WISCONSIN

EMERGENCY MEDICAL SERVICES

SYSTEM OVERVIEW;

A CALL TO ACTION

Developed by

EMS Stakeholders

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EXECUTIVE SUMMARY

The current state of the Emergency Medical Services (EMS) System and Trauma Care System are at risk of catastrophic failure. This document discusses the issues through a strengths, weaknesses, opportunities, and threats (SWOT) analysis of the system. Primarily the following are the main findings:

Strengths- These are generally categorized as the number of volunteers that provide care, the dedicated stakeholders/providers, various committees providing network opportunities, a developing hospital and trauma system, EMS educational system, progressive scopes of practice for all level of providers, and the current funding assistance initiatives.

Weaknesses- identified as workforce issues, lack of stable funding to support development and structure, no increase in funding assistance dollars since its inception, poor communication of information through the EMS industry adding to inadequate representation, lack of DHS/DPH support, lack of regional EMS support, and the geography of service areas.

Opportunities - a potential legislative council study, building consensus through stakeholder initiatives and consortia, potential restructuring of the systems, infrastructure to educate and promote EMS & Trauma, developing EMS & Trauma data systems.

Threats- include inconsistent and inaccurate messages to the public and government leaders, Public perception, other special interest groups, strong ethics of the workforce, lack of stable funding, open administrative rules, DHS/DPH Management, all of which are representative of a failing EMS & Trauma infrastructure.

The SWOT analysis is found to be directly associated with the 2001 National Highway Transportation Safety Administration (NHTSA). Specifically the introduction: "2001- Despite the outstanding progress of the past eleven years, much remains to be done. Some of the barriers to progress that existed eleven years ago are still present today. Dedicated people throughout the state, both paid and volunteer, doing a job with little recognition and inadequate resources have created monumental achievements. But even dedication and hard work can carry Wisconsin only so far. ***Currently, resources are being cut and personnel and financial support to maintain and continue improving the EMS system in Wisconsin have eroded to the point that the system is in danger of collapse.*** Even with a host of volunteers, a stable, continuing funding source must be

obtained for the Bureau of EMS and Injury Prevention and personnel resources must be allocated to meet the demand for services to the public, the EMS volunteer and career personnel and other EMS system partners. ***The political leadership in Wisconsin must address the real needs facing the Wisconsin EMS system and ensure that stable funding mechanisms and personnel resources are available to maintain a good system and make it even better"***(NHTSA 2001 Report).

Then based on this NHTSA report and the SWOT analysis the following is suggested by the stakeholders as the key elements necessary to get the systems back "on track". They are:

1. Request the National Highway Transportation Safety Administration complete a re-assessment.
2. Establish a legislative study committee to review the EMS program and recommend changes to the EMS Board structure.
3. Based on the above provide essential funding and staff for the State EMS Section to support the EMS & Trauma systems.
4. Identify and change State Statutes that are required to provide proper over site.
5. Initiate needed system improvement projects based on NHTSA Review and stakeholder input.
    A. Data system development / integration
    B. Quality assurance initiatives
    C. Recruitment & retention
    D. Regionalization
6. Complete a strategic plan that will provide 1, 3, 5, and 10 year project plan for system improvement.

These ideas will then be placed into an initiative to develop a continuing strategic plan. Any good business develops a 1, 3, 5, and 10 year strategic plan to assure that the business is moving in the correct direction. In addition it gives a "check and balance" guide to assure the business stays on track. This document is just the beginning of an initiative to assure that the stakeholders are involved in developing and maintain a high quality EMS and Trauma system.

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MISSION

The mission of the Wisconsin Emergency Medical Services Section is to ensure that the highest quality and standards of pre-hospital emergency medical care is available to all citizens of and visitors to Wisconsin.

VISION

Through leadership, support, and regulation, the EMS Section ensures the development and maintenance of a high quality Emergency Medical Services delivery system for the State of Wisconsin. Its primary focus is to reduce both human suffering and economic loss from premature death and disability resulting from sudden illness or injury.

INTRODUCTION AND PURPOSE

The Wisconsin Emergency Medical Services Section has been charged with the responsibility of developing and sustaining Emergency Medical Services in Wisconsin since 1968. From the inception, its status within the Department of Health and Family Services (DHS) (formerly the Department of Health and Social Services) has changed from a Section (within the Division of Public Health of the DHS) to a Bureau and back to its current status as a Section. During this period, the Wisconsin Emergency Medical Services system has expanded to include more that 430 ambulance services, 460 first responder groups, and 24,000 licensed personnel and includes the emergency medical services and trauma system provided through the hospitals in the State. Since Emergency Medical Services (EMS) is an allied health profession, it continues to evolve and change. Since the late 1970's the Section has developed five levels of prehospital emergency medical providers each with their own administrative rules for operation. In addition, it has developed a statewide trauma system to optimize the treatment of patients with traumatic injuries and provide for prevention of such injuries.

Long gone are the days of discharged military medics "driving the ambulance". Today's professionals have hundreds of hours of education and training to standards established by the EMS Section. They are required to maintain and expand their knowledge and skills through enrollment in continuing education and training classes approved by the EMS Section and maintain certifications and the achievement of current

competencies as required and defined by the Section for licensing. This continued training helps to assure that Wisconsin continues to have qualified and competent providers of pre-hospital care.

The primary focus of the EMS Section is the provision of comprehensive high quality emergency medical services to the citizens and visitors of the State of Wisconsin. In order to accomplish this mission, the Section must develop and sustain a solid and stable EMS System that welds all of the components into a functional system that can meet the daily requirements and those that will impact the State during disasters and crisis. These components, as identified by The National Highway Transportation Safety Administration (NHTSA) are: Regulation and Policy, Resource Management, Manpower and Training, Transportation, Facilities, Communication, Evaluation, Public Information and Education, Medical Direction, and Trauma Systems.

Thus, quality assurance and development and maintenance of a state of the art SYSTEM a key function of the EMS Section. The Section must assure that the services provided are optimal and in accordance with national and state best practices and standards. These charges include assurance of compliance with administrative rule and with current standards of emergency medical care.

Before providing an in depth review of the current system and making recommendations for future progress, it is important to look at the history of Wisconsin EMS. This is crucial to understanding how EMS has arrived at its current condition. In addition it will assist in developing a functional system that will meet the needs of Wisconsin.

HISTORY

The following is a general overview of key events within the history and development of EMS in Wisconsin. It is not an all inclusive chronology. It only covers the major events and milestones for EMS in Wisconsin.

Prior to 1966

Prior to 1966 patients were treated by firefighters, police officers, and lay people who possessed little scientifically based abilities for assessment or treatment of patients. Generally, patients were rapidly transported to a hospital without receiving any medical care during the trip. Rapid transport was the treatment of the era.

1966 White paper

This is the basis of modern EMS in the United States. This document outlined the tragedy of loss of life from automobile crashes. It elaborated on the death and disability from lack of proper care for the sick and injured people in the field.

1968 Statewide EMT training

Wisconsin, recognizing the impact of the White Paper, began education and training of emergency medical technicians (EMTs). This was initially done by personnel employed by DHSS. This process was supervised by the EMS Examining Council appointed by the department.

1973 Federal EMS Legislation

The creation of the National Highway Transportation and Safety Administration (NHTSA) began to provide financial resources to the States. This provided the seed money for development of an emergency medical services system within Wisconsin. This was administered through Federal Project 40/Block grants. This process stipulated that applications were required to meet each of the 15 components of an effective EMS system. These criteria remain the foundation of today's modern EMS system.

1973: Chapter 321

This legislation provided for the licensing of ambulance providers and individuals. It further created the EMS Section/Examining Council. The duties were to issue licenses and provide examination duties for people receiving training. This also provided the opportunity for the first paramedic systems in Madison and Milwaukee.

1975 & 1977

Federal Funding under the Project 40 Block Grant was received to help fund the EMS Section. In 1979, the federal funding was not renewed. Since the State had little investment in the EMS "System", this loss resulted in a progressive decline of personnel from the EMS Section and left the Section unable to meet its mandated responsibilities. This resulted in a parochial effect on EMS—which meant that each EMS Service had to fend for itself through generation of operational funds through community events. This remained in place until 1992.

1989
The passage of Act 102-Funding Assistance Program provides $2.2 million/year for training efforts and ambulance service improvements.

1990
NHTSA was asked to evaluate EMS in Wisconsin. They made many recommendations that were evaluated and some were acted upon (see NHTSA 1990 Assessment). But, there remained many recommendations that needed to be implemented to further develop and maintain an optimal EMS system. The NHTSA Technical Advisory Team report emphasized that the key to the successful delivery of EMS in Wisconsin was to the need to identify a STABLE funding source to support development and maintenance of essential activities.

1991

Act 238 was passed which provided for the First Responder certification level. This allowed a greater number of trained personnel with basic medical skills to respond in rural areas ahead of the higher trained personnel on the ambulances.

1992

In response to the 1990 NTHSA review, a Legislative Council Study Committee (Riser, Robson [Chairs]) was created to examine the problems with EMS in Wisconsin, and draft new legislation to assist in system development.

1993

The Study Committee recommended new legislation: Acts 16 and 25 provided for a State Medical Director to oversee medical treatment within the state and created the Governor-appointed EMS Board. This Board was to be appointed on the basis of individual expertise in the field of EMS and was to provide expert advice on issues to the EMS Section. The legislation also required the Board to develop and submit 11 reports to Legislature. The reports are as follows:

***Wisconsin Act 251(1993)* Reports from Board to Legislature**

1. Regionalization (12/31/94; 06/30/95)
2. Data Collection and Analysis (6/30/95)
3. Dispatcher Certification/Licensing (12/31/95)
4. Mandatory EVOC Training (12/31/95)
5. Training and Continuing Education (12/31/95)
6. Funding (12/31/95)
7. State EMS Plan (12/31/95)
8. EMS Board Advisory to DOT and WTCS (1995?)
9. Med Directors Mandated for Basic & First Responder Services (1995?)
10. Statewide Trauma System (1995?)
11. Use of Hospital Categorization Lists (1995?)

After more than three years of work, the reports were completed on schedule. Unfortunately these reports were never sent by the department to the legislature.

1998

The EMS Section is elevated to Bureau status.

2001

NHTSA Technical Advisory Team (TAT) was asked to do a Re-Evaluation of EMS in Wisconsin in comparison to the 1990 evaluation. Again there were many recommendations (see NHTSA 2001 Reassessment). The overall sentiment expressed in the Report was anything that did not require money to complete was finished. However, the overwhelming recommendation was again a solid funding source needed to support the activities of the EMS system.

2004

This was a significant year in the history of Wisconsin EMS. This was the year that DHS was reorganized and what had become the Bureau of EMS was slated to be dissolved and become absorbed within the Office of Operations. After the EMS community voiced their concerns the bureau remained intact but was reduced to a section and placed in the Bureau of Local Health Support and EMS.

2006-2008 Current

Today EMS in Wisconsin is significantly behind other states of similar area, population, and geographical make-up. The Section has gone from 11 people in 2005 to a current staff of 8 people. The Section is unable to assure quality standards and properly assist services in meeting the burden of statute and rule. Without the ability to monitor and assist services the EMS system is providing a questionable level of quality. Complaints are increasing and initiatives that have been started several years ago have been stalled because of the lack of resources available. This failure of the Section is directly related to crumbling of the EMS infrastructure.

METHODOLOGY

The information in this document represents input from three separate meetings held over a one year period. In January of 2007 a strategic planning session was held with the EMS Board as appointed by the Governor. The process used at that meeting was to evaluate the Strengths, Weaknesses, Opportunities and Threats facing the DHS EMS section. This process, called a "SWOT" analysis, provides an effective way to evaluate both negative and positive issues facing a project or business area.

There were two additional SWOT evaluation sessions held to ensure that all stakeholders were able to participate in the process. On March 4th, the EMS Section held two stakeholder meetings at which the EMS Board, State Trauma Advisory Council, and all their sub committees participated as well as other agencies and organizations identified as EMS stakeholders. These were the final SWOT sessions used towards completing this plan (A complete list of the stakeholders and the groups they represent are listed in appendix A). This document and its analysis is based on these meetings, EMS Section meetings, discussions at the EMS Board Meetings, EMS Board Planning meetings, and includes official and casual discussions with various EMS leaders and stakeholders.

The development of a high quality EMS system is very complicated. What is presented here is the best evaluation of the issues and general recommendations made in conjunction with the EMS community. This is

not an isolated internal document but a collaborative effort in the best interest of Wisconsin Emergency Medical Services and Trauma System. The following is presented out of order to the normal "SWOT" structure by placing weaknesses and threats together to provide a natural progression into opportunities and then final recommendations to improve the systems. One will also observe that several issues span into multiple categories. This is not unusual in complex systems and supports the need for continued development and maintenance of a solid emergency care system in Wisconsin.

STRENGTHS

As with all organizations, it is important to identify the best attributes to show that all is not as bad as it may appear. This also provides a springboard to use the strengths to promote and facilitate change. Though the EMS Section is part of a state governmental structure, accepted business concepts can be appropriately applied. In this section the stakeholders identify the key strengths of the EMS & Trauma systems. They are generally categorized as the number of volunteers that provide care, the dedicated stakeholders/providers, various committees providing network opportunities, a developing hospital and trauma system, EMS educational system, defined and progressive scopes of practice for all level of providers, and the current funding assistance initiatives.

Volunteers

Wisconsin has enjoyed a long history of a dedicated EMS & Trauma workforce. Almost 60% of the EMS workforce is considered volunteer. Men and women give of their time and resources, often times to significant personal sacrifice, to help their communities. They are generally not compensated for their efforts and provide vital health services to areas that could not support full time coverage. Fortunately this dedication has supported local EMS and Trauma initiatives and been the cornerstone of EMS in Wisconsin.

Boards

In addition to the volunteers that provide care to the citizens and visitors of Wisconsin, there is a group of dedicated professionals that represent their organizations to help promote and strengthen the systems. These stakeholders and groups are specifically listed in Appendix "A" and were integral in developing this document. They represent their organizations through the participation primarily through the State EMS Board appointed by the Governor representing the EMS system and The State Trauma Advisory Council appointed by the Secretary of Health and Family Services representing the trauma system.

These two boards have many diversified subcommittees that are able to address issues that face the EMS & Trauma systems. They report to the EMS section and provide critical information and feedback in effort to assist in developing functional and effective care systems. These boards have dedicated people that have made these "working" boards. The members "roll up their sleeves" and assist in getting issues resolved and aid in development of elements that are critical to protecting the citizens and visitors of Wisconsin.

It is because of these boards that there has been a significant amount of work engaging stakeholders in systems development. The Wisconsin Hospital Association is one of many key organizations to lobby and provide support for trauma and EMS activities. A strong healthcare system facilitates effective quality care from onset of injury or illness through discharge from care. EMS provides the pre-hospital trauma and medical care which is definitively treated within the hospital system and rehabilitation facilities. Significant progress has been made to developing an effective hospital care system that supports trauma activities and reducing mortality and disability. This definitive care system provides solid support for activities for Trauma and EMS.

Training Centers

In the same support role to the system as a whole are the training institutions that provide education for the providers and individuals. The Wisconsin Technical College System (WTCS) is the backbone of training for emergency medical technicians and other allied healthcare professionals. There are 26 EMS training centers that serve the state; 16 of which are Wisconsin Technical Colleges and provide 95% of initial training. There are three private centers that offer initial paramedic training and the remainders of the centers provide "in house" refresher training. It is this tie to the WTCS that allows for cost effective and accessible training for the EMS & Trauma workforce.

The partnership between the EMS Section and the WTCS is mutually beneficial and strong. The Wisconsin Technical College EMS Training Center Advisory Council provides the voice for EMS training. In collaboration with all training centers they provide expert advice on educational standards and procedures to both the WTCS and the department. This allows the EMS section to continue to assure consistent quality training for EMS providers.

Scope of Practice

The educational support from the WTCS has helped to keep Wisconsin at the forefront of EMS and trauma care. The citizens and visitors of Wisconsin are fortunate to have available some of the most progressive and aggressive treatments in the United States. This is at the credit of the various stakeholders and advisory groups that have taken the approach of "if it can be done simply, provide a benefit, and not make the patient worse, it should be done". In Wisconsin we have a "scope of practice" that specifies what skills, equipment, and medications are allowed to be used or performed within their level of licensure. The philosophy above with strong medical direction has allowed a wide scope of practice that provides access to treatments at all levels that are generally reserved for higher level providers in most other states.

With these aggressive treatments and generous scope of practice, the State of Wisconsin has provided some infrastructure support. In 1989 the legislature passed a funding assistance initiative that has helped to support the development of EMS systems. The provision is 2.2 million dollars that is to be shared among all providers of 9-1-1 service. This money is marked for education and service infrastructure support for new equipment and ambulances. The average service receives about $4,000 a year from this aids program.

Summary

As one can see, the EMS and Trauma systems have many strengths. They have been developed with dedicated professionals and volunteers. Support has been shown through the various stakeholder groups to develop a strong EMS, Hospital, and Trauma system for support. The educational system has provided support for the progressive and effective scope of practice. Finally the stakeholders were successful in trying to provide continued support through the aids appropriation to ambulance services. This has all been completed with the main focus being to provide effective quality care to the citizens and visitors to the State of Wisconsin.

