8.90
3-6	30,817,966	11.40
7-9	21,994,823	8.10
10	15,817,179	5.80
	270,871,512	

While ORHP has designated RUCA series 3 and above as rural, RUCAs areas other than series 1 under a modified system might be considered rural and then tested against UA designated areas and ZCTA files (specificity) to assure the areas were truly geographically time dependent in EMS service availability. This further modification of the RUCA system may be necessary, as there are over 100 series 2 RUCA-based ZIP codes with populations between 25,000 and 80,000 with population densities as high as 4,200 per square mile. [Note: a reclassification funded by ORHP of census blocks and census tracts based on the 2000 Census is currently under underway and will result in a reclassification of zip codes that may resolve this issue.]

Using the current RUCA maps, the Rural Policy Research Institute (RUPRI) performed an extensive spatial analysis of RUCAs to determine that this modification would re-define an additional 6 percent of the US geography from urban to rural as compared to the MSA/Goldsmith model currently used by CMS. It removes the inherent weaknesses from the MSA county level designation (especially counties classified as MSA when they are adjacent and those affected by Goldsmith). It also leads to a clearly defined urban area, as opposed to "salt and pepper" pockets that occur with a simple population density by ZCTA model.

This approach achieves a unit of measurement that is flexible, precise, stable and more consistent than using county boundaries and yet practical as the RUCA areas are mapped to zip codes. Ambulance services have been reporting the point of pick up zip code to CMS since April 2002 when the new ambulance fee schedule began implementation. Transition to a payment method based on zip code mapped RUCAs would be transparent on implementation for ambulance services.

Using a combination of data from these three sources a much more accurate urban-rural continuum for EMS is possible. EMS is a service delivered to the user when seconds, not minutes, count. There are inherent weaknesses in each definition set that either excludes areas that should be rural, or include areas that should not be rural. For the purposes of EMS, many suburban locales are more rural than urban because ambulance cost per call is volume dependent. These services tend to serve both suburban and rural residents from one or more bases of operation. There are also a number of isolated places with concentrated population that also serve large geographies. Because ambulance services tend to be organized around populations of people instead of political boundaries, these current definitions are inappropriate.

[44] ORHP 2004

TIERING WITHIN THE RURAL GEOGRAPHY

As noted earlier, ambulance services are organized around populations of people and the need to meet appropriate response time goals. In rural areas, populations of people are separated geographically and some areas are more densely populated than others. Because of these factors and supported by the GAO determination is the most useful variable for the purpose of analyzing costs per trip to ambulance volume; costs to provide ambulance service vary from area to area.

The GAO[45] notes that "trip volume is the key factor affecting differences in ambulance providers' cost per trip. Ambulance providers' total costs primarily reflect readiness — the need to have an ambulance and crew available when emergency calls are received. Readiness-related costs are fixed, meaning that they do not increase with the number of trips provided, as long as a provider has excess capacity. As a result, providers that make fewer trips tend to have a higher cost per trip than those that make more trips. We also found that the length of providers' trips had little effect on their cost per trip. The modest variation in Medicare payments to ambulance providers that serve rural counties probably does not fully reflect their differences in costs because the key factor affecting provider costs — the number of trips — varies widely across rural counties."

"The number of Medicare ambulance trips provided in rural counties varies markedly with population density, with the least densely populated rural counties tending to have fewer trips than other rural counties. For example, the quarter of rural counties that are the most densely populated, with 52 or more persons per square mile, averaged over 2,200 Medicare trips in 2001. (See table 5.) In contrast, only about 300 Medicare trips, on average, were made in the quarter of rural counties that are the least densely populated, with 11 or fewer persons per square mile. Even fewer Medicare trips — only about 200 — were made in frontier counties, which are counties with 6 or fewer persons per square mile. This suggests that the cost per trip is likely higher for providers serving the least densely populated rural counties."

A modified RUCA system is a reasonable method upon which to group locations because it has some natural tiering built into the structure. One potential method of tiering rural areas for the purpose of ambulance reimbursement can be demonstrated by analyzing EMS run data from Minnesota with existing RUCA files.

