National EMS Advisory Council
Committee Report and Advisory

Current status: FINAL as of August 15, 2017

Committee: Provider and Community Education and Data Integration and Technology

Title: Practice Analysis of Mobile Integrated Healthcare Systems and Community Paramedics: A method to determine the need for new specialty care-focused scope of practice, education standard, and standardized data dictionary

Version: **FINAL**

Issue Synopsis: The activities of a community paramedic working in a mobile integrated healthcare (MIH) system may reflect a different scope of practice than a traditional paramedic. A practice analysis of community paramedicine will shed light on whether a new scope of practice, education standard, and certification process for community paramedics is needed.

Background: Mobile integrated healthcare (MIH) programs are increasing in number across the United States.[1–3] A common characteristic of MIH programs is the use of an existing workforce (i.e. EMS professionals) to assess and fulfill the unmet social or health needs in a community. EMS professionals who work in a MIH system are commonly called community paramedics (CP) or some derivative of this title.

Mobile integrated healthcare is a term used to describe an increasingly common health care delivery model offered by emergency medical service (EMS) agencies. There are many derivatives of the MIH title. This model differs from the traditional EMS model in that its primary focus is not emergency care delivery and patient transportation. Instead, MIH programs focus on assessment of the health and social needs of an individual, assistance in the acquisition of the associated health and social services resources, and the delivery of continuing outpatient or preventative medical care. MIH frequently occurs in a non-hospital setting, often immediately follows hospital discharge, and is essential element of the patient's ongoing healthcare plan.

In this function, EMS professionals partner with other healthcare providers including, but not limited to, community health, home health, and hospice providers. To date, national scope of practice and national education standards do not exist for CP. In addition, national practice standards, patient care delivery guidelines, and a data dictionary to define evidence-based practice and support enhanced patient outcomes are lacking in MIH programs across the United States.

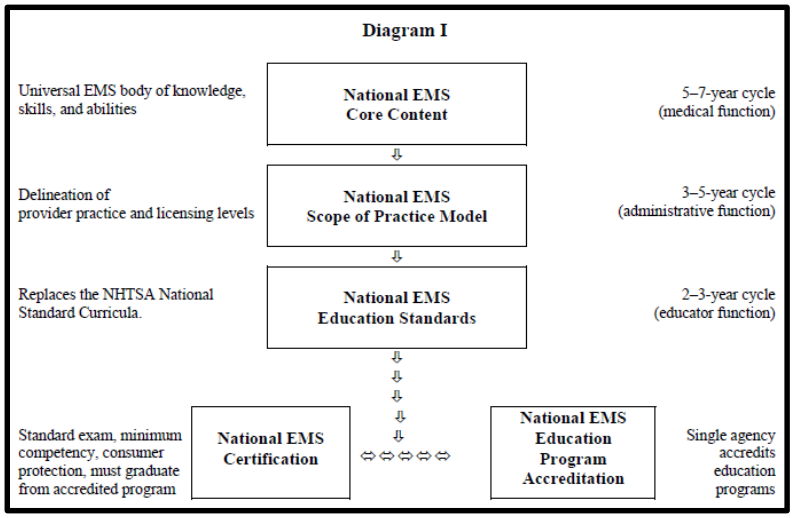
For the purpose of this document, 'practice analysis' means a systematic review of the cognitive and psychomotor skills used in the MIH setting by EMS personnel.

A. Problem Statement

Research has demonstrated the value and importance of the use of standards in many industries, including health care[4-7]. EMS, like all other health care delivery models, functions optimally when supported by standards[8].

There is a strong tradition in the United States for a standards-driven practice of EMS. Evidence for this includes guidelines developed by the American Heart Association for treating cardiovascular disease and by the American College of Surgeons and the National Association of EMTs for the treatment of injuries.

There is also a strong tradition of standardization in healthcare education and credentialing. EMS has followed that tradition as evidenced by the *National EMS Core Content*, *National EMS Scope of Practice Model*, *National EMS Education Standards* and common national certification and education program accreditation organizations, each of which is referenced in the pivotal publication *National EMS Education Agenda for the Future: a Systems Approach*.[8-12] (Diagram 1)



To date, in the United States there has been no systematic assessment of the cognitive foundation of knowledge or the psychomotor skills performed by EMS personnel operating in the MIH setting that has been published in peer review journals.[13,14] In addition, there has not been an assessment of the education requirements necessary to address the cognitive foundation of knowledge and psychomotor skills for MIH that has been published in the peer-reviewed literature.[10-12]

Reputable curricula have been developed for specific MIH initiatives; however, these are proprietary and are specific to the scope of a particular MIH initiative.[13,14] As there is inherently variation among these curricula, a standard basic foundation of knowledge for an entry level CP remains undetermined. There remains a need to identify and detail the core curriculum for all CP/MIH education, following the completion of a formal practice analysis, to achieve a solid foundation of standardization for the practice of CP/MIH nationwide.

