



Air Medical Operators Association

Response to National Transportation Safety Board EMS Public Hearing,

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Overview

The Air Medical Operators' Association (AMOA), the trade association representing 92 percent of the air medical helicopter operators in the United States, thanks the National Transportation Safety Board (NTSB) for their continued interest in advancing safety in air medical transportation. The NTSB's commitment to air medical transportation safety and the recommendations made by the Board in 1988 and 2006 have led to some of the most significant advancements in air medical transportation safety. Air medical transport is not without risk, yet we firmly believe that through our cooperative efforts, we can further advance the safe operation of air medical services with enhanced training, technology, data collection, and oversight.

To that end, AMOA joined with the Helicopter Association International (HAI) and the Association of Air Medical Services (AAMS) in submitting to the NTSB fourteen recommendations. These recommendations represent the industry's commitment to the following advances:

- New technologies for obstacle and terrain avoidance
- Advanced training methods
- Improved data collection and analysis
- Enhanced operational control and management oversight

Further, these recommendations represent the need for the federal government to provide, commensurate with its commitment to large commercial operations, practical improvements in low-altitude infrastructure and weather reporting. We ask that these recommendations augment, and where appropriate, supplement previous NTSB recommendations for safety in air medical services.

The recent hearing on air medical transportation safety was thorough in its scope, with several aspects of air medical transport discussed and questioned. While this investigation clarified numerous questions on air medical services, we believe that some issues require further clarification, for the benefit of both the NTSB and the public. Air medical transportation services are similar to any other on-demand aviation operation. However, the commitment to providing these services to the public in the safest manner possible has led to focused safety initiatives that have far outpaced other types of on-demand services. This document more fully describes some of the points that may have been overlooked by the Board of Inquiry. We also hope this document will further inform the NTSB and the public on issues that may have been presented with insufficient detail during the hearings.

Finally, while the NTSB's commitment to increasing safety in air medical transport is clear, the recent Board of Inquiry hearing on HEMS did not adequately identify the notable safety enhancements already under way in helicopter operations. Many of these enhancements are the direct result of the 2006 NTSB recommendations, and represent a commitment to those recommendations and to the industry's position that one accident is one too many.

Association Recommendations to the NTSB

AMOA would like to restate the following recommendations to the NTSB, similar to those that appeared in the document entitled "Joint Association Statement to the NTSB" and submitted to the Board before the hearing as exhibit 4B.

AMOA believes the focus and efforts of the NTSB hearings should be to promote safety initiatives that will lead to a rapid decrease of air medical accidents. AMOA recommends the following initiatives:

1. AAMS, HAI and AMOA should assist the NTSB to review and amend the 2006 recommendations and develop subsequent NTSB recommendations. These should be practical recommendations for daytime, nighttime and instrument flight rules (IFR) operations that enhance or replace previous recommendations that are no longer practical or applicable.

The Associations believe in order to effectively increase Helicopter Emergency Medical Services (HEMS) safety, the NTSB should consider the following recommendations:

- a. All air medical night operations should either utilize night vision goggles or enhanced vision systems, or be conducted under IFR in a timeline established by the FAA and in coordination with those conducting air medical operations.
- b. Congress should authorize and appropriate Airport Improvement Program funds for helipads at hospitals and airports used for air medical transport for the purchase of Automated Weather Observation Systems (AWOS), instrument and global positioning system (GPS) approaches, helipad development, and other aviation specific improvements.
- c. Congress should authorize and appropriate funds, no later than FY 2010, to study, establish, augment, and maintain a dedicated low altitude helicopter IFR infrastructure to include associated approach and departure procedures which facilitate a seamless transition from visual flight rules (VFR) to IFR operations.
- d. The FAA should prioritize and accelerate the implementation of Automatic Dependent Surveillance-Broadcast (ADS-B) infrastructure to HEMS operating environments and implementation of associated weather reporting and communications enhancements.
- e. The same federal aviation safety standards and oversight for air medical operations should apply to commercial and government (public or public use) operators of these services.
- f. Those conducting air medical services should eliminate launch or response time requirements or guarantees in helicopter air medical service operations.
- g. The FAA, in coordination with the Part 135 Certificate Holders conducting air medical services, 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.
- h. The FAA, in coordination with the Part 135 Certificate Holders conducting air medical services, 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.

- i. The FAA, in coordination with the Associations and those conducting air medical services, should produce materials for community emergency response services and medical facilities within the operating area of an air medical service in order to address issues of “helicopter shopping”.
 - j. The FAA should conduct a study of flight crew fatigue factors.
2. The NTSB should work with the Associations and the International Helicopter Safety Team (IHST) to enhance the methodology of the NTSB in investigating air medical accidents to establish a focus on the role of human factors in accident causation.
 3. The Agencies, the Associations, and those conducting air medical services should 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 the IHST program. Identified safety interventions and recommendations should focus on relevant issues that address those root causes.
 4. The Agencies, the Associations, and those conducting air medical operations should make every effort to ensure the continued safety of air medical patients and crews while reaffirming the commitment to the public trust.

