U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

EMERGENCY MEDICAL SERVICES PROGRAM UPDATE

EMS PROGRAM BACKGROUND

Section 402(a) of the Highway Safety Act of 1966 (Title 23, U.S.C.) states: "Each State should have a highway safety program approved by the Secretary, designed to reduce traffic accidents and deaths, injuries...resulting therefrom. Such programs should be in accordance with uniform standards promulgated by the Secretary...such uniform standards should include...emergency services." On June 27, 1967, the Secretary of Transportation issued a series of 18 Highway Safety Program Standards, of which Standard 4.4.11, concerned Emergency Medical Services. Soon after this time, on January 17, 1969, the first Emergency Medical Services Program Manual, implementing Standard 4.4.11, was published. This manual was later revised in 1974.

From these early beginnings until approximately 1981, both Section 402 and 403 programming closely adhered to Standard 11 objectives. Specifically, the goal of both the research and demonstration program and the state and community grant program was to improve prehospital emergency medical services (EMS) in the areas of planning, training and personnel, communications, and transportation. The controlling philosophy of the program was that by improving prehospital emergency services in general, the highway injured patient would be better served. Our sphere of influence in EMS development was limited to those elements of emergency medical care up to the emergency room door. This sphere of influence was reinforced by memoranda of agreement with the Department of Health and Human Services who operated their own categorical grant program to enhance EMS, outside those areas classically handled by NHTSA.

This program was quite successful in that standards for ambulances were developed and ambulances were purchased to these specifications. Training standards and materials were developed and Section 402 funds were utilized to implement these training programs. Communication standards were designed, and then the hardware was purchased with the aid of state and community highway safety grant funds. There is hardly a person in EMS today that does not recognize the significant contribution of highway safety programming to improving the quality of prehospital care in this country.

FORCES OF CHANGE

As a result of the Omnibus Reconciliation Act of 1981, the Department of Health and Human Services' (DHHS) EMS categorical grant program was folded into the Preventive Health Block Grant. Program guidance, previously provided by DHHS to regionalized EMS systems, ceased. In many cases, regional EMS authorities within states no longer operated. Of equal importance, was the loss of a strong federal partner in the development and enhancement of EMS--the Interagency Committee on EMS disbanded and Memoranda of Agreement between various Federal agencies became inactive.

At about the same time (February 4, 1982), NHTSA published a notice of proposed rulemaking to determine those state and local highway safety programs most effective in reducing "accidents, injuries, and fatalities." As a result of public hearings held later that month and comments submitted to the docket, EMS was identified as one of six priority highway safety programs. Although EMS was identified as one of the infamous "six-pack" programs within NHTSA, and while the EMS community looked to NHTSA for federal leadership in the development of EMS programs, we quickly realized that we could not fill the financial or leadership gap left by DHHS.

There was increasing concern that the nearly $750 million invested by NHTSA and DHHS to improve EMS between 1967 and 1980 may have been wasted. But this did not happen. As indicated in a recent General Accounting Office (GAO) Report (GAO/HRD-86-132), the states increased their financial role and leadership responsibilities to reverse the downward trend in EMS. The GAO reported, "Although total funding has not returned to 1981 levels, funding increased by 28% from 1983 to 1985. Moreover, the states have increased their share of funding from 27% in 1981 to 50% in 1985." Indeed, at least eight states have created continuing funding sources for EMS by "add-ons" to either vehicle registration or traffic violation fees.

NEW FOCUS ON TRAUMA

Largely as a result of these forces of change, NHTSA reviewed its policies and programming with respect to EMS. We began to ask ourselves: "What business should we be in?", and "How should we get there?". The answers to these questions were evident.

First, we recognized that we needed to make EMS an integral part of highway safety. From a proactive standpoint, we knew that people involved in emergency medical care had a high degree of credibility when it comes to health promotion activities, and we recognized their value in highway injury prevention. We needed to involve them more in our drunk driving prevention, safety belt, and other highway safety campaigns and programs.

