AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

OVERSIGHT OF HELICOPTER MEDICAL SERVICES

(111–23)

HEARING

BEFORE THE

SUBCOMMITTEE ON AVIATION

OF THE

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
HOUSE OF REPRESENTATIVES

ONE HUNDRED ELEVENTH CONGRESS

FIRST SESSION

APRIL 22, 2009

Printed for the use of the
Committee on Transportation and Infrastructure

OVERSIGHT OF HELICOPTER MEDICAL SERVICES

OVERSIGHT OF HELICOPTER MEDICAL SERVICES

(111–23)

HEARING

BEFORE THE

SUBCOMMITTEE ON AVIATION

OF THE

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE HOUSE OF REPRESENTATIVES

ONE HUNDRED ELEVENTH CONGRESS

FIRST SESSION

APRIL 22, 2009

Printed for the use of the Committee on Transportation and Infrastructure

U.S. GOVERNMENT PRINTING OFFICE

49–001 PDF WASHINGTON : 2009

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
Fax: (202) 512–2104 Mail: Stop IDCC, Washington, DC 20402–0001

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE

JAMES L. OBERSTAR, Minnesota, *Chairman*

NICK J. RAHALL, II, West Virginia, *Vice Chair*
PETER A. DEFAZIO, Oregon
JERRY F. COSTELLO, Illinois
ELEANOR HOLMES NORTON, District of Columbia
JERROLD NADLER, New York
CORRINE BROWN, Florida
BOB FILNER, California
EDDIE BERNICE JOHNSON, Texas
GENE TAYLOR, Mississippi
ELIJAH E. CUMMINGS, Maryland
LEONARD L. BOSWELL, Iowa
TIM HOLDEN, Pennsylvania
BRIAN BAIRD, Washington
RICK LARSEN, Washington
MICHAEL E. CAPUANO, Massachusetts
TIMOTHY H. BISHOP, New York
MICHAEL H. MICHAUD, Maine
RUSS CARNAHAN, Missouri
GRACE F. NAPOLITANO, California
DANIEL LIPINSKI, Illinois
MAZIE K. HIRONO, Hawaii
JASON ALTMIRE, Pennsylvania
TIMOTHY J. WALZ, Minnesota
HEATH SHULER, North Carolina
MICHAEL A. ARCURI, New York
HARRY E. MITCHELL, Arizona
CHRISTOPHER P. CARNEY, Pennsylvania
JOHN J. HALL, New York
STEVE KAGEN, Wisconsin
STEVE COHEN, Tennessee
LAURA A. RICHARDSON, California
ALBIO SIRES, New Jersey
DONNA F. EDWARDS, Maryland
SOLOMON P. ORTIZ, Texas
PHIL HARE, Illinois
JOHN A. BOCCIERI, Ohio
MARK H. SCHAUER, Michigan
BETSY MARKEY, Colorado
PARKER GRIFFITH, Alabama
MICHAEL E. MCMAHON, New York
THOMAS S. P. PERRIELLO, Virginia
DINA TITUS, Nevada
HARRY TEAGUE, New Mexico
VACANCY

JOHN L. MICA, Florida
DON YOUNG, Alaska
THOMAS E. PETRI, Wisconsin
HOWARD COBLE, North Carolina
JOHN J. DUNCAN, JR., Tennessee
VERNON J. EHLERS, Michigan
FRANK A. LOBIONDO, New Jersey
JERRY MORAN, Kansas
GARY G. MILLER, California
HENRY E. BROWN, JR., South Carolina
TIMOTHY V. JOHNSON, Illinois
TODD RUSSELL PLATTS, Pennsylvania
SAM GRAVES, Missouri
BILL SHUSTER, Pennsylvania
JOHN BOOZMAN, Arkansas
SHELLEY MOORE CAPITO, West Virginia
JIM GERLACH, Pennsylvania
MARIO DIAZ-BALART, Florida
CHARLES W. DENT, Pennsylvania
CONNIE MACK, Florida
LYNN A WESTMORELAND, Georgia
JEAN SCHMIDT, Ohio
CANDICE S. MILLER, Michigan
MARY FALLIN, Oklahoma
VERN BUCHANAN, Florida
ROBERT E. LATTA, Ohio
BRETT GUTHRIE, Kentucky
ANH "JOSEPH" CAO, Louisiana
AARON SCHOCK, Illinois
PETE OLSON, Texas

SUBCOMMITTEE ON AVIATION

JERRY F. COSTELLO, Illinois, *Chairman*

RUSS CARNAHAN, Missouri
PARKER GRIFFITH, Alabama
MICHAEL E. MCMAHON, New York
PETER A. DEFAZIO, Oregon
ELEANOR HOLMES NORTON, District of Columbia
BOB FILNER, California
EDDIE BERNICE JOHNSON, Texas
LEONARD L. BOSWELL, Iowa
TIM HOLDEN, Pennsylvania
MICHAEL E. CAPUANO, Massachusetts
DANIEL LIPINSKI, Illinois
MAZIE K. HIRONO, Hawaii
HARRY E. MITCHELL, Arizona
JOHN J. HALL, New York
STEVE COHEN, Tennessee
LAURA A. RICHARDSON, California
JOHN A. BOCCIERI, Ohio
NICK J. RAHALL, II, West Virginia
CORRINE BROWN, Florida
ELIJAH E. CUMMINGS, Maryland
JASON ALTMIRE, Pennsylvania
SOLOMON P. ORTIZ, Texas
MARK H. SCHAUER, Michigan
VACANCY
JAMES L. OBERSTAR, Minnesota *(Ex Officio)*

THOMAS E. PETRI, Wisconsin
HOWARD COBLE, North Carolina
JOHN J. DUNCAN, JR., Tennessee
VERNON J. EHLERS, Michigan
FRANK A. LOBIONDO, New Jersey
JERRY MORAN, Kansas
SAM GRAVES, Missouri
JOHN BOOZMAN, Arkansas
SHELLEY MOORE CAPITO, West Virginia
JIM GERLACH, Pennsylvania
CHARLES W. DENT, Pennsylvania
CONNIE MACK, Florida
LYNN A. WESTMORELAND, Georgia
JEAN SCHMIDT, Ohio
MARY FALLIN, Oklahoma
VERN BUCHANAN, Florida
BRETT GUTHRIE, Kentucky

CONTENTS

Page

Summary of Subject Matter vii

TESTIMONY

Allen, John, Director, Flight Standards Service, Federal Aviation Administration 12
Bass, Dr. Robert, Chair, Air Medical Committee, the National Association of State EMS Officials 30
Dillingham, Dr. Gerald, Director, Physical Infrastructure Issues, U.S. Government Accountability Office 12
Fornarotto, Hon. Christa, Acting Assistant Secretary for Aviation and International Affairs, U.S. Department of Transportation 12
Frazer, RN, CMTE, Eileen, Executive Director, Commission on Accreditation of Medical Transport Systems 30
Friedman, Stacey, Founder, SafeMedFlight: Family Advocates For Air Medical Safety 30
Judge, EMTP, Thomas P., Executive Director, LifeFlight of Maine, Chair, the Patient First Air-Ambulance Alliance 30
Kinkade, Sandra, President, Association of Air Medical Services 30
Salazar, Hon. John T., a Representative in Congress from the State of Colorado 10
Stackpole, Jeff, Council Member, Professional Helicopter Pilots Association 30
Sumwalt, III, Hon. Robert L., Board Member, National Transportation Safety Board 12
Yale, Craig, Executive Vice President, Air Methods Corporation, on Behalf of the Air Medical Operators Association 30
Zuccaro, Matthew S., President, Helicopter Association International 30

PREPARED STATEMENTS SUBMITTED BY MEMBERS OF CONGRESS

Carnahan, Hon. Russ, of Missouri 47
Costello, Hon. Jerry F., of Illinois 48
Johnson, Hon. Eddie Bernice, of Texas 56
Mitchell, Hon. Harry E., of Arizona 60
Oberstar, Hon. James L., of Minnesota 61
Salazar, Hon. John T., of Colorado 65

PREPARED STATEMENTS SUBMITTED BY WITNESSES

Allen, John and Hon. Christa Fornarotto, joint statement 69
Bass, Dr. Robert 90
Dillingham, Dr. Gerald 96
Frazer, RN, CMTE, Eileen 124
Friedman, Stacey 138
Judge, EMTP, Thomas P. 149
Kinkade, Sandra 187
Stackpole, Jeff 202
Sumwalt, III, Hon. Robert L. 214
Yale, Craig 229
Zuccaro, Matthew S. 260

SUBMISSIONS FOR THE RECORD

Allen, John, Director, Flight Standards Service, Federal Aviation Administration, responses to questions from the Subcommittee 80
Dillingham, Dr. Gerald, Director, Physical Infrastructure Issues, U.S. Government Accountability Office, responses to questions from the Subcommittee 117

Page

Fornarotto, Hon. Christa, Acting Assistant Secretary for Aviation and International Affairs, U.S. Department of Transportation, responses to questions from the Subcommittee 85
Judge, EMTP, Thomas P., Executive Director, LifeFlight of Maine, Chair, the Patient First Air-Ambulance Alliance, responses to questions from Rep. Costello 161
Sumwalt, III, Hon. Robert L., Board Member, National Transportation Safety Board, responses to questions from the Subcommittee 224
Yale, Craig, Executive Vice President, Air Methods Corporation, on Behalf of the Air Medical Operators Association, responses to questions from the Subcommittee 251

ADDITIONS TO THE RECORD

Bean, Danielle, written statement 267
Brady, Laurie, written statement 271
McGlew, Susan, written statement 273
National EMS Pilots Association, Kent Johnson, President, written statement 275
Schiller, Brian T., written statement 311
Schumm, Tracy, written statement 314
Terry, Cece, written statement 316

U.S. House of Representatives
Committee on Transportation and Infrastructure
Washington, DC 20515

James L. Oberstar
Chairman

David Heymsfeld, Chief of Staff
Ward W. McCarragher, Chief Counsel

John L. Mica
Ranking Republican Member

James W. Coon II, Republican Chief of Staff

April 21, 2009

SUMMARY OF SUBJECT MATTER

TO: Members of the Subcommittee on Aviation

FROM: Subcommittee on Aviation Staff

SUBJECT: Hearing on "Oversight of Helicopter Medical Services"

PURPOSE OF HEARING

On Wednesday, April 22, 2009, at 10:00 a.m., in room 2167 Rayburn House Office Building, the Subcommittee on Aviation will meet to receive testimony regarding Oversight of Helicopter Medical Services. The hearing will explore two issues: (1) helicopter emergency medical services (HEMS) safety and (2) state regulation of HEMS.

BACKGROUND

Medical research in the 1970s showed that patient transport is most critical within one hour for serious injuries.[1] Many studies have demonstrated that patients have improved recovery times and reductions in mortality rates when HEMS are utilized, especially in the case of cardiac arrest, stroke, and traumatic brain injury.[2] HEMS provide access for 81.4 million Americans who otherwise would not be able to reach a trauma center within an hour.[3] Helicopter air ambulances[4] conduct hospital inter-facility transfers (54 percent of operations), pickup patients at an accident scene, such

[1] R. Adams Cowley, *A Total Emergency Medical System for the State of Maryland*, 24 Maryland State Medical Journal 41-42 (1975).
[2] The Foundation for Air Medical Research and Education (FARE), Air Medicine: Accessing the Future of Health Care 4 (2006).
[3] Charles Branas, et al., *Access to Trauma Centers in the United States*, 293 Journal of the American Medical Assoc. 2626-2623 (2005).
[4] The terms helicopter air ambulance and HEMS will be used interchangeably. This memo will focus on HEMS in emergency medicine; however, HEMS operators also support firefighting and disaster response, planning, and management.

as a car collision on a roadway (33 percent), conduct training flights, and reposition back to the helicopter base.[5] U.S. operators generally operate with a single pilot, a nurse and a paramedic. Between December 2007 and October 2008, there were 13 HEMS accidents, resulting in 35 fatalities—the greatest number of accidents in any 11-month period. Between 1998 and 2008, there were 146 HEMS accidents with 131 fatalities.[6] Given the number of emergency medical services (EMS) helicopters, the Congressional Research Service (CRS) estimated in May 2006 that 1 in 50 helicopter air ambulances had been involved in a crash during the previous 3 years.[7] The Federal Aviation Administration (FAA) estimates the fatal accident rate from 2002 to 2008 was 1.18 per 100,000 flight hours.[8]

The HEMS industry is typically characterized as follows:[9]

- **Hospital-based (also known as traditional) operators**: A hospital provides the medical services and staff, and contracts with an aviation service provider (which holds an FAA operating certificate) for pilots, mechanics, and aircraft.

- **Independent (also known as stand-alone or community-based) operators**: An independent operator sets up a base in a community and serves various facilities and localities. The operator holds the FAA operating certificate and employs medical and flight crews (or contracts for those services).

The HEMS industry has grown dramatically over the past three decades, with the greatest expansion in recent years, primarily with independent operators. Between 2003 and 2005, the number of helicopter air ambulances increased from 545 to 753;[10] today the number is about 850.[11] The industry's growth is attributed to changes in the U.S. healthcare system, including changes in Medicare fee reimbursement starting in 2002.[12] The old Medicare structure's rates did not fully reimburse operators for the cost of helicopter transport, whereas the new structure reimburses operators at about 100 percent. This new reimbursement structure incentivized independent operators to enter the market due to the potential for more certain and higher income. Operators are only eligible for reimbursement from a flight if they actually transport a patient.

---

[5] Government Accountability Office (GAO), Improved Data Collection Needed for Effective Oversight of Air Ambulance Industry 5 (2007). Data includes fixed-wing emergency medical aircraft.

[6] Witness Presentation by Dr. Ira Blumen, National Transportation Safety Board (NTSB), Public Hearing in the Matter of the Issues on Emergency Medical Services Helicopter Operational Safety at 21 (Feb. 3, 2009) (No. SA-530).

[7] Bart Elias, CRS, The Safety of Air Ambulances (2006).

[8] FAA, Briefing to Congressional Staff (Oct. 24, 2008). FAA does not require HEMS operators flying under 14 C.F.R. § 135 or § 91 to report activity data; therefore, this rate is an estimate. In 2003, the NTSB recommended that FAA require nonscheduled part 135 operators to report activity data on an annual basis. *See* NTSB Recommendation A-03-037.

[9] Pubic service entities (e.g. State Police, Sheriff's Department, or the military, etc.) also conduct HEMS operations in selected areas. "Subscription services" are another type of HEMS operation where the customer contracts with an aviation service provider to provide air transportation to a medical facility if needed.

[10] NTSB, Special Investigations Report on Emergency Medical Services Operations (2006).

[11] John Allen, Director, Flight Standards Service, FAA Helicopter Safety Initiatives, Briefing to Congressional staff (Mar. 20, 2009).

[12] *See* the Balanced Budget Act of 1997, Pub. L. No. 105-33 § 4531(b), 111 Stat. 451 (42 U.S.C. 1395m(l)) (1997).

I. Safety

Beginning in 1988, the NTSB issued many safety recommendations regarding HEMS.[13] Following a string of deadly accidents in 2008, the NTSB added its four 2006 safety recommendations to its "Most Wanted List." In February 2009, the NTSB held a 4-day public hearing on "Safety of HEMS Operations."

An analysis by the Air Medical Physician Association demonstrates that the following factors contribute to HEMS accidents: human error; communications problems between pilots and weather services, other pilots, HEMS dispatchers, scene (police, firefighters, etc.) or hospital personnel, and air traffic control; time- and exigency-related pressures; distractions, such as equipment problems, radio monitoring, poor visibility; workload or flight/duty length; loss of situational awareness;[14] failure to obtain a weather briefing; environmental issues, such as mountainous operations, nighttime or reduced visibility conditions; aircraft malfunction issues; inadvertent encounter with power lines; landing zone problems, including congestion and obstacles; pressure to accept a flight; and maintenance issues.[15]

Other issues affecting the HEMS industry are "helicopter shopping" and "call jumping." According to the FAA, helicopter shopping "refers to the practice of [an EMS 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."[16] This can be a dangerous practice if the flight assignment was turned down for reasons that could affect another responding operator, such as poor weather and visibility at an accident scene. In a 2006 letter to State EMS Directors, the FAA recommended that EMS dispatchers disclose to other operators the reason for one operator turning down an assignment.[17] Call jumping is when a HEMS operator "self-dispatches" to a scene without prior request or when multiple operators are dispatched to a scene. In scene response situations, the decision to utilize a helicopter air ambulance rests with the on-scene first responders. Since the airspace which helicopters operate in is uncontrolled, this can be dangerous and could lead to a mid-air collision between multiple helicopters.[18]

FAA has issued many advisory documents to HEMS operators to improve safety, and recently issued some operating requirements. It is reported that the HEMS industry is working to

---

[13] *See* NTSB Recommendations A-88-1 through A-88-19 (Feb. 29, 1998); A-06-12 through A-06-15 (Jan. 25, 2006) (Added to the NTSB's "Most Wanted List" for 2009); A-07-111 and A-07-112 (Dec. 21, 2007).

[14] Situational awareness is defined as "the accurate perception and understanding of all the factors and conditions going on around you. In aviation, this deals with...the pilot, the aircraft, the environment, and the type of operation that comprise any given aviation situation." Dr. Ira Blumen, Air Medical Physician Handbook, A Safety Review and Risk Assessment in Air Medical Transport (Nov. 2002), at 52.

[15] *Id.* at 14-16.

[16] James J. Ballough, Former Director, Fight Standards Service, FAA, Letter to State EMS Directors (2006).

[17] *Id.*

[18] GAO, *supra* note 5, at 20. Helicopters often operate in Class G uncontrolled airspace, which is below the altitude minimums required to be controlled by air traffic control (ATC). Most of the airspace up to 1,200 feet above ground level is uncontrolled. However, even in these operations, a helicopter pilot may be in communication with ATC if landing or departing from an airport. Operators may work with FAA to develop specific routes for landing/taking off from a base in order to standardize routing, enhance safety, and decrease a potential noise impact. In addition, some operators have developed Global Positioning Systems (GPS) approaches to regularly-used bases or hospital pads.

improve safety and has voluntarily implemented some of FAA's guidance. Despite this, 2008 was the deadliest year on record.

A. Operating Regulations

HEMS operations fall under one of two FAA regulatory regimes—14 Code of Federal Regulations (C.F.R.) part 91 or part 135. Part 91 sets basic operating requirements for any user of the national airspace. Part 135 is a stricter set of regulatory requirements, imposed when a passenger is paying for the flight; it is designed for commuter and on-demand air transportation. In the HEMS environment, the "passenger" is the patient. The strictest set of operating regulations is part 121, which is used by major commercial air carriers. HEMS operators are required to comply, at minimum, with part 91 if no patient is on the aircraft, and part 135 when a patient is onboard.

The major difference between part 91 and part 135 is weather and visibility minimums, which is the distance that the pilot can see, and the distance between the helicopter and the clouds. Under part 91, the weather and visibility minimums are lower than under part 135. For example, under part 91, the pilot must only operate clear of clouds and must be able to see any air traffic or obstruction to avoid a collision.[19] In contrast, under part 135, a pilot must be at least 1,000 feet from clouds or have 2 miles of visibility; and must have a visual ground reference during the day and a visual surface light reference at night.[20] In January 2009, FAA issued a regulatory requirement (through its operations specifications, or "OpsSpec," system) that raised the weather and visibility minimums to, or above, part 135 even when a HEMS operator is flying under part 91.[21] The FAA made this change so that the medical personnel onboard the helicopter air ambulance would be flown under the same weather minimums as a patient.

Under both sets of regulations, pilots fly according visual flight rules (VFR) or instrument flight rules (IFR). VFR means that the pilot relies solely on his/her visual cues to control the helicopter. VFR weather and visibility minimums are stricter than IFR minimums. IFR requires the pilot to use instruments to navigate the helicopter in lower weather and visibility conditions. The GAO noted, "some industry trade organizations consider flights that utilize instruments to be much safer than the flights that rely solely on visual cues."[22]

Although operating according to IFR is considered to be safer, pilots cannot always fly under IFR because it requires a low-altitude infrastructure that is not always available in most locations.[23] Also, the aircraft and pilots must be certified with specific avionics and training, respectively, to fly under IFR.[24]

---

[19] 14 C.F.R. § 91.155 (2008).
[20] 14 C.F.R. §§ 135.205, 135.207 (2008).
[21] FAA, Operations Specification A021, [HEMS] Operations (Jan. 23, 2009).
[22] GAO, *supra* note 5, at 32-33.
[23] Low-altitude infrastructure would include GPS, Wide Area Augmentation System (WAAS), and Automatic Dependent Surveillance-Broadcast (ADS-B), and the development of point-in-space approach procedures. H.R. 915, the "FAA Reauthorization Act of 2009," includes a provision that reauthorizes funding for the development and maintenance of approach procedures for heliports that support all-weather, emergency services.
[24] *See* 14 C.F.R. §§ 135.163, 135.243 (2008).

B. Flight Dispatch

Emergency ground responders, hospital physicians, or 911 dispatchers are charged with determining whether or not air transportation is necessary for patient transport based on specific patient coordination criteria.[25] Once that decision is made, that person will call a HEMS provider's communications center to see if it can accept the flight request. The communications center typically has an operations control specialist "who generally works for or under contract to an aviation operator and has specific aviation knowledge, including the effects of weather . . . and operational needs of the flight"[26] and then contacts the pilot in command to notify him/her of the flight request. Then, the pilot will use all available information, including weather, route, and in-flight risks, to determine if the flight can be made.

Many operators are now using a flight risk evaluation to determine the risks of taking the flight. A flight risk evaluation is a risk management tool in which a pilot and a manger, flight dispatcher, or another flight crewmember assess all risks associated with deciding to dispatch, including adverse weather and visibility conditions; terrain on the route; the optimum flight plan; technologies that aid in managing risk; flight crew performance; and organizational environment. In 2005, the FAA issued guidance that recommended operators use a risk assessment evaluation and included a checklist and a risk matrix to use as templates.[27]

According to the NTSB, typically the risk evaluation results in one the following determinations: (1) safe, the flight is launched without further concern; (2) risks are present, and the pilot needs to consider and take appropriate risk mitigation activities (e.g., use of certain technology if trained and present, or operate only under IFR); (3) significant risk is present and the pilot must consult with, and obtain permission from, the operator's chief pilot or director of operations; (4) risk is too high, and the pilot must decline to take the flight. If the pilot determines that the flight cannot be made, he/she will communicate this with the operations control specialist, who then notifies the requesting party.

In 2006, the NTSB conducted a special investigation and found that none of the operators involved in HEMS accidents studied had a flight risk evaluation program. NTSB issued recommendations to 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; and to implement a flight risk evaluation program.[28]

C. Safety-Enhancing Technology

Many safety-enhancing technologies are being discussed as ways to improve HEMS safety and prevent accidents. FAA does not require the use of any of the technologies listed below for HEMS, but has offered guidance for implementation.

---

[25] AAMS, AMOA and HAI, Air Medical Service Safety Position Paper (Jan. 13, 2009). Local, regional, county, or state policy, law, and regulation oftentimes determine how this works. Further, many hospitals have protocols of when to request a helicopter and which HEMS operator to contact.
[26] NTSB, *supra* note 10, at 7.
[27] *See* AC 135-14A (1991) and N8000.301 "Operational Risk Assessment Programs for [HEMS]" (2005).
[28] NTSB Recommendations A-06-13 and A-06-14 (2006).

Radar Altimeters show a pilot how high the aircraft is above the ground to assist the pilot in maintaining ground clearance. According to the NTSB, radar altimeters can increase altitude awareness to help prevent inadvertent descent below set height during hovering operations and low-altitude cruise flight, and can alert a pilot (visually and/or aurally) when the helicopter approaches and then descends below a preselected altitude.[29] Radar altimeters can prevent controlled flight into terrain (CFIT) accidents,[30] which involves the pilot losing situational awareness. In 2007, the NTSB recommended that FAA should require HEMS operators to install radar altimeters in all helicopters used in night operations and require that they be operable.[31] The FAA issued notices to aviation safety inspectors to emphasize pilot and flight crew knowledge of equipment, including radar altimeters;[32] and to encourage HEMS operators to use radar altimeters in night operations.[33] According to the FAA, the equipage and use of radar altimeters will be addressed in an upcoming rulemaking project.

Helicopter Terrain Awareness and Warning Systems (HTAWS), also known as Enhanced Ground Proximity Warning Systems (EGPWS), is another technology that can prevent CFIT by providing terrain and obstacle aural and visual alerts to pilots. The technology:

> [u]ses aircraft inputs such as position, attitude, air speed and glideslope, which along with internal terrain, obstacles, and airport databases predict a potential conflict between the aircraft's flight path and terrain or an obstacle. . . . When coupled with display, the surrounding terrain can be viewed relative to the aircraft position.[34]

According to the NTSB, HTAWS "can substantially reduce pilot workload and improve the margin of safety during limited visibility conditions, which are often encountered during EMS operations." The NTSB recommended that FAA require operators to have HTAWS in aircraft and to provide adequate training to ensure that flight crews are capable of using the systems.[35] In December 2008, FAA established the manufacturing standards for HTAWS. According to the FAA, current market costs for HTAWS is approximately $16,000 to $120,000 per helicopter.

Night Vision Imaging Systems (NVIS)/Night Vision Goggles (NVG) enhance a pilot's vision at night by capturing ambient light and providing pilots/crew with a monochrome visual field. NVIS enhance a pilot's situational awareness and reduce pilot workload and stress.[36] NVG allow pilots to see trees, poles and towers that may not be detected by the naked eye or other technologies like HTAWS. After an operator purchases the NVG, the entire interior helicopter

---

[29] Letter from Mark V. Rosenker, Chairman, NTSB, to Robert A. Sturgell, Acting Administrator, FAA (Dec. 21, 2007).
[30] One example of a CFIT accident was the LifeNet, Inc. helicopter air ambulance that crashed into the Potomac River near Oxen Hill, Maryland on Jan. 10, 2005. *See* NTSB Accident Brief NTSB/AAB-07/04.
[31] NTSB Recommendations A-07-111 and A-07-112. The operability requirement would raise the priority level on maintenance checklists should the radar altimeter become inoperable.
[32] Notice N8000.307, Special Emphasis Inspection Program for [HEMS] (Sept. 27, 2005).
[33] Notice N8000.293, [HEMS] Operations (Jan. 28, 2005). The information from that Notice was reissued in a Safety Alert for Operators (SAFO) #06001 on January 28, 2006.
[34] Honeywell - http://www51.honeywell.com/aero/Products-Services/Avionics-Electronics/Egpws-Home3/Products.html?c=21.
[35] NTSB Recommendation A-06-15 (Jan. 25, 2006) was added to its 2009 Most Wanted List. FAA reports that requiring HTAWS will be part of its upcoming rulemaking on HEMS.
[36] W.T. Sampson, G.B. Simpson, and D.L. Green, FAA, [NVG] in EMS Helicopter (1994).

cockpit display and lighting must undergo modifications to be compatible with the NVG.[37] Flight crew must also receive training on how to use the NVG. Current estimates for the NVG are about $7,000 per pair, however FAA estimates that the cockpit retrofit and training can cost up to $100,000 per helicopter. It is estimated that 49 percent of HEMS accidents occur on night missions, while only 36 percent of missions occur at night.[38]

Flight data recorders (FDR) and cockpit voice recorders (CVR) are usually large and heavy devices used in airplanes and some helicopters. CVRs are required in helicopters that have a seating configuration for 6 or more passengers or for which two plots are required. Both devices can assist accident investigators by providing information on aircraft system status, flight path and attitude; and understand conditions and events leading up to the crash or other safety incidents.[39] New, smaller devices that perform the function of traditional FDR and CVR have been developed for helicopters and some HEMS operators have installed them voluntarily. The FAA has not issued manufacturing and design specifications for these smaller devices, many of which are the size of a cellular phone. Other devices are being developed and/or are in use, such as cockpit image recorders, which include camera and video images.[40]

Other safety technologies can enhance pilots' situational awareness, and assist in terrain, obstacle and weather avoidance, including GPS, ADS-B, Synthetic Vision Systems (which uses an onboard digital map of terrain, obstructions, and buildings[41]), Traffic Collision Avoidance Systems, Electronic Flight Bags and Moving Map Displays. Additional safety discussions have focused on whether helicopter air ambulances should be multi-engine instead of single-engine (commonly used today). As with any technological improvement, technology equipage depends on which investments will provide the most significant safety improvements.

D. Pilot Training

Eighty-four percent of fatal HEMS accidents may be associated with human error.[42] As such, recent safety emphasis has been directed towards HEMS pilot training. Currently, the FAA does not require a standard HEMS pilot training program. However, FAA has offered guidance to operators to assist them in creating training programs.[43] It is reported that pilot training programs include areas such as adverse weather operations, risk assessment programs, night and low visibility conditions, CFIT avoidance, recovery from inadvertent flight into instrument meteorological conditions (IMC)—which is inadvertently entering instrument conditions while under VFR, safe altitude training, loss of control, weather analysis, and simulation training with medical personnel.[44] Most HEMS operators provide initial, recurrent, and transition flight and ground training. One pilot group has recommended that pilots be trained on a flight simulation training device (FTD). Additionally, many discussions have focused on whether safety data suggests that HEMS operators should use a two-pilot operation to enhance safety.

---

[37] International Traffic in Arms Regulations (ITAR) prevents operators from purchasing helicopters with NVG-compatible cockpit displays; therefore, retrofitting must be done after.
[38] Blumen, *supra* note 6, at 25.
[39] FAA, http://www.faa.gov/news/fact_sheets/news_story.cfm?newsId=6763
[40] *See* NTSB Recommendation A-00-30 (April 11, 2000).
[41] FAA, Review of Helicopter EMS Accidents and the Effectiveness of Selected Interventions (2009).
[42] Blumen, *supra* note 14, at ii.
[43] *See* FAA Notices 8000.293, 8000.301, 8000.307.
[44] National EMS Pilots Association, Position Statement Prepared for NTSB Hearing, at 13-16.

Since HEMS medical crew often assists pilots, attention has focused on Crew Resource Management (CRM) training. The philosophy of CRM is to train pilots, medical crew, and ground personnel together to provide an environment with open communication and mutual understanding. CRM for HEMS can also allow pilots and medical crew to better understand each others' roles and responsibilities, and reduce stress.[45] However, some point to risks associated with pilot and medical crew interaction that could distract pilots from flight duties or inappropriately heighten a pilot's sense of exigency in a situation, which could affect his/her critical decision making.

E. Fatigue

Fatigue in aviation can pose a serious threat to pilot and crew performance. While there has not been a formal study on fatigue in the HEMS environment, many of the known threats of fatigue remain, such as sleep inertia, circadian rhythm interruption, sleep debt, chronic and acute fatigue, and alertness. Many suspect that fatigue may be contributing to HEMS accidents. HEMS pilots work demanding, and oftentimes erratic, schedules that alternate between long day or night shifts, followed by required rest periods.

Under FAA's part 91 regulations, there are no formal flight and duty time requirements. Under part 135, the flight crew must have adequate rest, with a maximum duty time of 14 hours; flight time may not exceed 8 hours during any 24-consecutive hour period. This potentially means that if the flight crew had already reached a maximum of 14 hours and had just dropped off a patient under part 135, it could still return the helicopter to the base without a patient on board under part 91, putting total duty time well over 14 hours. According to the NTSB, "This situation could result in a pilot flying in a fatigued condition during the Part 91 leg of the flight or not getting adequate rest during his time off, leaving him fatigued when he returns to duty."[46] NTSB also noted that the pilot's hours flown under part 91 do not count towards the pilot's total duty time under part 135.[47]

F. HEMS Inspections

GAO's 2007 report was critical of FAA's existing inspections approach and resources allocated to address HEMS operations. HEMS operators receive a minimum number of inspection hours according to the FAA's National Flight Standards Work Program Guidelines; and principal inspectors determine if additional inspection hours are needed to ensure adequate oversight depending on the size and risk factors of the operator. Further, GAO noted that FAA needs inspectors that are trained to certify safety technologies that are being installed on helicopter air ambulances. GAO has also pointed out that FAA had difficulty with inspecting HEMS operators at remote helicopter air ambulance base locations. FAA principal inspectors may not have adequate time or travel funds to visit these locations. As such, inspectors located in the geographic area of a HEMS base, who may not have the same level of training, are often used to assist with remote base inspections.[48] To assist with some of these issues, FAA established HEMS-specific Aviation Safety

---

[45] Blumen, *supra* note 14, at 51-52.
[46] NTSB, *supra* note 10, at 2. *See* NTSB Safety Recommendations A-94-194 and A-95-113 regarding fatigue–both are "Open—Unacceptable Response."
[47] Section 816 of H.R. 915, requires the FAA to conduct a rulemaking to require that all flight time under part 91 be included in a flight crewmember's total flight time limitations under part 135.
[48] GAO, *supra* note 5, at 29-30.

Inspectors (ASIs) in August 2006; there are currently 42 ASIs dedicated to HEMS operators. According to the FAA, it has authorized an increase of additional 19 to be added in fiscal year 2009.

G. H.R. 1201

H.R. 1201, the "Air Medical Safety Act," introduced by Representative John T. Salazar, would require: operators to conduct all operations under part 135 regulations on all legs of a trip; FAA to develop consistent flight dispatch procedures; and FAA to undertake rulemakings to develop a flight risk evaluation program and to require FDR and CVR functional devices onboard EMS aircraft.

II. State Regulation of HEMS

A. State Regulations

When the Airline Deregulation Act[49] (ADA) was enacted in 1978, it removed government control from air carriers' rates, routes, and services, and sought to make it easier for new entrant air carriers to enter into the domestic market. The ADA state preemption provisions were a controversial part of the deregulation debate, with several states arguing they should be allowed to continue to regulate intrastate air carriers. The airlines argued that they could not compete fairly or operate efficiently in an aviation environment with multiple sets of rules and regulations.[50] At this time, the HEMS industry was just emerging; therefore, the issues relating to it were not explored explicitly in the ADA. Since 1978, courts have maintained that the ADA preempts state regulation of aviation,[51] but that states retain the right to regulate medical aspects of HEMS operations.

Though states are prohibited from regulating air carrier rates, routes, or services, they have the authority to regulate medical care. For example, many states dictate HEMS requirements for the medical training and qualifications of healthcare professionals onboard aircraft. States may also regulate performance standards for aircraft cabin temperature, helicopter equipment used to communicate with EMS officials on the ground, compliance with medically-dictated pickup and drop-off protocols, sanitary conditions onboard the helicopter, require a plan for upkeep of medical equipment, and medically mandated design of air ambulance bays (consistent with FAA safety rules).[52] However, the FAA retains safety oversight. For example, if a state requires air ambulances to carry a minimum amount of oxygen, the FAA identifies the location and method of oxygen canister installation; if a state mandates 75 degree temperature in the passenger bay, the FAA specifies the size or type of heating/cooling systems; and if a state requires a defibrillator, the FAA determines methods for securing the defibrillator when it is not in use.

Some states have established Certificate of Need (CON) programs, which are written to keep the price of healthcare low. A CON is a planning tool used by states to prevent excessive healthcare services, leading to healthcare price inflation.[53] States issue a CON based on a

---

[49] Airline Deregulation Act of 1978, Pub. L. No. 95-504 (1978) (codified as amended at 49 U.S.C. § 41713 (2008)).
[50] John Fischer, CRS, Issues Relating to the Regulation of Air Ambulance Services, 2 (2008).
[51] See e.g. *Morales v. Trans World Airlines, Inc.*, 504 U.S. 374, 378-9 (1992).
[52] DOT, Air Ambulance Briefing, Briefing to Congressional staff (Mar. 27, 2009) at 7.
[53] National Conference of State Legislatures, Certificate of Need: State Health Laws and Programs, (reposted Feb. 13, 2009), http://www.ncsl.org/programs/health/cert-need.htm.

community's need for services. Some have said that CONs are a way for states to regulate entry, coverage, and scope of services, for HEMS operators. When a state has a CON program for HEMS, a HEMS operator trying to enter that market must demonstrate that the existing HEMS services in that area are insufficient to accommodate the need. Most often, if a state has a HEMS CON, HEMS operators may not transport patients without a license in that state. In addition to setting a limit on the number of HEMS operators, some CON laws set very specific equipment requirements. Some have voiced concern over whether or not states have the expertise in aviation to justify such state requirements. Fewer than 10 states have a CON program for HEMS operators.[54] Some claim that a HEMS CON gives states the resources to control growth in air medical services. Others claim that allowing CON regulations may create "borders in the sky" with each state having its own specific regulatory scheme, limiting HEMS services across state lines.

B. Legal Issues Regarding State Regulation of HEMS

In response to requests, the DOT interprets the ADA through "letters of opinion." DOT provides a determination of whether a state regulation pertaining to an air carrier (including helicopter air ambulances) is preempted by the ADA. The DOT has found that particular state regulations regarding HEMS went beyond regulating the medical aspects within the state's jurisdiction and were preempted by the ADA with respect to rates, routes, and services. For example, the DOT has issued opinions on a states' use of a CON program or public necessity and convenience (PC&N) requirements,[55] rate setting, limitation on geographic service areas (mandating that air carriers service specific areas), and 24-hour/7-day availability.

In 2007, Med-Trans Corp., a multi-state HEMS operator interested in operating in North Carolina, asked DOT to give guidance on whether North Carolina's CON requirement for HEMS operators enforced a stipulation of law that related to rates, routes, and services. In a November 13, 2007 letter, DOT concluded that "North Carolina's CON requirements are ones that relate to the routes and services of an air carrier, and as such are preempted." DOT further stated that "the North Carolina requirement directly encroaches on the pro-competitive Federal scheme mandated by Congress and is prohibited by section 41713 [Title 49 U.S.C. § 41713 -- ADA]."[56]

Med-Trans went on to challenge North Carolina's HEMS laws in court. The U.S. District Court for the Eastern District of North Carolina found that many, though not all, of the State's laws regarding HEMS were preempted by the ADA. The court rejected State regulations that required a CON, mandated participation in an EMS Peer Review Committee, and required operators to have 24-hour/7 day-a-week availability.[57] The court ruled that since the collective economic effect of the regulatory system pertaining to medical oversight could be used to prevent an air carrier from operating at all within the State, those laws are preempted by the ADA. The court stated that medical oversight is within the State's authority to regulate, provided that the State laws do not conflict with federal law. However, the court found that medical functions within the State's HEMS regulatory authority include: requiring an air ambulance provider to synchronize his or her voice radio communications to local emergency service resources, providing documented plans for

---

[54] *Id.*

[55] DOT considers a CON and PC&N as equivalent.

[56] Letter from D.J. Gribbin, General Counsel, DOT, to Albert B. Randall, Counsel for Med-Trans Corp., (Nov. 13, 2007).

[57] *Med-Trans Corp. v. Benton*, 581 F. Supp. 2d 721 (E.D.N.C. 2008).

transporting patients to appropriate medical facilities in the event of a diversion or bypass, and mandating medical equipment that can be reasonably detached from the aircraft safely.

In 2007, Pacific Wings L.L.C. requested a DOT opinion of Hawaii's CON program for HEMS operators. DOT investigated Hawaii's CON program, prompting Hawaii's Deputy Attorney General to review and find the CON was preempted by the ADA. As a result, Hawaii withdrew its CON. DOT also found that Hawaii's 24-hour operability requirement encroached on the ADA, but specified that as a customer, a state or local government may opt to contract with or use the services of only those who offer 24-hour service distinguishing the action of a customer from that of a regulator. DOT also found Hawaii's equipment requirements to be outside DOT's scope of regulation, though the letter reiterated that "Hawaii may prescribe such medical supplies and equipment for air ambulance operators, so long as FAA requirements are met regarding how those items are safely installed and carried aboard any aircraft."[58]

In 2008, the Texas Attorney General requested an opinion of whether Texas' "Subscription Programs" are preempted by the ADA. The Texas EMS Subscription Program offers residents of a certain area a membership in its program for an annual fee, members are then not charged or are charged a reduced fee for any emergency medical services and transport to a hospital. The DOT found that Texas subscription rules on advertisement and bonding preempted the ADA, because they are economic regulation of air carriers. DOT offered an alternative to the preempted economic regulation by suggesting that a state focus on "a breach of contract claim against an air ambulance operator for breach of the subscription contract"[59] to accomplish the same goals.

C. H.R. 978

H.R. 978, the "Helicopter Medical Services Patient Safety, Protection, and Coordination Act," introduced by Representative Jason Altmire, amends Title 49 to expand states' authority to regulate HEMS operations, including: medical training of aircraft medical personnel; medical equipment carried on the aircraft; and the communication capabilities enabling the aircraft to communicate with emergency medical services personnel and institutions receiving patients. The bill also includes language that obligates service providers to comply with health planning and medical service requirements, which includes coordinating the transport of patients with emergency medical services, demonstrating a need for new or expanded services, and limitations on the number of aircraft providing services within a state or region of a state. It also proposes to allow states to regulate service requirements with respect to geographic areas or during specified hours and days, and can require operators to comply with certain accreditation requirements.[60] Lastly, the legislation does not change any limitations of state authority with respect to rates, taxes, or user fees of an air carrier.