Minnesota is the only state that could be identified that is currently collecting point of pick up zip code information as part of their statewide EMS data collection system. Minnesota provided 12 consecutive months of data for this analysis. This data includes a set of all transported patients and a separate set for transported patients over age 65.[46]

While this analysis has limitations in that it uses 1998 RUCA designations there is a pronounced difference in volume between RUCA 1 Urban and all other RUCA designations and it may useful in modeling a more appropriate urban rural divide. Under this model RUCA 1 would be deemed "urban" with four additional potential "rural" tiers. The urban zone would not be eligible for a rural modifier and the tiered rural zones would be progressively eligible for increased rural modifiers tied to lower volume and higher costs per trip.

Tier 1: RUCA 2 (High Metropolitan Commuting Area – 30 percent or more of the commuting flow to Urban Area)
Tier 2: RUCA 3-6 (Low Metropolitan Commuting Area and Large Town Cores, Commuting flows less than 30 percent large town)
Tier 3: RUCA 7-9 (Small Town Cores, Commuting flows to small towns)
Tier 4: RUCA 10 (Rural Area, No dominate commuting flow)

In the Minnesota data set, there is a striking difference between RUCA series 1 zip codes and RUCA series 2 zip codes. The "run volume opportunity" for ambulance services operating in RUCA 2 zip codes is more similar to RUCAs 3-10 than the Urbanized Areas (RUCA 1).

[45] GAO-03-986, Exec. Summary.

[46] Data source: Minnesota Emergency Medical Services Regulatory Board. Ambulance run data from April 1, 2003 to March 31, 2004. Minnesota provided two data sets. One set includes all ambulance runs in which a patient was transported. The other set contains ambulance runs for transported patients over age 65. Not all persons over 65 participate in the Medicare program and there are some disabled persons under 65 who are Medicare beneficiaries. Minnesota does not collect payer information.

The ambulance services in these areas are serving a common or like group of citizens. While no two ambulance services may look alike side-by-side, there are enough commonalities within these geographies that the ambulance services tend to more similar than diverse in terms of size, organizational status (paid vs. volunteer), run volume, and costs of service. Likewise, ambulance volume is more similar than diverse within these common geographies.

MINNESOTA AMBULANCE RUNS

ALL PATIENTS TRANSPORTED IN A 12 MONTH PERIOD

ZONE	AVERAGE RUNS/10000	AVERAGE RUNS/10000/DAY	AVERAGE SQUARE MILES	TOTAL RUNS	AVERAGE RUNS/SQMI
RUCA 1	1477	4.05	3413	189958	55.65
RUCA 2	416	1.14	4746	15056	3.17
RUCA 3-6	399	1.09	9095	33248	3.66
RUCA 7-9	485	1.33	14383	30001	2.09
RUCA 10	468	1.28	42242	37520	0.89

MINNESOTA AMBULANCE RUNS

PATIENTS AGE 65 OR OLDER TRANSPORTED IN A 12 MONTH PERIOD

ZONE	AVERAGE RUNS/10000	AVERAGE RUNS/10000/DAY	AVERAGE SQUARE MILES	TOTAL RUNS	AVERAGE RUNS/SQMI
RUCA 1	582	1.59	3287	63983	19.47
RUCA 2	129	0.35	4774	4523	0.95
RUCA 3-6	187	0.51	8932	14431	1.62
RUCA 7-9	232	0.64	14220	14107	0.99
RUCA 10	236	0.65	41277	16589	0.40

Summary

There are a number of methods for defining urban and rural in use by the federal government. When applying a definition to the provision of ambulance service, that is appropriate for the manner in which ambulance services are organized, no existing definition leads to a reasonable outcome. A potential modified version of the RUCA definition may be the "best fit" for ambulance services, by defining those areas in RUCA series 1 as urban and all other areas as rural, cross-walked to UA and ZCTA files to assure specificity in geographic and population density need. Likewise, tiers of "rurality" and therefore ambulance volume can be recognized using the RUCA system because of its straightforward approach in defining high and low commuting zones as well as separating geography by population density, large and small towns, and areas with no definable commuting pattern.

This approach is both more sensitive (it uses RUCAs assigned by CT) and more specific (CTs are mapped to zip codes) than a county boundary based method. If this method is adopted, it will require periodic and frequent updates by ORHP and CMS as zip code boundaries change and new codes are added. A similar approach (one using RUCA 1 as an urban definition and grouping the remaining RUCAs into tiers for rural levels[47]) has been adopted by the State of Washington's Department of Health for the purposes of public health planning.