From an intervention standpoint, we needed to focus our limited resources on enhancing those elements of EMS which would most benefit the highway injured patient, i.e. trauma care. While this could be viewed as a focus of our program efforts, it also represents an expansion into some new territory. Instead of limiting our programming to the prehospital side of EMS--up to the emergency room door--we recognize the need to go beyond these limits into the systems of integrated prehospital/hospital trauma care delivery.

To "get there", we use the same tools and approaches used in our other emphasis program, i.e. technical assistance, networking, and community-based planning and programming. We no longer set the standards, but we participate as a partner in the development of national consensus standards through the ASTM F30 Committee on EMS. The EMS network of professional organizations does not stand apart from highway safety networks, but is integrated into the other networks to promote injury prevention. We no longer just support massive training programs of Basic, Intermediate, and Paramedic EMS skills, but also enhance the skills of these professionals, as well as nurses and physicians in the delivery of trauma care. We are less interested in buying more ambulances, and more interested in how available and innovative transportation can best be utilized to shorten the time from injury to appropriate definitive care. From an evaluation perspective, we no longer want to just "bean count" EMS structures, we want to know what percent of the people who sustain serious and life-threatening highway injuries receive a timely and appropriate EMS response; what percent of the highway injury incidents involved alcohol, did not use safety belts or other available safety devices; and what was the relationship between these variables and eventual patient outcome--all of which can improve community-based highway safety planning efforts.

WHAT IS THE PAY-OFF?

While motor vehicle related injuries result in about one-third of the annual traumatic deaths and constitute about 10% of all injuries, they represent about 60-70% of the need for comprehensive prehospital and hospital trauma services. The quality of prehospital services is highly correlated with injury outcome. Indices assessing the risk of death from motor vehicle injury indicate significantly lower risk as prehospital services improve in quality. One State, having a highly trained cadre of prehospital providers, reports a dead on arrival rate for injury patients which is less than half of the national average (5.6% vs. 14.5%). Even greater improvements in injury outcome can be appreciated where high quality prehospital services are integrated with designated trauma centers into true systems of trauma care. Where this occurs, reductions in preventable mortality of 20-30%, reductions in overall mortality of 10%, reductions in morbidity as measured by length of hospital stay of 20%, and the return of over 95% of the serious traumatically injured patients to normal productive lives without residual disability can be expected.

WHERE ARE WE AND WHERE DO WE GO?

On the prevention side, a survey conducted by the NHTSA Regional Offices indicated that 38 states have some type of highway injury prevention activity being conducted by EMS/trauma programs. However, few of these programs are statewide, and EMS/trauma remains a largely untapped resource for highway injury prevention initiatives.

Only 21 states currently have an active trauma center program, and in many of these states, the integration of prehospital services with trauma center services into true systems of care has not been completed. Much work needs to be done in the areas of evaluation, planning, and implementation if we are ever to achieve our goal of comprehensive trauma care systems nationwide.

Key to integrating EMS/trauma into highway injury prevention activities, and creating a highway safety initiative to catalyze trauma system development, is coordination between leaders at the state and local level in highway safety and their counterparts in EMS/trauma. Unfortunately, coordination between these officials remains a problem. In commenting on the administration of NHTSA State and Community Grant Program, the General Accounting Office commented, "Highway safety and EMS programs...are administered by separate agencies but are often not well coordinated, according to state and local officials...better coordination is needed at the state level when federal DOT funds are used for EMS purposes."

In order to resolve this problem, we must rededicate ourselves to creating and fostering working relationships between highway safety and EMS. This means that everytime we go into an area to meet with highway safety officials, we take time to meet with EMS officials. It means that we promote the use of EMS/trauma groups and people in enforcement, alcohol and safety belt task forces and in Community Traffic Safety Programs. It means that we learn systems of care and communicate these plans to highway safety officials to determine what assistance highway safety can provide. It means that we provide forums for the exchange of information between EMS and highway safety. Finally, it means that we promote state and community highway safety planning that emphasizes improvements in trauma care which are within the scope of the state EMS plans.

