Testimony of

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Committee on Transportation and Infrastructure's Subcommittee on Aviation

On the
Oversight of Helicopter Medical Services

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Mr. Chairman, Ranking Member Petri, and Members of the Subcommittee:

Thank you for the opportunity to share our perspective on the topic of *Oversight of Helicopter Medical Services* with the Subcommittee. I am Sandra Kinkade, the President of the Association of Air Medical Services, or AAMS, and the CEO of my own international consulting firm called Kinkade International. During the course of my career, I have worked in many different facets of the medical transport community, including serving as a flight nurse in Reno, Nevada and Nashville, Tennessee, as well as the EMS Marketing Manager of Bell Helicopter Textron before starting my own firm. I have also volunteered extensively in industry associations in order to work towards advancing the field. I served on the Medical Conditions Working Group during the Congressionally-mandated Ambulance Fee Schedule Negotiated Rulemaking arranged by the Centers for Medicare and Medicaid Services (CMS). I am one of the past presidents of the National Flight Nurses Association, now known as the Air and Surface Transport Nurses Association (or ASTNA), and now serve as President on the AAMS Board of Directors.

Background

Established in 1980, AAMS is a long-standing trade association representing those who provide air medical transport service, using both helicopters and fixed wing airplanes, throughout the United States. Each year, approximately 400,000 of our nations' sickest and most critically injured patients are transported by one of our 300 members' 800 helicopters operating out of almost 700 bases. Essentially every 90 seconds an air ambulance responds to a patient in need here in the U.S.

Why Air Medical Transport is needed

These numbers highlight the fact that helicopter medical services provide a critical component of our nation's EMS response system – a system that provides a continuum of

care from the first responder on a scene (typically police or a fire department) to local ground ambulance services to the air ambulance and the hospital emergency department. In such a system, helicopter EMS is utilized to provide **both** a higher level of medical care (than is typically found on a ground ambulance) as well as a speedier response. An air medical service provides a highly sophisticated medical crew with physician-level capabilities typically composed of a specially-trained critical care nurse and paramedic. Other specialist caregivers/physicians (such as neonatologist, respiratory therapists, and others) may be added as needed, depending upon the patient's condition. Almost exclusively, these crews handle the most critically ill and injured patients, giving these caregivers more hands-on experience in dealing with severe cases than the ground EMS responders who see a large population of less emergently ill patients. The crew, coupled with the advanced drugs, blood and blood products, and more sophisticated patient monitoring tools and equipment on board a medical helicopter, means that the medical interventions usually found only in hospitals are brought **to** the patient during transport. The helicopter crew brings tertiary care to a location that would usually only have primary care. This higher level of care is especially important in rural areas which may have limited ground ambulance services available.

Of course, a speedy response is also a key reason to use air medical transport. Good management of a patient's condition requires minimizing the time that patients are out of a hospital and away from a physician's direct care. This is even more critical for the most badly injured or sickest patients. "Time is human tissue" is a common medical saying in EMS circles that means death and disability from severe injuries, heart attacks, strokes, and other time-dependent conditions often can be avoided if the right care is provided quickly enough. Helicopters can fly point-to-point, minimizing the amount of time it takes to get the patient to the destination hospital, and avoiding the traffic delays experienced by ground ambulances. Fixed wing air ambulances (airplanes) can cover much more distance in less time than ground ambulances, and sometimes provide a more comfortable ride (where less than optimal road conditions result in discomfort for some patients). In rural areas, where ground ambulance coverage may be sparse, and 9-1-1 service may be non-existent, air ambulances can save precious minutes and provide the life-saving critical care interventions needed by a patient.

Patient conditions typically necessitating air medical transport include:

- Medical conditions such as burns, strokes, cardiac conditions, neonatal problems and high-risk pregnancies, and diving accidents;
- Trauma, including traumatic brain injuries, whether as a result of an automobile accident or a recreation mishap (sadly, such as the one recently experienced by noted actress Natasha Richardson).
- In rural or frontier areas, helicopter medical services and fixed wing air ambulances may play an especially important role. Sometimes, a medical helicopter may actually be closer to the scene of a rural accident than the closest ground ambulance. Or, a medical helicopter may actually be closer to the scene than the closest hospital is (when being transported via ground). In these cases, the medical helicopter may serve as the primary ambulance or the primary provider of advanced life support medical services in that area.