WEAKNESSES

As mentioned earlier strengths are always balanced by weaknesses. The stakeholders have identified the following as significant barriers to an effective system. The identified weaknesses are workforce issues, lack of stable funding to support development and structure, no increase in funding assistance dollars since its inception, poor communication of information through the EMS industry adding to inadequate representation, lack of DHS/DPH support, lack of regional EMS support, and the geography of service areas.

EMS Workforce

The EMS workforce is hard to identify because of the lack of data. Basically the average worker is in their mid to late twenties and earns an average salary of approximately $25,000 per year. The mean age of an EMS worker today is 40 years of age. However, as stated previously there is strength in the dedicated volunteers to provide vital services. However, this is also a true weakness because the workforce is not consistent and readily available to handle requests for service. This is only compounded by the attitude of "we are just volunteers". The public expects professional and competent providers delivering their care. A volunteer workforce has significant challenges that it presents to assure this level of service. Many providers must work a "normal" job and their time is limited. This means that a volunteer workforce needs to be at least twice that of a full time service. This affords adequate coverage for service and training and the availabilities of the personnel.

In regards to competency it affords little time to do those training and quality assurance activities that are critical to quality care. Typically, as training and competency verification is increased to meet current standards, the volunteers find the increases unmanageable. This typically leads to the comment of "we are just volunteers". Unfortunately the public does not make that distinction when they need an ambulance. Their expectation, and right, is to have a qualified licensed EMT arrive with state of the art equipment. The level of accountability is the same regardless of how the service operates – all EMT's are licensed to the same standards and require the same credentialing and maintenance of skills; paid or volunteer there should be no difference in the quality of care that is being provided. This just builds a case for consolidation of services to better facilitate coordination of activities and accountability. There are areas that will never be void of volunteerism and this is more than appropriate. However the weakness is the ability of maintaining the providers' level of competency; not in the operation.

Another issue is that many of these volunteers are dedicated to their communities and the profession. This may seem contrary to the above statement, but they will do everything within their power to make every call for service. If they are low on people, funding, equipment, education, they will always respond in the best way they can. It is not within their personalities to refuse a call or allow one to go unanswered. This is detrimental to them because they work on shoe string budgets and less than optimal equipment and allow their governing bodies to assume that they will always be there to answer the call…and they will! Other professions, when they are treated unjustly, will just stop working. These professionals will adapt to anything

that is thrown at them because they are trained to react in this manner. This significantly affects the ability to bargain. When asked "How are things going? They respond with "fine" because they have adapted to the fact that things are, and always will be, the way they are.

Funding

The dedication of the providers has had a negative influence to funding initiatives for EMS and the Trauma system; they do the job regardless of the barriers that are placed before them. Many funding initiatives have been tried very unsuccessfully (1992, 1993, & 2001). In this age of reduced budgets and shrinking fiscal support, the time may not be right for seeking a stable funding. However, if the previous attempts would not have failed the problem would already be resolved. The bottom line is that the system will fail if stable funding is not found. There have been no significant improvements to the systems because funding is needed to perform essential functions.

Services and individuals are beginning to see the consequences of this environment. There has been delayed response to inquiries, license issuance, and responses to phone calls and e-mails. There has been little support for the trauma system and the WARDS project which has caused the stakeholders to become concerned. The office is unable to protect the public because there are not adequate resources to investigate complaints and do site visits. This lack of stable funding has also caused travel to be significantly reduced which compounds the effects of these issues and prevents the Section from maintaining the integrity of the system and enforcing the administrative rules and statutes.

Another significant weakness, that would appear to be a strength, is the funding assistance program. In 1989 (almost 20 years ago) the legislature approved $2.2 Million as aid for ambulance services. The purpose of the money was to help provide funding for training and new equipment. The average check is around $4000.00 per service. This money does not go far considering the cost of training a new EMT runs about $1000.00 and the average cost of a refresher course is about $75.00. As healthcare costs have increased and reimbursements from insurance decrease, this money has meant more to services but not gone as far. There has been no adjustment to this money in over 19 years. This is a significant barrier to helping services meet the increasing costs of operating and training providers.

Communication

Many of the weaknesses stem from a simple problem that plagues many industries and this is communication. As alluded to above, when a question is asked of a service by their legislators, the dedication of the providers allow them to state that "all is fine". This is a crucial flaw in the communication system within the EMS industry. Without the proper flow of information from the industry to those legislators changes cannot be made. The local service will respond regardless of anything else that is occurring. The key to facilitating any change is the improvement of communication between all stakeholders in the industry along with the public and their policy makers.

Communication has also been a barrier when looking at support from within the department of health services. According to the stakeholders (many of them previous employees of the department), the department traditionally has not been a friend to the EMS and Trauma systems. Many of the reports due to the legislature were held back by the department, many requests for funding were never supported or sent forward, and typically their role has been reactive rather than proactive in helping meet the needs of supporting these systems.

This lack of support was very clear when the EMS section and governor appointed board spent three years working on an initiative to regionalize EMS. The plan was to place one staff member into each public health regional office. This individual would work for the EMS section but be the local contact to assist with regional issues. The benefits of this plan were many but never supported by the department. This is one of many projects that showed the department did not consider EMS a priority.

Geographic Differentiation

Finally a significant weakness is the diverse geography that Wisconsin has within its borders and the varied methods and systems that need to function for an effective system. The geography is more of a significant barrier than weakness but it does affect the development of an integrated Trauma and EMS system. What works in one area may not relate to another. Distance from the hospital, distance from the nearest advanced life support squad (ALS), as well as the distance to higher level definitive care can, at times, be a significant issue. This is only compounded by the distance to training opportunities. Some services have to travel over an hour just to get to their local technical college. Some are even closer to Minnesota, Michigan, Iowa, or Illinois resources than those in Wisconsin. This is a barrier towards standardization of service delivery

and will require a unique solution to help develop local (or regional) systems that can partner and join resources to provide for effective service.

It makes sense that if a location is miles away from a hospital that a high level of care should be available. Unfortunately, our very rural areas with transport times of 30-60 minutes are generally cover with EMT's and not paramedics. The resources of training, people, and dollars prevent the rural areas from having high level & quality providers available. Every citizen and visitor in this state deserves to have access to the essential care they require and providing access in rural areas has significant challenges to be overcome.

Summary

The weaknesses are significant as they relate to the survival of the Trauma and EMS system. One of the greatest strengths is the volunteers and the way they operate on a shoe string budget. Clearly this is also a weakness when it is applied to the overall view of the systems. Tightly related is the lack of funding support they and the system receive. This is compounded by the lack of communication between the public, the legislator, and the EMS & Trauma communities.

THREATS

Threats are those things, that if go unchanged, will cause an imminent failure of the systems. Typically there is a direct tie between threats and weaknesses and within EMS & Trauma this is no different. Threats to the systems include inconsistent and inaccurate messages to the public and government leaders, Public perception, other special interest groups, strong ethics of the workforce, lack of stable funding, open administrative rules, DHS/DPH Management, all of which are representative of a failing EMS & Trauma infrastructure.

Lack of united EMS & Trauma System Voice

As noted earlier, there have been several attempts at funding and changing the way EMS and Trauma are managed. Some of these initiatives were successful and others failed to meet expectations. This has been commonly referred to as a failure to communicate. This really speaks to two items; inconsistent messages and the special interests of other groups. Earlier it was stated that communication between the stakeholders was lacking organization and clarity. This threatens the ability of a unified voice for EMS & Trauma. It is only further weakened by the attacks of other special interest groups as they force their message to the policy

makers and keep down the message of EMS & Trauma. This truly has given a mixed message that EMS & Trauma have no consolidation and are working towards common goals.

Lack of Public Awareness

The citizens and visitors have been lulled into a false sense of security where ambulance service is concerned. Many never use the service but are happy to know it is there when they need it…or is it? EMS is commonly seen as a community service that is provided by the municipality either directly or through a service contract. Many don't think about it until they need the service. Then, when it is not to the expected standard they criticize and complain but are unwilling to support a funding request to make it better. This does not happen in all instances but is the frequent response. People do not understand nor can fathom a time when they need this life saving service and it does not arrive. However the time may come sooner than anyone can imagine.

Strong Ethics

This threat is even perpetuated by the lack of action or understanding of the EMT's in the field. As they sacrifice to not jeopardize life or limb they show a dedication that instills confidence in the public and the community leaders. The message is; no matter how bad it gets they will be there to serve. This threatens and undermines the message that the system is failing and if help does not come to EMS & Trauma soon, there will be no help for those in need.

Inadequate Funding

Unfortunately, as with many other programs in Wisconsin, the system needs funding to survive and assure a lasting quality EMS & Trauma system. This would not be a critical issue if those in power during the last attempts would have been receptive and found the needed funding. Instead, the system is on the verge of failure and now a funding source is needed to fix the system, so it can continue to meet the needs of the State.

As much as funding is needed, the administrative rules and statute need to be revised. HFS 110-113 are currently open for revision. The problem is that while they are open there could be changes made that are unintended. As mentioned before, some special interest groups may have an opportunity to find some issues or concerns that will hurt the system rather than help. This is always a very difficult process to assure the rules

are developed fairly, and to correct the concerns that have developed. A poorly written rule or requirement could hurt the system more than the intent to help.

Of further concern other than the rules is the support of the Department of Health Services. As mentioned earlier there has been a history of lack of support. The reasons or intent of not assisting EMS & Trauma is irrelevant in this discussion. The facts are that in the past promises were made and not fulfilled. Many hours of volunteer work was completed and not forwarded. This is not to say that DHS is unwilling at this time to support EMS and Trauma activities, but it does beg the question as to the true amount of support that will be afforded to EMS & Trauma from the department.

Summary

This general overview of the threats is simply that, an overview of those things that will be a negative force to overcome in going forward. If communication between the system partners, workforce, policy makers and public are not all tied together in uniformity, nothing will change. EMS workers must come forward with a voice and show that their dedication is the only glue holding the systems together because the infrastructure is being threatened by lack of funding and attacks of policy, regulation, and potential special interests.

OPPORTUNITIES

Opportunity does abound regardless of the threats and weaknesses to the systems. Focusing on these will help to facilitate a forward vision and the development of stronger systems. The stakeholders identified opportunities for a potential legislative council study, building consensus through stakeholder initiatives and consortia, infrastructure to educate and promote EMS & Trauma, developing EMS & Trauma data systems.

Legislative Study Council

One of the greatest possibilities that the stakeholders saw was for a legislative study council for EMS & Trauma. In 1992 the study council was successful in allowing updated legislation and identifying weak links in the system. They attempted to fix the problems but the “ball was dropped”. However, even though there were issues, the stakeholders feel that this was successful and is again required to review the progress and gain another “spot light” on Trauma and EMS. This is the best place to start to get a clear understanding of the issues by putting in place guidelines that the legislative study council suggests and should help to correct and

rebuild the Trauma and EMS Systems. In addition it will provide more public information to help increase awareness of the issues.

Stakeholder Initiatives

Another partnership is the stakeholder initiatives that have helped to develop this document. Though brought together when DHS was re-organized, this group was "re-activated" in these trying times. The members listed in the appendix are committed to working together to strengthen the systems through their groups, and as communication can become standardized, and work collaboratively to effect change. EMS and trauma are either critical pieces of bigger systems or "hand in hand" partners of these organizations. This forum can give EMS & Trauma a larger voice and greater exposure to many different policy makers.

Educational Infrastructure

This is the basis of the educational infrastructure that can be used to promote the importance of these systems to the health and welfare of both the citizens and visitors of Wisconsin. The training centers and partnering organizations have the means to produce educational materials about the needs and issues for EMS & Trauma. This can provide a wide net of informational resources to educate every one of these critical problems. This is being boosted by the EMS Boards recent initiative to create a speakers group and publish an electronic newsletter to better disseminate information to all.

Data Systems

One of the most important resources being developed for education is the data systems of both EMS and Trauma. In the last three years both Trauma and EMS have developed data systems that have the potential to show the benefits of the system and identify performance trends. This vital information will only help to support initiatives and provide a snapshot of the services being provided. Data is the cornerstone of scientific study and used to provide better, fact based interventions to increase the health and welfare of the public.

Summary

It will be the integration and exploiting of these opportunities that should help to rebuild the failing EMS & Trauma systems and assure a solid infrastructure. Building consensus between stakeholders will only

help to facilitate a legislative study council to help bring focus onto the crisis. By leveraging the new data systems and using the educational infrastructure the system can be looking at potential brighter days.

VISION OUTLOOK

The vision of the EMS Section through leadership, support, and regulation, must ensure the development and maintenance of a high quality Emergency Medical Services delivery system. The primary focus must be reduction in both the human suffering and economic loss from premature death and disability resulting from sudden illness or injury. It is with this in mind that the forward vision is based.

To meet the expectation of the vision it is necessary that there be a properly trained and capable staff. It is the plan of the Section to fully develop a functional structure of essential positions to facilitate the fulfillment of the mission and vision. This vision cannot be obtained without identifying **STABLE** funding for both people and programs. It is the hope of the Section to finally meet the expectations and criteria identified in the NHTSA reviews.

RECOMMENDATIONS

Achieving the vision of the Section will not be an easy task. There is no simple way or single step that can be taken. It is a multifaceted issue that will require several initiatives and include many people and organizations. Presented in this section are strategies that could direct activities, and working together, begin to resolve the issues for EMS in this state.

In 2006, the Institute on Medicine published its document *Emergency Medical Services: At The Crossroads (IOM Report)*. The following is an excerpt from this report that emphasizes the problem that is very real to Wisconsin:

> Emergency care has made important advances in recent decades: emergency 9-1-1 service now links virtually all ill and injured Americans to immediate medical response; organized trauma systems transport patients to advanced, life-saving care within minutes; and advances in resuscitation and life-saving procedures yield outcomes unheard of just two decades ago. Yet **just under the surface, a growing national crisis in emergency care is brewing**. Emergency departments (EDs) are frequently overloaded, with patients sometimes lining hallways and waiting hours and even days to be admitted to inpatient beds. **Ambulance diversion, in which overcrowded EDs close their doors to incoming ambulances, has become a common, even daily problem in many cities. Patients with severe trauma or illness are often brought to the ED only to find that the specialists needed to treat them are unavailable. The transport of patients to available emergency care facilities is often fragmented and disorganized, and the quality of emergency medical services (EMS) is highly inconsistent from one**

town, city, or region to the next. In some areas, the system's task of caring for emergencies is compounded by an additional task: providing non-emergent care for many of the 45 million uninsured Americans. Furthermore, the system is ill prepared to handle large-scale emergencies, whether a natural disaster, an influenza pandemic, or an act of terrorism.

This crisis is multifaceted and impacts every aspect of emergency care from prehospital EMS to hospital-based emergency and trauma care. The American public places its faith in the ability of the emergency care system to respond appropriately whenever and wherever a serious illness or injury occurs. But while the public is largely unaware of the crisis, it is real and growing (IOM Report, 2006, p. xi).

This critical document is being used in EMS systems across the country to direct activities for improvement and ultimately save lives. The focus of the IOM report is to describe…"the development of EMS over the last four decades and the fragmented system that exists today. It explores a range of issues that affect the delivery of prehospital EMS, including communications systems; coordination of the regional flow of patients to hospitals and trauma centers; reimbursement of EMS services; national training and credentialing standards; innovations in triage, treatment, and transport; integration of all components of EMS into disaster preparedness, planning, and response actions; and the lack of clinical evidence to support much of the care that is delivered" (IOM Report, 2006, p. xi). As one can see, it hits at the heart of some very similar issues here in Wisconsin.

As a preface to the following recommendations of this document it is important to bring the history of the National Highway Transportation Safety Administration (NHTSA) assessments into discussion. Copies of these complete assessment documents can be found in appendix D & E. Two assessments were completed, one in 1990 and a reassessment in 2001. These documents, in conjunction with the IOM report, provide a solid foundation for the direction of EMS and Trauma in Wisconsin. What follows are the introductory paragraphs of the 1990 and 2001 NHTSA review documents. One should note the consistent themes:

1990- The responsibility for both vehicular and on-board medical equipment standards lies with the Wisconsin Department of Transportation. This responsibility is being fulfilled without appropriate medical involvement or oversight.

A hospital categorization process is in place but Wisconsin has no enabling legislation which establishes trauma care systems including the designation of trauma centers.

Authority exists to regulate basic and advanced care ambulance services. However, due to lack of funding and staff within the EMS Section, no standards have been established for many programs and enforcement/complaint investigation is limited in most programs. Specifically, there are no requirements for basic ambulance services to

have a physician medical director. In addition, established standards are inadequate for air (rotor craft and fixed wing) services, and there are no watercraft standards established.

The EMS Section has mandatory data collection requirements which are largely unenforced due to lack of funding and staff.

As a result of the passage of Act 102, there is an advisory committee which only provides advice on the distribution of Act 102 funds. There is no statewide EMS committee to provide advice on EMS systems and medical issues.

Act 102 will provide essential funding for EMS services throughout the State, but it fails to provide adequate funding to the State EMS Section for the administration of required and necessary programs.

The State EMS Section does not assess any fees to defray the costs of administering the licensure and certification programs. There is no enabling legislation for the assessment of fines for non-compliance with licensing or certification requirements.