REPORT ON FY 1988 ACCOMPLISHMENTS

A. TRAUMA SYSTEMS STUDIES

- We completed two trauma system development studies, one by a task force in Dade County, Florida, the other by Abt Associates, Inc. in Cambridge, Massachusetts. Both projects involved site visits to trauma systems across the United States, to look at the issues that States and communities are facing as they begin to develop trauma systems, and to learn what works and what doesn't work.

- The study conducted by Abt Associates, Inc. identified three institutional factors that, if they work harmoniously together, promote the development and well-being of a trauma system: (1) comprehensive trauma legislation; (2) leadership by a regional/local EMS agency; and (3) funding for uncompensated care.

- The Dade County Task Force recognized four major components essential in the success of a trauma system: (1) a management and organizational structure must be in place for any system to function efficiently; (2) funding sources must be established for each level of operation; (3) support from the medical community is essential to assure the long-term success of the trauma system; and (4) an effective prehospital system must be in place to assure system access and quality patient care.

B. TRAUMA SYSTEM DEVELOPMENT

- We developed a guide entitled: "Development of Trauma Systems: A State and Community Guide." The guide is in lesson plan format, and is a one-day training class for government officials at the Federal, State, and local level who are responsible for EMS, health systems, and highway safety. The guide provides the conceptual framework around which trauma systems can be developed. The document is in draft format and will be in final form by early 1989, at which time we hope to conduct the training in any state that may be interested.

C. KEY ELEMENTS OF STATE TRAUMA LEGISLATION

- Studies conducted by NHTSA identified that comprehensive trauma legislation is a key factor in the success of trauma systems. In response to that finding EMS Staff developed a white paper, "Key ELements of State Trauma Legislation." This paper identified key provisions which, if included, would ensure the structure and authority to implement an efficient and effective trauma care system

D. AIR-MEDICAL TRAINING PROGRAM

- Completed and released Air-Medical Crew: National Standard Curriculum. This program was developed for NHTSA under a joint contract between AAMS (Association of Air Medical Services) and Samaritan AIREVAC of Phoenix, Arizona. The course provides a standard curriculum to be taught nationwide to all levels of Air-Medical Crew Members (ACM) (EMT, EMT-I, EMT Paramedic, Nurse and Physician). The purpose is to ensure that all ACMs are minimally qualified to deliver care in the aviation environment. This course does not apply to qualifications, education and training required of specialty care responders and other health care professionals.

E. PREHOSPITAL REFRESHER TRAINING PROGRAM

- Completed the First Responder, EMT-Ambulance and EMT-Paramedic National Standard Curriculum Refresher Training Program. These programs were developed under contract by the National Council of State EMS Training Coordinators and are distributed by the National EMS Clearinghouse in cooperation with the Council of State Governments. This is an effort to be more responsive to those who need EMS training materials.

F. EMS TECHNICAL ASSISTANCE

- EMS Divsion developed a Technical Assistance Program to support the technical evaluation of existing and proposed emergency medical services (EMS) programs. NHTSA serves as a facilitator by assembling a team of technical experts who have demonstrated expertise in EMS development and implementation. These experts

have demonstrated leadership and experience through involvement in national organizations committed to the improvement of emergency medical services throughout the country. Selection to the Technical Assistance Team is also based on experience in special areas identified by the requesting State.

- Each evaluation is composed of several standard components: transportation, communication, facilities, evaluation, training and certification, public information and education, resource management, regulation and policy, trauma systems, and highway safety and emergency medical services. In addition to assessing the effectiveness of each component individually, significant consideration is given to the interrelationship of the components in producing a comprehensive and integrated system of emergency medical services.

- In 1988 EMS staff completed EMS assessments of the Commonwealth of Puerto Rico and the State of Colorado, and a minimum of five assessments are planned for 1989.