- Where blood supplies or availability of other medical supplies or equipment are limited/non-existent, the air medical service may bring these resources to the hospital with the patient.
- In mass casualty events, an air medical service may be called to the scene or to a local hospital to augment the local medical staff to stabilize patients needing special care before transport.
- In disaster cases (such as hurricanes), air medical services can transport current hospital patients and nursing home residents out of harms' way before the event, and can transport medical supplies in and the sick/injured out after the event has occurred should road passage be limited.

About 60% of air medical patient transports are considered inter-facility transports, where the physician attending a patient in a hospital emergency room or in an in-patient hospital bed, makes the determination that the patient needs to be moved to another treating facility. In many of these inter-facility transports, the determination to transport the patient by air is made because the patient requires a higher level of medical care en-route to the new hospital (often called the receiving or tertiary-care hospital) than is available in a ground ambulance. This higher level of care needed by the patient could consist of more advanced medical personnel, a multitude of drugs, or sophisticated medical equipment only available in an air ambulance.

The remaining 40% of these transports are called scene transports, where a trained medical first responder makes the determination that the patient on-scene requires quicker transport to care than a ground ambulance can provide, more advanced care en-route, or both. In some parts of the country, particularly in areas where ground ambulance coverage is not as plentiful as it is elsewhere, an air ambulance may be called to move a patient to a medical facility in order to ensure that the limited ground ambulance resources remain available to cover the community.

Air ambulances are used for organ procurement/transport in a very small percentage (less than 1%) of all air medical transports. In these cases, a fixed wing aircraft is used to transport a team of transplant surgeons and other medical crew to the location of a donor for organ procurement and the quick transport of the organ(s) and medical team to the patient needing the organ(s). Most times, the fixed wing airplanes used are executive charter aircraft, although occasionally a medically equipped airplane will be used. Even more rarely, a medical helicopter or ground ambulance will be used for transports of shorter duration.

In short, the use of air medical helicopters is an essential component of the health care system. Air medical transport saves lives and reduces the cost of health care. It does so by minimizing the time the critically ill and injured spend out of a hospital, by bringing more medical capabilities to the patient than are normally provided by ground emergency medical services, and by helping get the patient to the appropriate specialty care quickly.

History

The use of helicopters for transporting patients began during the Korean conflict in the 1950's. Because ground transport was often impossible or impractical, the military started using helicopters to pick up critically wounded soldiers; in fact, they flew over 22,000 of them to secure designated areas where they could benefit from life- or limb-saving care. During the Viet Nam conflict, the military used dedicated medical helicopters and personnel for this same function. The Army's experience there showed that field emergency care and rapid medical evacuation of over 800,000 troops greatly reduced mortality.

It wasn't until the 1970's when the first medical helicopters were put into use for civilian patients. After the publication in 1966 of a landmark white paper by the National Academy of Science called *Accidental Death and Disability: The Neglected Disease of Modern Society*, there was recognition that the military model could be adapted to benefit those injured in accidents, particularly car crashes. The Military Assistance to Safety & Traffic (MAST) program was started in 1970; the Maryland State Police aviation program began in March of 1970, and St. Anthony's Hospital in Denver, Colorado, developed the first civilian hospital-based medical helicopter service in 1972.

The 1980's was a time of rapid growth for this new component of the medical community, as cities and states around the country looked to add helicopter services to their emergency medical service (EMS) response systems. In the 80's, many localities, particularly those with trauma centers, worked to build a helicopter EMS for their citizenry. In 1980, there were some 32 helicopter emergency medical services (HEMS) programs with 39 helicopters flying more than 17,000 patients each year. By 1990, the number of services grew to 174 services with 231 helicopters flying nearly 160,000 patients per year.

Growth in the number of services slowed somewhat but did continue in the 1990's, as the medical community established that the use of medical helicopter transport could benefit patients with medical conditions *other than trauma* – such as cardiac care/heart attacks, traumatic brain injury/strokes, complications of pregnancy, certain conditions in children, and other medical and surgical complications. This meant that the helicopter would not only fly to the scene of an accident, but also to a local community hospital or a rural hospital where an attending physician would determine that not only did his/her patient need a medical intervention not available at that facility, but that the patient also required a higher level of medical care (more advanced drugs, more sophisticated critical care medical skills, or more advanced medical equipment) en-route than is typically available via ground ambulance.