- Enact legislation for licensure of Emergency Medical Services Dispatchers
- Enact legislation for the licensure of emergency vehicle operations.
- Establish authority to assess fines for non-compliance with licensure and certification requirements.
- Assess a licensure fee for all EMS providers to defray the administrative costs associated with the licensure program.
- Establish comprehensive regulation and enforcement of air and water EMS services.
- ***Provide adequate state funding to support the needed EMS Section personnel and activities.***

2001- Despite the outstanding progress of the past eleven years, much remains to be done. Some of the barriers to progress that existed eleven years ago are still present today. Dedicated people throughout the state, both paid and volunteer, doing a job with little recognition and inadequate resources have created monumental achievements. But even dedication and hard work can carry Wisconsin only so far. ***Currently, resources are being cut and personnel and financial support to maintain and continue improving the EMS system in Wisconsin have eroded to the point that the system is in danger of collapse.*** Even with a host of volunteers, a stable, continuing funding source must be obtained for the Bureau of EMS and Injury Prevention and personnel resources must be allocated to meet the demand for services to the public, the EMS volunteer and career personnel and other EMS system partners. ***The political leadership in Wisconsin must address the real needs facing the Wisconsin EMS system and ensure that stable funding mechanisms and personnel resources are available to maintain a good system and make it even better.***

These two documents complement each other in the fact that the system is in disarray and the common theme is the lack of support both financial and political. The forward focus of this plan is not based in the need

for funding; it is based in the need for change to protect lives. "***The mission of the Wisconsin Emergency Medical Services Section is to ensure that the highest quality and standards of pre-hospital emergency medical care is available to all citizens of and visitors to Wisconsin". This is the only goal of this plan.***

The Recommended steps with the stakeholder's assistance are:

1. Request the National Highway Transportation Safety Administration complete a re-assessment.
2. Establish a legislative study committee to review the EMS program and recommend changes to the EMS Board structure.
3. Based on the above provide adequate funding and staff for the State EMS Section to support the EMS & Trauma systems.
4. Identify and change State Statutes that are required to provide proper over site.
5. Initiate needed system improvement projects based on NHTSA Review and stakeholder input.
    a. Data system development / integration
    b. Quality assurance initiatives
    c. Recruitment & retention
    d. Regionalization
6. ***Complete a strategic plan that will provide 1, 3, 5, and 10 year project plan for system improvement.***

The above items seem very straight-forward but are multifaceted in their implementation and consideration. As the first item indicates, it will be necessary to have NHTSA come to Wisconsin to complete a reassessment. The purpose is to validate the assumptions that have been regarding the state of EMS & Trauma. Some of the stakeholders believe that the assessment will show that Wisconsin has fallen back to many of the elements that were not present during the first assessment.

The assessment is also the best place to start and build momentum for improvement. The outcome from the previous reviews did provide for many changes that benefited the systems. However there was no increase in funding, no provision for sustainability, and no follow through on the recommendations to the legislature. It will be critical to have this task completed to accurately show the current status of the EMS & Trauma systems.

After the assessment is completed, it should provide a springboard for a Legislative Council Study Committee to review the EMS program. The last time this was done the work had mixed results. The recommendations from the National Highway Transportation Safety Administration (NHTSA) that did not

require funding were implemented. Adding staff and other suggestions that required funding were not addressed. The Department of Health and Family Services has hesitation with adding staff and finding financial support. The main reason is the number of studies that have been completed with little or no action or follow-up. However, the stakeholder, representing the EMS community, finds it very necessary. It is important to these groups that light be shed on these neglected industries – EMS and Trauma. Many citizens and policy makers automatically assume that they are part of the fire service but 54% of the services are not affiliated with these agencies.

Though there are many issues for review in the Legislative Council Study Committee the major discussion needs to be focused on funding the EMS & Trauma systems and providing for proper staffing of the EMS Section to fulfill its role of quality assurance and system integrity. It would be the stakeholders' desire that the committee would look at other state's models for revenue and operational subsidies. These provide for some very creative and non-intrusive funding schemes. Some states use an expanded user and license fee model, fines and penalties, vehicle taxes, insurance premium tax, and one state office receives 2% of all fines and forfeitures charged through the court system. Though this particular discussion is on funding, it must be remembered that to support the Section on doing site surveys, quality assurance initiatives and aiding services with recruitment & retention initiatives, it will take financial security.

In conjunction with the Legislative Council Study Committee, it is hoped that light would be shed on the EMS board appointments. According to the Governor's website;

> The board shall consist of 11 voting members, appointed for 3-year terms, who have an interest and expertise in emergency medical services issues, who represent the various geographical areas of the state and who include representatives of the various types of emergency medical services providers. In addition to the 11 voting members, the secretary of health and family services, the secretary of transportation, the director of the technical college system board and the state medical director for emergency medical services or their designees shall serve as nonvoting members of the board.

Currently the board consists of representative members of the EMS community that do not fulfill this mandate. There is geographic representation but many views of EMS & Trauma have been neglected. There are no members of the board from the northern portion of the state. There is no volunteer, individual EMT, air medical, law enforcement, military, or trauma representatives on the Board. It would be the recommendation that the membership be made of subject matter experts from the EMS community that are geographically diverse. This would validate their presence on the Board as well as provide expert insight to the work that is being done. It will also help to make the Board more effective and focused on the work that will need to be

completed. This is not in conflict with the appointment guidelines but needs to be enforced to assure equal representation.

As the Legislative Council Study Committee prepares its report and recommendations, it is hoped that this will provide the needed attention to cause discussions on how to improve the systems. This will most likely relate to a funding initiative to be introduced to the house and senate. It is at this point that it will be necessary to have the stakeholders voice their concerns and support for the initiative that will be proposed. This will allow for proper staffing of the Section to facilitate a quality care system that tightly integrates practice based medicine to high quality standards.

The previous NHTSA reviews both support the need for funding to increase and support system integrity. Initiatives like quality assurance, site visits, timely investigations of complaints, analysis of data, development of technical assistance to support volunteer services (which includes a regional presence from the EMS Section), and more timely ambulance inspections, are just some of the necessary element that require staffing increases. There are services using unauthorized equipment and medications and have "no fear of being caught" because there are not enough people to assure compliance. Services are doing as they please without any consequences and this is threatening the safety and lives of those being treated and transported. This is why the system is at a critical crossroad, there is much to oversee and little resources to assure compliance.

Staffing and essential services are better illustrated in the organizational chart located in appendix "E". One can see that there is a need for investigators, educational oversight, program support, service support, and data analysts just to name a few. The trauma system is significantly impaired because it currently does not have a trauma coordinator, it needs a state trauma registrar for the data system, as well as an additional support staff to maintain all of the current responsibilities and initiatives. This is essential in assuring system survival and preserving precious lives.

If the proper people can be put into place to "right the systems", there will most likely be a need for changes to statutes. The purpose will be to allow for system changes to better facilitate quality management and assure proper oversight and support. Better defining the roles of the EMS Board and the State Trauma Advisory Council, along with "cleaning up" vague language will be the focus of the statute changes. This will be done in conjunction with the EMS and Trauma boards, the stakeholders, and based on the recommendations from the department and the Legislative Council Study Committee. The department has already identified many statute changes that are required to better clarify the requirements for operating within the EMS & Trauma systems.

As the steps of the above are completed: the NHTSA review, Legislative Council Study Committee, securing solid funding and building a functional Section staff, revising statutes to support the change progress, it will naturally fall into the need to address key concerns that are identified through these processes. Some of these have been previously identified as data system development and integration, quality assurance initiatives, recruitment and retention, and regionalization. These concerns will most likely be supported with findings by the Legislative Council Study Committee but are current issues that need to be resolved.

As discussed earlier in this document quality assurance is an integral function that is not be conducted due to lack of staff. The ability to follow-up on complaints and investigations is severely hindered by the lack of resources and funding. Also, complicating this is that there are currently no penalties in place, and no action that can be taken, to get the offenders attention short of license suspension. When this affects a service this option is not in the best interest of the community and the people they serve.

To some extent there has been some work on quality assurance through the EMS board but it has been focused on providing tools for the services to develop quality assurance programs. These can be managed if the data systems are further developed and integrated. In January 2008 the Wisconsin Ambulance Run Data System (WARDS) was made mandatory for all services. There has been little work to assure compliance and increase data quality since that date. This again is due to lack of dedicated resources to this project. However this is a very critical project that has far reaching implications. This is, and will be, the backbone of the quality assurance initiative for EMS and Trauma.

The trauma registry has been in place since 2005 and has a tight fit to the WARDS system in that it could be possible to capture injury to discharge information through these systems. The main problem is that the current trauma registry lacks the needed personnel to monitor and fully develop the system, let alone the integration of the data. These are all critical components that need to be addressed if Wisconsin is to be able to assure quality care is available to all.

The integration and development of data is integral to assuring that recruitment and retention of personnel are properly addressed. The current licensing system does not allow for easy collection or retrieval of workforce data. In order for any initiatives in this area to be successful, it is necessary to identify trends and to obtain an accurate picture of the current workforce. The Section is currently looking at a new licensing system that will allow for easy collection and data mining to better view the demographics of the systems workforce. This needs to continue as a high priority initiative to assist in identifying recruitment and retention activities.

The final project that culminates in all of these initiatives is that of a regional model for EMS. The trauma system currently uses a regionalization approach to its function. Since the EMS board did approach this situation many years ago, it makes sense at this time to build this model with the existing Trauma design. This may enhance both systems by having qualified people to fill the EMS and Trauma coordinator role. This could be seamlessly integrated into public health, EMS, and Trauma by using the facilities of the regional public health offices. This would do much to improve and integrate public health initiatives with EMS and Trauma and create better service to the citizens and visitors to Wisconsin.

These initiatives need immediate development to assure that the systems do not fail. Data integration and development leads to quality assurance of system activities. It further helps to develop a better picture of the workforce and support the development of regionalization. These activities should really be focused in the project plan for development through the next ten years.

This is where this strategic plan becomes critical to the survival of the systems. If all of these steps are developed, they will be critical pieces to the development of a detailed plan for the EMS & Trauma systems. Where this document is a road map to needed improvements, there will need to be a detailed map of activities with goals and objectives. The above activities, in conjunction with all interested parties, should be in a better position to develop a detailed strategic plan that will take EMS and Trauma far into the future. Plans for 1, 3, 5, and 10 years should be integrated into the state EMS plan that is sent to the legislature as required by statute. This will assist in proper dissemination of information and keep progress “on track”.

CONCLUSION

Wisconsin EMS and Trauma has had a long and bumpy road to its present state. There have been many ups and downs as modern EMS has developed. Those that preceded did their best to direct the profession and the Section positively. Unfortunately, the work has had very mixed results. This has brought the system to its present state. As outlined in this document, there are many opportunities that can be pursued. However, these must be done with care because threats abound.

The EMS Section is currently seeing major productivity decrease as resources dwindle. There is a lack of qualified people applying for open positions. Many factors can contribute to this but the main factor seems to be job security. Qualified people are not interested in taking a job where there have been many cuts and continued issues about funding. As people leave it is taking longer to get them replaced. When time comes to facilitate filling positions there are additional hurdles that prevent the hiring, mainly, the redirecting of the money that was saved during the vacancy.

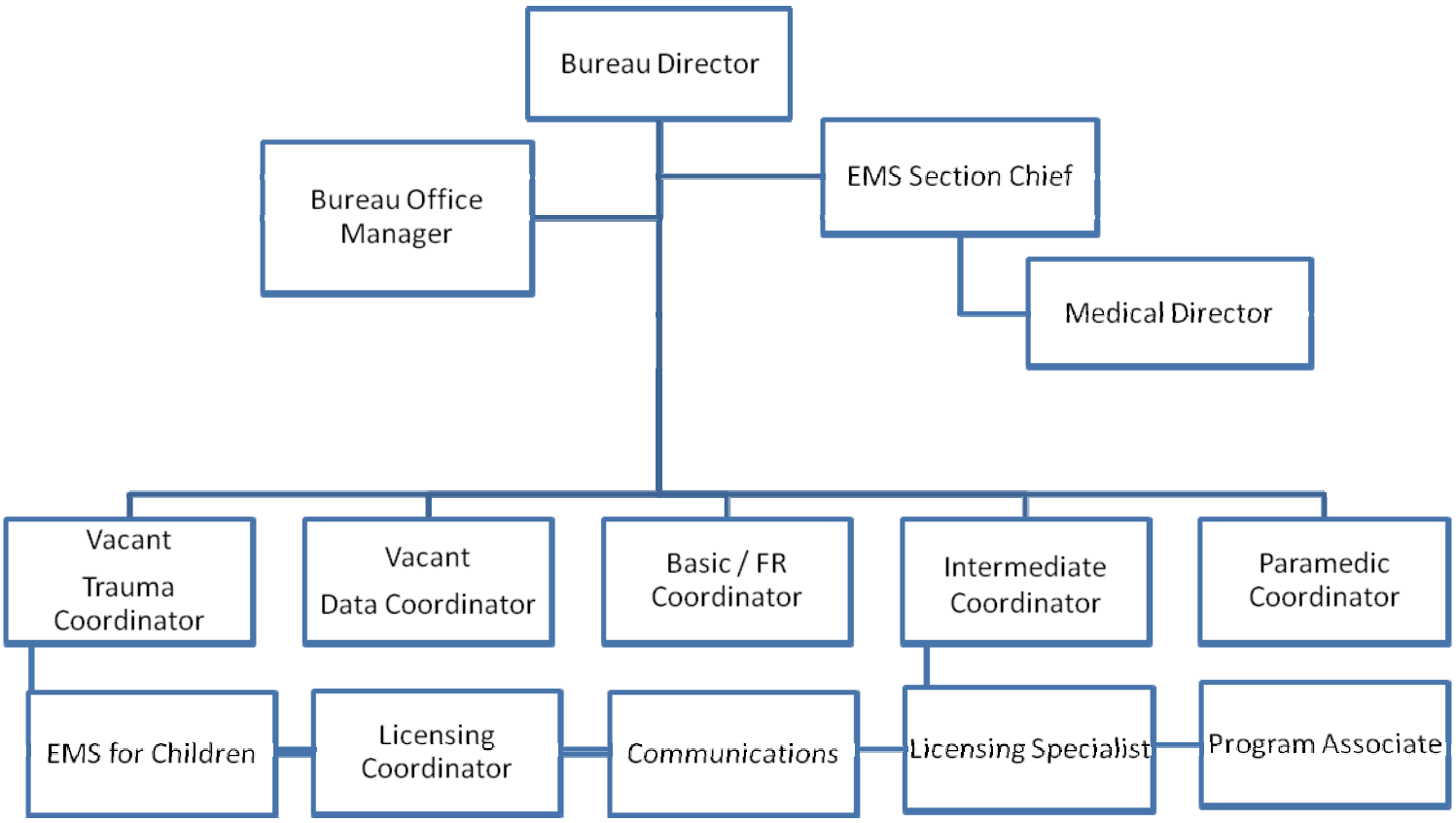
The EMS and Trauma community is realizing that they are once again at a crossroads and this may be the final opportunity to resolve the issues that have been plaguing the EMS industry for years. Lack of

movement on the issues within this document will most likely result in EMS, Trauma, and their stakeholders, beginning efforts to lobby for sweeping changes. The problem with this approach is that there will not be any control over what happens with the issues and how they are resolved. It is important that the EMS section create the plan and use the stakeholders to direct the action. This will create a vested partnership that can be grown into affecting a responsive quality EMS system in the state of Wisconsin.

