

SPECIAL REPORT
MARCH 2005

Implementation Status of the EMS Agenda for the Future

National Association of State Emergency Medical Services Directors

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This study and report were made possible through Cooperative Agreement DTNH22-98-H-05117 between the EMS Division of the National Highway Traffic Safety Administration and the National Association of State Emergency Medical Services Directors.

Introduction

With support from the National Highway Traffic Safety Administration, the *EMS Agenda for the Future* was developed in the 1990's with input from about 90 national organizations. The document put forward a bold vision of the future of EMS systems, building upon the experiences of the previous three decades of EMS system evolution, and identifying areas for new, improved or continued effort.

The resultant vision represented a sea change from the original and narrow concept of the EMS system as a separate system designed to provide care and transportation to the sick and injured; to an integrated model working in complement to the overall public health system.

The document advocated a direction that would introduce EMS systems to a role as public health extenders much in the same way the original system introduced the concept of EMS providers as physician extenders. It is widely accepted that such an approach could significantly improve the efficacy of many public health programs, and add value to the role of the EMS system.

This report represents the findings of a study of the opinions of State EMS Directors as to their impressions about the extent to which the various elements of the *EMS Agenda for the Future* has been implemented in their respective jurisdictions. While this report is predicated upon the opinions of these individuals, it must be acknowledged that there are no empirical and objective measures for implementation. Since State EMS Directors are uniquely and advantageously positioned within their respective jurisdictions to observe and impact the whole of the EMS system, their impressions should be given significant weight.

This survey project was conducted over calendar year 2004. A copy of the survey instrument is included in the appendix. The target population of the project was the 56 state and territorial directors of EMS systems. Of the 56 surveys sent out, 52 were returned for a response rate of 93%; however all 50 states returned completed surveys.

Section 1: Narrative Items

The survey instrument contained six items that required a narrative response. These items were included to elicit additional input from the respondents about the value and future direction of the *EMS Agenda for the Future*. Respectively, these items were:

- What components for an EMS system do you feel are not adequately addressed in the *EMS Agenda for the Future*?
- What components in the current *EMS Agenda for the Future* do you feel are inappropriate or need to be reconsidered?
- Has the *EMS Agenda for the Future* been useful to you in the development of the EMS system?
- What would make the *EMS Agenda for the Future* more useful?
- Was the Implementation Guide for the *EMS Agenda for the Future* useful to you in the development of the EMS system?
- What would make an *implementation guide* more useful?

Synopses of the comment received on each of the narrative items follows.

1.1 What components for an EMS system do you feel are not adequately addressed in the *EMS Agenda for the Future*?

Many of the survey respondents indicated affirmatively that all components are adequately addressed in the existing document. Some did not respond to this particular item or answered “unknown.” Other responses to this item can be broken down into two major categories: components that are not addressed at all; and components that are felt by the respondent to be inadequately addressed.

Among those identified as *not* addressed, most frequently observed were *Domestic Preparedness and Response* and *Trauma Care Systems*. Additional components identified as not currently addressed were: *Resource Management*; *System Financing*; *Scope of Practice*; and the *Change Dynamic*.

Components identified by respondents as inadequately addressed included: interfacility transfers, lead agency expertise and resourcing, PI&E, EMS personnel training, workforce recruitment and retention, integration of health services, evaluation, volunteers, research, information systems, communications and dispatch, and medical direction. Some of these address whole components, and others address subcomponents the respondents felt were not adequately addressed.

1.2 What components in the current *EMS Agenda for the Future* do you feel are inappropriate or need to be reconsidered?

Again, most of the survey respondents indicated affirmatively that all components are appropriate. Some did not respond to this particular item or answered “unknown.”

Of those who responded one or more components is inappropriate or in need of reconsideration, the majority identified “Integration of Health Services.” Some expressed that the role of EMS providers in terms of community and primary care described in the Agenda is unrealistic. Others indicated that the realities of implementation and the potential negative consequences were not sufficiently weighed in developing this and other components. Other comments by subject area are synthesized below:

- Education Systems — Increasing hours and requirements affects availability of training and strains systems that rely extensively on volunteer personnel. This is of particular concern in rural areas, and is to some extent consistent with observations about the need for increased emphasis on workforce recruitment and retention. There is an emphasis in some reaches of the EMS community on the “professionalization” of EMS. This is met with reservation among some EMS directors who feel the drive to professionalize EMS (i.e., with degree requirements) will exacerbate recruitment and retention problems and further deplete the dwindling volunteer pool.
- EMS Research — there is a lack of integration and coordination between the academic centers conducting research and the policy makers who shape the system. For example, research may point up a need for new therapies or technologies, or bring into question the validation of existing therapeutics or technologies without consideration as to how the

public policy infrastructure can best translate this science into action through public policy. Research priorities are also often different than public policy priorities and are sometimes driven by funding from device or medication manufacturers pursuing market considerations rather than public policy implications.

- System Finance — Where there is funding, there is priority. The current state of development (or lack) must be in large part attributed to programmatic development resulting from funding imperatives. This is true throughout the system, from the local providers to the state EMS systems.

At the local service level, increasing regulatory and reporting requirements, increasing liability and widening gaps between costs and reimbursable services pose a triple threat. Insurance reimbursement and Medicare have significantly shaped the provision of EMS, influencing response, treat and release and treat and refer practices, the therapeutic interventions provided, as well as transport and transfer policies.

