EMS

EMERGENCY MEDICAL SERVICES

EDUCATION AGENDA FOR THE FUTURE:

A SYSTEMS APPROACH

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THE VISION

Emergency medical services (EMS), as a profession, is now barely a generation old. All of us working in the EMS professions recognize the enormous debt of gratitude that we owe to our predecessors for the astounding progress that has been made during our professional lifetimes in all aspects of the field, including education. We now have the opportunity to honor their foresight, and build upon the solid foundation they created, by designing a structure for the EMS education system worthy of their dreams and aspirations for us, their successors. We owe it to them, ourselves, and our patients to carry on the work our predecessors began, in a way that extends their vision far into the next millennium.

In 1996, the National Highway Traffic Safety Administration (NHTSA) and the Health Resources and Services Administration (HRSA) published the highly regarded consensus document titled the *EMS Agenda for the Future*, commonly referred to as the *Agenda*. This was a federally funded position paper completed by the National Association of EMS Physicians (NAEMSP) in conjunction with the National Association of State EMS Directors (NASEMSD). The intent of the *Agenda* was to create a common vision for the future of EMS. This document was designed for use by government and private organizations at the national, state, and local levels to help guide planning, decision making, and policy regarding EMS. The *Agenda* addressed 14 attributes of EMS, including the EMS education system.

The *Agenda* provided the following overall vision for EMS in the future:

> *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 a more appropriate use of acute health care resources. EMS will remain the public's emergency medical safety net.*

The following vision of EMS education is paraphrased from the *Agenda*:

> EMS education in the year 2010 develops competence in the areas necessary for EMS providers to serve the health care needs of the population. Educational outcomes for EMS providers are congruent with the expectations of the health and public safety services that provide them. EMS education emphasizes the integration of EMS within the overall health care system. In addition to acute emergency care, all EMS educational programs teach illness and injury prevention, risk modification, the treatment of chronic conditions, as well as community and public health.
>
> EMS education is of high quality and represents the intersection of the EMS professional and the formal educational system. The content of the education is based on National EMS Education Standards. There is significant flexibility to adapt to local needs and develop creative instructional programs. Programs are encouraged to excel beyond minimum educational quality standards. EMS education is based on sound educational principles and is broadly recognized as an achievement worthy of formal academic credit.

Basic level EMS education is available in a variety of traditional and non-traditional settings. Advanced level EMS education is sponsored by institutions of higher education, and most are available for college credit. Multiple entry options exist for advanced level education, including bridging from other occupations and from basic EMS levels for individuals with no previous medical or EMS experience. All levels of EMS education are available through a variety of distance learning and creative, alternative delivery formats.

Educational quality is ensured through a system of accreditation. This system evaluates programs relative to standards and guidelines developed by the national communities of interest. Entry level competence is ensured by a combination of curricula standards, national accreditation, and national standard testing.

Licensure is based upon the completion of an approved/accredited program and successful completion of the national exam. This enables career mobility and advancement and facilitates reciprocity and recognition for all levels.

Interdisciplinary and bridging programs provide avenues for EMS providers to enhance their credentials or transition to other health career roles and for other health care professionals to acquire EMS field provider credentials. They facilitate adaption of the workforce as community health care needs, and the role of EMS, evolves.

In December 1996, NHTSA convened an EMS Education Conference with representatives of more than 30 EMS-related organizations to identify the next logical *Agenda* implementation steps for the EMS community. The outcome of this meeting is broadly summarized by the following recommendations:

- The *National EMS Education and Practice Blueprint* (the *Blueprint*) is a valuable component of the EMS education system. It should be revised by a multi disciplinary panel, led by NHTSA, to more explicitly identify core educational content for each provider level.

- National EMS Education Standards are necessary, but need not include specific declarative material or lesson plans. NHTSA should support and facilitate the development of National EMS Education Standards.

- The *Blueprint* and National EMS Education Standards should be revised periodically (major revision every 5 to 7 years, minor updates every 2 to 3 years).

In January 1998, NHTSA formed a Blueprint Modeling Group to develop procedures for revising the *Blueprint*. During their initial deliberations, the group determined that the *Blueprint* should be only one component of a more comprehensive EMS education system of the future. Consequently, they changed their name to the EMS Education Task Force. They expanded their goal to include defining both the elements of the education system and the interrelationships necessary to achieve the vision of the *Agenda*. This document, the *EMS Education Agenda for the Future: A Systems Approach (Education Agenda)*, is the result of their deliberations.

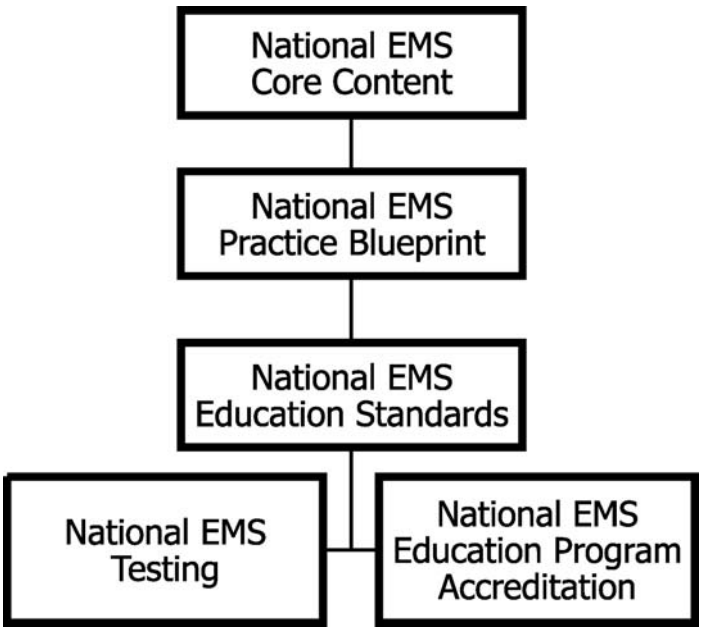
EXECUTIVE SUMMARY

The *Education Agenda* is a vision for the future of EMS education, and a proposal for an improved structured system to educate the next generation of EMS professionals. The *Education Agenda* builds on broad concepts from the 1996 *Agenda* to create a vision for an education system that will result in improved efficiency for the national EMS education process. This system will enhance consistency in education quality and ultimately lead to greater entry level graduate competence.

The *Education Agenda* was developed by a task force representing the full range of professions involved in EMS education, including EMS administrators, physicians, regulators, educators, and providers. This document proposes an education system with five integrated primary components:

- National EMS Core Content
- National EMS Scope of Practice Model
- National EMS Education Standards
- National EMS Education Program Accreditation
- National EMS Certification

The proposed system maximizes efficiency, consistency of instruction quality, and student competence by prescribing a high degree of structure, coordination, and interdependence among the five components.



A key benefit of this systems approach will be an enhancement of the consistency of instructional quality achieved through an interaction among three system components, the National EMS Education Standards, National EMS Education Program Accreditation, and National EMS Certification. At the higher levels of education, this strategy for ensuring consistency allows the use of less prescriptive National EMS Education Standards in place of the current National Standard Curricula (NSC). With less dependence on a prescriptive NSC, instructors will have greater flexibility for targeting instruction to specific audiences, resulting in enhanced comprehension and improved student competence.

The *Education Agenda* describes an interdependent relationship among the five system components and recommends specific lead groups for development and revision responsibilities.

- The National EMS Core Content is a comprehensive list of skills and knowledge needed for out-of-hospital emergency care. Specification of the Core Content is primarily a medical concern and will be led by the medical community, with input from the system regulators, educators, and providers.

- The National EMS Scope of Practice Model divides the National EMS Core Content into levels of practice, defining minimum knowledge and skills for each level. Since this determination is fundamentally a system issue, the system regulators will have the lead in its development, with input from the other stakeholders.

- The National EMS Education Standards take the place of the current National Standard Curricula, specifying minimum terminal learning objectives for each level of practice. Being basically an educational task, the development of the National EMS Education Standards will be led by educators, with input from other stakeholders.

- National EMS Education Program Accreditation is applied to all nationally recognized provider levels and is universal. Accreditation is the major mechanism for verifying educational program quality for the protection of students and the public. Accreditation enhances the consistency of the evaluation of instructional quality.

- National EMS Certification is available for all nationally recognized provider levels and is universal. Certification involves a standardized examination process and contributes to the protection of the public by ensuring the entry-level competence of EMS providers. In order to be eligible for National EMS Certification, a student must have graduated from an accredited program.

Administratively, the system proposed in the *Education Agenda* offers a number of benefits, including greater predictability for component development cycles and a clear and definite method for introducing changes to the system. These provisions will clarify the process for accommodating medical advances, technology development, and other needs that affect the scope or content of EMS education while following the recommendations of the 1996 *Agenda*.

INTRODUCTION

Since its inception, emergency medical services (EMS) education has evolved and matured. As is true of most new professions, no "master plan" was conceived to guide its evolution systematically. Effective components of quality EMS education have emerged during the last thirty years, including national standard EMS curricula, accreditation standards, and a national registration system. Unfortunately, these individual parts have developed independently, and currently there is no formal EMS education *system* in which the components are clearly defined, their interrelationships articulated, and the decision-making process for modification and improvement established.

In the 1970s, the stakeholders of EMS had no way to predict the challenges that would face the profession in its rapid growth period. The diversity of EMS providers (from paid, full-time personnel to volunteers), system design (hospital-based to public safety-based), and local variations of practice have presented unique challenges that do not face other allied health care professions.

Although many outstanding EMS providers have been educated during the last 30 years, the absence of a structured education system has resulted in considerable state-by-state variability in EMS education and licensing standards and a lack of clear-cut future direction. The absence of a formal EMS education system has also led to inconsistencies among the various curricula and difficulties in the ability to bridge from one level of education to another. Currently, there is no consistent method of providing input to the national EMS education decision-making process. In addition, the national standard curricula now allow limited instructor flexibility and are infrequently updated.

EMS education is at a crossroads in its evolution. As identified in the 1996 *Agenda*, there are numerous challenges to preparing EMS providers for their evolving role in the health care system. Clearly, there is the need for a national *system* of EMS education.

The Purpose

The *Education Agenda* describes a consensus vision for the EMS education system of the future. This document describes the elements of an educational system and their interrelationships. The document is conceptual; it is expected that the specific details of development and implementation will evolve as the components of the system develop.

This vision for the EMS education system of the future will accommodate the increasing sophistication and changing nature of EMS. It will clarify the educational decision-making process, and establish avenues for input and research. This proposal will promote national consistency, but is flexible enough to accommodate state and local variations. These concepts will enable timely changes in patient care.

The *Education Agenda* defines a system that will benefit states by avoiding duplication of effort in curriculum development, testing/certification/licensure, and educational program approval, and help facilitate provider reciprocity.