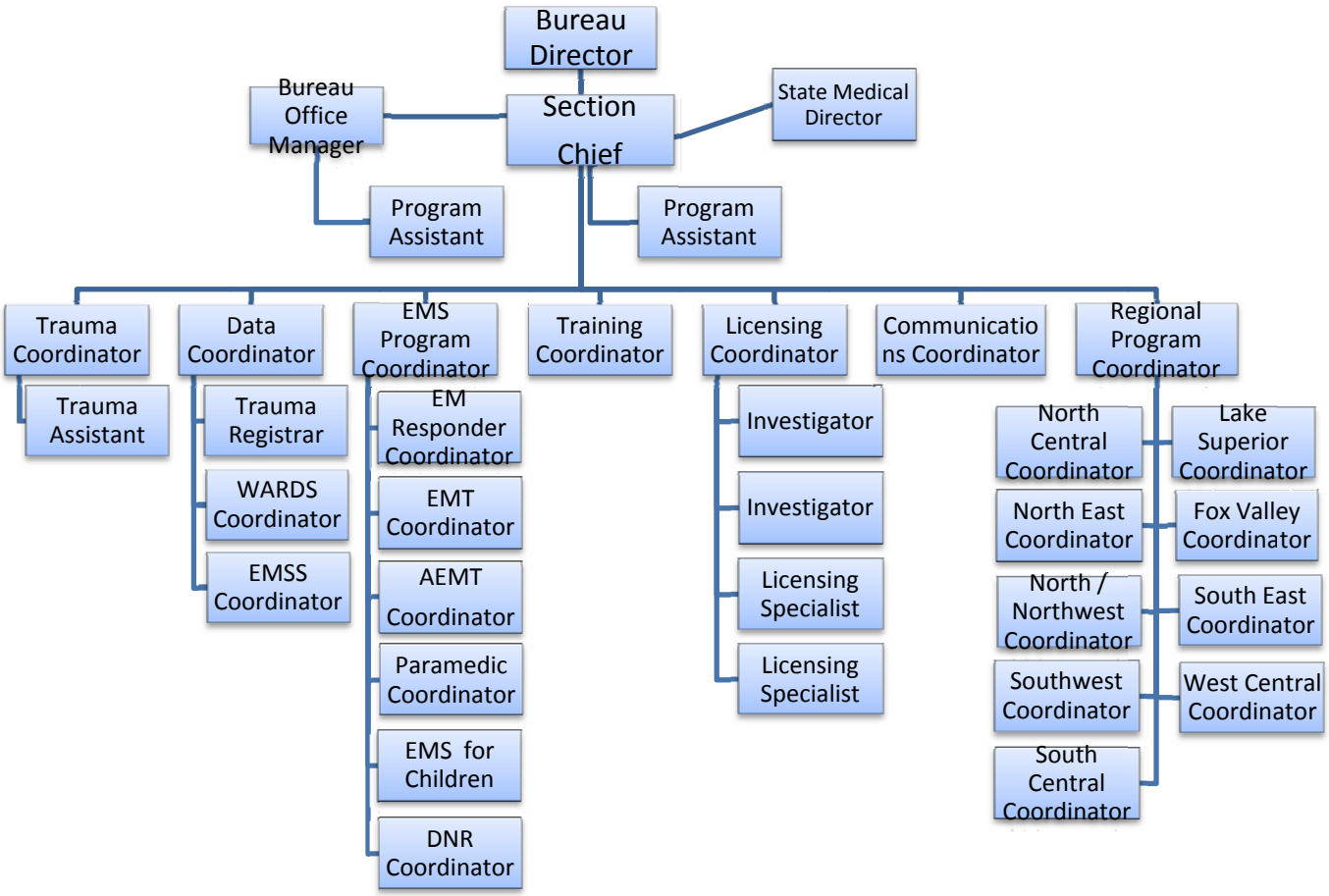
APPENDIX A – STAKEHOLDERS LIST

County Rescue Services	Madigan	Mark
EMS for Children	Brazelton	Tom
Froedtert Hospital	Bertelson	Annette
Gunderson Luthern Medical Center	D'Huyvetter	Cecile
Gunderson Luthern Medical Center	Patel, MD	Nirav
Marshfield Clinic	Szlabick, MD	Randy
Medical College of WI	Cady, MD	Charles
Milwaukee Fire Department	Murawski	Gloria
Northeastern Wisconsin Regional Trauma Committee	Lintz	Cal
Northeastern Wisconsin Technical College	Lintz	Cal
Physician Advisory Committee	Cady, MD	Charles
Professional Ambulance Association of WI	Fredrickson	Mark
Professional Fire Fighters of WI	Haase	Troy
Professional Fire Fighters of WI	Hefter	Alan
Southeastern Regional Trauma Advisory Committee	Ramerez	Robert
State Trauma Advsiory Council	D'Huyvetter	Cecile
State Trauma Advsiory Council	Szlabick, MD	Randy
Steven Point Fire Depatment	Kujawa	Tracy
University of WI Hospital and Clinics	Sears	Lynne
University of WI Hospital and Clinics	Cline	Joseph
University of WI Hospital and Clinics	Cisler	Adrianne
UW American Family Childrens Hospital	Brazelton	Tom
West Allis Fire Department	Bane	Steve
WI Department of Transportation	Hagen	Don
WI EMS Advisory Board	Lintz	Cal
WI EMS Advisory Board	Brazelton	Tom
WI EMS Advisory Board	Bane	Steve
WI EMS Advisory Board	Haase	Troy
WI EMS Advisory Board	Johnson, MD	Ken
WI EMS Advisory Board	Aldrich	Tracy
WI EMS Advisory Board	Fellenz	Brenda
WI EMS Advisory Board	Fredrickson	Mark
WI EMS Advisory Board	Murawsky	Gloria
WI EMS Advisory Board	Teesch	Travis
WI Hospital Association	Bazan	Bill
WI Medical Society	Grapentine	Mark
WI Office of Rural Health	White	Char
WI State Firefighters Association	Stormen	Jim
WI Technical College System	Severson	Annette
WI Towns Association	Stadelman	Richard
Wisconsin EMS Association	Hunjadi	Don
Wisconsin EMS Association	Meeker	Richard

APPENDIX B – CURRENT ORGANIZATIONAL CHART



APPENDIX C – PROPOSED BUREAU ORGANIZATIONAL CHART



APPENDIX D - 1990 NHTSA ASSESSMENT

STATE OF WISCONSIN

AN ASSESSMENT

OF

EMERGENCY MEDICAL SERVICES

November 13 - 15, 1990

National Highway Traffic

Safety Administration

Technical Assistance Team

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BACKGROUND

Injury is the leading cause of death for persons in the age group 1 through 44. Each year nearly 40,000 people lose their lives on our nation's roads, and approximately 70 percent of those fatalities occur on rural highways. The National Highway Traffic Safety Administration (NHTSA) is charged with reducing accidental injury on the nation's highways. NHTSA has determined that It can best use its limited resources N its efforts are focused on assisting States with the development of integrated emergency medical services programs that include comprehensive systems of trauma care.

To accomplish this goal, NHTSA has developed a Technical Assistance Team approach that permits States to utilize highway safety funds to support the technical evaluation of existing and proposed emergency medical services programs. NHTSA serves as a facilitator by assembling a team of technical experts who have demonstrated expertise in emergency medical services development and implementation. These experts have demonstrated leadership and expertise through involvement in national organizations committed to the improvement of emergency medical services throughout the country. Selection to the Technical Assistance Team (TAT) is also based on experience in special areas identified by the requesting state. Examples of specialized expertise include experience in the development of legislative proposals, data gathering systems, and trauma systems. Experience in similar geographic and demographic situations, such as rural, mountainous areas, coupled with knowledge in providing emergency medical services in urban populations is essential.

The Wisconsin Department of Transportation, Office of Transportation Safety, in concert with the Wisconsin Department of Health and Social Services, Division of Health, Emergency Medical Services Section requested the assistance of NHTSA. NHTSA agreed to utilize its technical assistance program to provide a technical evaluation of the Wisconsin statewide EMS Program. NHTSA developed a format whereby the Emergency Medical Services Section and Office of Transportation provided comprehensive briefings on the EMS system based on an outline developed by the Technical Assistance Team.

The Technical Assistance Team assembled in Madison, Wisconsin on November 13 through 15, 1990. For the first day and a half, over 40 presenters representing various components of the EMS system in the State of Wisconsin provided in-depth briefings on emergency medical services and trauma care in Wisconsin. Representatives of Native Americans discussed problems unique to EMS in their areas. Topics for review and discussion included:

General Emergency Medical Services Overview System Components of:

- Regulation and Policy
- Resource Management
- Manpower and Training
- Transportation
- Facilities
- Communication
- Evaluation
- Public Information and Education
- Medical Direction
- Trauma Systems

The forum of presentation and discussion allowed the Technical Assistance Team the opportunity to ask questions regarding the emergency medical services system, clarify any issues identified in the briefing materials provided earlier, and develop a clear understanding of how emergency medical services function throughout Wisconsin. The team spent considerable time with each presenter so that R could review the status for each topic.

Following the briefings by presenters from the Wisconsin Department of Health and Social Services and Department of Transportation, public and private sector providers, members of the medical community, and state legislatures, the Technical Assistance Team sequestered to evaluate the current EMS system as presented and to develop a set of recommendations for system improvements.

The statements made in this report are based on the input received. Pre-established standards and the combined experience of the team members were applied to the information gathered. All team members agree with the recommendations as presented.

When reviewing this report, please note the areas in ***bold italics*** represent priority areas identified by the Technical Assistance Team.

ACKNOWLEDGMENTS

The Technical Assistance Team would like to acknowledge the Wisconsin Department of Health and Social Services, Division of Health, Emergency Medical Services Section and the Wisconsin Department of Transportation, Office of Transportation Safety for their support in conducting this assessment.

The Team would like to thank all the presenters for being candid and open regarding the status of emergency medical services in Wisconsin. Each presenter was responsive to the questions; posed by the Technical Assistance Team which aided the reviewers in their evaluation.

Special recognition should be made regarding the extraordinary efforts taken by Terry Moen, Interim Chief, Emergency Medical Services Section and staff, Michael French, former Chief, Emergency Medical Services Section, and the briefing participants for their well prepared and forthright presentations. In addition, the team applauds the well organized, comprehensive briefing packages sent to the team members in preparation for the assessment. Special thanks also to Tim Galbraith, Office Manager, and Susan Kavulich, Emergency Medical Services Program Manager, Wisconsin Department of Transportation for providing assistance to the Technical Assistance Team.

Wisconsin Emergency Medical Services (EMS)

The Technical Assistance Team reviewed ten essential components of an EMS system For each component reviewed, the Technical Assistance Team identified key EMS issue or standards, assessed the status, and made recommendations for necessary changes

A. REGULATION AND POLICY

Standard

To provide a quality, effective system of emergency medical care, each EMS system must have in place comprehensive enabling legislation with provision for a lead EMS agency, as well as a funding mechanism, regulations, and operational policies and procedures.

Status

Wisconsin has a series of enabling statutes relating to the various aspects of an Emergency Medical Services system. Unfortunately, the responsibility of enforcement of the EMS statutes lies with many different state agencies. No agency functions as the "lead EMS agency." The fragmentation between agencies has led to the ineffective use of state resources and the failure to complete statutory requirements.

Wisconsin's statutes require the Department of Health and Social Services (DHSS) to provide administrative and technical assistance to EMS programs. In addition, DHSS is required to coordinate the activities of agencies and organizations providing EMS training, assist in the development of EMS training, assess emergency medical resources and services, and assist hospitals in planning for appropriate and efficient handling of the critically ill and injured.

The responsibility for both vehicular and on-board medical equipment standards lies with the Wisconsin Department of Transportation. This responsibility is being fulfilled without appropriate medical involvement or oversight.

A hospital categorization process is in place but Wisconsin has no enabling legislation which establishes trauma care systems including the designation of trauma centers.

Authority exists to regulate basic and advanced care ambulance services. However, due to lack of funding and staff within the EMS Section, no standards have been established for many programs and enforcement/complaint investigation is limited in most programs. Specifically, there are no requirements for basic ambulance services to have a physician medical director. In addition, established standards are inadequate for air (rotor craft and fixed wing) services, and there are no watercraft standards established.

Wisconsin has established "First Responder" training based upon the U.S. Department of Transportation's standardized curriculum. However, the State has no licensure or continuing education requirements, and the skills used by First Responders vary according to location. There are no "first response" (non-transport) service licensure requirements and First Responders are not permitted to utilize automated defibrillators.

Wisconsin has enabling legislation permitting the establishment of 911 systems. The legislation provides an assessment of 25 cents per telephone line to defray operational cost of the 911 system. In rural areas, this low fee does not cover the costs of the 911 system and does not address the issue of start-up costs.

The EMS Section has mandatory data collection requirements which are largely unenforced due to lack of funding and staff.

As a result of the passage of Act 102, there is an advisory committee which only provides advice on the distribution of Act 102 funds. There is no statewide EMS committee to provide advice on EMS systems and medical issues.

Act 102 will provide essential funding for EMS services throughout the State, but it fails to provide adequate funding to the State EMS Section for the administration of required and necessary programs.

The State EMS Section does not assess any fees to defray the costs of administering the licensure and certification programs. There is no enabling legislation for the assessment of fines for non-compliance with licensing or certification requirements.

Recommendations

- ***Provide adequate state funding to support the needed EMS Section personnel and activities.***

- ***Enact legislation*** **which** ***specifically designates the EMS Section as the lead State EMS agency and which transfers regulatory authority for EMS programs to the EMS Section.***

- ***Establish the legal authority for a State EMS Medical Director to supervise the medical aspects of the statewide program.***

- ***Enact legislation which would establish an appropriately constituted EMS advisory committee.***

- ***Enact comprehensive trauma system legislation including, but not limited to, designation of trauma centers, evaluation and verification of trauma systems, and establishment of triage and transfer criteria/protocols.***

- ***Enact legislation for uniform mandatory data collection.***

- Revise the current 911 legislation to permit the collection of a higher fee to pay for the start-up and maintenance of the 911 system.

- Enact legislation for licensure of First Responders, the regulation of first response (non-transport) services and to ensure limited or no cost for training.

- Enact legislation for certification of First Responder-Defibrillation.

- Enact legislation for licensure of Emergency Medical Services Dispatchers

- Enact legislation for the licensure of emergency vehicle operations.

- Establish authority to assess fines for non-compliance with licensure and certification requirements.
- Assess a licensure fee for all EMS providers to defray the administrative costs associated with the licensure program.
- Establish comprehensive regulation and enforcement of air and water EMS services.
- Establish authority for the regulation of interhospital transfers.

B. RESOURCE MANAGEMENT

Standard

The provision of centralized coordination to identify and categorize the resources necessary for overall system implementation and operation is essential to an effective EMS system. This is required to maintain a coordinated response and appropriate resource utilization throughout the State. It is essential that victims of medical or traumatic emergencies have equal access to basic emergency care, including the triage and transport of all victims by appropriately certified personnel (at a minimum, trained to the EMT-Basic level) in a licensed and equipped ambulance to a facility that is appropriately equipped and staffed, and ready to administer to the needs of the patient.

Status

The State Emergency Medical Services program lacks adequate physician direction and supervision. The authorization and responsibility for the overall State EMS system is significantly fragmented among a number of competing factions. Staffing of the State EMS Section is grossly inadequate, and this lack of personnel precludes fulfillment of mandated responsibilities directly related to high quality patient care.

Plans are being discussed to consolidate the Bureau of Community Health and Prevention with the Bureau of Environmental Health, in which the EMS Section currently resides, forcing the EMS Section to operate at an even lower functional level within the overall structure of the Wisconsin Department of Health and Social Services. The EMS program lacks adequate visibility and support to enable it to function properly in assuring compliance with minimum standards of emergency patient care and needed EMS program improvements.

There is no appropriately constituted advisory committee to assist the Department in the ongoing establishment of administrative rules and policies for statewide EMS activities.

There is no comprehensive statewide plan for EMS development**.**

Recommendations

- ***Centralize authority and responsibility for program regulation, management, development, and the coordination and administration of EMS grant programs within the State EMS Section. The State EMS Section should be restructured to reflect a more appropriate degree*** of ***importance in protecting the health and safety*** of ***the public***

- ***Provide adequate,*** ongoing, ***state funding support for EMS program activities, e.g., central and regional staffing, trauma care system development communications, and training.***

- ***Appoint a*** physician with extensive knowledge ***and*** experience in ***EMS to serve as the State EMS Medical Director. He or she should be appointed by the Department*** of ***Health and Social Services and provide over all supervision*** of ***the medical aspects*** of ***the statewide EMS program.***

- ***Develop a comprehensive State EMS plan.***

- ***Establish a State EMS Advisory Committee with membership representing physicians, prehospital personnel, emergency nurses, EMS provider groups and associations, participating facilities, governmental sponsors, and consumers. Its purpose should be to advise the Departrnent*** of ***Health and Social Services on the establishment*** of ***EMS policies and administrative rules.***

- ***State EMS Section staffing should be increased or established at state and regional EMS system levels to address identified needs in such areas as:***

  State EMS medical direction

  Trauma care systems development

  Inspection and licensure

  Investigation

  Data collection and evaluation

  Pubic information and education

  Communications

  Comprehensive planning

  Training

- ***Regionalize coordination* of *EMS system components, under the direction* of *the State EMS Section.***

C. MANPOWER AND TRAINING

Standard

EMS personnel can perform their mission only N adequately trained and available in sufficient numbers throughout the State. Each prehospital training program should use a standardized curriculum for each level of EMT personnel. In an effective EMS system, training programs are routinely monitored, instructors must meet certain requirements, and the curriculum is standardized throughout the State. In addition, the state agency must provide a comprehensive plan for stable and consistent EMS training programs with effective local and regional support.

Status

The EMS system in Wisconsin consists of three licensed levels and three certification levels of pre-hospital providers from basic EMT to paramedic. The licensure levels include: EMT-Basic (120 hours), EMT-Intermediate (100 hours), and EMT-Paramedic (750 hours). Certification levels include: EMT-Epinephrine, and EMT-D (Auto 5 hours and Manual 20 hours). There are currently 12,500 EMT-Basics, 3,500 EMT-Ds, 750 EMT Intermediates, and 700 EMT-Paramedics.

All EMT Basic courses are approved and conducted by the Wisconsin Board of Vocational, Technical, and Adult Education (VTAE) system. There is no standardized course evaluation or quality assurance program in place. Courses are conducted on an "honor" basis unless complaints are received. All courses are evaluated by the students. If no negative comments are received, follow-up with course coordinators and instructors is not done.

All advanced level courses are reviewed and approved by the State EMS Section.

Basic EMT instructors are required to be certified prior to instructing any courses. There is no standard for training of instructors, no standard for recertifying instructors, and no requirement for continuing teaching to remain certified.

80% of the licensed EMS services in the State are volunteers.

First Responders are not regulated or licensed in the State,

There is no mandate for standardized training and licensure of emergency medical dispatchers and emergency vehicle operators.

EMT Basic courses are available to all areas of the State if class size is large enough. Thirty students are needed before training can begin, which is a barrier to training in rural areas. Specialty courses (BTLS, ACLS, ATLS, EMS-C, PALS, Hazardous Materials, CISD) are available in the State with no ongoing funding source.