At the state level, 87% of state EMS office budget dollars come from in-state revenue. This amount largely represents the maintenance of existing programs. The 13% of state EMS budget dollars that come from the federal level represents grants from multiple agencies with diverse priorities. This is the revenue pool that supports innovative program development. In the absence of a single, consolidated and comprehensive federal vision for the development of the EMS system nationwide, EMS systems often fail to sustain programs developed with federal grant monies after the funding dries up.

This lack of coordination may also contribute to the lack of sustained and meaningful development in many areas identified in the *EMS Agenda for the Future*.

- Evaluation — it was pointed out by some that this section needs more detail to be helpful. Evaluation plays a role at all levels of the system, and will become increasingly important in determining the efficacy of public policy, provider practice and new technologies and therapeutic interventions.
- Communications — it is increasingly difficult to keep up with technological advancements and the changes they impute to the structure and dynamics of the system.

There seems to be an ever-widening gap between the rate at which new technologies are produced and available to the market and the rate at which the use of such technologies can be implemented through regulatory systems.

1.3 Has the *EMS Agenda for the Future* been useful to you in the development of the EMS system?

Forty-two of the fifty-two respondents (approximately 81%) indicated affirmatively that the document had been useful in system development efforts. A number of states have developed a state counterpart agenda document; others have used the *Agenda* in the development of their respective state EMS plans.

Four of the fifty-two respondents (less than 8%) indicated the *Agenda* had not been useful. These respondents uniformly reported a vision in which state EMS systems are locally configured, and nothing at the national level, short of regulation and funding would likely have an impact on the implementation of the *Agenda* in their states.

The *Agenda* was identified by many respondents in being specifically helpful in opening and focusing dialogue with various constituents both internally and externally.

1.4 What would make the *EMS Agenda for the Future* more useful?

Respondents suggested a number of ways in which the *EMS Agenda for the Future* could be made more useful. These included:

- Examples of how successful programs have been implemented in other states, success stories or best practices.
- The document should be more frequently reviewed-revised-kept up to date.
- Federal funding for initiatives specifically designed to further implementation.
- Separate companion document prepared as an executive summary in a bullet point “legislator-friendly” format
- Stronger templates for implementation would enhance the document’s use for strategic planning.

- Prioritization of objectives would facilitate resource allocation.
- More widespread dissemination and use among key EMS stakeholders could help solidify strategic direction.
- More attainable goals or identifiable progressive steps in each subject area would improve the ability of the users to stake progress in implementation.
- Federal legislation citing the Agenda as the instrument by which state EMS systems are measured.
- Periodic reports about states making significant process and an annual national report on implementation.
- Roll out approach in conjunction with the Rural EMS Agenda for the Future.
- A centralized repository of information collected from states accessible to those who wish to further implementation.

1.5 Was the Implementation Guide for the *EMS Agenda for the Future* useful to you in the development of the EMS system?

Overall, respondents were less enthusiastic about the implementation guide. While some clearly did find the implementation guide somewhat useful, many felt it was lacking in specifics and that the change in the way the information is organized in the guide made it less useful as a companion document to the *Agenda*.

Again, several respondents indicated that a lack of federal inducements to implement the concepts of the *Agenda* were a major impediment.

1.6 What would make an *implementation guide* more useful?

The respondents indicated a number of ways in which an implementation guide could be made more useful.

- The layout and format of an implementation guide should follow that of the *Agenda* document, adding more specifics, benchmarks and identifying priority areas.
- More examples of successful implementation/best practices should be included.
- Federal regulation, recognition or adoption, and funding should be directed to induce implementation.

- A companion workbook for use by agencies and boards or committees charged with implementation would be helpful.
- Establishment of a clearinghouse for information on the status of implementation among the states.
- Implementation training or workshops provided by NHTSA.

Section Summary

It is clear that the *EMS Agenda for the Future* is widely regarded as a document that has been helpful in the continuing development of state EMS systems. Some states have adapted the *Agenda* into a state-specific version, while others have utilized it in developing state EMS plans. Beyond doubt, the *Agenda* document has been used by state EMS offices to frame issues and to move forward in strategic planning and visioning.

Key ideas for improving the utilization of the *Agenda* and increasing implementation included better coordination between federal agencies involved with EMS; improving access to information about success stories or best practices; and funding targeted toward implementation efforts.

The implementation guide, while somewhat less enthusiastically supported was regarded as conceptually important. Respondents indicated the guide should follow the layout and format of the *Agenda*, adding more detail and strategic steps or benchmarks the users could apply. It was also recommended that NHTSA should provide workshops or training in implementation.

Section 2: Aggregated Data

This section reports the aggregate data from survey items 1-14. Each of these items had two elements: the first asking the respondent to identify the extent to which the subject aspect of the EMS Agenda for the Future had been implemented in their respective state; and a second that asked the respondent to identify the factors believed to most contribute to improved or sustained success in implementation of the component.

2.1 Integration of Health Services

The *EMS Agenda for the Future* puts forward a vision of linkage and integration of EMS with public health.

Extent of Implementation — On the whole, some degree of implementation was reported by 90% of respondents. 25 of the 52 respondents (48%) reported significant partial implementation of this component. Another 3 respondents (approximately 6%) reported the component to be largely implemented.

Very little implementation was reported by 19 respondents (36.5%) and only five (approximately 10%) reported no implementation at all.