G. TRAUMA PREVENTION

- An essential part of Emergency Medical Services is trauma prevention. The Division developed, through the National Council of State EMS Training Coordinators (NCSEMSTC), a training program entitled "Occupant Protection Systems: Lesson Plan and Instructor's Guide for EMS Personnel", which describes in detail the facts and strategies for discussing safety belt use with the general public, and with the EMS community.

- The EMS Divsion is currently developing, through the same national organization, a curriculum on impaired driving for EMS providers to use in their prevention activities. This curriculum is similar to the one produced on occupant protection.

- A three year project entitled "Networking for Alcohol Programs and Trauma Systems of Care" was awarded to the National Association of State EMS Directors. The objectives of this project are to foster a close working relationship between the State EMS Directors, State Alcohol and Drug Abuse Directors, and the Governor's Highway Safety Representatives; to train teams for a region or community within four States to develop a plan and implement alcohol prevention projects: and to identify EMS needs within these same four regions to develop a plan and implement actions to promote trauma care development.

H. EMS INFORMATION RESOURCE MANAGEMENT

- Information resource managers from 16 national EMS organizations attended a NHTSA sponsored workshop on September 8-9, 1988, in Oklahoma City, OK, to consider ways and means for coordination of the development, cataloging, and dissemination of information needed nationally by the public and by EMS interest groups.During the meeting there were several bilateral agreements made regarding cooperation on specific projects.

- There was unanimous agreement among attendees to continue to explore the possibilities of improved communications and cooperation in EMS information resource management. A resolution was unanimously approved directing NHTSA to work with the attendees to produce an updated directory of EMS information resource managers.

- Attendees requested that NHTSA convene another meeting to consider: arrangements for broadening participation in the coordination process, the definition of guidelines for continuing the coordination process on a voluntary basis, and development of specific provisions, such as a jointly sponsored national EMS information directory.

I. EMS TELECOMMUNICATIONS STANDARDS DEVELOPED

- The 9th draft of a Standard Guide for EMERGENCY MEDICAL SERVICES TELECOMMUNICATIONS was forwarded for concurrent consensus balloting by the Communications Subcommittee and the Main Committee of ASTM (American Society for Testing and Materials) Committee F30 on Emergency Medical Services. This proposed standard has been presented to the Society for final approval.

J. WORKSHOP ON AIR-MEDICAL SERVICES

- NHTSA provided grant support to the New York State Police Aviation Unit to sponsor a workshop on Air Ambulance Services. Participants reached consensus on 20 leading factors that should be studied by the Office of Technology Assessment in establishing public and private ambulance services. These factors were related to quality of patient care, flight safety, regulation and management, and cost. Coopers and Lybrand have prepared a report on the proceedings of the workshop.

K. NATIONAL EMS WEEK

- National EMS Week was held September 18-24, 1988, with many activities taking place across the United States to honor emergency medical services providers. Examples of activities which took place include: signing of proclamation by Governor, distribution of public education materials, health fairs, public school presentations, "EMS Person of the Month" award, safety education, mock emergencies, "Saved by the Belt" award, just to name a few.

- The President signed a proclamation designating the week of September 18 as National EMS Week. The EMS Division developed a packet of information entitled "Your Time To Shine" which provided ideas on activities for EMS providers to conduct during the week. The packet of materials included: a planning guide with sample proclamations, newspaper releases, fact sheets, a brochure entitled "Don't Guess Call EMS", and television public service announcements focusing on EMS. The EMS Division also made the arrangements for a satellite feed of the television public service announcements on September 7, 1988.

L. NHTSA CO-SPONSORED TWO CONFERENCES WITH CDC

- In January, NHTSA, Center for Disease Control (CDC), American College of Surgeons (ACS), and American College of Emergency Physicians (ACEP) co-sponsored a national consensus conference on trauma registries.

- Proceedings of the conference will be published in the near future. As a result of the conference, CDC is making available the minimum data set in electronic format.

- NHTSA also co-sponsored the second Injury in America Conference in San Antonio, Texas in September.