We hope these recommendations serve both to inform the NTSB and the public on the air medical operators’ profound commitment to safety, and that all stakeholders, including the federal government, need that level of commitment to advance and fund the safety infrastructure for all low-altitude operations in the United States.

Discussion of Hearing Topics

Business Models and Competition

We believe the three general structures for air medical transport programs were covered well during this panel. These structures include traditional programs, community-based programs and public (government-operated) programs.

- **Traditional programs:** Traditional programs are so named because they were the most common structure early in the history of air medical programs. They are characterized as being owned by a hospital (which assumes responsibility for the medical side of the program) contracting with an aviation company (which provides pilots, mechanics and, typically, aircraft and assumes responsibility for the aviation side of the program). The medical transport teams and medical direction and training are provided by the hospital.
- **Community-based programs:** Community-based programs have become increasingly common due to the growth of the air medical industry over the past decade and as a product of increased demand for air medical transport. These programs are separate from local hospitals, at least in terms of ownership, risk and financial support. All employees of community-based programs (medical and aviation) are directly employed by the owner of the program, which also operates as its own aviation vendor. Community-based programs are governed by a board of directors and may be for profit or not-for-profit.
- **Public programs:** Public programs are the least common of the three models for air medical transport. While not as common as traditional and community-based models, public programs may be the dominant programs in some regions. Public programs are characterized by being owned and operated by a government entity, usually a state or county government department. While most public programs operate as their own aviation vendor and own their own aircraft, they can operate under contract for aviation services with an aviation vendor. Similarly, public programs may utilize hospital medical personnel, or may hire their own medical personnel.

We would like to reinforce that there are a large number of variations within these structures with many different types of “hybrids” or joint ventures between hospitals and air ambulance certificate holders.

Several of the panelists spoke on inadequacies of the government payers, despite the development of the Medicare fee schedule. The CMS representative on the panel confirmed that while the BBA 1997 required the development of a new ground and air ambulance fee schedule, it was required to be budget neutral. Studies on the relative costs for air and ground ambulances were conducted, but the ultimate fee schedule was determined entirely by negotiation, and there were insufficient funds available to pay either ground or air ambulances (of any model) their full costs.

State Oversight and Competition

- **AMOA Position on State Oversight:** *AMOA believes that the balance of regulatory power is appropriate, that the national system has been operating well since 1978, and no changes in federal law are necessary.*

The issue of state “Certificates of Need” (CON) laws was briefly discussed. The courts and the DOT have determined that a State does not have the ability to limit the number of aircraft operating in a State

because of legal protections granted under the Airline Deregulation Act (ADA). It was suggested by two of the panelists that States should have the ability to regulate air ambulances via a CON process. Two panelists suggested that States should have the ability to regulate air ambulances via a CON process, but under questioning, one of the panelists representing NASEMSO could not provide specific recommendations because of his own confusion with ADA regulations.

With respect to State regulation, we believe that DOT and the Courts have been consistent and have offered clear guidance. This guidance makes it clear that States may not limit the number of aircraft based within their jurisdiction, limit their charges, or interfere in any way with the licensing of pilots or the operation of the aircraft. However, States do retain complete authority over their EMS systems, including scene dispatch protocols, medical training, licensure, and other health care standards. Several states have attempted to usurp the economic authority of the DOT and the safety authority of the FAA by developing their own regulations in these areas. Fortunately, the DOT and the Courts have intervened to reaffirm the law and its public policy purpose.

CON's are designed to limit, rather than expand, competition. This often results in decreasing access. Most State healthcare CON laws can be traced back to a 1974 federal requirement tied to funding, which was repealed in 1987. CON's were designed to control cost in a time when hospitals and many other healthcare providers were reimbursed based on cost. The CON process was never very effective at controlling costs, and now that hospitals are no longer paid based upon their costs the value of CON's in any aspect of healthcare is questionable. In 2003 the Federal Trade Commission and the Department of Justice Antitrust Division conducted 27 days of hearings on competition and policy concerns in the healthcare industry, interviewing nearly 250 panelists.

In a written statement prepared on February 23, 2007, Mark J. Botti, Chief, Litigation I Section, U.S. Department of Justice, Antitrust Division, who had participated in the research, criticized the CON process, stating:

“The Antitrust Division’s experience and expertise has taught us that Certificate of Need laws pose a substantial threat to the proper performance of healthcare markets. Indeed, by their very nature, CON laws create barriers to entry and expansion and are thus anathema to free markets. They undercut consumer choice, weaken markets’ ability to contain healthcare costs, and stifle innovation. We have examined historical and current arguments for CON laws. They do not provide an economic justification for depriving consumers of the benefits of free markets. To the extent non-economic goals are pursued, the use of CON laws to help pursue them imposes substantial costs. Those goals can be better achieved through other mechanisms.”

Unfortunately, the CON process can become a political tool used by incumbents to keep competition at bay by creating barriers to entry.

Mark J. Botti further testified:

“CON laws appear to raise a particularly substantial barrier to entry and expansion of competitors because they create an opportunity for existing competitors to exploit procedural opportunities to thwart or delay new competition.”