The reported EMT attrition rate is high,

Recommendations

- ***Mandate all authority to regulate courses be vested with the State EMS Section.***

- ***Develop and implement a course evaluation and quality assurance program for all courses at all levels Distribute summaries of evaluations to course coordinators and instructors.***

- ***Implement standardized instructor training utilizing DOT Instructor curriculum. The program should include standardized recertification requirements and should require teaching experience during certification periods.***

- ***Develop and implement standardized training,*** **licensure,** ***and certification of First Responders, First Responder-Defibrillation, Emergency Medical Dispatchers, and emergency*** **vehicle** ***operators.***

- *The State EMS Section should move toward mandatory accreditation by the American Medical Association Joint Review Committee (AMA/JRC) for paramedic training programs.*

- *Develop a process/mechanism to present small groups with low/no cost training in rural areas.*

- *Foster public information and education development throughout the EMS system, continuing to utilize WEMTA personnel and resources. Topics to be included in these PI&E programs should include recruitment and retention.*

D. TRANSPORTATION

Standard

Safe, reliable ambulance transportation is a critical component of an effective EMS system. Most patients can be effectively transported in a ground ambulance staffed by qualified emergency medical personnel. Other patients with more serious injuries or illnesses, particularly in remote areas, require rapid transportation provided by rotor craft or fixed wing air medical services. Routine, standardized methods for inspection and licensing of all emergency medical transport vehicles is essential to main a constant state of readiness throughout the State.

Status

There are 941 ground ambulances, 8 rotor craft, 7 fixed wing aircraft, and 450 services licensed in the State. All ground vehicles are inspected annually.

The licensing and inspection process for ground ambulances is currently being accomplished utilizing two separate state offices. The State EMS Section receives the application, reviews it for completion, then forwards it to the inspection officer in the Wisconsin Department of Transportation (WDOT) office. When the inspection has been successfully

completed, the application is returned to the State EMS Section, and license is issued. This process leads to delays of up to 6 months in licensing and plan approval for ambulance services.

Required equipment in ground ambulances is defined and mandated by the WDOT with no mandatory input from the State EMS Section. Inspection of medical equipment (e.g. defibrillators, suction devices) is performed by the WDOT.

All ground ambulances at the basic level are staffed by one licensed EMT, RN, MD, or PA. The second individual must meet a minimum of CPR certification and completion of American Red Cross First Aid training. All paramedic services must be staffed by no less than two licensed paramedics.

There is no ongoing assurance that fixed wing aircraft (air taxi) meet minimum statutory requirements.

Emergency vehicle operator training is available to some services but is not mandated**.**

Recommendations

- ***Licensing and inspection of ambulance vehicles is a regulatory function of the State EMS Section and should be centralized within that office. The authority should include the establishment of equipment requirements, Investigations of complaints, disciplinary actions, and assessment of fines. The individuals charged with inspection should have a thorough knowledge of equipment use.***

- ***Regulations should apply to all*** **levels** ***or types of*** **vehicles** ***(e.g. ground, air or water) used in public transportation*** **of** ***the sick and injured.***

- ***Require emergency vehicle operator training. The training should be made readily available to all services regardless of location (urban/rural).***

- Minimum basic ambulance staffing should be two licensed EMTs.

- Ambulance equipment requirements should be uniform for all licensed services and should take into consideration specialty needs, (pediatric equipment).

E. FACILITIES

Standard

It is imperative that the seriously ill patent be delivered in a timely manner to the closest appropriate facility. This determination needs to consider both stabilization and definitive care. This determination should be free of political considerations and requires that the capabilities of the facilities are clearly understood by prehospital personnel. Hospital resource capabilities must be known in advance so that appropriate primary and secondary transport decisions can be made.

Status

Statutory authority for the categorization of health care facilities has existed since 1976. The initial intent of the statute was to ensure the availability of care at any hospital for anyone requiring that care. The implementation of the directives of this statute began in the early 1980's and has been adhered to up to the present. The criteria for the levels of categorization have been developed by committee and have remained stable for the past four years. Categorization is integral to many aspects of EMS, and the presence of such a program in the State of Wisconsin is to be applauded. However, the team found major deficiencies in the administrative process and the utilization of the annual report.

The practice of requesting a list of the personnel and resources available without a formal and standardized verification process allows for the potential for "self categorization." The report is not promulgated to prehospital care providers, and is not used in triage and transfer decisions. The process of categorization presently has little impact on the delivery of health care in the State.

There is no formal designation process for specialty care, and there are no triage or transfer guidelines based on hospital capabilities. The current process of categorization is associated with an approximate cost of six thousand dollars annually plus 0.5 FTE.

Recommendations

- **Vertical categorization *of hospital emergency capabilities should be strengthened and* integrated into the prehospital *of Prehospital care.***
- **Develop a standardized verification process under the supervision *of* the State EMS Medical Director.**
- ***Integrate verified categorization results with triage and transfer protocols.***
- Distribute the annual categorization report to all prehospital care providers as part of the initial training process and at all recertification courses.
- Make use of verified categorization results in the development of a regionalized system of emergency care.

F. COMMUNICATION

Standard

An effective communications subsystem is an essential component of an overall EMS system. Beginning with a universal system access number, such as 911, the communications network should provide for prioritized dispatch, dispatch to ambulance communication, ambulance to ambulance, ambulance to hospital, and hospital to hospital communication to ensure the receiving facility is ready and able to accept the patient.

Status

The EMS communication system is inadequate, in disrepair, obsolete, and may adversely impact medical direction and optimum prehospital emergency patient care.

Citizen access to the EMS system via 911, which was once a mandated requirement, serves approximately 60% of the population.

Emergency medical dispatchers are not required to be trained or licensed. Notification and assembly of ambulance crews is sometimes accomplished using ineffective or primitive equipment and procedures. This reportedly causes delays in delivery of appropriate care.

Recommendations

- ***Provide sufficient ongoing funding to support EMS communication systems design, equipment, training, and maintenance.***

- ***Conduct a* comprehensive e*valuation of current and projected EMS communications needs. Pursue plans to integrate EMS into a statewide, state-of-the-art telecommunications system.***

- ***Complete 911-citizen access in all counties.***

- *Repair, maintain, and make interim improvements in EMS use of the existing Wisconsin State Patrol Communications Network to assure continued access to microwave linkages by itinerant ambulances.*

- *Restore, repair, and maintain the existing EMS communications system to assure the availability of medical direction for advanced life support units and other ambulance units until a statewide system can be implemented*.

- *Establish adequate EMS personnel paging systems in all rural areas.*

- *Improve emergency patient care through the provision of appropriate training and licensure of emergency medical dispatchers.*

G. EVALUATION

Standard

A comprehensive evaluation program is needed to effectively plan and implement a statewide EMS system. Each EMS system must be responsible for evaluating the effectiveness of services provided victims of medical or trauma related emergencies. The statewide EMS system should be able to state definitively what impact has been made on the patients served by the system. EMS system managers must be able to evaluate resource utilization, scope of service, patient outcome, and the effectiveness of operational policies, procedures, and protocols. An effective EMS system evaluates itself against pre-established standards and objectives, so that improvements in service, particularly direct patient care, can occur. These requirements are part of an ongoing quality assurance (QA) system to review system performance. The evaluation process should be educational and ongoing. OA reviews should occur at all phases of EMS system management so that needed policy changes or treatment protocol revisions can be made. I

Status

With the exception of the EMT-D program and laudable efforts for trauma data collection and analysis in the Milwaukee and Madison areas, data collection is inconsistent, ill defined, and non-integrated. There are insufficient resources in the State EMS Section, both in funding and personnel, to achieve statewide data collection, entry, and analysis. Data collection is further hampered by lack of mandatory use of a standard ambulance report form. The obsolete form which

is available from the State has been shown to have an extremely poor completion rate on various items and is not compatible with rapid data entry by optical scanning or other means. Continued provision of this inadequate form is not assured due to insecure funding. There is no regional data collection or analysis other than in the major urban areas.

Because of the almost total lack of a meaningful data collection system, quality assurance assessments are not possible, nor are assessments of the impact of special projects on mortality and morbidity. The data available through various state agencies are not correlated with ambulance run reports to produce minimal outcome assessments.

Unless a comprehensive data collection plan is developed and implemented, the State of Wisconsin will be unable to assess the quality of care received by its citizens in anything other than an anecdotal fashion. Additionally, the impact of new state expenditures suggested in this report upon the health of the citizens of Wisconsin will be unknown. Those charged with granting outside funding will also be extremely hesitant to continue authorizing such funds.

Recommendations

- ***Enact enabling legislation to permit ongoing funding of a centralized, comprehensive, statewide data collection program in the State EMS Section as soon as possible. A statewide trauma registry must be included in this program. It is imperative that such a program be computer-based, both to minimize personnel costs and to maximize data analysis. This program should include funding for personnel with expertise in data collection and analysis.***

- ***The success of such a program depends upon the mandatory use of a single standardized ambulance run report. This data must be compiled by the State EMS Section.***

- ***Implement formal quality assurance programs at the local, regional, and state level for all categories of EMS care.***

- Provide the collected data to EMS managers and providers for education and quality assurance.

- Link currently available databases for maximization of information.

H. PUBLIC INFORMATION AND EDUCATION

Standard

Public awareness and education about the EMS system is essential to a quality system and is often neglected. Public information and education efforts must serve to enhance the public's role in the system, its ability to access the system,

and the prevention of injuries. In many areas, EMS personnel provide system access information and present injury prevention programs which ultimately lead to better utilization of EMS resources and improved patient outcome.

Status

The State of Wisconsin has developed several high quality public information and education tools through specific grant projects, including the Highway Safety's "Road Warrior" program, "EMS - The Invisible Public Health Service", workshops, "EMS for Children" public service announcements, posters, articles, and the Wisconsin EMT Association's Statewide Injury Prevention Program to promote EMT public education.

The introduction of an EMS public education and information program at the Wisconsin State Fair is an excellent way of reaching a large number of people. Wisconsin should be proud of the largely volunteer support of this event.

There has been a lack of centralized coordination of EMS public information activities resulting in a lack of continuity. No one has been charged with ensuring that public information programs, which are developed under grants, will continue when the grants end or that an ongoing public information program is in place.

In most cases, a controlled analysis of the effectiveness of the educational programs was not conducted. This is an important element to ensure public education campaigns are actually having any impact and to support future funding of these programs.

Recommendations

- ***Secure on-going funding to ensure that the State EMS Section can develop and distribute public Information materials and evaluate the effectiveness of the public information programs.***

- ***Employ a public information and education staff person within DHSS to foster and coordinate EMS public information and education activities, including injury prevention.***

- *Encourage the involvement of EMS providers (especially volunteers) in public information and education programs relating to EMS and injury prevention.*

- *Publish a state EMS newsletter which provides timely information to EMS providers including, but not limited to, sharing "local" public information ideas and activities.*

1. MEDICAL DIRECTION

Standard

EMS is a medical care system that includes medical practice as delegated by physicians to non-physician providers who manage patient care outside the traditional confines of office or hospital. As befits this delegation of authority, it is the physician's obligation to be involved in all aspects of the patient care system.

Specific areas of involvement include:

- planning and protocols
- on-line medical direction and consultation
- audit and evaluation of patient care.

Status

On-line medical direction is mandated for advanced life support techniques except EMT-D. EMT-D can be performed on standing orders. A medical director is required for all Advanced Life Support (ALS) services but is not required for Basic Life Support (BLS) services or First Responder services. Physician input appears to be particularly strong in the large urban centers and in special programs such as EMS for Children but is variable and often weak or non-existent in rural areas. Physician involvement in planning, development of protocols, and evaluation of prehospital patient care is inconsistent and probably substandard in a large portion of Wisconsin EMS services.

Overall physician involvement in EMS appears weak. There is no State EMS Medical Director and no mandated statewide standards for either local medical directors or online medical physicians.

Recommendations

- ***The position of State EMS Medical Director should be immediately established within the State EMS Section. This physician would be charged with fostering physician involvement at the local level, as well as facilitating the development of regional emergency medical councils, quality assurance programs, and standardization of training for both online medical control physicians and EMS service medical directors.***

- ***Establish Minimum standards for those physicians functioning as on-medical control. These should include, but not be limited to, ACLS, ATLS, and PALS. The State EMS Section should provide training and financial assistance to potential medical control physicians.***

- ***Establish minimum standards off-line medical directors. Standards should include, but not be limited to, expertise in EMS either by training or experience, as well as requirements for on-line medical control. The State EMS Section should provide training for medical directors by adapting currently available courses as indicated by local needs.***

- ***Mandate medical direction of Basic Life Support and First Responder services.***

- ***Provision of patient care by medical personnel in the field should be under the direction and control of appropriately qualified physicians.***

- *Reduce reliance upon on-line medical direction to initiate life-saving procedures. State-sponsored guidelines should be available for adaptation by regional EMS councils. Such guidelines should have specified mandatory on-line contact points.*

- *Liability for off-line medical direction activities should be limited and assumed by the State for those physicians who have completed state-mandated training.*

- *Establish regional EMS councils to assist in planning, implementing, and evaluating programs. Such councils should have a strong physician representation and provide input to the State EMS Advisory Committee.*

J. TRAUMA SYSTEMS

Standard

To provide a quality, effective system of trauma care, each State must have a fully functional EMS system in place. Enabling legislation should exist for the development of the trauma system component of the EMS system. This should include trauma center designation (using ACS-COT guidelines as a minimum), triage and transfer guidelines for trauma patients, data collection and trauma registry definitions and mechanisms, mandatory autopsies, system management, and quality assurance of the system's effect on trauma patients. Rehabilitation is an essential component of any statewide trauma system.

Status

There is no formal statewide system of trauma care in the State of Wisconsin. A high level of trauma care is available in certain metropolitan areas, especially in Milwaukee and Madison. These islands of excellence have been developed through the continued committed efforts of a few and have been accomplished without adequate state support or direction. The team believes that the basic elements of a statewide trauma system are available within the State, but no coordinated effort to bring the elements together has occurred.

Recommendations

- ***It is strongly recommended that statewide development of a formal trauma system be instituted. Such a system should occur under enabling legislation with long range funding to a level that would support institutional***

requirements and regionalization mandates. Such legislation must include but should not be limited to the following:

1. ***Regulation and oversight of the trauma designation process by the Department of Health and Social Services,***
2. ***Designation of trauma centers by nationally accepted standards such as those of the American College of Surgeons;***
3. ***Regionalization of trauma care to include smaller rural hospitals within the trauma system;***
4. ***Ensure the adequate participation and input from those involved in the entire process;***
5. ***Provision for the outside review and verification of the designation process***
6. ***Development of triage and transfer guidelines the trauma patients;***
7. ***Development of a standardized computerized statewide trauma registry to include prehospital care, acute facility care, and rehabilitative care,***
8. ***Mandated autopsies on all trauma related deaths; and***
9. ***Ongoing assessment of system needs and quality assurance.***

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American College of Surgeons, Georgia Committee on Trauma

Chairman

Journal of Air Medical Transport

Editorial Board

American College of Surgeons

Fellow

American Association for the Surgery of Trauma

Fellow

Eastern Association for the Surgery of Trauma

Board of Directors

Society of Critical Care Medicine

University Association of Emergency Medicine

National Association of EMS Physicians

American Trauma Society

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Subcommittee on Training

Emergency Medical Technician-A Revision Project

Project Director

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Project Director

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Past Director, Emergency Medical Services

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EMS Committee

Federal Interagency Committee on EMS

Chairman, Provider Subcommittee

National Rural Health Association

EMS Task Force

National Registry of Emergency Medical Technicians

Board of Directors

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Journal of Wilderness Medicine

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AJabama Public Health Association

State Advisory Council on SIDS

Alabama EMT Association.

American College of Surgeons

Committee on Trauma, Associate Member

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- Chairperson, Executive Committee
- Past Vice-Chairperson, Executive Committee
- Past Parliamentarian, Executive Committee
- Committee Chairperson, Publication Review Committee
- Written Test Blueprint Committee
- Planning Committee, Paramedic Committee

Liaison for NCSEMSTC to ACEP EMS Committee, NHTSA, NASEMSD

Emergency Nurse Association

- Utah EMS Bureau Liaison

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ORGANIZATIONS/APPOINTMENTS

National Association of State EMS Directors

Executive Committee

Legal Recognition Committee

Liaison to American Red Cross

Iowa EMS Association

Charter Member

Legislative Committee

Convention Committee

1989 Friend of EMS Award

Iowa Trauma Registry System Planning Committee

American Trauma Society

Governor's Committee on Developmental Disabilities

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Association of Air Medical Services

Medical Advisory Committee - Region 3 Advisor

University Hospitals of Cleveland

Resuscitation Committee Chair

Department of Emergency Medical

Quality Assurance Committee Chair

American Heart Association Advanced Cardiac Ufe Support

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Northeast Ohio Affiliate, American Heart Association

Emergency Cardiac Care Committee Chair

American College of Emergency Physicians

Society of Critical Care Medicine

International Task Force on Disaster Medicine

APPENDIX E - 2001 NHTSA REASSESSMENT

STATE OF WISCONSIN

A REASSESSMENT

OF

EMERGENCY MEDICAL SERVICES

APRIL 24-26, 2001

National Highway Traffic

Safety Administration

Technical Assistance Team

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BACKGROUND

Injury is the leading cause of death for persons in the age group one through 44, as well as the most common cause of hospitalizations for persons under the age of 40. The financial costs of injuries are staggering: injuries cost billions of dollars in health care and social support resources. In 1990, for example, the lifetime costs of all injuries were estimated at $215 billion annually. These estimates do not include the emotional burden resulting from the loss of a child or loved one, or the toll of severe disability on the injured person and his or her family. Each year over 40,000 people lose their lives on our nation's roads, and approximately 70 percent of those fatalities occur on rural highways. The National Highway Traffic Safety Administration (NHTSA) is charged with reducing death and injury on the nation's highways. NHTSA has determined that it can best use its limited resources if its efforts are focused on assisting states with the development of integrated emergency medical services (EMS) programs that include comprehensive systems of trauma care.