Contributing Factors —

1. Involvement and support of the EMS and medical community: 31 of 52 (60%).
2. Funding: 27 of 52 (52%).
3. Change in the EMS/medical culture: 25 of 52 (48%)
4. Legislative commitment: 17 of 52 (33%)
5. Public support and involvement: 11 of 52 (21%)
6. Other: 7 of 52 (13%)
7. Unknown: 0 of 52 (0%)

2.2 EMS Research

The EMS Agenda for the Future puts forward a vision of an EMS system evolving to meet ever changing needs through scientific means, effectively translating science into sound public policy and practice standards.

Extent of Implementation — On the whole, some degree of implementation was reported by 69% of respondents. 9 of the 52 respondents (17%) reported significant partial implementation of this component. 1 respondent (approximately 2%) reported the component to be largely implemented. Very little implementation was reported by 26 respondents (50%) Sixteen (approximately 31%) reported no implementation at all.

Contributing Factors —

1. Funding: 38 of 52 (73%).
2. Involvement and support of the EMS and medical community: 25 of 52 (48%).
3. Change in the EMS/medical culture: 17 of 52 (33%)
4. Legislative commitment: 11 of 52 (21%)
5. Other: 6 of 52 (12%)
6. Public support and involvement: 4 of 52 (8%)
7. Unknown 2 of 52 (4%)

2.3 EMS Legislation and Regulation

The EMS Agenda for the Future puts forward a vision of an EMS system under a single lead agency that is adequately funded and authorized to carry forth its missions.

Extent of Implementation —some degree of implementation was reported by 92% of respondents. Three of the 52 respondents (6%) reported complete implementation; 24 of 52 (46%) this component largely implemented; eleven (21%) reported significant partial implementation; and 10 (19%) reported little implementation. Four (8%) reported no implementation at all.

Contributing Factors —

1. Legislative commitment: 27 of 52 (52%)
2. Funding: 24 of 52 (46%).

3. Involvement and support of the EMS and medical community: 23 of 52 (44%).
4. Change in the EMS/medical culture: 13 of 52 (25%)
5. Public support and involvement: 10 of 52 (19%)
6. Other: 5 of 52 (10%)
7. Unknown: 2 of 52 (4%)

2.4 System Finance

The vision is that EMS systems will be consistently and adequately funded by mechanisms that are based on preparedness and capabilities rather than on the provision of transportation services alone.

Extent of Implementation —some degree of implementation was reported by 79% of respondents. One of the 52 respondents (2%) reported complete implementation; 6 of 52 (12%) that this component is largely implemented; seventeen (33%) reported significant partial implementation; and seventeen (33%) reported little implementation.

Eleven (21%) reported no implementation at all.

Contributing Factors —

1. Legislative commitment: 32 of 52 (62%)
2. Funding: 30 of 52 (58%).
3. Involvement and support of the EMS and medical community tied with Public support and involvement: 16 of 52 (31%)
4. Change in the EMS/medical culture: 8 of 52 (15%)
5. Other: 5 of 52 (10%)
6. Unknown: 4 of 52 (8%)

2.5 Human Resources

Principal portions of this component recognize the need for a career ladder in EMS, nationally recognized standard categories of providers, and reciprocity agreements to facilitate professional mobility. .

Extent of Implementation —some degree of implementation was reported by 94% of respondents. Ten of 52 (19%) reported this component largely implemented; twenty-two (42%) reported significant partial implementation; and 17 (33%) reported little implementation. Only three (6%) reported no implementation at all.

Contributing Factors —

1. Funding: 36 of 52 (69%).
2. Involvement and support of the EMS and medical community: 26 of 52 (50%).
3. Public support and involvement: 20 of 52 (38%)
4. Change in the EMS/medical culture: 18 of 52 (35%)
5. Legislative commitment: 15 of 52 (29%)
6. Other: 6 of 52 (12%)
7. Unknown: 0 of 52 (0%)

2.6 EMS Medical Direction

In pertinent part, the *EMS Agenda for the Future* advocates that all EMS providers should have access to physicians and staffs providing special competency in EMS, and that all states should have an EMS physician serving as State EMS Medical Director.

Extent of Implementation —some degree of implementation was reported by 94% of respondents. Six of the 52 respondents (12%) reported complete implementation; 14 of 52 (27%) this component largely implemented; seventeen (33%) reported significant partial implementation; and twelve (23%) reported little implementation. Three (6%) reported no implementation at all.

Contributing Factors —

1. Involvement and support of the EMS and medical community: 37 of 52 (71%).
2. Funding: 29 of 52 (56%).
3. Change in the EMS/medical culture: 16 of 52 (31%)
4. Legislative commitment: 10 of 52 (19%)
5. Public support and involvement: 4 of 52 (8%)
6. Unknown: 3 of 52 (6%)

7. Other: 2 of 52 (4%)

2.7 Education Systems

The *EMS Agenda for the Future* promotes an EMS education system that provides the knowledge, skills and abilities necessary to successfully execute the responsibilities of the profession; and one that facilitates professional mobility and national consistency through use of standardized curricula and core content.

Extent of Implementation —some degree of implementation was reported by 96% of respondents. Two of the 52 respondents (4%) reported complete implementation; 15 of 52 (29%) this component largely implemented; twenty-five (48%) reported significant partial implementation; and eight (16%) reported little implementation.

Only one (2%) reported no implementation at all.