M. PROGRESS ON TWO SMALL BUSINESS INNOVATION RESEARCH GRANTS

- One Phase I and one Phase II SBIR grants were completed during FY88. Under the Phase I project, HumRRo International Inc. developed interactive laser disk training modules for the EMT-Basic level. This interactive computerized optical laser disc (video-disk) training system will be tested in FY 89 in Pittsburgh, PA, at the University of Pittsburgh Medical Center. This project was undertaken because of the concern for decreasing retention skills of prehospital providers, and developing new training technologies to increase the retention of prehospital skills.

- A Phase II grant was completed with Association Management and Consultation, Inc. which resulted in a training tape for new prehospital providers on trauma system structure. This 16-minute video depicts what could happen to a motor vehicle trauma patient in two different situations: one where there is no "trauma system" and the other where there is a "trauma system" in place. Although the medical care given in both situations is correct, the delay in transport time, transport to local community hospital, etc. in the situation where there is no "system", results in a different outcome for the patient than in the situation with a "trauma system". It is likely this tape will also be used as part of the State and Community Guide on Trauma System Development training program.

MAJOR INITIATIVES FOR FY 1990

A. RURAL TRAUMA

- NHTSA will undertake a major initiative in rural trauma. Trauma is the third leading cause of death in the United States, and yet relatively little is known about the epidemiology, especially in rural areas. Over the past decade attention has been focused almost exclusively on the treatment of trauma in the urban setting, while only a few have looked at the problem of trauma managment in rural areas.

- Certain factors in rural trauma, such as the large geographic areas that EMS systems must cover, will always present challenges to the health care system. Another factor unique to rural trauma is the infrequent nature with which severe trauma cases are seen. Rural EMS and hospital staff may be called upon to assess and stabilize patients with injuries as severe as those seen by their urban colleagues, but on a very infrequent basis. Even in light of this infrequent contact, 70% of the highway fatalities occur on rural highways. Patient assessment, stabilization, and transport will continue to be the key parts of the well known "golden hour." Regionalization of rural trauma care with the development of tertiary trauma care and rapid air transport have definitely contributed to improved patient outcomes.

- The challenge facing rural health care practitioners is how to optimize patient care during that golden hour of trauma care. NHTSA intends to identify those factors and establish priorities to optimize patient care for the rural trauma patient.

- NHTSA will collaborate with other Federal agencies, such as the Department of Agriculture and the U.S. Public Health Service, along with other organizations, such as the Mid-America Council, to identify the issues facing rural health care providers.

B. INJURY PREVENTION PROGRAM

- NHTSA will initiate an injury prevention program focused at the rural, suburban and urban community levels, involving emergency medical services, public health professionals, and traffic safety professionals.

- Traumatic injuries are the third leading cause of death overall and the leading cause of death for persons under age 39. The majority of this tragic loss occurs on our highways through motor vehicle and pedestrian incidents. Clearly, trauma is a major public health problem in our country today.

- It seems only logical to form a coalition between emergency medical services and public health providers, since both are usually located in the same facility in the state, that being the Department of Health. Traffic safety professionals can add to this coalition the technical assistance needed on prevention issues and the financial assistance to seed fund effective local prevention programs. NHTSA will work cooperatively with the Department of Health and Human Services (Maternal and Child Health, Public Health Service, and Centers for Disease Control), National Association of Governor's Highway Safety Representatives, National Association of State EMS Directors, National Association of EMTs, National Study Center for Trauma and Emergency Medical Services, and State officials to initiate this national focus on trauma prevention.

C. REVIEW OF TRAINING MATERIALS

- NHTSA will initiate a major review of existing training materials for accuracy and applicability, and the need to develop additional trauma training materials for prehospital providers.

- The National Association of Emergency Medical Technicians, National Association of State EMS Directors, and other prominent national professional organizations have identified a need to improve basic and continuing education of prehopsital providers. Current training practices unduly tax the time of a largely volunteer prehospital force. Yet, research has indicated that important prehospital treatments of the severely injured are omitted even by the most highly trained emergency medical technician (EMT).