With respect to competition, while air medical providers do not self dispatch, they do compete in many markets. In the case of a scene (EMS) request, the closest helicopter is usually sent. However, in the case of an interfacility transport, which represents more than half of all air transports, the patient (or sending

physician or hospital acting on their behalf) has the ability to choose between air providers when more than one air provider is in reasonably close proximity. This choice may be made based upon any number of factors including availability, aircraft cabin size, medical capability, and perceived quality. Some air ambulance providers distinguish themselves by “specializing” in neonatal and pediatric patients, while others may focus on complex cardiac patients and market their ability to transport a patient on an intra-aortic balloon pump.

- **AMOA Position on Competition:** *AMOA believes that this level of competition is healthy and advantageous to the public, and encourages all providers to improve the quality of its business practices.*

The air medical industry is committed to safety throughout the industry, and should remain under the exclusive regulation by the FAA.

Furthermore, with respect to the ability of a State to limit the number of aircraft operating within a State, not only is this in conflict with the Airline Deregulation Act (ADA), but we believe it would be bad public policy which unnecessarily restricts the number of aircraft that are available to respond to regional or national medical emergencies.

- **AMOA Position on Free Market Control:** *AMOA believes that a free market is the best way to determine the optimal number of aircraft in any given market at any given time.*

The research conducted by the FTC and the DOJ Antitrust Division has confirmed that the CON process is a poor substitute for a free market. Only 6 states maintain certificate of need requirements, making it appear that the vast majority of states in this country agree with this public policy assessment.

- **AMOA Position on Medical Oversight:** *Outside of the issues of CONs and the ability of states to limit competition, we fully support, promote, and encourage the wide ranging ability and authority of state EMS and other medical officials to regulate the medical aspects of an air medical transport and continue to license air medical transportation services. We also believe that the FAA’s authority over aviation safety is, and should remain, exclusive.*

The issue of “Membership” or “Subscription” programs was also discussed by the panel. Subscription or membership programs are offered by some AMT programs that offer to reduce or dismiss any out-of-pocket air transport costs to a transported patient in return for an annual fee. Most subscription programs are profitable and used to offset the cost of providing the service. The intent to be profitable (referred to as “actuarially sound”) is a requirement of Medicare.

Unfortunately, it was portrayed that only community-based providers sold memberships. This is incorrect, as a number of hospital-based providers have sold membership programs for many years.

Contrary to a statement made by one of the panelists (Dr. Bledsoe), members of these subscription programs are not encouraged or allowed to request the air ambulance to fly to the scene of an accident or medical emergency. All emergency responses by HEMS programs must be at the request of a qualified medical professional.

Patient Transport Request Process

The issue of who requests an air ambulance was discussed at length. An important point made by Panels #2 and #3 was that air ambulances do not self dispatch. This was reinforced by the panelists who clarified there are two types of air ambulance transports (interfacility transfers and scene calls), and that the process is very different between the two.

More than half of all air-medical transports are so-called “interfacility” transports between two hospitals. Most commonly, these are transports from a smaller rural hospital to a larger urban medical center. By their very nature, these interfacility patients are under the direct care of a physician who has the legal responsibility under the Federal Emergency Medical Treatment and Active Labor Act (EMTALA) to determine if transportation by air ambulance is warranted. It is worth noting that ground ambulances are used more than 95 out of 100 times for these transports, and air medical transport is only used when the sending physician, who has first-hand knowledge of the condition of the patient, believes that the patient’s condition warrants it.

The Medicare State Operations Manual clarifies that the responsibility of determining the proper “mode” of transport (air versus ground) lies exclusively with the sending physician:

Medicare State Operations Manual
Appendix V – Interpretive Guidelines – Responsibilities of Medicare Participating Hospitals in
Emergency Cases
(Rev. 1, 05-21-04)

(iv) The transfer is achieved through qualified personnel and transportation equipment, as required, including the use of necessary and medically appropriate life support measures during the transfer.

Interpretive Guidelines:

§489.24 (e)(2)(iv)

This is the fourth requirement for an appropriate transfer. Emergency medical technicians may not always be “qualified personnel” for purposes of transferring an individual under these regulations. Depending on the individual’s condition, there may be situations in which a physician’s presence or some other specialist’s presence might be necessary. The physician at the sending hospital (and not the receiving hospital) has the responsibility to determine the appropriate mode, equipment, and attendants for transfer. While the sending hospital is ultimately responsible for ensuring that the transfer is achieved appropriately, the hospital may meet its obligations as it sees fit. These regulations do not require that a hospital operate an emergency medical transportation service.

Flight programs must rely on the judgment of the sending physician to determine the medical appropriateness of the transport. It would not be appropriate for a flight nurse or paramedic to question the judgment of the sending physician.