Supporters of the legislation claim that H.R. 978 simply clarifies state authority to regulate medical care provided in HEMS operations similar to how states regulate ground ambulances. They

---

[58] Letter from Rosalind A. Knapp, Acting General Counsel, DOT, to Gregory S. Walden, Counsel for Pacific Wings, L.C.C. (Apr. 23, 2007).

[59] Letter from D.J. Gribbin, General Counsel, DOT, to Honorable Greg Abbott, Texas Attorney General (Nov. 3, 2008).

[60] Many HEMS operators are accredited by the Commission on Accreditation of Medical Transport Systems (CAMTS), which offers voluntary accreditation standards for an operator that can establish a high quality of safety in medical care and transport of patients. Some states require HEMS operators to obtain CAMTS-like accreditation.

state that this legislation sets forth a sphere in which the state is not preempted by the ADA. Supporters also claim that numerous state laws governing HEMS have been undermined by challenges citing federal ADA preemption and that a lack of clarity threatens patient safety, and the quality of patient care, and impedes the proper coordination of services.

Opponents of the legislation contend that H.R. 978 is unnecessary because states already have the authority to regulate medical care. Opponents also assert that, no matter the intent of the legislation, its effect would be fewer HEMS operators, resulting in decreased competition. As such, small and rural communities could experience a decreased presence of operators in their vicinity. Some assert it would ultimately erode federal jurisdiction over the economic and operational aspects of HEMS, and would create the potential for safety conflicts in the national airspace system. Some operators say that the current regulatory scheme allows them to be flexible, enabling them to have a mixture of different helicopters with different equipment, specialized for specific patient needs. Legislation requesting a "carve out" for specific aviation communities has a potential slippery slope effect on the rest of aviation, may create unnecessary complexity in the air ambulance industry, prevent patient transport across state lines, and could limit market entry.

APPENDIX I: RECENT HEMS ACCIDENTS

Date	Location	No. Killed or Injured	Helicopter Type	Description and/or Probable Cause and Contributing Factors[61]	Operator Model	Operating Conditions
Oct. 15, 2008	Aurora, IL	4 fatal	Bell 22	Impacted a radio station tower.	Independent	Part 135 Night
Sept. 27, 2008	District Heights, MD	4 fatal	AS365	Collision with trees and terrain.	Public use	Part 91 Night
Aug. 31, 2008	Greensburg, IN	3 fatal	Bell 206	Collision with terrain and post-impact fire.	Independent	Part 91
June 29, 2008	Flagstaff, AZ	7 fatal	Bell 407 (2)	Pilots' failure to identify and arrest the helicopter's descent, resulting in its impact with terrain. Factors: inadvertent flight into IMC, and limited visual references.	Hospital-based; Independent	Part 135, VFR Night
June 27, 2008	Ash Fork, AZ	Non-fatal; 3 serious	AS350	Collision with terrain during attempted "go-around."	Independent	Part 91 Night
June 8, 2008	Huntsville, TX	4 fatal	Bell 407	Cause: Impact with terrain due to pilot failure to identify and arrest descent. Factors: inadvertent flight into IMC; limited visual reference due to night conditions, low clouds, and fog.	Independent	Part 135, VFR
May 30, 2008	Pottsville, PA	Non-fatal; 3 inj.	EC135	Collision with a semi-trailer, parked at an adjacent loading dock.	Hospital-based	Part 91 Night
May 29, 2008	Grand Rapids, MI	Non-fatal; 2 serious	S76A	Pilot's failure to maintain tail rotor obstacle clearance from a tower during takeoff from hospital.	Hospital-based	Part 91
May 10, 2008	La Crosse, WI	3 fatal	EC135	Collision with trees and terrain.	Hospital-based	Part 91 Night
Feb. 5, 2008	South Padre Island, TX	3 fatal	AS350	Cause: pilot failure to maintain aircraft control resulting helicopter impact with water. Factors: Inadvertent flight into IMC, low ceiling, darkness, and lack of pilot experience.	Hospital-based	Part 91 Night
Dec. 30, 2007	Cherokee, AL	3 fatal	Bell 206	Cause: Pilot's failure to maintain control of the helicopter during its low hover. Factor: Loss of tail rotor effectiveness.	Independent	Part 91 Night
Dec. 3, 2007	Whittier, AK	4 fatal	BK 117	Probable: VFR flight into IMC. Factors: operator's failure to adhere to an FAA-approved and mandated risk management program; pilot's lack of experience in night and winter operations, operators lack of an EMS dispatch and flight following system.	Hospital-based	Part 135, VFR Night

[61] Probable cause and contributing factors are determined by the NTSB following its complete investigation.

WITNESSES

MEMBER PANEL

The Honorable John T. Salazar
Colorado's Third District
U.S. House of Representatives

PANEL I

The Honorable Christa Fornarotto
Acting Assistant Secretary for Aviation and International Affairs
U.S. Department of Transportation

Mr. John Allen
Director
Flight Standards Service
Federal Aviation Administration

The Honorable Robert L. Sumwalt, III
Board Member
National Transportation Safety Board

Dr. Gerald Dillingham
Director, Physical Infrastructure Issues
U.S. Government Accountability Office

PANEL II

Ms. Stacey Friedman
Founder
Safemedflight: Family Advocates for Air Medical Safety

Eileen Frazer, RN, CMTE
Executive Director
Commission on Accreditation of Medical Transport Systems

Ms. Sandra Kinkade
President
Association of Air Medical Services

Mr. Matthew S. Zuccaro
President
Helicopter Association International

Mr. Craig Yale
Executive Vice President
Air Methods Corporation
on behalf of the
Air Medical Operators Association

Mr. Jeff Stackpole
Council Member
Professional Helicopter Pilots Association

Thomas P. Judge, EMTP
Executive Director, LifeFlight of Maine
Chair, The Patient First Air-Ambulance Alliance

Dr. Robert Bass
Chair, Air Medical Committee
The National Association of State EMS Officials

HEARING ON OVERSIGHT OF HELICOPTER MEDICAL SERVICES

Wednesday, April 22, 2009

HOUSE OF REPRESENTATIVES
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
SUBCOMMITTEE ON AVIATION,
Washington, DC.

The Subcommittee met, pursuant to call, at 10:00 a.m., in Room 2167, Rayburn House Office Building, the Honorable Jerry F. Costello [chairman of the Subcommittee] presiding.

Mr. COSTELLO. The Subcommittee will come to order. The Chair will ask all Members, staff, and everyone in the room to turn electronic devices off or on vibrate.

The purpose of the hearing is to hear testimony on the oversight of helicopter medical services. We have a number of witnesses today, two panels, that I hope other Members will be here to hear their testimony and to ask questions.

We have on our first panel one of our colleagues, a Member of the House, that will be testifying, the Honorable John Salazar, from Colorado's 3rd District.

I will offer an opening statement. I will ask, then, the Ranking Member of the Full Committee to give his opening statement and the Ranking Member of the Subcommittee.

I welcome everyone to the Aviation Subcommittee hearing today on oversight of the helicopter medical services. This hearing will examine two issues: first, the safety of helicopter emergency medical services, or helicopter EMS; and, second, the State regulation of helicopter EMS.

The Federal Aviation Administration regulates helicopter and the pilot, while States regulate the medical care that a patient receives while on board the aircraft. This hearing is an opportunity to discuss how the aviation industry, government, and the health care community can work together towards a common goal of enhanced helicopter EMS safety.

The helicopter EMS industry provides an important service by transporting seriously ill patients to emergency care facilities and high level trauma centers. However, helicopter air ambulance operates in challenging conditions, such as flying in bad weather, going into unfamiliar landing sites, and operating at night.

According to the National Transportation Safety Board, approximately 400,000 patients and transplant organs each year are safely transported by helicopter, saving countless lives. Unfortunately, lives have been lost as well. Between 1998 and 2008, there were 146 helicopter EMS accidents, with 131 fatalities, the greatest

number of accidents in any 11 month period occurring between December 2007 and October 2008 resulting in 13 accidents and 35 fatalities.

I want to acknowledge the family members of those who lost their lives in helicopter EMS accidents who are here with us today. On behalf of this Subcommittee and each of our Members, I offer our condolences.

In 1988, the NTSB conducted a study of helicopter EMS and issued 19 safety recommendations. In January 2006, 18 years later, the NTSB conducted another special investigation after an increase in accidents. As a result of this investigation, the NTSB issued four safety recommendations to the FAA and added helicopter EMS to its most wanted list in 2009.

The NTSB also held a four-day public hearing on helicopter EMS operations in February. I look forward to hearing our NTSB witness explain the recommendations of its four-day hearing. I want a progress report on how the FAA plans to proceed following that hearing, what the agency is doing to address the safety issues that were raised.

I look forward to an update on the Government Accountability, the GAO 2007 report that I requested, which recommended that the FAA identify and collect data to better understand the air ambulance industry. Without this data, it would be difficult to know how to address the problem.

In addition, Congressman Salazar and Congressman Lungren introduced legislation addressing many helicopter EMS safety issues. I thank Congressman Salazar for testifying here today regarding his bill.

We are here today because we are committed to preventing helicopter EMS accidents. I look forward to the witnesses' testimony on current and future actions industry and government can take to improve helicopter EMS safety. Safety is and must always be priority one.

This brings me to the second issue that we will explore at this hearing today, State regulation of helicopter EMS. Currently, States have the authority to regulate medical care inside the aircraft, including establishing minimum requirements for medical equipment, as well as training and licensing requirements of the medical crew. My home State of Illinois requires EMS helicopters to be equipped with a cardiac monitor and an extra battery, a defibrillator that is adjustable to all age groups, an external pacemaker, two sources of oxygen, in addition to other medical equipment.

However, the Airline Deregulation Act of 1978 stipulates that these States do not have the authority to regulate rates, routes, or services of air carriers.

Several States have tried to adopt regulations pertaining to helicopter EMS that control items other than medical care, such as the Certificate of Need program, rate setting, and limitation on geographic service areas. Courts and the Department of Transportation have found that many of these State regulations were essentially economic regulations of air carriers that were preempted by ADA, or the Airline Deregulation Act.

For example, a Federal court in North Carolina recently found that the State regulations establishing a Certificate of Need program limiting the number of helicopter EMS operators in the State was preempted by ADA. Accordingly, some are calling for clarification of the ADA to allow States to have a greater hand in regulating aspects of helicopter EMS that may be considered to be preempted by the ADA. They argue that States regulate ambulances on the ground; therefore, they should be able to regulate ambulances in the air.

However, the issue is not that simple. Air medical transport is an interstate operation. I have concerns about allowing each State to separately regulate helicopter EMS services.

In 2007, the National Academy of Sciences issued a report stating that there is a need to address inefficiencies and problems with the entire emergency medical services, and by trying to tackle the issue of State regulation of helicopter EMS, we may be missing out on "the big picture issues" of the EMS system as a whole.

Congressman Altmire and Congresswoman Miller introduced legislation addressing State regulation of medical helicopters. I thank them for bringing these issues before the Subcommittee. The provisions in this legislation are extremely complex, and I hope to have a good discussion of these issues.

Before I recognize Mr. Petri for his opening statement, I ask unanimous consent to allow two weeks for all Members to revise and extend their remarks, and to permit the submission of additional statements and materials by witnesses and Members. Without objection, so ordered.

At this time, the Ranking Member of the Full Committee, Mr. Mica is here, and I understand has an opening statement or a comment.

Mr. Mica, you are recognized.

Mr. MICA. Well, thank you for recognizing me, and also thank you for convening this hearing. I also want to say that I appreciated your opening remarks. Very well said. I think you have covered the issues and challenges that we face on this issue.

I requested a hearing back in September, and I think Mr. Petri did in the earlier part of this year. From time to time, as a former Chair of the Aviation Subcommittee, I think there are issues that reach a certain level that we can't ignore them and we must address them, and I am pleased that this hearing is going to address what I considered last year to be an unacceptable level of fatalities with medical assistance helicopters. Their intention is great and they save thousands of lives every year, but sometimes we have experienced the heartbreak, in fact, I have known folks that have unfortunately lost individuals in that type of accident trying to save their life, but their life was lost in the course of that rescue effort.

I don't have answers, Mr. Chairman or Mr. Ranking Member, but I think that we can take from this hearing. We have several Members with some well-intended legislative proposals, and I think we need to very seriously look at those.

We don't want the cure, though, to be worse than the problem that we are experiencing, and we do have, as you pointed out in your opening statement, multi-jurisdictional layers of responsi-

bility; there are State issues here, Federal, medical. Do we regulate by law? Should FAA adopt additional measures?

Most of the accidents have occurred either in bad weather or at night, I think our staff reviewed, and that is of particular concern to me. I am not sure if we have technologies to deal with all of this, because most of these helicopters fly at very low levels, and they are going into a disaster scene to begin with, usually in bad weather conditions or at night.

So I do think that this hearing will be most helpful in hearing from experts, and hopefully they can give us some concrete solutions or some steps that we can take. So I look forward to working with you. Thank you for conducting this hearing. I won't be able to stay for the whole thing. As you know, Mr. Oberstar and I are committed on a couple of important issues today. I will follow up very carefully with you and support whatever you and Mr. Petri can come up with as positive solutions. Thank you. I yield back.

Mr. COSTELLO. The Chair thanks the Ranking Member and now recognizes Mr. Altmire.

Mr. ALTMIRE. Thank you, Mr. Chairman. I want to commend you for holding this hearing and the two important issues surrounding helicopter medical services, aviation safety and patient safety. When we see the crashes on the front page of the newspapers, we are horrified and we know that we must act to address aviation safety. But so too must we address patient safety. The stories aren't hitting the front page of the newspapers in same dramatic way, but they are numerous and they are real. Patients are being harmed and put at risk everyday by a broken air medical system that is supposed to protect them.

There are numerous stories illustrating patient safety problems in our air medical system. These stories include infants arriving at hospitals code blue with temperatures 10 degrees below normal because the helicopter was not heated. In one case, a premature infant was also improperly intubated and secured during the flight. Patients have experienced delayed transports when air medical systems stack the flights and say they will transport a patient, even though they have to wait until the helicopter frees up. Patients have died during these waiting periods, even though a closer helicopter was available but never called.

Requests to move medical helicopters off hospital helipads to accommodate other incoming medical helicopters for patient transports have been refused. There have been instances of blatant inadequacy in the structure of the aircraft itself, in one case resulting in a child receiving a second degree burn and requiring skin grafts because the bed he was riding in was too close to the heating vent on the helicopter.

Unfortunately, these are not isolated instances. These are real patients who have been harmed or put at risk in areas where there is fierce and unregulated competition among medical helicopters. When there is economic pressure to fly as much as possible and as cheaply as possible, undue risks are inevitably taken.

States must have the right to regulate competition to ensure that business interests do not trump patient safety. H.R. 978, which Representative Miller has joined me in cosponsoring, would create a protected sphere in which States can regulate helicopter medical

services notwithstanding the Airline Deregulation Act. This bill is endorsed by 55 air medical programs, 7 Part 135 operators, and 11 health organizations, including the National World Health Association and the National EMS Physicians Association, and I am pleased to announce that just today, in the Senate, companion legislation was introduced by Senators McCaskill and Snowe. S. 848 incorporates some of the helpful suggestions to this Committee following recommendations by the FAA and the DOT.

While the FAA regulates the aviation aspects of air ambulances, I believe States must be able to fully regulate the medical part, aboard the helicopter and beyond. Our bill would allow States to regulate in the following ways: by ensuring quality care aboard the helicopter with the medically necessary equipment, aircraft attributes and qualified personnel safety for severely sick and injured patients; coordinate HMS services as part of the State EMS system so patients are transported to the right place at the right time; determine how helicopters are needed, establishing base locations and designating service areas to back up protocols to better prevent air medical programs from call-jumping, stacking flights, or fighting for patient transports; requiring programs to be available 24/7 and preventing them from performing wallet biopsies on patients needing emergency transport.

These tools would be available for States to better regulate helicopter medical services and protect their citizens. This bill does not impede access to rural and underserved areas; it provides States the tools to improve access to underserved areas by enabling them to better ensure service coverage. It also allows States to regulate over-saturated markets where regulated competition is producing the problems I have outlined. It does not affect rates. Rates are simply not within the protected sphere of State regulation, and the ADA still prohibits States from regulating rates. It does not prevent interstate movement of helicopters. The legislation affects point-to-point transports within the State only. It does not impede on FAA authority over aviation safety. FAA flight safety rules supersede State medical regulations.

I have been pleased to be working with the Subcommittee, the FAA, and the DOT, and other interested parties to identify clarifications that can be provided to improve this legislation, and I very much appreciate the input of all these groups.

As a final note, Mr. Chairman, let me stress that the ADA preemption provision has generally worked in the aviation industry for reducing costs and improving services. However, it is not working in helicopter medical services. Instead, it has resulted in lowering the standards of care and higher costs for patients and insurers.

I appreciate the consideration of this Subcommittee and Chairman Costello in working to address patient safety. We are all trying to protect the same critically ill patients being transported by medical helicopters, and I look forward to continuing working with everyone involved.

Thank you, Mr. Chairman.

Mr. COSTELLO. The Chair thanks the gentleman from Pennsylvania and thanks him for his leadership on this issue. In addition to Ranking Member Mica and Petri requesting this hearing, Mr. Altmire requested the hearing as well, and we appreciate your

leadership and look forward to working with you on your legislation and trying to come up with a solution that can address the problem that we are all concerned about.

The Chair now recognizes the Ranking Member of the Subcommittee, Mr. Petri.

Mr. PETRI. Thank you for scheduling this hearing, Mr. Chairman.

And my colleague, John Salazar, thanks you for your patience as you listen to all of us give our five minute remarks. I have a lot of fond memories of visiting the rail safety and experimental station in your district in Colorado some years ago.

From December 2007 to October 2008, 35 people lost their lives in 13 helicopter emergency medical services accidents, the most ever in an 11-month period. One of these accidents where the pilot, flight paramedic, and flight physician were killed occurred last year in my own State, in La Crosse, Wisconsin.

Any aviation accident is a terrible heartbreaking event. In helicopter EMS crashes, the professionals who risk their lives to help others are often among those who are killed.

Mr. Mica and I and Mr. Altmire requested this hearing to provide the opportunity for those directly involved to share their expertise and insights on how to address this important, but complicated, aviation safety issue.

I understand that there is no silver bullet to aviation safety, and helicopter EMS is no exception. It will take the focus and effort of Federal regulators and industry stakeholders to improve the safety of helicopter EMS flights. I am interested in learning about the ongoing regulatory efforts at the FAA to address helicopter EMS safety. I am also interested to hear what technologies made pilots and operators in their singular mission of safe patient transport.

As we take up possible legislation, we must carefully consider congressional mandates for helicopter EMS equipment or operating standards. It is important to thoroughly explore which technologies make the best sense to improve aviation safety. But, at the same time, we must give appropriate attention to the unique operating environment and the recently updated regulatory structure under which helicopter EMS flights operate.

H.R. 1201, introduced by Mr. Salazar and Mr. Lungren, highlights the safety areas, technology, and operating standards to be explored by this Subcommittee today. We have witnesses ready to discuss these issues, and I look forward to hearing our panelists' viewpoints on the proposed legislation.

It is my understanding we will also consider H.R. 978, as introduced by Mr. Altmire and Mrs. Miller. Their bill seeks to clarify—and some may argue expand—State authority over air medical flights. I believe this Committee must carefully consider the impact H.R. 978 could have on FAA regulatory oversight of aviation safety. If the helicopter EMS sector of the aviation industry were to be treated differently in terms of State versus Federal oversight, a number of issues come to mind. For instance, would other sectors of the aviation community, all unique in their own right, feel justified in demanding their own carve-out from Federal regulations?

Federal oversight of the aviation industry has long ensured one standard of safety oversight and operational requirements nation-

wide. It has also provided a level playing field for competition. Across the aviation industry, competition has had a positive effect on safety and prices available to consumers.

The delegation of economic regulatory authority from the Department of Transportation to the various States, as directed in H.R. 978, is a fundamental shift in oversight of the air transport industry. It is the responsibility of this Subcommittee to understand and consider all potential effects on aviation safety, competition, and access to helicopter EMS care for consumers before such a monumental shift is mandated.

Again, I look forward to a lively discussion on the issues and, in the interest of time, I want to thank the witnesses for their participation and yield back the balance of my time.

Mr. COSTELLO. The Chair thanks the Ranking Member and now recognizes the distinguished Chairman of the Full Committee, Chairman Oberstar.

Mr. OBERSTAR. Thank you very much, Mr. Chairman, Mr. Petri, both, for holding this hearing and inquiring into this extremely important subject matter that frankly has a great many people deeply concerned.

You have quite a lineup of witnesses today, including our former Committee colleague, Mr. Salazar. He is still an emeritus Member of the Committee. We welcome him back, these refugees who take respite in another Committee.

But you are always on call, I want you to know, Mr. Salazar.

I have had time to reflect a bit, Mr. Chairman, on the previous hearing in this Subcommittee on the U.S. Airways remarkable survival of a bird strike, and after reviewing the testimony and thinking it through, it seems to me that we ought to have perhaps not a hearing, but perhaps an in camera, as is quaintly said in Latin, discussion with NTSB, with the FAA, with Boeing and Airbus, and discuss the adequacy of testing of engines with bird strikes.

As I reviewed the testimony, review the literature in the field, it seemed to me that the entire testing process is inadequate. One bird 1.2, 1.4, 2.5 pounds, largest used was a 7 pound bird. Nothing of the size of the Canada geese, which are like—I don't want to offend Canada geese lovers; it is pretty hard to find any, but they are winged very heavy rats, as my friends on the docks call them; and they can rise to 20 to 25 pounds. Many of them are inept at flying because they spend so much time on the ground, those domesticated critters. They haven't used the central Mississippi flyway in years, nor the east coast flyway in years. But they do manage to get up to 3,000 feet.

And while FAA and U.S. Airways and Airbus and the engine manufacturers, CFM, all considered it to be a success that there was not an uncontained engine failure, it still was a failure, and I think we need to have them come with some technical specifications and review with us the adequacy of the testing, the construction of engines, and not limit this roundtable discussion. It ought to be inclusive on the Committee, we don't need to have a public hearing on the subject, but I think we need to have a very in-depth technical review. There are only a handful of engine manufacturers—Snecma, Pratt and Whitney, GE, and Rolls Royce with their Trent engine series—that power major commercial aircraft.

Perhaps we ought to have them come in and talk with us about the adequacy of standards on the fan blades, those titanium fan blades. How they get inspections for very small imperfections. As little as a millimeter of indentation in the fan blade is enough to take it out of service and replace it. But what when it entirely disintegrates and when the pieces get into the bypass or other portions of the engine? Aircraft engines are enormously reliable. If you go to the 1940s, the time between overhaul was 300 hours; you get into the 1950s, time between overhaul was up to 600 hours; and then with the DC-9 it got up to 30,000 hours time between overhaul; and now it is up to 50,000 hours. Wonderful, except it can't withstand a bird strike. And we are not testing those engines adequately at a level to protect life.

And then we ought to also have both Boeing and Airbus report to us on their structural standards for the hull. The crew made a very good decision to, in effect, create a tail strike on landing and gently get that aircraft into the ground, but the hull buckled and water entered the cabin. That is not very encouraging when you have to face the prospect of putting on a life vest inside the cabin to float and get yourself out. There perhaps are some design inadequacies of hull construction that we also ought to take a look at.

So as you pursue this very important inquiry today, and we have in the room the Flight Standards Service, we have the NTSB, we have Dr. Dillingham from GAO, all of whom are familiar with these subject matters—I put them on notice, at your direction, we would have a follow-up inquiry on this subject.

Thank you.

Mr. COSTELLO. The Chair thanks you and will advise all Members that your entire opening statement will be inserted in the record. We would ask that you give brief comments.

Now, the Chair will recognize the gentlelady from Texas, Ms. Johnson.

Ms. JOHNSON. Thank you very much, Mr. Chairman, and thank you for having this important hearing. It is extremely important to me, having practices professional nursing for a number of years. I can speak firsthand on the importance of rendering emergency care within critical time windows immediately following a serious accident. And, without question, the proliferation of helicopter emergency medical services, or HEMS, has proven to be literally vital, important lifesaving tool in the preservation of life for countless accident victims by ensuring that they are able to receive timely medical attention.

According to the 2005 report by Helicopter Association International, in 1991, there were 225 helicopters dedicated to air medical service. Today there are approximately 850 in service, providing for approximately 81.4 million Americans. However, as the data before us may suggest, this proliferation has not come without its share of fatal accidents, many of which aviation experts indicate could have been prevented.

Over the past year, accidents involving HEMS has increased significantly relative to previous years, and according to the data provided by staff, there were 13 HEMS accidents, resulting in 35 fatalities between December 2007 and October 2008, and that is the most in any 11-month period in history.

Thank you, Mr. Chairman. I will submit the rest of my statement to the record.

Mr. COSTELLO. The Chair thanks the gentlelady and now recognizes the gentleman from Tennessee, Mr. Duncan.

Mr. DUNCAN. Thank you very much, Mr. Chairman. I don't have a lengthy formal statement, but I do want to first thank you and Ranking Member Petri for calling this hearing. I want to also commend our colleagues, Congressman Salazar and Congressman Altmire, for their interest in this.

There is great interest in this subject, as I found out, because I have been contacted by both the University of Tennessee Hospital in Knoxville and the Vanderbilt University Hospital in Nashville about this legislation, and I have some interest in it that several years ago I introduced the Aviation Medical Assistance Act, and we made that a part of one of our FAA reauthorizations to increase the medical training for airline personnel and to create the first Good Samaritan law in the skies to erase any concerns doctors or nurses or others might have in rendering assistance during medical emergencies in planes. So it is along these same lines that we are dealing with, some of these subjects here today.

I also have come with great interest to welcome back our former staffer, the new Acting Assistant Secretary, Ms. Fornarotto. I don't want to put any extra pressure on her, but I am looking forward to her first testimony before the Committee.

Thank you, Mr. Chairman.

Mr. COSTELLO. The Chair thanks you and now recognizes the gentleman from Michigan, Dr. Ehlers. Then we will go to our first witness, Congressman Salazar.

Mr. EHLERS. Thank you, Mr. Chairman. I will try to be brief. I am a proud cosponsor of the Miller-Altmire bill, and I think it is needed.

Michigan has always done pretty well. We have a very functional EMS system. The State controls it through a Certificate of Need program. We have coverage over the entire State, even though much of Michigan is highly rural or even less than rural, and the system works well.

It is ironic that this hearing came now, but we had our first accident in a Grand Rapids helicopter this summer. Ironically, I was up in the air taking a flying lesson at the time and saw this huge plume of black smoke coming up from the center of Grand Rapids, so I got on the ground and started driving back. Fortunately, there were no patients aboard the helicopter; it crashed while landing at the hospital. The only other person besides the pilot was an FAA inspector, who was forcing the pilot to go through all his procedures and somehow a gust of wind caught them and they caught fire.

Be that as it may, we have a good record in Michigan, and we have lots of discussions in the newspapers, both letters to the editors and news analysis, about the accident and so forth, and recognize no one got killed. They did lose a helicopter, but the interesting fact that emerged is that the number of fatalities or injuries of patients was much higher in land-based ambulances than it was in air ambulances, which indicates the very good record that we have in Michigan.

So I would just urge that we recognize that some States and some communities do it right, and let's be careful, as we go through this, that we not in some way endanger the operations that are already working well, and try to bring all the others up to snuff.

There is absolutely no reason to have a surplus of ambulances, these air ambulances. These are very expensive machines, very high hourly rate, and that money has to be paid somehow. I think if we have too many, then you are really boosting the cost of medical care in a way that is not necessary.

With that, I yield back. Thank you.

Mr. COSTELLO. The Chair thanks the gentleman.

Now we will go to our first panel, the Honorable John Salazar, representing the 3rd District of Colorado. As Chairman Oberstar, Congressman Salazar served on this Subcommittee and the Full Committee before he moved on to another Committee, but we still consider him family and look forward to hearing his testimony.

You are recognized, John.

STATEMENT OF HON. JOHN T. SALAZAR, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF COLORADO

Mr. SALAZAR. Thank you, Mr. Chairman. Chairman Costello, Ranking Member Petri, and Members of the Committee, it is an honor to be back to my old Subcommittee, one of the greatest Subcommittees, I think, in Congress. I want to thank you for inviting me today to testify on the topic of air medical service, and specifically on the bill that we have introduced, H.R. 1201, the Air Medical Safety Act. I also want to commend the Chairman, Chairman Costello, for your leadership on this issue, and Ranking Member Petri, as well as other Members of the Committee.

I consider H.R. 1201 to be a starting point on this critical safety issue. Since its introduction, my staff, Cathleen Breslin and members of this Committee's staff as well, have worked with the FAA, with the NTSB, with the industry and a number of advocacy groups to ensure that this legislation is fair, effective, and meaningful.

We have already made a number of changes, most of them technical, but important nonetheless. Among them, changing the word pilot to certificate holder and requiring a rulemaking on devices that perform the function of recording voice communications and flight data information. We are also adding terrain and obstacle avoidance systems to the bill, a key component to enhance EMS flight safety.

Before I go further, I would like to recognize Stacey Friedman, who will be testifying later. Stacey's sister, Erin Reed, was a flight nurse who died in September of 2005 when her helicopter lost control in inclement weather conditions after delivering a patient to a nearby hospital.

I would also like to recognize Congressman Dan Lungren, who is the cosponsor of this bill with me.

I think this is a very important piece of legislation. It is bipartisan and I can assure you that human safety is not a partisan issue. Our bill increases the safety of crew and passengers on aircraft providing emergency medical services, EMS.

We have a very important person on this Committee - Jimmy Miller, Director of Facilities and Travel, whose life was saved because of EMS. A wonderful, great service to this Committee. We appreciate that, Jimmy, and I appreciate working with you over the last several years.

Our bill increases the safety of crew and passengers on aircraft. Colorado has seen three fatal crashes of EMS flights since 2000, and all of those have occurred in my district. The most recent one was in Alamosa, which is 30 miles away from my home, in October of 2007. The other two crashes were in 2005, one based out of Steamboat Springs, Colorado and the other one near Mancos, Colorado.

H.R. 1201 includes recommendations that the National Transportation Safety Board made to the FAA in response to several air medical crashes to help improve safety. One of the issues on their list was the impact of Part 91 of the FAA code. This was brought to my attention by St. Mary's Care Flight operating out of St. Mary's Hospital and Medical Center in Grand Junction, Colorado.

A great majority of air medical crashes over the past five to seven years have been conducted under FAA Part 91 regulations. As many of you know, Part 91 allows EMS crews to fly in conditions which are more dangerous than what is permitted when a patient or an organ is onboard. Specifically, it allows for much less stringent weather minimums and does not restrict pilot duty time, compared to Part 135 of the same code. The lives of our pilots and air medical crews should be protected by the same weather minimums and pilot duty time requirements that these patients are afforded during their leg of transport.

So this bill will eliminate the Part 91 regulations for certain flights and direct the FAA to study and implement several other proposals to increase safety conditions for medical flights. I do credit the FAA for some recent advancements in this area, but I still believe that much more needs to be done, and in a timely manner.

In closing, I would like to recognize the efforts of the many families who have responded to their losses with determination to help others. By increasing safety conditions for medical flights, we will not only honor the remarkable sacrifices of those who gave their lives while trying to help others, but in their honor we will also prevent similar tragedies from occurring in the future.

I want to thank this Committee. I want to thank the Chairman and Mr. Petri once again for giving me the opportunity to speak with you today.

Mr. COSTELLO. The Chair thanks you. It has been the tradition of this Committee not to ask the Member to wait to answer questions. We realize that you have a busy schedule. If Members have questions, we will submit them in writing. Again, we thank you. We thank you for your legislation, and we look forward to working with you to try and come up with legislation that is in the best interest and accomplishes what we are attempting to do here with this hearing, and what you and Mr. Altmire and others are attempting to do with your legislation. Thank you.

Mr. SALAZAR. I want to thank you, Mr. Chairman.

Mr. COSTELLO. The Chair would ask the first panel of witnesses to come forward. I will introduce them as they are taking their seats.

The Honorable Christa Fornarotto, Acting Assistant Secretary of Aviation and International Affairs, with the U.S. Department of Transportation; Mr. John Allen, the Director of Flight Standards Service, Federal Aviation Administration; the Honorable Robert Sumwalt, III, Board Member with the National Transportation Safety Board; Dr. Gerald Dillingham, the Director of Physical Infrastructure Issues, U.S. Government Accountability Office.

We would ask all of our witnesses to take their seats. In the interest of full disclosure, let me say that Ms. Fornarotto used to be my legislative director and was a staff member of this Subcommittee for a number of years. Mr. Petri and I were just talking. He suggested we may want to swear you in, but I think we are going to not do that today.

[Laughter.]

Mr. COSTELLO. Let me welcome all of you here today on this important topic. First, let me say that your full statement will be entered into the record, and we would ask that you summarize your testimony under the five minute rule.

The Chair now recognizes Ms. Fornarotto.

TESTIMONY OF THE HONORABLE CHRISTA FORNAROTTO, ACTING ASSISTANT SECRETARY FOR AVIATION AND INTERNATIONAL AFFAIRS, U.S. DEPARTMENT OF TRANSPORTATION; JOHN ALLEN, DIRECTOR, FLIGHT STANDARDS SERVICE, FEDERAL AVIATION ADMINISTRATION; THE HONORABLE ROBERT L. SUMWALT, III, BOARD MEMBER, NATIONAL TRANSPORTATION SAFETY BOARD; AND DR. GERALD DILLINGHAM, DIRECTOR, PHYSICAL INFRASTRUCTURE ISSUES, U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Ms. FORNAROTTO. Mr. Chairman, Mr. Petri, Members of the Subcommittee, thank you for inviting me to this hearing. The Department of Transportation takes air ambulance services issues very seriously, and we appreciate the opportunity to testify here today.

H.R. 978, the Helicopter Medical Services Patient Safety Protection and Coordination Act, contains several provisions that seek to provide States with additional authority to regulate helicopter air ambulances. Under current law, air ambulances are air carriers subject to the Airline Deregulation Act of 1978. The ADA ended the government's economic control over airfares and services, and, instead, relies on competitive market forces. As such, States are prohibited from enforcing regulations related to air carrier prices, routes, and services.

That said, the ADA has no bearing on a State's ability to regulate the medical aspects of air ambulances, including patient medical care. It is has long been the Department's view that the provision of medical services is not aviation services, and, thus, not preempted by the ADA.

The Department of Transportation has long supported the authority of States to issue FAA compliant regulations on patient care that would affect air ambulance operations. We recognize the interest States have in ensuring that medical professionals on

board air ambulances are properly qualified and that air ambulances arrive properly equipped with the medical and communications equipment necessary to care for patients and communicate with emergency medical services personnel on the ground.

Although State regulations that would affect air ambulances must always be compliant with FAA requirements, we believe that there is a wide range of medically related interests that States can, and currently do, regulate without encroaching on the Department of Transportation's economic authority under the ADA.

We have strong concerns, however, that carving out statutory exemptions to the ADA for purposes of allowing States to regulate economic issues involving one segment of the aviation industry will lead to many of the same problems that Congress sought to avoid when it passed the ADA's preemption provision over 30 years ago. More specifically, we are concerned that the legislation, one, could serve to limit market entry and could ultimately have a negative effect on the available services, given market access in aviation services generally has been instrumental in promoting a safe, efficient, and responsive industry; two, potentially would create conflicting State rules that may prevent patient transport across State lines; and, three, may create a slippery slope for the federally regulated aviation industry should Congress set a precedent in the area of air ambulances.

I also note that the bill would distinguish EMS helicopters from EMS fixed wing air carriers. While the Department has concerns over the legislation generally, we see no appropriate basis for making this distinction.

Given these concerns, we ask that before the Committee legislates in the area of economic regulation, that it consider carefully whether the troubling stories we have read about are relatively isolated incidents or indicative of a larger systemic problem. For example, among those testifying before you today are two groups representing participants in the air ambulance industry. At the Department, we have met with these organizations, and what concerns us most is the lack of agreement and actual hard data not only on the nature of the problems with the existing system, but on whether systemic problems exist.

We recognize that we have had several air ambulance crashes in 2008, and these tragedies shine an important spotlight on safety within this industry. Some have criticized the industry's business structure, but can point to no study or recurring evidence that competition has compromised air safety and medical care.

In closing, Mr. Chairman, we look forward to working with you, Congressman Altmire, other Members of this Committee, and interested stakeholders to address this important aviation issue. Thank you for the opportunity to testify today, and I would be happy to answer any questions or comments you may have.

Mr. COSTELLO. The Chair thanks you and compliments you on your first visit and testimony before this Subcommittee.

The Chair now recognizes Mr. Allen.

Mr. ALLEN. Chairman Costello, Ranking Member Petri, Members of the Subcommittee, thank you very much for inviting me here today to discuss the safety oversight of helicopter medical emergency services, also known as HEMS.

HEMS operations are a critical aviation service provided to the medical community. The medical treatment aspect is obviously an essential part of a HEMS operation. However, the FAA's mission is to assure the safety of the air transportation portion of the operation. The best medical treatment in the world won't make a difference if the patient and crew can't be transported safely.

The FAA is taking steps to improve the safety in this evolving industry. As always, our goal is to have a zero percent accident rate. Unfortunately, there has been a spike in the number of fatal HEMS accidents in 2008. From 2002 to 2007, there were 26 fatal HEMS accidents, an average of 4.3 accidents per year. In 2008 alone there were 8 fatal HEMS accidents. These 34 accidents have resulted in 89 fatalities, 71 of whom were crew members.

One of the things that the FAA has identified that can improve the safety of HEMS flight is to build a strong safety culture in the industry. These operations take place in very demanding environments. The pilot's judgment and risk assessment is critical in deciding whether an air ambulance flight request should be accepted. When weather or other conditions put flight delay or cancellations on the table, the pilot must have the fortitude to make the call of go or no go. The FAA believes that the operator must create a safety culture and environment that promotes and supports the safety decisions and good judgment exercised by the pilot.

The FAA has taken several other steps to immediately improve HEMS safety while working on a formal rulemaking. In 2004, we engaged the industry in several voluntary compliance measures. In this way, we effect immediate change and see safety benefits right away. Our changes have included raising the weather minima by operation specification, which we also refer to as OPSPEC. These higher weather minima provide better visibility conditions for safe flight.

We have also issued guidance on establishing operational control or dispatch systems and risk assessment programs. In December 2008, we issued a technical standard for helicopter terrain awareness and warning systems, also referred to as HTAWS.

We are pleased that the HEMS industry has been very responsive in voluntarily adopting these measures. In January 2009, the FAA conducted a survey of all HEMS operators. We wanted to find out how many have actually implemented FAA-recommended best practices. We found the response to be overwhelming. Well over 80 percent of the operators have established risk assessment programs and operational control centers, almost 90 percent are using radar altimeters, while just over 40 percent have voluntarily equipped some or all of their fleets with HTAWS. We expect this last percentage to rise now that the HTAWS technical standards order has been published.

We recognize that relying on voluntary compliance alone is not enough to assure safe flight operations, so the FAA has initiated a formal rulemaking project that will address many of the HEMS initiatives and best practices.

We appreciate both Congressman Salazar's and Congressman Altmire's efforts in the proposed bills to continue to raise the bar on HEMS safety; however, the current regulations, the industry's

voluntary safety efforts, and our rulemaking effort already address the safety issues in H.R. 1201.

The FAA also appreciates that the intent of H.R. 978 is not to infringe upon the FAA's safety authority or for civil aviation. And, in order to ensure that there are no unintended consequences of either bill that might adversely affect HEMS safety, the FAA stands ready to work with this Committee to address any safety concerns.

Mr. Chairman, Congressman Petri, Members of the Subcommittee, this concludes my prepared remarks. I am happy to answer any questions you may have.

Mr. COSTELLO. The Chair thanks you and now recognizes Mr. Sumwalt.

Mr. SUMWALT. Good morning, Chairman Costello, Ranking Member Petri, and Members of the Subcommittee. Thank you for the opportunity to present testimony on behalf of the National Transportation Safety Board.

I would like to give you a short summary of the Safety Board's activities regarding the safety of helicopter EMS operations, or HEMS.

The HEMS industry provides an extremely important service by transporting seriously ill patients and donor organs to emergency care facilities. Indeed, they are credited with saving countless lives each year. That said, the recent accident record is alarming, and it is unacceptable. In the past six years, there have been 84 HEMS accidents resulting in 77 fatalities and last year alone was the most deadly year on record for medical helicopters.

The Safety Board has had a longstanding interest in EMS aviation. For example, in 1988, the Board conducted a safety study of commercial EMS helicopter operations. That study evaluated 59 EMS helicopter accidents and resulted in the Safety Board issuing 19 safety recommendations.

Prompted by a recent rise in EMS accidents, in January of 2006, the Safety Board adopted a special investigation report EMS operations. That special investigation analyzed 55 EMS accidents that occurred in a three-year period, and claimed 54 lives. As a result of that special investigation, the Safety Board issued four recommendations to the FAA to improve safety of these operations. Of significance, the Safety Board determined that 29 of the 55 accidents could have been prevented if the corrective actions in the report had been implemented.