EMS medical directors would benefit from standardization of education, credentialing, treatment, and data collection because EMS providers operate under their delegated authority and quality assurance programs and data analysis are an integral element of EMS physician oversight.

EMS educators would benefit from national standards for scope of practice and education because it would provide a foundational basis for the education methodology and improve access to relevant curricula for instruction.

EMS regulators would benefit from standardization as this facilitates credentialing of EMS professionals and EMS educators and helps to ensure consistency in practice across communities.

Payors of EMS service would benefit from standardization as this facilitates evaluation of benefits for consumers. [2,3,19-22]

All sectors, which include, but are not limited to, the public, the payor, the regulator, the educator, the medical director, and the provider, would benefit from a standardized data dictionary. Access to reliable statistics on patient outcomes and data useful for creating performance and outcome benchmarks are vital, particularly since MIH has not yet been rigorously evaluated.

Finally, because the National Highway Traffic Safety Administration (NHTSA) has committed to updating the *EMS Agenda for the Future: a Systems Approach* and the *National EMS Scope of Practice Model*, a timely opportunity exists to incorporate MIH into the various national standards documents.

Resources/References Related to this Issue

- EMS Agenda for the Future
- EMS Education Agenda for the Future: a Systems Approach
- National EMS Core Content
- National EMS Scope of Practice Model
- National EMS Education Standards
- NEMSAC Final Advisory on Community Paramedicine

B. Crosswalk with other standards documents or past recommendations

- NEMSAC Final Advisory on Community Paramedicine, 2014
- NEMSAC Strategy for the Transition of EMS Providers into a more Formalized Educational and Credentialing Process, 2016
- NEMSAC The need for alignment of the 2000 EMS Education Agenda for the Future: A Systems Approach, the 2005 National EMS Core Content, the 2007 National EMS Scope of Practice Model, and the 2009 National EMS Education Standards with the current practice of EMS medicine, 2016

C. Analysis

The use of standards in healthcare is well established. The public-at-large, as well as EMS stakeholders, have benefitted from the structured approach to EMS enabled by the *EMS Education Agenda for the Future: A Systems Approach* and its accompanying resources which are the *National EMS Core Content*, *National EMS Scope of Practice Model*, and the *National EMS Education Standards*.[5–7]

Standardization of EMS is not meant to prevent variation in practice. Its purpose is to establish the base capability of a certified EMS provider, and to facilitate the physician-to-EMS provider delegation of practice necessary to meet the unique needs of each community.

This systems approach begins with an assessment of the activities of EMS providers in the work environment in the form of a practice analysis. From the practice analysis, the core content and competencies for each level of certification are identified

which determines a scope of practice. Finally, the framework of didactic and practical educational requirements are identified which serve as the foundation for education standards.

When this systems approach was implemented between 1996 and 2002, the Emergency Medical Responder, Emergency Medical Technician, Advanced Emergency Medical Technician, and Paramedic levels were included. There was extensive discussion about whether the community paramedic level was needed, but consensus determined that it was not appropriate at that time.

Educators, medical directors, payors, and regulators benefited from the development, contents, and application of the *National EMS Core Content*, the *National EMS Scope of Practice Model*, and the *National EMS Education Standards* documents.[4–6]

This systems approach has not been applied to MIH programs. Without a thorough understanding of the practice of MIH gained by a practice analysis, the medical direction, policy formulation, insurance, payment, education, and regulatory sectors are unable to adequately guide, prepare, assess, reimburse, and license EMS providers who are medical care providers within these programs.

More importantly, without national standards, it is very difficult to assess the risk/reward to the public from an MIH initiative. There is significant evidence that standardization improves the quality of care and reduces the likelihood of medical error[4,6,7].

The performance of a practice analysis on CPs functioning in a MIH program would allow for a similar assessment process for core content, scope of practice, and education standards. The results of this practice analysis will assist stakeholders, the public, and EMS providers to achieve their mutual goal of quality and cost-effective out-of-hospital patient care.

Nearly every state has approved or is contemplating the approval of a MIH program. To ensure the public benefits from important MIH initiatives nationwide, a structured approach is necessary to identify whether the existing scope of practice and education standards are appropriate. To achieve this critical goal, a practice analysis of MIH initiatives is vital.

D. Committee Conclusions

The committees for Provider and Community Education and Data Integration and Technology have jointly drawn the following conclusions:

- EMS providers, educators, medical directors, regulators and payers are accustomed to a standards-based model.
- Standards improve the quality of care and reduce medical errors.
- MIH is a new healthcare delivery model being offered in communities across the United States and EMS providers are working in a new environment with diverse goals.

- There are no national standards for the education, credentialing, and evaluation of CP and MIH programs.
- Without national standards, the ability to describe the risks and benefits of MIH is problematic.
- While significant efforts have been made in creating outcomes measures, a national standardized performance measurement process has not yet been followed.
- A practice analysis of CP activities in MIH programs is necessary to determine whether CP requires its own scope of practice, education standards, and credentialing.