The other 40-50 percent of air medical transports are “scene” flights where the helicopter responds directly to the scene of an accident or medical emergency. As with interfacility transports, the request does not originate with the air medical transportation service. Typically, a law enforcement officer, fire department, or paramedic at the scene makes a determination that air medical transportation is needed. There are a number of factors that these professionals may take into account when making this decision. These include the condition of the patient, road conditions, traffic, the amount and capabilities of local resources, and the distance from the closest appropriate hospital. As is the case with interfacility transfers,

more than 95 percent of patients at an accident scene are transported by a ground ambulance. Air medical services are only requested in serious cases. In most rural areas, the medical crews on an air medical service aircraft have training and capabilities greater than the local ground ambulance providers. It is also common that a local ambulance will decide to transport the patient themselves, only to decide en route that they need the assistance of an air medical service. In this case, the helicopter and ground ambulance will determine a suitable rendezvous point to meet and transfer the patient to the helicopter.

In summary, air medical services do not self dispatch. They rely on physicians and trained emergency responders to determine if an air ambulance is needed.

Clarifying Accident Data; the 1992 NTSB FAA MOU

NTSB analysis of accident trends and subsequent recommendations are based on NTSB accident reports. These reports identify accidents that take place without patients on board as Part 91 accidents. This categorization is made based on a Memorandum of Understanding (MOU) signed by the NTSB and the FAA in 1992, and describes a policy agreement between the two agencies that any flight without a patient on board, with or without medical personnel on board, would automatically be categorized as a Part 91 flight.

The practice of categorizing accidents without a patient on board as occurring under Part 91 rules is the basis for the inaccurate perception that these flight legs are conducted under lower weather minimums or outside of duty time or maintenance requirements. This is a false perception, as air medical operators operate to the weather minimums indicated in the A021 Operations Specification. These Operations Specifications contain much more restrictive weather minimums than general Part 91 or 135 operations and were recently enhanced even further with the encouragement of industry (see the section entitled *Part 135 Safety Regulations Present on All Flight Legs* below).

We believe that this MOU has informed the standard practice for categorizing air medical accidents and has led to misconceptions about air medical operations. This practice assumes that the flight was operated less safely, or under a lower safety standard, than those with a patient on board. This is simply not the case, as every leg of an air medical flight must be operated to a higher safety standard than those in Part 91, and in significant areas, Part 135.

- **AMOA Position on Accident Investigations:** *We believe, as part of the enhancements to accident investigations we have requested, the NTSB and FAA should abandon the practice of categorizing accidents based on this MOU, and that both agencies do a more thorough investigation of the aviation regulations and company standards actually applicable to the flight at the time of the accident. Further, we believe that it is only through this increased attention to the regulatory framework in accident reporting and documentation that we, including NTSB, FAA, and industry research projects, can accurately understand the conditions under which the accidents took place and make sound safety judgments.*

This supports our recommendation that the NTSB work with the Associations and the International Helicopter Safety Team (IHST) to enhance the methodology of the NTSB in investigating air medical accidents to establish a focus on the role of human factors in accident causation.

Comparable Options for Terrain Avoidance

In a recent survey of air medical operators conducted by AMOA, eight Part 135 certificate holders reported that of the nearly 700 aircraft in their combined fleets – which represents 90 percent of the air

helicopters currently conducting air medical services in the United States – more than 35 percent of the helicopters currently operate with night vision goggles (NVGs). This is a significant increase since 2006 (when the NTSB encouraged the use of night vision goggles) when the prevalence of NVGs in the fleet was estimated at less than five percent. That same survey indicated air medical operators are committed to having more than 90 percent of their combined fleets equipped with night vision goggles by 2011.

This development illustrates the belief of some operators that NVGs and enhanced vision systems (EVS) are a more effective safety intervention than H-TAWS. Their argument is that, unlike H-TAWS, NVGs and EVS are active systems that provide an active, real-time view of the environment; current H-TAWS technology is software-based and only as current as the last database update. By comparison, the use of NVGs and EVS permits the pilot to see actual obstacles in low light or no-light conditions. NVGs and EVS can identify obstacles in the low altitude environment, such as cell towers, power lines, and trees, that H-TAWS might not, depending on the height of the structure. Further, low altitude and low-speed operations are common in helicopter operations, and current H-TAWS technology often offers limited effectiveness in these conditions.

The implementation rate of H-TAWS is significant, however, with several air medical operators and hospitals including the devices on new aircraft. Some choose this device as a more effective implementation, or choose this device in addition to other safety enhancements. The Associations encourage the implementation of H-TAWS, especially after the NTSB's 2006 recommendation to that effect, and commend the FAA, the RTCA, and the numerous participants who volunteered their time to develop minimum standards for H-TAWS in 2007. This effort culminated in the release of a Technical Standard Order for H-TAWS released in December of 2008.

- **AMOA Position on H-TAWS:** *While H-TAWS are a safety enhancement tool, AMOA believes that NVGs and EVS offer more effective risk mitigation, especially in take-off and landing phases, than H-TAWS, which have limited capacity at low altitudes, slow speeds, and against low obstacles.*

Instrument Flight Rules Operations

Given the differences in operating environments, we support the use of different approaches to raise the level of safety at HEMS operations. Depending upon the operating environment and mission, NVGs, HTAWS and IFR all offer enhanced safety for HEMS operations. We do not think that any one approach is appropriate for all operators. One size does not fit all. The greater the percentage of inter-facility transports, the more opportunity there is to operate in the IFR environment. While the technology is currently available to extend the protections of the IFR systems to certain aspects of a HEMS operation in certain geographic locations, the IFR system is not currently able to fully support low altitude operations. One AMOA member is currently working with the FAA and avionics and aircraft manufacturers on a three-year project to design and test a “low level” IFR system as well as “precision” WAAS GPS approaches.