These safety recommendations called on the FAA to require all EMS flights, even those without passengers onboard, to be conducted in accordance with FAR Part 135 on demand charter regulations; to develop and implement flight risk evaluation programs; to require formalized flight dispatch and flight following programs, including up-to-date weather information; and install terrain awareness and warning systems, or TAWS, on aircraft.

These recommendations were added to the Safety Board's Most Wanted List of Transportation Safety Improvements in October of 2008, and the decision to place these recommendations on the Safety Board's Most Wanted List was prompted by two primary reasons: one, the FAA's lack of timely action on the recommendations and, two, the appalling number of helicopter EMS accidents. Cur-

rently, three of the four recommendations on this list are classified by the Board as "Open, Unacceptable Response."

The Safety Board is concerned that these types of accidents will continue if a concerted effort is not made to improve the safety of emergency medical flights.

In February of this year, the Safety Board held a four-day public hearing on HEMS, making it one of the longest NTSB public hearings on record, and I was privileged and honored to serve as chairman of the Board of Inquiry for that public hearing. The hearing took a comprehensive look at the HEMS industry. We looked at business models, the growth in the industry, and competition; we examined flight operations procedures, including flight planning, weather minimums, and pre-flight risk assessment; we discussed safety enhancing technologies such as terrain awareness and warning systems (TAWS) and night vision imaging system (NVIS); training, including the use of flight simulators, was discussed; and we probed the corporate and government oversight of the HEMS industry.

Possible courses of action that could result from this hearing are numerous, including an updated safety study on EMS operations and additional safety recommendations. The NTSB staff are currently examining the information obtained from the public hearing, which totals over 3,000 pages of documents. Whatever we do, the Safety Board's motivation is simple: to find innovative ways to improve helicopter EMS safety.

I am very pleased to hear this morning that the FAA has announced a rulemaking initiative, and the Safety Board looks forward to following the progress of this rulemaking effort.

Mr. Chairman, this concludes my testimony, and I would be glad to answer questions at the appropriate time.

Mr. COSTELLO. The Chair thanks you and now recognizes Dr. Dillingham.

Mr. DILLINGHAM. Good morning, Chairman Costello, Mr. Petri, Members of the Subcommittee.

Thanks to the FAA, the wider aviation community, and congressional oversight, U.S. aviation has one of the safest records in the world. However, there are segments of the aviation community that have not achieved the same high level of safety, and their records remain a significant concern.

In line with both Mr. Sumwalt's testimony and the consensus of opinion from the NTSB's February 2009 conference, as well as the statements by Mr. Mica this morning, the industry's recent accident record is simply unacceptable. Between 1998 and 2008, there were roughly 146 air ambulance accidents in the United States, 48 of which resulted in the deaths of over 125 people. This means that the industry averaged 13 accidents and 12 fatalities per year during that time period.

In 2008, the number of fatalities increased sharply to 29. Because the industry grew substantially during that period, and because FAA does not systematically collect and analyze data on air ambulance operations, we can't really be sure what these numbers mean in terms of the industry's accident rate. Nevertheless, the overall number of accidents and the spike in the number of fatal accidents in 2008 are causes for concern.

Our analysis of the data on air ambulance accidents showed that pilot error was the probable cause of 70 percent of the accidents that occurred during the last decade. Additionally, flight environmental factors, such as nighttime flying, adverse weather, and flight into terrain contributed to 54 percent of these accidents. In some locales, competition has increased with a growth in the number of standalone air ambulance service providers and changes in the Medicare reimbursement rules.

Some experts say that competition has led to potentially unsafe practices, such as helicopter shopping. NTSB's aviation accident database does indicate that crashes have occurred after pilots have taken risky action, such as accepting flights after another pilot refused to fly because of bad weather.

In response to the increased number of accidents, NTSB made four significant recommendations in 2006, and FAA and the industry have also implemented a wide range of initiatives to improve safety. As Mr. Sumwalt testified, despite these initiatives, 2008 was the deadliest year on record for the air ambulance industry.

Additional efforts are clearly warranted. The question is where do we need to go from here. We have identified several strategies with the potential to improve air ambulance safety. First, FAA and the industry must sustain their current focus on safety improvements. The pattern of events that we are seeing now is a pattern that we have seen before. In the mid-1980s, after a significant increase in the number of air ambulance accidents, subsequent media and congressional attention, NTSB recommendations and FAA actions, the number of air ambulance accidents declined. But as time passed and attention waned, the number of accidents started to increase, peaking in 2003. We found a similar pattern in our work on runway incursions for this Subcommittee.

FAA has taken a positive step towards sustaining its focus on safety by announcing the start of a rulemaking that will address NTSB's 2006 recommendations. It is important to note that sustaining current efforts is critical, because it may be many years before any new regulations are completed and implemented by FAA.

A second strategy is for FAA to obtain complete and accurate data on air ambulance operations. FAA needs such data to better understand the industry's safety record and determine whether its own efforts to improve air ambulance safety are accurately targeted and sufficient.

A third strategy would involve FAA encouraging the transformation of the air ambulance industry so that operators would establish a corporate culture based on safety and adopt tools, such as safety management systems.

A final strategy would use empirical analysis to address the risk profile of the industry and to help resolve national issues, such as the role of States in overseeing ambulance services, the impact of Medicare reimbursement on usage, and the appropriate use of air ambulance services.

Mr. Chairman, that concludes my statement. Thank you.

Mr. COSTELLO. Dr. Dillingham, thank you.

Mr. Allen, you heard Mr. Sumwalt's testimony, and I will read it back to you, a part of a statement that he has made in his testimony. He says the 2006 special investigation resulted in the Safety

Board issuing four recommendations to the FAA to improve the safety of these operations. Of significance, the Board determined that 29, 29 of the 55 reviewed accidents could have been prevented if the corrective action recommended in the report had been implemented.

Do you agree with that statement?

Mr. ALLEN. Well, sir, it is a hypothetical situation as to whether those accidents would have actually been prevented if those had been implemented. It is understandable that those, if implemented, would raise the safety bar, and, obviously, we have been working very, very hard with the industry to voluntarily comply with many of the NTSB safety recommendations. It is a question as to how many accidents we also prevented with the voluntary application of those initiatives, and we think that there has been a great benefit to safety with those voluntary applications.

But to understand whether some would have actually been prevented, there are also other certificate holders out there who are very fastidious in their application of the regulations and of many safety initiatives, that have never had an accident. So I do think, obviously, sir, that the industry is not wrong and that they would have definitely helped the prevention of an accident, but I can't say unequivocally that they would have actually prevented any one of those actual accidents.

Mr. COSTELLO. I wonder if you might follow up on the statement that you made, Mr. Sumwalt, that the 29 of the 55 reviewed accidents could have been prevented.

Mr. SUMWALT. That is right, Mr. Chairman. In the special investigation report, we looked at what intervention measures hypothetically could have prevented those accidents. For example, if we saw a controlled flight into terrain (CFIT) accident, we would say what could have prevented that, and the answer to that would be the application of a terrain awareness and warning system, or TAWS. So, therefore, when we saw the 16 or so see-fit accidents in the report, we would say, well, the TAWS could have prevented those. We did that for each of the intervention strategies that we had outlined.

Mr. COSTELLO. Dr. Dillingham, you heard Mr. Allen refer to voluntary compliance. Is that good enough, relying on voluntary compliance by the industry? Is that adequate or should the FAA be taking a different approach?

Mr. DILLINGHAM. Mr. Chairman, we think that the voluntary compliance was a first step, but it clearly is not enough. I mean, voluntary compliance is—and we agree with the FAA in the sense that it is easier, quicker to develop voluntary kinds of compliance while, in the meantime, working on regulatory issues, such as FAA has just announced that they are in fact developing rules.

The other point that we want to make is that FAA indicates that they have checked with the industry in terms of the extent to which they are actually complying with these voluntary rules. We have some concerns about how valid that information is that they are getting, because to the extent that it is based on data that are collected from less than half the industry, we don't put too much credit in the validity of that information.

Mr. COSTELLO. Before I go to other Members to ask questions, let me just ask you to summarize very quickly what is it that the FAA needs to do to address this problem. Dr. Dillingham.

Mr. DILLINGHAM. I think the first thing they need to do is sustain the actions that they are doing now until the regulations are enforced. I think they need to collect the information so that they can monitor the effect of what they are doing, and they need to further push the use of technologies such as the TAWS that Mr. Sumwalt mentioned.

Mr. COSTELLO. Mr. Sumwalt, from your perspective, from the NTSB's, what should the FAA be doing?

Mr. SUMWALT. From our perspective, Mr. Chairman, we would like to see the FAA implement the rulemaking on the four recommendations that we have issued. We understand from this morning that some regulatory action is beginning, but we, of course, would like to see that rulemaking completed.

Mr. COSTELLO. We all recognize how long rulemaking takes. It takes a significant time. But I will come back; I have some other questions and comments.

The Chair now recognizes the Ranking Member of the Subcommittee, Mr. Petri.

Mr. PETRI. Thank you very much, Mr. Chairman. I have several questions for Ms. Fornarotto and Mr. Allen, who submitted a joint statement, and we will leave it up to you to either both respond or whoever would like to respond.

There seems to be, in some of the statements that were submitted, some confusion as to exactly what authority States have to regulate medical portions of emergency medical services flights. Could you clarify what the agency's position is as to where the line is between what is within States' authority to regulate and what would be preempted by the Airline Deregulation Act?

Ms. FORNAROTTO. Sure. As I said in my opening statement, we make a strong distinction at the Department between aviation services and medical services, and we do believe that, under ADA, we reserve the right to regulate on aviation services, but States have the right to regulate on medical services. That is the distinction that we make.

Mr. PETRI. But sometimes it requires a modification of the aircraft to put in a medical device or sometimes there are questions—I know we had met with some people that were talking about temperatures in the craft and equipment to achieve that temperature, and whether you can mandate the temperature or just mandate the equipment. It is not as automatic a line when you actually come down to apply it, it does require some give and take and negotiation, or at least some clarification so that States don't end up with requirements to comply with which a plane couldn't necessarily go to another State.

Mr. ALLEN. Yes, sir. The interfaces, as I call it, between the medical community and the aviation community are a very key piece to understanding this whole safety equation. But when it comes to aviation safety, we affirm that we have responsibility and authority to have the last call and to have the definitive statement on what is correct and not correct. That is why we have been working very closely with Congressman Altmire's staff, to make sure that there

isn't any overlap there and that there is a clear distinction that the States can have free rein on regulating their health portion of the operation, but when it comes to aviation safety, the Federal Aviation Administration have the authority and responsibility of safety oversight.

Many of these HEMS operators are interstate versus intrastate, so, therefore, it is important that we have the purview of safety oversight for them.

Mr. PETRI. Now, you indicated that there is a lack of agreement not only on the nature of the problem with the existing helicopter emergency medical system, but whether any serious problem exists at all with regard to issues surrounding H.R. 978. Could you elaborate on that? Are you sure the medical air transportation system is broken, as some have claimed? Would there be a need for a study in this area, and would you support such a study?

Ms. FORNAROTTO. We would. We do believe that clarification needs to be made. You are going to hear today, we have heard it at the agency, that there are varying stories on what is going on in the field, and in order to get clarification on that, in order to get a better understanding of what is going on so as to get to the bottom of these issues, we do believe that a comprehensive study would be very helpful in sorting out what is going on. So before we actually propose a solution, let's actually figure out what the problem is first.

Mr. PETRI. One final question. I suppose it is obvious, but maybe you could state how are helicopters different from ambulances in the air. Why should they be treated differently from ground ambulance services by the regulators?

Ms. FORNAROTTO. From an economic side, we look at it in terms of interstate operations. These operators, they file for interstate operation certification, and the ADA was very specific in making sure that air carrier operations were allowed to fly interstate, and that is where we come at it, from the interstate perspective.

Mr. ALLEN. And, sir, obviously from the safety perspective, it is a very difficult environment to operate in. Low weather situations sometimes, obstructions on landing zones. You have the fusion of human factors and technology and environmental conditions that create quite a safety challenge. So, therefore, we have—and I don't have any responsibility over the ground ambulance infrastructure, but over the aviation side we have to put forth a lot of safety initiatives to adequately ensure that the safety is at the highest level of this very complex environment.

Mr. PETRI. Thank you. Just one real quick add-on. This is a unique aviation area, but there are other unique aviation areas, people providing specialized services of one kind or another. How real is the concern that if there is a kind of a carve out or greater State authority in this area, that that will create problems in other aviation areas? Do you have any view on that or do you think it is unique enough that, if we get into this and restrict your authority and enlarge the States' authority, that that will be the end of the matter?

Ms. FORNAROTTO. Right now, with the ADA, there are no carve outs. By going down this road, you are setting up to produce one carve out, and it is unclear to us if other unique operations, you

know, unique, however you define that, would also seek a carve out from Congress on that. You know, another example of an air taxi would be scenic tours that fly around like at the Grand Canyon or in other places. They are a unique set of operations and they have high startup costs and other things about which you can make similar arguments, and we are very concerned about heading down this road and creating a slippery slope effect.

Mr. COSTELLO. The Chair recognizes the gentleman from Pennsylvania, Mr. Altmire.

Mr. ALTMIRE. Thank you, Chairman Costello. I want to ask a couple of questions for Ms. Fornarotto.

Thank you for being here. And I do appreciate the assistance that everyone involved has given to our office in helping to work through some of these issues on which we clearly differ on some, but we are working through it.

I have the same general question in response to your testimony. You indicated that the Department of Transportation says that States should not regulate the economics involved, and ADA exempts States, but I want to know what is the role of the Department of Transportation in actually doing that regulation? Because if it is not being done at the ADA, has the DOT issued regulations? Is there something that has been formally done?

Ms. FORNAROTTO. So Congress passes a law and then one of the roles of the agency is to enforce the laws, the statutes, and we do do regulations based on that. And one of the things we do—and I know that you have seen these—is we do guidance letters, and if a State comes to us with issues or concerns and they seek guidance on something specific, we will lay out from our perspective what guidance we can provide.

Mr. ALTMIRE. I appreciate that. You have also indicated that the Department of Transportation has said that States can regulate staffing of medical personnel, medical equipment, sanitation issues. But the DOT has also said, in a letter specifically to Hawaii, that criteria related to quality, availability, accessibility, and acceptability are specifically preempted. So my question is how can a State assure that the accountability of the EMS system is in place if it can't regulate these specific aspects of helicopter medical services?

Ms. FORNAROTTO. One of the things we are seeing as we go forward with this and on issues being raised is that each instance is very unique, and a lot of these are done on a case-by-case basis. That is why we encourage States to contact DOT in order to get further guidance, so we can work with them, we can talk to them about their issues and be partners in going forward.

Mr. ALTMIRE. So is it your view that States should be able to oversee only the medical care and equipment provided inside the helicopter, or should they, instead, be able to oversee the provision of HMS services, which would include coordination, location, and availability of services as well?

Ms. FORNAROTTO. Each is done on a case-by-case basis, and I want to refrain from trying to say this does fall under the ADA or this does not fall under the ADA. Everything is very case specific and we do have to look at the totality of whatever a State is proposing before we do make a determination.

Mr. ALTMIRE. Thank you. One last question. In your opinion, should medical helicopter providers be required to pick up all patients from scenes, even if they are uninsured? And do you see a legitimate public interest in such things as requiring 24/7 availability of HMS providers? And I ask because since both of these have been found to be preempted by DOT and DOT isn't requiring them, then how else can we ensure that patients receive air medical transport when they need it as part of the EMS system if States can't set these requirements specifically?

Ms. FORNAROTTO. So currently under the ADA, things like 24/7, which you raised, geographic restrictions, things like that, the ADA preempts. A State can, if they so choose, contract out those services. If they truly believe that 24/7 is critical, if serving a specific geographic area is critical, a State can contract that out.

You are raising a very important question here, and that is there a unique situation with the air ambulance services, and from DOT's perspective we are saying let's study this further. Let's get some more information. Let's see what is going on before we actually legislate on this, carve-out could have unintended consequences down the road.

Mr. ALTMIRE. Thank you.

One very quick point for Mr. Allen. I just want to say publicly how much I appreciate FAA's thoughtful comments on how we can improve H.R. 978 to ensure one system is safely governed exclusively by FAA while still ensuring that States can regulate patient safety and coordination. I am in agreement with most of your suggested changes, and I hope that we can secure your commitment here today, and it sounds like we have it, that we are going to continue to work through the remaining issues.

Mr. ALLEN. Yes, sir, you have it, and thank you for your interest in safety. I appreciate that.

Mr. ALTMIRE. Thank you.

Thanks to all of you and thank you, Mr. Chairman.

Mr. COSTELLO. The Chair thanks the gentleman from Pennsylvania and now recognizes the gentlelady from Oklahoma, Ms. Fallin.

Ms. FALLIN. Thank you, Mr. Chairman.

Thank you all for coming today to present such valuable information to help keep our airways safe and our patients safe. We appreciate all that you do and your thoughtfulness in giving us testimony today.

I had a couple of questions. One is to Mr. Allen. In your written statement, it points to a number of voluntary compliance measures that have been put in place by the FAA that will address the safety issues and rulemaking later this year. What issues specifically is the FAA going to address in the rulemaking?

Mr. ALLEN. Good question, ma'am. Thank you. Actually, many of the things that we have already implemented on a voluntary basis, but I will go through a quick list of things that we intend to put into the rulemaking. First and foremost, and I know will make Mr. Sumwalt very happy, is HTAWS, the Helicopter Terrain Awareness Warning System, that I said 40 percent of the industry have already implemented voluntarily, 41 percent, actually. The use of radar altimeters. For those operators that have 10 or more aircraft,

to have an operational control center, dispatch center. To put in the rulemaking what we are already prescribing under operational specification, that is, the use of Part 135 weather minima for all legs of an air transport operation. Implementation of risk management programs. To require flight data monitoring devices on the aircraft. We call them cockpit voice recorders and digital flight recorders. And also inadvertent IMC, meaning weather recovery demonstration, brownout, whiteout, flatout lighting. We found that many accidents are attributed to inadvertent entry into weather situations that the pilots weren't appropriately trained on, so that would be required in the regulation. And we have some other things that are more of a detailed nature in terms of the training of passengers and also better definition of what HEMS operators can do in terms of an approach if weather is at low minimums.

Those are the primary aspects of the regulation, and there will be other things that we will most likely consider as we go out for comment and receive those comments.

Ms. FALLIN. So let me ask a follow-up question. Do you think that we need safety legislation or do you think you can implement these things through the rulemaking?

Mr. ALLEN. Well, we are always very, very appreciative of the assistance by Congress in the realm of safety, so we believe that some aspects of legislation—Congressman Salazar's bill, I believe we accommodate all of his issues, but if they work together, then I think it buttresses the safety issue. So we look, as we have said, to working with them to make sure that they work in a conjoined path. So I don't think that they hurt one another; I think that they help one another.

Ms. FALLIN. Okay. I also wanted to ask a question about some of the proposals as far as the night vision goggles and things like that. How do you anticipate that some of the rural communities that use these services and some of the rural hospitals that might use ambulance services, how do you anticipate they are going to pay for these extra expenses on various mandates? I understand what you are trying to do, but I am concerned about access to the care, especially for some of the communities and some of the hospitals that may not be able to afford, and even some of the helicopter companies that may not be able to afford some of these changes.

Mr. ALLEN. Yes, ma'am. We share your concern, and that is part of the reason why we are not requiring implementation of night vision goggle systems. We have that as a voluntary measure. There is a technical standard out there for the implementation. We have wide voluntary application of that technology. All the major HEMS operators already voluntarily use them. In addition, we found, though, that we wanted to be careful of just overly being prescriptive, because some operators are not pre-dispositioned to use them. It takes quite a bit of training and a change in their helicopter infrastructure, so that is quite a transformation, actually, of not only equipage, but also how you fly the helicopter. So, therefore, we feel that that technology, as valuable as it is, and there are a lot of voluntary initiatives to implement those, we don't want to be prescriptive on that technology. With this rulemaking, we will be prescriptive of HTAWS, but we believe that it is a well vetted and analyzed

technology that I believe is so important that I believe it will be worthwhile for all operators to employ.

Ms. FALLIN. Mr. Sumwalt, how do you feel about that, as far as requirements on those goggles?

Mr. SUMWALT. Congresswoman, we do not have a specific recommendation at the NTSB regarding the night vision imaging systems. At our public hearing in February, we received a good bit of testimony on that, and some of the testimony indicated, as Mr. Allen said, that night vision imaging systems can be very helpful but should not necessarily be applied for all operators. So that is one of the things that we are looking at as we go through the testimony. We have not issued recommendations directly on that.

Ms. FALLIN. I appreciate all your testimony. If I could just get a real short answer on what is the training that is required to be able to use that? I assume that you have to go through some specific training to know how to use the goggles. How much time or course work?

Mr. SUMWALT. I am not a subject matter expert; I will let Mr. Allen answer.

Mr. ALLEN. I have to admit, ma'am, I am not a user of the night vision goggles, but from those that I work with and work for me, it is a bit of a training requirement to understand how you would transition, say, from instrument conditions to visual conditions; how to train against what we call a brownout or whiteout or lights flashing. Now, the technology is getting better and those issues aren't as tough to solve as they were in the past, but there is a reasonable substantial human factors training requirement for that.

Ms. FALLIN. Okay.

Mr. SUMWALT. I believe it is about a week. I was at Bell Helicopter in November, and it was about a week long ground school, with some flying as well.

Ms. FALLIN. Okay. Well, that is better than I thought. Thank you.

Mr. COSTELLO. The Chair thanks the gentlelady and now recognizes the gentlelady from Hawaii, Mrs. Hirono.

Mrs. HIRONO. Thank you very much, Mr. Chair.

I know that we are all on the same page in wanting to make sure that safety is the first issue that we have to address. There has been testimony that indicates that, as to the number of accidents, we are not entirely sure what those accident numbers mean. However, we do look to NTSB as the entity that will investigate aviation accidents. Therefore, the recommendations of NTSB are recommendations that I take strongly to heart. I know that you are familiar, Ms. Fornarotto and Mr. Allen, with NTSB's four recommendations. Mr. Allen, I believe you said that the rulemaking that you are undertaking addresses these four recommendations. So my question would be where are you in the rulemaking process with regard to implementing these four recommendations.

Mr. ALLEN. Yes, ma'am. We just initiated, we just were able to sign off on a rulemaking initiative, and, to be honest with you, the culmination of that rulemaking process will probably come to fruition by 2011 for the rule to actually be codified and be implemented. 2011.

Mrs. HIRONO. Here we are 2009. Based on the testimony, it seems to me that one of these bills, which mainly incorporates the recommendations of NTSB, which is H.R. 1201, we know that rulemaking takes time, and there are reasons that it takes time, but would there be any harm, truly, in passing this legislation that at least lays a foundation? The indication also is, from GAO's testimony, that one of these recommendations has already pretty much been implemented. So why don't we push ahead, knowing that the safety of the users of HEMS is primary? Why not just push ahead with this legislation?

Mr. ALLEN. I have no argument, ma'am, with this. We look forward, as I said, to having all the support that I can get in helping safety.

Mrs. HIRONO. Thank you.

Thank you, Mr. Chairman.

Mr. COSTELLO. The Chair thanks the gentlelady and now recognizes the gentleman from Ohio, Mr. Boccieri.

Mr. BOCCIERI. Thank you, Mr. Chairman.

And thank you to the panel for establishing a discussion on this very important legislation. I, at my Air Force Reserve base, we fly with pilots who also fly with medical emergency system here and then fly into Mr. Altmire's district and bring patients. After conversing with them on a number of occasions, especially surrounding some of the accidents that have occurred, it seems to me that there is a willingness, if not a sense of urgency, by the pilots to do all that they can to get to that medical emergency and try to save the life of that person. So I know that many of the accidents and the information that you have suggested it is pilot error, flying controlled flight into terrain, but there is a sense of urgency, and I would hope that the FAA, in recognizing the importance of this legislation and developing the flight risk evaluation program, that you will take into consideration that sense of urgency that these pilots have to get to that emergency.

A question. First of all a comment. Congresswoman Fallin from Oklahoma suggested about the type of training that is involved with night vision goggles. Being very proficient in this, we have to go through exhaustive training, working with crew resource management, working with our crew members to have semi-annual requirements, as well as quarterly requirements to meet the training requirements of the Air Force, which I am certain that you will apply some sort of military connection to the training that you have, since they are widely operational use by the military, and especially our Air Force and DOD helicopter pilots.

My question to you, Mr. Allen, is you said in your testimony that the impact of a positive safety culture on operational safety must be recognized by the entire HEMS industry. I hope that you will take into account my perspective, and I ask you is there any technology out there that is being experimented on that allows for a vertical instrument landing system, where the folks can hover down to the emergency spot? I know that the military employs like microwave landing systems, portable instrument landing systems. Is there any of that type of technology on the forefront?

Mr. ALLEN. That is technology that we are assessing, but we have not assessed it in terms of application to the HEMS industry.

We have looked at it in other facets of the aviation industry. We are looking at all types of new technologies and their application. Actually, a lot of them come to us from industry who would like to employ them, and we look at them, analyze them, and look at their application to the industry. But, to my knowledge, at this point, we haven't looked at microwave landing systems, the vertical descent systems, but those are something that obviously we will take a look.

Mr. BOCCIERI. Thank you. How soon do you think that this technology can be employed or will be employed once you evaluate your program? Is it something that can be online relatively quickly?

Mr. ALLEN. Any new technology takes quite a bit of vetting. HTAWS, for instance, took several years because of a new application of a technology that I have also used in the Reserves, TAWS, had to be reassessed and new standard produced for application in this new environment. So it does take quite a bit of time to get a consensus, to get the standards defined, and then to get them implemented. So I can tell you, as I share Congressman Costello's concern about the length of time for rulemaking, also, application of new technologies has to go through due diligence. So I cannot promise you that it would happen overnight.

Mr. BOCCIERI. Thank you, Mr. Chairman.

Mr. COSTELLO. The Chair thanks the gentleman from Ohio and now recognizes the gentleman from Boston, Mr. Capuano.

Mr. CAPUANO. Thank you, Mr. Chairman.

Ms. Fornarotto, I have 45 very difficult questions for you, but Mr. Costello won't let me ask them. I really don't have too many questions. I actually appreciate the fact that you are all working on this and trying to work this out. The Committee has talked about this in the past and it is an issue that is obviously very important to all of us, me included. We all have med flights of some sort that work, and I understand the difficulties.

But I also want to be clear that I have yet to find any regulator in any business who doesn't over-regulate, doesn't have a tendency to do so, I should say. For instance, there isn't a single firefighter in Boston who would let anyone in Boston ever park a car on the street, because it might get in the way of a fire truck somewhere along the line. Of course there are rules and regulations about within certain feet of the intersection, and those are all reasonable.

What I am trying to say is, as you go about this, please try to be reasonable. Please try to realize it could be your family members on that med flight that you need to get to a hospital, and it is not just a regular flight. This is not U.S. Air bringing me home. This is an emergency situation with a loved person on that helicopter that needs emergency medical response.

So as you go about this, I am begging you all—I am not suggesting you take your hats off as aviation safety people. I am simply saying that you understand this is unique. This is not a private enterprise, per se. And the slippery slope doesn't bother me on this one. This is a serious and unequivocal potential exception to any rules you might have, and I am begging you all to look at it that way; not just through the prisms that you have all looked at what you do. You all do a good job. I feel very safe in the skies. I know the NTSB does a great job reviewing every accident that I have

ever seen. You do a fantastic job. But I am just simply saying please, as you look at this, understand this is a unique and special situation that does demand your attention, more than just air safety professionals.

I also understand very clearly—and, again, I am not pushing them today because I do think it is fair to ask for time, but some of the things that concern me. Different States do have different levels of interest in medical care. In Massachusetts, we don't ask people, when they come in to the emergency room, whether they have insurance. Now, I understand that is a State law, that is not a Federal law; it is the way we like to do things. We don't want to deny anyone health care. I would also say the same thing about a med flight. I wouldn't want a helicopter service saying, well, what kind of insurance do they have. And, again, if a State wants to regulate that, I don't see that as an FAA or a safety issue; it is a health care issue that has nothing to do with it. An ambulance service in Massachusetts is required to provide 24/7 coverage. The last thing in the world, if your loved one is sitting in a car wreck or has a heart attack in the middle of nowhere, or whatever it might be, you don't want to hear, well, we are sorry, yes, we do this, but we are not doing it right now. Again, if an air carrier wants to stop flying at 9:00 at night, so be it; that is life. I have got to wait until the next morning. I don't want to hear that for my mother or my child, and I don't think any of you would either.

So there are many things that I simply want to say now, in public, that, as you go about this, please, please recognize there are things. This is not a commercial air flight. And as far as competition goes, I am all for competition. At the same time, that competition has to be on the basis of what is fair and equal for competition, number one; and, number two, for, in this case, health care as well. For instance, I don't know the answer, I am not even looking for an answer right now, but as we go forward, if, for the sake of discussion, XYZ air carrier decides to get into this, will they be treated the same as if the St. Elsewhere Hospital decides to have their own med flight? And the answer should be yes. I can't imagine they wouldn't be. And I understand that different forms of business might be seen differently, but, again, in this case, it is an exception to the rule. St. Elsewhere wouldn't be carrying—actually, if they wanted to get into the airline industry and bring me home every other week, then they should be subject to the same regulations. But if the air carriers are going to get into competition, then the competition should be fair and equitable as well, on as many planes as you can get.

Again, I understand fully well that you are all working towards this, and I think it is fair and reasonable that you be given an opportunity to come up with regulations, let people be heard on them, but as you do, I just want to reemphasize that you do this knowing that this is potentially a serious exception to the generic rules that you would normally operate under. Thank you very much.

Mr. COSTELLO. The Chair thanks the gentleman and now recognizes the gentlelady from California, Ms. Richardson.

Ms. RICHARDSON. Thank you, Mr. Chairman.

Two questions. First of all, in the next panel that is coming forward, according to Ms. Friedman's testimony, the States, the

NTSB's 2006 study found that 55 accidents that it studied, none of the operators involved required a completion of a standardized flight risk evaluation prior to flying. Is that your understanding as being correct?

Mr. SUMWALT. Who is the question directed to?

Ms. RICHARDSON. Probably, first of all, to our Acting——

Mr. ALLEN. Well, actually, ma'am, maybe it is more toward on the safety side, I believe it is correct. I don't have the stats in front of me, but we did find, when we did the survey of our operators, that there was a risk assessment program that was accommodated by 94 percent of the HEMS community. I don't know if that answers your question, but I believe it does.

Ms. RICHARDSON. No. Specifically, my question is, according to the NTSB study, it found that out of the 55 accidents that it studied, none of the operators involved were required to complete a standardized flight risk evaluation. Is that true or is that not true, or do you know or do you not know?

Mr. SUMWALT. Well, I will answer that. I am from the NTSB and that is a factual statement.

Ms. RICHARDSON. Okay. Do you see that as being a problem?

Mr. SUMWALT. Absolutely, and that is why we issued a recommendation to require flight risk evaluation. We found that of the 55 accidents that we evaluated, 14 of them, we feel, could have been prevented if a flight risk evaluation had been performed. Furthermore, as you indicated, none of the 55 flights that we looked at had that flight risk evaluation, which indicates that, at the time of these accidents, there was not a lot of compliance with using that recommendation. So we do feel very strongly that flight risk evaluations should be required.

Ms. RICHARDSON. Mr. Allen, is there any reason why we wouldn't implement this now, instead of waiting until the end of 2009, in 2010?

Mr. ALLEN. Well, yes, ma'am. Actually——

Ms. RICHARDSON. It seems to be a pretty obvious problem.

Mr. ALLEN. Yes, ma'am, it is a problem. We share the concern with the NTSB as well. That is why we, as I said, set in place this as a voluntary measure. We have had excellent voluntary accommodation of the requirement for a risk assessment program. That is also included in our rulemaking. Now, I know as far as an actual requirement, many people look at that as being a rule, but the rulemaking process does take time for reasons that have been articulated here, that we have to take into consideration many stakeholders' perspectives on the issue and we have to do a thorough analysis on the impact on the industry and on the public. So that is why that takes time.

So we have many tools that we can apply to the safety equation, rulemaking being one, but voluntary measures being the other. So I would submit that when the NTSB brought this forward, at the time, yes, they were not employing these things, but now, if we go back and reassess that, I would argue that they are employing these risk assessment programs and that safety is being served.

Ms. RICHARDSON. Would you agree with that?

Mr. SUMWALT. That is a reasonable approach. What is your voluntary compliance right now?

Mr. ALLEN. Ninety-four percent, according to our survey.

Mr. SUMWALT. Ninety-four percent now, versus a few years ago where zero percent was complying. So we feel that we do want the regulation to make sure that it is 94 percent, it is 100 percent, but 94 percent is better than zero percent.

Ms. RICHARDSON. Okay. Well, let it be said for the record that, to me, an issue as serious as this shouldn't be based upon voluntary. Whether it is 94 percent or 98 percent, it should be 100 percent.

I want to applaud Mr. Altmire, who I think had a huge role in this hearing taking place, and Mr. Costello for supporting it. I have been studying his bill, H.R. 978 and am seriously inclined to support it. One of the documents, though, that I saw said that the AMOA claims that the Patient Safety Act will lead to a decrease in aviation safety and allow States to regulate aspects of aviation currently under Federal authority. Clearly, this legislation would do that, but would you see it as really leading to a decrease in aviation safety? Any of you, if you would like to comment.

Mr. ALLEN. No, ma'am. That is why we are working very closely with the staff and we are being very vigilant, that we will not let that happen. And I know that we do not want that to happen, so we are being very, very judicious and making sure the legislation is directed to what it wants to be focused on and that we maintain our responsibility and accountability for having the overview of the safety issues in terms of aviation safety.

Ms. RICHARDSON. Thank you very much.

Mr. COSTELLO. The Chair thanks the gentlelady.

Now, let me thank all of our witnesses. I do have a few questions that I will be submitting for the record. We want to get to the next panel. But let me thank you for being here today and offering your thoughtful testimony. We obviously need to continue to work to solution to this critical problem we face. So thank you very much for being here and thank you for your testimony.

The Chair will ask the witnesses on our second panel to please come forward as quickly as you can. I will introduce you as you are being seated.

On panel 2, Ms. Stacey Friedman, who is the Founder of Safemedflight: Family Advocates for Air Medical Safety; Eileen Frazer, RN, CMTE, Executive Director, Commission on Accreditation of Medical Transport Systems; Ms. Sandra Kinkade, who is the President of the Association of Air Medical Services; Mr. Matthew Zuccaro, who is the President of Helicopter Association International; Mr. Craig Yale, who is the Executive Vice President, Air Methods Corporation, on behalf of the Air Medical Operators Association; Mr. Jeff Stackpole, Council Member, Professional Helicopter Pilots Association; Thomas P. Judge, EMTP, Executive Director, LifeFlight of Maine, Chair, The Patient First Air-Ambulance Alliance; and Dr. Robert Bass, the Chair of the Air Medical Committee, The National Association of State EMS Officials.

So, ladies and gentlemen, if you will take your seats as soon as you can, we will hear your testimony.

We have all of our witnesses at the witness table, and the Chair would now recognize Ms. Friedman.

Again, I would remind all of our witnesses that your entire statement will appear in the record in its entirety, and I ask our witnesses to try and summarize their testimony under the five minute rule.

Ms. Friedman.

TESTIMONY OF STACEY FRIEDMAN, FOUNDER, SAFEMEDFLIGHT: FAMILY ADVOCATES FOR AIR MEDICAL SAFETY; JEFF STACKPOLE, COUNCIL MEMBER, PROFESSIONAL HELICOPTER PILOTS ASSOCIATION; EILEEN FRAZER, RN, CMTE, EXECUTIVE DIRECTOR, COMMISSION ON ACCREDITATION OF MEDICAL TRANSPORT SYSTEMS; SANDRA KINKADE, PRESIDENT, ASSOCIATION OF AIR MEDICAL SERVICES; MATTHEW S. ZUCCARO, PRESIDENT, HELICOPTER ASSOCIATION INTERNATIONAL; CRAIG YALE, EXECUTIVE VICE PRESIDENT, AIR METHODS CORPORATION, ON BEHALF OF THE AIR MEDICAL OPERATORS ASSOCIATION; THOMAS P. JUDGE, EMTP, EXECUTIVE DIRECTOR, LIFEFLIGHT OF MAINE, CHAIR, THE PATIENT FIRST AIR-AMBULANCE ALLIANCE; AND DR. ROBERT BASS, CHAIR, AIR MEDICAL COMMITTEE, THE NATIONAL ASSOCIATION OF STATE EMS OFFICIALS

Ms. FRIEDMAN. I want to thank Chairman Costello, Ranking Member Petri, and Members of the Subcommittee for inviting me to speak today on behalf of the families of Safemedflight. We are a group of families who have lost loved ones in air medical accidents.

We also want to applaud Congressman Salazar for working with us, working with industry, and working with the FAA in making this bill possible.

As I said, my name is Stacey Friedman. I am not a pilot. I am not a flight medic. I am not a flight nurse. I don't work for an air medical program. I am not with the FAA or the NTSB. But I am here for one very important reason, and that is because of Erin Reed. She was my sister and she died in a preventable helicopter crash.

It has been three years since Erin died, and 45 more victims have followed her in death, 35 in 11 months. Voluntary compliance did not work for them. The absence of FAA rules did not work for those people. These pilots, nurses, medics, and their patients died, despite the NTSB's recommendations in 2006. They died despite the extensive GAO report on this industry; they died despite Safety Board hearings; and they died despite safety summits in which industry leaders met to determine the least possible regulation their pocketbooks could afford. Yes, I am a little angry. My husband told me to watch it, but I am going to just do it the way I would do it.

The FAA and the industry originally claimed that safety changes were unnecessary and too costly, and they said that we were asking the impossible. If we were asking the impossible, I wouldn't be here, Sandy Hellman would be here. She would ask that you bring back Todd to help her raise their eight adopted children with no life insurance and no lawsuit payout. Mason, Weston, and Jackson Taylor would ask you to bring back their dad to take them to a ball

game. ER physician Stacey Bean would ask that you restore her faith in air medicine, faith that she has lost since the death of her husband, Darren Bean. She no longer practices ER medicine. Susan McGlew would ask that you bring her brother, Bill Podmayer, home so he could say goodbye to his parents, both who died just weeks ago, and Susan buried them. Adam Wells would expect you to bring back his wife, Jenny, so they could start a family.

Bringing our people home, that would be asking the impossible. Instead, we are asking the FAA and the industry to do what is included in Congressman Salazar's bill. We ask that operators fly the higher weather minimums and comply with pilot duty rest time in Part 135. Why the FAA ever allowed flight crews to fly in less safe weather conditions just because there wasn't a patient on board is incomprehensible to us. The FAA's recent change on weather minimums is years too late and no guarantee that operators will not push weather in this hypercompetitive market.

We ask that operators use a risk assessment prior to accepting a flight. EMS flight risks are well known and documented, and we have talked about them today. They include weather, obstacles and terrain, nighttime flight, spacial disorientation and pressure to take a flight. A longstanding FAA notice required operators to complete a risk assessment. Yet, recently, at least two fatal accidents, killing eight people, involved operators who failed to comply with this notice: Alaska in December of 2007; Illinois in October of 2008. Why are operators who violate FAA notices and kill flight crew and patients allowed to operate? That is a question we have.

We ask that flight dispatch and flight following procedures be required and that dispatchers have aviation specific knowledge. In June, a midair collision in Arizona killed seven. Both aircraft were scheduled to arrive at the same helipad within minutes of each other, yet, neither pilot received this information.

We ask that EMS operators carry cockpit recording technology to determine the cause of accidents, prevent future accidents, and answer the questions of family members. We ask that operators install existing and proven technology that helps pilots avoid terrain and collision with obstacles, and we include night vision goggles in this category.

We are not asking the impossible. We are asking operators to keep our people safe. And if their response is we can't afford it, then they shouldn't be in a business that rests its reputation on saving lives.

To close, I would like to tell you something about what I believe happened on September 29th, 2005. That night changed everything for my family and left me without my sister. I believe the pilot, Steve Smith, did everything he could to keep Erin and Lois alive. And I believe the circumstances of that evening got the best of them. I believe that if they had had the technology and the systems in Congressman Salazar's bill, as well as night vision goggles, they would be alive today, and I believe dozens of others would be alive today as well.

I want to thank you for giving us a voice at this hearing.

Mr. COSTELLO. Ms. Friedman, thank you. Thank you for being here on behalf of Erin and the other victims.

The Chair now recognizes Mr. Stackpole.

Mr. STACKPOLE. Good morning. My name is Jeff Stackpole. I am currently working as a full-time line pilot flying an emergency medical services helicopter in the St. Louis, Missouri area for our Chair Medical Services, a wholly-owned subsidiary of Air Methods Corporation. I am also the President of Air Methods Pilots Union, Local 109, of the Office of Professional Employees International Union. By virtue of that office, I serve as a council member of the Professional Helicopter Pilots Association, the organization you have invited to participate in today's hearing.