Contributing Factors —

1. Funding: 33 of 52 (63%).
2. Involvement and support of the EMS and medical community: 29 of 52 (56%).
3. Change in the EMS/medical culture: 22 of 52 (42%)
4. Legislative commitment: 13 of 52 (25%)
5. Public support and involvement: 12 of 52 (23%)
6. Other: 2 of 52 (4%)
7. Unknown: 1 of 52 (2%)

2.8 Public Education

The *EMS Agenda for the Future* holds that public education should be an important and ongoing function of EMS. This will enable the EMS system to improve public health by providing valuable preventive information, and increased public health monitoring.

Extent of Implementation —some degree of implementation was reported by 87% of respondents. Three of 52 (6%) reported this component largely implemented; eighteen (35%) reported significant partial implementation; and twenty-four (46%) reported little implementation.

Six (12%) reported no implementation at all.

Contributing Factors —

1. Funding: 33 of 52 (63%).
2. Public support and involvement: 28 of 52 (54%)
3. Involvement and support of the EMS and medical community: 24 of 52 (46%).
4. Legislative commitment: 14 of 52 (27%)
5. Change in the EMS/medical culture: 11 of 52 (21%)
6. Other: 1 of 52 (2%)
7. Unknown: 1 of 52 (2%)

2.9 Prevention

Prevention efforts in EMS represent a significant potential for reductions in human mortality and morbidity. The *EMS Agenda for the Future* foresees an important role for EMS in overall prevention efforts.

Extent of Implementation —some degree of implementation was reported by 88% of respondents. Seven of 52 (13%) reported this component largely implemented; twenty-five (48%) reported significant partial implementation; and fourteen (27%) reported little implementation.

Six (12%) reported no implementation at all.

Contributing Factors —

1. Funding: 36 of 52 (69%).
2. Involvement and support of the EMS and medical community: 28 of 52 (54%).
3. Public support and involvement: 21 of 52 (40%)
4. Legislative commitment: 18 of 52 (35%)
5. Change in the EMS/medical culture: 14 of 52 (27%)
6. Unknown: 3 of 52 (6%)
7. Other: 2 of 52 (4%)

2.10 Public Access

Nationwide 9-1-1, including wireless 9-1-1, automatic locator information, improved technologies to reduce inter-agency communication are among the communications needs advanced by the *EMS Agenda for the Future*.

Extent of Implementation —some degree of implementation was reported by 92% of respondents. One respondent (2%) reported this component completely implemented. Twenty-five of 52 (48%) reported this component largely implemented; twenty (38%) reported significant partial implementation; and two (4%) reported little implementation. Three (6%) reported no implementation at all.

Contributing Factors —

1. Funding: 29 of 52 (56%).
2. Legislative commitment: 22 of 52 (42%)
3. Public support and involvement: 16 of 52 (31%)
4. Involvement and support of the EMS and medical community: 13 of 52 (25%).
5. Unknown: 8 of 52 (15%)
6. Change in the EMS/medical culture: 5 of 52 (10%)
7. Other: 3 of 52 (6%)

2.11 Communications Systems

Among the issues identified in the *EMS Agenda for the Future* under this component are interoperability, effective communications networking with other medical care provider types, dispatcher qualifications, and availability of on-line medical direction.

Extent of Implementation —some degree of implementation was reported by 92% of respondents. One respondent (2%) reported this component completely implemented. Sixteen of 52 (31%) reported this component largely implemented; twenty (38%) reported significant partial implementation; and eleven (21%) reported little implementation. Four (8%) reported no implementation at all.

Contributing Factors —

1. Funding: 42 of 52 (81%).
2. Legislative commitment: 22 of 52 (42%)
3. Involvement and support of the EMS and medical community: 13 of 52 (25%).
4. Other: 7 of 52 (13%)
5. Unknown: 6 of 52 (12%)
6. Public support and involvement: 5 of 52 (10%)
7. Change in the EMS/medical culture: 3 of 52 (6%)

2.12 Clinical Care

The *EMS Agenda for the Future* defines a vision of clinical care that provides a baseline, with expansion of care and services driven by identified needs and resource capabilities specific to each community.

Extent of Implementation —some degree of implementation was reported by 87% of respondents. Three respondents (6%) reported this component completely implemented. Twelve of 52 (23%) reported this component largely implemented; twenty (38%) reported significant partial implementation; and ten (19%) reported little implementation. Eight (15%) reported no implementation at all.

Contributing Factors —

1. Involvement and support of the EMS and medical community: 34 of 52 (65%).
2. Funding: 30 of 52 (58%).
3. Change in the EMS/medical culture: 26 of 52 (50%)
4. Legislative commitment: 11 of 52 (21%)
5. Public support and involvement: 8 of 52 (15%)
6. Other and Unknown tied at: 3 of 52 (6% each)

2.13 Information Systems

Uniform and integrated data systems that support continuous system evaluation and research are foremost among the issues identified in the *EMS Agenda for the Future* under this component.

Extent of Implementation —some degree of implementation was reported by 96% of respondents. Thirteen of 52 (25%) reported this component largely implemented; nineteen (37%) reported significant partial implementation; and eighteen (35%) reported little implementation. Two (4%) reported no implementation at all.

Contributing Factors —

1. Funding: 41 of 52 (79%).
2. Involvement and support of the EMS and medical community: 23 of 52 (44%).
3. Change in the EMS/medical culture: 16 of 52 (31%)
4. Legislative commitment: 15 of 52 (29%)
5. Public support and involvement: 6 of 52 (12%)
6. Other and Unknown tied at: 4 of 52 (8% each)

2.14 Evaluation

This component of the *EMS Agenda for the Future* advocates continuous and comprehensive assessment of all aspects of the EMS system, including clinical care, cost effectiveness, and consumer and public satisfaction.