Another period of rapid growth for HEMS has been the current decade. In 2002, there were roughly 400 dedicated EMS helicopters. Now, in 2009, there are 800 civilian helicopters regularly flying EMS missions. The reasons behind this recent growth are varied, but are directly linked to on-going changes in our population and in our nation's health care system, including:

1. According to the US Department of Health and Human Services, there were 605 million persons worldwide aged 60 years or older in the year 2000. This number

is projected to increase to almost 2 billion by 2050. The increasing number of aging baby boomers means that the number of incidents of potentially-catastrophic, time-dependent medical conditions (such as strokes and cardiac arrest) will rise substantially over this same time period.

2. The closure of emergency departments and hospitals, as well as local, community-based ambulance services has resulted in higher demand for HEMS. According to the American Hospital Association, emergency departments in community hospitals have declined from just over 5000 in 1992 to approximately 4600 in 2002, while emergency department patient visits continue to increase. (The number of emergency department visits in the U.S. increased by 36% to 119 million in 2006 from 90 million in 1996, according to a CDC report on hospital use.) As a result, air medicine is becoming the health care safety net and access point for many rural individuals and communities. The closure of some emergency rooms has also helped to cause overcrowding in some hospitals' emergency departments; this coupled with the lack of critical care and specialty beds often causes hospitals to divert EMS patients to other facilities, again increasing the need for medical transportation.

3. Rural hospitals have been undergoing a rapid change in mission and structure during the last 50 years. In an effort to help maintain a sufficient number of hospitals, the Centers for Medicare & Medicaid Services (CMS) has developed the Critical Access Hospital program which pays full cost for Medicare beneficiaries. This has come in exchange for structural changes in the hospital, which include reducing beds to 25 or less and shortening average length of stay to < 96 hours. The expected result is to keep hospitals open, which is a tremendous benefit to rural communities. However, it also leads to a concurrent need to transfer complex patients to distant trauma and tertiary care centers, requiring a rapid and even more sophisticated medical transport system.

4. As medical interventions become more sophisticated and require an ever-growing number of expensive technologies and equipment, the health care system has relied on the concept of regionalization of these expensive services so that not every county or town needs to find funding for the purchase, management, and maintenance of this equipment. Thus, not all local hospitals will have the equipment or manpower needed to treat a patient's condition. Instead, we have seen the development of cardiac centers, burn centers, catheterization laboratories, stroke centers, and the like. Centralizing health care facilities for high acuity conditions has meant that patients with these conditions need to be transported more frequently, thereby increasing the need for air medical transport.

5. The shortage of medical specialty practitioners (such as trauma surgeons, maxillofacial surgeons, neurosurgeons, etc.) has meant that these specialists (and the procedures they perform) are less available in non-urban settings. Air medical services become the rural, and sometimes suburban, safety net for patients whose conditions require these procedures.

6. The change in reimbursement instituted in 2000 by the Centers for Medicare and Medicaid Services (CMS) through the implementation of an Ambulance fee schedule meant that reimbursement for transports of Medicare beneficiaries would become much more predictable and uniform across the country. This meant that current air ambulance services, and those wishing to provide such services, could develop financial projections before opening a service in a particular area. For those areas where demand was sufficient, new services and/or new bases were opened. Coverage across the country expanded so that a larger percentage of the US population had access to air medical transport services.

Air medical transport service providers have many different corporate structures. Half of the AAMS membership is composed of services offered by non-profit hospital systems. Sometimes otherwise-competing hospitals in a locality will partner to create an independent, non-profit organization to operate what is called a consortium service. A growing number of services are offered by community-based services, usually for-profit companies. A small number of services are offered by government agencies at the state or local level.

Deciding when a Helicopter Medical Service is Requested

Deployment of air medical resources is a medical decision that is based on protocol or guidelines, and is predicated on patient need. In trauma cases, this need is identified by looking at a patient's physiologic stability, specific anatomic injury, and the kinematic forces experienced during the event. In most settings, this decision is a combination of either direct medical order via radio/telephone or standing orders based on trauma scores and protocols. Always, dispatch, triage and transport decisions by helicopter EMS personnel need strong oversight by physicians.