PHPA represents approximately 400,000 helicopter pilots, of which 1500 or so are working HEMS pilots. On behalf of those dedicated professional men and women, I would like to thank the Committee for focusing its attention on the difficulties currently being experienced by our industry. While this is certainly an important subject for all involved in this process, no one has as much at stake on the outcome as do the pilots we represent. Likewise, we believe, no one has as much to contribute to the process of figuring out how to improve the safety of this industry than those who perform the job on a daily basis.

While this is a complex issue with no simple solution, solutions do exist, and action must be taken to ensure those are implemented. PHPA has submitted to this Committee a detailed list of areas of concern, as well as recommended actions that we believe are necessary to achieve our common goal, which is, of course, the reduction of preventable accidents in HEMS operations.

While we would like to believe that the free market system would resolve these issues for us by eliminating marginal operators and rewarding those operators that spend the additional funds necessary to properly equip, train, and support the safest possible operations in what we all agree is a much needed public service, this has proven not to be the case. Unfortunately, those requiring air medical transport typically have no input as to the operator that will be utilized to provide that service, thereby economically disadvantaging those operators who, in the interest of enhancing safety, choose to provide more than the very minimum required by statute to accomplish the task.

Another aspect of our industry that has the same effect as that just described is that of reimbursements. It is our understanding that neither Medicare, Medicaid, nor private insurance offer any additional compensation based on the type of helicopter utilized, the training and experience levels of the crew, or any other safety enhancing initiative that one operator may offer over another. Add to this the fact that Medicare and Medicaid reimbursements often do not even cover the costs of providing the basic service, it is not difficult to understand the economic disincentive that exists for any operator striving to achieve the safest operation possible.

In addition to these economic issues, our industry is burdened with another issue not foreign to other aviation operations, however, for us it is multiplied exponentially, and that is the pressure to fly. For some, this pressure is completely self-imposed by the knowledge that almost every time a flight is requested there is a patient possibly in dire need of our services. For others, unfortunately, there are external pressures in the form of a customer questioning a pilot's decision to decline a flight request.

While the FAA has made a concerted effort to address the issue of operational control, it is the opinion of PHPA that this effort needs to go further. For example, we believe that it is inappropriate for a hospital customer to participate in the process of selecting the pilots that their vendor chooses to provide, and that it is equally inappropriate for a hospital customer to have the ability to have a vendor remove a pilot from their program without justification. It seems overly apparent to us that this type of arrangement can and does erase the lines of operational control that are vital for the certificate holder to maintain.

PHPA and the pilots we represent appreciate the efforts of those Members of Congress who have introduced legislation addressing safety issues in HEMS operations. And while we do not disagree with the contents of the current bills, we feel that stronger, more comprehensive language is necessary to bring about the improvements we are all hoping for. In spite of the fact that most helicopter pilots are conservative in nature and would normally agree that less government involvement in our business is better than more, we find ourselves conceding, at least in this situation, that government intervention may be the only way to achieve any real progress.

We ask that you review the information we have submitted and consider addressing as many of the concerns we have raised as you feel may be appropriate in any current or proposed legislation. Thank you for inviting the Professional Helicopter Pilots Association to address this Committee, and please call on us for any assistance we may be able to provide in advancing this important effort.

Mr. COSTELLO. The Chair thanks you and now recognizes Ms. Frazer.

Ms. FRAZER. Thank you, Mr. Chairman. The Commission on Accreditation of Medical Transport Systems was formed in 1990, after a rash of accidents that occurred in the mid-1980s. It is a voluntary, not-for-profit agency. We have 17 member organizations. Each member organization sends a representative to serve on the board of directors, and all of those represent all of the constituents within medical transport.

The most important part of what we do is accreditation standards. These standards are used worldwide because it is the only body of standards that look over the wide range of programs within an air medical and ground transport service. They cover things like patient care, crew training, staffing, scheduling, management, aircraft medical configuration, communications, helipads, quality management, safety management systems, infection control, and so on.

Every two years, we revise the standards to reflect the current dynamic changes, and in developing and revising standards, we do talk with the NTSB, our Federal partners at the FAA, we get input from all of our constituents and groups, and we can move quite quickly with standards. For example, after the rash of accidents last summer, the board met and we looked at some of the preliminary reports that came out by the NTSB. In looking at those, we quickly developed some standards, especially looking at fatigue, which was really a concerning issue not only for night flights with

the visual and the weather conditions, also fatigue, we felt, was a really strong concern. We also addressed the hospital helipad communications and better crew coordination with the helipads.

So those standards came out within six months and were approved.

As far as the Federal partners, we are required by the Department of Defense and we are required for civilian, medical air transport contracts, as well as by Indian Health Services.

I want to talk about the States a little bit because that is addressed and was discussed earlier. There are currently five States that do not have any air ambulance licensing procedures at all. In nine States they require CAMTS accreditation, and those States are Colorado, New Mexico, Utah, Washington, Michigan through their CFN process, New Hampshire, Rhode Island, Massachusetts, and Maryland. So, currently, there are nine States that require CAMTS accreditation. Some counties in California and Clark County in Nevada.

This absolutely puts us, though, in a litigation process, because if we withdraw accreditation in those States, that means that company is not allowed to operate in that State and, therefore, we have a legal issue. So we are working with those States on those issues right now. We do support the States. They do have the responsibility for the health care of the individuals on board.

As far as the Salazar bill, all patient mission flights under our standards must be conducted under Part 135 regulations. We have had that since 2006. We also require operation risk analysis tools and specifically check that each time we go out and visit a program.

That concludes my testimony. Thank you.

Mr. COSTELLO. The Chair thanks you, Ms. Frazer, and now recognizes Ms. Kinkade.

Ms. KINKADE. 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. I am Sandra Kinkade, President of the Association of Air Medical Services, or AAMS. During the course of my career, I have worked as a flight nurse in Nevada and Tennessee for 13 years, and now have my own international consulting firm.

Established in 1980, AAMS is a longstanding trade association representing 300 air medical transport services using both helicopters and fixed wing airplanes operating out of nearly 700 bases across the United States. Each year, approximately 4,000 of our Nation's sickest and most critically injured patients are transported.

Most people don't realize the life and death role that emergency medical helicopters play in our health care system, but the critically ill and injured are airlifted once every 90 seconds in our Nation. That is why it is important not to underestimate the value of air medical services, because the life saved might be yours or a loved one's.

I would like to remind the American public of the following important facts related to air medical services in the United States today. Helicopter EMS provides safety, speed, access, and quality of patient care, and serves as the rural health care safety net, par-

ticularly in underserved areas. Medevac helicopters provide a quicker response and a higher level of medical care than is typically found on a ground ambulance. A typical medevac crew consists of a specially trained critical care nurse and paramedic, and can also include other specialists, as needed, depending on the patient's condition. In rural or wilderness areas, or in cases of natural or catastrophic disasters, air ambulances may be the only accessible health care provider available.

Medevac helicopter crews do not self-dispatch; a flight request is generally made by a physician, nurse, law enforcement officer, fire service or emergency medical responder, as dictated by local, regional, or State protocols. Demand for medevac helicopters is on the upswing, partially as a result of aging baby-boomers whose related health care problems, most notably stroke and heart attack, are placing a greater demand on the overall health care system, as well as creating a need for highly time dependent emergency medical interventions. Greater reliance on medevac helicopters is particularly prevalent in rural and retirement areas, and in places that have experienced emergency room closures or cutbacks in local community-based ambulance services or hospitals.

Clearly, the goal of air medicine is to improve health outcomes for our patients. Our goal has been, and continues to be, zero accidents. To that end, the industry has undertaken numerous voluntary efforts to advance safety on each and every mission. Additionally, we have put forward several proposals aimed at making medical helicopter flights safer. Chief among these proposals is that all medical night flight operations be required to either utilize night vision goggles or similar enhanced vision systems, or be conducted strictly under instrument flight rules.

AAMS recommends that Congress expedite funding for hospital helipads, enhanced off-airport weather reporting, global positioning system technologies, and other initiatives. AAMS recommends that the FAA accelerate implementation of automatic dependent surveillance broadcast systems, also known as ADSB, for the HEMS operating environment. In addition, implementation of associated weather reporting and enhancements to the Nation's low altitude aviation infrastructure should become an FAA priority. Further, AAMS recommends that the FAA, in coordination with the industry, establish requirements and procedures for utilizing devices that play a role in flight operations quality assurance programs, also known as FOQA.

AAMS commends Congressman Salazar's current initiative to advance helicopter EMS safety in introducing H.R. 1201. Overall, AAMS is supportive of anything that will help make our community and the missions we conduct safer. We have made some recommendations in our written testimony that we believe will strengthen the language and are very happy to hear from the Congressman today that some of those recommendations have been included in the recent bill changes.

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.

I just want to thank Stacey for being here and your leadership and giving a voice to those who no longer can.

Mr. COSTELLO. The Chair thanks you for your testimony and now recognizes Mr. Zuccaro.

Mr. ZUCCARO. Good morning, Chairman Costello and Ranking Member Petri. Thank you for the opportunity to speak with you today.

I would like to acknowledge one fact that I truly believe that everybody that is in the room today shares a common goal towards the enhancement of safety. I believe we acknowledge also that we have differing opinions as to how to reach that goal. My comments are made in respect to those opinions.

HAI represents the international helicopter community. It is a not-for-profit professional trade association with over 2,900 members, inclusive of 1,400 companies and organizations. HAI members safely and professionally operate in excess of 5,000 helicopters, fly more than 2 million hours per year.

We represent 93 medical service providers providing service throughout the United States. These operators are comprised of 74 commercial operators, 17 government service operators, flying a total of 1,219 aircraft, which we estimate represents 90 percent of the helicopter EMS operations being conducted in the United States.

HAI, in fact, believes the current emergency medical services accident rate is unacceptable and that these recent series of accidents were preventable. We fully support any initiative that improves the safety of EMS operations and recommend a cooperative effort between industry and FAA, with a resulting FAA rulemaking initiative, as necessary, to achieve a safer EMS industry. In recognition of this, HAI has worked with EMS operators to mitigate accidents, emphasizing safety management systems, extensive use of them, emphasizing risk management. HAI has been instrumental in working also closely with the FAA in developing long-term initiatives addressing such issues as 135 versus 91 operations on all the legs, utilization of such technology as night vision goggles, radar altimeters, HTAWS, devices that perform the function of CVR/FDR, operational control centers, and formalized risk assessment/hazard mitigation programs.

HAI has also been an industry leader by sponsoring numerous safety forums that were focused on helicopter EMS operations. Participation in these forums also involved industry, as well as executive level representation from the FAA and the NTSB, all working towards our common goal of enhanced HEMS safety. HAI has also committed resources and staff in the efforts of the International Helicopter Safety Team, a worldwide international industry initiative with a goal of reducing helicopter accidents by 80 percent within the next 10 years. I am honored to serve as the co-chair of this international effort, which is a data driven analysis process and was modeled after the successful CAST program utilized by scheduled air carriers.

As a result of a recent in-depth collaborative industry/FAA effort, coordinated by HAI, FAA revised Part 135 HEMS Ops Spec, A021,

setting forth detailed flight planning and increased weather minimums for HEMS operations.

Of equal importance, we strongly believe there is a need to secure Federal funding for remote weather stations that would fill existing gaps, especially at night, and the availability of off-airport automated weather reporting stations to support helicopter HEMS. There is also a critical need for a dedicated, low altitude IFR helicopter route structure with the associated instrument helicopter approaches to hospital heliports and other locations such as accident scenes. This will provide all weather helicopter instrument flight capability for emergency services in the public interest, which is consistent with the public expectation and the necessity for such services. Any funding initiative should be inclusive of research and development of advanced technologies to facilitate this capability.

Earlier last year, the National Transportation Safety Board completed a four day safety hearing on the subject of HEMS. HAI was a designated party to and witness at the hearings, and continues to serve as a major contributor to the NTSB/FAA efforts. Of note, 80 to 85 percent of the accidents, when studied, related to human factors decision-making, not to technology and not to regulatory deficiencies. That is an area that we all need to concentrate on, the actual way the business is conducted and the human factor decision-making that occurs within it.

H.R. 1201, the Salazar legislation, aims to increase safety for crew and passengers on aircraft providing emergency medical services, and would require EMS pilots to comply with 135 regulations whenever there is a medical crew on board, regardless of whether a patient is also on board. There is some distortion in the statistics. I would quickly point out that when the NTSB categories an accident and notes that there is no patient on board, they automatically put in Part 91 operation. That may not be the case. It does not recognize the fact that the operator was actually operating under Part 135, and that is not noted.

HAI believes the actual question that should be addressed regarding medical personnel and the conditions when they are on board the aircraft relates to their status, as to whether they are passengers or crew members. Once a resolution is reached on this issue, then the proper regulatory guidance can be applied, be it FAR Part 135 or 91. HAI believes that Congress should task the FAA with resolving this matter.

We are a strong advocate of flight risk evaluation, including usage of standardized checklists, risk evaluation to determine whether a flight should be conducted. A collaborative effort between the FAA and the air medical community should be undertaken to develop performance-based flight dispatch procedures and methods to measure the compliance. As appropriate, feasibility studies should be conducted by the FAA administrator on devices that perform the function of recording voice communication and flight data information on new and existing aircraft.

With regard to FAA rulemaking itself, it should be the venue to effect safety initiatives and not legislative action. We do acknowledge the current FAA rulemaking process is really not acceptable in terms of the length of time it takes to effect a rule change.

Clearly, the FAA rulemaking process is not timely and needs to be revised. Accordingly, Congress should direct the FAA to review its current rulemaking procedures and revise the same to expedite the implementation of beneficial safety initiatives when appropriate.

I would point out that there is a system and it is not functioning the way it should, and we should not circumnavigate it with legislative initiative. Fix the system and make it operate properly so that we can maintain the notice of proposed rulemaking process.

Mr. Altmire's legislation, 978, is asking for a change as it relates to health planning and patient safety to allow States to regulate aviation operations, which are already covered. The Department of Transportation has concluded that a State is free to regulate the medical issues associated with EMS service, including establishment of minimum requirements for medical equipment, training, and personnel. We highly agree with that. The bill does not really seem to address the safety deficiency, but rather an economic regulation and resultant entry control limits as to who can conduct the EMS, thereby eliminating robust competition so required by the public interest.

Helicopter operators do not decide who to transfer or transport; the medical community does that. Where is the direct correlation or research that indicates the number of HEMS accidents in a given area is directly related to the number of providers in that area? What about the potential impact of H.R. 978 on other segments of the industry and other types of helicopter operations that find a necessity to cross State lines that would ultimately be affected by this? Congress should not allow the States to regulate the issues.

The unanswered question should be H.R. 978, how will it make EMS aviation safety for the better?

With that, I would close my comments, Chairman, and be glad to take any questions.

Mr. COSTELLO. The Chair thanks you and now recognizes Mr. Yale.

Mr. YALE. Thank you, Mr. Chairman, Members of the Subcommittee. My name is Craig Yale, and I am Vice President of Corporate Development for Air Methods Corporation. I am here today on behalf of the Air Medical Operators Association, or AMOA.

AMOA represents air carrier certificate holders providing medical transportation operations, whether their fleet size is a few or several hundred aircraft. On behalf of our members and the over 8500 employees represented by the Association nationwide, I would like to thank the Members of the Subcommittee for the opportunity to offer this testimony and your interest in air medical transportation safety and effective oversight.

I too am very passionate about this subject. I have over 30 years experience providing medical transport. My experience in that time encompasses both profit and not-for-profit organizations providing helicopter, fixed wing, and ground ambulance services.

Air Methods Corporation, with approximately 350 aircraft operating in 42 States across the Country, is not only the world's largest commercial air medical company, but by fleet size is the tenth largest air carrier in the United States, to include the major airlines. Air Methods operates through both community-based air

medical transport services, at the request of others without knowledge of the ability for our patient to pay, and as a contract aviation service provider to hospitals engaged in air medical transport services.

The Air Medical Operators Association was formed to coordinate and enhance the collaborative efforts of Part 135 medical air carriers on matters of safety, access, and quality operations. AMOA's members represent the air carrier operations of over 700 medical aircraft and approximately 92 percent of the civil helicopter medical airlift capacity in this Country. Many of these aircraft are utilized by hospital programs as an indirect air carrier, and I will not presume to speak for these entities, as there are others on the panel here for that purpose. However, it is important to understand that Part 135 air carrier responsibility for the overwhelming majority of these programs rests with AMOA's members.

AMOA strongly supports the intent of H.R. 1201. The provisions of H.R. 1201 are rooted in safety recommendations made by the NTSB's special investigation report on emergency medical service operations adopted in January of 2006. The recent public hearings held by the NTSB reviewed both the FAA's and the air medical industry's response to those recommendations. As evidenced by the hearings, we believe that the air medical operators have met, and in some cases exceeded, the intent of those recommendations. We are in favor of codifying these advances through regulation, but would suggest the use of rulemaking process to avoid unintended consequences of the rigid interpretation potential there is in legislative language.

As an example, all operations must comply with the regulations of Part 135 of Title XIV, Code of Federal Regulations, whenever there is a medical crew on board would actually require less stringent weather minimums than those currently in place through A021 Operations Specifications. We agree with the need for regulation, but respectfully would request the opportunity to fine-tune the process in conjunction with the FAA through the rulemaking process.

We are, however, greatly concerned with the language and underlying intentions associated with H.R. 978. All legal interpretations and judicial rulings have clearly stated that aviation operations fall within the Federal purview, while States maintain control and responsibility for medical operations. Since the State's right to oversee medical operation of helicopter services is uncontested, it would appear that the intent of this legislation ultimately distills to an attempt to control and restrict the entry of air medical operations within a State's boundaries.

Quoting a representative of the U.S. Department of Justice Antitrust Division, certificate of need laws pose a substantial threat to the proper performance of health care markets. Indeed, by their very nature, CON laws create barriers to entry and expansion, and are thus anathema to the free market. They undercut consumer choice, weaken markets' ability to contain health care costs, and stifle innovation. He went on to say that CON laws appear to raise particularly substantial barriers to entry and expansion of competitors because they create an opportunity for existing competitors to

exploit procedural opportunities to thwart or delay new competition.

It is interesting to note that of the six States currently exercising CON processes as it relates to air medical services, each State has fewer air medical services per capita than the national average. Emergency preparedness is about capacity and access. It is AMOA's belief that H.R. 978 would severely limit this Country's timely access to air medical services and would reduce the ability to flex a response as necessary for natural and other disasters. States should in fact meet their responsibilities to oversee medical components of emergency services. However, the responsibility for oversight of the Nation's air carrier operations needs to remain in the expert hands of the FAA and DOT.

Thank you, sir, for your time.

Mr. COSTELLO. The Chair thanks you, Mr. Yale, and now recognizes Mr. Judge.

Mr. JUDGE. Good afternoon, Chairman Costello, Ranking Member Petri, and honorable Members of the Committee. I am Thomas Judge and am testifying on behalf of The Patient First Air-Ambulance Alliance, PFAA, which represents 70 air medical providers in 40 States, including several members of AMOA. In addition to professional roles in air medicine, I have worked in rural EMS systems for over 30 years. Assuring access to care is a personal imperative.

The Alliance was simply created to improve the accountability of the air medical system to patients and the public. It is extremely regrettable that HEMS has ended up on the NTSB's most wanted list. While significant progress is being made in improving air medical safety, more must be done. A strictly voluntary approach in which individual providers define their own standards is not working, as documented by the Flight Safety Foundation.

While we strongly support single system aviation safety oversight by the FAA and recognize the contributions of the ADA to commercial travel, we are here today because HEMS is a unique sector of aviation. HEMS is an essential emergency service within a system, more akin to a public utility than an enterprise. In an emergency, the public must trust that every decision on their behalf is made strictly on the basis of best medical and aviation practice.

The public perception of the system and the reality however are at odds. The public believes that all medical helicopters have the same level of performance and aviation safety technology. They do not. The public believes that if they need air medical transport, the helicopter that arrives will take them to the right hospital, the right physician at the right time. That may or may not be true, depending on where they live. The public believes that the helicopter will be staffed by qualified medical crews with the latest medical technology to provide them with critical care. There is no such guarantee.

Our testimony includes are all too common story of uncoordinated care. While critics of H.R. 978 have said it would lead to multiple State standards, we are actually seeing the situation where individual providers set their own standards and can chal-

lenge any imposition of public accountability by claiming economic regulation preempted by the ADA.

When I was the president of AAMS, I believed the industry could self-regulate. I was wrong. The rapid growth of providers, underlying economic challenges in air medicine, and the use of the ADA to strike down State regulations have come together as a perfect storm, compromising both patient and aviation safety. We see providers based in locations by payer profile rather than need, often resulting in geographic maldistribution of services; providers maximizing flight volume over patient and aviation safety due to the need to meet high fixed costs; providers working outside the EMS system; providers transitioning to less capable aircraft. For example, in Kansas City, a twin engine fleet became a single engine fleet, antithetical to the FAA's current efforts to incentivize IFR.

As slide 1 shows, saturated competitive markets actually work in contrast to the goals of ADA, actually increasing cost to the health care system and to patients.

The intersection of Federal and State law over HMS is truly unique. While the FAA must oversee aviation safety, HEMS is the only area of aviation where the States have a role and legitimate interest because the passenger is a patient receiving critical care. Unlike other commuter operations, our passengers are critically ill, so they can't be considered informed consumers. HEMS is the only area of health law in which States are limited or prevented from regulating as they do all other health care services within their borders. Medical helicopters are both ambulances and aircraft. State regulation over "medical" is more than simply the medical care provided in the helicopter. State regulation must encompass the entirety of medical helicopter services, meaning system integration, coordination, and quality.

States are currently prohibited by the ADA from fully regulating medical services in the way they regulate all other health care services. The ability of States to regulate the "ambulance" aspect of HEMS has been challenged in numerous areas, leaving enormous gaps in oversight, lack of clarity over what States can and can't regulate, and a chilling effect on State regulators to strengthen or even enforce existing HEMS regulations.

States can't require 24-hour availability, determine base location, require scene transports regardless of insurance, or require integration with the EMS system. How is the public served by an emergency service system that does not guarantee 24 hour access? States can regulate the medical care and equipment, but as Representative Altmire noted, in Hawaii, quality, accessibility, availability, and acceptability are impermissible under the ADA. Something as simple as requiring climate control to prevent cold babies or a heart attack patient has never been explicitly permitted and is currently being challenged in North Carolina right now.

Contrary to assertions that 978 does not limit access to needed services, it only applies to intrastate point-to-point transport. Indeed, cross border operations occur daily and will continue to occur if 978 is enacted.

Slide 2 further illustrates how this works, the interstate operations. Massachusetts and Connecticut, with the fewest number of

helicopters, have the best trauma preventable death outcomes in the Country. The number of helicopters is not really at issue.

An unregulated market does not guarantee access to emergency care. The assertions that this will limit access in rural areas is just really untrue. All of the growth, as seen in the ADAMS database, is actually in areas in the last five years that are already served by helicopters. By establishing a clear boundary, 978 will lead to a safer and higher quality HEMS system, provide more accountability, and lead to a more harmonized and predictable State regulation benefitting Federal and State regulators and providers.

We also endorse 1201 as an essential means to improve aviation safety. As with H.R. 978, there is an opportunity to improve and strengthen the bill, especially around building and supporting a low level IFR system.

In conclusion, HEMS is not an aviation enterprise, but an emergency public utility. We strongly believe a rebalancing and clarification of the lines of conflicting regulatory authority are necessary if we are to effectively address and improve both aviation and patient safety, and we appreciate your time.

Mr. COSTELLO. The Chair thanks you, Mr. Judge, and now recognizes Dr. Bass.

Dr. BASS. Good afternoon, Chairman Costello and Ranking Member Petri. I am Dr. Robert Bass and I am testifying on behalf of The National Association of State EMS officials that represent EMS officials in the 56 States and territories. I am an emergency physician. My day job is a State EMS director in Maryland.

EMS and trauma systems, we know they save lives, and a breakdown of those systems can cost lives. In previous decades, helicopter EMS, or HEMS, as we call it, were well integrated into our trauma and EMS systems. Today, in many States, that integration is lacking and the system is broken.

In early 2000, shortly after Medicare improved its reimbursement practices for HEMS, the industry began to experience extraordinary growth throughout the Country. Unfortunately, more helicopters doesn't always mean more access or better care. In many cases, it simply means more helicopters on top of one another in urban areas. Some HEMS operators have been utilizing the preemption provision of the Airline Deregulation Act in an attempt to dismantle the EMS and health planning provisions in many States.

In addition to the ADA challenges, letters of opinions from the U.S. Department of Transportation have provided conflicting guidance on preemption issues. In one recent DOT opinion, they recognized the authority of States to regulate basic staffing requirements, qualifications of personnel, equipment requirements, and sanitary conditions. However, in another DOT opinion, requirements related to quality, availability, accessibility, and acceptability were viewed as being preempted. Other language has left States unclear as to the extent to which they can require medically necessary, but expensive, life-saving equipment.

The effect of the ADA related judicial decisions and the DOT letters has had a chilling impact on State efforts to regulate the medical aspects of HEMS. In many States, EMS officials are increasingly concerned about time-consuming, costly, and potentially damaging lawsuits. States must have clear and sufficient authority to

fulfill the public trust in planning, coordinating, integrating, and regulating air ambulances as a component of the overall EMS system, just as they do for ground ambulances. This was a key recommendation of the 2006 IOM report that was previously referred to.

The difference between aircraft operations transporting passengers and those transporting patients are important, and I would like to take just a moment to emphasize those differences. First, while a medical helicopter is an air carrier, first and foremost, it is an ambulance which provides very sophisticated patient care. Second, while airline passengers typically choose their mode of transport and airline, EMS patients and their families generally cannot. Third, HEMS providers must function as part of another system, the EMS system, and that is necessary to save lives.

NASEMSO supports H.R. 978, which would provide States the unambiguous authority to determine the need for and distribution of HEMS resources, as well as to regulate other essential medical aspects of HEMS, including the adequacy of an aircraft to serve as an ambulance by addressing issues such as access to the patient and climate control for vulnerable patients.

We have heard concerns about H.R. 978, so allow me to just take a moment to address a few of them.

First, opponents argue that the bill would limit access to HEMS services in rural and underserved areas. We don't believe that to be true. What it would potentially do is to enable States to limit the number of helicopters in oversaturated markets and improve access to HEMS services in other areas of the State. Second, H.R. 978 doesn't tell a State it must regulate or that, if it does regulate, it must regulate in a certain way. The bill appropriately leaves that up to the States. Third, H.R. 978 does not impede the interstate transport of patients. Medical helicopters move across State borders everyday, just as ground ambulances do. H.R. 978 does nothing to change that. Fourth, H.R. 978 does not interfere with the FAA authority to regulate aviation safety. Both the Federal Government and the States are trying to protect the same person who is both a passenger and a patient. Fifth, there is a precedent for H.R. 978 in the exemption from preemption that is afforded States with respect to motor carriers.

It is estimated that over 4.5 million patients have been flown by medical helicopters over the past 30 years. The medical care and rapid transportation provided by HEMS has undoubtedly saved many thousands of lives. As reported by the Institute of Medicine in 1999, an estimated 131 to 292 deaths per 100,000 patients occur due to adverse events during the course of routine medical care. The need for aviation safety is clear. However, it must not negate the need for patient safety, or many lives will be lost.

Our association believes that more clearly defined Federal and State roles and authority would lead to safer and more effective utilization of HEMS in the United States, and we thank you for your consideration.

Mr. COSTELLO. Dr. Bass, thank you for your testimony.

Mr. Stackpole, let me ask a couple of questions, if I can. You state in your testimony that better guidelines for new HEMS pilots

training are needed to ensure that solo pilots are properly prepared. Do you want to elaborate on that a little bit?

Mr. STACKPOLE. Well, sir, I think that as we discussed earlier today, as you heard in earlier testimony, HEMS is a unique aviation operation, so no matter where a pilot comes from or gains his initial experience to come to work at a HEMS operator, he needs specific training in relation to the operation he is going to be conducting, and, currently, there are many operators that fly aircraft that don't allow for training a pilot in an actual HEMS flight. In other words, he is provided training prior to going on to the line, but once he has gone through his initial training, he is basically turned loose on his own.

Mr. COSTELLO. You also say, and I quote, "real change will not occur through voluntary compliance, some initiatives must be mandated." I would like you to elaborate on that as well.

Mr. STACKPOLE. Well, I mean, I have been doing this job for nine years, and I started in a program, the program that I am still working at. We have a multi-engine aircraft that is not certified for IFR but does have full instrumentation. But I am seeing at our program the degradation of the equipment that we utilize. We are being reduced to single engine aircraft at some of our outlying bases; open cockpit or no longer is there separation. The aircraft that I fly is not only multi-engine, but also is a cabin class aircraft, so I have complete separation from the medical treatment that is occurring in the back. I think that is a very important issue for the safety of the HEMS flight. We are seeing new aircraft that are coming online that don't have that, and we think that is something that should be regulated.

Mr. COSTELLO. Thank you.

The Chair now recognizes the Ranking Member, Mr. Petri.

Mr. PETRI. Thank you very much and, again, thank you, Mr. Chairman and all of the panelists for your testimony.

I really just have one question, and I don't know who I should direct it at particularly. This is clearly a heart-wrenching situation and there is an even broader aspect to it, the loss of life of crew members and passengers is tragic. On the other hand, you are in an emergency situation and someone may be dying in an auto accident or because of heart failure or some other thing that conceivably could be prevented if there was quick action taken.

Is that an aspect of the problem too? Are there cases, do we have any statistics where people could have been saved, but the crew or the airline company said, well, we are going to save the equipment and it really wasn't that dangerous, but we are not going to go ahead and do it, and a family has lost their father or their wife or some other thing? How do you balance these sorts of situations is what I am asking.

In my own case, in our business, politicians are competitive and they are always trying to push and take private flights. We have a long list of colleagues who have died in airline accidents, both helicopter and plane, all the way from Hale Boggs, who is a famous figure around here still, to Paul Wellstone, who evidently shouldn't have done that, but he was trying to go to some meeting and the pilot went along with it, and Don Pane just was shot at, pushing

the envelope a little bit over Mogadishu, fortunately survived; Nicky Edwards didn't over in Africa.

These are tragic situations. How do we balance all this? And I suppose you think about it all the time, but is there another side to it in terms of people who are dead because they could have been saved and weren't?

Mr. ZUCCARO. I would like to take an initial stab at that. Everything that has been spoken about here I think has to be focused on the relation to the human factors issue and the decision-making, and remove the technology and the regulatory environment. I think that is where we find that most of the accidents and the causal effects are, is how that decision was made to launch on that flight and what the human factors are.

We are all human beings, and I think as has been noted by several of the panelists that this is a special environment; there is a life at stake, and I think that is a contributory aspect to this as to the decision-making. Nobody wants to be the one to say I can't go because of the weather or the conditions, and realize that they might have a material effect on the outcome of someone's life. We try to respond to that as human beings, and that is one of the areas that we are concentrating on in the safety initiatives, as well as everybody on the panel.

But in order to try to get it to best capability, there is a critical need to separate the medical environment and the aeronautical environment and the decision-making. In my thought process, you have to view the medical mission as a transport mission. The pilot and the company are being asked to transport an aircraft from A to B, and to do it safely and professionally. I think we need to apply the logic that what is going on in the back of the aircraft, be it medical, be it a passenger for some other purpose, is not germane to that aeronautical decision.

If you start building in the fact that, on this flight, it is a patient's life might be affected versus a corporate person might want to go from A to B, you start changing the model for the decision-making, when the real question has never changed: Can you do this safely or not from A to B? And the pilots need to be in an environment that is removed from the medical influence so that they truly are only asking and answering an aeronautical decision-making question. And I think that would go a long way to enhance the decision-making human factors issue.

Mr. COSTELLO. Mr. Judge?

Mr. JUDGE. Certainly, I work as a paramedic everyday, so I take care of patients in a very rural area. Our State does require us to be available 24/7 in the flight medical system. They do not, however, require us to fly. They require us to be integrated into the care system so that there is an option for that pilot to be able to say no and still know that the patient out there is going to get taken care of. So they require us to have 24/7 availability in an integrated EMS system.

It is very difficult to get that kind of data. We certainly look for the patients who need to be served that we can't reach in appropriate times, and we build the system to try to do that. That is why we put in IFR. That is why we put in NVG. That is why building an IFR infrastructure is so important. But there is a balance that

we have to do; not put pressure on the pilot, find another way. But the only way you can do that is to have a fully integrated EMS system from top to bottom, with the air medicine part of that fully integrated within the regulation.

Mr. COSTELLO. Mr. Yale, did you want to comment?

Mr. YALE. I would echo the comments that have just been made, but add to it that it is a balancing act that we need to look at when we deal with the requests that you were talking about. There is both a risk benefit and a cost benefit that needs to be looked at and the ability to be able to respond. It is important that we build systems that are capable of meeting the need in our area; that we build systems that have the ability to sustain that ability to meet that need; and that we do it in the safest way possible. But I think that the real critical component to pull away from this, as Matt suggested, is that we need to recognize that, when it comes to the transportation of the patient, we need to deal with that from a decision can we go, pick up that patient, and bring them and the crew back safely and complete that mission. If we think we are taking a risk in putting that patient or our crew in harm's way to do it, then we are making a mistake.

Mr. COSTELLO. Ms. Frazer?

Ms. FRAZER. Yes. We do have a standard that says the pilot should be insulated from the decision-making that has anything to do with the patient, and typically what we were trying to insulate the pilot from are things like there is a child—which typically brings a lot of emotion—that really needs our help. So the decision-making of the pilot is totally based on the aviation, weather things, not anything to do with the patient. It is not always possible, but as much as possible, keep him insulated from the patient information.

Mr. COSTELLO. Very good. We may have a few other questions that other Members have submitted that we will be submitting to you in writing to answer. The Chair thanks all of you for taking the time to be with us today to offer your perspective and your suggestions on this important topic.

As I said in the beginning, the purpose of the hearing was to have an opportunity for government and industry and the health care community to discuss this important issue and to try and figure out how we can enhance helicopter EMS safety, and I think we have had a very good hearing today. We have heard different perspectives and different viewpoints as to how we get where we all need to be, and I assure you, Ms. Friedman and others, that we are not going to stop here; that we are going to work with Mr. Altmire, we are going to work with Mr. Salazar and others concerning their legislation to see how we can go from where we are today to enhancing EMS helicopter safety.

So, again, we thank you for being here, for offering your testimony. You may receive some written questions in the mail from us to respond to, but that concludes our hearing. Thank you.

[Whereupon, at 12:39 p.m., the Subcommittee was adjourned.]

OPENING STATEMENT OF
THE HONORABLE RUSS CARNAHAN (MO-03)
AVIATION SUBCOMMITTEE
HOUSE TRANSPORTATION AND INFRASTRUCTURE COMMITTEE

Hearing on
Oversight of Helicopter Medical Services

Wednesday, April 22, 2009, 10:00 a.m.
2167 Rayburn House Office Building

Chairmen Oberstar and Costello, thank you for holding this important oversight hearing on Helicopter Emergency Medical Services. I want to begin by thanking the witnesses, in particular my colleague, the Honorable John Salazar of Colorado.

Helicopter Emergency Medical Services (HEMS) constitute a crucial link in our emergency medical response system. Abundant evidence and medical experience indicate that victims of severe injuries and acute illnesses are far likelier to survive if they can reach a hospital within the first, "golden hour" after an incident. For many patients, from those injured while exploring the wilderness to those living in communities underserved by medical facilities, helicopters offer the best access to care within that critical period.

For these reasons, the substantial increase in the number of helicopter ambulances over the past several years is an encouraging sign; however, the disturbing spike in accidents last year demonstrates the need to,update the regulations governing this increasingly important sector. Mister Chairman, the objective of this committee should be to ensure that the regulatory regime covering HEMS guarantees the safety of the pilots, medical professionals and patients while avoiding the implementation of rules that would unnecessarily limit growth in this field. Towards that end, I have several concerns that I hope the witnesses today will address.

As investigators have attributed most HEMS accidents to pilot error, this committee should look first to improve pilot safety and training. We should also consider codifying other recommendations of the National Transportation Safety Board, such as requiring pilots and E.M.S. dispatchers to commit to formal flight risk evaluation programs.

Alternatively, we should encourage the development of technologies that will aid pilots traveling in treacherous environments. I am eager to hear the views of the panelists on the potential for current or future technologies to improve safety at affordable prices, and I am open to the possibility of mandating such technologies in HEMS aircraft.

In closing, thank you again, Chairman Costello, for calling this important hearing, and thank you to each of the witnesses for offering your testimony today.

RCarnahan

STATEMENT OF
THE HONORABLE JERRY F. COSTELLO
SUBCOMMITTEE ON AVIATION
HEARING ON
OVERSIGHT OF HELICOPTER MEDICAL SERVICES
APRIL 22, 2009

- I welcome everyone to the Aviation Subcommittee hearing on Oversight of Helicopter Medical Services.

- This hearing will examine two issues. First, the safety of helicopter emergency medical services, or helicopter EMS. And second, the state regulation of helicopter EMS.

- The Federal Aviation Administration (FAA) regulates the helicopter and the pilot while states regulate the medical care that a patient receives onboard the aircraft. This hearing is an opportunity to discuss how the aviation industry, government and the healthcare community can work together towards a common goal of enhanced helicopter EMS safety.

- The helicopter EMS industry provides an important service by transporting seriously ill patients to emergency care facilities and high-level trauma centers. However, helicopter air ambulances operate in challenging conditions, such as flying during bad weather, going into to unfamiliar landing sites, and operating at night.

- According to the National Transport Safety Board (NTSB), approximately 400,000 patients and transplant organs each year are safely transported by helicopter, saving countless lives.

- Unfortunately, lives have also been lost. Between 1998 and 2008, there were 146 helicopter EMS accidents with 131 fatalities. The greatest number of accidents in any 11-month period occurred between December 2007 and October 2008, resulting in 13 accidents and 35 fatalities.

- I want to acknowledge the family members of those who lost their lives in helicopter EMS accidents here with us today. On behalf of this Subcommittee, I offer our condolences.

- In 1988, the NTSB conducted a study of helicopter EMS and issued 19 safety recommendations. In January 2006, 18 years later, the NTSB conducted another special investigation after an increase in accidents. As a result of this investigation, the NTSB issued four safety recommendations to the FAA and added helicopter EMS to its "Most Wanted List" in 2009. The NTSB also held a four day public hearing on helicopter EMS operations in February.

- I look forward to hearing our NTSB witness explain the recommendations from its four-day hearing. I want a progress

report on how the FAA plans to proceed following that hearing, what the agency is doing to address the safety issues raised.

- I also look forward to an update on the Government Accountability Office (GAO) 2007 report that I requested, which recommended that the FAA identify and collect data to better understand the air ambulance industry. Without this data, it will be difficult to know how to address the problem.

- In addition, Congressmen Salazar and Congressman Lungren introduced legislation addressing many helicopter EMS safety issues. I thank Congressman Salazar for testifying today regarding his bill.

- We are here today because we are committed to preventing helicopter EMS accidents. I look forward to the witnesses' testimony on current and future actions industry and government can take to improve helicopter EMS safety. Safety is an must always be priority one.

- **This brings me to the second issue that we will explore at this hearing – state regulation of helicopter EMS.**

- Currently states have the authority to regulate medical care inside the aircraft, including establishing minimum requirements for medical equipment as well as training and licensing requirements of the medical crew. Illinois requires EMS helicopters to be equipped with a cardiac monitor and an extra battery; a defibrillator that is adjustable for all age groups;

an external pacemaker; two sources of oxygen, in addition to other medical equipment.

- However, the Airline Deregulation Act of 1978 (ADA) stipulates that states **do not** have the authority to regulate rates, routes or services of air carriers.

- Several states have tried to adopt regulations pertaining to helicopter EMS that control items other than medical care such as the Certificate of Need program, rate setting, and limitation on geographic service areas. Courts and the Department of Transportation (DOT) have found that many of these state regulations were essentially economic regulation of air carriers and preempted by the ADA. For example, a federal court in North Carolina recently found that the State regulations establishing a Certificate of Need program, limiting the number

of helicopter EMS operators in the State, was preempted by the ADA.

- Accordingly, some are calling for clarification of the ADA to allow states to have a greater hand in regulating aspects of helicopter EMS that may be considered to be preempted by the ADA. They argue that states regulate ambulances on the ground; therefore, they should be able to regulate ambulances in the air. However, the issue is not that simple. Air medical transport is an interstate operation. I have concerns about allowing each state to separately regulate helicopter EMS services.

- In 2007, the National Academy of Sciences issued a report stating that there is a need to address inefficiencies and problems with the entire emergency medical service (EMS)

system. And by trying to tackle the issue of state regulation of helicopter EMS, we may be missing out on some of the "big picture" issues of the EMS system as a whole.

- Congressman Altmire and Congresswoman Miller introduced legislation addressing state regulation of medical helicopters. I thank them for bringing these issues before the Subcommittee. The provisions in this legislation are extremely complex, and I hope to have a good discussion of the issues.