The synergistic effects of the system are enormous; clearly, the whole is greater than the sum of its parts. The proposed system infrastructure will outlive its architects and ensure a viable framework for national EMS education decision making and future planning.

Evolution of Allied Health Education

As the sophistication and complexity of medical care increased, the 1960s saw a number of allied health professions join the ranks of nurses and physicians to provide care to patients in this country. In 1966, Congress passed The Allied Health Professions Training Act. This legislation provided a formal system of physician-directed practice and gave the American Medical Association (AMA) the authority to grant authorization to institutions that sponsor and provide instruction to allied health professionals.

Through the Commission on Allied Health Education Accreditation (CAHEA), the AMA developed a system that accredited educational institutions to conduct allied health educational programs. The CAHEA model of accreditation (now administered by the Commission on Accreditation of Allied Health Education Programs or CAAHEP) was similar to the process used by nursing and medical schools. Each recognized allied health occupation developed a Joint Review Committee (JRC), consisting of membership from physician and professional associations. With broad community input, each JRC was charged with developing essentials or standards which would be used as the basis of evaluating and accrediting programs.

Throughout the past three decades, allied health professions experienced a transition from on-the-job training to education in formal institutions of higher education. Initially, most allied health education programs were sponsored by health care institutions. However, since the late 1960s there has been a rapid and steady trend toward collegiate and university settings. Most allied health fields instituted more and better training and have adopted educational requirements that include formal academic degrees (Farber and McTernan, 1989). By 1980 more than half the allied health programs in the United States were housed in collegiate settings (Ford, 1983). By 1998 there were 16 accrediting agencies and 47 recognized allied health occupations (AMA, 1998).

Most allied health programs have a registration or certification process that is national in scope and typically sponsored by a professional association. Although there are some exceptions, eligibility for registration or certification is typically limited to individuals who have graduated from accredited training programs. Since authorization to practice is a state function, state licensure is usually granted to individuals who have completed the examination process established or endorsed by the profession.

Evolution of EMS Education

A look at the past frequently can help us to understand the present and to plan for the future. The history of EMS education is largely synonymous with the history of emergency medical services systems. The pioneers in EMS clearly valued strong educational programs as much as we do today. Following is a historical summary of EMS education, highlighting issues that are important to the development of the *Education Agenda*. This summary is not presented as a critique of past processes or decisions, but is intended to highlight opportunities for future improvements. The EMS pioneers who established our current EMS education process laid the foundation upon which future generations can build. However, with the benefit of hindsight, opportunities for improvement are apparent.

1950 to 1970

EMS Education Developments

In the mid-50s, the American College of Surgeons (ACS) developed the first training program for ambulance attendants. The American Academy of Orthopedic Surgeons (AAOS) also conducted courses for ambulance service personnel culminating in 1967 with the first "Orange Textbook," *Emergency Care and Transportation of the Sick and Injured,* edited by Doctor Walter Hoyt. This document, and the text, *Training of Ambulance Personnel and Others Responsible for Emergency Care of the Sick and Injured at the Scene and During Transport,* developed by the National Academy of Sciences and National Research Council (NAS/NRC), were the first national attempt to standardize EMS training (Becknell, 1997).

The NAS/NRC's *Accidental Death and Disability: The Neglected Disease of Modern Society* suggested that the quality of prehospital care was an important determinant of survival from sudden injury and stimulated the development of federal funding through the Highway Safety Act of 1966. In 1969, the Highway Safety Bureau, later to become the National Highway Traffic Safety Administration (NHTSA), came into existence, and the development of a curriculum to standardize ambulance attendant training (EMT-Ambulance) was begun by Dunlap and Associates under contract to NHTSA.

Historic Issues Important to the *EMS Education Agenda for the Future*

- The need for standards for EMS education was recognized during this period. In order to achieve this goal, NHTSA funded the development of an NSC by a third-party contractor. This set the precedent for the way EMS education would be standardized for the next three decades.

- The initial development of Emergency Medical Technician (EMT) textbooks and the NSC was the result of the identification of both a problem (preventable deaths from highway trauma) and a solution (standardized training for ambulance attendants). Although the data used to drive these events may be crude by today's standards, this was a clear attempt to use evidence to identify and resolve the problem of inadequate prehospital emergency medical care (NAS/NRC, 1966).

1970 to 1980

EMS Education Developments

In 1971, the EMT-Ambulance NSC was delivered to NHTSA by Dunlap and Associates. This NSC provided information on course planning and structure, objectives, detailed lesson plans, specific content material, and suggested hours of instruction. In response to model legislation recommended by NHTSA, many states adopted the NSC in either law or rules; the curriculum and the scope of practice became intertwined.

The Emergency Medical Services Systems Act (P.L. 93-154), passed by Congress in 1973, provided categorical grant funds for the establishment of regional EMS systems that embraced 15 key components, including training and manpower. Training was thereby ensured a prominent place in EMS system development.

Perceiving a need for a separate EMS training program for law enforcement officers, NHTSA developed the 40-hour *Crash Injury Management for the Law Enforcement Officer* training program in the early 1970s. Subsequently, this evolved into the First Responder: NSC (1979).

The first Board of Directors meeting of the National Registry of Emergency Medical Technicians (NREMT) took place in 1970. The purpose of the NREMT was to provide uniform standards for the credentialing of ambulance attendants (NREMT, 1997).

In 1975, the American Medical Association (AMA) recognized the EMT-Paramedic as an allied health occupation. The Essentials for EMT-Paramedic Program Accreditation were developed in 1976 and adopted in 1978 by the AMA Council of Medical Education. The Joint Review Committee on Education Programs for the EMT-Paramedic (JRCEMT-P) made the "Essentials" the standard for evaluating programs seeking accreditation (JRCEMT-P, 1995). Although EMS education and allied health education developed at approximately the same time, they frequently took divergent paths.

Primarily in response to developments in the early management of cardiac patients, the first EMT-Paramedic NSC was developed by NHTSA in 1977 and included 15 modules of instruction. Subsequently, the National Council of State EMS Training Coordinators, Inc. (NCSEMSTC), and the NREMT developed an additional EMS level between the EMT-Ambulance and the EMT-Paramedic levels of practice. This grew out of the perceived need to have certain emergency capabilities available to victims even though they could not support a paramedic level service. Modules I, II, & III of the EMT-Paramedic: NSC (Roles & Responsibilities, Human Systems: Patient Assessment, and Shock and Fluid Therapy) plus the esophageal obturator airway and anti-shock trouser lessons were designated as the EMT-Intermediate: NSC.

Increasingly, the NHTSA curricula became national standards for EMS education and continued to be referenced in many state laws and administrative rules as the basis for scope of practice.

Historic Issues Important to the *EMS Education Agenda for the Future*

- During the early 1970s, there were few textbooks available and a small number of EMS experts. The detailed NSC were essential to the uniform development of EMS education.

- Curricula become synonymous with scope of practice in many states.

- No national organization or federal agency had the responsibility and authority to create new levels of EMS education and practice. In the absence of a master plan to guide this development, decisions were made based on the perceived needs of different agencies, organizations, and states.

- Because each curriculum was developed independently of the others and by different contractors using different processes, content and instructional methodology were inconsistent. It was difficult, for instance, for a First Responder to bridge to an EMT-Ambulance or for an EMT-Intermediate to bridge to an EMT-Paramedic. There was no national system of promulgating EMS education and training standards and ensuring their compatibility.

- There was no systematic method for field providers, medical directors, state EMS officials or others to participate in the development or revision process of NSC. The process for public input varied from contractor to contractor, and in some instances, there was no input. It was difficult for interested persons to know how decisions were made, who made them, and how persons other than the contractor could have an opportunity to participate.

- Medical direction for education programs became a high priority. However, limited numbers of physicians were available to assume this responsibility.

1980 to 1990

EMS Education Developments

In 1984 the NCSEMSTC, under contract to NHTSA, revised the EMT-Ambulance: NSC and increased the number of hours from 81 to 110. There was little EMS system involvement in this revision process. The EMT-Paramedic NSC revision was completed by NCSEMSTC and was reorganized into a 6 division/27 subdivision format. A stand-alone EMT-Intermediate NSC was also developed by the NCSEMSTC. Common to most of these curricula were detailed instructor lesson plans, course guides, and refresher courses.

In addition to an increase in the number of trained and certified EMS providers, there was an increase in both the number and the quality of textbooks and educational support material referencing the NSC.

Historic Issues Important to the *EMS Education Agenda for the Future*

- There was an increase in the quantity and quality of non-federal EMS educational support materials. The NSC provided detailed instructor lesson plans and course guides emphasizing a single method of organizing and conducting the EMS course of instruction.

- The process of making decisions about course length, levels, and format was still not clear. These decisions varied, depending on the contractor and the current leadership at NHTSA. There was no policy on how EMS providers or interested persons could provide input to the process.

- There was limited consistency in educational format, content, and patient care approach among the various curricula. It was still not possible, for instance, to bridge from EMT-Ambulance to EMT-Intermediate or EMT-Intermediate to EMT-Paramedic.

1990-2000

EMS Education Developments

Recognizing the need to look more comprehensively at the future of EMS education, NHTSA in 1990 convened the Consensus Workshop on Emergency Medical Services Training Programs. For the first time, representatives of the EMS community discussed the national curricula needs of EMS providers and identified the priority needs for EMS training. The priorities established at this consensus meeting determined the national priorities for EMS education for the 1990s.

A formal national, multi disciplinary consensus process was used to develop the *National EMS Education and Practice Blueprint* in 1993. This was the first attempt to determine prospectively and systematically the levels of EMS providers. The purpose of the *Blueprint* was to establish: 1) nationally recognized levels of EMS providers; 2) nationally recognized scopes of practice; 3) a framework for future

curriculum development projects; and 4) a standardized pathway for states to deal with legal recognition and reciprocity. This consensus process, involving initial peer review and subsequently a formal national consensus meeting moderated by an independent facilitator, set the stage for future EMS consensus activities.

In 1994, Samaritan Health Services completed the EMT-Basic: NSC (renamed from EMT-Ambulance) under contract to NHTSA. The curriculum, which remained at 110 hours by contract, changed the emphasis of EMT-Basic education from diagnosis-based to assessment-based. "Nice to know" information was treated with less emphasis and "need to know" information was stressed. Despite an expert panel approach, the changes in the EMT-Basic curriculum generated considerable national attention, discussion, and concern. Increasingly, there was recognition that the *method* of changing the curriculum was as important as the *content*. The 1994 EMT-Basic: NSC again provided detailed declarative material for each section without formal instructor lesson plans.

In 1995, the First Responder: NSC was revised by the Center for Emergency Medicine of Western Pennsylvania under contract to NHTSA. This curriculum also provided detailed declarative material without formal instructor lesson plans.

The following year, the EMS community, as represented by numerous national organizations, adopted the *EMS Agenda for the Future.* The document provided broad guidance for continuing development of the EMS system along with a number of specific EMS education recommendations.