- **AMOA Position on Infrastructure Funding:** *We urge the NTSB to recommend that the federal government provide funds to increase and upgrade the infrastructure necessary to enable greater use of IFR by HEMS.*

This includes the placing of approved automated weather reporting systems at hospitals. This is of immense value to the communities in which these hospitals are located and the patients they serve. We see this as an extension of the funding provided for more than 75 years to rural airports by the DOT/FAA.

One of the key justifications for such funding is to be able to airlift patients from rural locations to larger hospitals that are nearly always located in larger communities.

There should also be further assessment of developing an IFR supported system for high potential rendezvous points bringing the protection of the IFR system to scene generated transports. Supporting the development of an IFR infrastructure for more aspects of HEMS operations would be an important addition to safety. From the national healthcare perspective, higher levels of care have consolidated and it is more cost effective for our society to move the patients to the care needed from areas where the care is not available. As a regulatory agency, the FAA sets minimum standards. Those standards should be enhanced in an appropriate manner that takes into account the different operating environments of HEMS operators.

Government Operators Compliance with Part 135 for Air Medical Transport

All operators engaged in the air medical transportation of the public, including government operators, should be required to comply with the same aviation safety standards. As the NTSB has noted, the public, in most circumstances, has no choice in determining which operator provides an air medical transport because flight requests are made by healthcare or state or local government personnel. The public has the right to expect, regardless of the operator's identity or operating model, the same aviation safety standards to apply.

Federal Law: Current federal law supports this conclusion. In 1994, Congress changed the law to significantly narrow the class of aircraft considered "public aircraft" to those which federal aviation safety requirements do *not* apply. This was done to protect the passengers on aircraft operated by government agencies by minimizing the discrepancy in applicable aviation safety standards. Under the law, public aircraft are limited to those engaged in a "government function." The examples of government functions specified in the law do not include air medical transportation or any other activity involving the routine transportation of the public. Further, the status of an aircraft operation as public or civil under the law does not depend exclusively on whether the operator is reimbursed for the transportation; if an aircraft is not engaged in a government function, then it is not a public aircraft and the factor of reimbursement is irrelevant.

The law means, in brief, that government operated aircraft *not* engaged in the narrow class of operations considered a "government function" are civil aircraft and must comply with all the federal aviation regulation applicable to civil aircraft, including Parts 91 and 61. If the government agency is being reimbursed for the transportation it provides, it must, as a general matter, have a Part 135 operating certificate.

FAA Actions to Date: FAA actions to implement the law in this area have not been assertive and consistent, as was pointed out during the NTSB hearing. In 1995, the FAA issued an advisory circular in an attempt to explain the public aircraft law in which the agency, on its own initiative, included "medical evacuation" as a "government function" under certain, but illogical and unclearly defined, circumstances. This advisory circular created confusion among operators and the public. For example, certain government operators were using surplus military aircraft not eligible for airworthiness certificates in typical air medical operations, calling these public rather than civil aircraft operations, which was clearly not consistent with the intent of the law.

In 2003, the FAA took action after several years of deliberation to correct this problem by amending Order 8700.1 to clarify the definition of public aircraft for FAA inspectors and confirm their safety oversight responsibilities for the majority of air medical operations by government operators. The

amendment was intended to clarify the ambiguity created by the advisory circular and brought into line FAA practice with the intent and scope of the public aircraft law. In a nutshell, Order 8700.1 *assumes* that medical evacuation, *as a routine matter*, is not a government function, unless one or more specified, non-routine factors are present to change that assumption. Therefore, government operators engaged in typical air medical operations are engaged in civil aircraft operations, subject to the applicable federal aviation safety regulations. This amendment to the order was followed by a Flight Standards training program for its inspector workforce.

Some government operators engaged in air medical transportation, on their initiative, have sought and received Part 135 operating certificates. Other government agencies engaged in air medical transportation of the public on a routine basis do not have Part 135 certificates for this transportation, although it appears that at least certain operators understand these operations to be civil aircraft operations requiring airworthiness and airmen certificates and governed, among other things, by the requirements of Part 91.

Since the FAA order was amended in 2003, FAA pronouncements on this subject have once again been inconsistent, and the extent of FAA oversight to ensure the regulatory compliance of government operators engaged in air medical transportation remains unclear. During the past several years of focus on HEMS safety, it appears the FAA has taken no actions to require or even advise government operators engaged in air medical transport without a Part 135 operating certificate to implement the enhanced aviation safety measures applicable to commercial air ambulance operators.

FAA Actions Required: The discrepancy in aviation safety standards governing the air medical transportation of the public has no public policy or legal justification. We believe the FAA should:

- Confirm aircraft used by government operators in the air medical transportation of the public are engaged in a civil aircraft operation, unless non-routine factors are present, and the government operator is thereby required to comply with applicable federal aviation safety regulations to civil aircraft.
- Take whatever additional action is necessary to require government operators engaged in air medical transportation, regardless of whether compensation is received for the transport, to comply with the same weather minimums, flight planning requirements, equipment requirements, pilot training, communications, and any other standards specifically made applicable to all other operators engaged in air medical transportation.