Medical helicopters do not self-dispatch. The request for an air medical transport is made generally made by a physician, nurse, law enforcement personnel, fire service personnel, ground ambulance paramedic or other certified emergency medical personnel following local, regional or state policy. Once a request is received, the pilot in command is given information about the request such as the location/destination, but is not provided information about the patient or the patient's condition. That pilot makes the decision about whether or not the flight request can be accepted based on available weather information, condition of the aircraft, and other aviation-related factors. Once the pilot decides the flight request can be accepted, the medical crew is briefed on the patient's condition and steps are taken towards flight lift off.

There are a number of nationally-recognized guidelines for the establishment of these policies, or protocols, surrounding the use of air medical transport. In 1990, AAMS published a "Position Paper on Appropriate Use of Air Medical Services." It established a set of circumstance-specific and patient-specific criteria for approving flight requests and for retrospectively reviewing flight request decision-making. This position paper has

been used by a number of states to review utilization appropriateness and have found compliance with the established criteria to be high. [1] [2]

More recently, this standard has been updated by the National Association of EMS Physicians (NAEMSP) in a position paper published in 2003. Called the "Guidelines for Air Medical Dispatch," they have been endorsed by AAMS as well as the Air Medical Physician Association (AMPA), and represent an update from earlier national consensus guidelines published by NAEMSP in 1992 and 1994 and the AAMS 1990 document. Other important and widely used guidelines have been developed by the Committee on Trauma of the American College of Surgeons (ACS), the American Academy of Pediatrics (AAP), the Centers for Disease Control and Prevention (CDC), and the American College of Emergency Physicians (ACEP).

In addition to specific patient needs, there are many other variables that need to be taken into account in any air medical decision matrix, such as:

- necessity of specialized care on-scene and en-route that is not available from first responders or other ground ambulance crews;
- physician-level interventions for airway and trauma management;
- the specific geographic environment – including distance and traffic patterns;
- the availability of necessary medical resources (i.e., closest, most-appropriate hospital); and
- considerations for maintaining continued local ambulance coverage which is an issue particularly important in rural EMS settings with limited transport resources and personnel.

Sometimes the hospital typically considered the closest and most-appropriate may not have the medical intervention or personnel available that is needed by the patient (often a problem in areas where coverage by medical specialists is difficult at night or on weekends). Other times, sending a patient by ground ambulance over a longer distance may be medically appropriate but will remove the only ground ambulance in the area from availability for the rest of the community. It has been noted that helicopter medical services can cover the geographic area of roughly seven ground ALS (advanced life support) ambulances.[3] Thus, state and local EMS systems will often tailor national guidelines so that they meet the specific needs and particular circumstances found in the communities they serve.

In its award-winning paper called *Air Medicine: Accessing the Future of Health Care*, the Foundation for Air-Medical Research and Education identified two other tools for measuring utilization appropriateness and improvement. One of these tools is a utilization

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[1] Benson NH et al. Air medical transport utilization review in North Carolina. Prehospital Disaster Med 1993; 8(2):133-137.
[2] Vermont Health Authority Committee. Vermont helicopter committee report. 1997.
[3] Hankins DG. Air medical transport of trauma patients. Prehosp Emerg Care. July-Sep 2006;10(3):324-327.

predictor for HEMS. [4] The second is a model for the optimal placement of trauma centers and helicopters called TRAMAH (Trauma Resource Allocation Model for Ambulances and Hospitals) [5] developed by the Leonard Davis Institute for Health Economics. This model could be used to compare existing actual patterns of activity for future resource allocation. A recent study using this methodology identified that helicopters significantly increased the number of persons who can reach a trauma center within the "golden hour," but also found that over 46 million persons in the US cannot reach a trauma center in a timely manner. [6] Other research using the same databases indicates a correlation between lack of timely access to trauma centers and access to HEMS. [7]

During time-dependent emergencies, medical practitioners are forced to make decisions about the provision of medical care based upon limited information. This is especially true in EMS. First responders need to assess the scene of an emergency and make a decision about the medical care needed by a patient based on what they see and learn at hand. Without some of the advanced diagnostic equipment available in a hospital, EMS crews must make the best decision they can on behalf of the patient. This means that sometimes they will *over-triage*, or provide a level of care that they learn later was not necessary. Also called "defensive medical practices," they are designed to encompass conditions such as internal injuries that may not be symptomatic at the scene of a crash. Such practices ensure optimal patient care so that patients who really do require help are not denied the care needed to save their lives. (Multiple trauma papers suggest an over-triage rate of 25 – 30% may be most appropriate, although the American College of Surgeons says the rate may need to be as high as 50%.)