Extent of Implementation —some degree of implementation was reported by 92% of respondents. Three of 52 (6%) reported this component largely implemented; twelve (23%) reported significant partial implementation; and thirty-three (63%) reported little implementation.

Four (8%) reported no implementation at all.

Contributing Factors —

1. Funding: 33 of 52 (63%).
2. Involvement and support of the EMS and medical community: 32 of 52 (62%).
3. Change in the EMS/medical culture: 23 of 52 (44%)
4. Legislative commitment: 11 of 52 (21%)
5. Public support and involvement: 7 of 52 (13%)
6. Other and Unknown tied at: 5 of 52 (10% each)

Section Summary

Some degree of implementation has occurred with all elements of the *EMS Agenda for the Future*. The component most frequently reported as completely implemented was Medical Direction. The component most frequently reported as largely implemented was Public Access. Three components tied as most frequently identified with significant partial progress: Integration of Health Services; Education Systems; and Prevention. Research was the component most respondents reported as experiencing very little or no implementation.

No respondents reported complete implementation of 7 of the 14 attributes in the *EMS Agenda for the Future*. These are: Integration of Health Services; Research; Human Resources; Public Education; Prevention; Information Systems; and Evaluation. Even among these, success is evident. Over 50% of the respondents reported these components to be largely implemented, or that significant partial progress toward implementation had occurred in all but three of these seven attributes: Research (19%); Public Education (40%); and Evaluation (29%).

Section 3: Analysis by Contributing Factor

Respondents were given a list from which to choose the factors they felt contributed most to improved or sustained success in implementation of each component of the EMS Agenda for the Future. These factors were: Adequate funding/resources; EMS/medical community support and involvement; Public support and involvement; Legislative commitment; Change in the EMS/medical culture; Other; and Unknown. Unlike the item asking for the current level of implementation, respondents were able to indicate as many factors as they felt indicated – so for each factor, there was a possible response range of 0-52 for the total survey population. Combining responses from all 14 components of the *Agenda*, the prevalence of factors was distributed as follows:

- 30% Adequate funding/resources;
- 23% EMS/medical community support and involvement;
- 15% Legislative commitment;
- 14% Change in the EMS/medical culture;
- 11% Public support and involvement;
- 4% Other; and
- 3% Unknown.

This does not mean that funding was the top factor identified in each component of the *Agenda*. In fact three factors were identified as the top factors in various elements. Adequate funding/resources; EMS/medical community support and involvement; and Legislative commitment were identified as top factors. Public support and involvement, Change in the EMS/medical culture, Other, and None were not identified as top factors in any of the fourteen attributes. This suggests that implementation boils down to three things predominately:

- The *money* to implement;
- The *authority* to implement; and
- The *collective will* to implement.

Understanding which factors are associated with each attribute may be of significant assistance in the development of strategies to encourage further implementation.

3.1 Funding

Funding was the leading factor identified in 9 of the 14 components of the *Agenda*. Funding plays a major role in determining realities, limitations, priorities, and potential for EMS system development at every level of the EMS system. In these components, having the *money* to implement was the most prevalent factor.

The following list represents the percentage (in descending order) of respondents indicating funding to be a factor in implementation, and the component for which it was identified as the top factor:

81% Communication Systems — communications technologies are rapidly evolving and expensive. Until funding is available to replace current technologies, problems with the current systems, such as limited range, radio deadspots, and interoperability will continue to limit EMS effectiveness.

79% Information Systems — the lack of uniform data collection is a major deterrent to a better understanding of the EMS system and its needs. For example, it is nearly impossible to answer seemingly simple questions such as how many ambulances are there in the U.S., how many people were transported by ambulance last year, or what is the ratio of private to public ambulance services? Until hardware, software and sufficient information technology support is available, this will continue to hamper further development of the EMS system.

73% Research — the current practice and theory in EMS is based on science that was not developed with EMS in mind. Devices and medications that enjoyed scientific plaudits in the laboratory or hospital clinical setting may be less than completely effective when subjected to the rigors of environmental extremes and vibration that represent the everyday operating environment in prehospital medicine. This has resulted in the eventual abandonment of devices and medications that were initially greeted with wide enthusiasm in EMS. Until funding is available to support research specifically directed at EMS, it is unlikely this will change.

69% Human Resources; and Prevention in a two-way tie — EMS has a higher percent of volunteers than any other allied public health profession. It is not uncommon to hear EMS

described as a “hybrid system,” meaning it contains elements of health care, public health and public safety. With respect to volunteerism, EMS more closely resembles the latter, as law enforcement and fire both have long traditions of volunteerism. However, it may be reasonably assumed that these volunteers would not be in place unless they were needed; and further that they are needed because there are systems that could not provide services if they had to pay EMS personnel to replace volunteers.

Even paid personnel face the challenges of low pay, long and unusual hours, the virtual absence of a career ladder, and an increasingly onerous regulatory environment. These factors combine to maintain EMS as an entry-level health position, and perpetuates brain drain as EMS providers turn ultimately toward other allied health careers in great numbers.

Prevention has enjoyed great success when coupled with EMS. This coupling has so far occurred in the company of grant incentives. In the absence of such grant monies, it is unlikely that programmatic involvement will be sustained.