NTSB Actions Required: The NTSB should reconcile its accident reporting classification for government operators engaged in the air medical transportation of the public on a routine basis with federal law treating these operations as civil aircraft operations. These operations, among other things, should be classified as “Part 91” or “Part 135” (if the government operator holds a Part 135 certificate), and not “public” or “public use” for purposes of documenting the applicable regulations governing the accident.

Helicopter Shopping

“Helicopter shopping” refers to the practice of an emergency medical service dispatcher calling, in sequence, various operators until an operator agrees to take a flight assignment, without sharing with subsequent operators the reasons the flight was declined by the previously called operators. It is the position of the AMOA that the practice of “helicopter shopping” is dangerous, does not promote safety and sound decision making, and jeopardizes not only the aviation and medical crew, but also the patients for which we care.

- **AMOA Position on “Helicopter Shopping”:** *AMOA, and the entire air medical industry, is firmly opposed to “helicopter shopping” in air medical transport.*

AMOA supports the following practices to eliminate "helicopter shopping:"

- **Educate ground EMS agencies about the helicopter dispatching network:** The responsibility for educating ground EMS providers and associated agencies will fall to air medical transport service personnel. It is crucial that EMS and first responder personnel understand the necessity of allowing the regional helicopter dispatch network to locate and request the most appropriate mission-specific air medical services provider and to understand why helicopters may not be able to complete the mission. The educational information should include weather minimums, weather behavior, appropriate patient conditions and helicopter performance issues.
- **Further develop Automated Weather Observation Systems (AWOS) sites:** Currently there are over 700 Automated Weather Observation System (AWOS) sites in the US that do not report to the national weather system. Therefore up-to-date weather data for many locations does not exist. In these instances, pilots must interpret the limited data available and make the best decision possible and are expected to do so within a few minutes.
- **Implement protocols for EMS that address Helicopter Shopping:** By designing and implementing rules and protocols that cover all aspects of air medical transport for an organization and staff, the ultimate outcome of patients is significantly impacted. Protocols that include the passing of information in regards to flights previously turned down due to weather are paramount in creating a safer environment for everyone. Written protocols and policies that identify who can call for a helicopter, when to call, and information required to initiate an air medical transport, have been proven again and again to save time and lives during stressful situations. There are a multitude of agencies – local, state and national – that are more than willing to help design these types of transport protocols and procedures. Not only are these protocols a good idea at the local hospital or first responder level, they are invaluable at the regional and state levels.

Communication between air medical transport service providers and ground emergency service programs is paramount to improving the safety of the air medical community. Helicopter shopping, like any other potential safety risk, is not the sole reason for the unsatisfactory air medical safety record over the last few years. However, the increasing number of air medical helicopters, and the willingness of requesting parties to "shop," has created a situation that must be addressed in order to enhance the safety of the community.

Open communication about weather and flight factors is the key to safer, more efficient operations. Hospitals and first responders have an opportunity to make a major impact with regards to the safety of patients and the flight teams that transport them. By communicating to any subsequently contacted programs the fact that another air medical program has already turned down a request due to weather, important, time critical and in many cases, life-saving knowledge is communicated to that pilot. This information affords any subsequently contacted pilots valuable information to further investigate which, in turn, allows for a clearer weather picture of what is actually taking place in a specific region during a specific time.

Current AMOA Member Safety Activities

The recent public hearing questioned both the FAA's and the air medical industry's response to the safety recommendations made by the NTSB Special Investigation Report on Emergency Medical Services Operations (Adopted Jan. 25, 2006). We believe that, contrary to uninformed perceptions, air medical operators have met, and in some cases exceeded, the intent of those recommendations. The following is a description of the recommendations and the actions that air medical operators have taken to address the NTSB's safety concerns. We believe these actions represent a clear commitment to the safe operation of air medical services for the benefit of flight crews, medical personnel, and the public we transport.

Application of Part 135 Requirements

NTSB Recommendations: Require all emergency medical services (EMS) operators to comply with Part 135 operations specifications during the conduct of all flights with medical personnel onboard. (A-06-12)

Industry Activity: Air medical services operate under a tremendous amount of regulatory oversight. Part 135 rules are a complex set of requirements, and beyond those regulations are additional rules prescribing how a service must operate depending on the type of operation that service chooses to perform. Despite numerous inaccurate reports, statements, and articles to the contrary, air medical services operate utilizing stringent restrictions – particularly in the area of weather minimums – on all legs of a flight.

For Part 135 air medical operators, these additional requirements include FAA-issued Operations Specification A021. Recent efforts coordinated by HAI with the FAA and air medical operators to address safety issues led to significant changes to the A021 Operations Specification. These changes represent the combined effort of the air medical operator community to increase or enhance existing requirements for industry operations.