Funding for Air Medical Services

Funding for air medical transport, much like that for all medical transport, is based on actual patient transports performed. No payment is provided for "readiness" costs. Similarly, in medically emergent conditions typically dealt with in air medical transport, the service provider is prohibited by law from determining in advance if the patient is covered by insurance or has the financial means to pay for the service. This means that the air medical service provider may provide a high percentage of uncompensated care. In the high-fixed cost world of air medicine, this means that the-per trip cost of a transport can be quite high.

One of the largest payers for air medical services is the federal Medicare program, which established in 2000 a national fee schedule for air medical transports. This fee schedule is composed of two parts – a per transport fee based on the zip code of the point of pick up for the patient (so that some geographic differences in costs of living may be recognized)

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[4] Macione AR, Wilcox DE. Utilization prediction for helicopter services. Ann Emerg Med 1997; 16(4):391-398.

[5] Branas CC, ReVelle CS, MacKensie EJ. To the rescue: Optimally locating trauma hospitals and helicopters. Leonard Davis Institute of Health Economics Univ. of Pennsylvania. LDI Issue Brief. 2000; 6:1. Available at: http://www.upenn.edu/ldi/publications.html. Accessed, 2009, April 15.

[6] Branas cc et al. Access to Trauma Centers in the United States. JAMA 2005;293(21):2626-2323.

[7] Flanigan M. et. al. Assessment of Air Medical Coverage Using the Atlas and Database of Air Medical Services (ADAMS) and Correlations with Reduced Highway Fatality Rates, Air Med J 2005;24(4):151-163.

plus a per-mileage fee based on transporting the patient to the closest appropriate facility. There is no additional reimbursement for number of drugs administered, the level of health care practitioner providing medical care to the patient, or the number of aviation safety-enhancing technologies on board. This fee schedule often serves as a model for private insurers as well.

Industry Safety Efforts

Safety – whether we're talking about safety involving aviation operations, employee workplace safety, or patient care safety – is a cornerstone of our Association. At its very inception and in its key documents, AAMS has recognized the advancement of safety principles as a core reason for its existence. Our vision statement clearly states that *"...we will improve the safety and health outcomes of the populations we serve."* Furthermore, our core value statements identify safety as an integral part our culture:

AAMS Core Value Statements
Commitment – Evidenced in behavior that:

- Places patient care before self-interest
- Celebrates common dedication to teamwork, compassion for patients, and a passion for safety and quality care

Integrity – Evidenced in behavior that:

- Demonstrates commitment to high professional standards
- Promotes ethical behavior among all individuals involved in the work of the association

This focus on safety connotes an appreciation that air medical transport, much like any other medical intervention, comes with inherent risk that must be recognized, studied, understood, and mitigated at every turn. Through the years, AAMS has been in the unique position to work with its members, their customers, public policy makers, safety experts, and others to help air medical service providers to do just that. Among some of the safety activities undertaken by the Association and its members are:

- On-going industry education and training around safety-enhancing procedures, tools, and practices offered at every conference, meeting and program sponsored by the Association.
- Special conferences dedicated to safety topics, such as the implementation of night vision goggles (NVG's) and other safety-enhancing technologies.
- Special Safety Congresses, or Summits, held to address identifiable safety concerns.
- Creation of the Air Medical Safety Advisory Committee, the AAMS Safety Committee, and other safety-focused groups to study and strategize about better safety practices.
- Establishment of safety standards, position papers, recommended practices and other safety benchmarks members can use in setting policies and procedures.
- Encouraging, funding and supporting research on safety topics and data collection efforts that build the knowledge base surrounding air medical safety.