63% Education Systems; Public Education; and Evaluation in a three-way tie — education systems in EMS remain rather highly centralized, and are subjected from time to time to curricula updates that increase the number of required minimum hours or add new content. This increases the duration and cost of providing education, limiting the number of personnel that can be produced from a single class effort, and the number of classes that can be provided in a given timeframe. EMS also lags behind the rest of the health care system in e-learning, which could make continuing education less costly and more accessible.

What the public knows about EMS is still informed largely by television shows. The only concerted nationwide endeavor to inform the public about EMS is through local events during EMS Week once a year.

Evaluation capacity is significantly related to both research and information systems.

Improvements in any of these three will likely yield some improvements in the other two, but all are deeply dependent on improved funding.

56% Public Access — this is essentially an issue of technological infrastructure. It is telling that 9-1-1 was introduced some 30 years ago, and still is not available nationwide.

3.2 Support and Involvement of EMS/Medical Community

Support and Involvement of the EMS/Medical Community was the leading factor identified in 3 of the 14 components of the *Agenda*. In each state, the EMS and medical community properly have influence in the configuration of the system. Clearly, the traditions and vision of the EMS and medical community loom large in the implementation of any significant changes to an existing system. In these components, having the *collective will* to implement was the most prevalent factor.

The following list represents the percentage (in descending order) of respondents indicating EMS and medical community involvement and support to be a factor in implementation, and the component for which it was identified as the top factor:

71% Medical Direction — emergency medical technicians were specifically developed as *physician extenders*, providing stopgap care and transportation. This relationship requires dedicated physician expertise in development of protocols, practice standards, and oversight at the local level and medical input on policy development at the state level. Fewer than half the states have a state medical director, and only a fraction of those employ a physician in that capacity full time. EMS medical direction is not a reimbursable service, yet has inherent and significant legal liability. These factors combine as deterrents for interested and qualified individuals to serve in such a capacity.

65% Clinical Care — this component is linked closely with medical direction, research, and evaluation. Improvements in any of these would likely yield improvements in clinical care as well.

60% Integration of Health Services — perhaps more than any other component, integration represents a sea change from the initial vision of the modern EMS system. Part of the challenge may lie in the fact that EMS is a hybrid system that, while sharing features with public health, public safety, and health services, is not claimed by any. EMS is organizationally positioned in state health departments for the most part (some few agencies are stand-alone regulatory boards, or organizationally affiliated with state departments other than health); and EMS providers are uniquely and advantageously positioned to work as public health extenders by collecting data, providing education, coordinating services with other public health entities. In reality, the fit is less than intuitive. It may be the stovepipe approach linking programmatic responsibility and

funding leads to a prevailing bureaucratic culture of protectionism. If so, this certainly diminishes overall efficacy.

3.3 Legislative Commitment

Legislative Commitment was the leading factor identified in 2 of the 14 components of the *Agenda*. Ultimately, the possibilities of EMS system expansion, refinement and improvement are etched in the law; and in many instances, changing the system means changing the law. In these components, having the *authority* to implement was the most prevalent factor.

The following list represents the percentage (in descending order) of respondents indicating legislative commitment to be a factor in implementation, and the component for which it was identified as the top factor:

62% System Finance — In addition to setting program authority, most state legislatures control the budgets of state offices through authorization and appropriation. Effective implementation of any program requires adequacy of both authorization and appropriation. Responses clearly indicate the desire for a better way to inform legislators about EMS needs and priorities.

52% Legislation and Regulation — what a program is authorized to do, the nature and scope of services it provides are defined in state law by the state legislature or assembly. Regulations, which are developed by state agencies, generally are held to have the same force weight and effect as the law, but also must be promulgated under the framework set forth in the law. In other words, a regulation may not give an agency any authority the law does not give it. Again, responses indicate a great need for a better way to help legislators make informed decisions.

Section 4: Related Progress

In addition to the EMS Agenda for the Future having a significant impact on State and local EMS systems, it has had a major influence on the activities and programs of national EMS organizations and Federal agencies involved in EMS, especially the NHSTA EMS Division. The original EMS Agenda for the Future recommendations have resulted in several more detailed Agenda type efforts that move the whole system closer to the stated objectives of the EMS Agenda for the Future and the EMS Agenda Implementation Guide (NHTSA, 1998). Each of the following Agenda-type efforts has been sponsored by NHTSA, in cooperation with key Federal partners, and has involved a multi-disciplinary cross-section of the EMS community in its development.

The EMS Education Agenda for the Future: A Systems Approach, was published in 2000 and has led to the development of the National EMS Core Content, the developing National EMS Scope of Practice Model and the future National EMS Education Standards. This new “system” of education will also include National EMS Certification and National EMS Program Accreditation.

The Trauma System Agenda for the Future (NHTSA, 2000) was developed through the American Trauma Society and a multi-disciplinary steering committee, with significant involvement of the American College of Surgeons/Committee on Trauma. The Trauma Systems Agenda was particularly important at that point in time to bring attention to the needs of trauma systems nationwide when the Trauma/EMS Program at HRSA was unfunded (1995-2000). The Trauma Systems Agenda for the Future served as a guiding document for the Trauma/EMS Program and the Trauma Stakeholder Group, as that program was re-authorized.