- Before I recognize Mr. Petri for his opening statement, I ask unanimous consent to allow 2 weeks for all Members to revise and extend their remarks and to permit the submission of additional statements and materials by Members and witnesses. Without objection, so ordered.

Opening Statement for the Honorable Eddie Bernice Johnson
Transportation & Infrastructure Committee
Subcommittee on Aviation
Wednesday, April 22, 2009 – 2167 RHOB @ 10:00AM

Thank you Mr. Chairman.

I want to thank you and Ranking Member Petri for holding today's important hearing on the oversight of Helicopter Emergency Medical Service Safety.

Mr. Chairman, as a former ~~practicing~~ professional nurse, I can speak first-hand to the importance of rendering emergency care within critical time windows immediately following serious accidents.

Without question, the proliferation of Helicopter Emergency Medical Service or HEMs has proven to be, literally, a vitally important, life-saving tool in the preservation of life for countless accident victims by ensuring they are able to receive timely medical attention.

According to a 2005 report by Helicopter Association International, in 1991, there were 225 helicopter[6] dedicated to air medical service. Today there are approximately 850 in service providing service for approximately 81.4 million Americans.

However, as the data before us may suggest, this proliferation has not come without its share of fatal accidents - many of which, aviation experts indicate could have prevented. Over the past year, accidents involving HEMs have increased significantly relative to previous years. According to data provided by staff, there were 13 HEMs accidents resulting in 35 fatalities between December of 2007 and October of 2008—the most in any 11-month period.

I am heartened by FAA's immediate focus on short-term initiatives such as: risk management training for crews; increased emphasis on night operations; promotion of better technology for terrain awareness; and airline-type oversight of operators. However, I feel an overarching question remains: Are stakeholders—and this includes Congress—doing enough to ensure a culture of safety is permeated throughout the entire HEMs industry?

As I close I want to thank our witnesses to come before us to give testimony this morning. I look forward to hearing from them regarding the current state of safety affairs within the HEMs industry and how we may work together in ensuring safety remains a cornerstone of the helicopter emergency transport industry.

Thank you Mr. Chairman and I yield back the balance of my time.

Statement of Rep. Harry Mitchell
House Transportation and Infrastructure Committee
Subcommittee on Aviation
4/22/09

--Thank you Mr. Chairman.

--The ability to rapidly transport seriously injured patients to medical facilities is vitally important. It can mean the difference between life and death.

--As a part of our emergency response system, helicopters are invaluable.

--We need to ensure, however, that these emergency helicopter flights are as safe a possible.

--Between December 2007 and October 2008, there were 13 helicopter emergency medical service accidents with 35 fatalities. This is the greatest number of accidents in any 11-month period.

--I look forward to hearing from our witnesses about what we can do to make these flights safe.

--I yield back.

OPENING STATEMENT OF
THE HONORABLE JAMES L. OBERSTAR
AVIATION SUBCOMMITTEE HEARING
OVERSIGHT OF HELICOPTER MEDICAL SERVICES
APRIL 22, 2009

I want to thank Chairman Costello and Ranking Member Petri for calling today's hearing on the Oversight of Helicopter Medical Services. This is an important issue since so many Americans receive critical care from helicopter air ambulances. However, between December 2007 and October 2008, there were 13 Helicopter Emergency Medical Services (HEMS) accidents, resulting in 35 fatalities. As we have seen in the past, when spikes in accidents occur, the industry and Federal Aviation Administration (FAA) activate, however, once there is improvement, the emphasis quickly shifts. I know that Chairman Costello and I will not let that happen in this case.

Historically, military air medical services used fixed-wing and then later helicopters throughout World War II and into the Korean War. It was not until the Vietnam War that MEDEVAC became a universal term for helicopter medical evacuation of the sick and wounded. After the war, due to the large number of surplus aircraft and trained pilots, MEDEVAC technologies and procedures practiced by the military began to be transferred to the civilian sector. By the late 1970s, the

period during which the 1978 Airline Deregulation Act (ADA) was under consideration, the civilian helicopter medical sector was small, but growing.

Since the ADA was enacted, the number and locations of HEMS aircraft have greatly increased from 32 operators flying 39 helicopters in 1980, to over 272 operators flying approximately 850 helicopters in 2008. The increased use of air ambulances is due, in large part, to demonstrated improved recovery times and reduction in mortality rates for cardiac arrest, stroke, and traumatic brain injuries when patients get to a trauma center quickly. Another factor behind recent industry growth was the change in Medicare reimbursement structures in 2002.

In response to recent accidents, some have called for more stringent safety regulations including: flight risk assessments, coordinated flight dispatch, and technologies such as night vision goggles, Helicopter Terrain Awareness and Warning Systems (HTAWS), and Traffic Alert and Collision Avoidance System (TCAS).

With 84 percent of all HEMS accidents associated with human error, additional information on operations and accidents is extremely important. The Government Accountability Office (GAO) recommended in 2007, that FAA identify and collect appropriate data points on HEMS operations, but this is still not being done.

There is a need for additional safety technology enhancements, but the FAA must also address the human factors affecting HEMS operations including increased training and fatigue.

FAA has provided voluntary guidance and implemented additional regulations this year to increase the weather and visibility minimums for HEMS operations. While voluntary guidance and increased weather and visibility operating requirements are steps in the right direction, this is not enough.

Another element of this hearing is the authority that states have in regulating air ambulances. The ADA preempts state economic regulation of air ambulance services related to rates, routes, and services, but not state regulations regarding patient medical care. The intention of the ADA was to prevent a patchwork system of differing interstate regulations for all air carriers, including air ambulances.

This hearing will also address two related bills: H.R. 1201, introduced by Representatives Salazar and Lungren and H.R. 978 introduced by Representatives Altmire and Miller; to deal with safety issues and state regulatory issues respectively. I am pleased that we will explore these two measures in depth during this hearing.

While some forward progress has been made by the FAA regarding HEMS safety issues, FAA must commit to long-term action to ensure that patients and flight medical crew aboard HEMS flights reach their destinations safely

Thank you again Mr. Chairman for holding this hearing. I look forward to the testimony of our witnesses.

The Honorable John T. Salazar
Colorado 3rd District

Testimony on Oversight of Helicopter Medical Services

House Committee on Transportation & Infrastructure
Aviation Subcommittee
April 22, 2009

Chairman Costello, Ranking Member Petri, and Members of the Committee, thank you for inviting me to testify today on the topic of air medical services and specifically, on a bill I have introduced, H.R. 1201, the Air Medical Safety Act.

I want to commend Chairman Costello's leadership on this issue and I look forward to working with the committee.

I consider H.R. 1201 to be a starting point on this critical safety issue.

Since its introduction, my staff has been working with the committee, the FAA, the NTSB, industry, and a number of advocacy groups to ensure that this legislation is fair, effective, and meaningful.

And we've already made a number of changes—most of them technical, but important nonetheless.

Among them: changing 'pilot' to 'certificate holder', and requiring a rulemaking on 'devices that perform the function of recording voice communications and flight data information'

We're also adding terrain and obstacle avoidance systems to the bill, a key component to enhance EMS flight safety.

Before I go any further, I'd like to recognize Stacey Friedman, who will be testifying later.

Stacey's sister Erin Reed was a flight nurse who died in September 2005, when her helicopter lost control in inclement weather conditions after delivering a patient to a nearby hospital.

I'd also like to recognize Congressman Dan Lungren, who sponsored this bill with me.

I think it's important that this legislation is bipartisan, because human safety isn't a partisan issue.

Our bill increases the safety of crew and passengers on aircraft providing emergency medical services (EMS).

Colorado has seen 3 fatal crashes of EMS flights since 2000, all of which have occurred in my district.

The most recent was near Alamosa, in October 2007.

And two crashes in 2005, one based out of Steamboat Springs, the other near Mancos.

H.R. 1201 includes recommendations the National Transportation Safety Board (NTSB) made to the FAA, in response to several air medical crashes, to help improve safety.

One of the issues on their list—the impact of Part 91 of the FAA code— was brought to my attention by St. Mary's CareFlight, operating out of St. Mary's Hospital and Medical Center in Grand Junction, CO.

A great majority of air medical crashes over the past 5-7 years have been conducted under FAA Part 91 regulations.

As many of you know, Part 91 allows an EMS crew to fly in conditions which are more dangerous than what is permitted when a patient or an organ is on board.

Specifically, it allows for much less stringent weather minimums and does not restrict pilot duty time, compared to Part 135 of the same code.

The lives of our pilots and air medical crews should be protected by the same weather minimums and pilot duty-time requirements that these patients are afforded during their leg of the transport.

So this bill will eliminate the Part 91 regulations for certain flights and direct the FAA to study and implement several other proposals to increase safety conditions for medical flights.

I credit the FAA for some recent advancements in this area, but I still believe much more needs to be done, and in a timely manner.

In closing, I'd like to recognize the efforts of the many families who have responded to their losses with determination to help others.

By increasing safety conditions for medical flights, we will not only honor the remarkable sacrifices of those who gave their lives while trying to help others, but in their honor we will also prevent similar tragedies from occurring in the future.

Thank you again for the opportunity to speak and for calling this very important hearing.

JOINT STATEMENT OF CHRISTA FORNAROTTO, ACTING ASSISTANT SECRETARY FOR AVIATION AND INTERNATIONAL AFFAIRS, U.S. DEPARTMENT OF TRANSPORATION, AND JOHN M. ALLEN, DIRECTOR, FLIGHT STANDARDS SERVICE, OFFICE OF AVIATION SAFETY, FEDERAL AVIATION ADMINISTRATION, ON OVERSIGHT OF HELICOPTER MEDICAL SERVICES, BEFORE THE HOUSE COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE, SUBCOMMITTEE ON AVIATION, APRIL 22, 2009.

Chairman Costello, Ranking Member Petri, Members of the Subcommittee:

Thank you for inviting us here today to discuss the oversight of helicopter emergency medical services (HEMS). Both the Federal Aviation Administration (FAA) and the Office of the Secretary of the Department of Transportation (DOT) have distinct roles to play in the oversight of these important operations, and this joint testimony will describe those roles.

The testimony will first address the FAA's role and some of the agency's recent efforts in HEMS safety and the second portion of the testimony will focus on DOT's economic authority as it would be affected by Representative Altmire's bill, H.R. 978, the "Helicopter Medical Services Patient Safety, Protection and Coordination Act".

FAA Safety Oversight

HEMS operations are a critical aviation service provided to the medical community. A HEMS flight is often crucial to getting a critically ill or injured patient to the right medical facility as efficiently as possible, often during "the golden hour," the minutes or hours following a trauma when rapid intervention is most beneficial and effective for the patient. While the medical treatment aspect is obviously an essential part of a HEMS operation, the FAA's mission is to ensure the safety of the air transportation portion of

the operation. The best medical treatment in the world will not make a difference if the patient and crew cannot be transported safely.

Accordingly, we are taking steps to enhance the safety of this growing industry. To put this issue in context, FAA issues operating certificates to interstate carriers under parts 121 and 135 of title 14 of the Code of Federal Regulations. Carriers may choose to operate intrastate only, but FAA operating certificates are for interstate operations. There are currently 73 operators authorized to conduct interstate HEMS operations. There are approximately 850 air medical transportation helicopters in service. And, six of the 50 largest operating certificate holders in terms of number of aircraft operating under parts 121 and 135 are authorized to conduct HEMS operations. In fact, the tenth largest air carrier in the U.S. is a HEMS operator.

As with all the sectors of the industry that we regulate, we always want to make sure that the HEMS community is operating as safely as it can. Ideally, there would be a 0% accident rate. Unfortunately, there was a spike in the number of fatal HEMS accidents in 2008. From 2002 – 2007, there were 26 fatal HEMS accidents, an average of 4.3 accidents per year. Over this time period, there were also 59 non-fatal accidents, an average of 9.8 per year. In 2008 alone, there were 8 fatal HEMS accidents and 5 non-fatal accidents. These 34 accidents over those seven years have resulted in 89 fatalities, 71 of whom were crewmembers.

In reviewing the circumstances and causes of these accidents, our experts noticed four common factors:

- Controlled Flight Into Terrain (CFIT)
- Loss of control of the aircraft in flight
- Inadvertent flight into Instrument Meteorological Conditions (IMC) resulting in loss of control
- Night operations

Upon reviewing these accidents further, the FAA identified the need for certain measures to improve the safety of these operations, including:

- Strengthening operational control, by clearly identifying the entity accountable for the safety of the operation
- Increasing pilot skill in adverse weather operations
- Applying risk assessment protocols in flight decisions
- Fostering greater collaborative decision-making between ground and flight personnel; and
- Developing a stronger safety culture in HEMS operations.

Building a stronger safety culture in this industry is essential, as these operations take place in very demanding environments. As such, the pilot's judgment and risk assessment is critical in the evaluation of whether an air ambulance flight request should be accepted, especially when weather or other conditions put flight delay or cancellation on the table. This first rule never changes: the pilot in command makes the call to "go" or "no go." That's the linchpin of a safe system. The pilot must have the ability and support from his or her management to postpone a flight when the risk to the crew and the patient is too great. And at the same time, the pilots should take into account the assessments from ground personnel regarding conditions at the landing sites. The FAA

believes that the operator must create a safety culture and environment that promotes and supports the safety decisions and good judgment exercised by the pilots. This safety culture is the indispensable context for enabling the use of the newest technology and maximizing the benefits of technology in flight operations. This impact of a positive safety culture on operational safety must be recognized by the entire HEMS industry.

It is important in establishing this safety culture to differentiate between the services that HEMS operators offer from other types of emergency services that may be provided by air. The former is an air ambulance; that is, it is an ambulance service that is provided by air transportation rather than by a ground vehicle, but from a flight safety standpoint is first and foremost, transportation. Other air emergency services may involve search and rescue operations or emergency evacuations by air, which are operations of a different and more specific nature, and thus may require a different assessment of risk than a HEMS operation. For example, a HEMS operator may assess that severe weather precludes picking up a particular patient at a certain time, and that the patient would be better served to be safely transported by ground. In an emergency evacuation operation, where flood waters are rising because of inclement weather, a helicopter operation may be the *only* way to save people's lives. This entails a different assessment of the situational risks for the pilots and those being transported.

The National Transportation Safety Board (NTSB) has made several recommendations to address the safety concerns specific to HEMS operations. In response to the NTSB's recommendations and other issues that we have seen in the HEMS industry, the FAA has taken a number of steps. Since a formal rulemaking requires more deliberate speed, the

FAA moved forward with several voluntary compliance measures in order to effect immediate safety benefits. In particular, the FAA wanted to address raising the weather minima to higher standards. Weather minima dictate the required horizontal visibility (in miles) and distance an aircraft must keep from clouds to engage in Visual Flight Rules (VFR) flight to help ensure adequate visibility for safe flight. The required weather minima generally vary depending on (1) the class of airspace a pilot is flying through, (2) whether the flight is during the day or at night, (3) whether the pilot is flying a helicopter or an airplane, and (4) what part of the regulations govern the flight. The FAA also wanted to address establishing operational control/dispatch systems centers for all operators to helping flight planning and risk assessment, establishing formal risk assessment programs, and implementing new technologies.

In 2004, the FAA and industry created a joint task force, which formulated and implemented several voluntary air medical transport safety initiatives. We brought together the Association of Air Medical Services, Helicopter Association International, the National Emergency Medical Services Pilots Association, and industry operators to set the stage for the implementation of voluntary safety programs. From 2005 – 2006, FAA issued multiple notices, bulletins, advisory circulars, and the like, to provide guidance to the industry that would improve operational safety and promote a proactive safety culture among HEMS operators. This guidance included creating operational risk assessment programs for HEMS, including training to all flight crews, including medical staff; amending Visual Flight Rule (VFR) weather requirements; and establishing operational control/dispatch centers.

FAA also established a special committee to develop Helicopter Terrain Awareness and Warning System (HTAWS) standards. This technology helps prevent CFIT by providing aural and visual alerts to pilots of terrain or other obstructions that may exist along a flight path. As a result of this committee's work, the FAA issued a technical standards order for HTAWS based on minimum operational standards in December 2008.

Because of these safety initiatives, the period from 2004 through 2007 showed a drastic reduction in helicopter air medical transport fatal accidents. However, the upward trend in 2008 was troubling and prompted a more aggressive response. The FAA, working again with representatives from the industry, revised the operation specification (OPSPEC) for HEMS operators to require:

- Increased weather minima for Part 135 Visual Flight Rules (VFR) flight by raising ceilings and increasing visibility requirements;
- That if one segment of a HEMS operation is conducted under Part 135 VFR, all segments of the operations be conducted in accordance with the increased Part 135 weather minima as specified in the OPSPEC;
- Specific flight planning for VFR operations (e.g., a pilot must physically identify and document the highest obstacle in the planned route and plan to avoid it);

The OPSPEC also allowed for more instrument flight rule (IFR) operations by permitting pilots to use weather reporting sources that are within 15 miles of the landing location. These requirements have been in effect since January 2009. All of the HEMS operators are now operating in accordance with the OPSPEC.

Through the years, this evolving industry has been very responsive to improving safety. In January 2009, the FAA conducted a survey of all HEMS operators to find out how

many have implemented FAA-recommended best practices. We found the response to be overwhelming. Well over 80% of the operators have voluntarily adopted training programs and operational control center practices that the FAA has recommended to improve safety. Almost 90% are using radar altimeters, while just over 40% have voluntarily equipped some or all of their fleet with HTAWS. We expect this percentage will increase now that the HTAWS technical standards order has been published.

We recognize that relying on voluntary compliance alone is not enough to ensure safe flight operations. In that regard, the FAA has initiated a formal rulemaking project that will address many of the HEMS initiatives and best practices put forth in the advisory circulars, orders and notices issued over the last several years, as well as the most recent revisions to the OPSPEC. The FAA Rulemaking Council has given approval to begin drafting a Notice of Proposed Rulemaking, which we are aiming to have published in late 2009 or early 2010.

We appreciate both Congressman Salazar's and Congressman Altmire's efforts in developing their respective bills to continue to raise the bar on HEMS safety. However, the FAA does not believe that new safety legislation is needed at this time. Given the current regulations that govern emergency medical services flights, the voluntary safety measures already being implemented by the industry, as well as the rulemaking efforts underway, the FAA believes that the safety measures encompassed in H.R. 1201 are already being addressed. The FAA and the Department as a whole also understand that the intent of H.R. 978 is not to infringe upon the FAA's plenary safety authority over

civil aviation. To that end we will continue to work to ensure that there are no unintended consequences of either bill that might adversely affect HEMS safety.

Economic Regulation

There is however, another area of concern with the proposed bill. H.R. 978 contains several provisions that seek to provide States with additional authority to regulate helicopter air ambulances. Under current law, air ambulances are air carriers subject to the Airline Deregulation Act of 1978 (ADA). The ADA phased out the government's control over air carrier prices, routes and services, relying instead on competitive market forces. In keeping with the statute and judicial interpretations, the Department of Transportation has found the ADA preemptive of State economic regulation of air ambulance services (as air carriers) related to prices, routes and services, but not preemptive of State regulations concerning patient medical care. For example, while the Department has explained that State rules related to the economics of air ambulances are preempted, such as requirements for certificates of need, rate regulations, and geographic service coverage limitations, it has also noted that State regulations covering emergency medical equipment, qualifications of medical personnel, and patient care are not preempted under the ADA.

The Department of Transportation supports the authority of States to issue FAA-compliant regulations on patient care that would affect air ambulance operations. We recognize the interest States have in ensuring that medical professionals on board air ambulances are properly qualified and that air ambulances arrive properly equipped with

the medical and communications equipment necessary to care for patients and communicate with emergency medical services (EMS) personnel on the ground. Although State medical regulations that would affect air ambulances must always be compliant with FAA safety requirements, we believe that there is a wide range of medically-related interests that States can and currently do regulate without encroaching on the Department of Transportation's economic authority under the ADA. We further believe that nothing in the ADA as it exists prohibits a State from requiring compliance with medically-needed measures. The Department takes this work seriously, and fully supports the critically important work of State EMS Authorities in providing medical oversight of air ambulances.

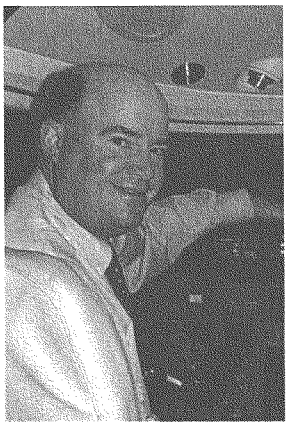
We have strong concerns, however, that carving out statutory exemptions to the ADA for purposes of allowing States to regulate economic issues involving one segment of the aviation industry will lead to many of the same problems that Congress sought to avoid when it passed the ADA's preemption provision over 30 years ago. For example, we are aware that many, if not most, air ambulance service providers operate in more than one State. For this reason, we are concerned that fifty separate State regimes addressing the economic regulation of air ambulances could unnecessarily complicate the industry and hinder interstate operations. We also believe that State regulation of the economic issues could serve to limit market entry and could ultimately have a negative effect on available services. Market access in aviation services, generally, has been instrumental in promoting a safe, efficient and responsive industry and we believe that these same economic principles may be applicable to air ambulance services.

Most importantly, however, we believe that before this Committee considers legislating in this area, that it consider carefully whether practical, as opposed to theoretical, problems exist with the current system governing air ambulance services. For example, among those testifying before you today are two groups representing participants in the air ambulance industry on both the provider and State government levels. At the Department, we have met with both of these organizations and what concerns us most is the lack of agreement, on not only the nature of the problems with the existing system, but whether any serious problems exist at all. We recognize that there have been some recent tragedies relating to air ambulance services, but it remains unclear whether these are relatively isolated incidents or indicative of more systemic national problems.

Should Congress decide that regulating entry and capacity is appropriate for one segment of the airline industry, other sectors of the industry may seek similar protection from competition. For this reason, we urge that the Committee move carefully with a thorough assessment of all facts relevant to this particular segment of the industry.

Thank you for the opportunity to testify on this important subject. We look forward to working with the Committee to address the HEMS safety issues as well as the economic concerns raised in H.R. 978. We will be happy to answer any questions you may have.

John M. Allen
Director, Flight Standards Service
Federal Aviation Administration



John Allen joined the Federal Aviation Administration in November 1991 and was appointed as the Director, Flight Standards Service in December 2008. He leads an organization of more than 4800 aviation professionals responsible for promoting the safety of flight for civil aircraft by setting regulations and standards for air carriers, air agencies, general aviation, airmen, and designees. Flight Standards also is responsible for the certification, inspection, surveillance, investigation, and enforcement of the Federal Aviation Regulations. In addition, the organization manages the aircraft and airmen official registry system.

Before his appointment as the Director, Mr. Allen served as the Deputy Director, beginning in March 2003, and as Assistant Manager, Flight Standards Certification and Surveillance Division (AFS-900) at Dulles International Airport, beginning in December 1998. In his capacity as Assistant Division Manager, he assisted the Division Manager with leading 150 employees in the system safety-based certification and oversight of air carrier certificate holders. AFS-900 was responsible for the management of the Air Transportation Oversight System (ATOS), the Certification, Standardization, and Evaluation Team (CSET) and the Flight Standards Safety Analysis Information Center (FSAIC).

Prior to AFS-900, Mr. Allen served in the Advanced Qualification Program Branch (AFS-230) as an Aviation Safety Inspector (Operations). As an AQP ASI, Mr. Allen assisted the Certificate Management Offices (CMO) and flight training departments of Northwest Airlines, US Airways, Trans World Airways, Delta Airlines, and other airlines with the initiation of "Single-Visit" training and their Advanced Qualification Programs

Mr. Allen is also a Brigadier General with the Air Force Reserves. He has held various command positions during his 31-year active duty and reserve military career to include vice wing commander and squadron commander.

He has over 4,800 flying hours. He has been an instructor and examiner pilot on the military C-141 for 20 years and an Air Force instructor pilot in the T-37. Mr. Allen has an Air Transport Pilot (ATP) certificate with ratings in the A-320 and L-300 (C-141).

Mr. Allen received his Bachelor of Science degree in computer and information sciences from the University of Florida. He also received a Masters of Science degree in aeronautical technology from Arizona State University.

He is married and has two sons. Hobbies include golfing (badly), flying, sailing and scuba diving.

U.S. House of Representatives
Committee on Transportation and Infrastructure

James L. Oberstar
Chairman

David Heymsfeld, Chief of Staff
Ward W. McCarragher, Chief Counsel

Washington, DC 20515

John L. Mica
Ranking Republican Member

James W. Coon II, Republican Chief of Staff

May 8, 2009

Mr. John Allen
Director
Flight Standards Service
Federal Aviation Administration
800 Independence Avenue, SW
Washington, D.C. 20591

Dear Mr. Allen:

On April 22, 2009, the Subcommittee on Aviation held a hearing on the "Oversight of Helicopter Medical Services."

Attached are questions to answer for the record. I would appreciate receiving your written response to these questions within 14 days so that they may be made a part of the hearing record.

Sincerely,

Jerry F. Costello
Chairman
Subcommittee on Aviation

APRIL 22, 2009
SUBCOMMITTEE ON AVIATION
HEARING ON
OVERSIGHT OF HELICOPTER MEDICAL SERVICES

QUESTIONS FOR THE RECORD
TO:
Mr. John Allen
Director, Flight Standards Service
Federal Aviation Administration

1. Mr. Allen, the GAO has recommended that the FAA collect complete and accurate data on air ambulance operations. Is FAA currently doing this, and if not, why not?

2. Mr. Allen, in your written testimony, you discuss an FAA survey of the helicopter EMS industry that included: voluntary compliance of training and operational control practices, use of radar altimeters, and installation or planned installation of helicopter terrain awareness and warning systems (HTAWS). What percentage of HEMS operators responded to the survey? Did an operator's response to the survey indicate that the response was applicable to its entire helicopter fleet? How is FAA using the results of this survey?

3. Mr. Allen, in your written testimony, you reference drafting a Notice of Proposed Rulemaking on helicopter EMS that the FAA intends to publish in the late 2009/early 2010 timeframe. What is the proposed rulemaking schedule?

APRIL 22, 2009
SUBCOMMITTEE ON AVIATION
HEARING ON
OVERSIGHT OF HELICOPTER MEDICAL SERVICES

RESPONSES TO
QUESTIONS FOR THE RECORD
FROM CHAIRMAN COSTELLO TO:
MR. JOHN ALLEN
DIRECTOR, FLIGHT STANDARDS SERVICE
FEDERAL AVIATION ADMINISTRATION

Question: Mr. Allen, the GAO has recommended that the FAA collect complete and accurate data on air ambulance operations. Is the FAA doing this, and if not, why not?

Answer:

The FAA uses the annual "General Aviation and Part 135 Activity Survey" to collect this flying hour data. With the recommendation of the General Accountability Office, the FAA began in 2004 soliciting utilization data from all the rotorcraft operators, not only HEMS. Although participation was low in the first year, it has been increasing and is has participation rates similar to other surveying organizations, such as the Helicopter Association International, that collect this data.

The FAA is examining whether to formalize the collection of flying hour data through rulemaking for the HEMS industry like it does the airline industry. The HEMS industry segment has matured to a point where data needs to be quantified and resources dedicated.

Question: Mr. Allen, in your written testimony, you discuss an FAA survey of the helicopter EMS industry that included: voluntary compliance of training and operational control practices, use of radar altimeters, and installation or planned installation of helicopter terrain awareness and warning systems (HTAWS). What percentage of HEMS operators responded to the survey? Did an operator's response to the survey indicate that the response was applicable to its entire helicopter fleet? How is FAA using the results of this survey?

Answer:

That survey was conducted in response to our inquiry to the principal operations inspector workforce. Its purpose was to gauge the effectiveness of our voluntary compliance efforts regarding the referenced safety initiatives.

What percentage of HEMS operators responded to the survey?

There was 100% response to our request. We received a report on each of the 73 HEMS air carrier certificate holders.

Did an operator's response to the survey indicate that the response was applicable to its entire helicopter fleet?

Yes. For example, if a carrier was pursuing equipage with Helicopter Terrain Awareness Warning Systems (HTAWS), the response was "yes." The carrier was actively pursuing HTAWS equipage, but due to the size of their fleet, they were not 100% equipped at the time of the survey.

How is FAA using the results of this survey?

We see that our efforts at voluntary compliance have worked and were implemented in a timely manner. We are now following up those programs with a rulemaking which will codify these successful programs.

Question: Mr. Allen, in your written testimony, you reference drafting a Notice of Proposed Rulemaking on Helicopter EMS that the FAA intends to publish in the late 2009/early 2010 timeframe. What is the proposed rulemaking schedule?

Answer: We have a Notice of Proposed Rulemaking (NPRM) on "Air Ambulance and Commercial Helicopter Operations; Safety Initiatives and Miscellaneous Amendments." The current scheduled timeline for completion is:

- January 2010: FAA approves NPRM
- March 2010: Office of the Secretary of Transportation approves NPRM
- June 2010: Office of Management and Budget approves NPRM
- June 2010: NPRM published
- September 2010: Comment period for NPRM closed

U.S. House of Representatives
Committee on Transportation and Infrastructure

James L. Oberstar
Chairman

David Heymsfeld, Chief of Staff
Ward W. McCarragher, Chief Counsel

Washington, DC 20515

John L. Mica
Ranking Republican Member

James W. Coon II, Republican Chief of Staff

May 8, 2009

Ms. Christa Fornarotto
Acting Assistant Secretary for
Aviation and International Affairs
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

Dear Ms. Fornarotto:

On April 22, 2009, the Subcommittee on Aviation held a hearing on the "Oversight of Helicopter Medical Services."

Attached are questions to answer for the record. I would appreciate receiving your written response to these questions within 14 days so that they may be made a part of the hearing record.

Sincerely,

Jerry F. Costello
Chairman
Subcommittee on Aviation

APRIL 22, 2009
SUBCOMMITTEE ON AVIATION
HEARING ON
OVERSIGHT OF HELICOPTER MEDICAL SERVICES

QUESTIONS FOR THE RECORD
TO:
MS. CHRISTA FORNAROTTO
ACTING ASSISTANT SECRETARY FOR AVIATION AND INTERNATIONAL AFFAIRS
U.S. DEPARTMENT OF TRANSPORTATION

1. Ms. Fornarotto, the Department of Transportation (DOT) has been characterized as taking an overly expansive view of federal preemption. Please comment.

2. Ms. Fornarotto, in your testimony you state that there is a wide range of medically-related interests the states can (and currently do) regulate without encroaching on DOT's economic authority under the Airline Deregulation Act (ADA). Please explain.

3. Ms. Fornarotto, some have suggested that competition creates a "race to the bottom," resulting in poor service, a lower level of safety, and a repeated, unnecessary use of air ambulances. Please comment.

4. Ms. Fornarotto, what is the impact of certificate of need (CON) laws on the ADA? What have DOT's letters of opinion stated on this issue?

5. Ms. Fornarotto, you state that the DOT has strong concerns about carving out statutory exemptions to the ADA to allow states to regulate economic issues involving one segment of the aviation industry. Please explain.

6. Ms. Fornarotto, if a state wanted to mandate medically-related items or services on an air ambulance, what resources exist to help a state determine if the ADA preempts the item?

7. Ms. Fornarotto, would it be useful to initiate a study of the helicopter air ambulance industry? If so, why? What should be included in such a study?

DOT Responses to Questions for the Record
from the
House Committee on Transportation and Infrastructure, Subcommittee on Aviation
on the
April 22, 2009 Hearing on Helicopter Emergency Medical Services

Question 1: Ms. Fornarotto, the Department of Transportation (DOT) has been characterized as taking an overly expansive view of federal preemption. Please comment.

Response: DOT has issued several letters opining that the ADA preempted certain State regulations. However, the majority, of DOT's letters addressed one particular issue, so-called Certificate of Need (CON) or Public Convenience and Necessity (PC&N) requirements promulgated in various States. A CON or PC&N requirement presents an outright market barrier to air ambulance operators, and DOT, like the Federal and State Courts which have addressed such requirements, found them preempted. Because DOT received requests primarily concerning CON, PC&N, and similar requirements, DOT's letters -- while addressing primarily a single issue -- may have created an impression that DOT "always" finds preemption. However, we note that DOT was careful in its letters to explain that the ADA does not preempt State regulation of medical care. As DOT recently stated in a letter to the Texas Attorney General, "To the extent Texas imposes 'medically-related' requirements on air ambulance providers – as examples, rules on the adequacy of medical equipment, the qualifications of medical personnel, and the need to maintain sanitary conditions – the ADA does not preempt them."

Question 2: Ms. Fornarotto, in your testimony you state that there is a wide range of medically-related interests the states can (and currently do) regulate without encroaching on DOT's economic authority under the Airline Deregulation Act (ADA). Please explain.

Response: The Federal Courts have held that the ADA does not prohibit the States from enforcing regulations serving primarily a patient care objective. Thus, the Courts have upheld State requirements related to the qualifications and staffing of medical personnel aboard air ambulances, on-board medical equipment, the maintenance of on-board sanitary conditions, the synchronization of on-board communications equipment with local emergency medical services resources, and the need to document procedures for transporting patients to appropriate medical facilities. DOT's opinion letters are consistent with the Courts' holdings. DOT also has noted that the ADA does not preempt State requirements concerning medical supplies on board an aircraft. Each State requirement presents a fact-specific situation. Thus, this list of requirements that, to date, have been considered and approved does not constitute the universe of State medically-related regulations that would be consistent with the ADA.

Question 3: Ms. Fornarotto, some have suggested that competition creates a "race to the bottom," resulting in poor service, a lower level of safety, and a repeated, unnecessary use of air ambulances. Please comment.

Response: The Department has received distinctly different descriptions of the state of the industry from proponents and opponents of H.R. 978, respectively, including on the issue of whether any problem exists in this area. As just one example, proponents of the bill state that subtle economic pressures result in unnecessary use of air ambulances inconsistent with medical protocols, whereas opponents of the bill strongly disagree with the assertion that the dispatch of air ambulances is taking place in disregard of those protocols. As for safety, air ambulances remain subject to FAA regulations governing operations, and in DOT's experience, competition is not inconsistent with safety. However, we take the issues addressed in H.R. 978 very seriously. For that reason, DOT supports a study in this area to determine whether there is merit to the argument that a "race to the bottom" with respect to the availability and quality of service is occurring.

Question 4: Ms. Fornarotto, what is the impact of certificate of need (CON) laws on the ADA? What have DOT's letters of opinion stated on the issue?

Response: A Certificate of Need (CON) requirement authorizes a State official to prevent an air ambulance operator from entering the State's market, based on the official's determination of whether the State has a "need" for the service. CON criteria generally include route and/or geographic restrictions, assessment of impacts on existing service providers, and 24/7 service mandates. A CON requirement, therefore, presents an outright market barrier to interstate air carriers, and thus violates the ADA, which prohibits State regulations related to a *price*, *route*, or *service* of an air carrier. In keeping with holdings from both Federal and State Courts, DOT has interpreted the ADA as prohibiting States from enforcing CON requirements that prohibit market entry.

Question 5: Ms. Fornarotto, you state that the DOT has strong concerns about carving out statutory exemptions to the ADA to allow states to regulate economic issues involving one segment of the aviation industry. Please explain.

Response: With rare exceptions, the commercial aviation industry has always operated on an interstate business model. Since Congress enacted the ADA over thirty years ago, even the few carriers that did operated exclusively intrastate have disappeared. Air carriers determine their prices, routes, and services based on, among other things, the demand for, and costs associated with, interstate operating authority. As a whole, the aviation industry under deregulation has operated with increased efficiency, more widely available service, and lower prices, even as safety has improved. We are concerned that additional State authority to regulate air ambulances, as with any air carriers, could eliminate some of these efficiencies and create uncertainty in the aviation sector generally. We do not mean to suggest that these concerns take precedence over a State's ability to ensure proper health care. Rather, DOT believes that before considering legislation that could adversely affect the air ambulance industry, there should be a determination on whether a systemic problem exists and, if so, any proposed legislation should narrowly address the defined problem.

Question 6: Ms. Fornarotto, if a state wanted to mandate medically-related items or services on an air ambulance, what resources exist to help a state determine if the ADA preempts them?

Response: State officials interested in determining whether the ADA preempts a particular State requirement may contact DOT's Office of General Counsel, which stands ready to assist States in reviewing proposed or existing requirements for consistency with the ADA. Federal and State case law, as well as DOT's opinion letters, also provide guidance in this area.

Question 7: Ms. Fornarotto, would it be useful to initiate a study of the helicopter air ambulance industry? If so, why? What should be included in such a study?

Response: The Department supports a study in this area. Following introduction of H.R. 978, DOT received and granted meeting requests from both supporters and opponents of the bill. The Department received diametrically opposed statements concerning the state of the industry and whether a problem exists in this area. A study conducted by a neutral party would result in an objective report on whether a systemic problem exists, and if so, the nature of any problem identified. DOT suggests that at a minimum, the report include facts, analysis, and recommendations in the following areas: (a) the "state of the industry," including information on the number, size, and location of air ambulance operators and their relationships with State and local Governments, hospitals, and other entities; (b) coordination of air ambulance operators with State or local Emergency Medical Services (EMS) systems; (c) the nature of air ambulance operators' service contracts, sources of payment, and costs of operation; (d) dispatch protocols, and compliance in practice; (e) current State regulations of air ambulances; (f) whether systemic problems exist under the current system governing air ambulances, and if so, the nature of the problems; and (g) the potential impact of additional State regulation of air ambulances.

NASEMSO

National Association of State EMS Officials
201 Park Washington Court Falls Church, VA 22046-4527 www.nasemso.org
703-538-1799 fax 703-241-5603 info@nasemso.org

. TESTIMONY OF ROBERT BASS ON BEHALF OF THE NATIONAL ASSOCIATION OF STATE EMERGENCY MEDICAL SERVICES OFFICIALS BEFORE THE TRANSPORTATION AND INFRASTRUCTURE COMMITTEE AVIATION SUBCOMMITTEE HEARING ON HELICOPTER MEDICAL SERVICES APRIL 22, 2009

Good morning Chairman Costello and Ranking Member Petri. I am Dr. Robert Bass and am testifying on behalf of The National Association of State Emergency Medical Services Officials (NASEMSO) which is the lead national organization for state EMS directors, medical directors, trauma managers and other officials charged with building, leading, and regulating our statewide systems of emergency medical response. I am the Chair of NASEMSO's Air Medical Committee and direct the Emergency Medical Services (EMS) system in Maryland.

EMS and Trauma Systems save lives. A breakdown in those systems can cost lives. In previous decades, helicopter EMS (HEMS) Programs were well integrated into our trauma and EMS systems. Today, in many parts of the country, that integration is lacking due in large part to the explosive growth of the HEMS industry during the past decade and the ensuing competition for business. Additionally, as states have attempted to address HEMS competition, establish medical standards, and regulate patient care, they are frequently challenged under the Airline Deregulation Act (ADA). The end result of all of this is that patients' lives are being put at risk by delayed and uncoordinated transports, unsafe practices, insufficient medical equipment, and inappropriate medical care.

How did we get to a broken air medical system?

From the early 1970's, when civilian air medical services began in the United States, through the year 2000, there was a slow but steady growth of air medical services. They were generally non-profit, hospital-based or governmentally-sponsored helicopter programs. The growth was slow because air medical services were expensive to operate and not well reimbursed by health insurance. This slow growth allowed sufficient time to integrate of HEMS programs into complex state and local EMS systems.

In the early 2000's, shortly after Medicare improved it's reimbursement practices for HEMS, the industry began to experience extraordinary growth in the number of medical helicopters throughout the country (see Figure 1). We began to see a shift from mostly non-profit hospital-based or government providers to for-profit operators of independently based helicopters which then consolidated into large, national or regional companies. The number of medical helicopters more than doubled from under 400 in 2000 to 840 by 2008. Texas is now served by 90 medical helicopters, while Pennsylvania has 62, and Florida has 61. Oklahoma has increased from three

bases and four aircraft in 2000 to 25 bases and 34 aircraft today. More helicopters doesn't always mean more access – in many cases it simply meant more helicopters on top of each other in an unregulated, competitive, and potentially dangerous environment. This unprecedented growth in the number of HEMS aircraft posed significant challenges to state and local EMS systems as they attempted to integrate and regulate HEMS programs across the country.

In modern EMS systems, a request through 9-1-1 for emergency medical assistance results in a complex and often highly choreographed response by dispatchers, EMS responders, hospital personnel, and other resources. Changes in this system must be carefully planned and coordinated. Since 2000, however, the rapid injection of hundreds of new and frequently independently operated medical helicopters into existing state and local EMS systems has created enormous coordination challenges and confusion. When new operators are able to establish HEMS operations wherever and whenever they choose, EMS systems frequently may have insufficient time or the means to establish standards for accessing, dispatching, coordinating, and safely utilizing these services. Additionally, efforts to address these issues have been challenged under the ADA. The mere introduction of a new medical helicopter into an EMS system does not automatically mean that lives will be saved. To the contrary, it may mean that lives will be lost, especially if an appropriate mechanism for state medical regulatory oversight is not in place.