In 1996, NHTSA convened an EMS Education Conference with representatives of more than 30 EMS- related organizations to identify the next logical steps to implement the education section of the *1996 Agenda*. The recommendations of this group eventually culminated in the preparation of this document.

The proliferation of EMS textbooks and instructional materials continued. Alternative methods of EMS education (e.g., Internet, CD-ROM, distance education) became more prominent.

In 1998, the EMT-Intermediate and EMT-Paramedic NSC were revised by the Center for Emergency Medicine of Western Pennsylvania under contract to NHTSA. This revision utilized an expert panel and modified the national consensus approach. Although the NSC were reasonably consistent with the *Blueprint*, the emphasis on expanded skills and a more diagnosis-based approach to EMT-Paramedic education contrasted with the recently revised EMT-Basic NSC. These issues generated considerable national controversy. Most discussion centered around the scope of practice and the degree of declarative information rather than on educational methodology. The close relationship between curriculum and scope of practice issues made the resolution of challenges more difficult. Detailed content outlines were still included.

Historic Issues Important to the *EMS Education Agenda of the Future*

- Although there was more involvement on the part of providers, medical directors and state EMS offices in determining the direction of EMS education through the 1990 training consensus meeting and the *National EMS Education and Practice Blueprint*, there was still not a well-defined infrastructure and system to guide future EMS education.

- In many states, the scope of practice was still driven by the NSC, thus politicizing and complicating the writing of NSC.

- Although the *National EMS Education and Practice Blueprint* defined provider levels and their requisite level of knowledge and skills, the overall purpose and philosophy of the document was not well understood by many decision makers. Also, a systematic and well-defined method of updating it did not exist.

- National standard curricula development was expensive, fraught with political and practical difficulty, consumed enormous resources and energy, and frequently fragmented the national EMS community.

- Quality education resources supplied by the private sector increased substantially by way of textbooks, instructor lesson plans, CD-ROM, the Internet, distance education, and others. The national standard curricula, however, continued to include declarative material that was frequently used in place of instructor lesson plans.

- The *1996 Agenda* made a number of recommendations for the EMS education system of the future. The recommendations included the development of core content to replace current curricula, increased EMS education program academic affiliation, increased reliance on an accreditation process, additional flexibility for local programs while ensuring minimum entry level competencies, and an improved ability to bridge from one education level to another.

- Leaders of national EMS organizations representing EMS administrators, physicians, regulators, educators, and providers met at a NHTSA-sponsored EMS education meeting and specified that EMS needed a cyclic process for curriculum revision that embraced all provider levels and enhanced flexibility, yet promoted national consistency.

- The *Education Agenda* task force initiated the development of this document.

Opportunities for Improvement

Over the past thirty years, considerable progress was made in EMS education. As we enter the next millennium, public expectations and changes in health care delivery are creating new opportunities for EMS. This document, the *EMS Education Agenda for the Future: A Systems Approach*, is a proposal that will enable EMS to evolve and advance during this unique period in history. Following are a number of specific opportunities for improvement addressed by the *Education Agenda*.

- **Current limitation:** There is not an established national EMS education system or master plan.

  Proposed solution: The *Education Agenda* proposes a system consisting of the following five components:

  - National EMS Core Content
  - National EMS Scope of Practice Model
  - National EMS Education Standards
  - National EMS Education Program Accreditation
  - National EMS Certification

  The role of each component is clearly delineated, the participants identified, the process for participation established, the decision-making process defined, and the relationship among components specified.

- **Current limitation:** The overall domain of EMS knowledge and skills is not defined. Each time curricula are developed, this issue is revisited, causing extensive discussion and considerable frustration.

  Proposed solution: Develop a National EMS Core Content describing the entire domain of out-of-hospital emergency medical care. Establish a schedule and method for updating the National EMS Core Content. A National EMS Core Content obviates the need to revisit the medical appropriateness of each procedure or cognitive domain when standards are revised. With this essential framework, the architects of the other system components can focus on their specific area of responsibility, rather than on defining and redefining the overall domain of practice.

- **Current limitation:** NSC drives the scope of practice for EMS providers.

  Proposed solution: Scope of practice should drive national education standards. Revise the *Blueprint* and rename it the National EMS Scope of Practice Model. The National EMS Scope of Practice Model will define, by name and by function, the levels of out of hospital EMS providers based upon the National EMS Core Content. The National EMS Scope of Practice Model, rather than the curricula, will drive the scope of practice and national provider level nomenclature and establish the entry level competencies. With the scope of practice no longer determined by the curricula or the National EMS Education Standards, there will be considerable flexibility in designing EMS education programs.

  With an established schedule and method for updating the National EMS Scope of Practice Model, state-established scopes of practice can be regularly and consistently updated and will keep pace with EMS practice analysis and EMS research. Medical directors, EMS providers, state officials, and others will know precisely how and when they can provide input to the *Blueprint*.

- **Current limitation:** The EMS NSC, with their detailed declarative material, limit instructor flexibility and the ability to adapt to local needs and resources. Because of reliance on highly prescriptive national standard curricula, many programs and instructors have never developed their own curricula or instructional materials. In general, EMS faculty have little experience in evaluating and using the vast array of instructional materials that are available from educational publishers.

Proposed solution: The National EMS Education Standards will define terminal learning objectives for each level of EMS provider. They will be regularly updated. These standards will serve as the basis for detailed declarative instructional materials and instructor lesson plans to be developed by instructors, educational institutions, publishers, and others.

Rather than having national standard curricula which define one national method of instruction, a greater variety of lesson plans will be available from vendors of educational materials and from educational institutions. The National EMS Education Standards will encourage enhanced flexibility for the instructor, allowing multiple instructional methods while maintaining consistency of learning objectives.

- **Current limitation:** The quality of EMS education varies throughout the nation. Adherence to the NSC in and by itself does not ensure quality.

  Proposed solution: Develop National EMS Education Standards along with a program of accreditation and national certification. Consistent National EMS Education Standards, combined with national accreditation of EMS programs and national certification, will provide greater assurance of the quality and consistency of both the *process* and *outcome* of EMS education.

- **Current limitation:** The appropriate disciplines do not have the appropriate responsibilities in the current EMS education process. Physicians and regulators make educational decisions, educators and regulators make medical decisions, and physicians and educators make regulatory decisions.

  Proposed solution: The proposed system will align the primary responsibilities appropriately with the content experts while recognizing that the entire system is a fully cooperative effort. National EMS Core Content is developed by physicians with input from regulators, educators, and providers. National EMS Scope of Practice Model is developed by regulators with input from physicians, educators, and providers. National EMS Education Standards are developed by educators with input from physicians, regulators, administrators, and providers.

- **Current limitation:** It is not clear who ultimately makes decisions about the education components, or how one has input or participates in the decision-making process.

  Proposed solution: The *EMS Education Agenda for the Future* clearly delineates who is responsible for each component, how input is provided, how decisions are made, and when the components are updated.

- **Current limitation:** The names of EMS provider levels vary considerably from state to state.

  Proposed solution: Providing regulators with the primary responsibility for establishing the National EMS Scope of Practice Model and clearly defining the levels should facilitate greater consistency of provider levels across political jurisdictions. When this is combined with national certification and program accreditation, there will be considerable incentive for standardization of provider levels.

- **Current limitation:** EMS provider licensure standards vary considerably from state to state.

  Proposed solution: Establishing uniform National EMS Education Program Accreditation combined with National EMS Certification will reduce variability in licensure standards.

- **Current limitation:** EMS educational program standards and the processes for obtaining state approval to conduct EMS education vary considerably.

  Proposed solution: Consistent program accreditation standards, including realistic methods for full-service accreditation, will significantly reduce this variability.

- **Current limitation:** EMS education is based on perceived needs rather than practice analysis and research.

  Proposed solution: A regular feedback loop connecting the core content, practice analysis, and research efforts will gradually improve the empirical basis of EMS education.

- **Current limitation:** The locus of control for EMS education is placed within government, not the educational facility, program, and faculty.

  Proposed solution: The EMS education system of the future will facilitate appropriate roles for government and educational facilities. This will provide significantly greater flexibility for educational institutions and programs while still ensuring reasonable national standards.

- **Current limitation:** The content of NSC is perceived to be determined by the federal contractor.

  Proposed solution: Establishing an EMS education *system* will provide for a balanced approach to EMS education and reduce the perception of a disproportionate influence by any single participant. The establishment of specific responsibilities, combined with the interrelationship of system components, will provide reasonable checks and balances.

- **Current limitation:** The NSC are in various formats and frequently are not consistent with each other. This reduces the ability to "bridge" from one level to another.

  Proposed solution: Replacing the national standard curricula with National EMS Education Standards will eliminate this problem. Guided by the National EMS Core Content and consistent with the National EMS Scope of Practice Model, the National EMS Education Standards will ensure reasonable uniformity while providing flexibility in approach and educational format.

- **Current limitation:** The NSC are frequently out of date.

  Proposed solution: Because of the time and expense involved in writing NSC, it is difficult to perform frequent revisions. In the EMS education system of the future, the National EMS Core Content and National EMS Scope of Practice Model will be periodically updated based upon new information and research. The National EMS Education Standards can then be revised more frequently. Publishers can update their books and their instructor lesson plans as frequently as the market demands. Instructors will have current information available to them.

- **Current limitation:** The NSC development process is very expensive and frequently fragments the community.

  Proposed solution: Revising the National EMS Scope of Practice Model and the National EMS Education Standards will be less expensive and time-consuming. Because there will be a standardized method of updating them and the decision-making process will be less contentious, there will be greater cooperation in the EMS community. Instructors will be free to choose instructional support materials and there will be competition among publishers to produce high-quality products.

- **Current limitation:** Most state-authored EMS licensure examinations do not follow the accepted methodology for verifying entry level competency.

  Proposed solution: National EMS Certification will be based upon an up-to-date practice analysis and will follow accepted psychometric methodology for identifying entry level competency.

- **Current limitation:** The EMS educational process has developed separately from the formal post secondary education system. This has frequently precluded EMS personnel desiring to obtain academic credit from doing so. This impedes EMS personnel from pursuing higher education, which would ultimately further the EMS profession.

  Proposed Solution: The EMS education system of the future is compatible with an academically based approach to EMS education and more closely parallels the developments in other allied health education. The system will also support alternative methods of educating EMS providers and promote innovative relationships between academic and non academic programs.

Attributes of the EMS Education System of the Future

The EMS education system of the future has these attributes:

- The EMS education system is national in scope while allowing for reasonable state and local flexibility;

- The EMS education system is guided by patient care needs and is educationally sound and politically feasible;

- The components of the EMS education system are clearly articulated, with a lucid definition of their interrelationships;

- The responsibility and time frames for updating each of the system components are clearly delineated;

- The method for providing input and participating in the outcome of each component is clearly defined with an established role for providers, administrators, physicians, regulators, educators, and others;

- The ongoing system evolution is guided by scientific and educational research and the principles of quality improvement;

- The EMS education system is stable enough and strong enough to outlive its architects and exist independently of the current leadership of any national EMS organization;

- Physicians are primarily responsible for determining the medical content; regulators the regulatory issues; and educators the educational issues;

- The EMS education system supports multiple instructional methodologies.