Recommended Actions/Strategies:

The committees for Provider and Community Education and Data Integration and Technology have jointly developed the following recommendations:

- **National Highway Traffic Safety Administration**
    - Recommendation 1: As soon as possible, contract with an appropriate organization to:
        - Evaluate existing practice analyses of CPs working in MIH initiatives;
        - Conduct a representative assessment of existing MIH initiatives to develop a practice analysis of the CP; and
        - Publish the results of the practice analysis in a peer-reviewed journal.
    - Recommendation 2: Move forward with efforts to contract with an appropriate organization to review the existing *National EMS Scope of Practice Model* document
        - Begin the project with the EMR, then EMT, then Advanced EMT, and finally the Paramedic to create sufficient time for the CP practice analysis to be completed.
        - If the practice analysis suggests that the CP has a different scope of practice from the Paramedic, those findings will be referred to the contractor assigned to this task.
- **Federal Interagency Committee on EMS (FICEMS)**
    - Recommendation 3: The NEMSAC recommends that the FICEMS leverage the considerable independent work that has been done throughout the nation on the development of CP and MIH programs. A national MIH data collection summit should be convened to develop CP and MIH data sets. The intent of the summit would be to invite stakeholders including, but not limited to, practitioners, data managers, and EMS researchers to facilitate the development of a national standardized CP and MIH data dictionary that is compatible with the National EMS Information System (NEMSIS).

References

1. Mobile integrated healthcare and community paramedicine (MIH-CP): a national

survey. *EMS World*. 2015;Supp:5-16.
2. McGinnis K, Thompson K, Detenine J. *EMS Office Assessment of the Status of Community Paramedicine/Mobile Integrated Healthcare in the States and Territories*.; 2015.
3. *Final Advisory on Community Paramedicine*. Washington D.C; 2014.
4. "Standardizing care reduces costs, improves quality" in *Modern Healthcare,* April 11, 2015, retrieved on October 15, 2016 at http://www.modernhealthcare.com/article/20150411/MAGAZINE/304119950
5. Hammond W E, Jaffe C, and Kush R D, "Healthcare Standards Development: The Value of Nurturing Collaboration," *Journal of AHIMA (American Health Information Management Association),* 80, no. 7 (July 2009): 44-50.
6. Porter M E, Larsson S, and Lee T H, "Standardizing Patient Outcomes Measurement," *The New England Journal of Medicine,* 374, (February 11, 2016): 504-506.
7. Ebel T, George K, et. al., "Strength in Unity: The Promise of Global Standards in Healthcare," *McKinsey & Company in conjunction with GS1 Special Report*, (October 2012): 1-76.
8. Croteau, RJ, Schyve, PM, Chapter 8, *Proactively Error-Proofing Health Care Processes.* 2nd Ed. San Fransisco, Jossey-Bates Publishers, 2010. Error reduction in health care.
9. *National EMS Core Content*. Washington D.C.; 2005.
10. Greenbauer L. *National EMS Education Standards*. Washington D.C.; 2009. papers3://publication/uuid/856DC761-53F3-47CC-9387-BA7E1F36CC41.
11. *National EMS Scope of Practice Model*. Washington D.C.
12. *EMS Education Agenda for the Future: A Systems Approach.* Vol 4. Washington D.C.; 2000. http://www.nhtsa.gov/people/injury/ems/EdAgenda/final/index.html.
13. Choi B, Blumberg B, Williams K. Mobile Integrated Health Care and Community Paramedicine: An Emerging Emergency Medical Services Concept. *Ann Emerg Med*. 2016;67(3):361-366.
14. Patterson DG, Skillman SM. *National Consensus Conference on Community Paramedicine: Summary of an Expert Meeting*. Seattle WA
15. Iezzoni LI, Dorner SC, Sc M, Ajayi T. Community Paramedicine — Addressing Questions as Programs Expand. *N Engl J Med*. 2016;374(12):1107-1109.
16. Bigham BL, Kennedy SM, Drennan I, Morrison LJ. Expanding paramedic scope of practice in the community: a systematic review of the literature. *Prehosp Emerg Care*. 2013;17:361-372. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=prem&NEWS=N&AN=23734989.
17. Medical Direction of Mobile Integrated Health Care and Community Paramedicine Programs. *Ann Emerg Med*. 2015;66(6):692-693. doi:10.1016/j.annemergmed.2015.08.020.
18. *A National Agenda for Community Paramedicine Research*.; 2012.
19. *Expanding the Roles of Emergency Medical Services Providers: A Legal Analysis*.

Arlington, VA; 2014.

20. Barr N, Bell J, Faraone L, et al. *Emergency Nursing Interface with Mobile Integrated Health (MIH) and Community Paramedicine (CP) Programs*.; 2015.