The chilling effect of ADA preemption challenges on state regulation

There are HEMS operators who would prefer to avoid state regulation, establish their own medical standards, serve whomever they choose (particularly those who are insured) and place their bases wherever they want regardless of whether there is a need in that community for additional HEMS services. Such operators have been utilizing the ADA preemption provision through the use of threats or actual litigation in an attempt to dismantle various state EMS and health planning provisions across the country including in Minnesota, Missouri, North Carolina, Pennsylvania, Hawaii, Florida and Texas.

- In one recent US Department of Transportation (DOT) opinion, they recognized the authority of states to regulate basic staffing requirements, qualifications of personnel, equipment requirements and sanitary standards.

- However, in another DOT opinion, requirements related to "quality, availability, accessibility and acceptability" were viewed as being preempted by the ADA. Regulating such items as oxygen masks, litters, blankets and trauma supplies was found permissible, but the DOT cautioned the state that regulations "ostensibly dealing only with medical equipment/supplies aboard the aircraft could be so pervasive or so constructed as to be indirectly regulating the economic area of air ambulance prices, routes, or services." This language leaves states unclear as to the extent to which they can require medically necessary but expensive equipment without it constituting indirect and prohibited economic regulation. And it raises the significant question as to whether a HEMS operator who doesn't want to pay for an expensive cardiac monitor or ventilator required by a state could simply argue they are priced out of the market and that the requirement should be preempted under the ADA.

- State efforts to require that HEMS providers operate 24/7, provide services where there is a need, serve anyone (regardless of whether they have purchased a membership), and establish

primary geographic service areas, have all been ruled impermissible by either a court or the DOT.

- State certificate of need (CON) and similar laws have been routinely preempted, thus impeding the ability of states to appropriately plan and coordinate emergency medical services. Missouri once had a CON requirement for HEMS, and still does for other health care services. But since the State can no longer determine the number or location of HEMS service providers, there are now 31 helicopters in the state, many right on top of each other in Kansas City and St. Louis. Numerous coordination problems exist, such as the refusal of some operators to move their helicopter off of a hospital helipad for an incoming helicopter transporting a patient to that hospital.

The impact of ADA related judicial decisions and DOT letters has not only frustrated on-going efforts of many state EMS regulators attempting to address the safe and effective utilization of HEMS, but future efforts as well. State EMS offices frequently cite the ADA as an obstacle to effectively regulating HEMS and are unclear as to what regulations are permissible, in particular since the DOT letters have been inconsistent in there interpretation of the ADA. Further, they are concerned about time consuming, costly, and damaging lawsuits, and as a result, enforcement of existing regulations and implementation of new and stronger regulations have been curtailed substantially in many states.

Air ambulances are not merely air taxis and therefore must not be regulated that way

The difference between aircraft operations transporting passengers and those transporting patients are important.

First, while a medical helicopter is an air carrier, first and foremost, it is an ambulance. HEMS providers do not simply transport patients between two points, they provide sophisticated patient care that must be overseen by physicians and performed within the context of the overall EMS system.

Second, while airline passengers typically choose their mode of transport and airline, EMS patients and their families generally cannot. Patients need public protection because they are not traditional consumers who can make choices based on quality, service, or price.

Third, unlike most air transport services that interact principally with other components of the broader aviation system, HEMS providers must function as part of another system – the EMS system – in order to save lives. Air medical service providers are but one component of a state's EMS system and must routinely interact with a variety of emergency, public safety, and health care personnel and operations.

State regulation of HEMS is about more than the just care provided inside the helicopter

Thirty six states have CON or equivalent laws and some of the remaining sixteen states have some form of regulation of health care services. Less than ten states apply their CON or equivalent laws to HEMS providers and several of those have been struck down either through litigation or DOT opinion letters such as Minnesota, Missouri, Hawaii and most recently, North Carolina.

The North Carolina CON law, which no longer may apply to HEMS following recent litigation,

includes a legislative finding that is instructive as to the purpose of CON regulations:

> "...if left to the market place to allocate health service facilities and health care services, geographical maldistribution of these facilities and services would occur and, further, less than equal access to all population groups, especially those that have been traditionally been medically underserved, would result." NCGS Section 131E-175 et seq.

The citizens of each state expect that their best interests will be protected by the state should they become sick or injured and require medical care, including air medical transport. State protection of "medical services" goes far beyond regulation of the equipment, personnel and conditions *inside* the medical helicopter. States must also have clear authority to fulfill the public trust in planning, coordinating, integrating, and regulating air ambulances as a component of the overall EMS system, just as they do for ground ambulances. Not every state requires or will utilize all of this authority, but they should have the unambiguous authority to act to protect the public interest when the need arises. NASEMSO supports HR 978, and I would like to focus on a few key provisions of the bill that we view as critically important. HR 978 would provide states with the clear and unambiguous authority in:

- Determining the need for new HEMS programs and aircraft
- Determining the distribution of aircraft to ensure good statewide access
- Regulating the hours of service to ensure effective access and integration
- Making medical necessity determinations, coordinating flight requests, determining medically appropriate destinations, and ensuring HEMS communications with EMS systems
- Establishing requirements for the medical adequacy of aircraft that provide patient care which address factors such as provider access to the patient and climate control to protect vulnerable patients such as neonates and heart patients from temperature fluctuations during transport.
- Establishing minimum standards for the medical equipment necessary to treat critically ill and injured patients during transport, even if they are expensive and are "related to" the aircraft (e.g., ventilators, cardiac monitors and oxygenation that require electrical supply from the aircraft and must be affixed to it as well).

Dispelling concerns and misinformation about HR 978

We have heard some concerns raised about HR 978, so please allow me to address a few of them now:

First, we have heard opponents argue that the bill would limit access to HEMS services in rural and underserved areas. That is incorrect – it is certainly not our plan nor would it be in the public's interest to limit access to HEMS in rural or underserved areas. What we would potentially do is limit the number of helicopters in oversaturated markets, coordinate base locations and geographic service areas, and establish minimum medical standards. While I understand that doesn't please the opponents, it is in the best interest of ill or injured patients for whom it can mean the difference between life and death.

Second, HR 978 doesn't tell a state it must regulate, or that if it does regulate, that it must regulate in a certain way. The bill appropriately leaves that up to the states based on the needs of its citizens

and the availability and location of medical resources. Some have said the legislation should be more narrowly tailored. It already is very narrowly tailored -- it does not enable states to impose aviation safety requirements that the FAA has failed to impose such as radar altimeters, and it doesn't affect rates or prohibit subscription or membership programs.

Third, HR 978 does not impede interstate transport of patients. It only allows states to regulate transport point to point within the state. If a HEMS program is based in a bordering state but is going to provide routine transport for services within another state, all they need to do is get a medical license in that second state. Medical helicopters move across the borders every day just as ground ambulances do without any problem at all – HR 978 does nothing to change this.

Fourth, HR 978 does not interfere with the FAA's authority to regulate aviation safety. Both the federal government and the states are trying to protect the same patient – the FAA protects the patient from crashes and other flight safety issues and the states protect the patient from harm by improving access to and the medical care provided by HEMS programs. The need for aviation safety does not negate the need for patient safety. We recognize that state and federal regulations must be consistent and complementary and that any state requirements must not conflict with FAA safety requirements. We believe that HR 978 properly balances the state's traditional and essential role in regulating medical services while maintaining the FAA's role in regulating flight safety.

Conclusion

The federal government and states must improve the regulation of HEMS in a manner that will ensure that both aviation safety and patient safety issues are sufficiently addressed. NASEMSO recognizes the essential role of the FAA in regulating air carriers and aviation safety, but strongly believes that more clearly defined federal and state roles and authority would lead to safer and more effective utilization of HEMS in the United States. NASEMSO further believes that federal authority and preemption under the ADA must be clarified to give states the unambiguous authority to protect the public interest as it relates to the medical oversight of HEMS programs. The "Helicopter Medical Services Patient Safety, Protection, and Coordination Act", HR 978, would accomplish much of this and we strongly urge its enactment.

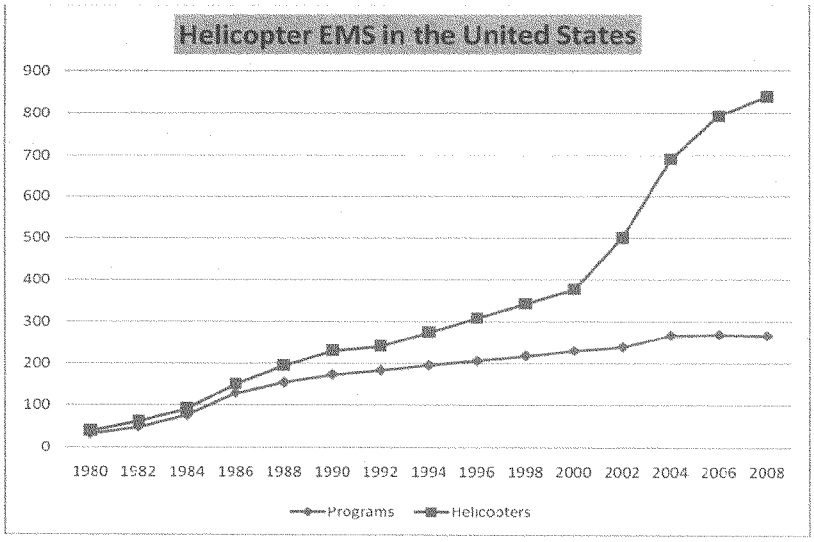


Figure 1 (Figures derived from joint consensus paper of the Association of Air Medical Services, NASEMSO, and the National Association of EMS Physicians: McGinnis KK, Judge, T et al *Air Medical Services: future development as an integrated component of the Emergency Medical Services (EMS) System: a guidance document*; Prehosp Emerg Care. 2007 Oct-Dec;11(4):353-68 Accessed in December, 2008 at: http://www.nasemso.org/Projects/AirMedical/. 2008 data point is from ADAMS 2008 accessed at: http://www.adamsairmed.org/pubs/AMTC08_poster.pdf in February, 2009.)

United States Government Accountability Office

GAO

Testimony

Before the Subcommittee on Aviation, Committee on Transportation and Infrastructure, House of Representatives

For Release on Delivery
Expected at 10:00 a.m. EDT
Wednesday, April 22, 2009

AVIATION SAFETY

Potential Strategies to Address Air Ambulance Safety Concerns

Statement of Gerald L. Dillingham, Ph.D.
Director, Physical Infrastructure Issues

GAO
Accountability * Integrity * Reliability

GAO-09-627T

April 22, 2009

GAO
Accountability·Integrity·Reliability

Highlights

Highlights of GAO-09-627T, a testimony before the Subcommittee on Aviation, Committee on Transportation and Infrastructure, House of Representatives

AVIATION SAFETY

Potential Strategies to Address Air Ambulance Safety Concerns

Why GAO Did This Study

Air ambulance transport is widely regarded as improving the chances of survival for trauma victims and other critical patients. However, recent increases in the number of air ambulance accidents have led to greater industry scrutiny by government agencies, the public, the media, and the industry itself. The National Transportation Safety Board (NTSB) and others have called on the Federal Aviation Administration (FAA), which provides safety oversight, to issue more stringent safety requirements for the industry.

This testimony discusses (1) recent trends in the air ambulance industry with regard to its size, composition, and safety record; (2) recent industry and government efforts to improve air ambulance safety; and (3) potential strategies for improving air ambulance safety. This testimony is based primarily on GAO's February 2007 study on air ambulance safety (GAO-07-353). To update and supplement this 2007 report, GAO analyzed the latest safety information from NTSB and FAA, reviewed published literature on the state of the air ambulance industry, and interviewed FAA officials and industry representatives.

GAO provided a copy of the draft testimony statement to FAA. FAA provided technical comments, which GAO incorporated as appropriate.

What GAO Found

The air ambulance industry has increased in size, and concerns about its safety have grown in recent years. Available data suggest that the industry grew, most notably in the number of stand alone (independent or community-based) as opposed to hospital-based operators, and competition increased among operators, from 2003 through 2008. During this period, the number of air ambulance accidents remained at historical levels, fluctuating between 11 and 15 accidents per year, and in 2008, the number of fatal accidents peaked at 9. This accident record is cause for concern. However, a lack of reliable data on flight hours precludes calculation of the industry accident rate—a critical piece of information in determining whether the increased number of accidents reflects industry growth or a declining safety record.

The air ambulance industry and FAA have acted to address accident trends and causes. For example, FAA enhanced its oversight to reflect the varying sizes of operators, provided technical resources to the industry, launched an accident mitigation program, and revised the minimum standards for weather and safe cruising altitudes that apply to air ambulance operations.

Despite the actions to improve air ambulance safety, 2008 was the deadliest year on record for the industry. Through its work on aviation safety, including air ambulance safety; review of the published literature; and interviews with government and industry officials, GAO has identified several potential strategies for improving air ambulance safety, including the following:

- Obtain complete and accurate data on air ambulance operations.
- Increase the use of safety technologies.
- Sustain recent efforts to improve air ambulance safety.
- Fully address NTSB's recommendations.
- Adopt safety management systems within the air ambulance industry.
- Clarify the role of states in overseeing air medical services.
- Determine the appropriate use of air ambulance services.

Air Ambulance Helicopters

Sources: FEMA and Washington State Department of Health.

To view the full product, including the scope and methodology, click on GAO-09-627T. For more information, contact Gerald L. Dillingham at (202) 512-2834 or dillinghamg@gao.gov.

Mr. Chairman and Members of the Subcommittee:

I appreciate the opportunity to testify before you today on air ambulance safety. My remarks will focus on (1) recent trends in the air ambulance industry with regard to size, composition, and safety record; (2) recent industry and government efforts to improve air ambulance safety; and (3) potential strategies for improving air ambulance safety. My testimony is based primarily on our February 2007 report on air ambulance safety, which we conducted at the request of the Chairman.[1] To update and supplement our existing work, we analyzed the latest safety information from the National Transportation Safety Board (NTSB) and the Federal Aviation Administration (FAA), reviewed published literature on the state of the air ambulance industry, and interviewed officials from NTSB and FAA and industry representatives.[2] We conducted this work in March and April 2009.

Background

Air ambulances are an integral part of U.S. emergency medical systems, primarily transporting patients between hospitals, but also providing transport from accident scenes or for organs, medical supplies, and specialty medical teams. Air ambulances may be helicopters or fixed-wing aircraft. Helicopter air ambulances provide on-scene responses and much of the shorter-distance hospital-to-hospital transport, while fixed-wing aircraft are used mainly for longer facility-to-facility transport. (See fig. 1.) Helicopter air ambulances make up about 74 percent of the air ambulance fleet and, unlike fixed-wing aircraft, do not always operate under the direction of air traffic controllers. They also often operate in challenging conditions, flying, for example, at night during inclement weather and using makeshift landing zones at remote sites. My testimony today focuses on the safety of helicopter air ambulance operations.

[1]GAO, *Aviation Safety: Improved Data Collection Needed for Effective Oversight of Air Ambulance Industry*, GAO-07-353 (Washington, D.C.: Feb. 21, 2007). This review and our updated work was conducted in accordance with generally accepted government auditing standards.

[2]FAA is the federal agency responsible for providing aviation safety oversight in the United States and NTSB is an independent federal agency charged with investigating each U.S. aviation accident.

Figure 1: Air Ambulance Helicopter

Source: Clare McLean ©2006.

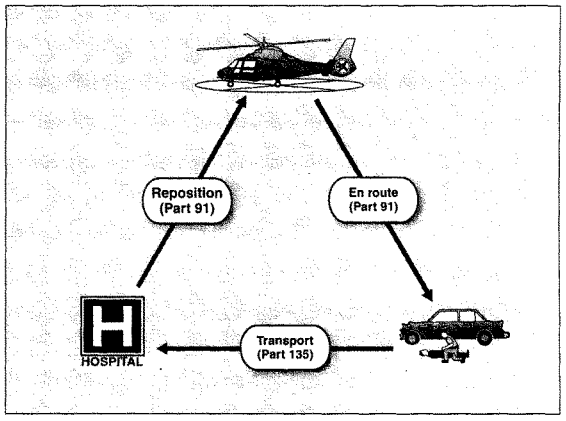
Air ambulance operations can take many different forms but are generally one of two business models—hospital-based or stand-alone.[3] In a hospital-based model, a hospital typically provides the medical services and staff and contracts with an aviation services provider for pilots, mechanics, and aircraft. The aviation services provider also holds the FAA operating certificate. The hospital pays the operator for services supplied.[4] In a stand-alone (independent or community-based) model, an independent operator sets up a base in a community and serves various facilities and localities. Typically, the operator holds the FAA operating certificate and either employs both the medical and flight crews or contracts with an aviation services provider for them. This stand-alone model carries more financial risk for the operator because revenues depend solely on payments for transporting patients. Some operators provide both hospital-based and stand-alone services and may have bases located over wide geographic areas.

[3]Other types of operations include services that are operated by government entities or the military.

[4]A hospital, or other nonairline entity, may hold an exemption from the Department of Transportation to operate as an "indirect air carrier," that is, an entity that does not actually operate aircraft, to sell air ambulance air services to the public and contract with a licensed airline for the air transportation.

Regardless of the business model employed, most air ambulances—except government and military aircraft—must operate under rules specified in Part 135 of Title 14 of the Code of Federal Regulations when patients are on board and may operate under rules specified in Part 91 when patients are not present. As a result, different legs of air ambulance missions may be flown under different rules. However, some operators fly under part 135 regardless of whether patients are on board the aircraft. (See fig. 2.) Flight rules under Parts 91 and 135 differ in two key areas—(1) minimum requirements for weather and visibility and (2) rest requirements for pilots. The Part 135 requirements are more stringent.

Figure 2: Air Ambulance Scene Response Flight Legs



Source: GAO.

Note: Flight rules under Parts 91 and 135 differ in two key areas—(1) minimum requirements for weather and visibility and (2) rest requirements for pilots. The Part 135 requirements are more stringent.

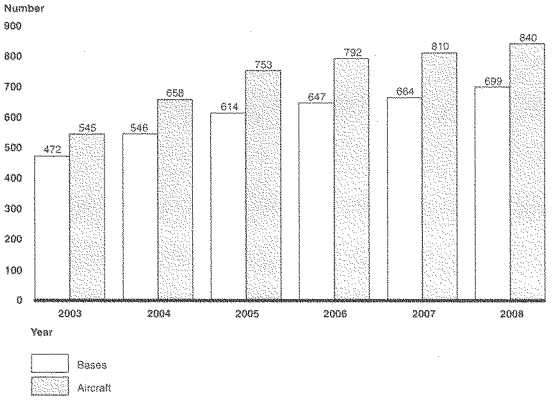
Industry Has Expanded and Safety Concerns Have Grown in Recent Years

Available Data Suggest Industry Growth and Increased Competition

According to industry experts and observers, the air ambulance industry has grown, but data limitations make it difficult to determine by how much. Data for several years on the number of aircraft and number of operating locations are available in a database maintained by the Calspan-University of Buffalo Research Center (CUBRC) in alliance with the Association of Air Medical Services (AAMS).[5] For 2003, the first year for which data are available, AAMS members reported a total of 545 helicopters stationed at 472 bases (airports, hospitals, and helipads). By 2008, the number of helicopters listed in the database had grown to 840, an increase of 54 percent, and the number of bases had grown to 699, an increase of 48 percent (see fig. 3). While a database official said that the data partly reflect the use of a revised criterion that allowed for the inclusion of more helicopters and for improved reporting since the database was established, the increase also reflects actual growth.

[5]AAMS is a nonprofit international association that serves providers of air and medical transport systems.

Figure 3: Number of Air Ambulance Bases and Aircraft, 2003 through 2008



Source: GAO analysis of Association of Air Medical Services, Atlas and Database of Air Medical Services data.

Data are less readily available on whether this increase number of aircraft translates into an increased number of operating hours. FAA does not collect flight-hour data from air ambulance operators. Unlike scheduled air carriers, which are required to report flight hours, air ambulance operators and other types of on-demand operators regulated under Part 135 are not required to report flight activity data to FAA or the Department of Transportation.[6] Historically, FAA estimated the number of flight hours, using responses to its annual General Aviation and Air Taxi and Avionics (GAATAA) survey. These estimates may not be reliable, however, because the survey is based on a sample of aircraft owners and response rates have historically been low.

According to the government and industry officials we interviewed and the literature we reviewed, most of the air ambulance industry's growth has

[6]NTSB previously recommended that FAA require flight activity reporting for all Part 135 operators.

been in the stand-alone (independent) provider business model.[7] Testimony from industry stakeholders recently submitted to NTSB further identifies the stand-alone provider business model as the current area of industry growth. The growth in the stand-alone provider business model has led to increased competition in some locales. According to the officials we interviewed and others who have studied the industry, the increase in the stand-alone provider business model is linked to the development, mandated in 1997, of a Medicare fee schedule for ambulance transports, which has increased the potential for profit making.[8] This fee schedule was implemented gradually starting in 2002, and since January 2006, 100 percent of payments for air ambulance services have been made under the fee schedule.[9] Because the fee schedule has created the potential for higher and more certain revenues, competition has increased in certain areas, according to many of our sources.

Increased competition can lead to potentially unsafe practices, industry experts said. Although we were unable to determine how widespread these activities are, experts cited the potential for such practices, including helicopter shopping and call jumping. Helicopter shopping refers to calling a series of operators until an operator agrees to take a flight assignment, without telling the subsequently called operators why the previously called operators declined the flight. This practice can be unsafe if the operator that accepts the flight assignment is not aware of all of the facts surrounding the assignment.[10] Call jumping occurs when an air ambulance operator responds to a scene without being dispatched to it or when multiple operators are summoned to an accident scene. This

[7]For example, a 2006 public policy paper by the Foundation for Air Medical Research & Education (FARE) observed that many air medical services "had become independent, community based resources." Similarly, a 2005 FAA research paper noted that "the fastest growing segment of the [air medical] industry is the independent provider.

[8]Balanced Budget Act of 1997, P.L. No. 105-33, § 4523 (Aug. 5, 1997).

[9]Prior to 2002, all ambulance service reimbursements by Medicare were based on the type of provider.

[10]For example, in July 2004, an air ambulance collided with trees shortly after take-off, killing the pilot, flight nurse, flight paramedic, and patient. Three other air ambulance operators had previously turned down this same flight, including one that had attempted it but was forced to return because of fog. The pilot during the accident, however, was not informed by emergency medical service dispatchers that other pilots had declined the flight because of adverse weather conditions. In 2006, FAA issued a letter to all state Emergency Medical Services Directors (or equivalent positions) describing "helicopter shopping" and requesting that the directors take action within their jurisdiction to implement standards and procedures to prohibit this practice.

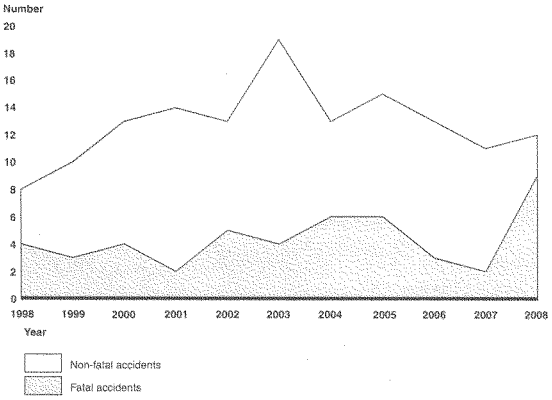
situation is potentially dangerous because the aircraft are all operating in the same uncontrolled airspace—often at night or in marginal weather conditions—increasing the risk of a midair collision or other accident.

Industry Experienced Highest Number of Fatal Accidents in 2008, but Data Limitations Preclude Complete Understanding of Safety Record

From 1998 through 2008, the air ambulance industry averaged 13 accidents per year, according to NTSB data.[11] The annual number of air ambulance accidents increased from 8 in 1998 to a high of 19 in 2003. Since 2003, the number of accidents has slightly declined, fluctuating between 11 and 15 accidents per year. While the total number of air ambulance accidents peaked in 2003, the number of fatal accidents peaked in 2008, when 9 fatal accidents occurred (see fig. 4). Of 141 accidents that occurred from 1998 to 2008, 48 accidents resulted in the deaths of 128 people. From 1998 through 2007, the air ambulance industry averaged 10 fatalities per year. The number of overall fatalities increased sharply in 2008, however, to 29.

[11]NTSB has revised its definition of an air ambulance accident since our 2007 report to include accidents with an aircraft (1) dedicated to air medical operations, (2) configured for such operations, and (3) piloted by a dedicated air medical flight crew. Consequently, the numbers of accidents presented in this testimony for 1998 through 2005 is slightly higher than those presented in our 2007 report.

Figure 4: Fatal and Non-fatal Air Ambulance Accidents, 1998-2008



Source: GAO analysis of NTSB data.

Note: These numbers include accidents of public-use aircraft as well as additional accidents for 1998 through 2005 that NTSB included in its totals after revising its definition of an air ambulance accident.

Both the spike in the number of fatal accidents in 2008 and the overall number of accidents are a cause for concern. However, given the apparent growth in the industry, the increase in the number of accidents may not indicate that the industry has experienced, on the whole, the industry's safety record has worsened. More specifically, without actual data on the number of hours flown, no accident rate can be accurately calculated. Because an accurate accident rate is important to a complete understanding of the industry's safety, we recommended in 2007 that FAA collect data on flight activity, including flight hours.[12] In response, FAA has surveyed all helicopter air ambulance operators to collect flight activity data. However, to date, FAA's survey response rate is low, raising

[12]GAO-07-353.

questions about whether this information can serve as an accurate measure or indicator of flight activity.

In the absence of actual flight activity data, others have attempted to estimate flight hours and accident rates for the industry. For example, an Air Medical Physician Association (AMPA) study estimated annual flight hours for the air medical industry through an operator survey, determining that the overall air medical helicopter accident rate has dropped slightly in recent years to approximately 3 accidents per 100,000 flight hours.[13] However, the study's preliminary estimates for 2008 indicate that the fatal accident rate tripled over the 2007 rate, increasing from 0.54 fatal accidents per 100,000 flight hours in 2007 to 1.8 fatal accidents per 100,000 flight hours in 2008.

Data on the causes and factors underlying air ambulance accidents indicate that while the majority of accidents are caused by pilot error, a number of risks, including nighttime operations, adverse weather conditions, and flights to remote sites, also contribute to accidents. NTSB data on helicopter accidents occurring from 1998 through 2008 show that pilot error was deemed the probable cause in more than 70 percent of air ambulance accidents, while factors related to flight environment (such as light, weather, and terrain) contributed to 54 percent of all accidents.[14] Nighttime accidents for air ambulance helicopters were prevalent, and air ambulance accidents tended to be more severe when they occurred at

[13]Ira J. Blumen, M.D., and the University of Chicago Aeromedical Network, *A Safety Review and Risk Assessment in Air Medical Transport: Supplement to the Air Medical Physician Handbook* (November 2002). The methodology used in this study was updated in a follow up study to include the nine largest air ambulance operators in the United States. To determine flight hours, the study's author multiplied the average flight hours per program by the total number of programs identified in each year. For more information, see I.J. Blumen and D. Lees, "Air medical Safety: Your First Priority" *Principles and Direction of Air Medical Transport* (Salt Lake City, Utah: Air Medical Physician Association, September 2006). The methodology was further expanded following the 2006 study to include nearly 20 operators, representing a reported 90 percent of air medical helicopters in the United States. I.J. Blumen, "An Analysis of HEMS Accidents and Accident Rates" (Washington, D.C.: NTSB public hearing: Safety of Helicopter Emergency Medical Services Operations, February, 2009). We interviewed Dr. Blumen about the study's methodology and findings. We determined that the study's methodology and findings were sufficiently reliable for our purposes.

[14]Numbers do not add to 100 percent because multiple factors could contribute to a single accident. Some 2008 accidents were excluded from this analysis because NTSB has not yet completed their accident investigations and made determinations of cause and underlying factors.

night than during the day. Similarly, air ambulance accidents were often associated with adverse weather conditions (e.g., wind gust and fog). Finally, flying to remote sites may further expose the crew to other risks associated with unfamiliar topography and makeshift landing sites.

Industry and FAA Have Acted to Address Air Ambulance Accident Trends and Causes

Increase in Number of Accidents Has Led to Greater Industry Focus on Safety

In 2007, we reported that the air ambulance industry's response to the higher number of accidents has taken a variety of forms, including research into accident causes and training.[15] Since then, the industry has continued its focus on improving safety by, for example, initiating efforts to develop an industry risk profile and share weather information. In July 2008, for instance, AAMS convened a conference (summit) on safety to encourage open communication between the medical and aviation sectors of the industry. AAMS plans to issue a summary of the summit's proceedings that will include recommended next steps. Table 1 highlights examples of recent industry initiatives.

[15]For more information on the industry safety initiatives we identified, see GAO-07-353.

Table 1: Examples of Recent Air Ambulance Industry Initiatives to Address Safety Concerns

Year	Organization	Initiative
2007	AirMed International LLC	Administers the Web Site WeatherTurndown.com, which allows medical transport programs to share current information on delays or cancellations due to weather.
2008	AAMS	Safety summit with operators, regulators, medical professionals, and insurance providers to discuss and learn from recent accidents.
2008	Commission on the Accreditation of Medical Transport Systems (CAMTS)	Produced and distributed a video on "helicopter shopping," which can lead to an unsafe condition in which an operator initiates a flight that it may have declined if it had been told that other operators had turned down the flight for safety reasons.
2008	Bell Helicopter	Sponsored safety risk profile of the industry.
2009	Air Medical Operators Association (AMOA), AAMS, and Helicopter Association International	Developed and submitted recommendations to NTSB that are intended to enhance air medical safety.

Source: GAO.

FAA Has Taken a Number of Actions to Address Safety Concerns

In 2007, we reported that FAA, the primary federal agency overseeing air ambulance operators, has issued guidance, expanded inspection resources, and collaborated with the industry to reduce the number of air ambulance accidents. Since then, FAA has taken additional steps to improve air ambulance safety including the following:

- **Enhanced oversight to better reflect the unique nature of the industry**. FAA has changed its oversight to reflect the varying sizes of operators. Specifically, large operators with 25 or more helicopters dedicated to air medical flights are now assigned to dedicated FAA Certificate Management Teams (CMT)—groups of inspectors that are assigned to one air ambulance operator. These CMTs range in size from 4 inspectors for Keystone Helicopter Corporation, which has a fleet of 38 helicopters, to 24 inspectors for Air Methods, which has a fleet of 322 helicopters. Additionally, CMTs use a data- and risk-based process to target inspections to areas that pose greater safety risk. For operators of all sizes, FAA has asked inspectors to consider using the Surveillance Priority Index tool, which can be used to identify an operator's most

pressing safety hazards. In addition, FAA is hiring more aviation safety inspectors with rotorcraft experience.

- **Provided technical resources**. FAA has revised its guidance for the use of night vision goggles (NVG) and established a cadre of NVG national resource inspectors.[16] FAA has also developed technical standards for the manufacture of helicopter terrain awareness and warning systems for air medical helicopters.[17] These standards articulate the minimum performance standards and documentation requirements that the technology must meet to obtain FAA approval. FAA also commissioned the development of an air ambulance weather tool, which provides weather assessments for the community.[18]

- **Launched accident mitigation program**. Initiated in January 2009, this program provides guidance for inspectors of air ambulance operators, requiring them to ensure, among other things, that these operators have a process in place to facilitate safe operations, such as a risk assessment program.

- **Revised minimum standards for weather and safe cruise altitudes**: To enhance safety, FAA revised its minimal requirements for weather and safe cruise altitudes for helicopter air ambulances in November 2008.[19] Specifically, FAA revised its specifications to require that if a patient is on board for a flight or flight segment and at least one of the flight segments is therefore subject to Part 135 rules, then all of the flight segments must be conducted within the revised weather minimums and above a minimum safe cruise altitude determined in preflight planning.

- **Issued guidance on operational control**: To help operators better assess risk, improve the flow of information before and during flights, and increase support for flight operations, FAA issued guidance to help air

[16]See FAA Order 8900.1 and Notice 8000.349.

[17]TSO-C194, December 17, 2008.

[18]Developed as a result of FAA's 2006 air ambulance weather summit, the air ambulance weather tool provides assessments of ceilings and visibility for a given time and location. It does not report observations or forecasts and currently can only be used in visual flight rule operations to determine whether to initiate a flight.

[19]73 Fed. Reg. 6754, Nov. 14, 2008.

medical operators develop, implement, and integrate operations control centers and enhance operational control procedures.[20]

To date, FAA has opted not to use its rulemaking authority to require certain actions, relying instead on notices and guidance to encourage air ambulance operators to take certain actions. FAA guidance and notices are not mandatory for air ambulance operators and are not subject to enforcement. FAA officials told us that rulemaking is a time-consuming process that can take years to complete, hindering the agency's ability to quickly respond to emerging issues. By issuing guidance rather than regulations, FAA has been able to quickly respond to concerns about air ambulance safety. However, we previously noted that FAA lacked information on the extent to which air ambulance operators were implementing the agency's voluntary guidance and on the effect such guidance was having. Consequently, we recommended that FAA collect information on operators' implementation of the voluntary guidance and evaluate the effectiveness of that guidance. In response, in January 2009, FAA directed safety inspectors to survey the air medical operators they oversee about their adoption of suggested practices, such as implementing risk assessment programs and developing operations control centers.[21] According to the inspectors, most of the 74 operators surveyed said they had adopted these practices.

Potential Strategies for Improving Air Ambulance Safety

Despite the actions taken by the industry and the federal government, 2008 was the deadliest year on record for the air ambulance industry. As a board member noted at the recent NTSB hearing on air ambulance safety, the recent accident record of the industry is unacceptable. Based on our body of work on aviation safety, including air ambulance safety; a review of the published literature; and interviews with government and industry officials, we have identified several potential strategies for improving air ambulance safety. Each of these strategies has merits and challenges, and we have not analyzed their benefits and costs. But, as the recent accident numbers show, additional efforts are warranted.

- **Obtain complete and accurate data on air ambulance operations**: As we reported in 2007, FAA lacks basic industry information, such as the number of flights and flight hours. In response to our prior

[20]Advisory Circular 120-96.

[21]See FAA Notice 8900.63.

recommendation that FAA collect flight activity data, FAA surveyed all helicopter air ambulance operators in 2008, but fewer than 40 percent responded, thereby raising questions about the reliability of the information collected. The low response rate also suggests that many operators will not provide this information unless they are required to do so. Until FAA obtains complete and reliable information from all air ambulance operators, it will be unable to gain a complete understanding of the industry and determine whether its efforts to improve industry safety are sufficient and accurately targeted.

- **Increase use of safety technologies**: We have previously reported that using appropriate technology and infrastructure can help improve aviation safety.[22] For example, the development and installation of terrain awareness and warning systems on large passenger carriers has almost completely eliminated controlled flights into terrain,[23] particularly for aircraft equipped with this system. When we studied the air ambulance industry in 2006 and 2007, the most frequently cited helicopter-appropriate technology was night vision goggles. Additional safety technology has been developed or is in development that will help aircraft avoid cables and enhance terrain awareness for pilots, among other things. However, testimony submitted by industry stakeholders at NTSB's February 2009 hearing on air ambulance safety indicated that the implementation of such technology has been slow. NTSB previously recommended that FAA require terrain awareness and warning systems on air ambulances. Proposed legislation (H.R. 1201) would also require FAA to complete a study within one year of the date of enactment on the feasibility of requiring flight data and cockpit voice recorders on new and existing air ambulances.[24]

- **Sustain recent efforts to improve air ambulance safety**: Our past aviation safety work and anecdotal information on air ambulance accident trends suggest that the industry and federal government must sustain recent efforts to improve air ambulance safety. In 1988, after the number

[22]GAO, *Aviation Runway and Ramp Safety: Sustained Efforts to Address Leadership, Technology, and Other Challenges Needed to Reduce Accidents and Incidents*, GAO-08-29 (Washington, D.C.: Nov. 20, 2007.

[23]Controlled flight into terrain occurs when an airworthy aircraft under the control of the flight crew is flown unintentionally into terrain, obstacles or water, usually with no prior awareness by the crew.

[24]H.R. 1201, "Air Medical Safety Act." The bill would also require a complete rulemaking within 30 months requiring flight data and cockpit voice recorders on board air ambulances.

of accidents increased in the mid-1980s, NTSB published a study that examined air ambulance safety issues.[25] The study contained 19 safety recommendations to FAA and others. FAA took action, including implementing the NTSB recommendations, and the number of ambulance accidents declined in the years that immediately followed.[26] However, as time passed, the number of accidents started to increase, peaking in 2003. This again triggered a flurry of government and industry actions. Similarly, FAA took steps to address runway incursions and overruns after the number and rate of incursions peaked in fiscal year 2001, but FAA's efforts later waned, and the number and rate of incursions and overruns remained steady.[27]

- **Fully Address NTSB recommendations**: In 2006, NTSB published a special report focusing on the air ambulance industry, which included four recommendations to FAA to improve air ambulance safety.[28] Specifically, NTSB called for FAA to (1) require that all flights with medical personnel on board be conducted in accordance with Part 135 regulations, (2) develop and implement flight risk evaluation programs, (3) require formalized dispatch and flight-following procedures, and (4) require terrain awareness and warning systems on aircraft. As of January 2009, FAA had sufficiently addressed only the recommendation to require formalized dispatch and flight-following procedures, according to NTSB. However, NTSB's February 2009 air ambulance hearing highlighted the status of the NTSB recommendations, and major industry associations have said they agree in principle with the recommendations, but would like to work with FAA and NTSB to adapt the recommendations to the industry's circumstances and gain more flexibility. Proposed legislation (H.R. 1201) also would require most of the safety enhancements NTSB recommended.

- **Adopt safety management systems within the air ambulance industry**: Air operators rely on a number of protocols to help reduce the potential for poor or erroneous judgment, but evidence suggests that these

[25]NTSB, *Safety Study: Commercial Emergency Medical Services Helicopter Operations* (Washington, D.C.: 1988).

[26]Because of the lack of flight activity data and the number of other factors that could affect accident trends, we do not know to what extent, if at all, FAA's actions contributed to the decline in the number of accidents.

[27]GAO-08-29.

[28]National Transportation Safety Board, *Special Investigative Report on Emergency Medical Services Operations* (Washington, D.C., 2006).

protocols may be inconsistently implemented or followed in air ambulance operations. According to an FAA report on air ambulance accidents from 1998 through 2004, a lack of operational control (authority over initiating, conducting, and terminating a flight) and poor aeronautical decision making were significant factors contributing to these accidents.[29] To combat such issues, FAA has been encouraging air ambulance operators to move toward adopting safety management systems, providing guidance, developing a generic flight risk assessment tool for operators, and requiring inspectors to promote the adoption of safety best practices.

- **Clarify the role of states in overseeing air ambulance services**: Air ambulance industry stakeholders disagree on the role that states should play in overseeing broader aspects of air medical operations. In particular, some industry stakeholders have advocated a greater role for states in regulating air ambulance services as part of their public health function. Other industry stakeholders, however, oppose increased state oversight, noting, for example, that the Airline Deregulation Act explicitly prohibits states from regulating the price, route, or service of an air carrier. This legislation generally limits oversight at the state or local levels to the medical care and equipment provided by air ambulance services, although the extent of this oversight varies by state. Proposed legislation (H.R. 978) would recognize and clarify the authority of the states to regulate intrastate air ambulance services in accordance with their authority over public health.[30]

- **Determine the appropriate use of air ambulance services**: According to a May 2007 article by two physicians, multiple organizations are concerned that air ambulance services are overused and misused.[31] The study further notes concerns that decisions about where to transport a patient may be influenced by nonmedical reasons, such as insurance coverage or agreements with hospitals. Another industry expert has posited that excessive use of air ambulances may be unsafe and not beneficial for most patients, citing recent studies that conclude few air transport patients benefited significantly over patients transported by ground and noting the recent increase in the number of air medical accidents. Other studies, however, have disagreed with this position, citing

[29]For more information, see Matthew J. Rigsby, FAA, *U.S. Civil Helicopter Emergency Medical Services Accident Data Analysis, the FAA Perspective* (September 2005).

[30]H.R. 978, "Helicopter Medical Services Patient Safety, Protection, and Coordination Act."

[31]Mary E. Fallat, MD, FACS, and John Overton, MD et al, "Air Medical Transport Safety," *Bulletin of the American College of Surgeons*, May 2007.

reductions in mortality achieved by using air ambulances to quickly transport critically injured patients.

Agency Comments

We provided a draft copy of this testimony to FAA for review and comment. FAA provided technical clarifications, which we incorporated as appropriate.

Mr. Chairman, this concludes my prepared statement. I would be pleased to respond to questions from you or other Members of the Subcommittee.

GAO Contact and Staff Acknowledgments

For further information on this statement, please contact Dr. Gerald L. Dillingham at (202) 512-2834 or dillinghamg@gao.gov. Contact points for our Congressional Relations and Public Affairs offices may be found on the last page of this statement. Individuals making key contributions to this testimony were Nikki Clowers, Assistant Director; Vashun Cole, Elizabeth Eisenstadt, Brooke Leary, and Pamela Vines.