Assumptions

Implicit within this document and underlying the proposed EMS education system design are the following assumptions:

- The *Education Agenda* describes the framework of the EMS education system and defines the primary responsibilities for constructing each component. However, it does not describe in great detail the specific elements of its individual components. This should be done by the appropriate content experts in their respective areas.

- The EMS profession will benefit from a well-organized EMS education system.

- The federal government can play a leadership role in facilitating the design and implementation of an EMS education system.

- NHTSA, in concert with the Health Resources and Services Administration (HRSA) and other federal agencies, will continue to be the federal agency primarily responsible for coordinating the EMS education system and for further defining the responsibilities of each system component.

- A *system* of EMS education should promote reasonable national education and licensure consistency while providing for unique local variations is in the best interest of patient care.

- Widespread EMS provider licensure reciprocity among states is a worthy goal.

- An EMS education *system* should be inclusive, establishing reasonable performance expectations and consistency while allowing multiple instructional methodologies to be used as long as they produce a consistently high-quality end product.

- An appropriately designed EMS education *system*, operating on the principles of quality improvement, should be able to assess its own performance, alter its methods, and modify, if required, its very design.

- Ongoing EMS research and data should drive, in a systematic fashion, the individual components of the EMS education system.

- As stated in the *1996 Agenda*, the EMS education system should embrace the expectations and components of the EMS community. The components must be updated often enough to meet the needs of EMS patients and provide an infrastructure which supports innovative solutions addressing cultural variation, rural circumstances, increasing variability in EMS practice venues, and travel and time constraints.

- Publishers and other interested parties will continue to produce high-quality, up-to-date EMS instructional materials, including detailed instructor lesson plans which are consistent with the National EMS Education Standards while allowing for creativity and innovation.

- As the *Education Agenda* evolves, the preparation of EMS instructors will continue to improve. All EMS instructors will receive formal training in educational theory and practice, curriculum design and development, instructional materials design, evaluation, and use. Ensuring appropriate academic preparation of EMS instructors will be a responsibility that must be shared by NHTSA, state EMS offices, and EMS education programs sponsors.

- The newly designed EMS education system will be able to respond to constant evolution of EMS, including the challenges of implementing the *1996 Agenda*.

- The *Education Agenda* addresses only the initial education of EMS providers. It does not address continued education or continued competency assurance. It is assumed that the EMS community will establish a process that will address a comprehensive systems approach to both.

NATIONAL EMS EDUCATION SYSTEM

Today's EMS education system is going thorough dramatic and profound changes. In response to extraordinary technological advancements and changes in societal expectations, education is expected to emphasize high-level cognition, problem solving, and the ability to deal with ambiguity and conflicting priorities. The public and employers expect graduates to be competent in a wide range of practical skills and have the ability to adapt to an ever-changing and complex environment.

The public and employers demand that health care education produce graduates who are responsive to the needs of the patient, have excellent communication skills, and are able to adapt to changes in their responsibilities. They demand graduates who are technically competent, socially conscious, and culturally sensitive. In addition to their traditional role as emergency care providers, EMS providers will need to be able to identify and modify illness and injury risks, provide acute illness and injury care and follow-up, and contribute to the treatment of chronic conditions and community health monitoring.

The changing expectations of EMS and health care education necessitate a clearly defined and responsive education *system* with the attributes enumerated in this document.

New System Components

This document defines the infrastructure of an EMS education system which will promote national uniformity while being responsive to local needs. It will be driven by research while recognizing the need for reasonable consistency and stability. This document also articulates the responsibilities of the individuals or agencies responsible for each component of the system. Each section identifies a system component and analyzes it in three ways:

- Where we are;
- Where we want to be in 2010; and
- How to get there.

Particular emphasis is placed on the interrelationships of the five components outlined in the previous sections and how they are mutually supportive. **Consideration of individual components must include the interrelationship with the other components.** The reader should strive to take a systematic view and is cautioned against judging the individual components before considering how they affect and relate to each of the other components.

Appendix A is a graphical representation of the components and their interrelationships. It demonstrates the dependent relationship each component has with the others. The supportive components (practice analysis, EMS research, past experience, and the *1996 Agenda*) are found across the top of the diagram.

- The supportive components guide the development of the National EMS Core Content, which represents the entire domain of out-of-hospital knowledge and skills.

- The National EMS Core Content drives the National EMS Scope of Practice Model, which names and defines the national levels of EMS practice.

- The terminal knowledge and skill objectives for each level of practice identified in the National EMS Scope of Practice Model is defined by the National EMS Education Standards.

- The National EMS Education Standards are also a part of the National EMS Education Program Accreditation requirements and are a resource in the development of instructional support materials and instructor development programs.

- National EMS Education Program Accreditation helps to ensure the ongoing quality and consistency of EMS instruction.

- Graduation from an accredited program is required to participate in National EMS Certification, which is based on the levels defined by the National EMS Scope of Practice Model. In addition to the National EMS Education Standards, the practice analysis guides the development of National EMS Certification. National EMS Certification is one requirement for state licensing of EMS professionals.

The entire process follows a continuous quality improvement model, with review and revisions at regularly scheduled intervals. The EMS education system is defined by a continuum ranging from National EMS Core Content through National EMS Certification. National EMS Core Content is revised least frequently while National EMS Certification is revised most frequently. Revision of National EMS Core Content may necessitate a revision of every other component. During the revision of each EMS education system component, interested parties may find out exactly how and when they may provide input and participate in the process. The decision makers are clearly defined.

In addition, the system is designed to respond to major changes immediately, if needed. Since the National EMS Education Standards reference terminal objectives, most classroom and program educational changes will occur at the local level. If a major change is needed nationally, it will be made at the level deemed appropriate by system review.

EMS faces many unique local and regional challenges. The current EMS education process reflects a potpourri of solutions to these problems. Additionally, the educational approach, career needs, and professional expectations are not consistent among the various levels of current provider (First Responder, EMT-Basic, EMT-Intermediate, and EMT-Paramedic). Clearly, a rigid and prescriptive system will not meet the needs of all constituents. Any education system for the future must be flexible enough to meet the needs of the diverse communities that it serves.

This document draws on the experience of EMS and other allied health professions to propose an education system consistent with this vision and its stated attributes. It allows for continued and systematic growth of the EMS education system and will assist EMS leaders in making informed decisions about their future.

The Role of Continuing Education in Continued Competency Assurance

Following initial certification of entry level competence, an EMS provider may become incompetent due to his or her failure to keep up with constant changes in the art and science of medicine. Technical and professional persons are at significant risk of becoming outdated in their skills and their knowledge. It is not enough for them to maintain the competence acquired in the years of formal education. In the profession, information is not static; perpetual change is the norm (Dubin, 1977).

Continuing education is only one part of continued competency assurance. In turn, continued competency assurance is only one component of a quality assurance program. A well-designed continued competency assurance program includes performance and outcome indicators which correlate to the practice analysis and scope of practice. EMS continuing education and continued competency assurance are integral parts of a comprehensive educational system, but are not addressed in this document. **A similar systems approach to continuing education and continued competency assurance in EMS should be developed.**

NATIONAL EMS CORE CONTENT

Core Content is used in some physician education programs to define the scope of a specialty discipline, develop residency training programs, and identify material for board examinations. Core content has been very useful in achieving these objectives, and can be used for similar purposes in emergency medical services.

National EMS Core Content, will define the entire domain of out-of-hospital EMS education, and will serve as the broad base for the rest of the EMS education system. It will address knowledge content globally so that state-of-the-art changes and regional practice patterns can be reflected within its broad framework. It will be medically directed, based upon research and the practice analysis, and periodically revised.

Where We Are

Currently, there is no National EMS Core Content, or any document that serves the purpose of defining the entire domain of out-of-hospital medicine. The *Blueprint*, created in 1993 by a multi-disciplinary group of EMS leaders, generally defines the domain of the prehospital EMS profession, but this is intermingled with definitions of EMS provider levels which delineate scope of practice. The *Blueprint* broke new ground by introducing uniformity in the definition of provider levels without dependency on a specific version of a curriculum. The validity and utility of the *Blueprint* could be enhanced by separating the development of the core content from the provider level designation. This would allow leadership for the development of each document to be assumed by the most appropriate group.

Where We Want To Be in 2010

The National EMS Core Content will present the broad domain of knowledge and skills which encompass the out-of-hospital EMS disciplines by identifying the general practices of EMS providers without reference to discrete provider levels. The National EMS Core Content document will be authored primarily by the EMS medical community, with input from EMS regulators, EMS educators, and EMS providers. The EMS medical community will be physicians who have direct involvement in EMS. NHTSA will be responsible for overseeing the process.

The *1996 Agenda* will remain the guiding document setting the vision for EMS. It will be reviewed and updated periodically, under NHTSA leadership. The National EMS Core Content will be created and revised by utilizing the *1996 Agenda*, practice analysis, EMS-related research, and the body of knowledge created by practical experience. The *National EMS Core Content* will be updated at regular intervals -- every 5 to 7 years, or more frequently as needed -- to reflect current developments in EMS practice, clinical advances, and education.

A practice analysis will be conducted for each nationally recognized EMS level by the national certification agency and will help to identify the practices of currently functioning EMS providers. The practice analysis will be national in scope and will follow sound qualitative and quantitative methodology. The practice analysis should be updated at least every 5 years. It will be one of several pieces of information used in revising the National EMS Core Content.

How To Get There

The National EMS Core Content will be the result of a consensus process, led by a group consisting of physicians with direct involvement in EMS, with input from EMS regulators, EMS educators, and EMS providers. The drafts will be extensively peer and community reviewed.

The National EMS Core Content will be developed by using input from a number of sources. The *1996 Agenda* and a needs assessment will provide a vision for the direction of EMS. A formal practice analysis and EMS research will provide the authors of the Core Content with information about the current practices of EMS. Finally, the Core Content will be based on the foundation of past experience.

NHTSA should assume the leadership role for the development, implementation, and distribution of the National EMS Core Content. This document, once completed, will serve as the domain of practice from which the National EMS Scope of Practice Model will be derived.

The following milestones are provided as illustrative steps that are likely to be taken but are not intended to imply a specific sequence or order.