While CMS is currently collecting point of pickup zip code data on Medicare ambulance runs, neither the GAO nor ORHP have made use of the data. There is general agreement in the EMS provider community that CMS should immediately begin publishing this data, in order to expedite a policy solution for rural EMS reimbursement.

Once CMS releases its zip code data, it will be possible to further analyze the validity and impact of using a modified, updated RUCA classification to develop rural reimbursement tiers. While the CMS zip code point of pickup files only reference Medicare beneficiaries, and therefore the data set is only a partial reflection of EMS activity, CMS is the single largest payer for most rural EMS providers.

Conclusion

Federal programs that are geared toward ensuring a stable and vibrant EMS system need a better method of defining rural and access that is structured toward this unique combination of access issues. A rural appropriate EMS definition must account for a combination of service availability, population coverage, and a time based geographic delivery of emergency services. To insure the existence of a stable and vibrant EMS system, Federal programs should define and serve rural communities with policies that encourage service availability with optimal response times to emergent events.

[47] Washington State Department of Health. p.5.

APPENDIX K — PROFILE OF TRIBAL EMS IN THE UNITED STATES

The following is a general overview of tribal EMS in the United States, provided by the Indian Health Service as a reference:

History, Organization, and Leadership

- The Indian Health Service (IHS) is a federal program that is responsible for providing health care to Alaska Natives and American Indians (AN/AI), based on the US Constitution, federal and case law, and tribal agreements and treaties with the US government (www.ihs.gov).
- The IHS identifies three distinct avenues of health care delivery — IHS, Tribal, and Urban — referred to as I/T/U.
  - There are more than 560 federally recognized sovereign nations.
    - Less than 15 percent of these have an EMS service (See Below).
- There is no EMS Branch at IHS Headquarters East (HQE) in Rockville, MD, but there is a leadership position of EMS Program Director.
  - The EMS Program Director also functions in a dual role as the Community Health Representative (CHR) Program Director.
    - Both positions are under Director of Nursing at this time.
- Each of the 12 IHS Area Offices has a EMS/CHR Program Coordinator Position
  - In some Area Offices, the position is divided, and EMS leadership is provided by Area EMS Medical Director or the Chief Medical Officer.
    - EMS Medical Directors collaborate with the HQE EMS/CHR Program Coordinator.
- In the 1970s and 1980s, EMS programs developed in conjunction with CHR Programs. While many were initially combined, very few are today.
  - CHR programs have become aligned with public health and home health nursing programs.
  - Some CHR personnel are trained as First Responders, and more CHR programs are promoting or requiring this.
- There is a plan for restructuring at HQE that would create a new Office of Emergency Preparedness with a dedicated EMS Program Director position.
- The Indian Health Manual provides standards for clinical services. Chapter 17 addresses EMS.
- There is an IHS planning tool, Resource Requirements Methodology (RRM), for predicting EMS personnel needs relative to population served, square kilometers covered, and EMS workload.
- 77 Tribal EMS programs serve more than 60 percent of the IHS resident beneficiary population.
- Tribal EMS services are either fully or partially paid rural/frontier EMS services.
- Most programs provide a combination of BLS and ALS level of service. Some provide either all BLS or ALS service.
- There are 35 "reservation states." Twenty-five of 35 states have tribal EMS services operating within them.
  - www.heds.org/ambpro10.pdf
- Recruitment and retention, equipment procurement and replacement, and access to training are all significant needs for tribal EMS.

Funding

- Since there is no line item budget for EMS, funding is provided indirectly, through the line items of Hospitals and Clinics (H&C), and Contract Health Services (CHS), in the form of self-determination contracts.
  - CHS and the Catastrophic Health Emergency Fund (CHEF) provide additional funds for the inter-facility transport of individual patients.
- Public Law 93-638, the Indian Self-Determination and Education Assistance Act of 1975, allows tribal governments to assume control of programs and services provided by the US government.
  - Tribal EMS Programs are largely funded through such "638" contracts.
  - There is significant variation of funding among EMS programs — some are fully funded and others, minimally.
- There is increasing self-determination, or self-governance, with regard to health programs.
  - At the present time, nearly 50 percent of the IHS budget supports tribally contracted health programs.
  - It is anticipated that this budget distribution will change significantly over the next decade, as health care functions are increasingly assumed by tribal governments.
    - IHS will have a limited role of providing technical assistance.