- There is an obvious need to explore other means for the training and continuing training needs of our prehospital providers. In a research report conducted in FY 1988 on "Trauma System Development", a recommendation was made to NHTSA to assist EMS regions in improving the training for EMTs and paramedics, and to provide training in Prehospital Trauma Life Support, Advanced Trauma Life Support, and Basic Trauma Life Support. As was seen in this research effort, well-functioning trauma systems raise the expectations of what EMS should do, and these expectations can only be met by better trained, more professional EMTs and paramedics.

D. COMPREHENSIVE TRAUMA LEGISLATION

- NHTSA will undertake a project to assess the status of trauma legislation in the States and provide assistance in developing new legislative approaches to address the issues mentioned above. We will work with the National Association of State EMS Directors to codify the national voluntary standards developed through the ASTM process which will aid States and communities as they develop their legislative approaches.

- The need for trauma legislation was identified in two research projects on trauma system development, as one of the key factors in developing and implementing successful trauma systems. Legislation must:

    - establish a designating authority for trauma centers; require plans to be drawn up for establishment and functioning of the parts of the trauma system (prehospital care, trauma centers, base hospitals, air-medical programs, quality assurance, communications systems, etc.)
    - it must establish EMS regions and regional/local trauma agencies
    - it must provide for the legal status of trauma centers
    - it must establish the liability of hospitals, physicians, and EMTs, and
    - it must provide funding for the trauma system and actively address the problem of uncompensated care.

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- Trauma System Development
- Trauma Prevention Initiatives
- National EMS Week Activities
- National Trauma Conferences
- Trauma Legislation
- Development of Trauma Systems: A State and Community Guide
- Public Information and Education Activities
- Pediatric Trauma Issues/Safe Kids Campaign
- Lifesavers/7 - National Conference on Highway Safety

EMS BIBLIOGRAPHY

Trauma System Development

"Trauma System Development," Abt Associates, Inc., Cambridge, MA, NHTSA, DOT HS 807 257, Final Report, March 1988.

NHTSA undertook this research study to see if there were any true trauma systems, how the manner in which trauma centers are designated affects them, and what the financial impact of trauma systems are on prehospital services and on hospitals. We found that the manner of trauma center designation affects a trauma system: the stronger the designation, the better the system is likely to be. A trauma system increases costs of prehospital care; it also puts burdens on hospitals. Three major institutional factors promote development of a trauma system: legislative action; leadership by the regional EMS agency; and solutions to the problem of unfunded trauma care.

"Dade County Trauma Task Force: A Multi-system Comparative Analysis," Metro-Dade Fire Department, Miami, FL, NHTSA, DOT HS 807 365, Final Report, March 1988.

The Dade County Trauma Task Force was charged with the responsibility of conducting a comparative analysis of selected trauma systems across the U.S. Members were to formulate an action plan for Dade County by providing recommendations based on what was identified in the other communities as successful. Four major components were identified: (1) a management and organizational structure must be in place; (2) funding sources must be established for each level of operation; (3) support from the medical community is essential to assure the long-term success of a trauma system; and (4) an effective prehospital system must be in place to assure system access and quality patient care.

"Development of Trauma Systems: A State and Community Guide," NHTSA, March 1989.

This guide is in lesson plan format, and is a one-day training class for government officials at the Federal, state, and local level who are responsible for EMS, health systems, and highway safety. The guide provides the conceptual framework around which trauma systems can be developed. The course is administered by NHTSA, Office of Enforcement and Emergency Services, in conjunction with the Transportation Safety Institute. For more information about this course please contact Ms. Susan Ryan, NHTSA, EMS Division, 202-366-5440.

"Emergency Medical Services and Trauma Care Systems: Developing Better Approaches to Care for Life-Threatening Traumatic Injury in States and Communities, and Ideas for Federal Activity as Supporting Partner," NHTSA, Report to the Secretary of Transportation by the National Highway Safety Advisory Committee, September 1986.