- Development and support of the Commission on Accreditation of Medical Transport Systems (CAMTS).
- Forming a consensus-building working group participating in the Part 135 Aviation Rulemaking process that recommended specific safety enhancements to the FAA.
- Development of an industry standard around AMRM (Air Medical Resource Management, or CRM specifically for air medical services) training. Promotion to and ultimate adoption by the FAA as the regulatory standard.
- Support of targeted legislative efforts to enhance safety and standardize air medical operations.
- Collaboration with the FAA, the NTSB and others to identify new approaches to safety.
- Establishment of a safety awareness and safety resource program for members called "Vision Zero."
- Partnering with other associations on the International Helicopter Safety Team with the stated goal of reducing helicopter accidents by 80% in the next 10 years. One of the results of this collaborative effort is the SMS toolkit designed for smaller operators.
- Participation in the RTCA Working Group tasked with the development of minimum operating standards for helicopter TAWS; and
- Supporting the continuation and use of the Helicopter EMS Weather Tool developed by the FAA in collaboration with the National Center for Atmospheric Research (NCAR).

Despite all of these efforts, the air medical community has experienced too many accidents. The 2008 calendar year brought with it the highest number of fatal accidents the air medical community has ever seen, sending shock waves through our small industry and the closely-knit network of professionals in the field. In response, the community has redoubled its safety efforts, participating in a multi-day series of hearings held by the NTSB and recommending further safety actions:

- that all air medical operations at night be conducted using either night vision goggles (NVGs) or enhanced vision systems (EVS), or be conducted under instrument flight rules (IFR) in a timeline established by the FAA in coordination with industry;
- that the FAA should prioritize and accelerate the implementation of Automatic Dependent Surveillance-Broadcast (ADS-B) systems for the HEMS operating environment and implementation of associated weather reporting and communication enhancements;
- that those conducting air medical services eliminate launch or response time requirements or guarantees in helicopter medical operations;
- that the FAA, in coordination with industry, should establish and monitor requirements, procedures and standards for air medical services in the implementation of formalized, enhanced operational control systems in order to increase management oversight and observation of crew performance;

- that the FAA, in coordination with industry, should establish requirements, procedures and standards for devices, technology and procedures used to support air medical aircraft for the enhancement of Flight Operations Quality Assurance (FOQA) programs and subsequent accident investigations;
- that the FAA, in coordination with industry, should produce materials for community emergency response services and medical facilities to address issues surrounding the phenomenon of "helicopter shopping";
- that the FAA should conduct a study of flight crew fatigue factors;
- that the NTSB should work with industry and the IHST to enhance its air medical accident investigation methodology to establish a clearer focus on the role of human factors in accident causation; and
- that the FAA, the NTSB, and industry focus future efforts on establishing best practices and ensuring the root causes of air medical accidents have been identified via such data driven initiatives as offered by the IHST program. Identified safety interventions and recommendations should focus on relevant issues that address those root causes.

In addition to these new actions, AAMS is committed to several on-going safety initiatives:

- Participation in the IHST;
- Expansion of the Vision Zero awareness program;
- Development of a special Safety Management School for air medical service providers;
- Funding new research on human factors associated with the implementation of new safety technologies;
- Design of educational programs for those who request air medical transport about the most appropriate use of these services;
- Creation of new tools, models, and guides designed to help air medical providers with the rapid implementation of safety enhancements; and
- Collaboration with air medical service providers in Europe, Australia and elsewhere to identify trends and the latest in safety enhancing strategies to assist in the earliest possible adoption by the air medical community in the U.S.

Oversight of Helicopter EMS

The operation of air medical transportation is a unique endeavor that crosses multiple boundaries and requires familiarity with a multitude of disciplines. It involves more than one "industry" in that it entails the performance of both aviation and health care activities. It engages more than one political entity in that it is a service that easily crosses political boundaries at the local, state and, in the case of fixed wing air ambulances, even national levels. It involves a multitude of personnel – medical care practitioners, aviators, communications specialists, and business managers.

Thus, it is no surprise that the oversight of air medical services, and helicopter medical services in particular, occurs at several levels simultaneously.