This is a work of the U.S. government and is not subject to copyright protection in the United States. The published product may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.

GAO's Mission	The Government Accountability Office, the audit, evaluation, and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.
Obtaining Copies of GAO Reports and Testimony	The fastest and easiest way to obtain copies of GAO documents at no cost is through GAO's Web site (www.gao.gov). Each weekday afternoon, GAO posts on its Web site newly released reports, testimony, and correspondence. To have GAO e-mail you a list of newly posted products, go to www.gao.gov and select "E-mail Updates."
Order by Phone	The price of each GAO publication reflects GAO's actual cost of production and distribution and depends on the number of pages in the publication and whether the publication is printed in color or black and white. Pricing and ordering information is posted on GAO's Web site, http://www.gao.gov/ordering.htm. Place orders by calling (202) 512-6000, toll free (866) 801-7077, or TDD (202) 512-2537. Orders may be paid for using American Express, Discover Card, MasterCard, Visa, check, or money order. Call for additional information.
To Report Fraud, Waste, and Abuse in Federal Programs	Contact: Web site: www.gao.gov/fraudnet/fraudnet.htm E-mail: fraudnet@gao.gov Automated answering system: (800) 424-5454 or (202) 512-7470
Congressional Relations	Ralph Dawn, Managing Director, dawnr@gao.gov, (202) 512-4400 U.S. Government Accountability Office, 441 G Street NW, Room 7125 Washington, DC 20548
Public Affairs	Chuck Young, Managing Director, youngc1@gao.gov, (202) 512-4800 U.S. Government Accountability Office, 441 G Street NW, Room 7149 Washington, DC 20548

Please Print on Recycled Paper

U.S. House of Representatives
Committee on Transportation and Infrastructure

James L. Oberstar
Chairman

David Heymsfeld, Chief of Staff
Ward W. McCarragher, Chief Counsel

Washington, DC 20515

John L. Mica
Ranking Republican Member

James W. Coon II, Republican Chief of Staff

May 8, 2009

Dr. Gerald Dillingham
Director
Physical Infrastructure Issues
U.S. Government Accountability Office
441 G Street, N.W.
Washington, D.C. 20548

Dear Dr. Dillingham:

On April 22, 2009, the Subcommittee on Aviation held a hearing on the "Oversight of Helicopter Medical Services."

Attached are questions to answer for the record. I would appreciate receiving your written response to these questions within 14 days so that they may be made a part of the hearing record.

Sincerely,

Jerry F. Costello
Chairman
Subcommittee on Aviation

APRIL 22, 2009
SUBCOMMITTEE ON AVIATION
HEARING ON
OVERSIGHT OF HELICOPTER MEDICAL SERVICES

QUESTIONS FOR THE RECORD
TO:
DR. GERALD DILLINGHAM
DIRECTOR, PHYSICAL INFRASTRUCTURE ISSUES
U.S. GOVERNMENT ACCOUNTABILITY OFFICE

1. Dr. Dillingham, in your testimony you discuss GAO's 2007 report on the air ambulance industry, which concluded that FAA faces significant challenges in overseeing the safety of the air ambulance industry. Since that time, what has FAA done to overcome these challenges and what remains the same?

2. Dr. Dillingham, in your testimony you state that the air ambulance industry should adopt safety management systems (SMS). Why is SMS important and what does it entail?

3. Dr. Dillingham, you state that the use of safety technologies should be increased. Which technologies do you think can be best applied in this industry?

4. Dr. Dillingham, in your testimony you state that NTSB data shows that 70 percent of air ambulance accidents are caused by pilot error. Please explain. What can be done to address this?

Responses to Post-Hearing Questions for the Record
"Oversight of Helicopter Medical Services"
Committee on Transportation and Infrastructure
Subcommittee on Aviation
House of Representatives
Hearing Held on April 22, 2009
Questions for Dr. Gerald L. Dillingham, Director
Physical Infrastructure Issues
U.S. Government Accountability Office

Questions for the Record Submitted by Chairman Costello

1. **Dr. Dillingham, in your testimony you discuss GAO's 2007 report on the air ambulance industry, which concluded that FAA faces significant challenges in overseeing the safety of the air ambulance industry. Since that time, what has FAA done to overcome these challenges and what remains the same?**

RESPONSE: Since we issued our report on the ambulance industry in February 2007, the Federal Aviation Administration (FAA) has taken numerous steps to improve air ambulance safety, including

- enhancing air ambulance oversight to better reflect the unique nature of the industry by (1) changing its oversight to reflect the varying sizes of operators and (2) encouraging inspectors to use an FAA tool to identify an operator's most pressing safety hazards;
- revising minimum standards for weather and safe cruise altitudes for all flight segments when a patient is transported on any one segment;
- issuing guidance on developing, implementing, and integrating operations control centers and enhancing operational control procedures; and
- providing technical resources for night vision goggles (NVG) and helicopter terrain awareness and warning systems (H-TAWS).

Additionally, FAA recently indicated that it is initiating a formal rulemaking project to improve air ambulance safety. Previously, FAA had opted to issue voluntary safety guidance to the industry rather than issue regulations. However, FAA determined that regulations are needed because voluntary compliance alone is not enough to ensure safe flight operations. According to FAA, the proposed rule will incorporate most of the agency's previously issued voluntary air ambulance guidance. FAA expects to publish a Notice of Proposed Rulemaking late this year or early in 2010. This rulemaking project will address most of the recommendations in the National Transportation Safety Board's (NTSB) 2009 Most Wanted Aviation Safety Improvements regarding the safety

of air ambulance flights.[1] We think that all of these are positive developments and with sustained implementation could help to improve air ambulance safety.

Despite FAA's and Industry's efforts to improve air ambulance safety, several challenges remain. First, accidents and fatalities continued to occur. In total, there were 23 accidents in 2007 and 2008. Eleven of these accidents were fatal, with 36 fatalities. Twenty-nine of the fatalities occurred in 2008, making 2008 a record year for industry deaths. However, no fatal accident has occurred since October 2008. We think that the combined efforts of the industry and FAA are contributing factors to this safety outcome for the air ambulance industry.

Second, FAA still lacks basic information about the air ambulance industry, and our research has shown that more accurate and comprehensive data are needed. For example, as we noted in our April 22 testimony, FAA's data for estimating industry flight hours are incomplete. FAA surveyed all helicopter air ambulance operators in 2008 but fewer than 40 percent responded. As a result, questions arose about the reliability of the information collected. The low response rate also suggests that many operators will not provide this information unless they are required to do so. The lack of reliable flight hour data precludes calculation of an industry accident rate—a critical piece of information in determining whether the increased number of accidents reflects industry growth or a declining safety record. Table 1 indicates the types of data that, if collected, could lead to a more complete understanding of the air ambulance industry.

Table 1: Air Ambulance Safety Data Needed

Type of data	Why data are needed	Source
Number of air ambulance operators and composition of air ambulance fleet	The data would provide FAA with the size and composition of the industry and, if maintained over time, would provide the foundation for examining industry trends.	Air ambulance operators
Air ambulance flights (departures) and flight hours	These data would help FAA monitor accident trends because the data would provide the denominator, now missing, that is needed to calculate an accident rate for the air ambulance industry.	Air ambulance operators
Number, type, and location of air ambulance bases	These data on the types of air ambulance bases—hospital-based or stand-alone—would provide another indicator of industry composition. These data, if maintained over time, would enable analysis of industry trends.	Air ambulance operators

[1]NTSB's annual Most Wanted List contains recommendations critical to improving transportation safety. According to NTSB, these recommendations, when acted on, will reduce accidents and save lives.

Third, technology implementation continues to be slow, as industry stakeholders noted at NTSB's February 2009 hearing on air ambulance safety. As a result, available technologies that could enhance safety, such as helicopter terrain awareness and warning systems (H-TAWS), are not fully utilized.

2. **Dr. Dillingham, in your testimony you state that the air ambulance industry should adopt safety management systems (SMS). Why is SMS important and what does it entail?**

RESPONSE: I suggested that air ambulance operators should adopt SMS because it is a widely accepted management system for integrating safety activities into the daily business practices of an organization. SMS requires a proactive approach to discovering and correcting problems before they adversely affect safety consequences. We believe that SMS is important because it has the potential of contributing to a reduction in helicopter air ambulance incidents, accidents, and fatalities. Additionally, users of SMS in aviation and other industries have benefited financially from organizational changes made to incorporate SMS.

SMS incorporates four major components: (1) safety policy (structure), (2) safety risk management, (3) safety assurance, and (4) safety promotion (culture).

- First, air ambulance operators must develop a safety structure through written policies, procedures and guidelines. The safety policy (a) outlines what the organization is trying to achieve through its SMS; (b) outlines the methods and processes the organization will use to achieve the desired safety outcomes; (c) establishes senior management's commitment to safety and expectation that the organization will incorporate and continually improve safety in all aspects of the business and business processes; and (d) reflects management's commitment to implementing procedures and processes for establishing and meeting safety objectives that are measurable and attainable, as well as management's commitment to promoting a safety culture.
- Second, air ambulance operators would need to develop a risk management system to identify hazards, analyze and assess risks associated with those hazards, and make decisions to control and manage those risks to an acceptable level. This could be done by using data from various sources, such as aviation safety action programs and flight operational quality assurance programs.[2]
- Third, air ambulance operators would need to develop monitoring mechanisms to continually assess activity to identify new hazards and to ensure risk controls achieve their intended objectives and ensure the policies, procedures and guidelines are actually being followed. This includes assessment of the need for new risk

[2]An Aviation Safety Action Program's (ASAP) goal is to enhance aviation safety through the prevention of accidents and incidents by encouraging voluntary reporting of safety issues and events that come to the attention of employees. Flight operational quality assurance (FOQA) programs involve the collection and analysis of data recorded during flight to improve the safety of flight operations, air traffic control procedures, and airport and aircraft design and maintenance.

controls or to eliminate or modify risk controls that are ineffective or are no longer needed because of changes in the operational environment.

- Fourth, air ambulance operators would need to establish a safety culture to encourage employees to engage in appropriate actions to achieve the organization's safety objectives and ensure that safety is valued throughout the organization.

  FAA has been encouraging air ambulance operators to move toward adopting SMSs and chartered an aviation SMS rulemaking committee in February 2009.

3. Dr. Dillingham, you state that the use of safety technologies should be increased. Which technologies do you think can be best applied in this industry?

RESPONSE: A variety of technologies could be used more extensively to help improve air ambulance safety. Some technologies are designed to help prevent accidents, while others, such as flight data and cockpit recorders, are designed to help determine the causes of accidents and indirectly prevent accidents. Both types of technologies are useful. For example, understanding how and why past accidents occurred can help prevent future accidents. However, given limited resources and the immediate concern about the high number of fatalities in 2008, it would seem that focusing initially on the technologies that prevent accidents should be a higher priority.

Two technologies that could help prevent accidents are H-TAWS and NVGs. NVGs can prevent controlled flight into terrain (CFIT) by giving flight crews an enhanced ability to see at night. Given that many air ambulance accidents occur at night, NVGs can be beneficial if they are utilized under the appropriate flight conditions by pilots who have received adequate and appropriate training.

H-TAWS can also prevent controlled flight into terrain by monitoring the pilot's actions and alerting the pilot if an impact with terrain is about to occur. The development and installation of a similar system on large passenger carriers has almost completely eliminated CFIT accidents, particularly for aircraft equipped with this system. However, within the last few years, there have been several air ambulance accidents as a result of CFIT. In December 2008, FAA published the technical standards for the manufacture of H-TAWS for use in air medical helicopters, and FAA is considering a requirement that air medical helicopters be equipped with H-TAWS. We think that these are positive potential uses of technology to improve air ambulance safety.

4. Dr. Dillingham, in your testimony you state that NTSB data shows that 70 percent of air ambulance accidents are caused by pilot error. Please explain. What can be done to address this?

RESPONSE: To clarify, NTSB data does not show that 70 percent of air ambulance accidents are caused by pilot error. Rather, NTSB's investigations typically identify

several causes and contributing factors for each accident. In analyzing NTSB's data, we found that pilot error was identified as a probable cause in over 70 percent of the 133 accidents that occurred from 1998 through 2008.[3] The probable case determination identifies the most immediate action or occurrence prior to the accident (i.e., the proximate cause). It is important to note that in 54 percent of the 133 accidents, factors related to the flight environment (such as whether the flight was at night or during the day, the extent to which adverse weather conditions were present, and the suitability of the terrain for take-off or landing) were contributing factors. It is critical that these and other types of contributing factors be recognized and considered when FAA and others are considering which types of safety efforts (i.e., training and technology) will likely be most effective in addressing the specific problems and the related contributing factors.

Recognizing that air ambulance accidents and incidents have multiple contributing factors, FAA has undertaken a variety of efforts to mitigate these factors. These efforts include providing guidance for implementing technologies and operational control centers and procedures as well as launching an accident mitigation program that requires inspectors to ensure that operators have a process in place to facilitate safe operations. These are all steps in the right direction.

However, even with the best data and technology, certain factors that contribute to accidents and incidents are related to human error and must also be addressed. FAA and the industry have begun addressing human error in air ambulance operations. FAA has published a notice and a safety alert for operators that address, among other things, pilots' decision-making skills.[4] Through the Vision Zero Program, the industry is working to identify interventions that could prevent air ambulance accidents. According to a representative with the Association of Air Medical Services, the program was created to increase the focus on human factors in air ambulance accident investigations. We think that these types of programs could have a positive impact on improving air ambulance pilots' ability to manage adverse flight situations.

[3]Although our review included a total of 141 air ambulance accidents from 1998 to 2008, NTSB had completed its investigations and determined probable causes for 133 of them. Therefore, we limited our cause analysis to these 133 accidents.

[4] N8000.293, January 28, 2005, and SAFO 06001, January 28, 2006.

CAMTS PO Box 130 Sandy Springs, SC 29677 117 Chestnut Lane Anderson, SC 29625 (864) 287-4177 Phone (864)287-4251 Fax

Aerospace Medical Association

Air Medical Physician Association

Air & Surface Transport Nurses Association

American Academy of Pediatrics

American Association of Critical Care Nurses

American Association of Respiratory Care

American College of Emergency Physicians

American College of Surgeons

Association of Air Medical Services

Emergency Nurses Association

International Flight Paramedics Association

National Air Transportation Association

National Association of Air-Medical Communication Specialists

National Association of EMS Physicians

National Association of Neonatal Nurses

National Association of State EMS Officials

National EMS Pilots Association

Testimony of Eileen Frazer, RN, CMTE before the Committee on Transportation and Infrastructure's Subcommittee on Aviation regarding **Oversight of Helicopter Medical Services.**

Eileen Frazer, RN, CMTE
117 Chestnut Lane
Anderson, SC 29625

Representing **the Commission on Accreditation of Medical Transport Systems (CAMTS) B- 864 287-4177 Cell- 864 844-3516 www.camts.org**

I. History of CAMTS

The Commission on Accreditation of Medical Transport Systems (CAMTS) is a nonprofit organization incorporated in the State of Pennsylvania in 1990 that accredits rotorwing, fixed wing and ground transport services through a voluntary process. CAMTS is an organization of organizations. Initially there were six founding organizations: AAMS, ACEP, NAACS, NEMSPA, ASTNA and NAEMSP. Today there are seventeen member organizations as seen on the left margin of this letterhead.

Each organization sends a representative to the Board of Directors. Board members must be currently or recently employed in medical transport. Each discipline involved in air and ground medical transport – pilots, physicians, nurses, paramedics, managers, and communication specialists - is represented. In addition, there are two ad hoc Board members and two aviation advisors from the Joint Helicopter Safety Implementation Team (JHSIT)*.

The Board of Directors sets and approves policies and standards and votes on accreditation decisions for medical transport services.

CAMTS was formed as a result of a feasibility study done in 1988. At that time there were professional guidelines from various organizations but no standards for air medical transport and an alarming number of helicopter accidents in the U.S. in the mid 1980's.

*JHSIT is a component of the International Helicopter Safety Team. The IHST came to life in a meeting at the American Helicopter Society International headquarters in early 2004 with participants from the Helicopter Association International, the FAA, helicopter manufacturers and others interested in the reduction of helicopter accidents.

Along with the accidents, there was a rapid growth of air medical transport services in the mid 1980's much like we have seen in the increasing numbers of helicopters put into service over the past 8 years. For example:

In 1978 there were less than 10 hospital based helicopter services.

By 1990, there were approximately 200 air medical services in the U.S.

In 2009, there are well over 300 services with more than 750 helicopters with many types of business structures – fewer hospital managed-more independent service seen today.

II. The CAMTS Accreditation Standards are now in the 7th Edition. Due to the dynamic environment of medical transport, the standards are revised and updated every 2-3 years. The Board can also publish addendums in between each edition as we did in January 2009 after reviewing the flurry of helicopter accidents ion 2008. The following standards were created or revised (new and revised standards are bolded) and approved by the Board in January 2009. Accredited medical transport services must be in substantial compliance with the standards to maintain their accreditation. The Board's concern in further addressing these specific issues is not only for operational safety but also patient care safety.

ISSUE #1 – Fatigue and Sleep Deprivation

02.04.01 The service **must** have written operational policies to address each of the areas listed below:

1. Scheduling and individual work schedules demonstrate strategies to minimize duty-time fatigue, length of shift, number of shifts per week and day-to-night rotation. *(see References on website for circadian rhythm and other fatigue studies.)*

2. On-site shifts (medical personnel) scheduled for a period to exceed 24 hours are not acceptable. Twenty-four-hour shifts are acceptable if:

a. Medical personnel are not required to routinely perform any duties beyond those associated with the transport service.

b. Medical personnel are provided with access to and permission to uninterrupted rest after daily medical personnel duties are met.

c. The physical base of operations includes an appropriate place for uninterrupted rest.

d. Medical personnel must have the right to call "time out" and be granted a reasonable rest period if the team member (or fellow team member) determines that he or she is unfit or unsafe to continue duty, no matter what the shift length. There should be no adverse personnel action or undue pressure to continue in this circumstance.

e. **Management** should monitor transport volumes and personnel's use of a "time out" policy.

3. The policy must address the following:

a. Medical personnel must have at least eight hours of rest **(pilots must have ten hours of rest as consistent with Part 135 regulations)** with no work-related interruptions prior to any scheduled shift of twelve hours or more. The intent is to preclude back-to-back shifts with other employment, commercial or military flying, or significant fatigue-causing activity prior to a shift.

b. Number of consecutive shifts and day to night rotation must be closely monitored by management for pilots and medical crews.

02.06.01 – Initial and Continuous education *(added to current requirements)*

1. Initial training program.....

c. Didactic Component of initial Education.....

- **Sleep deprivation, sleep inertia, circadian rhythms and recognizing signs of fatigue.**

2. Continuing education/staff development.....

a. Didactic continuing education must include an annual review of :

- **Sleep deprivation, sleep inertia, circadian rhythms and recognizing signs of fatigue.**

07.01.01 – Risk Assessment

a. Senior management should establish a process to identify risk escalation to ensure that safety and risk issues are addressed by the appropriate level of management up to and including the senior level.

b. Operational Risk Assessment tools should include but not be limited to issues such as: mission acceptance **(that includes a factor for pilot and crew fatigue*)** aviation decision making, mission acceptance – medical decision making, search and rescue, public relations events, training, maintenance and re-positioning missions.

ISSUE #2 – Business Ethics

01.10.00 The transport service develops and demonstrates use of a written code of ethical conduct in all areas of business that demonstrate ethical practices in business, marketing & professional conduct.

1. The code of conduct guides the service when confronted with potential compliance or ethical issues.

2. Whenever possible, services that respond directly to the scene will transport patients to the nearest appropriate hospital (i.e. major trauma to the nearest Level I or II Trauma Center, stroke patients to a hospital with specialized stroke care, AMI patients to a hospital with a staffed cath lab, major burns to a Level I or II burn center, high-risk OB patients to a hospital with OB services and a Level II or III NICU, etc.). ***See References for CDC trauma triage guidelines.***

3. The code of conduct outlines the service's standards for ethical behavior as well as contact information and reporting protocols if a standard has been violated.

4. The code of conduct outlines ethical billing practices.

ISSUE #3 – Hospital Helipads and Scene Landings

14.01.10 There should be a policy to address more than one running aircraft at any one time and a policy to address permission to land or take off from the hospital.

1. Communications policies will include:

a. Procedures that coordinate arrivals and departures with referring and receiving hospital helipads – specific contact arrangements are pre-arranged for each frequently used location.

b. Procedures that coordinate arrivals and departures from hospital helipads with other air medical services in the region.

c. Staging if more than one aircraft is expected

d. Air to air communications

e. Hosting common frequencies

f. Procedures that require communications specialists to ask if more that one aircraft is incoming to the same hospital helipad or scene.

g. Written agreements with local, regional or state agencies that incoming aircraft will announce in the blind on a common frequency when operating into a hospital (and scenes) where no common frequency has been pre-established. At 10 minutes from ETA, any inbound aircraft should communicate on 123.025 or commonly agreed upon frequency.

2. Crew Coordination

a. Strict enforcement of sterile cockpit

b. One medical crewmember taking active part in watching for obstructions

during the critical stages of flight.

c. Before departing from a scene or a sending institution, the medical crew and the pilot should discuss any alternative hospitals that they might need to divert to should the patient's condition change. The pilot and medical crew are encouraged to pre-program any radios or navigation equipment for this alternative destination, to minimize the workload required to affect this change should the need arise as coordinated with the communications center.

3. It is strongly encouraged that the program develops pre-determined landing sites for scene coordination with ground agencies where possible.

ISSUE #4 - Aviation QM to include:

08.06.07 Operational criteria to include at a minimum the following quality indicators **with upper and lower control limits as set by the program to enhance safety and quality; not to be used for punitive measures.**

1. Number of completed transports **with benchmarks for lift-off (lower and upper control limits – for example: lift-offs under normal conditions that are slower or faster than normal parameters). Benchmarks set by the program may be longer for night-time operations.**

2. Number of aborted or canceled flights/transports due to weather **with evidence of tracking and trending aborts/diversions for weather that interrupt or delay the patient transport and evidence of loop closure if trends are found.**

3. Number of aborted or canceled flights/transports due to maintenance **with evidence of tracking and trending aborts/diversions for maintenance that interrupt or delay the patient transport and evidence of loop closure if trends are found.**

ISSUE #5 – Safety Management System to further address:

07.01.01 Management is responsible for a Safety Management System *(See References in Appendix of 7th Edition)* but management and staff is responsible for making operations safer.

1. The Safety Management System is proactive in identifying risks and eliminating injuries to personnel and patients and damage to equipment.

2. A Safety Management System includes:

a. A statement of policy commitment from the accountable executive.

b. A non-punitive system for employees to report hazards and safety concerns.

c. A system to track, trend and mitigate errors or hazards.

d. A system to track and document incident root cause analysis.

e. A Safety Manual.

f. A system to audit and review organizational policy and procedures, on going safety training for all personnel (including managers), a system of pro-active and reactive procedures to insure compliance, etc.

3. There is evidence of management's decisive response to non-compliance in adverse safety or risk situations.

4. The program has a process to measure their safety culture by addressing:

a. Accountability – employees are held accountable for their actions.

b. Authority – those who are responsible have the authority to assess and make changes and adjustments as necessary.

- Standards, policies and administrative control are evident.

- Written procedures are clear and followed by all.

- Training is organized, thorough and consistent according to written guidelines.

- Managers represent a positive role model promoting an atmosphere of trust and respect.

c. Professionalism – as evidenced by personal pride and contributions to the program's positive safety culture.

d. Organizational Dynamics.

- Teamwork is evident between management and staff and among the different disciplines regardless of employer status as evidenced by open bi-directional and inter-disciplinary communications that are <u>not</u> representative of a "silo" mentality.

- Organization represents a practice of encouraging criticism and safety observations, and there is evidence of acting upon identified issues in a positive way.

- Company values are clear to all employees and embedded in everyday practice.

ISSUE #6 – Aircraft Equipment and Flight Following

05.02.00 The aircraft must either have a 406 Mhz emergency locator transmitter (ELT) or must be monitored at 3 minute intervals (at a maximum) or less by a satellite tracking system.

If using the satellite tracking system and the aircraft has not been upgraded to a 406 Mhz ELT, a 121.5 Mhz ELT should not be disarmed because it may be monitored by other aircraft."

06.05.04 Flight Following – **Satellite tracking systems are strongly recommended for all aircraft and required for aircraft that do not have a 406 Mhz ELT.**

ISSUE #7 – Additions to the PAIP

06.04.02 A readily accessible post accident/incident plan must be part of the flight following protocol so that appropriate search and rescue efforts may be initiated in the event the aircraft or ground ambulance is overdue, radio communications cannot be established nor location verified. There should be a written plan to initiate assistance in the event the ambulance is disabled.

1. Post accident/incident plans are easily identified, readily available, and understood by all program personnel and minimally include:

   a. List of personnel (with current phone numbers) to notify in order of priority (for communications specialist to activate) in the event of a program incident/accident (for air or ground). This list should minimally include sponsoring organization individuals where applicable, risk management attorney, family members of team members, family of patient, referring hospital, receiving hospital, security (as applicable), human resources (as applicable), media relations or pre-identified individual who will be responsible for communicating with the media, state health department and other team members.

Notification plans include appropriate family members and support services to family members following a program tragic event.

- **There must be timely notification of next of kin** ***(next of kin is no longer strictly defined the federal level so the crew member determines this on a data sheet and reviews annually).***

- **It is strongly recommended that:**

  Family assistance includes coordination of family needs immediately after the event e.g. transportation, food, lodging, memorial/burial service, condolences, initial grief support services/referrals, (usually through appointment of a family liaison).

Continuity includes follow through with the family after the event (e.g. submission of crew to national EMS memorial service, the continuation of grief counseling and support referrals, the inclusion of families in decision-making on anniversaries/memorials, and check-ins following release of NTSB reports, etc.)

b. Consecutive guidelines to follow in attempts to:

- Communicate with the aircraft or ambulance.
- Initiate search and rescue or ground support.
- Have a back-up plan for transporting the ground ambulance patient in the event of an incident or accident and/or the ambulance is inoperable.
- Have an aviation individual identified as the scene coordinator to coordinate activities at the crash site.

ISSUE #8 – High Visibility Clothing ***(Due to Federal Highway Administration (FHWA) regulation that took effect November 24, 2008 as defined by the ANSI/ISEA 107 standard – see References)***

02.04.01

7. Physical well-being is promoted through:

a. Wellness programs that promote healthy lifestyles (e.g. balanced diet, weight control, no smoking).

b. Evidence of an injury prevention program and ergonomic strategies to reduce employee injuries.

c. Protective clothing and dress code pertinent to:

- Mission profile - such as turn-out gear available at scene for medical personnel who assist with heavy extrication.
- Safe operations, which may include:
  - Boots or sturdy footwear for on-scene operations.
  - Flame retardant clothing.
  - Appropriate outerwear pertinent to survival in the environment.
  - Flight helmets (required for RW operations)
  - **High visibility reflective vests must be worn by flight crews according to the ANSI-SEA 107 standard. This applies only to rotorwing services that respond to scenes.**

The CAMTS Accreditation Standards are the measuring tools we use to access an air and ground medical transport service. They have been copied and used all over the world as they address medical, aviation, operations and ground ambulances that are not found anywhere else in one comprehensive body of work. The following is from the Table of Contents of the 7th Edition Accreditation Standards – the individual standards can be downloaded from our website.

TABLE OF CONTENTS

GENERAL STANDARDS

Medical Section
Capabilities and resources of the medical transport service and receiving hospitals
Medical Personnel
Medical Director
Medical Control Physician
Clinical Care Supervisor
Staffing
Mission Types
Training and Continuing Education

Aircraft/Ambulance Section
Medical Configuration
Operational Issues
Aircraft/Ambulance Equipment
Communications

Management and Administration Section
Management/Policies
Utilization Review
Quality Management
Infection Control

ROTORWING STANDARDS
Certificate of the Aircraft Operator
Weather and Weather Minimums
Pilot Personnel
Maintenance
Helipad
Refueling
Community Outreach

FIXED WING STANDARDS
Certificate of the Aircraft Operator
Aircraft
Weather
Pilot Personnel
Policies
Maintenance
Refueling
Community Outreach

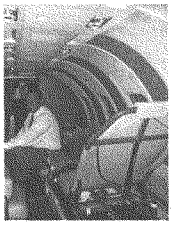
GROUND INTERFACILITY STANDARDS

MEDICAL ESCORT STANDARDS

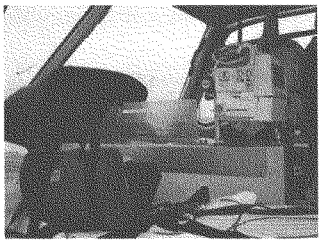
III. Standards/Regulations/Medical Protocols

There are grey areas untouched by regulations and patient care protocols that affect or have the potential to affect safety and patient care during the transport process.

The following are a few examples that address some of these issues in the Accreditation Standards (The Accreditation Standard number is provided for your reference)



- Stretchers must be STCd but no FAA requirement for rigidity to do CPR, elevation of headrest etc. AS: 03.06.12 2. d.



- No regulation to require a barrier to protect the pilot, controls and radios from interference by patient or crew or equipment and supplies. AS: 03.06.12 7.

- No regulations to protect the pilots' night vision adaptation from crew lighting necessary for patient care. AS: 03.06.12 4. b.

- "Sterile cockpit" not required by FAA. AS: 06.05.04

- Interior of the aircraft should be climate controlled to avoid adverse effects on the patients and personnel on board AS: 05.07.00

- Aircraft must be equipped with a functioning radar altimeter AS: 05.01.01

- Aircraft must be equipped with a functioning emergency locator transmitter (ELT) AS: 05.02.00
(Not required for all make/model a/c by FAA)

- Policy and education regarding the hazards of Helicopter Shopping. AS: 11.01.06

- No regulation to address the head strike area – helmets required by CAMTS on helicopters. AS: 03.06.12 8.

- Securing carry-on equipment. AS: 03.06.12 9.

- Use of isolette –protecting the infant. AS: 03.06.12 3. d.

- Appropriate protective clothing. AS: 02.04.01 7. c.

- No scheduling limitations for medical crews and wellness. AS: 02.04.01 1. through 7.

- Air Medical Resource Management training for all disciplines. AS: 12.04.04

IV. State EMS Agencies and CAMTS

- All states have licensure for ground ambulances.
- Five states do not have licensure for air ambulance
- Some states require CAMTS accreditation for air ambulance licensure as follows:

Colorado
Maryland
Massachusetts
Michigan New Hampshire
New Mexico Rhode Island
Utah Washington
County agencies in California and Nevada

- "Deemed Status" – CAMTS White Paper.

In most states, licensing requirements are considered minimal while CAMTS standards are not. Most programs strive to meet the higher standards of CAMTS.

CAMTS prefers "deemed status" by states so that if a program achieves accreditation they are meeting higher standards and should not have to go through a rigorous licensing process and inspection because the service was audited and accredited by CAMTS.

Some states use the CAMTS standards as their state licensing requirements. Others, like those listed above, require CAMTS accreditation to obtain a license. This presents a legal problem for CAMTS because if we withdraw or suspend accreditation from a program in those states, we will be and have been sued. In 2004, we successfully defended a case brought against CAMTS by Eagle Air Med because we withdrew their accreditation after a whistleblower reported incidents and accidents they failed to report to us. Eagle Air Med operates in Arizona and their contract with the Indian Health Services requires they are CAMTS accredited so when they lost accreditation, the contract was voided.

V. HR 978 and HR 1201

HR 978

CAMTS has no official position on the Altmire HEMS Bill – HR 978. As stated above, CAMTS prefers "deemed status" by state agencies for CAMTS accredited programs. Although CAMTS prefers that State and local agencies NOT require CAMTS accreditation, the Board does understand the State's needs to protect the health and welfare of its citizens. And as a healthcare agency, State EMS Agencies do not have the same level of expertise in dealing with air transport and federal regulations as they do with ground ambulances which are also licensed by States. If States simply adopt the CAMTS Standards as State licensing criteria, there are some areas in the Accreditation Standards that go beyond the FARs which are also considered minimal criteria.

The CAMTS Standards have criteria for ethical business practices that includes assessing pressure on pilots and crews from competition, insurances and corporate structures but CAMTS does not have a position on whether a State should have the right to issue a Certificate of Need to new services entering the State. We assess a medical transport program based on compliance with the Accreditation Standards and again we are a voluntary process.

HR 1201

The issues addressed in HR 1201 – "to increase the safety of crew and passengers on aircraft providing emergency medical services" are already addressed in the Accreditation Standards (AS: 10.01.00 and 17.01.00). All "patient mission flights" (meaning any part or leg of a request that supports transporting a patient - even if the patient is not on board) must be conducted under FAA Part 135 regulations.

The CAMTS Accreditation Standards also require operational risk analysis tools and devotes an entire section - 06.00.00 – to Communications procedures, personnel and equipment. Flight data and cockpit voice recorders are not required at this point in time.

VII. Networking with State and Federal Partners

The CAMTS Executive and Associate Directors frequently meet with State EMS Directors and also attend and speak at the annual meeting of the National Association of State EMS Officials (NASEMSO). This organization is also a member organization of CAMTS so we have open lines of communication.

As Accreditation Standards are developed and revised, we seek the input from the NTSB and FAA. Also, we follow the recommendations from the NTSB and I took part in the recent NTSB hearings. Of the 2006 NTSB recommendations, the following were already in our Accreditation Standards or added to the 7th Edition:

Adopt A System Safety Culture
A Procedure Weighted Risk Avoidance Program
Review Weather Minimums (raised to reflect the FAA high lighting/low lighting minimums)
Improve Education on Weather Communications/Dispatchers

We see the FAA and the NTSB reaching out to the air medical community on a regular basis and we have developed excellent communication pathways with both agencies. For example, in 2006, Hooper Harris from the FAA held a weather symposium for EMS in Boulder, Colorado. Weather reporting issues and needs were discussed as well as the practice of "Helicopter Shopping". This is the practice by Emergency Departments, ground EMS and 911 centers of calling, in sequence, several air medical providers until one will accept the mission. In a highly competitive environment it was concluded by the NTSB that some of the accidents were indirectly caused by this practice.

As a result of that weather symposium, CAMTS and Flight For Life in Milwaukee produced a video under a FARE grant last year entitled Hazards of Helicopter Shopping. This is an educational video aimed at requesting agencies that is provided free of charge to air medical services, State EMS agencies and is in the process of being posted on the faa.safety.gov website.

Also, CAMTS periodically provides training for site surveyors. Two years ago, Mr. Larry Buehler from the FAA attended our class and was very helpful in making suggestions for the auditing process based on his years of experience with the FAA and as an ISO 9000 auditor. This year we will be combining our class with the first auditors class held by the Airborne Law Enforcement Agency (ALEA). They are about to launch their accreditation process and we felt that a combined class would be mutually beneficial. Their lead instructor is an aviation safety expert and the CAMTS faculty has the expertise and experience in arranging and conducting site visits. We look forward to a very productive and exciting class in July 2009.

For your information, I am including the CAMTS mission statement, vision, values and the expectations of an accredited transport organization on the last page of this testimony.

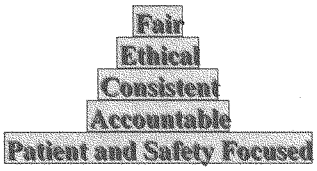
Respectfully submitted,

Eileen Frazer, RN, CMTE
Executive Director, CAMTS

Mission Statement
CAMTS is a peer review organization dedicated to improving patient care and transport safety by providing a dynamic accreditation process through the development of standards, education, and services that support our vision.

Vision Statement
All patients are transported safely by qualified personnel using the appropriate mode of transport.

CAMTS Values



Transport Organization Expectations

Honest Self Assessment
Ethical Business Practices
Patient and Safety Focused
Continuous Quality Improvement
Transparency in the Accreditation Process

Testimony of Stacey Friedman
Sister of Erin Reed (d. September 29, 2005)
Safemedflight: Family Advocates for Air Medical Safety

4392 Gresham Drive
El Dorado Hills, CA 95762
(916) 934-0472
(916) 425-3113 cell

Committee on Transportation and Infrastructure
U.S. House of Representatives
Subcommittee on Aviation
Hearing on the Oversight of Helicopter Medical Services
Wednesday, April 22, 2009
2167 Rayburn House Office Building
(202) 225-4472

Oversight of Helicopter Medical Services

I want to thank Chairman Costello and members of the subcommittee for inviting me to speak on behalf of the families of Safemedflight, a group whom have lost loved ones in air medical accidents.

My name is Stacey Friedman. I am not a pilot, flight nurse, or flight medic. I don't work for an air medical program, the FAA, or the NTSB. Yet I am *uniquely qualified* to speak on this topic for one very important reason: because my sister, Erin Reed, is dead. And, the helicopter crash that killed her was preventable.

It's been three years since Erin died, and 45 more victims have followed her in death; thirty-five of them between December 2007 and October 2008. These pilots, nurses, medics and their patients died despite the NTSB's recommendations to the FAA in 2006, they died despite a costly investigation of this industry by the Government Accounting Office, they died despite safety board hearings and FAA notices, and they died despite "safety summits" in which industry leaders met to determine the least possible regulation their pocketbooks could handle.

The FAA and the industry originally claimed that safety changes were unnecessary, too costly, and impossible to implement. So the families of victims went to Congress for help. Congressman John Salazar (CO) and Senator Maria

Cantwell (WA) championed this important public safety cause and authored legislation to protect flight crews and their patients.

So, are the families of victims really asking the impossible?

No. If we were asking the impossible, Sandy Hellman would be here, asking you to bring back Todd to help raise their eight adopted children with no life insurance or lawsuit payout. Mason, Weston, and Jackson Taylor would ask for their Dad back so he could take them to a major league ball game. ER physician Stacey Bean would ask that you restore her faith in air medicine, faith she lost completely after the death of her husband Dr. Darren Bean. Stacey Bean no longer practices emergency medicine because she will not, in good conscience, put a patient aboard an air medical aircraft. The Mann family would like to see their son and brother Bill Mann finally get that boat slip on Lake Michigan, (despite the six year wait list), so he could take his loving family for a sail. Susan McGlew would ask that you bring her brother Bill Podmayer home so he could say goodbye to their parents both of whom recently died. Cece Terry would no longer feel the acute loss of her twin sister Amy Reibe because Amy would be by her side. The Stumpff family would have you erase the thoughts of their son and brother John Stumpff's last moments; surviving a helicopter crash in icy Alaskan waters only to succumb to hypothermia and drown. Jeannine and Robert Carter would ask that you heal the grief they feel over the loss of their only son, 24-year-old Lance Carter who also died on that doomed Alaskan helicopter. The

Blockingers would not second-guess their decision to put baby Kirstin on that helicopter, because Kirstin would be safe at home with her parents and big brother Colin. Michele Battiato, widow of Ron, asks for nothing. She and her six young children survive on faith and memories of their beloved husband and father. More than anything, Cindy Swank would ask to share one more laugh with her brother Roger, an experienced pilot with an easy-going style, who was always ready to lend a helping hand to the down and out. And, Adam Wells would expect you to bring back his wife and first love, Jenny so they could start a family.

Bringing our people home: That would be asking the impossible.

Instead, we are asking the FAA and the industry to do the four things included in Congressman Salazar's Bill, HR 1201.

First, we ask that all operators fly the higher weather minimums and comply with the pilot duty rest time in Part 135. Why the FAA ever allowed flight crews to fly in less safe weather conditions under Part 91, just because there wasn't a patient on board is incomprehensible. The FAA's move to amend their Ops Specs effective February 2009 to reflect higher weather minimums on all legs is years too late. And, as we've seen time and again, it's also no guarantee that operators will not push weather minimums especially when accountability for violating such specifications is completely missing. Pilot and crew fatigue also remain a concern. The loophole that allows operators to count pilot duty time only on the

patient leg must be closed to prevent manipulation of this practice.

Second, we ask that operators use a risk assessment prior to accepting a flight. Despite claims that last year's fatal accidents were "unfortunate" anomalies, the risks of EMS flights are well known and documented. They include poor weather, obstacles and terrain, nighttime flight, spatial disorientation, and pressure to take a flight.

In their 2006 study of 55 EMS accidents, the NTSB found that none of the programs studied required completion of a standardized flight risk evaluation matrix prior to the fatal flight. A long standing FAA Notice 8000.301 (August 2005) requires operators to complete a risk assessment, yet between December 2007 and October 2008, at least two fatal accidents killing eight people involved operators who failed to comply with this notice. Why are operators who violate FAA notices and kill flight crew and patients allowed to operate?

Third, we ask that flight-dispatch and flight-following procedures be required and that dispatchers have aviation-specific knowledge. EMS flight operators are not required to have dispatch staff with expertise in or an understanding of the requirements of flight or landing procedures, particularly at night or in adverse conditions. EMS flight operators are not required to provide information to pilots regarding landing information, weather updates, or location of nearby aircraft or obstacles; information that is required of dispatchers in general aviation

operations. In June, a mid-air collision of two EMS helicopters in Arizona killed seven. Both aircraft were scheduled to arrive at the same helipad within minutes of each other yet neither pilot received this information.