Milestones	Organizations/ Resources Involved
Market the *EMS Education Agenda for the Future* to the EMS community and EMS organizations	EMS Education Task Force
Fund EMS educational improvement projects	Private, federal, state, and local governments
Conduct a practice analysis of all nationally identified EMS provider levels	National certification agency
Develop National EMS Core Content based on practice analysis, *1996 Agenda*, research, and past experience.	NHTSA, EMS medical community, EMS regulators, EMS educators, and EMS providers

NATIONAL EMS SCOPE OF PRACTICE MODEL

Few, if any, other allied health professions have a document similar to the current *Blueprint* or the proposed National EMS Scope of Practice Model. The diversity of EMS and the multiple levels of practice within EMS necessitate the discrete division in the scope of practice among these levels. The National EMS Scope of Practice Model defines the national levels of EMS providers including their entry level skills and knowledge.

Where We Are

In 1993, the *Blueprint* was developed through a national consensus process. This document established uniform definitions of EMS provider levels, including their entry level knowledge and skills. Based on the assumption that EMS knowledge and skills are on a continuum, it was designed to encourage "bridging" from one level to another, to facilitate reciprocity, to be the basis for national curriculum development, and to assist states in defining scopes of practice.

While the *Blueprint* received wide approval and acceptance in concept, it has been inconsistently applied in practice. Moreover, curriculum developers felt it lacked the specificity to adequately guide curricular change.

Many states have not changed their current provider levels to comply with the *Blueprint*, and many state laws and regulations continue to refer to the national standard curricula when defining EMS provider scope of practice. While the concept of the *Blueprint* is solid, it has become apparent that a single document cannot adequately address all of these issues. Since its development in 1993, the *Blueprint* has not been revised.

Where We Want to be in 2010

The *Blueprint* will be revised based upon the National EMS Core Content and re-titled the National EMS Scope of Practice Model. Because the Scope of Practice Model will define levels of practice which will be recognized in state laws and administrative rules, the revision will be authored and directed primarily by EMS regulators with input from the EMS medical community, EMS educators, and EMS providers. The Scope of Practice Model will define the nationally recognized levels of EMS providers and will identify their minimum entry level knowledge and skills. The National EMS Scope of Practice Model will be used by each state to determine scope of practice and to facilitate reciprocity.

How To Get There

The National EMS Core Content will provide the foundation for the revision of the *Blueprint.* This revision will be renamed the National EMS Scope of Practice Model. The revision will be a consensus process led by a group of EMS regulators responsible for certifying and licensing EMS providers, with input from the EMS medical community, EMS educators, and EMS providers. The drafts will be extensively peer and community reviewed.

NHTSA should assume the leadership for the revision, implementation, and distribution of the National EMS Scope of Practice Model. This document, once completed, guides the development of the National EMS Education Standards and defines uniform levels of licensure in each state. Licensure is the legal authority to practice granted by a state agency.

The following milestones are provided as illustrative steps that are likely to be taken but are not intended to imply a specific sequence or order.

Milestones	Organizations/Resources Involved
Market the EMS Education Agenda for the Future to the EMS community and EMS organizations	EMS Education Task Force
Fund EMS educational improvement projects	Private, federal, state, and local governments
Develop National EMS Core Content based on practice analysis, EMS Agenda for the Future, research, and experience.	NHTSA, EMS medical community, EMS regulators, EMS educators, EMS providers
Revise the *Blueprint* and rename it the National EMS Scope of Practice Model	NHTSA, EMS medical community, EMS regulators, EMS educators, EMS providers
Communicate to states the need to transfer reliance on the NSC to the National EMS Scope of Practice Model	NHTSA, NASEMSD, NCSEMSTC

NATIONAL EMS EDUCATION STANDARDS

Education standards are needed to guide program managers and instructors in making appropriate decisions about what material to cover in classroom instruction. Additionally, these standards are used as one component of program evaluation in the accreditation process and are used by publishers to develop instructional materials. In most allied health professions, education standards are developed by professional associations with broad community input. The complexity, interdisciplinary nature, and state government oversight of EMS necessitates a slightly different approach.

Where We Are

Currently the content of most EMS education programs is based on a national standard curriculum. The NSC are funded, developed, and updated periodically by the National Highway Traffic Safety Administration (NHTSA). NSC have been developed for all nationally recognized levels of EMS education and consist of detailed, highly prescriptive objectives and declarative material. Since these documents are closely tied to scope of practice and because their revision is the only national venue for the discussion of scope of practice, the NSC revision process is time-consuming and expensive.

Many EMS education programs and faculty strictly follow the NSC in defining the content of their courses. A typical measure of quality for EMS programs has been their adherence to the current NSC. Although the use of the NSC has contributed to the standardization of EMS education, the quality and length of programs still vary nationally. The reliance on the NSC has decreased flexibility, limited creativity, and made the development of alternative delivery methods difficult. The strict focus on the NSC may result in the development of narrow technical and conceptual skills without consideration for the broad range of professional competencies expected of today's entry level EMS providers.

Where We Want To Be in 2010

The National EMS Education Standards will be derived from the National EMS Scope of Practice Model. Each National EMS Education Standards document will provide the minimal terminal objectives necessary for successful program completion of a level of EMS provider identified in the *National EMS Scope of Practice Model.* All programs must adhere to these standards, but there will be significant flexibility in how to achieve the standards. The standards will be designed to encourage creativity in delivery methods such as problem-based learning, computer-aided instruction, distance learning, programmed self-instruction and others. Without the constraint of an unduly prescriptive NSC, EMS educational institutions are held more accountable for the content and quality of their instruction. This would require institutions to, at a minimum, conduct evaluations of both educational process and outcome quality.

With less prescriptive curriculum standards, it will be much easier to modify curriculum content, both locally and nationally. Changes based on research, practice analysis, future direction of the profession, and experience are quickly reflected in education content, and these changes are communicated to programs through a variety of mechanisms. While all programs must meet national standards, they will be encouraged to continually improve and excel.

There will be a variety of outstanding instructional materials including instructor lesson plans available from publishers, educational institutions, and other interested parties to support local EMS instruction. EMS instructors will utilize published materials or develop their own for classroom use.

The scope of practice for EMS providers will not be defined by education standards or curriculum. National EMS Education Standards will be designed to prepare EMS providers who are competent to perform within a specific scope of practice. Education will support, rather than define, scope of practice. The scope of practice for EMS providers will be based on the National EMS Scope of Practice Model.

How To Get There

The National EMS Education Standards will be developed by a group of EMS educators, with input from EMS providers, the EMS medical community, and EMS regulators. The drafts will be extensively peer and community reviewed. National EMS Education Standards should be developed for and based upon each level of EMS provider specified in the National EMS Scope of Practice Model. Accredited EMS programs will utilize the appropriate National EMS Education Standards document as the basis for their education program. Accreditation agencies will use the National EMS Education Standards to evaluate the appropriateness of program curriculum.

The EMS community, and most EMS education programs, have a long history of reliance on the NSC. The shift from a standardized curriculum to a system of National EMS Education Standards must occur with the growth and maturation of the other system components. We cannot decrease our dependence on the NSC before strengthening other components of the system, especially accreditation and national certification. We are moving from a system in which consistency was ensured through standard content to one which seeks consistent high-quality educational outcome.

The following milestones are provided as illustrative steps that are likely to be taken but are not intended to imply a specific sequence or order.

Milestones	Organizations/Resources Involved
Market the EMS Education Agenda for the Future to the EMS community and EMS organizations	EMS Education Task Force
Fund EMS educational improvement projects	Private, federal, state, and local governments
Revise the *Blueprint* and rename it the National EMS Scope of Practice Model	NHTSA, EMS medical community, EMS regulators, EMS educators, EMS providers
Develop National EMS Education Standards	NHTSA, EMS medical community, EMS regulators, EMS educators, EMS providers

NATIONAL EMS EDUCATION PROGRAM ACCREDITATION

In most countries government assumes the responsibility for ensuring the quality of post-secondary education. However, in the United States accreditation has become the accepted method of assuring students and the public of the quality of higher education. The primary purpose of accreditation is student and public protection. This is achieved by providing an independent, external, objective review of institutional and/or programmatic quality as comparison with accepted standards. Although accreditation benefits the institution, this is secondary to its role in consumer protection.

Accreditation is defined as a non governmental, independent, collegial process of self and peer assessment. The purpose of accreditation is to provide a system of public accountability and continual improvement of academic quality. Education accreditation generally involves three major activities:

- The faculty, administration, and staff of the institution or program conduct a self-study using the accrediting association standards and guidelines.

- A team of peers selected by the accrediting agency reviews the evidence; visits the program; interviews the students, faculty, administration, and staff; and writes a report of its assessment.

- Guided by a set of expectations about quality and integrity, a commission reviews the evidence and recommendations, makes a judgment, and communicates the decision to the institution and the public.

Education accreditation provides a consistent mechanism of program evaluation and may eliminate the need for states to develop a separate program recognition process. Accreditation represents a method to assure the students and the community that an education program meets uniform, nationally accepted standards. Accreditation review includes assessment of structure, process and outcomes. Institutions are encouraged to develop creative and flexible methods to meet or exceed accreditation standards.

For institutions, accreditation stimulates continuous self-assessment and encourages self-improvement. It promotes sound educational change and provides institutions with validation to obtain the resources they need to improve. The essential values of accreditation are continuous self-improvement, professional excellence, peer review and collaboration, and civic responsibility.

Where We Are

While technically not accreditation, most states have some process for approving EMS education programs. The requirements for these state approvals vary widely, from simply filing paperwork to extensive self-studies and site visits. State approval is granted to institutions, courses, or individual instructors. In lieu of comprehensive programmatic evaluation, some states have developed and instituted instructor courses and credentialing as methods of ensuring program quality.

Currently, accreditation is voluntary and available only at the paramedic level. In most states, national accreditation is optional. In 1999 there were approximately 100 accredited paramedic programs in the United States. No national accreditation exists at other EMS provider-level programs.

The only nationally recognized accreditation available for EMS education is through the Commission on Accreditation of Allied Health Education Programs (CAAHEP) Joint Review Committee on Accreditation of Educational Programs for the EMT-Paramedic (JRCEMT-P), renamed the Committee on Accreditation of Emergency Medical Services Professions (CoAEMSP) on January 1, 2000. In 1998 CAAHEP accredited 18 recognized allied health occupations.

Most allied health professions limit licensure eligibility to individuals who have graduated from an accredited education program. In this way, professions control educational quality. For EMS, this linkage has occurred in only five states, and only at the paramedic level, as of 2000.

Where We Want To Be in 2010

The concept of National EMS Education Program Accreditation will be universal and supported by the EMS leadership organizations and stakeholders. A single, nationally recognized accreditation agency will be created and will establish standards and guidelines for each level of EMS education. A single agency will provide a consistent structure, process, and evaluation for all programs. The accreditation process will recognize the special issues involved in evaluating the entire range of EMS programs.

Universal acceptance of National EMS Education Program Accreditation will result in extensive self-assessment of EMS education programs and the implementation of continuous quality improvement initiatives. Having clear standards and guidelines, programs will improve their faculty and the overall quality of instruction. They are structure, process, and outcome oriented. Programs and instructors will use the National EMS Education Standards and commercially available or locally developed instructional support material to develop curriculum materials.