At the Federal level, the Federal Aviation Administration provides standards and oversight on aircraft certification, pilot credentials, and overall aviation operations. Air medical service providers maintain the ability to operate under the economic authority and approved trade practices as defined and approved by the Department of Transportation. Federal health care payers, such as the Medicare and Medicaid (managed by the Centers for Medicare and Medicaid Services, or CMS under the Department of Health & Human Services), the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS), and TRICARE all set operational standards and criteria for use of air medical services based on their reimbursement guidelines that are frequently adopted by other health insurance plans. The Federal Communications Commission (FCC) provides oversight of some aspects of air medical communications operations. The Department of Homeland Security regularly sets requirements related to airspace security and cross-border operations. The Federal Emergency Management Association (FEMA) oversees emergency response by medical helicopter services during disasters. The Occupational Safety and Health Administration (OSHA) and the Centers for Disease Control and Prevention (CDC) establish guidelines and requirements for employee workplace safety.

At the State level, State EMS offices and health departments will establish licensure requirements (minimum standards) for both the helicopter medical service as well as the individual medical personnel providing patient care; will set appropriate use protocols; and will provide guidelines for how the EMS system in their jurisdictions will function. Depending upon the specific location, certain counties, cities and other localities will establish their own EMS system guidelines as well.

AAMS understands that Congressman Altmire seeks to increase medical helicopter safety through H.R. 978, "*Helicopter Medical Services Patient Safety, Protection, and Coordination Act.*" The concepts contained in this bill surrounding the enhancement of state oversight of medical helicopters are highly controversial in the air medical transport community. In fact, our membership is divided on the issue, and there are many vocal proponents and opponents of any legislative effort to accomplish such a goal. As a result, AAMS has adopted a position of neutrality on this particular bill and on the issue in general.

Despite this multitude of federal and state regulations, the air medical transport community has been a long-term supporter of increasing voluntary standards of excellence. AAMS and its members came together in the early 90's to establish and fund the development of a separate accreditation process (or "gold standard") now called the Commission on Accreditation of Medical Transport Systems, or CAMTS. AAMS officially recommends and supports the adoption and practice of CAMTS standards by its members. AAMS also develops position papers on a number of safety and operational topics that it uses to educate members, policy makers, and the public. AAMS highlights best practices by recognizing outstanding safety accomplishments through its annual awards program, and supporting the work of the Air Medical Safety Advisory Committee in its development of Recommended Safety Practices. Other professional societies in the community have also established numerous professional certification programs and

position papers or policies on safety issues. One of the best examples of the industry's commitment to voluntary standards and oversight is the long-running voluntary safety reporting program known as CONCERN. Through the CONCERN Network, air medical service providers report to the entire community any information they have about an accident, incident or near miss. The reports from the CONCERN Network submitted by these services are regularly used as training and awareness-building tools by the safety committees operating at individual air medical bases.

Any discussion of oversight of air medical services would not be complete without the recognition that customers also provide a measure of oversight as well as federal and state regulators. Insurers and payers set licensure and operational requirements. Sending and receiving physicians and hospitals will require certain policies and procedures. Local and regional EMS systems will influence decision-making around operations. And, of course, public perception surrounding the need for air medical services and the limitations under which these services are offered often help determine just how and when a service is provided in a particular community.

How Congress Can Help

As legislators, Members of Congress can play a unique role in creating an environment in which air medical services may be conducted more safely and efficiently in order to provide the greatest benefit to our nation's sickest and most seriously injured patients. It is important, however, that Congress recognize the best way to engage in the process of improving safety in air medicine.

The Federal Aviation Administration (FAA) has worked with AAMS over the last few years to swiftly and effectively implement changes to the regulatory framework under which air medical services operate. The dialogue between industry and the regulators at the FAA has provided the opportunity for best practices to be quickly identified and incorporated into notices dealing with risk assessments (later incorporated into Operations Specifications); for the development of consensus around a requirement for increasing HEMS weather minimums above and beyond those required of any other Part 135 operator; and for the speedy implementation by industry of new operational control requirements. AAMS encourages Congress to move cautiously before setting any requirements that would hinder the FAA's ability to work with industry to attain new safety enhancements.

That said, the FAA is an agency that, because of its history, is largely organized around the needs of the Part 121 fixed wing community. The resources available to work on helicopter issues in general, and helicopter EMS services in particular, are thus limited. Congress could provide a noticeable measure of support for safety in helicopter medical services by providing adequate funding for the FAA in this area. For instance, increased availability and better training of inspectors could help in getting aircraft safety modifications certified in a more timely manner.