- Other sources of funding/resources for EMS programs come from tribal governments, the IHS-GSA Shared Cost Ambulance Program, state governments, Contract Health Services (for inter-facility transports) and third party collections.
  - Some Tribal EMS Programs are proficient at billing, and some are not.
    - There is a very effective Tribal Billing Cooperative in the Phoenix Area.
- The United States Commission on Civil Rights completed a study of federal funding for Alaska Natives and American Indians (AN/AI), revealing a significant disparity when compared to other federal beneficiaries or entitlement programs.
  - The report, entitled "A Quiet Crisis: Federal Funding and Unmet Need in Indian Country," can be found at www.usccr.gov
  - The document identifies "…continued existence of a chronically under-funded, understaffed, and inadequate health care delivery system (for Native American people)."

Information and Data

- NHTSA performed an EMS System Assessment of I/T EMS in 1992-93.
  - Most of the 67 recommendations have not been implemented, and are still relevant. No Reassessment has been performed.
- The IHS Office of Program Planning and Evaluation performed an internal assessment of unmet need with regard to personnel, equipment, ambulances and funding for FY 98 (participation: N=41/77 Tribal EMS programs).
  - The results, reported in 2001 as *Quantifying the Unmet Need in IHS and Tribal EMS*, revealed a paramount need for more personnel.
  - Since then, annual I/T EMS systems operations data has been submitted voluntarily by tribal services.
- There is no comprehensive database for system operations or patient care.
  - Some tribal EMS services report data to the state pre-hospital data collection system.

Supporting Programs

- The IHS-GSA Shared Cost Ambulance Program is the major means of providing ambulances for tribal EMS services.
  - IHS purchases the truck or van frame from the General Services Administration, which leases converted ambulances to tribal governments.
  - Replacement criteria are 100,000 miles or 10 years in service; 24-30 ambulances are replaced annually.
- The Mountain Plains Health Consortium (MPHC) is a part of a health education consortium located on the Fort Meade VA campus in Sturgis, South Dakota.
  - The IHS provides funds for tribal EMS primary and secondary education through an inter-agency agreement with the Veterans Administration.
  - MPHC also collects and collates tribal EMS systems operations data.
- The National Native American EMS Association (NNAEMSA) is the only professional organization that represents tribal EMS interests.
  - The IHS Director charged the NNAEMSA with a leadership role in 1997.
  - The activities of the NNAEMSA are supported through a cooperative agreement with the IHS.
- The Health Resources Services Administration (HRSA) has established an inter-agency agreement with the IHS in 1999.
  - The intent of the agreement is to get the resources of the Emergency Medical Services for Children (EMSC) Program to one of its defined special populations — AN/AI children, families and communities.
  - The IHS EMSC Program Coordinator position is located in the Injury.
  - Prevention section of the Office of the Environmental Health and Engineering.

Challenges

- There is inadequate federal funding for the I/T/U health programs, and no dedicated funding for EMS.
- Unintentional injuries are the leading cause of death for Native Americans between ages 1-54 years of age, and the third leading cause of death overall.
- The age-adjusted injury death rate for Native Americans is approximately 250 percent higher than that for the total U.S. population (www.cdc.ncip.gov).
- Existing injury prevention programs need to better linked to health care delivery systems operation, including EMS.
- Policy makers and decision makers need more information and education about tribal EMS in order to improve the EMS system for AN/AI peoples.

APPENDIX L – EMS COORDINATION IN WILDLAND FIRES

The subject of wildland fires and the complexities they present for EMS transcend any one chapter of this document. Integration with other public safety and medical services, medical oversight, credentialing/regulation, clinical care and transportation are all critically relevant to wildland fire events where state lines dissolve and temporary "cities" of thousands appear in a rural/frontier environment. Yet not all rural/frontier communities experience such events. This Appendix was created as an initial mechanism to establish priorities based on these events which do affect so many.

WHERE WE ARE

The limited resources for EMS in rural and frontier areas of the United States challenge many systems to be creative and innovative to provide the best care with the scarce commodities available. One of the outcomes of this challenge has been the evolutionary development of a support system in wildland fire incidents for medical emergencies. This rural medicine practice is an important component of EMS that is often overlooked or is overlooked by the rural health care system that surrounds it. From 1992 to 2002, there were 1,119,580 wild fires that consumed 42,150,895 acres at a total cost of 1.6 billion dollars. During that same time period there were 222 fatalities at these incidents nationwide. In an average fire season there are as many as 200,000 patients treated at these incidents.