To accomplish this goal, in 1988 NHTSA developed a Technical Assistance Team (TAT) approach that permitted states to utilize highway safety funds to support the technical evaluation of existing and proposed emergency medical services programs. Following the implementation of the Assessment Program NHTSA developed a Reassessment Program to assist those States in measuring their progress since the original assessment. The Program remains a tool for states to use in evaluating their statewide EMS programs. The Reassessment Program follows the same logistical process, and uses the same ten component areas with updated standards. The standards now reflect current EMS philosophy and allow for the evolution into a comprehensive and integrated health management system, as identified in the 1996 EMS Agenda for the Future. NHTSA serves as a facilitator by assembling a team of technical experts who demonstrate expertise in emergency medical services development and implementation. These experts demonstrate leadership and expertise through involvement in national organizations committed to the improvement of emergency medical services throughout the country. Selection of the Technical Assistance Team is also based on experience in special areas identified by the requesting State. Examples of specialized expertise include experience in the development of legislative proposals, data gathering systems, and trauma systems. Experience in similar geographic and demographic situations, such as rural areas, coupled with knowledge in providing emergency medical services in urban populations is essential.

The Wisconsin Bureau Emergency Medical Services and Injury Prevention in concert with the Wisconsin Bureau of Transportation Safety requested the assistance of NHTSA. NHTSA agreed to utilize its technical assistance program to provide a technical reassessment of the Wisconsin Statewide EMS program. NHTSA developed a format whereby the EMS office staff coordinated comprehensive briefings on the EMS system.

The TAT assembled in Madison, Wisconsin, on April 24-26, 2001. For the first day and a half, over 30 presenters from the State of Wisconsin, provided in-depth briefings on EMS and trauma care, and reviewed the progress since the 1990 assessment. Topics for review and discussion included the following:

General Emergency Medical Services Overview of System Components

Regulation and Policy

Resource Management

Human Resources and Training

Transportation

Facilities

Communications

Trauma Systems

Public Information and Education

Medical Direction

Evaluation

The forum of presentation and discussion allowed the TAT the opportunity to ask questions regarding the status of the EMS system, clarify any issues identified in the briefing materials provided earlier, measure progress, identify barriers to change, and develop a clear understanding of how emergency medical services function throughout Wisconsin. The team spent considerable time with each presenter so that they could review the status for each topic.

Following the briefings by presenters from the Wisconsin Bureau of Emergency Medical Services and Injury Prevention, public and private sector providers, and members of the medical community, the TAT sequestered to evaluate the current EMS system as presented and to develop a set of recommendations for system improvements.

When reviewing this report, please note that the TAT focused on major areas for system improvement. Unlike the state's initial assessment which contained many operational recommendations, several of which were identified as a priority, this report offers fewer yet broader recommendations that the team believes to be critical for continued system improvement.

The statements made in this report are based on the input received. Pre-established standards and the combined experience of the team members were applied to the information gathered. All team members agree with the recommendations as presented.

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ACKNOWLEDGMENTS

The TAT would like to acknowledge the Wisconsin Department of Transportation, Bureau of Transportation Safety and the Wisconsin Department of Health and Family Services, Bureau of Emergency Medical Services and Injury Prevention for their support in conducting this assessment.

The TAT would like to thank all of the presenters for being candid and open regarding the status of EMS in Wisconsin. Each presenter was responsive to the questions posed by the TAT, which aided the reviewers in their evaluation. Many of these individuals traveled considerable distance to participate.

Special recognition and thanks should be made regarding the extraordinary efforts taken by Jon Morgan, Director of Bureau of EMS and Injury Prevention, and his staff, and the briefing participants for their well-prepared and forthright presentations. In addition, the Team applauds the well-organized, comprehensive briefing material sent to the team members in preparation for the reassessment.

Special thanks also to Don Hagen, Bureau of Transportation Safety, for providing assistance to the TAT.

INTRODUCTION

Wisconsin is a large, beautiful and diverse state. The contrast of large urban areas and small sparsely populated rural communities creates challenges for providing a comprehensive, quality statewide EMS system. To this point, the spirit of volunteerism, neighbors helping neighbors, and people working hard to provide state-of-the-art care to Wisconsin's communities have met these challenges.

In 1990 Wisconsin requested a NHTSA assessment of its EMS system. Using the resulting recommendations as a guide, Wisconsin has made tremendous strides in improving its EMS system during the past eleven years.

Now is the time to recognize past accomplishments and look boldly to the future. This reassessment report represents one of the tools that Wisconsin EMS has chosen to guide its efforts into this decade.

Despite the outstanding progress of the past eleven years, much remains to be done. Some of the barriers to progress that existed eleven years ago are still present today. Dedicated people throughout the state, both paid and volunteer, doing a job with little recognition and inadequate resources have created monumental achievements. But even dedication and hard work can carry Wisconsin only so far. Currently, resources are being cut and personnel and financial support to maintain and continue improving the EMS system in Wisconsin have eroded to the point that the system is in danger of collapse. Even with a host of volunteers, a stable, continuing funding source must be obtained for the Bureau of EMS and Injury Prevention and personnel resources must be allocated to meet the demand for services to the public, the EMS volunteer and career personnel and other EMS system partners. The political leadership in Wisconsin must address the real needs facing the Wisconsin EMS system and ensure that stable funding mechanisms and personnel resources are available to maintain a good system and make it even better.

The spirit of the people of Wisconsin will undoubtedly lead its EMS system down the appropriate road and create the best possible care for their communities.

WISCONSIN EMERGENCY MEDICAL SERVICES (WEMS)

The Technical Assistance Team revisited the ten essential components of an optimal EMS system that were used in the State of Wisconsin, An Assessment of Emergency Medical Services, on November 13-15, 1990. These components provided an evaluation or quality assurance report based on 1989 standards. While examining each component, the TAT identified key EMS issues, reviewed the State's

progress since the original report, assessed its status, and used the 1997 Reassessment Standards as a basis for recommendations for EMS system improvement.

REGULATION AND POLICY

Standard

To provide a quality, effective system of emergency medical care, each EMS system must have in place comprehensive enabling legislation with provision for a lead EMS agency. This agency has the authority to plan and implement an effective EMS system, and to promulgate appropriate rules and regulations for each recognized component of the EMS system (authority for statewide coordination; standardized treatment, transport, communication and evaluation, including licensure of out-of-hospital services and establishment of medical control; designation of specialty care centers; PIER programs). There is a consistent, established funding source to adequately support the activities of the lead agency and other essential resources, which are necessary to carry out the legislative mandate. The lead agency operates under a single, clear management structure for planning and policy setting, but strives to achieve consensus among EMS constituency groups in formulating public policy, procedures and protocols. The role of any local/regional EMS agencies or councils who are charged with implementing EMS policies is clearly established, as well as their relationship to the lead agency. Supportive management elements for planning and developing effective statewide EMS systems include the presence of a formal state EMS Medical Director, a Medical Advisory Committee for review of EMS medical care issues and state EMS Advisory Committee (or Board). The EMS Advisory Committee has a clear mission, specified authority and representative membership from all disciplines involved in the implementation of EMS systems.

Progress Since 1990

With limited resources and considerable dedication, the Wisconsin EMS system has made impressive progress with implementation of the 1990 EMS Assessment recommendations including:

Enacted legislation to designate the Department of Health and Family Services as the state EMS lead agency including a clear specification of its authority and responsibilities.

Provided several additional FTEs to the Bureau of EMS and Injury Prevention.

Established the legal authority for a State EMS Medical Director and contracted with a well-qualified physician.

Established a statewide Physician Advisory Committee.

Established, via statute, a multi-disciplinary state EMS Board and specified its responsibilities.

Enacted legislation establishing the State Trauma Advisory Council, authorizing creation of a statewide trauma care system, granting rule-making authority to the department, requiring a statewide trauma care system report to be submitted to the legislature and establishing an initial appropriation for the trauma system.

Submitted the state trauma systems report to the legislature.

Enacted legislation for the licensure of First Responders and for First Responder-Defibrillation.

Published guidelines for the regulation of interhospital transfers and are in the process of updating those guidelines.

Status

A major accomplishment for the Wisconsin EMS System has been the elevation of the EMS Section to the Bureau of Emergency Medical Services and Injury Prevention, a change which has improved the stature of EMS within the Department and improved access to Department leadership.

There are several major laws governing emergency medical services in Wisconsin, including:

Section 146.50 establishes confidentiality protections for EMS Records and provides broad authority to the Department for:

emergency medical services personnel licensing, certification and training;

licensing of ambulance service providers;

licensure of Emergency Medical Technicians (First Responder, Basic, Intermediate and Paramedic);

developing administrative rules regarding the qualifications of EMS medical directors;

investigation of complaints;

approving EMS education and training programs.

Section 146.53 establishes the department as the state EMS lead agency, broadly delineates their duties and authorities and provides them with comprehensive rule-making authority. This law also requires the development of a state EMS plan.

Section 146.55 provides the authority for the development of emergency medical services programs at the local level and requires the submission of operational plans to the Department. Further, it requires a state EMS medical director and establishes the Funding Assistance Program (FAP), which funds tuition of the EMT-Basic training programs and specifies an entitlement funding program to ambulance services.

Section 146.56 requires the Department to develop and to administer a statewide trauma care system. Section 15.197 establishes a state trauma advisory council to assist in planning and implementing the trauma system. Section 146.58 specifies the responsibilities of the state Emergency Medical Services Board.

The Department of Transportation has statutory responsibility for the inspection and licensure of ambulance vehicles. There is also a Public Access Defibrillation statute.

There are several major sets of administrative rules including:

HFS 110 relating to Ambulance Provider and EMT-Basic licensure;

HFS 111 relating to the licensing of Emergency Medical Technicians-Intermediate;

HFS 112 relating to the licensing of EMT-Paramedics. This is currently under revision to address interfacility transports;

HFS 113 relating to the Certification of First Responders-Defibrillation;

HFS 125 relating to Do-Not-Resuscitate Orders;

Trans 309 relating to inspection of ambulance vehicles.

There are several different groups that provide advice to the Department, including the EMS Board, the State Trauma Care Advisory Council and the Physician Advisory Committee. Each of these boards or committees has a variety of different subcommittees. The EMSC Committee, a committee of the EMS Board, also has several different subcommittees. The Department is commended for its extensive collaboration in the development of department priorities, guidelines and administrative rules. However, the roles and the inter-relationships of the various advisory committees are not clear. For instance, one member of the EMS Board is required to be a member of the State Trauma Advisory Council. However, the formal relationship between these two groups is not clearly delineated. As the trauma system evolves, the absence of a defined relationship will become problematic.

The Funding Assistance Program (FAP) provides state General Purpose Revenue for EMT-Basic training and limited operational support for ambulance services. The amount of funding to individual ambulance services is quite limited. However, at the state level, these funds represent a significant expenditure resulting only in limited system-wide impact.

The Department has been required to submit numerous reports to the legislature. Every report has been presented, as required. The quality of the reports has been excellent and has obviously consumed considerable effort. However, frequently the legislature does not take action on the reports and the Department and the various constituency groups are not notified of the report's final disposition. There is apparently not a clearly defined method, nor is there the ability, for the Department or the EMS Board to initiate legislation. There have been a variety of defeated legislative efforts including: a mandate for uniform data collection, the assessment of fines for non-compliance with licensure and certification requirements, and various efforts to increase the budget of the Bureau of EMS and Injury Prevention.

The EMS Board has been incredibly active, meeting at least every two months. The amount of volunteer time and effort dedicated by EMS Board members is truly amazing. The EMS Board provides a clear formal and effective method for assuring public dialogue on EMS issues. The Board is frequently frustrated by the delay in appointments. There does not appear to be a systematic method in which the department provides input to the Governor's office on EMS Board appointments.

There currently is no statutory provision for the licensure of air or water EMS services. Rules pertaining to interfacility transfer are currently being revised. These rules also address the continuing education requirements of EMS instructors.

The budget for the Bureau of EMS and Injury Prevention is comprised of General Purpose Revenue, Preventive Health and Health Services Block Grant and other federal funding sources. Because each of these funding sources is extremely volatile, there is not an ongoing, stable source of funding for the Bureau. The absence of adequate and ongoing funding has been detrimental to the overall operation and continuity of the Bureau. There is insufficient funding to accomplish program priorities and existing staff positions are frequently vacant for extended lengths of time.

Frequently, there are unfunded mandates from the legislature; the legislature has established programs (e.g. First Responder certification), but has not provided the department with sufficient resources to manage the program. This has resulted in the frustration of the Bureau staff, the Department and EMS provider organizations. The ongoing paucity of resources, Bureau staff, and state legislative support is threatening the very integrity of the Wisconsin emergency medical services system.

Recommendations

The State of Wisconsin should assure an adequate, stable and ongoing source of funding and personnel resources for the Bureau of EMS and Injury Prevention. Examples from other states include an assessment on motor vehicle registration, a fee on driver's licenses, an assessment on moving traffic violations and a variety of others.

The EMS Board, in coordination with other advisory bodies and various constituency groups, should develop a strategic plan to educate policy-makers regarding the importance of the emergency medical services system, including the financial and resource threats to its ongoing viability.

The EMS Board and the Bureau of EMS and Injury Prevention should better delineate and streamline the inter-relationships of the various advisory councils and committees. To assure coordination and continuity, all committees and councils should report through the EMS Board.

The EMS Board should review the current use of FAP funds, including an evaluation of whether these funds are currently making the biggest possible impact on the Wisconsin EMS system. The Board should explore alternatives for utilization of FAP funds and make recommendations to the legislature. This might include, for instance, a grant program coordinated with the priorities outlined in the state EMS plan.

The EMS Board and the Department should, consistent with Wisconsin state laws and policies, develop methods for improved legislative advocacy. There should be an established mechanism for assuring legislation is introduced, when needed, to address EMS system priorities.

The Department and the Governor's office should develop a procedure and a timetable to expedite the appointment of members to the EMS Board and clarify the role of the Department in suggesting appointments.

The Department should, in conjunction with the legislative branch, determine the status of each legislative report which has been submitted and should report its findings to the EMS Board, the various committees and councils and to the constituency groups.

The Department should pursue legislative authority for administrative penalties, including fines for violation of EMS statutes and administrative rules.

The Department should pursue legislative authority to establish comprehensive regulation and enforcement of air, ground and water EMS services.

RESOURCE MANAGEMENT

Standard

Central coordination and current knowledge (identification and categorization) of system resources is essential to maintain a coordinated response and appropriate resource utilization within an effective EMS system. A comprehensive State EMS plan exists which is based on a statewide resource assessment and updated as necessary to guide EMS system activities. A central statewide data

collection (or management information) system is in place that can properly monitor the utilization of EMS resources; data is available for timely determination of the exact quantity, quality, distribution and utilization of resources. The lead agency is adequately staffed to carry out central coordination activities and technical assistance. There is a program to support recruitment and retention of EMS personnel, including volunteers

Progress Since 1990

Centralized authority and responsibility for program regulation, management, development and coordination was provided to the Department in 1993 legislation.

The EMS Section was upgraded to Bureau status in 1998.

Three staff positions were added.

The Funding Assistance Program (FAP) offsets the costs for training of EMT-Basics.

A State EMS Medical Director position was established and has been filled since March 1995.

A formal State EMS Plan was first developed in 1995 and has been regularly updated.

A State EMS Board was statutorily established in 1993.

Status

Wisconsin's statewide EMS plan was developed in 1995 and updated in 1997 and 1999. It is scheduled for another update this year. The plan is being followed closely for continued development of the state's EMS system. In addition, the status of the Bureau of EMS and Injury Prevention, as lead agency, has been strengthened.

Three additional elements of change have influenced the resource management aspect of the Bureau's operation in recent years. First, staffing has increased modestly. Secondly, the State EMS Medical Director's position is staffed through a contract. And lastly, the EMS Board has been active and successful in affecting the state EMS system.

Although modest staffing increases have occurred, some positions within the Bureau have been frozen or reallocated. Thus, the Bureau is unable to staff and implement some statutorily mandated. While there has been legislative support for authority and leadership on EMS activities, funding support is shrinking. As a result, a number of programs have not been implemented with resulting negative system impact. These include: technical assistance; data support, collection, and analysis; first responder certification; and the dispatch and communications program.

The Bureau has access to administrative data sources that can be used for resource management. These include geographical information system (GIS) software that can be used to show locations of hospitals, EMS agencies and aeromedical programs. Efforts are ongoing to streamline the provider agency operations plan submission process into a web-based application. These innovations may enable system managers to plan, allocate resources, administer services more efficiently and study system trending and conduct performance review.