The same is true for the low-altitude infrastructure in this country. Much of the safety tools available through the FAA are geared towards fixed wing aircraft flying at 35,000

feet. Helicopters need a low-altitude infrastructure that would provide an incentive for operators to invest in IFR equipment and training.

Thus, Congress should consider taking the following actions to support enhanced safety in helicopter medical operations:

- Authorize and appropriate AIP (Airport Improvement Program) funds for helipads at hospitals and airports used for air medical transport. These funds could be used for the purchase of Automated Weather Observation Systems (AWOS), instrument and global positioning system (GPS) approaches, helipad development, and other aviation specific programs.
- Authorize and appropriate funds to study, establish and maintain a dedicated low altitude helicopter IFR infrastructure to include associated approach and departure procedures to facilitate a seamless transition from visual flight rules (VFR) to IFR operations.
- Authorize and appropriate funds for the FAA to expand its capabilities surrounding the certification and approval of the use of Night Vision Goggles (NVGs) in air medical operations.
- Require that the same federal aviation safety standards and oversight for air medical operations apply to all operators of these services.
- Provide a financial incentive for air medical operators willing to make significant investments in safety enhancements while operating under an inadequate reimbursement system that is designed to limit funding instead of providing a structure that rewards safety and quality.
- When considering any requirement for the use of enhanced safety technology, recognize that the provision of air medical transport varies from place to place because the needs of disparate EMS systems across the country are also varied. Typical weather patterns, patient mix (including demographics as well as special/seasonal recreation or traffic patterns), general availability of ground EMS services and specialized health care services, and other criteria are likely to have an effect on the choice of aircraft, the type of medical crew on board, and the effectiveness of various safety enhancements. Any Congressional mandate should provide flexibility for air medical service providers to utilize the safety enhancements that will maximize the safety benefit for the specific type of operation and conditions in any specific locality.

AAMS commends Congressman Salazar's current initiative to advance helicopter EMS safety in introducing H.R. 1201, "*To increase the safety for crew and passengers on an aircraft providing emergency medical services.*" Overall, AAMS is supportive of anything that will help us make our community, and the missions we conduct, safer. H.R. 1201 is a good start in addressing some of the concerns identified by the NTSB in its 2006 study; however, we believe the bill will be much stronger and industry will be much better able to support the bill and implement the stated changes, should a few minor language changes be made.

- AAMS has gone on record a number of years ago in support of "all 135" transport for air med (Section 2A of the bill). That said, we remain concerned that a wholesale requirement to go all 135 without looking at the nuances of doing that will actually hinder safety because it may have the unintended consequences of limiting access to IFR flight, for instance. To rectify this, we recommend that Section 2A be modified to require the Administrator to conduct a rulemaking so that the FAA and industry can work together to make sure there are no negative unintended consequences.

- We fully support Section 2B about requiring a flight risk evaluation program.

- We support the intent of Section 2C dealing with flight dispatch, although we believe that some of the language is vague and confusing. We fully support the intent of having the FAA work collaboratively with industry to address this issue.

- Section 2d, paragraphs 1 & 2, continues to be problematic for helicopter EMS operations. Again, the intent is good, but there seems to be a misunderstanding about what can be accomplished on helicopters. The FAA has very specific definitions about what constitutes a "flight data and cockpit voice recorder" and that equipment is large, very heavy, and expensive. There are now new technologies that perform the same function that are smaller, lighter and more affordable that we are encouraging our members to use. Thus, we would like to see the language in this Section changed to something more on the order of "equipment/devices that perform the function of recording voice communications and flight data."

Conclusion

AAMS and its members believe that the only appropriate safety goal for this community is one of zero accidents. We stand ready to work collaboratively with legislators, regulators, and the public to combine our best thinking and target our efforts to maximize the effectiveness of safety initiatives and to dramatically lower the risks associated with air medical transportation.

Yet, we must establish effective safety solutions that allow for the continuation of this necessary service – a service that serves as a critical safety net for large parts of the nation's emergency response and healthcare systems. Limiting the use of air medical services is not a safety solution; simply flying less may lead to fewer accidents, but that solution would not necessarily increase aviation safety in air medical services. Unless the number of accidents per patients transported is reduced, the industry has failed to increase safety levels.