The A021 revisions specify that if a flight, or sequence of flights, includes a Part 135 segment, then all visual flight rules (VFR) segments of the flight must be conducted within more stringent weather minimums and the minimum safe cruise altitude determined in pre-flight planning. These new weather minimums are significantly more restrictive than those prescribed in Part 135. They also are calculated to encourage deployment of night vision imaging systems. Further, A021 requires pilots to identify a minimum safe cruise altitude during pre-flight planning by identifying and documenting obstructions and terrain along the planned flight path. HEMS pilots must also determine the minimum required ceiling and visibility to conduct the flight using the revised weather minimums contained in A021.

Revised Operations Specification A021 also permits HEMS instrument flight rules (IFR) operations at landing areas without weather reporting if an approved weather reporting source is located within 15 nautical miles of the landing area or if an area forecast is available. This change corrects a long-standing issue with Part 135 operation and Part 135 IFR flight. Previously, this was allowed for only under Part 91. With this Operations Specification (OpSpec) change; air medical operators can operate IFR in nearly all situations under Part 135 rules.

- **AMOA Position on A021:** *The adoption and implementation of A021 addresses the purpose of this NTSB recommendation, which was based on an analysis of factors involved in the accidents discussed in the Special Investigation Report.*

Mandatory Risk Assessments (Operational Control)

NTSB Recommendation: Require all EMS operators to develop and implement flight risk evaluation programs that include training all employees involved in the operation, procedures that support the

systematic evaluation of flight risks, and consultation with others trained in EMS flight operations if the risks reach a predefined level. (A-06-13)

Industry Activity: As part of the changes to Operation Specification A008, risk assessments were required for Part 135 flights as part of an enhanced operational control structure; further, the certificate holder retains all responsibility for the operational control of aircraft operations, and thus the safety of each flight conducted under its Part 135 Certificate and Operation Specifications, including the actions or inactions of all direct employees and agents of the certificate holder. The certificate holder cannot transfer that responsibility to any other entity for any reason. In air medical services, this includes hospitals, medical personnel, emergency or 911 dispatching services, or any other entity. In order to ensure this oversight control, operations were required to initiate some type of operational control system. For many operators, that became Enhanced Operational Control Centers, a program that monitors and tracks flight requests, flight initiation decision making and risk management procedures, and the course of the flight itself. While some operators do this differently based on the size and displacement of their operations, the goal of maintaining oversight is essentially the same.

The completion of a risk assessment before every flight or series of flights is clearly a standard practice in the industry. When combined with the management oversight provided by enhanced operation control and the safety management of a formal Safety Management System (SMS), the benefits of these risk assessments are clear.

Formalized Dispatch (Enhanced Operational Control)

NTSB Recommendation: Require EMS operators to use formalized dispatch and flight-following procedures that include up-to-date weather information and assistance in flight risk assessment decisions. (A-06-14)

Industry Activity: The NTSB, while acknowledging FAA efforts to improve HEMS operations safety, has also criticized the FAA, asserting they have “not imposed any requirements on aircraft EMS operators regarding such things as flight dispatch.” Nevertheless, the NTSB has listed the status of Safety Recommendation A-06-14, which requires EMS operators to use formalized dispatch and flight-following procedures that include up-to-date weather information and assistance in flight risk assessment decisions, as an “Open - Acceptable Response” on NTSB’s “Most Wanted Transportation Safety Improvements” site.

The AMOA believes that the FAA has provided concise and practical regulatory guidance and expectations for air carriers to achieve Operational Control in that the FAA issued Notice N 8000.347, Operational Control: Revised Operations Specifications A008 and A002, which provided revised guidance and a mandatory revision for Operations Specification A008 (Operational Control), and A002 (Definitions and Abbreviations) that also included a target date for issuance of the revised Operations Specifications and a prescribed the method for implementing the amended requirements. Subsequently, the FAA issued Notice 8900.16, Special Emphasis Inspection: Operational Control, which mandated that Principal Operations Inspectors (POI) and select Principal Maintenance Inspectors (PMI) and Principal Avionics Inspectors (PAI) conduct a “Special Emphasis Inspection” of all applicable Part 119 certificate holders conducting operations under Part 135, to ensure compliance with the revised requirements.

Although the current FAA regulations do not define a standard or require an operator to maintain an Operations Control Center (OCC) to achieve operational control, the FAA issued Advisory Circular (AC) 120-96, Integration of Operations Control Centers into Helicopter Emergency Medical Services

Operations, which provided recommendations to assist HEMS operators with the development, implementation and integration of an OCC and enhanced operational control procedures.

- **AMOA Position on Formalized Dispatch and Flight-following:** *The AMOA believes that this regulatory guidance is explicit in terms of operational control expectations and requirements and that a system is in place to ensure compliance. The AMOA also observes that air carriers in many cases have not only meet these established standards, but have developed internal procedures that meet or exceed the intent of AC 120-96.*

Currently, there are diverse configurations within the HEMS industry designed to accomplish the operational control requirement and OCC function. Certain air carriers utilize a centralized communication center/dispatching methodology, which may apply to their entire multi-state operation. Others utilize a localized methodology specific to the hospital and/or service. Still others utilize a regional methodology to further manage the uniqueness of the environment they operate in. These varied configurations and methodologies help support the operational control function as required by the Operations Specifications and explained in the related FAA guidance. Certain air carriers may also include an aviation subject matter expert to provide input regarding the conduct of flights as necessary or requested.