Accreditation standards and guidelines will provide minimum program requirements for sponsorship, resources, students, operational policies, program evaluation, and curriculum. Standards have also been developed for program faculty credentials and qualifications. Program standards will be developed with broad community input, peer review, and professional review. National EMS Education Program Accreditation will be universal and required for each level of EMS provider identified in the National EMS Scope of Practice Model. In order to be eligible for National EMS Certification and state licensure, a candidate must graduate from an accredited program.

Approval to conduct EMS education will be extended by the states to all accredited programs, in accordance with state laws.

How To Get There

A single national accreditation agency will be identified and accepted by state regulatory offices. This accrediting agency will have a board of directors with representation from a broad range of EMS organizations. The accreditation agency will develop standards and guidelines for all levels of EMS education with broad community input. All EMS accreditation will include self-study, site visitation, and commission review, but the standards and guidelines vary according to level. The accreditation agency will adopt the National EMS Education Standards as the basis for evaluating the content of all EMS instruction and will develop a process for accreditation that is appropriate for each level of EMS instruction as determined by the National EMS Scope of Practice Model. Accreditation will be achieved by a process as close to other allied health occupations accreditation as possible, given the resources and constraints imposed by the system.

A graduated phase-in plan will be developed for implementation of national accreditation. Each state should identify a graduated time line for adoption. After the phase-in date, only graduates from accredited programs will be eligible for national certification to qualify for state licensure.

The accreditation agency should conduct regional accreditation workshops to increase the understanding of National EMS Education Program Accreditation and help programs achieve the accreditation standards and guidelines. Funding will be critically needed to support short-term educational improvement projects which make accreditation more achievable.

The following milestones are provided as illustrative steps that are likely to be taken but are not intended to imply a specific sequence or order.

Milestones	**Organizations/Resources Involved**
Marketing of the EMS Education Agenda for the Future	EMS Education Task Force
Provide information about accreditation to EMS organizations	Accreditation experts
Fund EMS educational improvement projects	Private, federal, state, and local governments
Accept the National EMS Education Standards as the curriculum requirements for accreditation	National accreditation agency
Develop standards and guidelines for accreditation of all levels of EMS education, based on current curriculum standards and community input	National accreditation agency
Develop and conduct regional accreditation workshops to help programs get accredited	National accreditation agency
100% of the advanced programs accredited	State EMS offices, national accreditation agency, EMS education institutions
100% of the basic programs accredited	

NATIONAL EMS CERTIFICATION

Certification is the process of verifying competency at a predetermined level of proficiency. Licensure is the process of a state government agency granting official permission to practice within that given state. Although there are distinct differences, the terms "licensure" and "certification" are often used interchangeably. In actuality, licensure is the process of an agency making a declaration of competence to practice. The determination of eligibility for licensure is usually based on the completing of education requirements and the passing of an examination. Most licensure processes require some form of certification by either a state or national agency to ensure minimum competence.

In most professions, development of examinations is the responsibility of an independent national board. State governments then use the certification as part of their licensing process. In the EMS professions, state government frequently assumes the responsibility of certifying eligible individuals as competent to practice based upon either locally developed, state-developed or contractor- developed examinations. In these circumstances, state government assumes the responsibilities of both certification and licensure.

Where We Are

There is great confusion and inconsistency in the definition and application of the terms certification, licensure, and registration throughout the states. Some form of testing is one of the stages of granting licensure to EMS providers. Testing often includes both practical and written components. The quality and difficulty levels of these examinations vary widely. Because of these variations, reciprocity and standardized minimum entry level competencies have been difficult to achieve.

Many locally and state-authored examinations do not adhere to the standards established by the American Psychological Association's (APA) *Standards for Educational and Psychological Testing* utilized by other allied health care professions. In some instances locally authored examinations are necessary because the state EMS provider levels do not match the nationally recognized levels.

Currently (2000), about 40 state EMS regulatory agencies use some form of the National Registry of Emergency Medical Technicians (NREMT) examinations. This may include use of a single-level examination or the use of their examinations for all levels of EMS providers. The NREMT examinations are based on a current practice analysis and the *Blueprint*. Their examinations are authored by a multi-disciplinary group of experts with input from various EMS-related organizations. Each level of examination is validated on a continuous basis.

Barriers to the universal use of national examinations include, but are not limited to, cost of implementation and administration, political issues, the use of a mandated practical examination, lack of local support, and perceived failure rate.

Where We Want To Be in 2010

National EMS Certification will be conducted by a single independent national agency under the leadership of a board of directors with multi-disciplinary representation. A single certification agency will provide a consistent evaluation of recognized EMS provider entry level competencies. National EMS Certification will be accepted by all state EMS offices as verification of entry level competency. National EMS Certification is one of the steps leading to licensure for levels of EMS providers specified in the

National EMS Scope of Practice Model. In order to be eligible for National EMS Certification, candidates must graduate from a nationally accredited EMS education program.

Certification examinations are based on APA standards and a practice analysis. A nationally recognized, validated, and reliable examination is used by all state EMS agencies as a basis for state licensure. National EMS Certification would not replace states' rights to license, but would be used as one component of eligibility for licensure to practice within the state.

How To Get There

A single, national certifying organization will be identified and accepted by state regulatory offices. This certification agency will have a board of directors with representation from a broad range of EMS organizations. The national certification agency will regularly conduct a comprehensive practice analysis for each level of nationally recognized EMS provider. This practice analysis will be used to develop and revise examinations for each level identified in the National EMS Scope of Practice Model.

Examinations will be designed to verify entry level competence. Certifying examinations will adhere to the APA's *Standards for Educational and Psychological Testing.* Entry level competence will be identified by the practice analysis. Certifying examinations will be based on practice analysis and the National EMS Scope of Practice Model, not on educational standards, curricula, or textbooks.

A graduated phase-in plan will be developed for implementation of national certification. Each state should identify a graduated time line for adoption. After the phase-in date, all graduates must successfully complete an accredited program of instruction and a national certification to qualify for state licensure.

The national certifying organization should conduct regional workshops to increase the understanding of *National EMS Certification* and emphasize the overall system advantages. This identified national certifying organization should also help states overcome the barriers of implementation whenever possible.

The following milestones are provided as illustrative steps that are likely to be taken, but are not intended to imply a specific sequence or order.

Milestones	**Organizations/Resources Involved**
Marketing of the EMS Education Agenda for the Future	EMS Education Task Force
Fund EMS educational improvement projects	Industry, state, and federal governments
Conduct a practice analysis of all provider levels	National certification agency
Provide information about national certification to EMS organizations	National certification agency
Provide educational workshops in states that have not fully implemented national certification	National certification agency
100% of the states utilize national certification at all levels	State EMS offices

CONCLUSION AND NEXT STEPS

The *Education Agenda* describes a future structure for our EMS education system and proposes a process by which this system will evolve. It is a vision that defines the EMS education system elements, describes their interrelationships, clarifies a decision-making process, establishes methods for input, and accommodates improved data and research. It defines a system which promotes national consistency and flexibility to allow for individual state variances, and facilitates rapid inclusion of innovative methods of patient care. The synergistic effects of the system are enormous; clearly, the whole is greater than the sum of its parts. The infrastructure laid out in this vision ensures a permanent, viable framework for national EMS education decision making and future planning. The shift toward this system will place new emphasis on educational quality and curriculum development, and on the performance of EMS instructors and educational facilities. However, instructor and program development are among the areas that receive the least attention in today's EMS educational system. To be successful in our implementation of the *Education Agenda*, we need to place a special focus on instructor and program development. This document was crafted with the expectation that quality EMS education will lead to superior EMS personnel, capable of providing the exceptional EMS care the public has come to expect and the EMS system was created to provide. The next steps in achieving this vision are to:

- Distribute this document to the appropriate stakeholders;
- Educate the stakeholders on the value of this vision;
- Seek stakeholder acknowledgment that the vision is shared;
- Begin development of the National EMS Core Content; and
- Establish a coordinating group consisting of representatives from major national EMS organizations charged with monitoring the implementation of the vision.

To guarantee the best EMS system in the future, we need to take action now. With this document, the EMS community is taking the first step, laying out a common goal that we can all work toward. This is a vision we can approach with confidence, knowing that it is the product of careful deliberation of our peers, technical experts, and leaders from across the range of EMS professions.

And while this vision reflects the best ideas from today's perspective, it is essential that as we follow this course we periodically assess our progress and ensure that our target continues to meet our collective needs. The basic concepts of system integration and instructional quality will stand the test of time, but we need flexibility in our means to these ends to allow for a changing environment.

Creating the vision was a challenging task, but the real work lies ahead. Implementing the vision will require commitment, determination, and persistence from EMS providers, educators, administrators, medical directors, and our public officials. But the rewards are compelling. We have the opportunity to achieve new levels of performance in our EMS systems and improve the quality of life of our patients and communities.

GLOSSARY

Academic — Based on 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. The review board is non governmental and the review is collegial and based on self-assessment, peer assessment, and judgment. The purpose of accreditation is public accountability.

Certification — The issuing of certificate by a private agency based upon standards adopted by that agency that are based upon competency.

Continuing education — The continual process of life-long learning.

Core content — The central elements of a professional field of study. The core content does not specify the course of study.

Credentialing agency — An organization which certifies an institution's or individual's authority or claim of competence 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.

Educational Affiliation — An association with a learning institution (academic), the extent to which can vary greatly from recognition to integration.

Emergency Medical Technician (EMT) — A member of the EMS team who provides out-of-hospital emergency care; includes certifications of EMT-Basic, EMT-Intermediate, and EMT-Paramedic which identify progressively advancing levels of care.

EMS System — Any specific arrangement of emergency medical personnel, equipment, and supplies designed to function in a coordinated fashion. May be local, regional, state, or national.

First Responder — The initial level of care within an EMS system as defined by the *EMS Education and Practice Blueprint.*

Licensure — The act of 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 which ensure certain minimum levels of expertise. A license is generally considered a privilege and not a right.

National EMS Core Content — The document which defines the domain of out of hospital care.

National EMS Education Program Accreditation — The accreditation process for institutions that sponsor EMS educational programs.

National EMS Education Standards — The document which defines the terminal objectives for each provider level.

National EMS Scope of Practice Model — The document which defines scope of practice for the various levels of EMS provider.

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.

Practice Analysis — A study conducted to determine the frequency and criticality of the tasks performed in practice.

Registration — A listing of individuals who have met the requirements of the registration service.