Development of a **National EMS Research Agenda** was a priority recommendation from the EMS Agenda for the Future Implementation Guide. This project was coordinated through the National Association of EMS Physicians (NAEMSP) and was completed in 2002. The second phase of the project, development of a National EMS Research Strategic Plan, including specific research priorities, is nearing completion in the spring of 2005. The next phase of that project

will be a special focus on the ethical issues related to EMS research - informed consent and community consultation.

There are many other activities and programs that could be mentioned in this report. Following is a list of some of the major efforts underway that will have a direct impact on the implementation of the EMS Agenda for the Future:

National EMS Information System

The EMS Agenda for the Future included strong recommendations regarding the need for EMS data and this served as a springboard for the National EMS Information System (NEMSIS) Project, requested and coordinated by the National Association of State EMS Directors (NASEMSD). The NEMSIS was originally funded in 2001 and much has been accomplished. The revised NHTSA EMS Dataset, the full Data Dictionary, the XML Standard, the National EMS Dataset and the Business Logic Documents are complete, as is the proposed Business Model for NEMSIS Implementation. The next phase will be implementation of the National EMS Database and a NEMSIS National Resource Center. Again, this project is sponsored by NHTSA, in coordination with our Federal partners at HRSA

Reason for Encounter

The purpose of this task is to develop a national consensus on a single method for recording the reason for an EMS encounter. In company with a national EMS database, such information would be most useful in understanding the usual and customary nature of the supply, demand and consumption of emergency medical services.

Performance Measures

The purpose of this project is to coordinate and convene a meeting of organizations and researchers with interests in EMS performance measurement, including representatives of

potential EMS funding institutions and prepare a summary of the findings and recommendations. The second phase is to implement those recommendations.

PIER Curriculum Revision

A project to revise and update the Public Information, Education and Relations (PIER) Curriculum, and to incorporate concepts and key recommendations of the “Consensus Statement on the EMS Role in Primary Injury Prevention.”

National EMS Educational Core Content

NHTSA and MCHB have contracted with NAEMSP and ACEP to develop a National EMS Core Content describing the entire domain of out-of-hospital emergency medical care.

National EMS Scope of Practice Model

The Pew Commission has recommended that health professions establish scope of practice models and NHTSA and MCHB have again partnered to support efforts to progress towards fulfilling that direction for EMS.

PECARN

The Pediatric Emergency Care Applied Research Network is the first federally-funded multi-institutional network for research in pediatric emergency medicine. The goal of this network is to conduct meaningful and rigorous multi-institutional research into the prevention and management of acute illnesses and injuries in children and youth across the continuum of emergency medicine health care.

Related to EMS and Public Health recommendations in the EMS Agenda for the Future, NHTSA worked with NAEMSP in coordinating a series of EMS/Public Health Roundtables to explore common interests and opportunities for collaboration. That roundtable series was completed the

summer of 2001, and the first major opportunity for collaboration was related to the events of September 11, 2001, as EMS and Public Health came together to address improvements in readiness of front line health responders in response to mass casualty incidents, whether natural or human-caused.

The Institutes of Medicine (IOM) have also undertaken a project entitled: “**The Future of Emergency Care in the United States Health System.**” As an expansion of that original project, there is now an 11 member Prehospital EMS subcommittee, and an 11 member Pediatric subcommittee. The purpose of this study is to:

1. Examine the emergency care system in the U.S.;
2. identify its strengths, limitations, and future challenges;
3. Describe a desired vision of the emergency care system; and
4. Recommend strategies required to achieve that vision.

The weight of an IOM report is considerable. It is likely that the report will significantly influence and facilitate revision of the *EMS Agenda for the Future* and the EMS system overall.

Section 5: Summary and Conclusions

This study shows widespread incremental implementation of the *EMS Agenda for the Future*. It must be recognized that implementation is a dynamic; and that this project has revealed only a “snapshot” of the status of implementation at the current time. While some areas are clearly lagging, a distinct awareness and movement toward implementation in most areas is undeniable. It is clear that the *Agenda* has proven highly useful to the ongoing development of most state EMS systems.

Obstacles to continued implementation are also identified, and it is hoped will provide some insight useful to the development of strategic approaches that will facilitate further implementation. Predominately, these obstacles are comprised of three types: funding inadequacy, inadequate understanding of EMS issues by state legislatures, and resistance to change in the EMS and medical cultures. Efforts directed at these three areas will likely bear the greatest fruit in furthering implementation across the whole spectrum of the *EMS Agenda for the Future*.

One component of the comprehensive EMS system that is missing from the *Agenda* is Domestic Preparedness and Response. Clearly, EMS systems have an important and emerging role in this regard, and we highly recommend this subject area be addressed in any future revision of the document.

The EMS system is a dynamic that will continue to evolve to meet future challenges. The extent to which this will occur with any homogeneity will be determined in large part by such visionary documents as the *EMS Agenda for the Future*, and consolidated efforts to deal with identified obstacles to the fullest implementation possible.

Appendix



Implementation Status of the EMS Agenda for the Future

Section A. Please indicate for each item your impression of the level of current implementation and what would most contribute to improved or sustained success in your state or territory for each of the components of the *EMS Agenda for the Future*:

1. Integration of Health Services

- Not implemented at all
- Very little implementation
- Significant partial implementation
- Largely implemented
- Completely implemented

What factors do you believe would most contribute to improved or sustained success in the implementation of this component?

- Adequate funding/resources
- EMS/medical community support and involvement
- Public support and involvement
- Legislative commitment
- Change in the EMS/medical culture
- Other:
- Unknown

2. EMS Research

- Not implemented at all
- Very little implementation
- Significant partial implementation
- Largely implemented
- Completely implemented

What factors do you believe would most contribute to improved or sustained success in the implementation of this component?