This issue is far more complex than appears on the surface. There are nine agencies housed under the National Interagency Fire Center (NIFC), which is the lead agency for wildfire suppression. Within this center is a system to call up resources related to EMS support. The call up can be as simple as one emergency medical technician (EMT) with a medical kit or as complex as a full medical staff to include EMT's, nurses and physicians. Fragmentation within the Federal system creates confusion with complex issues such as licensure/certification, assurance that system components such as communications, transportation, and medical direction are in place, and that scope of practice issues are addressed. Most of these fire camps are situated in rugged wilderness areas where there are scant resources. These camps can be populated with several thousand workers who are exposed to extreme conditions. This creates the opportunity for a multitude of medical and trauma cases which require medical care outside the D.O.T. curriculum. Treatment can range from blister ointment to administration of cardiac medications during a cardiac arrest. Many medical teams respond with medications that are not standard for a paramedic to administer.

This brings to light the issue of credentialing. Each state has its own rules governing how an EMS provider gains legal recognition. Many of the EMS providers contracted by the federal government to provide medical care at these incidents do not reside within the state in which they are practicing. Many are also under the impression that they do not need to seek credentialing in that state since they are working under the federal government contract. This issue has recently gained attention due to input from Idaho, Nevada, and Montana's state EMS offices. A subcommittee was formed under the National Wildfire Coordinating Group (NWCG). This group, appropriately named the Emergency Medical Services Group (EMSG), is currently tasked with the development of a credential recognition process that any state could recognize to allow legal recognition from the state where the care is being provided. The group is working from a systems approach, outlining criteria that a state would look for to ensure system integration. Protocol is being developed to ensure that the leadership assigned to the medical unit provides the state office with assurance that they have identified and verified the provider credentials, communication with agencies and hospitals in the area, transportation by ground and air, medical facility location, equipment standards, and contact with the state EMS office.

The scope of practice issue is a particular problem for this group. There is a justifiable need for additional skills, procedures and medications due to the rural nature of the setting, lack of appropriate facilities, and long transport times. Occupational medicine plays a significant role in how these medical teams function in the wildfire environment. Many times patient treatment can be treat and release-type care. The patient may require wound care, antibiotics, or minor suturing and the worker could then be sent back to the line. This type of medical care is outside the standard scope of practice even at the paramedic level in most states, yet with some advanced training the field provider could be the best choice for care.

WHERE WE WANT TO BE

There is a single lead federal agency in charge of coordinating the availability of EMS resources in an all-hazards approach. Whether the incident calls for one EMT with a twenty person medical kit or a complete medical unit capable of caring for five thousand people, this entity will be responsible for maintaining a cadre of personnel capable of deployment to any incident. This agency will also ensure that each provider is properly credentialed in their respective state. The agency will develop plans for deployment that included the following:

- Contact with the state regulatory agency in which they are deploying.
- Proper medical direction to include appropriate equipment that matches the designated protocol.
- Assurance that the proper transportation and communication resources will be available.
- Location of the appropriate medical facilities is known by the team.

The provider designated as a member of this team will have advanced scope of practice training to include occupational medicine. The agency will ensure that there is adequate funding for initial and ongoing training for the team members. There will also be a component to train and utilize local resources, whose knowledge of the area is a tremendous resource. The agency will plan for recruitment and retention, quality improvement, and information technology improvements.

Equipment for this group will be consistent for every incident. A national ordering system will be implemented to ensure that equipment standards are kept, replacement and restocking is timely, and upgrades keep up with technology changes. A plan will be in place to rapidly deploy both team members and equipment within twenty-four hours of the event. Pre-designated transportation modes will be identified to facilitate this rapid deployment. Communication equipment will include technology capable of two-way communication in places lacking access.

HOW DO WE GET THERE

The NWCG should adopt a National standard of care of rural EMS practices. The EMSG should develop these standards by working closely with the National Association of State EMS Directors (NASEMSD), the National Association of EMS Physicians, and other interested parties. The NAEMSD should work collectively to develop policy for assuring legal recognition of providers from across state lines. These policies should include assurances that a provider will be recognized when attached to a federal incident that has provided reasonable adherence to the system standards developed by the EMSG.

States would be encouraged to enter into interstate compacts allowing transfer of provider credentialing to neighboring states.

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