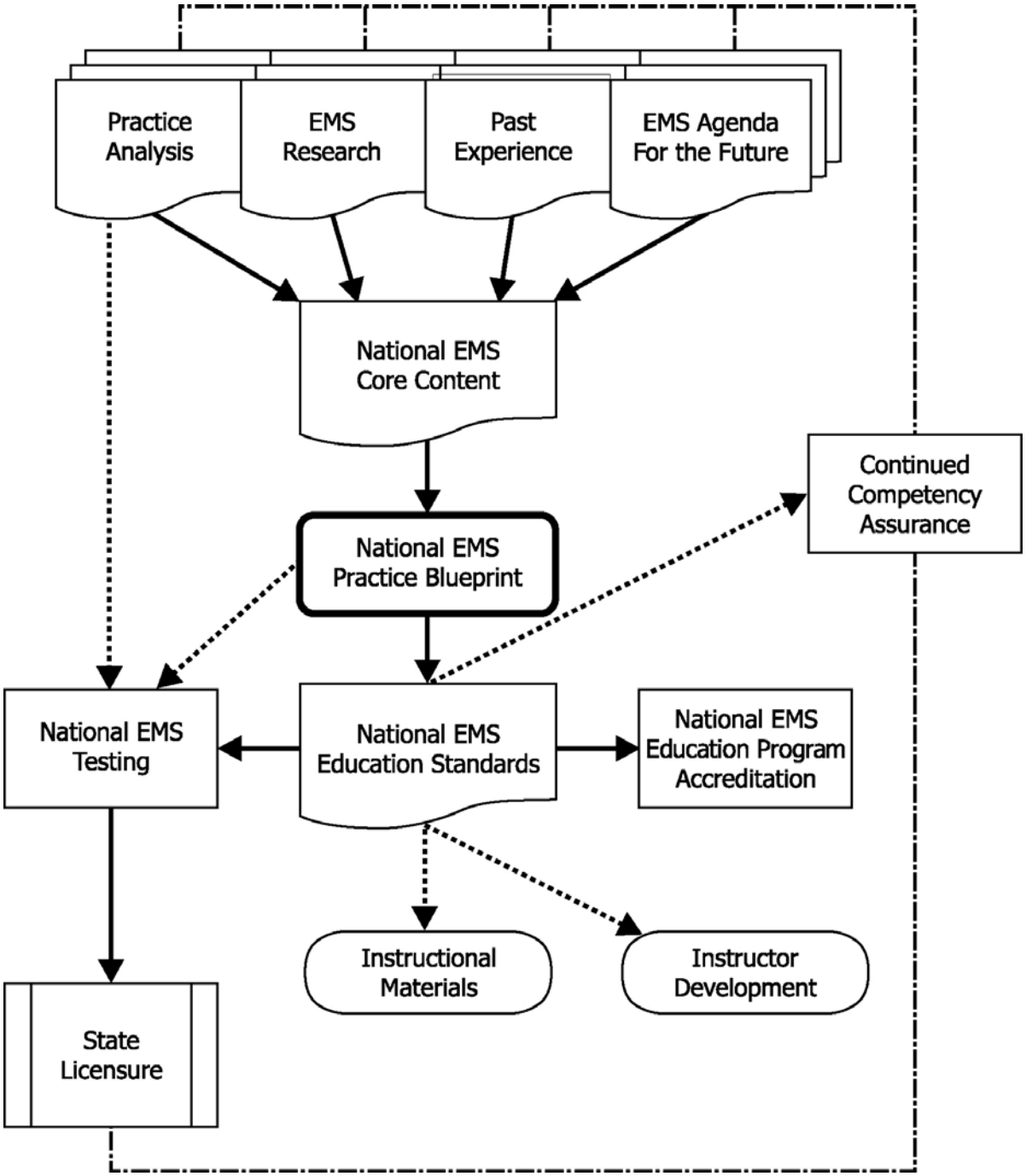
Registration agency — Agency traditionally responsible for the delivery of a product used to evaluate a chosen area. States may voluntarily adopt this product as part of their licensing process. The registration agency is also responsible for gathering and housing data to support the validity and reliability of their product.

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.

Scope of practice — Defined parameters of various duties or services which may be provided by an individual with specific credentials. Whether regulated by rule, statute, or court decision, it tends to represent the limits of services an individual may perform.

Testing agency — Agency traditionally responsible for delivering a contracted examination. The responsibility of interpreting the results and defending the validity of those judgments is placed on the contractor.

APPENDIX A – EMS EDUCATION SYSTEM COMPONENTS



APPENDIX B – EDUCATION PHILOSOPHY

Educational Outcomes

In addition to job-oriented skills, today's workers are expected to possess a capacity for problem solving, constructive skepticism, and the ability to manage ambiguity (Barth, 1990). Recent studies on narrowly focused and task-oriented curricula have concluded that "narrow emphasis on vocational skills is insufficient to achieve workforce success, and that vocational programs should emphasize the development of academic skills..."(Benz, 1997)

Post-secondary education is now emphasizing the role of basic education in the context of technical or vocational education and how it is used to develop the thinking process, foster understanding, and develop mastery in any occupation. Mastery of basic academic skills improves problem-solving capabilities and prepares the student for life-long learning.

Upon completion of any course of professional education, it is expected that a graduate possesses the skills, knowledge, and attitudes to enter the workforce. The safety of the public greatly depends on the competence of all health care providers. Unfortunately, competence is an extremely complicated and multi faceted issue. Although it is relatively easy to identify, quantify, and test cognitive and psychomotor competence, there is more to achieving competence than being technically adept.

In *Responsive Professional Education*, Stark, Lowther, and Hagerty (1986) proposed that professional preparation is a combination of developing both professional competence and professional attitudes. Professional competence includes the following six subcategories:

- *Conceptual competence* - Understanding the theoretical foundations of the profession.
- *Technical competence* - Ability to perform tasks required of the profession.
- *Interpersonal competence* - Ability to use written and oral communications effectively.
- *Contextual competence* - Understanding the societal context (environment) in which the profession is practiced.
- *Integrative competence* - Ability to meld theory and technical skills in actual practice.
- *Adaptive competence* - Ability to anticipate and accommodate changes (e.g., technological changes) important to the profession.

Contextual, integrative, and adaptive competence are not discrete topic areas and do not easily lend themselves to behavioral objectives. Programs and faculty members must constantly weave these issues into the conceptual and technical components of the course.

It is impossible for a standardized curriculum to identify specific objective and declarative material for contextual, integrative and adaptive competence, but their importance cannot be overstated. Individual instructors and programs must keep these competencies in mind as they are developing instructional strategies to build entry level competence. These competencies are often the result of leadership, mentoring, role modeling, a focus on high level cognition, motivation, and the other instructional skills of the faculty.

The development of professional attitudes is influenced and shaped by role modeling, mentoring, and leading by example. It is difficult to "teach" in a didactic sense. Generally, professional attitudes, such as the following, are best nurtured through leadership and mentoring.

- *Professional identity* - The degree to which a graduate internalizes the norms of a professional.
- *Ethical standards* - The degree to which a graduate internalizes the ethics of a profession.
- *Scholarly concern for improvement* - The degree to which a graduate recognizes the need to increase knowledge in the profession through research.
- *Motivation for continued learning* - The degree to which a graduate desires to continue to update knowledge and skills.
- *Career marketability* - The degree to which a graduate becomes marketable as a result of acquired training.

While it is the role of testing agencies to evaluate conceptual and technical competence, it is the role of the educational institution and the faculty to nurture, develop, encourage, mentor, and evaluate all components of professional competence.

Education and Training

The difference between education and training is not simply a matter of semantics. Generally speaking, education is a broad-based, theoretical endeavor designed to improve cognitive skills and decision making. Training, on the other hand, tends to be specific and practically oriented. This distinction is not to imply a hierarchy or value judgment. Education without training results in inert knowledge which lacks transfer to real life situations. Training with inadequate education results in narrow, task-oriented outcomes characterized by poor understanding, inadequate long-term retention, and little ability to change or adapt to situations which are dissimilar from the training environment. The most successful instruction strikes a balance between theory and practice and is a combination of both education and training.

Curriculum Consistency

Public expectations, political issues, legal considerations, and the need for interstate reciprocity of provider credentials all point to the need for some consistency in the content of education programs. There are two approaches to curriculum consistency: one suggests that curriculum consistency should be achieved by standardized and mandated curricula; the other utilizes firm educational standards and a monitoring program to ensure that educational institutions, faculty, and regulatory agencies adhere to these standards.

EMS has attempted to ensure educational quality through the use of national standardized curricula. There is no doubt that these curricula have served an important function in the development of EMS and have played a major role in the growth and development of the profession. They have established the foundation of practice for EMS and were successful in defining a new area of practice.

On the surface, the rationale for the continued use of standardized curricula seems logical. Standardized curricula ensure that all classes are conducted in the same manner. Theoretically, this should produce similar outcomes. Unfortunately, standardized curricula do not account for variations in instructors, resources, and students. In EMS, outcome measurements still vary widely, despite the requirement that programs adhere to standardized curricula.

There is little evidence that standardized curricula improve classroom instruction or the quality of education (Airasian, 1988). In addition to having little evidence validating the effectiveness of standardized curricula, some researchers have suggested that there are detrimental effects (Brooks 1991). Some of these detrimental effect are:

- Lack of responsibilities of curriculum development at the local level (instructors, facilities, etc.).
- The impression that testing drives instruction.
- An emphasis on covering rather than teaching material.
- The impression that minimum competence is the desired outcome.
- Difficulty in being able to respond to identified local needs.
- Lack of ability to quickly respond to changes.

The second approach to curriculum consistency offers advantages for our evolving EMS education system. This model establishes standards and guidelines for process and product variables in EMS education. Typically, these standards and guidelines address areas such as sponsorship, resources, curriculum, evaluation, and program planning. Programs are required to adhere to standards and guidelines with an external review process to ensure compliance. This system offers a method of ensuring appropriate curriculum content while placing responsibility for instruction at the local level, enabling flexibility, encouraging creativity, and facilitating rapid change.

APPENDIX C – DOCUMENT IDENTIFICATION, DESCRIPTION, AND RESPONSIBILITIES

Document	Description	Responsibility	Notes
EMS Agenda for the Future	Document that creates a vision for EMS	NHTSA and various EMS-related organizations	Document used to develop, revise, and direct national EMS issues
National EMS Core Content	Describes the entire domain of pre-hospital care	Medical community with assistance from regulators, educators, and providers	Drives the revision of the practice model, very general in nature and defines the pre-hospital care spectrum
National EMS Scope of Practice Model	Divides and defines the levels (name) and the performance of the levels of the various pre-hospital providers	Regulators with assistance from the medical community, educators, and providers	Requires enough detail to determine scope of practice
National EMS Education Standards	Objectives that define the terminal performance of the student (each level)	Educators assisted by regulators, medical community, and providers	Easily updated and guides development of program lesson plans
National EMS Education Program Accreditation	EMS education program approval based on universally accepted standards and guidelines	EMS accreditation agency	Inclusive of instructor and instructional material reviews
National EMS Certification	Standardized testing completed after graduation from an accredited EMS program that leads to state licensure	EMS certification agency	Development based on a practice analysis for the given level to include validity and reliability

APPENDIX D – STRENGTHENING CONSUMER PROTECTION: PRIORITIES FOR HEALTH CARE WORKFORCE REGULATION

Excerpts from the *Summary of Recommendations, Strengthening Consumer Protection: Priorities for Health Care Workforce Regulation* - Task force on Health Care Workforce Regulation (1998)

REGULATORY BOARDS AND GOVERNANCE STRUCTURES

Recommendation 1 Congress should establish a national policy advisory body that will research, develop and publish national scopes of practice and continuing competency standards for state legislatures to implement.

