



Evidence-based Guidelines for Prehospital Practice: A Process Whose Time Has Come

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INTRODUCTION

EVIDENCE-BASED GUIDELINES FOR PREHOSPITAL PRACTICE: A PROCESS WHOSE TIME HAS COME

This *Prehospital Emergency Care* supplement contains a series of five articles framed around the National Prehospital Evidence-based Guideline Model Process. These publications collectively represent the scholarly output of several years of collaborative activity in the piloting and testing of the model process shepherded by the National Highway and Traffic Safety Administration's (NHTSA) Office of Emergency Medical Services and the federal Emergency Medical Services for Children (EMSC) program based at the Health Resources and Services Administration. The origin of this work traces directly back to the 2006 Institute of Medicine (IOM) report on *The Future of Emergency Care in the United States Health System*, and, specifically, to a recommendation from the report's volume entitled *Emergency Medical Services: At the Crossroads*. The recommendation called for NHTSA, in partnership with professional organizations, to "convene a panel of individuals with multidisciplinary expertise to develop evidence-based model prehospital care protocols for the treatment, triage, and transport of patients, including children."¹ For the clinical community, the publication of these manuscripts and the attendant activity associated with their development arguably represent the most tangible action to date stemming from the IOM report. An accomplishment indeed, yet it is truly only the beginning. A brief summation of the timeline and antecedent efforts that have led to these articles is instructive and important to understand as a demonstration of a potential path forward to broaden the scope of evidence-based guideline (EBG) development in emergency medical services (EMS).

In September 2008, the Federal Interagency Committee on EMS (FICEMS) and the National EMS Advisory Council (NEMSAC) cosponsored the first National

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EMS Evidence-based Guidelines conference, which was attended by representatives of EMS stakeholder organizations and international experts with extensive, multidisciplinary expertise in EMS, research, and EBGs. This activity led to a draft model process for the development, implementation, and evaluation of evidence-based EMS guidelines, which includes reliance on a rigorous, validated appraisal tool to assess quality of evidence.² In early 2009, NHTSA collaborated with the EMSC National Resource Center, a technical assistance center of the federal program, to beta-test the development phase of the model process. The outcome was development of an EBG on the prehospital management of pediatric seizures and is the basis for two of the five articles in this issue.^{3,4} In September 2009, a NHTSA cooperative agreement, with supplemental support from the federal EMSC program, was competitively awarded to Children's National Medical Center to further test the model process. The scope-of-work included evaluating the system impact of an EBG-derived protocol in partnership with an EMS agency. The model process was employed to develop evidence-based recommendations for 1) the use of helicopter EMS (HEMS) in the transport of injured patients, and 2) the management of pain in the prehospital setting for children and adults. The latter EBG was subsequently presented to the protocol review committee of the Maryland Institute for Emergency Medical Services Systems and formally adopted as the basis for revising an existing statewide protocol. The impact of this protocol revision was evaluated and, along with the HEMS paper, represents the output of this partnership activity. The specific results of this cooperative agreement effort are detailed in the remaining three EBG-related articles published in this issue.^{5,6,7}

The scientific contribution of these papers is without question. Although the application of evidence-based principles to prehospital protocol development is not new, never before has there been a uniform attempt to systematically incorporate such rigorous methodology as part of the initiation of a national process.

Further, the collective publication of these manuscripts also provides an important programmatic lens into the future of prehospital EBG development. Three realities resonate through all of the articles: 1) EBG development is a labor-intensive process that, especially for EMS, is made all the more challenging by the relative paucity of strong evidence for much of what is practiced; 2) there is value in the multidisciplinary, cross-organizational collaborative team approach to addressing EBG development for EMS; and 3) a supported national strategy is necessary to sustain the momentum stemming from this work and to institutionalize a process moving forward.

To their credit, the NHTSA Office of EMS and its principal partner, the federal EMSC program, have hardly stood on their laurels in facilitating the progress to date. Not only has the National Prehospital Evidence-based Guideline Model Process been formally approved by both FICEMS and NEMSAC, but cooperative agreements were competitively awarded in early 2013 for the National Association of State EMS Officials (NASEMSO) to manage two projects focused on further refinement of the model process with a particular emphasis on its last three steps: dissemination, implementation, and evaluation. In addition, the 2013 EMSC targeted issues competition awarded a research grant to the Baylor College of Medicine and Texas Children's Hospital to assess EMS system utilization of pediatric evidence-based guidelines. These projects are functioning at the system level, where the rubber meets the road, and will inform us of how EMS will need to adapt to the model process and vice-versa. This critical "in vivo" work is necessary as sequitur to the seminal "in vitro" efforts described in the five papers. While it is certainly encouraging to see the wealth of activity and scholarly product since the 2006 IOM report recommendation, without yet a clear strategic glide path to systematic sustainability, it will be important to exercise measured patience. The road from evidence to practice certainly portends a marathon and not a sprint, but having successfully started down the

path as represented by the articles in this issue, is an excellent place to be.

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