The state's critical incident stress management (CISM) programs are growing in number and appear to be evolving. There appears to be little central coordination of activity or mutual aid among teams. Additionally, some teams lack professional clinical staff.

Recruitment and retention, as an ongoing issue for volunteerism, has received considerable attention in recent years. Two studies have been conducted with the initial conclusion that there are only pockets of concern. More recent information indicates there may be more concern than originally thought and that further action and monitoring is necessary.

Recommendations

The Bureau should:

Secure stable funding sources to ensure adequate staffing for resource management activities including, but not limited to:

Technical Assistance;

Data Support, Collection, and Analysis;

First Responder Certification;

Dispatch/Communication Program.

Develop programs for continuing the recruitment and retention of volunteer EMS personnel.

Verify submitted ambulance service operation plans through periodic, on-site evaluations.

HUMAN RESOURCES AND TRAINING

Standard

EMS personnel can perform their mission only if adequately trained and available in sufficient numbers throughout the State. The State EMS lead agency has a mechanism to assess current manpower needs and establish a comprehensive plan for stable and consistent EMS training programs with effective local and regional support. At a minimum, all transporting out-of-hospital emergency medical care personnel are trained to the EMT-Basic level, and out-of-hospital training programs utilize a standardized curriculum for each level of EMS personnel (including EMS dispatchers). EMS training programs and instructors are routinely monitored, instructors meet certain requirements, the curriculum is standardized throughout the State, and valid and reliable testing procedures are utilized. In addition, the State lead agency has standardized, consistent policies and procedures for certification (and re-certification) of personnel, including standards for basic and advanced level providers, as well as instructor certification. The lead agency ensures that EMS personnel have access to specialty courses such as ACLS, PALS, BTLS, PHTLS, ATLS, etc., and a system of critical incident stress management has been implemented.

Progress Since 1990

Wisconsin has made significant progress toward meeting the recommendations of the 1990 NHTSA assessment.

The state has the authority to approve all training centers and courses. A standardized instructor-training program has been implemented and standards for instructors are now stated in rule.

An evaluation and modification of all national curricula used in EMS training has been completed.

First Responder-Defibrillation criteria have been standardized. First Responder certification is authorized but has not been implemented due to shortages in personnel and financial resources. No progress has been made in implementing standardized training, licensure, and certification of Emergency Medical Dispatchers.

Status

The Bureau has the authority to approve all training centers and all courses. Instructors are certified and new rules will provide for the recertification of instructors. The state certifies First Responders-Defibrillation, EMT-Bs, EMT-Is and EMT-Ps. The state is currently in the process of implementing a new level called EMT- Basic-I.V., which is comparable to the prior EMT-I level. This will allow for additional skills at the EMT-Basic level. The new national EMT-I curriculum will also be implemented, and in Wisconsin is initially referred to as the EMT-I Enhanced, but will become the EMT-I after the transition.

Although the state has the authority to certify First Responders, it has not done so due to the lack of personnel and financial resources. The state has completed an in-depth review of the National Standard Curricula and has modified them to meet the specific needs of Wisconsin. The state has not conducted an evaluation of the EMS Education Agenda for the Future to determine its impact.

Bridge courses are currently offered but not at every level. Through the involvement of the Emergency Medical Services for Children (EMSC) program, pediatric training has been incorporated at all levels.

There are 22 approved training centers. Sixteen of the centers are technical colleges and six are hospitals. However, there is no independent, external verification of training centers by a national EMS accreditation organization as specified in the EMS Education Agenda for the Future.

The Bureau and the Wisconsin Technical College Systems Board (WTCSB) jointly provide a three day instructor/coordinator course on an annual basis.

All EMS personnel licenses expire every two years in June. During the last cycle it took 5-6 months for the Bureau to renew the licenses. In an effort to improve license turnaround time the Bureau has initiated a new process that will require personnel information to be submitted by each service on a roster signed by the local medical director. It is unclear whether or not the quality of the process will be maintained.

Recommendations

The State EMS Board should:

Evaluate the compliance of the Wisconsin EMS education system with the EMS Education Agenda for the Future and make specific recommendations to ensure that the Wisconsin EMS education system is consistent.

The Bureau should:

Establish a mechanism to obtain and utilize data to determine that approved training centers are providing quality instruction.

Develop courses to allow EMS personnel to bridge from the entry level of certification through each level up to EMT-Paramedic.

Develop a method, such as random audits, to ensure the consistent reliability and quality of the re-licensing process.

TRANSPORTATION

Standard

Safe, reliable ambulance transportation is a critical component of an effective EMS system. The transportation component of the State EMS plan includes provisions for uniform coverage, including a

protocol for air medical dispatch and a mutual aid plan. This plan is based on current formal needs assessment of transportation resources, including the placement and deployment of all out-of-hospital emergency medical care transport services. There is an identified ambulance placement or response unit strategy, based on patient need and optimal response times. The lead agency has a mechanism for routine evaluation of transport services and the need for modifications, upgrades or improvements based on changes in the environment (i.e., population density). Statewide, uniform standards exist for inspection and licensure of all modes of transport (ground, air, water) as well as minimum care levels for all transport services (minimum staffing and credentialing). All out-of-hospital emergency medical care transport services are subject to routine, standardized inspections, as well as spot checks to maintain a constant state of readiness throughout the State. There is a program for the training and certification of emergency vehicle operators.

Progress Since 1990

Since the 1990 NHTSA assessment progress has been made in several areas.

The Bureau has become more involved with the Wisconsin Department of Transportation (DOT) in developing ambulance inspection rules. They have also made recommendations regarding ambulance inspector qualifications.

Standards are now in place for uniform requirements for ambulance equipment including pediatric equipment.

Status

Local law enforcement agencies reportedly respond to approximately 96% of motor vehicle crashes in Wisconsin. The training for local law enforcement personnel is the responsibility of the Department of Justice, with little interaction with the Bureau of EMS and Injury Prevention.

Ambulance inspections are conducted by state patrol personnel and are the responsibility of DOT. The Bureau works with DOT to develop the ambulance licensing rules and makes other suggestions regarding qualifications of inspection personnel. There are no air or water ambulance regulations.

There are no established criteria for reviewing operations plans and determining whether or not to issue an ambulance license. Standard equipment, including pediatric equipment, is now required on all ambulances.

Current rules allow for Basic Life Support ambulances to be staffed by one EMT and one EMT trainee. Proposed rules would allow for the staffing of Paramedic units by one Paramedic rather than two. The Bureau, EMS Board, American College of Emergency Physicians (ACEP) and others believe this change would allow for more EMS provider agencies to deliver paramedic level care in rural areas.

There is no statewide mutual aid or ambulance placement plan. Air ambulances establish their own service areas with no uniform rationale. It is unclear if the number and distribution of air ambulances serve the state effectively.

Recommendations

The Bureau should:

Obtain legislative authority to establish comprehensive regulations for air, water and ground EMS services.

Develop a statewide air ambulance coverage plan.

Develop objective criteria for approval/disapproval of ambulance service operation plans.

Develop a statewide mutual aid plan.

Develop a program to “spot check” ambulance services for compliance with medical equipment and staffing.

Support the proposed rule allowing one EMT-Paramedic per EMT-Paramedic ambulance.

FACILITIES

Standard

It is imperative that the seriously ill patient be delivered in a timely manner to the closest appropriate facility. The lead agency has a system for categorizing the functional capabilities of all individual health care facilities that receive patients from the out-of-hospital emergency medical care setting. This determination should be free of political considerations, is updated on an annual basis and encompasses both stabilization and definitive care. There is a process for verification of the categorizations (i.e., on-site review). This information is disseminated to EMS providers so that the capabilities of the facilities are known in advance and appropriate primary and secondary transport decisions can be made. The lead agency also develops and implements out-of-hospital emergency medical care triage and destination policies, as well as protocols for specialty care patients (such as severe trauma, burns, spinal cord injuries and pediatric emergencies) based on the functional assessment of facilities. Criteria are identified to guide interfacility transport of specialty care patients to the appropriate facilities. Diversion policies are developed and utilized to match system resources with patient needs; standards are clearly identified for placing a facility on bypass or diverting an ambulance to another facility. The lead agency has a method for monitoring if patients are directed to appropriate facilities.

Progress Since 1990

None.

Status

Following the initial EMS assessment in 1990, there were five recommendations directed at identifying the clinical capabilities of Wisconsin's hospitals, and utilization of that information to assure that the right patient is transported to the correct hospital. This issue received an appropriately low priority considering the constraints of manpower and funding. Therefore, the issue of facility categorization was folded into activities related to the trauma system, which is as yet not completed.

There has been no progress in facility categorization pending the institution of a trauma system, with the presumption that trauma categorization reflects capabilities across all medical disciplines. This may not be true. In the interim, EMS transport decisions have relied on physician referral preferences and perceived facility capabilities. However, this has not produced concrete information to be used for the development of rational EMS triage or transfer guidelines. It is unknown if there are still statutory requirements for facility categorization.

Recommendations

The Bureau should:

Initiate a process to document what is already known about the capabilities of all hospitals that interface with Wisconsin EMS.

Incorporate this information into the prehospital triage and interfacility destination policies being developed.

Assess the current impact of hospital diversion on EMS services, particularly in urban areas. Develop uniform criteria to be used in making emergency department diversion decisions.

COMMUNICATION

Standard

A reliable communications system is an essential component of an overall EMS system. The lead agency is responsible for central coordination of EMS communications (or works closely with another single agency that performs this function) and the state EMS plan contains a component for comprehensive EMS communications. The public can access the EMS system with a single, universal emergency phone number, such as 9-1-1 (or preferably Enhanced 9-1-1), and the communications system provides for prioritized dispatch. There is a common, statewide radio system that allows for direct communication between all providers (dispatch to ambulance communication, ambulance to ambulance, ambulance to hospital, and hospital to hospital communications) to ensure that receiving facilities are ready and able to accept patients. Minimum standards for dispatch centers are established, including protocols to ensure uniform dispatch and standards for dispatcher training and certification. There is an established mechanism for monitoring the quality of the communication system, including the age and reliability of equipment.

Progress Since 1990

No communications system funding sources have been identified.

Evaluation of statewide communications needs and potential infrastructure development is ongoing.

E-911 coverage will be in place for 99% of the population by 2002.

Microwave system integration with EMS frequencies ia no longer needed and equipment is being removed.

The existing EMS communications system works and is supplemented by standing orders and cell phone systems.

The EMS Board is considering the development of legislation for training and licensure of EMS dispatchers and dispatch centers.

Status

The Wisconsin EMS system is served by an outdated VHF and UHF radio system for ambulance to hospital communications. While providers and the EMS Board agree that the current system is outdated, they feel it meets their needs and is supplemented in several areas by standing orders and cellular phone systems. No single, statewide EMS communications system exists. Rather, a fragmented and non-interoperable system is in place. However, it appears to meet the needs and satisfaction of EMS providers in their day-to-day operations. Local dispatch systems range from state-of-the-art to systems that are old, outdated and possibly out-of-compliance with FCC standards.

The state has partnered with other agencies and stakeholders to attempt to remedy the situation by identifying its needs and developing a plan for a comprehensive telecommunications system. The study conducted by Evans and Associates for the Wisconsin Interagency Committee on Radio Tower Sites (WICORTS) in 1992 provided recommendations. However, absence of funding prohibited continuation of this initiative.

E-911 access to local EMS systems continues to improve and is almost universal in Wisconsin. It is believed that E-911 will be operational in all counties but one by 2002. Current activity by the Systems Management Committee of the EMS Board revolves around a "white paper" and potential legislation which would enable the EMS Bureau to establish training, dispatch center standards and EMS dispatcher standards for licensure. Funding for staff support of this program is also proposed.

Another consideration for a comprehensive EMS communications system is standards for medical control resource hospitals. Currently, none exist and hospital radios are staffed randomly by physicians and physician surrogates. There is no system for monitoring the on-line medical control structure for quality assurance purposes.

The Wisconsin EMS Communications/Telemetry Standards and Guidelines were released in 1983. They are slated for revision utilizing the 1992 NHTSA EMS Communications Planning Guideline.

Recommendations

The Bureau should:

Pursue statutory training and licensure standards for EMS dispatchers and dispatch centers to include funding for program support and personnel.

Complete the revised comprehensive state EMS communications plan.

Establish on-line medical control and resource hospital standards.

Network with other state EMS offices and state and national EMS and communications associations for information and solutions to EMS communications problems.

Take appropriate actions to disallow seven digit telephone number advertising for emergency ambulance service access where 9-1-1 is available.

PUBLIC INFORMATION, EDUCATION AND PREVENTION

Standard

To effectively serve the public, each State must develop and implement an EMS public information and education (PI&E) program. The PI&E component of the State EMS plan ensures that consistent, structured PI&E programs are in place that enhance the public's knowledge of the EMS system, support appropriate EMS system access, demonstrate essential self-help and appropriate bystander care actions, and encourage injury prevention. The PI&E plan is based on a needs assessment of the population to be served and an identification of actual or potential problem areas (i.e., demographics and health status variable, public perceptions and knowledge of EMS, type and scope of existing PI&E programs). There is an established mechanism for the provision of appropriate and timely release of information on EMS-related events, issues and public relations (damage control). The lead agency dedicates staffing and funding for these programs, which are directed at both the general public and EMS providers. The lead agency enlists the cooperation of other public service agencies in the development and distribution of these programs, and serves as an advocate for legislation that potentially results in injury/illness prevention.

Progress Since 1990

Although there is inadequate funding and staff to support system-wide public information and education, the Wisconsin EMS system has made progress in accomplishing the objectives since the last assessment:

Some Bureau of EMS and Injury Prevention staff are now working on public information and education activities.

There is a separate section of Injury Prevention located in the Bureau of EMS and Injury Prevention; there are staff dedicated to injury prevention.

There has been some progress in involving EMS providers in public information and injury prevention.

There are many public information and education activities included in the EMS provider’s handbook.

Status

The Bureau of EMS and Injury Prevention has received a four year Centers for Disease Control and Prevention (CDC) grant to develop the infrastructure for a statewide injury prevention program, including efforts to increase the involvement of EMS providers in injury prevention. The EMSC coordinator facilitates some public information and education activities.

The Bureau has integrated a considerable amount of public information and education with its regular customer contacts. Examples include the development of an outstanding EMS and Injury Prevention web site and developing a numbered memo series to keep EMS providers informed of current EMS developments. The state highway traffic safety office sponsored a train the trainers program in Public Information, Education and Relations (PIER). Since 2000, a quarterly EMS and injury prevention newsletter, Hi Lights and Sirens, has been developed and widely distributed to a large audience including EMS providers, other health care providers, public health departments, law enforcement agencies, fire personnel, advocacy groups and others.

There has been considerable progress with the establishment of a statewide injury prevention program. An Injury Prevention Section supervisor has been hired, and there has been work in suicide prevention, falls prevention and involvement with Safe Communities. The Injury Prevention Section will be guiding the development of a strategic plan for injury prevention, including identification of the methods by which EMS providers can be involved. The second annual state Conference on Childhood Emergencies includes injury prevention topics.

The EMSC program has done substantial work to promote numerous programs; including the Child Alert Program, Basic Emergency Life Support Skills for Schools, Project ADAM, the Conference on Childhood Emergencies and legislative advocacy. The enthusiasm and energy of the EMSC staff, the EMSC Advisory Committee and volunteers are commendable!

Recommendations

The Bureau of EMS and Injury Prevention should develop a broad-based public information and education plan which targets, in part, policy makers and the general public. Among other topics, this should address emergency medical services and trauma systems.

The Bureau should incorporate graduates of the PIER program in its plans to involve EMS providers in improved public information and education.

The ambulance providers should include information about EMS public information, education and injury prevention activities in their ambulance operations plans.

The Bureau should include additional information about public information and education in the Wisconsin EMS and Injury Prevention Handbook.

MEDICAL DIRECTION

Standard

EMS is a medical care system that involves medical practice as delegated by physicians to non-physician providers who manage patient care outside the traditional confines of office or hospital. As befits this delegation of authority, the system ensures that physicians are involved in all aspects of the patient care system. The role of the State EMS Medical Director is clearly defined, with legislative authority and responsibility for EMS system standards, protocols and evaluation of patient care. A comprehensive system of medical direction for all out-of-hospital emergency medical care providers (including BLS) is utilized to evaluate the provision of medical care as it relates to patient outcome, appropriateness of training programs and medical direction. There are standards for the training and monitoring of direct medical control physicians, and statewide, standardized treatment protocols. There is a mechanism for concurrent and retrospective review of out-of-hospital emergency medical care, including indicators for optimal system performance. Physicians are consistently involved and provide leadership at all levels of quality improvement programs (local, regional, state).

Progress Since 1990

The position of State Medical Director for the Emergency Medical Services Program (State EMS Medical Director) was established.

Minimum credential requirements were established for physicians serving as EMS medical directors.

Medical direction became required for all EMS providers credentialed at the levels of First Responder-Defibrillation through EMT-Paramedic.

Development of standing orders for EMS providers was enabled.

Some statewide EMS protocols have been developed.