- Adequate funding/resources
- EMS/medical community support and involvement
- Public support and involvement
- Legislative commitment
- Change in the EMS/medical culture
- Other:
- Unknown

3. Legislation and Regulation

- Not implemented at all
- Very little implementation
- Significant partial implementation
- Largely implemented
- Completely implemented

What factors do you believe would most contribute to improved or sustained success in the implementation of this component?

- Adequate funding/resources
- EMS/medical community support and involvement
- Public support and involvement

- Legislative commitment
- Change in the EMS/medical culture
- Other:
- Unknown

4. System Finance

- Not implemented at all
- Very little implementation
- Significant partial implementation
- Largely implemented
- Completely implemented

What factors do you believe would most contribute to improved or sustained success in the implementation of this component?

- Adequate funding/resources
- EMS/medical community support and involvement
- Public support and involvement
- Legislative commitment
- Change in the EMS/medical culture
- Other:
- Unknown

5. Human Resources

- Not implemented at all
- Very little implementation
- Significant partial implementation
- Largely implemented
- Completely implemented

What factors do you believe would most contribute to improved or sustained success in the implementation of this component?

- Adequate funding/resources
- EMS/medical community support and involvement
- Public support and involvement
- Legislative commitment
- Change in the EMS/medical culture
- Other:
- Unknown

6. Medical Direction

- Not implemented at all
- Very little implementation
- Significant partial implementation
- Largely implemented
- Completely implemented

What factors do you believe would most contribute to improved or sustained success in the implementation of this component?

- Adequate funding/resources
- EMS/medical community support and involvement
- Public support and involvement
- Legislative commitment

- Change in the EMS/medical culture
- Other:
- Unknown

7. Education Systems

- Not implemented at all
- Very little implementation
- Significant partial implementation
- Largely implemented
- Completely implemented

What factors do you believe would most contribute to improved or sustained success in the implementation of this component?

- Adequate funding/resources
- EMS/medical community support and involvement
- Public support and involvement
- Legislative commitment
- Change in the EMS/medical culture
- Other:
- Unknown

8. Public Education

- Not implemented at all
- Very little implementation
- Significant partial implementation
- Largely implemented
- Completely implemented

What factors do you believe would most contribute to improved or sustained success in the implementation of this component?

- Adequate funding/resources
- EMS/medical community support and involvement
- Public support and involvement
- Legislative commitment
- Change in the EMS/medical culture
- Other:
- Unknown

9. Prevention

- Not implemented at all
- Very little implementation
- Significant partial implementation
- Largely implemented
- Completely implemented

What factors do you believe would most contribute to improved or sustained success in the implementation of this component?

- Adequate funding/resources
- EMS/medical community support and involvement
- Public support and involvement
- Legislative commitment
- Change in the EMS/medical culture

- Other:
- Unknown

10. Public Access

- Not implemented at all
- Very little implementation
- Significant partial implementation
- Largely implemented
- Completely implemented

What factors do you believe would most contribute to improved or sustained success in the implementation of this component?

- Adequate funding/resources
- EMS/medical community support and involvement
- Public support and involvement
- Legislative commitment
- Change in the EMS/medical culture
- Other:
- Unknown

11. Communication Systems

- Not implemented at all
- Very little implementation
- Significant partial implementation
- Largely implemented
- Completely implemented

What factors do you believe would most contribute to improved or sustained success in the implementation of this component?

- Adequate funding/resources
- EMS/medical community support and involvement
- Public support and involvement
- Legislative commitment
- Change in the EMS/medical culture
- Other:
- Unknown

12. Clinical Care

- Not implemented at all
- Very little implementation
- Significant partial implementation
- Largely implemented
- Completely implemented

What factors do you believe would most contribute to improved or sustained success in the implementation of this component?

- Adequate funding/resources
- EMS/medical community support and involvement
- Public support and involvement
- Legislative commitment
- Change in the EMS/medical culture
- Other:

Unknown

13. Information Systems

- Not implemented at all
- Very little implementation
- Significant partial implementation
- Largely implemented
- Completely implemented

What factors do you believe would most contribute to improved or sustained success in the implementation of this component?

- Adequate funding/resources
- EMS/medical community support and involvement
- Public support and involvement
- Legislative commitment
- Change in the EMS/medical culture
- Other:
- Unknown

14. Evaluation

- Not implemented at all
- Very little implementation
- Significant partial implementation
- Largely implemented
- Completely implemented

What factors do you believe would most contribute to improved or sustained success in the implementation of this component?

- Adequate funding/resources
- EMS/medical community support and involvement
- Public support and involvement
- Legislative commitment
- Change in the EMS/medical culture
- Other:
- Unknown

Section B. Please answer the questions in this section in narrative form. If your response is “none” or “unknown,” please indicate so rather than leaving items blank.

15. What components for an EMS system do you feel are not adequately addressed in the *EMS Agenda for the Future*?

16. What components in the current *EMS Agenda for the Future* do you feel are inappropriate or need to be reconsidered?

17. Has the *EMS Agenda for the Future* been useful to you in the development of the EMS system?

18. What would make the *EMS Agenda for the Future* more useful?

19. Was the Implementation Guide for the *EMS Agenda for the Future* useful to you in the development of the EMS system?

20. What would make an *implementation guide* more useful?