This document is a report of findings from the National Highway Safety Advisory Committee to the Secretary of Transportation as a result of a review of national trends in EMS and trauma care. The report identifies and recommends action to be taken by Federal agencies. The Committee's major conclusions was that "...fast, effective trauma care must be available to every community in the country. When communities coordinate EMS with effective trauma care systems, trauma death and disability are reduced."

Prevention

"Occupant Protection Systems: Lesson Plans and Instructor's Guide for EMS Personnel," DOT HS 807 181, October 1987.

This curriculum was developed under a grant with the National Council of State EMS Training Coordinators. The primary objective of the training program is for EMS providers to use these materials to educate the general public that prevention is indeed the most successful key to the reduction of mortality and morbidity in the event of a motor vehicle crash. Secondly, this curriculum is designed to convince the first responders and EMTs that each and every time they enter the ambulance as a driver, passenger, or emergency care provider, they must fasten their own safety belts.

"Alcohol Prevention Curriculum for EMS Providers," NHTSA, March 1989.

This curriculum was also developed under a grant with the National Council of State EMS Training Coordinators. The purpose of this training program is to involve the EMS professional in prevention efforts in their states and local communities. First, it will educate the EMS professional about the historical aspects of alcohol and alcohol addiction. Secondly, it will serve as a tool which can be used to assist the EMS professional in delivering a message to other EMS professionals and to the general public emphasizing the risk involved with alcohol-impaired driving.

"South Dakota Injury Prevention Program by Emergency Medical Technicians," NHTSA, Final Report, June, 1988.

In 1987, a grant was awarded to the South Dakota EMT Association, a volunteer organization, to conduct an injury prevention program statewide. The Association determined that the best way to reduce motor vehicle crashes was to educate the public about driving sober and the importance of safety belt use. The plan developed by the Association to educate the general public included the involvement of each of one hundred and twenty six licensed emergency medical services who employ over four thousand EMTs and paramedics. The program includes a lesson plan and video, with the theme Eliminate Major Trauma. A mascot "Major Trauma" was developed from this theme. "Major Trauma" is depicted as a bad guy who loves crashes, death, injuries and trauma. He is always at crash scenes and the goal is to elminiate him. This is the final report from the prevention project.

"EMS Networking for Prevention," DOT HS 807 214, NHTSA, Final Report, January 1988.

A grant was awarded to the Florida Dept. of Health and Rehabilitative Services, Office of Emergency Medical Services, to develop a comprehensive prevention program to be administered by EMS providers. The objective of the project was to increase public awareness, particularly teenagers, of the issues of drinking while under the influence of alcohol and drugs, and use of safety belts. A videotape and lecture were developed for presentation by EMS personnel to high school students during scheduled classroom time. The program is entitled "Drunk Busters." This is the final report from the project.

"Technical Assistance for EMS Providers in Montana on Trauma Prevention," DOT HS 807 216, NHTSA, Final Report, January 1988.

A grant was awarded to the Critical Illness and Trauma Foundation, Boulder, Montana, to alert EMS providers to the importance of their role in trauma prevention; to encourage those EMS providers to conduct trauma prevention programs both to their peers and to the general public in their local communities; and to involve the EMS system in the current networking support program. This is the final report of this project.

"A Comprehensive Prevention Program by Emergency Medical Services in New Mexico," DOT HS 807 180, NHTSA, Final Report, October 1987.

A grant was awarded to the New Mexico Health and Environment Department, Primary Care and EMS Bureau, to assist them to implement an EMS-focused, comprehensive prevention program to increase public awareness of the issues of driving while under the influence of alcohol and drugs, and use of motor vehicle occupant protection. The prevention program was organized around EMS-related themes and carried out by EMS professionals who are present in every community and have the opportunity to interface with the general public. This is the final report of this project.

State Trauma Legislation

"Key Elements of State Trauma Legislation," NHTSA White Paper, October 1988.

This white paper highlights the key statutory requirements needed for a successful trauma system. The key requirements include: a designated lead agency; planning and integration; standards of trauma care for facilities seeking trauma center designation; data collection and evaluation; and system funding.