Status

In the past eleven years a great deal has been accomplished to improve the state of EMS medical direction in Wisconsin. The current state medical director for the emergency medical services program enjoys abundant respect for his knowledge, integrity, and commitment to the program, and he is seen as highly credible. The Physician Advisory Committee has become a valuable resource for deliberating EMS clinical issues, advising the state EMS medical director, and creating useful products for the state EMS medical director, the Bureau of EMS and Injury Prevention, and local EMS medical directors. More than 250 physicians provide medical direction for the state's 450 local EMS programs. For urban and suburban programs, usually providing higher levels of service, these physicians are typically very qualified and progressive. In more rural settings, medical directors may have limited EMS-related experience and expertise, but provide this needed service in fulfillment of a sense of civic duty. Their qualifications may be no more than being a licensed physician and willingness to serve. A handbook developed by the Physician Advisory Committee is a valuable resource for EMS medical directors and is required reading.

The scope of service or practice (i.e., specific options for care) of each EMS program is, to a large extent, at the discretion of the local EMS medical director, within confines established by the Bureau of EMS and Injury Prevention. Standing orders can provide EMS personnel with the necessary authorization to deliver immediately needed treatment. Additionally, EMS medical directors may designate other physicians or non-physicians to provide on-line medical control via radio or telephone communications. However, there are no statewide standards regarding the qualifications of personnel who might deliver this service.

Emergency medical services medical directors, after due process, may restrict the clinical activities of individual EMS practitioners under their auspices. This authority with regard to EMT-Paramedics is currently pending in the rulemaking process, but is expected soon.

The accountability of EMS medical directors is difficult to establish. The authority of the state EMS medical director with regard to local EMS medical directors is ambiguous.

Recommendations

The Bureau should:

Continue to work to enhance the required credentials of EMS medical directors, based upon the level of the EMS programs involved.

Establish minimum credentials for those who may be designated to provide on-line medical control, possibly requiring completion of a base-station provider course.

Develop periodic statewide and regional forums for local EMS medical directors to meet with the state EMS medical director and other Bureau staff, discuss common issues, and share solutions, and exploit electronic options for facilitating continual interaction among EMS medical directors.

Ensure that all interfacility patient transports are conducted with adequate medical direction and appropriate availability of on-line medical control.

Develop due process guidelines for use by local EMS medical directors.

Ensure that the state medical director for the emergency medical services program is the lead contact at the Department of Health and Family Services regarding clinical care implications for any contemplated EMS system policy or procedure change.

Clarify the authority of the state medical director for the emergency medical services program with regard to local/regional EMS medical directors.

TRAUMA SYSTEMS

Standard

To provide a quality, effective system of trauma care, each State must have in place a fully functional EMS system; trauma care components must be clearly integrated with the overall EMS system. Enabling legislation should be in place for the development and implementation of the trauma care component of the EMS system. This should include trauma center designation (using ACS-COT, ACEP, APSA-COT and/or other national standards as guidelines), triage and transfer guidelines for trauma patients, data collection and trauma registry definitions and mechanisms, mandatory autopsies and quality improvement for trauma patients. Information and trends from the trauma registry should be reflected in PIER and injury prevention programs. Rehabilitation is an essential component of any statewide trauma system and hence these services should also be considered as part of the designation process. The statewide trauma system (or trauma system plan) reflects the essential elements of the Model Trauma Care System Plan.

Progress Since 1990

In response to the recommendations of the NHTSA Technical Assistance Team (TAT), a legislative study committee was convened, resulting in the passage of Wisconsin Acts 16 & 251 in 1993.

The EMS Board developed an initial Trauma Report.

In response to the 1996 Trauma report, initial trauma legislation was passed in 1997. Wisconsin Act 154, 1997, gave statutory authority for the Bureau of EMS and Injury Prevention to appoint a Statewide Trauma Advisory Council (STAC) and to develop rules and to implement the system.

The DHS and STAC were charged to prepare a report on implementation of a statewide trauma care system, to be submitted to the legislature on January 1, 2001 for review by the Joint Committee on Finance. The report outlines the development of an inclusive trauma system addressing most, but not all, of the recommendations of the TAT. The report has been submitted and is awaiting approval of the Joint Finance Committee and subsequent funding.

Status

The Department has an enabling statute to form an advisory council, to write a trauma system plan, and to seek approval and funding for the system. A state trauma coordinator has recently been hired to assist in system development and initiation. Many of the essential components of a trauma system are available, including EMS systems, a training infrastructure, and established regional trauma referral patterns. Although the Wisconsin State American College of Surgeons Committee on Trauma seems not to be engaged in the trauma system effort, that organization offers ATLS access in four sites adequate for the training needs of physicians and physician extenders. Wisconsin has 128 well distributed hospitals, two of which are Level I and ACS verified, and nine of which are identified as Level II, of which two are ACS verified.

Currently, the advancement of the trauma program is hindered by limitations in funding, shortage of staff, and by limited trauma expertise within the Bureau. The current trauma system plan does not include a provision for designation of trauma hospitals, allows level III and IV hospitals to certify without verification, and does not allow for control of participants based on system needs. The statewide trauma registry implementation strategy is slow, allowing delay in participation by smaller hospitals, uses data sets that vary by hospital size, suggests the use of data sources that may not provide accurate trauma information, and seems not to emphasize the importance of the systems component. The six year estimated development timeline will significantly delay the benefits of system and hospital quality improvement.

Recommendations

The Bureau should:

Arrange for an American College of Surgeons Committee on Trauma, trauma systems consultation.

Seek statutory authority to designate trauma facilities.

Identify or develop and fund an acceptable and consistent statewide trauma systems registry.

Continue to pursue dedicated funding for implementation and operation of the trauma system.

If the ACS verification process is to be used for designation, amend the statute to reflect a three-year designation cycle.

EVALUATION

Standard

A comprehensive evaluation program is needed to effectively plan, implement and monitor a statewide EMS system. The EMS system is responsible for evaluating the effectiveness of services provided victims of medical or trauma related emergencies, therefore the EMS agency should be able to state definitively what impact has been made on the patients served by the system. A uniform, statewide out-of-hospital data collection system exists that captures the minimum data necessary to measure compliance with standards (i.e., a mandatory, uniform EMS run report form or a minimum set of data that is provided to the state); data are consistently and routinely provided to the lead agency by all EMS providers and the lead agency performs routine analysis of this data. Pre-established standards, criteria and outcome parameters are used to evaluate resource utilization, scope of services, effectiveness of policies and procedures, and patient outcome. A comprehensive, medically directed, statewide quality improvement program is established to assess and evaluate patient care, including a review of process (how EMS system components are functioning) and outcome. The quality improvement program should include an assessment of how the system is currently functioning according to the performance standards, identification of system improvements that are needed to exceed the standards and a mechanism to measure the impact of the improvements once implemented. Patient outcome data is collected and integrated with health system, emergency department and trauma system data; optimally there is linkage to databases outside of EMS (such as crash reports, FARS, trauma registry, medical examiner reports and discharge data) to fully evaluate quality of care. The evaluation process is educational and quality improvement/system evaluation findings are disseminated to out-of-hospital emergency medical care providers. The lead agency ensures that all quality improvement activities have legislative confidentiality protection and are non-discoverable.

Progress Since 1990

A report regarding EMS data collection needs was sent to the legislature in 1995, resulting in no legislative action.

The Wisconsin EMS Information System (WEMSIS) was developed and was made available to EMS provider agencies.

As part of WEMSIS, a standardized EMS patient care record was developed.

Quality assurance components must be included in all ambulance operations plans.

Plans have been developed to provide feedback to EMS managers and providers who submit data to the Bureau of EMS and Injury Prevention.

Status

The process of evaluation and ongoing quality improvement programs remain underdeveloped in Wisconsin. At the core of the issue is the lack of a statewide system for collecting EMS-related data, lack of a central repository for EMS-related data, and lack of technical and general manpower resources to analyze what relatively little data are available. Development of the WEMSIS was quite a noteworthy accomplishment, which has received considerable recognition within and outside of Wisconsin. However, its widespread use has been hampered by variation in technical capacity among the state's EMS provider agencies and lack of technical support, among other things. Currently, less than 10% of the state's EMS provider agencies use WEMSIS. The remaining agencies do not routinely submit data to a central repository. There are no standard procedures for analyzing data submitted to the Bureau of EMS and Injury Prevention or for providing feedback to those who have contributed to the data pool. Thus, there exists a paucity of credible information to describe the current EMS system across the state of Wisconsin, or that can be used to monitor its status. There is no system that can be employed to help assess the effects of EMS system structural or process changes intended to create improvements. Attempts to determine the effects of improvement initiatives often rely on self-reporting by EMS provider agencies, qualitative data submitted by EMS providers, sampling techniques with uncertain validity, or gestalt.

The state medical director for the emergency medical services program maintains principal authority for maintaining the state's EMS quality assurance / improvement program. A number of initiatives have been completed, or are under development, intended to improve the quality of EMS in Wisconsin.

However, as the availability of current data is typically lacking, ongoing assessment of the effects of instituted changes is impossible. Although EMS provider agencies (i.e., ambulance services) are required to participate in quality improvement activities, there is no assurance that they actually are engaged. There is skepticism that many EMS providers and managers possess an adequate working knowledge of the fundamental processes of evaluation and quality improvement.

Within Wisconsin state government and the Department of Health and Family Services, there seem to be current projects and resources with which collaboration could potentially improve the ability to acquire and analyze EMS-related data. These include the Bureau of Health Information, which is currently charged to evaluate data from hospital emergency departments, a successful Crash Outcomes Data Evaluation System (CODES) project, and a funded injury epidemiologist position within the Injury Prevention Section.

Recommendations

The Bureau should:

Seek the authority for the Bureau of EMS and Injury Prevention to mandate that EMS provider agencies submit specific data elements to a central repository.

Conduct a NHTSA EMS Information Systems (EMSIS) workshop.

Conduct a NHTSA Leadership Workshop for Quality Improvement.

Assign the Injury Prevention Section's injury epidemiologist to evaluate all possible sources of EMS-related data in the state, and their potential for linkage with a central EMS database.

Develop and adequately fund the position of EMS data manager and technical consultant within the Bureau of EMS and Injury Prevention.

Develop WEMSIS as an internet-based EMS patient care report that would automatically populate the state's EMS database, enabling immediate queries at the Bureau of EMS and Injury Prevention and also limited queries by EMS provider agencies.

Provide summary feedback information, derived from submitted data, in a predictable periodic manner to the state's EMS provider agencies.

Develop a collaborative relationship between the Bureau of EMS and Injury Prevention and the Bureau of Health Information that facilitates data sharing and linkage to outcome information.

Develop ongoing quality improvement programs, including templates for evaluation and action that can be adapted at the state and local EMS levels.

Seek legislation to ensure that information derived as part of formal EMS peer review or quality improvement projects is not discoverable during cases of civil action.

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ORGANIZATIONS/APPOINTMENTS

North Carolina, Office of Emergency Medical Services, Director, 1985-1999.

National Association of State EMS Directors (NASEMSD), Past President

Executive Committee, various committee chairs, NASEMSD

National Association of Governor's Highway Safety Representatives, Liaison 1990-1991

National Association of EMS Physicians, Liaison

Management Team EMS Clearinghouse, NASEMSD 1986-1991

National Association of State EMS Training Coordinators

Past Member Board of Directors

North Carolina Division, American Trauma Society, Board of Directors

North Carolina Governor's Task Force on Injury Prevention and Control

North Carolina Medical Society Disaster And EMS Committee

North Carolina Medical Society Bioethics Subcommittee, Advisor

ASTM F. 30 Committee on Emergency Medical Services

National EMS Alliance (NEMSA)

Initial Coordination Committee Chairman

National Traffic Records Assessment Team, Member, States of Idaho and Delaware.

EMS Agenda For the Future, Steering Committee

EMS for Children program site visit States of Hawaii, Virgin Islands, Minnesota, Maine, Oregon, Florida, Colorado, and Georgia

DOT/NHTSA, Emergency Medical Services Assessment Program, Technical Assistance Team, Member, States of Louisiana, Arizona, Florida, Idaho, Kansas, Kentucky, New Jersey, Virginia, Vermont, West Virginia, and America Samoa

EMS Reassessment Program, Technical Assistance Team, Member, States of Minnesota, Alaska, Connecticut and Pennsylvania

Board of Directors, National Registry EMTs 1996-1999

NREMT, EMT, EMPT, Practice Analysis Committee

National EMS-C Advisory Committee, Member, 1996-present

NC State EMS Advisory Council (2000-2004)

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ORGANIZATIONS/APPOINTMENTS

National Registry of Emergency Medical Technicians

Board of Directors Representing NASEMSD

Planning and Data Committee, Treasurer

Chair, LEADS Committee

Policy and Procedures Committee,

Vice Chair, Board of Directors

Chairman, Board of Directors

Standard Settings, EMT-Basic Examination technicians

EMT-Basic Transition Curriculum Group

AD HOC Committee on Americans with Disabilities

EMT-P, EMT-B Practice Analysis Task Force

NHTSA

Member, Uniform Prehospital Data Set Task Force and Consensus Conference

Invited Participant

NHTSA Workshop on Methodologies for Measuring Morbidity and Outcomes in Emergency

Medical Services

Division of Trauma and EMS, HRSA

Trauma Data Set Committee

Task Force "Evaluation Trauma Systems"

Chair National EMS and Education Practice Blueprint

National Association of State EMS Directors

Past Secretary

Legal Recognition Committee

Chair, National Registry Committee

Chair, Data Committee

President

US DOT, NHTSA, EMS Technical Assistance Team, Member, Ohio, Kentucky, Oklahoma, Utah, Missouri, National Park Service and California.

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ORGANIZATONS/APPOINTMENTS

Diplomat, American Board of Emergency Medicine

Director of Emergency Services, University of Pittsburgh Medical Center

Assistant Medical Director, City of Pittsburgh EMS,

Associate Medical Director, STAT MedEvac Air Medical System

EMS Fellowship Director, University of Pittsburgh

Medical Director, Airline Medical Consultation Service, University of Pittsburgh

Pennsylvania Emergency Health Services Council

Medical Advisory Committee

EMSI Regional EMS Council

Medical Direction Committee

National Association of EMS Physicians

Society of Academic Emergency Medicine

Grants Committee

Chair, EMS Interest Group

American College of Emergency Physicians

Consulting Editor (EMS)

Annals of Emergency Medicine

Principal Investigator

EMS Agenda for the Future

EMS Agenda for the Future Implementation Guide

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ORGANIZATIONS/ APPOINTMENTS

National Registry of EMTs, EMT- Paramedic

Emergency Medical Technician-Paramedic, West Virginia

Basic Trauma Life Support, International,

Past National Faculty

WV Basic Trauma Life Support

Past Affiliate Faculty

WV Advanced Cardiac Life Support

Past Affiliate Faculty

National Association of State EMS Directors

President Elect

Conference Committee Chair, Rural Issues Committee Chair

National Rural Health Association, Chair, Ad Hoc Subcommittee for Rural/Frontier EMS

Position Paper

Centers for Disease Control and Prevention Grant

Principal Investigator, Fatality Assessment and Control Evaluation Program

National Research Council, Transportation Research Board, Strategic Highway Safety Plan,

Expert

Atlantic EMS Council

Member

National Registry of EMTs, Board of Directors, Standards and examinations Committee, Practice

Analysis Committee, Oral Station Development Committee, Data Committee, Strategic

Planning Committee,

National Rural EMS Leadership Conference, Invitee

EMS Agenda for the Future, National Leaders Conference, Invitee

EMS-C Five-Year Plan Task Force, Member

Former, National Association for Search and Rescue, Fundamental Search and Rescue Course Instructor

USDOT-NHTSA Emergency Medical Services Assessment Program, Technical Assistance Team , Member, States of Nebraska, Tennessee, Connecticut, and Pennsylvania.

Mother and Child Health Bureau, EMS for Children Partnership Grant, Principal Investigator

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National Highway Traffic Safety Administration

(March 1996 to present)

ORGANIZATIONS/APPOINTMENTS

National Association of State EMS Directors (1979-1996)

Past President

Past Chairman, Government Affairs Committee

National Association EMS Physicians, Member

American Medical Association

Commission on Emergency Medical Services (Former)

American Trauma Society

Founding Member, Past Speaker, House of Delegates

Institute of Medicine/National Research Council

Pediatric EMS Study Committee, Member

Committee Studying Use of Heimlich Maneuver on Near Drowning Victims, Member

World Association on Disaster and Emergency Medicine

Executive Committee, Former Member

Editorial Reviewer for “Prehospital and Disaster Medicine”

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ORGANIZATIONS/APPOINTMENTS

Diplomate, American Board of Surgery

Montana Trauma Registry Task Force

Montana EMS Advisory Council, Chair

Montana ATLS, National Faculty

Rocky Mountain Rural Trauma Symposium

Program Director

American College of Surgeons, Fellow

MT Committee on Trauma, Chairman 1978-1988

ACS Committee on Trauma 1986-1996

ATLS Committee/National Faculty

AD HOC Committee for Revision of Optimal Resources Document

Past Chairman, Emergency Services/Prehospital Subcommittee

Past Chairman, AD HOC Committee on Rural Trauma

Centers for Disease Control, Consensus Committee on Trauma Registries

Task Force for Acute Care System, Trauma, HRSA

USDOT, NHTSA EMS Program, Technical Assistance Team, Member, States of Alaska, Iowa, Nebraska, Tennessee, West Virginia, Indian Health Service, National Park Service, American Samoa and Alaska Reassessment.