Recommendation 2 States should require policy oversight and coordination for professional regulation at the state level. This could be accomplished by the creation of an oversight board composed of a majority of public members or it could become the expanded responsibility of an existing agency with oversight authority. This policy coordinating body should be responsible for general oversight of the state's health licensing boards and for assuring the integration of professional regulation with other state consumer regulatory efforts (e.g. health facility and health plan regulation).

Recommendation 3 Individual professional boards in the states must be accountable to the public by significantly increasing the representation of public, non-professional members. Public representation should be at least one-third of each professional board.

Recommendation 4 States should require professional boards to provide practice-relevant information about their licensees to the public in a clear and comprehensible manner. Legislators should also work to change laws that prohibit the disclosure of malpractice settlements and other relevant practice concerns to the public.

Recommendation 5 States should provide the resources necessary to adequately staff and equip all health professions boards to meet their responsibilities expeditiously, efficiently and effectively.

Recommendation 6 Congress should enact legislation that facilitates professional mobility and practice across state boundaries.

SCOPES OF PRACTICE

Recommendation 7 The national policy advisory body recommended above develop standards, including model legislative language, for uniform scopes of practice authority for health professions. These standards and models would be based on a wide range of evidence regarding the competence of the professions to provide safe and effective health care.

Recommendation 8 States should enact and implement scopes of practice that are nationally uniform for each profession and based on the standards and models developed by the national policy advisory body.

Recommendation 9 Until national models for scopes of practice can be developed and adopted, states should explore and develop mechanisms for existing professions to evolve their existing scopes of practice and for new professions (or previously unregulated professions) to emerge. In developing such mechanism, states should be proactive and systematic about collecting data on health care practice. These mechanism should include:

- Alternative dispute resolution processes to resolve scope of practice disputes between two or more professions;
- Procedures for demonstration projects to be safely conducted and data collected on the effectiveness, quality of care, and costs associated with a profession expanding its existing scope of practice; and
- Comprehensive legislative "sunrise" and "sunset" processes that ensure consumer protection while addressing the challenges of expanding existing professions' practice authority, and regulating currently unregulated healing disciplines.

CONTINUING COMPETENCE

Recommendation 10 States should require that their regulated health care practitioners demonstrate their competence in the knowledge, judgment, technical skills and interpersonal skills relevant to their jobs throughout their careers.

APPENDIX E – DOCUMENT SAMPLES

This section includes a format sample for the components referenced in the *EMS Education Agenda for the Future: A Systems Approach* document. The examples provided are samples for conceptual understanding only. The samples were created by the authors of the EMS Education Agenda for the Future using the 1990's revision of the respective EMS National Standard Curricula. They are designed to be illustrative, not restrictive. The authors for each of the actual component documents will alter the format as needs and methodology evolve.

To illustrate how one component of the EMS Education Agenda for the Future affects and relates to all the other components, the examples that are provided begin with the National EMS Core Content. The authors of the EMS Education Agenda for the Future have demonstrated a sample of what the adult pulmonary section of the National EMS Core Content document could look like. We have expanded the adult pulmonary section to include a level of detail that would be included throughout the document. Each section of the final document would follow the example of that model section. The adult pulmonary sections of the National EMS Scope of Practice Model and the National EMS Education Standards are also presented as samples to help illustrate what their formats and level of detail could look like.

National EMS Core Content

Core Content Categories

PREPARATORY AND OPERATIONS

1 EMS Systems
2 The Roles and Responsibilities of the EMS Providers
3 The Well-Being of the EMS Provider
4 Illness and Injury Prevention
5 Medical / Legal Issues
6 Ethics
7 General Principles of Pathophysiology
8 Pharmacology
9 Venous Access and Medication Administration
10 Therapeutic Communications
11 Life Span Development
12 Ambulance Operations
13 Medical Incident Command
14 Rescue Awareness and Operations
15 Hazardous Materials Incidents
16 Crime Scene Awareness
17 Communications
18 Documentation
19 Airway Management and Ventilation
20 History Taking
21 Techniques of Physical Examination
22 Patient Assessment

TRAUMA

23 Trauma Systems
24 Mechanism of Injury
25 Hemorrhage and Shock
26 Soft Tissue Trauma
27 Burns
28 Head and Facial Trauma
29 Spinal Trauma
30 Thoracic Trauma
31 Abdominal Trauma
32 Musculoskeletal Trauma

MEDICAL

33 Pulmonary
- 33.1 Acute/ adult respiratory distress syndrome
- 33.2 Obstructive airway diseases
  - 33.2.1 Asthma
  - 33.2.2 Chronic bronchitis
  - 33.2.3 Emphysema
- 33.3 Pneumonia
- 33.4 Pulmonary edema
- 33.5 Pulmonary thromboembolism
- 33.6 Neoplasms of the lung
- 33.7 Upper respiratory infection
- 33.8 Spontaneous pneumothorax
- 33.9 Hyperventilation syndrome

34 Cardiology
35 Neurology
36 Endocrinology
37 Allergies and Anaphylaxis
38 Gastroenterology
39 Renal/Urology
40 Toxicology
41 Hematology
42 Environmental Conditions
43 Infectious and Communicable Diseases
44 Behavioral and Psychiatric Disorders
45 Gynecology
46 Obstetrics
47 Neonatology
48 Pediatrics
49 Geriatrics
50 Abuse and Assault
51 Patients with Special Challenges
52 Acute Interventions for the Chronic Care Patient

National EMS Scope of Practice Model

Level A	
Respiratory arrest Respiratory distress	Mouth to mask ventilation
Level B	
Respiratory failure Exacerbated Chronic Obstructive Pulmonary Diseases Hyperventilation syndrome	Supplemental Oxygen Therapy Bag-Valve-Ventilation ATV Assisted Inhaled Beta Agonists
Level C	
Asthma Chronic bronchitis Emphysema	Administered Inhaled Beta Agonists Endotracheal intubation
Level D	
Acute/ adult respiratory distress syndrome Pneumonia Pulmonary edema Pulmonary thromboembolism Neoplasms of the lung Upper respiratory infection Spontaneous pneumothorax	Comprehensive emergency pharmacological management CPAP BiPAP

National EMS Education Standards (SAMPLE)

Level A

The entry level A provider must be able to recognize and provide immediate, life saving interventions for a patient with a respiratory emergency.

The entry level First Responder must be able to:
Identify and recognize and provide immediate, life saving interventions for the following respiratory emergencies:

a. Respiratory arrest
b. Respiratory distress

Recognize and value the assessment and treatment of patients with respiratory diseases.
Demonstrate safe, effective, and proper

a. Mouth to mask ventilation

Level B

The entry level B provider must be able to recognize and implement the treatment plan for the patient with a respiratory emergency.

The entry level B provider must be able to perform all the objectives of the A provider, plus:
Identify and describe the function of the structures located in the upper and lower airway.
Discuss the physiology of ventilation and respiration.
Discuss abnormal assessment findings associated with respiratory emergencies.
Review the use of equipment used during the physical examination of patients with respiratory emergencies.
Identify and implement a treatment plan for respiratory emergencies:

a. Respiratory failure
b. Exacerbated Chronic Obstructive Pulmonary Diseases
c. Hyperventilation syndrome

Recognize and value the assessment and treatment of patients with respiratory diseases.
Demonstrate safe, effective, and proper

a. Mouth to mask ventilation
b. Supplemental Oxygen Therapy
c. Bag-Valve-Ventilation
d. ATV
e. Assisted inhaled beta agonists

Safely assist patients in taking their own prescribed medication during a respiratory emergency.

Level C

The entry level C provider must be able to apply assessment findings and implement the treatment plan for the patient with respiratory emergencies.

The entry level C provider must be able to perform all of the objectives of a B provider, plus:
Identify and describe the function of the structures located in the upper and lower airway.
Discuss the physiology of ventilation and respiration.
Identify common pathological events that affect the pulmonary system.
Discuss abnormal assessment findings associated with respiratory emergencies.
Compare various airway and ventilation techniques used in the management of respiratory emergencies.
Review the use of equipment used during the physical examination of patients with complaints associated with respiratory diseases and conditions.
Identify the pathophysiology, assessment findings, and management for the following respiratory diseases and conditions:

a. Adult respiratory distress syndrome
b. Bronchial asthma
c. Chronic bronchitis
d. Emphysema
e. Hyperventilation syndrome

Recognize and value the assessment and treatment of patients with respiratory diseases.
Indicate appreciation for the critical nature of accurate field impressions of patients with respiratory diseases and conditions.
Demonstrate safe, effective, and proper

a. Mouth to mask ventilation
b. Supplemental Oxygen Therapy
c. Bag-Valve-Ventilation
d. ATV
e. Endotracheal intubation

Safely administer pharmacological agents used in the management of respiratory emergencies.

Level D

The entry level D provider must be able to integrate pathophysiological principles and assessment findings to formulate a field impression and implement the treatment plan for the patient with respiratory problems.

The entry level D provider must be able to perform all of the objectives of a level C provider, plus:
Identify and describe the function of the structures located in the upper and lower airway.
Discuss the physiology of ventilation and respiration.
Identify common pathological events that affect the pulmonary system.
Discuss abnormal assessment findings associated with pulmonary diseases and conditions.
Compare various airway and ventilation techniques used in the management of pulmonary diseases.
Review the use of equipment used during the physical examination of patients with complaints associated with respiratory diseases and conditions.
Identify the epidemiology, anatomy, physiology, pathophysiology, assessment findings, and management for the following respiratory diseases and conditions:

a. Adult respiratory distress syndrome
b. Bronchial asthma
c. Chronic bronchitis
d. Emphysema
e. Pneumonia
f. Pulmonary edema
g. Pulmonary thromboembolism
h. Neoplasms of the lung
i. Upper respiratory infections

j. Spontaneous pneumothorax
k. Hyperventilation syndrome

Recognize and value the assessment and treatment of patients with respiratory diseases.

Indicate appreciation for the critical nature of accurate field impressions of patients with respiratory diseases and conditions.

Demonstrate safe, effective, and proper:

a. Mouth to mask ventilation
b. Supplemental Oxygen Therapy
c. Bag-Valve-Ventilation
d. ATV
e. Endotracheal intubation
f. CPAP
g. BiPAP

Safely administer pharmacological agents used in the management of respiratory patients.

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