Public Information and Education for EMS

"Public Information, Education and Relations for EMS Providers," DOT HS 806 984, NHTSA, June 1986.

This document was prepared under a grant with the New Mexico Dept. of Health and Environment, Primary Care and EMS Bureau. The document was prepared as a reference manual for EMS providers in conducting public information and education programs and working with the media. It discusses such topics as: print media, photography, television, radio, and other public information activities.

"Your Time to Shine--EMS Week Planning Guide," DOT HS 807 254, NHTSA, May 1988.

This planning guide provides the EMS professional with a "how to" manual on activities for national EMS week. It includes such things as planning a press conference, gaining visibility with the media, coordinating with highway safety offices and other groups, raising funds, and other special projects. It also includes fact sheets on EMS, drunk driving, safety belts, motorcycle helmets, and pedestrian safety, along with a variety of resource lists.

"Public Information and Education Demonstration Project for Emergency Medical Services," Volume I and II, DOT HS 807 354, DOT HS 807 355, NHTSA, Final Report, July 1987.

A public information and education demonstration project was conducted in three sites using mass media, as required under Section 209 of the Highway Safety Act. The purpose of the campaign was to inform the public about EMS so that they would better know what EMS is, how to access it, and what to do if they should be first on the scene of an accident where a person had apparently been hurt. In addition, the objectives of the study were to assess public perception of risk of eventual death from a motor vehicle accient related injury as a function of public awareness of EMS; to increase citizen knowledge of the steps to be taken if a motor vehicle accident injury is encountered, and to identify the public information techniques, methods, and practices that can be effectively used by Emergency Medical Services Systems to limit the frequency of traffic accidents, and to limit the severity of motor vehicle crash-related injuries. This is the final report from the demonstration project.

Technical Assistance to States for Evaluating Their EMS Systems

"Emergency Medical Services System Review of the Commonwealth of Puerto Rico," DOT HS 807 238, NHTSA, Final Report, February 1988.

In 1987, the Commonwealth of Puerto Rico, Department of Health, requested the assistance of NHTSA in establishing a technical assistance team which would review Puerto Rico's EMS provider training program, the regional communication system, the trauma system, as well as make specific recommendations on proposed Section 402 expenditures relating to EMS. NHTSA's Regional Office and the Division of Emergency Medical Services collaborated in establishing a team with specific expertise in trauma systems, facilities, training, and communications. This is the final report from the evaluation and includes specific recommendations for the Commonwealth of Puerto Rico.

"An Assessment of Emergency Medical Services in Colorado," NHTSA, Final Report, December, 1988.

In 1988, the Colorado Office of Highway Safety, in concert with the Colorado Department of Health, EMS Division, requested the assistance of NHTSA in evaluating the Colorado EMS system, and NHTSA agreed to utilize its technical assistance program to conduct the evaluation. NHTSA developed a format whereby the Colorado Department of Health provided comprehensive briefings on the EMS system, based on an outline developed by the technical assistance team. Issues discussed by the team included: transportation, communications, facilities, evaluation, training and certification, public information and education, injury prevention, highway safety and EMS, and trauma systems. This is the final report from the evaluation, which includes specific recommendations for the State of Colorado.

Trauma Registries

"Research for the Florida Model Trauma Registry," Contract No. DTNH22-87-Z-05147, NHTSA, Final Report, May 1988.

In 1987, a grant was awarded to the Florida Department of Health and Rehabilitative Services, Office of Emergency Medical Services, to develop a model statewide trauma registry. The Florida EMS Office worked with the Florida State University to development the model trauma registry. They undertook a review of trauma registry activities in other states, conducted a two-day workshop involving national and state trauma registry experts, attended the Centers for Disease Control trauma registry consensus conference, and reviewed existing literature on trauma registry development and implementation. The result of these activities has been the development of a recommended minimum data set, a proposed set of initial trauma registry reports for use by managers and clinicians, and a set of general recommendations related to trauma registry implemention.