The AMOA concurs with the FAA in that “HEMS operations are unique, and as such have a set of requirements that are not identical to part 121 operations. There are well-developed OCCs and enhanced operational control procedures currently in use in support of part 121 operations that could assist HEMS operators when properly adapted to the dynamic conditions that make up the environment of HEMS operations.”

The AMOA recommends that the FAA, as the responsible federal agency, work in collaboration with air carriers and other stakeholders to develop viable Operations Control Centers (OCC) and enhanced operational control regulations that provide standardized guidance requirements while also allowing for optional configurations to accommodate the unique and diverse needs of the air medical transportation.

Enhancing Terrain Awareness and Obstacle Avoidance

NTSB Recommendation: Require EMS operators to install terrain awareness and warning systems on their aircraft and to provide adequate training to ensure that flight crews are capable of using the systems to safely conduct EMS operations. (A-06 -15)

Industry Response: The NTSB has focused to a great extent on installing technology that would provide terrain and obstacle warning on aircraft. The board of inquiry went so far as to question witnesses provided by the FAA as to when that agency would initiate rulemaking to require devices that meet the recently completed Helicopter Terrain Alert Warning System technical standard order.

It is the position of the AMOA that each operator deems which equipment and procedures are necessary to achieve terrain and obstacle avoidance and appropriate for their area and operation.

This system can be achieved by any of the following:

- Operating with Night Vision or Enhanced Vision Systems, with the appropriate level of initial and recurrent training.
- Operating with some type of Helicopter Terrain Alert Warning System, with the appropriate level of initial and recurrent training.

- Operating under Instrument Flight Rules (IFR), with the appropriate level of initial and recurrent training.

Further, it is the position of the AMOA that any rule addressing terrain and obstacle avoidance must allow for the consideration of comparable options to achieve compliance. Recent accidents have demonstrated a need for enhancements in terrain and obstacle avoidance systems, especially at night. The AMOA firmly embraces this need. However, implementing this enhancement must address the risks specific to both the type of operation and the area in which they operate. Certain types of equipment, such as Night Vision Goggles, may be far more appropriate to address the risks in a rural or suburban area, whereas some operations choose to address obstacle avoidance through the implementation and maintenance of an IFR infrastructure.

The following is a further description of these specific types:

- Night Vision Goggles: The use of NVGs in VFR conditions will increase the ability of pilots to successfully identify and avoid terrain and obstructions in low lighting conditions at night.
- HTAWS: HTAWS will provide visual and aural warning of approaching terrain or obstacles which are in the HTAWS database and would constitute a hazard to continued flight on the present flight path.
- IFR: IFR flight would keep the aircraft above the terrain and obstructions for the en route phase and the Instrument Approach Procedure. A VFR transition may be necessary for the departure and arrival phase, and therefore consideration should be given for additional terrain and obstacle avoidance equipment such as NVGs or HTAWS.

As discussed, a recent survey of air medical operators conducted by AMOA demonstrated significant deployment of NVGs in the air medical fleet since 2006. That same survey indicated air medical operators are committed to having 90 percent of their combined fleets equipped with night vision goggles by 2011.

The Associations encourage the implementation of H-TAWS, especially noting this NTSB recommendation, and commend the FAA, the RTCA, and the numerous participants who volunteered their time to develop minimum standards for H-TAWS in 2007. This effort culminated in the release of a Technical Standard Order for H-TAWS released in December of 2008. While H-TAWS are a safety enhancement tool, the Associations believe that NVGs and EVS offer more effective risk mitigation, especially in take-off and landing phases, than H-TAWS, which have a limited capacity at low altitudes, slow speeds, and against low obstacles.

Conclusion

As operators of air medical transportation throughout the United States, we believe it is our responsibility, regardless of aircraft type, area of operation, or operating model, to provide these services at the highest possible level of safety. We collectively strive for zero accidents or incidents of consequence in air medical transport. In order to achieve this goal, and to raise the standard of aviation safety for every air medical transport operation in the United States, we commit to continued cooperation in the development of performance-based rulemaking and focused recommendations to the United States Congress. Further, we wholeheartedly support the voluntary efforts already underway in the air medical fleet as part of that cooperative effort.

We must not allow the tragic accidents to overshadow the unquestioned and tremendous benefits that this service, properly utilized, offers to the people of the United States. Air medical systems have become a critical part of the delivery of healthcare; we must ensure that we are able to meet the needs of individual communities and do so safely.

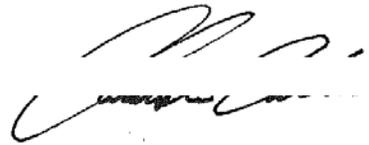
Again, we thank the NTSB for its continued diligence in the cause of safety.

Sincerely,



A handwritten signature in blue ink, which is partially obscured by a black redaction bar.

Howard Ragsdale
President, AMOA



A handwritten signature in black ink.

Christopher Eastlee
Managing Director, AMOA