Additionally, EMS dispatchers are not required to track flights to provide updated weather or terrain information or provide flight-locating services. If flight-following and immediate notification were in place following September's fatal crash in Maryland, a more timely search and rescue operation could have resulted.

Fourth, we ask that EMS operators carry cockpit-recording technology to determine the cause of accidents and produce answers to the questions of family members so we can move forward.

Unlike commercial aircraft, EMS aircraft are not required to carry cockpit voice recorders (CVRs) on board. As a result, the factors that cause many EMS accidents are never fully known. Investigators must reconstruct the flight path from radar data and notoriously unreliable eyewitness accounts. The failure to require CVRs and Flight Data Recorders (FDRs) on EMS flights continues to hamper crash investigations.

The NTSB has studied the installation of cockpit image recorders in EMS aircraft to provide information in accident investigations. Such systems, estimated to cost less than $8,000 installed, typically consist of a camera and microphone located in

the cockpit to continuously record cockpit instrumentation, the outside viewing area, engine sounds, radio communications, and ambient cockpit sounds. As with conventional CVRs, data from such a system is stored in a crash-protected unit to ensure survivability.

We endorse Mr. Salazar's bill, but ask that the committee carefully consider two additional safety measures: Night Vision Goggles (NVGs) and Terrain Awareness Warning Systems or (TAWs).

One technology that could improve EMS flight safety is the use of Night Vision Goggles (NVGs). NVGs provide visibility for pilots flying in darkness. A 2006 study conducted by The Bloomberg School of Public Health's Department of Health Policy and Management and Center for Injury Research and Policy found that "darkness more than triples the risk of fatalities when EMS helicopters crash." In January 2006, the NTSB cited NVGs as mitigation for night accidents yet did not make a formal recommendation to the FAA requiring NVGs. Since the NTSB's 2006 findings were released, 51 people died in EMS accidents. Two-thirds of those accidents occurred at night.

In 2008, the National EMS Pilots Association (NEMSPA) conducted a survey of nearly 400 EMS pilots on the utility of NVGs. Over 80 percent of pilots responding prefer to fly with NVGs yet fewer than 1/3 of them have night vision

technology. A few of the hundreds of pilot respondent's comments are listed below. A full copy of the survey is available at www.nemspa.org.

> *"NVGs are the single biggest safety enhancement to come to the EMS market. I believe the FAA's position and reservations in regard to NVG usage is based on outdated and inaccurate data."*
>
> *"From what I've heard from pilots that have used them (and I wish I were one of them), they are a huge safety tool. We fly in west Texas where there is very little surface lighting at all and there are times when we are essentially on the gauges and hoping there is no un-forecast weather out in front of us. NVGs are the best and most cost effective way to enhance safety in the black holes that we operate in."*
>
> *"Despite declarations to the contrary, the FAA has not helped get NVGs into the industry as recommended by the NTSB. It would be good if industry had the freedom and help to make NVGs happen independently, but perhaps mandatory NVG usage is the way to go. It is unfathomable that managers and regulators apparently think that flying "aided" is somehow more dangerous than flying "unaided."*
>
> *"Congress should pass legislation requiring the use of NVGs for all non-IFR HEMS operations conducted at night."*
>
> *"I am still highly disappointed in this industry's weak attempts to make NVGs mandatory. Come on guys, lets move out of the 70's and embrace this technology."*
>
> *"The difference between flying with or without NVGs 'well when you drive your car at night you like to have your headlights on right?' They make that much difference."*
>
> *"NVGs DO save lives. We will look back at these pre-NVG times as the "Dark Ages." It's now up to the powers that be to decide how many more will die and at what cost. Too bad we'll lose a few more before getting the goggles industry-wide."*

Numerous studies have shown that controlled flight into terrain is a common factor in EMS accidents. (Source: HAI). The use of Terrain Awareness Warning Systems (TAWS) can help pilots avoid terrain with an aural message that sounds warnings at regular intervals prior to impact with terrain, water and obstacles. In the NTSB's 2006 review of 55 accidents, the Safety Board found that in 17, a TAWS system would have provided sufficient warning to the pilot to avoid the accident. The FAA has already required TAWS on turbine-powered airplanes with six or more passenger seats. The FAA also requires airlines to have two warning systems: TAWS to provide flight crews with an alert to obstacles or terrain, and TCAS (Traffic Alert Collision Avoidance Systems) to warn other aircraft of nearby aircraft and take avoidance action. Requiring TAWS on EMS flights would provide this safety benefit to flight crew and patients, yet the FAA has failed to require H-TAWs on EMS flights.

Some of the best programs currently operate using both NVGs and TAWs systems, and they operate at this higher safety level despite industry and FAA protestations for feasibility studies and technical standards to prove these existing technologies are "viable."

We are not asking the impossible. We are asking operators to keep our people safe. If their response is "We can't afford it," than they shouldn't be in a business that rests its reputation on saving lives.

In closing, I'd like to tell you what I believe happened on Sept. 29, 2005, a night that changed everything for our family and left me without a sister. My sister was a heroine in my eyes, not because of what she did for a living but because of the joy, freedom, and *integrity* in which she lived her life.

On the evening of September 29, 2005, I believe Steve Smith did everything he could to keep my sister and Lois alive. I believe the circumstances of that evening got the best of them. I believe that if the technology and safety systems in HR 1201 and the others I mentioned were available to them, they would be alive today. And I believe dozens of other people would be alive as well.

Thank you for allowing the families of victims this opportunity to express our opinions. This is the first opportunity we've had to speak in a public forum about our losses, our beliefs, our disappointments and most importantly our hope that HR 1201 will pass, so others don't have to know our pain.

In Memory

Below are the names of those known to have died in air medical accidents. This is not a full list as there is no single agency or group that maintains a complete database of all known fatalities aboard air medical aircraft.

Ron Battiato • William Mann • Delbert Waugh • Kirstin Blockinger • Tanya Mallard • Stephen Bunker • Mickey Lippy • Roger Warren • Sandra Pearson • Wade Weston • Shawn Shreeve • Pat Graham • James Taylor • Tom Clausing • Tom Caldwell • Wayne Kirby • Jana Bishop • Stephanie Waters • Steve Lipperer • Darren Bean • Mark Coyne • Robert Goss • Raul Garcia • Michael Sanchez • Tiffany Miles • Michael Baker • Allan Bragwell • Lance Brabham • Cameron Carter • John Stumpff • Dana Dedman • Ronnie Helton • Ric Miller • Brian Miller • Deanna Palmer • Ricky Byers • Bill Serra • Richard Lapensee • Dennis Hayes • Darcy Dengel • Paul Erickson • Vince Kirol • Diane Efaw • Maureen McGee • Katrina Kish • Jerald Miller • Paul Latour • James Vincent • Marlene Yomes • Brien Eisaman • Peter Miller • Heinz Schulz • Merrill Coplin • David Skala • Marshall Davis • Larry Littleton • Martha Collins • Beverly Cremin • Sharon Devine • Barbara Burdett • Karen Simpson • Barry Day • Alean Hartford • John Morris • Atha Solden • Charlie Deal • Tim Brosch • Brian Ehly • Robert Carlisle • Constance Geierman • David McKee • Linda Butler • Mark Symonds • William Podmeyer • Jim Saler • Scott Hyslop • Dave Linner • Tim Benway • Jennifer Wells • Joe Schaefer • Nikki Kielar • James Archer • Renee Johnson • John Lamphere • Karl Kolbe • Laura Womble • Donald Womble • Marco Villalobos • Robert Heighton • Jack Chase • Tom Palcic • Todd Hellman • Roger Morrison • Erin Reed • Lois Suzuki • Steve Smith • Lisa Landers • David Bacon Jr. • Glenda Tessnear • Bob Giard • Steve Heberle • Morris Morrow • Hayward Daisey • Barry White • Paul Lujan • Mickey Price • Jonathan Dye • Brandon Bow • Jennifer Hauptman • Mandy Shiraki • Joseph Villiaros • Ron Laubacher • Diane Codding • Kelly Bates • Art Gotisar • Brent Cowley • Michael Russell • Mario Guerrero •Craig Bingham • Gail Ann Hauck • Andrew Willey • Masaaki Suzuki • Ana Coburn • Kalaya Jarbsinthie • Marshall Butler • Lori Schrempp • Pat Scollard • Phil Herring • Chuck Jerpe • Ray Watson • Kelly Conti • William Spence • Ron Jones • Robert Green • Renee Chapman • John Holland • Michael Elam • James Bradshaw • Alicia Betita Collins • Eric Hangartner • Mark Wallace • Lauren Stone • Terry Griffith • Ed Sanneman • Lynn Ethridge • John Pittman • Charles Atteberry • Sheila Zellers • Brian Hardin • Donald Greene • Ernest L. Jones • Leroy Shelton • James Bond Jr. • Kathy Betterman • Melissa Witty • Shannon Nolte • Merton Tiffany • Carlos DeLaFuente • Brenda Leinweber • Antonio Martinez • Eric Reiner • Michael Butler • Michael McComb • D. Shayne Carnahan • Timothy Hynes • Clifford Berg • Leslie Feldman • Elizabeth Barber • Peter Ablanalp • Don McLaud • David Edner • Christie Wilson • Russ Scholz • Brian Shaw • Jeffrey Burt • Lauren Parada • Karen Peebles • Stephen Tully • Vicki Collman • David Brooks • Amy Riebe • Marna Fleetwood • Lee Bothwell • Janice Nowacki Tobin • Terry Racicot • Richard Elliot • Richard Thompson • Jimmy Tucker • Sandy Sigman • Gary McCall • Karen Canada • Michael Travison • Donna L. Eaton • Anthony Barbee • Jere Little • Richard Niven • Thomas Rickert • Dennis Patrick • Thomas Wolf • Matthew Jeton • Donald MacIntyre • James Barnett Jr. • Terry Small • Demetri Tukker • Jennifer Hodges • Dale Matthews • Susan Newton • James Egan • Cathy Glatzel • Geoffrey L. Donovan • Alan Larson • Donnie Matteoni • Katherine Ohran • Daniel Murphy • Edward Soper • Deborah Nole • Mark Hausler • JM Jack Goodwin • James Moxan • James Layne • Wally Nitowski • Diane Lefler • Richard Mendolia • David Reichlitz • Armando Deleo • Sue Kainz • Pat Varea • Bob Siekerman • Lyn Gould • James Stettler • Jeff Cartledge • Claud Duvall • Stephanie Gasson Willoughby • Gerald Morgan • Katherine Ohnheiser • Jeanne Lackey • Juli Huttegger • Delmar Baer Jr. • Karen Scherer • Diane Saenz • Pat Koaldant • Linda Montgomery • Michael Grimes • James Meyer • Dori Berndt • Gary Stoick • John Lyszczk • Perry Reynolds • Pam Demaree • Mike McGinnis • Carey Poetzman • Gregory May • Rodney Hibberts • Timothy Parrish • Mary Jane Borrill • Mark Applewhite • Mark Moreland • John Coyle • Michael Myers • Craig Budden • Joan Brown • Nancy Brandon • John Harrison • Jeannie Hollister • Danny Brown • Harold Browning • Mary Haberle • Dee Dee Malouf • Charles Nolte • Henry Bochnke • George Milligan • Steven Troisin • Billy R. Sullivan • Elliot Strom • Louis Merz • Jessica Hilt • Chris Hasselfeld • Paul Kinsey •Bill Walker • Rick Fee • Tom Brown • Robert Hunt • Daniel Donker • Sherry Van Vechten • James Landis • Patricia Riccobono • Jeanette M. Christ • Melvin Cooper • Nick Roetnor • Maureen Griffen • Hallie Burns • Phillip L. Russ • Thomas Noyle

TESTIMONY OF THOMAS JUDGE ON BEHALF OF
THE PATIENT FIRST AIR AMBULANCE ALLIANCE
BEFORE THE TRANSPORTATION AND INFRASTRUCTURE COMMITTEE AVIATION SUBCOMMITTEE
HEARING ON HELICOPTER MEDICAL SERVICES
APRIL 22, 2009

Thomas Judge, EMTP
Executive Director LifeFlight of Maine
Chair Patient First Air Ambulance Alliance
www.patientfirstalliance.org

LifeFlight of Maine
PO Box 940
Bangor, ME 04401

207 973 6706
tjudge@ahs.emh.org

TESTIMONY OF THOMAS JUDGE ON BEHALF OF
THE PATIENT FIRST AIR AMBULANCE ALLIANCE
BEFORE THE TRANSPORTATION AND INFRASTRUCTURE COMMITTEE AVIATION SUBCOMMITTEE
HEARING ON HELICOPTER MEDICAL SERVICES
APRIL 22, 2009

Good morning Chairman Costello, Ranking Member Petri, and Honorable Members of the Committee. I am Thomas Judge, and am testifying on behalf of The Patient First Air-Ambulance Alliance (PFAA), which represents more than 70 not-for profit and for profit air medical providers ranging from single aircraft to large national organizations, including several members of the Air Medical Operators Association. PFAA members operate bases in 37 states and work nationwide.

I currently serve as the Executive Director of LifeFlight of Maine, a small independent non-profit program, one of three air medical providers serving Maine. I am a member of the Joint Helicopter Safety Implementation Team of the IHST project, a joint industry and FAA initiative, served as a subject matter expert for the NTSB in recent hearings on medical helicopter safety, served as a member of the national expert review panel for the State of Maryland, and am a past president of the Association of Air Medical Services. In addition to professional roles in air medicine ,I continue to serve as a volunteer paramedic in the local Fire/Rescue system of a small group of fishing villages and islands on the coast of Maine. I have practiced and worked in rural EMS systems for over 30 years. Assuring rural access to quality emergency healthcare is a personal imperative.

The PFAA was created quite simply to improve the accountability of the air medical system to patients and the public. Although the provision of helicopter medical services (HMS) is primarily performed by private organizations, HMS is a public endeavor. Helicopter medical services incorporate both scene transports directly to trauma centers and inter-hospital transport of critically ill and injured patients. To the extent that patients must be transported in a helicopter it is always an emergency. PFAA supports stronger federal and state regulations to ensure the safety and protection of patients and crews so that HMS are truly deserving of the public trust. PFAA endorses both HR 978 and HR 1201 to build a more accountable and safer system for patients.

It is extremely regrettable that HMS has ended up on the NTSB's "10 Most Wanted" list. While significant progress is slowly being made in improving aviation system safety, more must be done. HMS is an extremely complex arena that has drivers and influences that are significantly different than other sectors of transportation. Rather than a traditional aviation enterprise, it is more appropriate to view HMS as an essential emergency service—more akin to a public utility than an enterprise. The values and accountability of provider organizations, whether public, nonprofit or for profit, must assure the public of quality, safety, and coordination of medical services. The public and vulnerable patients must be assured of both medical and transportation safety. Our "passengers" are a unique population who generally lack a choice of carriage or carrier.

PFAA appreciates the Committee reviewing the entire HMS operating environment. PFAA believes that there are three sweeping and critical problems in the helicopter medical services arena that must be addressed -- aviation safety, patient safety, and the underlying economics of the industry which dis-incentivize safety.

PATIENTS MUST BE ABLE TO TRUST THE AIR MEDICAL SYSTEM -- UNACCOUNTABLE SYSTEMS PUT PATIENTS AT RISK

Public Perception Versus Reality. Patients and the public must be able to trust that each and every HMS provider is making decisions on their behalf strictly on the basis best medical and aviation practice. The medical helicopter tragedies are shocking as we see the pictures of the burned debris of a helicopter crash. We should also be shocked by the patients placed at risk and harmed daily in much less visible but all too real ways.

- The public believes that that all medical helicopters are the same with the same levels of performance and aviation safety technology. They are not.
- The public believes that if they or a loved one needs air medical transport, the helicopter that arrives to transport them will take them quickly and efficiently to the closest appropriate hospital—the right hospital, the right physician, at the right time. That may or may not be true depending on where they live.
- The public believes that the helicopter will be well staffed by similarly trained medical crews with the latest medical technology to provide them with the critical care needed to keep them alive. There is no such guarantee.

Real Example of Patient and Aviation Safety Risks to Patients. Air ambulance program Alpha was called to transport a patient from a scene after air ambulance program Beta turned down the flight due to weather conditions below industry standards for safe medical transport. Alpha launched despite the poor weather, with the only report being that "it came in as chest pain but the ground crew thinks it may have been a stroke." Alpha lifted off without sufficient information on the patient's condition or diagnosis, thus not knowing what the appropriate receiving hospital would be and without contacting the receiving hospital to coordinate and accept the transfer. After Alpha finally determined mid-flight the appropriate receiving hospital to be the nearest trauma center, the medical crew was unable to provide a complete patient report to the trauma center prior to arrival, as Alpha was on a radio frequency unknown to the trauma center. Based on limited information that the trauma center was finally able to receive, the Emergency Department thought the patient may be suffering from a stroke, and the trauma center activated the stroke team and prepared to accept the patient.

Amazingly, Alpha didn't land at the trauma center, it landed at a different hospital 5 miles away as they did not know the location of the trauma center. That hospital had no warning of the arrival, and had no medical or security team to meet the helicopter and patient. Alpha never notified Beta that it was flying in the same flight area to ensure coordination and avoid possible overlapping flight path, particularly given the poor weather. After Alpha sat on the wrong helipad for 10 minutes and determined it had the wrong coordinates and was at the wrong hospital, it lifted off again, and flew for another 10-15 minutes before returning and delivering the patient to the same wrong hospital. The patient was finally treated by that hospital 2 hours after the initial call. The patient did not have a stroke, the patient had a heart attack which symptoms are clinically distinguishable. Additionally, the weather conditions were so bad that Alpha was unable to return to its base after transporting the patient and was grounded at a local airport until conditions

improved. The problem list in this case is extensive -- here is a patient that suffered serious time delay in care and was exposed to unacceptable medical and aviation risks during transport.

Broken Air Medical System. Unfortunately, stories like these are now commonplace in many parts of the country in which state medical oversight is lacking, compromised, or has been outright dismantled. We do not find these stories in regulated markets regardless of few or many providers. We find these stories in unregulated markets, regardless of the number of providers, in which individual companies are setting their own standards of practice and have limited the ability of state health and EMS authorities to set and enforce a consistent standard of performance and accountability for licensed providers.

All too often, the system upon which patients rely in time of emergency is broken. If known, stories like the one above would generate headlines similar to a crash, but the problems and risk are unrecognized in an unaccountable system where individual provider organizations have chosen to create and set their own standards. When I was Association of Air Medical Services President, (AAMS) I believed industry could self-regulate. Today I am not convinced. To understand how we got here and how to solve the problem, we must first understand the underlying economic problems in the air medical industry.

A Perfect Storm -- Dramatic Growth, Problematic Economics of HMS, and ADA Preemption of State Economic Regulation of HMS

The rapid and dramatic growth in the number of HMS providers, underlying economic incentives and dis-incentives, and the use of the ADA economic preemption to strike down the states' ability to effectively regulate HMS have come together as the perfect storm impacting both aviation and patient safety.

Growth of HMS. Civilian "medevac" started in the early 1970's. There have been three periods of rapid growth in the number of helicopters, each period with a corresponding rapid increase in the number of crashes and ongoing safety concerns. Growth has been dramatic with 21 medical programs in 1978 with about 30 helicopters extending to over 250 provider organizations operating 377 helicopters in 2000. Since 2000 the number of aircraft has more than doubled to a current fleet of around 850 helicopters.

While the increase in the number of helicopters has increased the availability of HMS and has provided new options for improving access and care to patients, the reasons for growth are multi-factorial. A major driver was the creation of the national Medicare Fee Schedule project that was started in 1997 with implementation in 2002. The Medicare Fee schedule for HMS has more than doubled the reimbursement to fee for service providers. While the final implementation beginning in 2002 used 5 year old cost data, the cost data used to develop the fee schedule were based on twin engine, hospital based helicopters, the predominant model at the time. With a close to cost based Medicare reimbursement establishing a "floor" for HMS, providers were able to leverage higher rates from private insurers significantly increasing the revenue flow into the air medical system.

While each period of growth was associated with increased crashes, reports by the NTSB, and work by industry on improving safety, actual safety standards have been only slowly adopted. The NTSB and industry identified imperatives such as mandating radar altimeters, improving training for inadvertent instrument meteorological condition recovery, night and IFR operations, stretching back to 1992 in many cases have yet to be adopted widely or fully. Unfortunately, the positive impacts of growth have come, often at tragic costs to the pilots, medical teams, and patients, Growth has however, had other costs as well. An unregulated system places patients at risk, and indirectly negatively impacts aviation safety.

The Economics Realities of HMS. The economic realities of HMS are important to understand, particularly in that they differ from other areas of aviation.

- HMS Providers are Paid Only Per Transport. HMS providers are paid only when they transport a patient rather than for readiness more seen in other public safety endeavors. There is significant economic incentive to transport patients.
- HMS Reimbursement is Divorced from Quality, Aircraft or Service Capability. Current regulatory schemes at both the state and federal level focus on minimum standards for operations. Other than CAMTS accreditation, there is no delineation of capability such as there is for ground ambulances and trauma centers. Medicare reimbursement follows a fixed fee schedule reimbursement that does not distinguish the level of vehicle or quality or level of medical capability. For example, a program operating an $800,000 retrofitted helicopter coming off an oil rig is paid the same base amount per transport as an $9 million helicopter fully equipped twin engine, dual pilot, state of the art aircraft with specialist critical care pediatric teams including physicians.
- HMS Has High Costs and Low Margins. HMS is a high unit cost service with significant fixed costs often constituting 80% of operating budgets. While costs are high and drive charges, charges are not necessarily related to costs. Lower operating costs do not equate to lower charges due to standardized reimbursement. Charges can be extensive and vary widely from $6-20K per transport depending on locale.
- User, Chooser, Payor of HMS are Not One in the Same. The person who *uses* HMS (patient) is different from the person who *chooses* the service (requester) and is also different from the person who *pays* for the service (insurer). In commercial aviation, the consumer who uses an airline service, chooses a service based on certain factors (such as cost, service and quality) and pays for the same service are all one in the same.
- Limited Pool of Flight Volume Per Market. While the numbers of helicopters have increased, the number of patients served per helicopter has remained static or in the last year is declining due to significant reductions in numbers of vehicle miles travelled. There are only so many people in a given market that ever could or should be transported by medical helicopter.

Perverse Economic Incentives of HMS. The underlying economic challenges and underpinnings of HMS reimbursement, drive decision making which is all too often not in the best interests of aviation or patient safety.

- Base Location Where Profitable, Not Where Needed. Base locations are developed in markets with positive reimbursement rather than the markets with poor payer mixes, resulting in a geographic maldistribution of services and many markets with helicopters on top of helicopters. This can occur both at the state or regional level within a state.
- Maximize Flight Volume. To cover fixed costs, the economic incentive is to fly as much as possible. But if there are a finite number of patients in the market and many helicopters, there is an imperative for each to have enough volume to cover fixed costs impacting the safety of operations. Market saturation pushes air medical providers to make poor decisions and take unnecessary risks. The increased economic pressure to fly in highly competitive markets was recognized by the troubling testimony at the NTSB Hearings of the physicians, pilots, nurses, and paramedics. Examples of such risks that we see in unregulated markets include:
    - Flying below weather minimums -- operations in marginal or worse weather with risk to crew and patients is seen as a matter of course in unregulated markets
    - Stacking emergency flights with delays in care for economic and non patient care purposes
    - Inappropriate marketing to flight requestors.
    - Call jumping and self-dispatch. While publicly decried, there are constant reports that these practices are occurring.
    - Flying patients with minimal medical need which increased costs to the healthcare system without corresponding clinical benefit.
- Reduce Medical or Safety Expenses. Reducing fixed costs to whatever degree possible can dis-incentivizes or prevents providers from investing in quality of medical care and aviation safety. Air medical programs are not incentivized to purchase expensive but more capable aircraft, improved patient care aircraft attributes, medical equipment, or maintain high quality medical personnel and training. They are not incentivized (nor reimbursed) to purchase night vision goggles, install HTAWS, or provide IFR operations.
- Raise Charges. Although Medicare payments are fixed and Medicaid payments vary by State, air medical programs can and do raise rates to cover fixed costs and generate margins where flight volume is insufficient to support them. Counterintuitive to traditional market economics, intense competition actually increases charges to private payors rather than decreases charges. **(SLIDE 1)**
- Pressures for Less Regulation, Oversight and Accountability. The economics and drive toward flight volume incentivizes providers to work outside of the EMS system, rather than as a part of a coordinated delivery of critical care air medical services.

Impact of Oversaturation of HMS in Some Markets. Oversaturation of a particular market results in reduced flight volume per program. Thus, too many helicopters in certain regions creates intense competition – not for the market, but for specific patients. While this may work well in general aviation, in HMS where the consumer is not making the choice of the service or paying for it directly, the current system organization of HMS based on competition for individual patients rather than markets doesn't work. Results of unregulated competition and inability of states to rationalize distribution of medical helicopters are exemplified below:

- Maldistribution of HMS. While some rural access has certainly and positively increased with the massive growth of medical helicopters, the majority of growth has been in better paying urban areas resulting in helicopters on top of helicopters. Arkansas has seen the addition new rural helicopters in the northwest part of the state where employers are more plentiful and patients are better insured; no helicopter bases have developed in the impoverished areas of southeastern Arkansas. An example of growth following finances is Kentucky which has increased Medicaid reimbursement. Helicopters have increased more than 100% in less than 5 years (ADAMS 2003:12 2008:27) with the greatest number of aircraft in the built up areas around the state capitol of Lexington.
- Flights of Patients with Minimal Medical Need. In oversaturated markets, competitive pressures result in flying patients who could be more appropriately be served by ground EMS units at much less cost to the patient and healthcare system. As an example, Houston has gone from 3 1/2 helicopters in mid 1990's to 16 in the current service area. Houston now has more medical helicopters in all of Canada or in all the states of New England. The hospital discharge rate in less than 24 hours in Houston increased 4 fold from 9 to 40%. The comparable rate in New England's discharge in less than 24 hours rate is under 10%. While a blunt tool for measuring medical necessity, a four fold increase in discharge rate cannot be explained other than a reduction in the acuity threshold for flight.
- Declining Ability to Invest in Quality and Safety. In 1996, Missouri's certificate of need law was invalidated for air ambulance services. The number of helicopters statewide has increased from 21 to 33 in 5 years with the overall concentration of aircraft in the urban areas. The original fleet in Kansas City was exclusively twin engine and now due to intense competition and the need to achieve bottom line performance system evolution has transitioned to predominantly single engine aircraft. The issue is not about single vs. dual engine aircraft but rather, the growth in the fleet is based on lowest operating costs not consistent with the current FAA goal of incentivizing IFR. In Missouri, medical care and equipment requirements are set by each individual program's medical director with minimal state standards, and enforcement has been limited for fear of another lawsuit.

Unintended Consequences of ADA Preemption in HMS. PFAA recognizes the benefits and value that the Airline Deregulation Act has brought to the interstate transportation of passengers and goods in the commercial aviation realm. We believe, however, the ADA has had unintended and negative consequences in the sphere of HMS and indeed the Congress in 1978 did not anticipate how the ADA would impact emergency medical aviation. The ability of states to regulate the "ambulance" aspect of HMS has been challenged in numerous areas leaving enormous gaps in oversight, lack of clarity over what states can and can't regulate, and a chilling effect on state regulators to strengthen or even enforce existing HMS regulations.

The ADA preemption provision prohibits the states from regulating the prices, routes or services of air carriers. Accordingly, States are currently prohibited by the ADA from fully regulating helicopter medical services in the way they regulate all other health care services within their borders. The result of the broadly preemptive nature of ADA in its applicability to medical

helicopters as air carriers is a major gap in HMS regulation because states are prohibited from effective state health planning and providing rationality to the location and distribution of HMS services throughout the state, regulating air ambulances as they do ground ambulances, ensuring patients have coordinated ground and air ambulance transport, and appropriately overseeing air ambulance access, availability, and delivery as part of their EMS and Trauma Systems. The FAA is not capable of providing system medical oversight as governance of health services is historically a state function.

Examples of Dismantled State Laws Governing Air Ambulance Services:

- Designating base of air ambulance operations and service areas to ensure coordinated response and prevent call-jumping (multiple air ambulances responding to same scene or hospital) and flight stacking (accepting flight request without an available aircraft rather than referring request to another provider)
- Requiring 24/7 availability, weather permitting, or defined response times
- Requiring demonstrable need for new or expanded air ambulances
- Limiting the number of air ambulances within a state or region thereof
- Requiring demonstration of least-cost alternative analysis and non-duplication of services
- Requiring affiliation with a trauma center as part of a trauma plan
- Licensure requirement requiring affiliation with EMS system or EMS Peer Review Committee

Current interpretation and court decisions have recognized that States may regulate the medical care and equipment provided aboard helicopters to some degree. PFAA appreciates the effort of DOT in its 2008 letter to the State of Texas[1] to recognize that medically related requirements such as rules on the adequacy of medical equipment, qualifications of medical personnel, and the need to maintain sanitary conditions are not preempted by the ADA. Unfortunately, the extent to which states may establish all medically necessary requirements related to patient safety is still limited or not clear due to a variety of interpretations around the issue of economic regulation or field preemption.

For example, as noted in a DOT letter the State of Hawaii,[2] the State's requirement for 24 hours emergency system operations were preempted as well as other criteria including "quality, accessibility, availability, and acceptability." The letter went on to note that Hawaii could regulate "trauma supplies, oxygen masks, blankets, and litters" but cautioned that state medical requirements related to supplies and equipment could indirectly and impermissibly constitute prohibited economic regulation.

> *"Of course, it is possible that a State medical program, ostensibly dealing with only medical equipment/supplies aboard aircraft, could be so pervasive or so constructed as to be indirectly regulating in the preempted economic area of air ambulance prices, routes, or*

[1] Letter from D.J. Gribbin, General Counsel of the Department of Transportation to the Honorable Greg Abbott, Texas Attorney General, November 3, 2008 at 13.

[2] Letter from Rosalind Knapp, Acting General Counsel of the Department of Transportation to Gregory Walden, Counsel for Pacific Wings, LLC, April 23, 2007 at 5.

> *services. While that has not been shown here, the parties are reminded of the breadth of the Federal express preemption provision, which extends to prohibit any State provision 'having the force and effect of law related to a price, route or service....'"*[3]

As another example, the recent ruling North Carolina was helpful in clarifying that state regulations serving primarily a patient care objective are properly within the states' regulatory objective.[4] However, the North Carolina ruling struck down a State requirement for tail rotor illumination (not required by FAA), thus posing safety risks to patients and medical personnel during night time loading/unloading of patients in the rear of the aircraft where the tail rotor is not visible. This invalidated requirement relates to the aircraft but is essential for patient and medical crew safety.

STATE ECONOMIC REGULATION MUST BE ALLOWED TO SOLVE UNDERLYING INDUSTRY PROBLEMS LEADING TO BOTH PATIENT AND AVIATION SAFETY PROBLEMS

HMS is Different than Other Sectors of Aviation. Several years ago, I wrote the *Vision Zero* white paper, an initiative of the Association of Air Medical Services. It highlights the inter-related complexities of emergency care, critical care, and aviation medicine. A number of questions and replies at the recent NTSB Hearings focused on the question: is HMS different than other sectors of aviation, and if so why? While airworthiness, training, tasking, and operations of any aircraft should be consistent within the one system FAA safety regulations, there are a number of distinctions in the HMS operating environment that are vitally important to understand:

- Unlike other commuter operations or any other area of transportation, the passenger is in a unique circumstance and does not have a real or informed choice of carriage or carrier. A critically ill patient cannot be considered a rational consumer.
- Unlike other commuter operations, flight requests are always emergencies. While we do everything we can to isolate the specifics of the flight request from the pilot and medical crew, when the tone goes off with a flight request, it is not a request for a scheduled flight at some projected time in the future. It is always a time sensitive emergency, with limited planning time, requiring a much different system of operations and controls.
- Unlike other commuter operations, in which the vast majority of operations are conducted during daylight hours, this is a 24 hour business. In fact, due to other iatrogenic factors in the healthcare system, night operations are increasing.

As illustrated, unregulated markets and market economics that are benefits of the ADA in commercial aviation do not work for HMS. This mix of factors is a substantial regulatory challenge. Both patient safety in the medical system and aviation safety are affected. We believe the best efforts of the FAA will be unlikely to completely overcome all of the safety issues -- neither the FAA nor the DOT alone can address the underlying flaws in the current HMS system design and underlying economic model, and they are not capable of evaluating the medical aspect of HMS transporting a truly unique passenger. This must be a coordinated federal and state effort.

---

[3] DOT letter to Hawaii, quoting 49 U.S.C. Section 41713(b)(1) at 5.
[4] *Med-Trans v. Benton*, 581 F. Supp.2d 721 (E.D. NC 2008)

The Intersection of Federal and State Law Over HMS is Truly Unique. Medical helicopters are both ambulances and aircraft. While the Federal Aviation Administration has and must maintain complete governance over the aviation safety of medical helicopters as aircraft, equally, state EMS and health authorities must have complete governance of medical helicopters as ambulances, as long as states do not infringe on federal authority over aviation safety. HMS is the only area of aviation where the states have a role and legitimate interest because the individual being transported is not simply a passenger – the individual is a patient receiving health care services. HMS is the only area of health law in which states are limited or prevented from regulating as they do all other health care services within their borders.

BUILDING A BETTER AND SAFER HELICOPTER MEDICAL SERVICES SYSTEM

H.R. 978. PFAA is comprised of healthcare providers whose goal is to improve access to and the quality and safety of emergency medical care and strongly endorse HR 978 for that reason. PFAA in its advocacy for H.R. 978 strongly supports the single system aviation safety overseen by the FAA. We have greatly appreciated their thoughtful comments regarding the legislation.

HR 978 establishes a clear boundary between federal and state regulatory oversight. The current lack of clarity and gaps in state regulation over the HMS services does not benefit the public, critically ill patients, regulators, and air medical providers and operators. State regulation over "medical" is more than simply the medical care provided by medical crews inside a helicopter. State regulation must encompass the entirety of helicopter medical services, meaning the entirety of the system integration, coordination, and quality. This includes the ability of states to regulate competition and prevent oversaturation of markets that results in aviation and patient safety problems.

HR 978 will lead to a safer higher quality HMS system. It will enable states to regulate competition to level the playing field and make sure there is accountability for the medical interests and patient and public protection in a coordinated emergency care system. HR 978 will lead to more harmonized state regulation that is predictable for providers and operators establishing and maintaining their missions.

HR 978 does <u>not</u> limit access to needed services or prevent providers or operators from working in more than one state. HR978 only applies to intrastate point to point transport of patients by HMS. Indeed, cross state border operations occur daily throughout the country as part of regional trauma and specialty care system plans. This legislation will clarify where a State EMS or Health Authority has jurisdiction and the limitations on state regulation. To further illustrate:

- If a patient is transported by a HMS provider based in State A to State B, HR 978 is not applicable.
- If a HMS provider is based in State A, travels to State B to pick up a patient and returns to State A, HR 978 is not applicable.

- HR 978 is applicable when a HMS provider is transporting within a state, even it is based in a neighboring state. HMS providers can and do obtain medical licenses in multiple states all the time. **(SLIDE 2)**

HR978 will lead to long term improved access to HMS, especially for rural areas as planned deployment of resources improves access to service for all populations and areas. An unregulated market does not guarantee access to a needed emergency system. While critics of HR978 assert that the bill will limit access in rural areas, in fact most of the recent growth is in areas already served by helicopters leading to oversaturated markets in some areas as illustrated in comparing the 2003 and 2008 the national ADAMS database of air medical resources. **(SLIDES 3-4)** .

Healthcare planning for all EMS resources, including HMS, needs to occur at the state level. There is no simple metric to the needed number of helicopters, and more helicopters does not necessarily translate into improved outcomes for patients. Indeed the states of Massachusetts and Connecticut with the fewest number of helicopters have the best trauma preventable death outcomes in the country. Decisions about the location and number of medical helicopters should be made at the state level as part of the EMS system, not based on the free market, which when left unchecked, does not ensure the proper and appropriate distribution of services to assure access.

H.R. 1201. PFAA endorses HR 1201 as an essential means by which to improve aviation safety for patients and crews. This legislation takes a number of current guidance documents from the FAA and requires through rule making that the guidance becomes regulatory. Assuring the safety of the system requires a more formal regulatory effort as industry has not fully achieved the necessary changes on a voluntary basis, especially in assuring the safety standards of Part 135 operations, standardizing risk assessment, and dispatch procedures.

Specifically with regard to HR1201, we need to assure IFR operations within the current FAR's. The FAA has recognized the safety of IFR operations by providing for an exemption that allows a Part 135 Certificate Holder to conduct IFR operations to destinations without approved weather reporting at the destination. We recommend adding language preserve and acknowledge that existing exemption and allow for the continued operation of the safety benefits of IFR.

We also support the addition of flight monitoring devices for flight operations quality assurance and improving accident information for the NTSB. There has been tremendous progress in the development of this technology applicable to helicopters and this important technology needs to be incorporated into the system sooner rather than later.

Recognizing the fluidity of the legislative process, just as we believe there are opportunities to improve and clarify HR 978, so too do we believe that there are opportunities to improve and clarify specific language in HR 1201 and look forward to working with the Committee on both pieces of legislation.

CONCLUSION

Air medical helicopters are not simply air taxis and should not be considered as such. HMS is not an enterprise but an emergency public utility. We strongly believe a rebalancing and clarification of the lines of current conflicting regulatory authority are necessary if we are to effectively address both aviation and patient safety.

Investments in quality and safety can be achieved despite economic challenges. In Maine, although nearly forty (40%) of our patients are now uninsured and we have one of the highest rates of Medicaid and Medicare populations in the country, we are able to fly twin engine aircraft, IFR with night vision goggles as do a number of PFAA members. We make the choice to operate at the highest level of safety possible, within the current economics of HMS. We also recognize that some of our colleagues do not have that choice. In HMS oversaturated markets, the economics of multiple providers competing for patients force providers to make difficult choices regarding safety investments. This is why we need to improve and integrate the federal and state regulatory oversight of HMS.

In any complex, time critical, and high consequence system the additive effects of continued small mistakes rapidly multiply into the potential for catastrophe. Even more important, no matter the quality of caliber of the individuals engaged in delivering the system, the most motivated, ethical, and highly trained people cannot make a poorly designed system function at high performance on a continued basis. Consequently, it is essential to consider the elements of the medical system design to ensure both aviation and patient safety without losing the benefits of the ADA to commercial aviation. We believe this can be achieved without compromising the plenary and exclusive control of aviation safety overseen by the FAA but recognize that HMS is fundamentally different than other aviation sectors. Both HR 978 and HR 1201 should be enacted to ensure that both the federal and state governments may fulfill their obligation to protect the public and greatly improve the air medical transport system.

6253505_v1

U.S. House of Representatives
Committee on Transportation and Infrastructure

James L. Oberstar
Chairman

David Heymsfeld, Chief of Staff
Ward W. McCarragher, Chief Counsel

Washington, DC 20515

John L. Mica
Ranking Republican Member

James W. Coon II, Republican Chief of Staff

May 8, 2009

Thomas P. Judge, EMTP
Executive Director
LifeFlight of Maine
P.O. Box 1007
Union, Maine 04862

Dear Mr. Judge:

On April 22, 2009, the Subcommittee on Aviation held a hearing on the "Oversight of Helicopter Medical Services."

Attached are questions to answer for the record. I would appreciate receiving your written response to these questions within 14 days so that they may be made a part of the hearing record.

Sincerely,

Jerry F. Costello
Chairman
Subcommittee on Aviation

APRIL 22, 2009
SUBCOMMITTEE ON AVIATION
HEARING ON
OVERSIGHT OF HELICOPTER MEDICAL SERVICES

QUESTIONS FOR THE RECORD
TO:
Thomas P. Judge, EMTP
Executive Director
LifeFlight of Maine and Chair
The Patient First Air-Ambulance Alliance (PFAA)

1. Mr. Judge, you state that "The result of the broadly preemptive nature of the ADA [Airline Deregulation Act] in its applicability to medical helicopters as air carriers is a major gap in [HEMS] regulation because states are prohibited from effective state health planning." Please explain how the ADA prohibits effective state health planning. What are states prohibited from doing?

2. Mr. Judge, you state that "the underlying economic challenges and underpinnings of [HEMS] reimbursement drive decision making which is all too often not in the best interests of aviation or patient safety." Please explain.

3. Mr. Judge, in your written testimony you assert that "an unregulated market does not guarantee access to a needed emergency system." Please explain.

RESPONSE TO QUESTIONS POSED BY CHAIR COSTELLO REGARDING THE TRANSPORTATION AND INFRASTRUCTURE COMMITTEE AVIATION SUBCOMMITTEE HEARING ON HELICOPTER MEDICAL SERVICES APRIL 22, 2009

Thomas Judge, EMTP
Executive Director LifeFlight of Maine
Chair Patient First Air Ambulance Alliance
www.patientfirstalliance.org

LifeFlight of Maine
PO Box 940
Bangor, ME 04401

207 973 6706
tjudge@ahs.emh.org

Question 1. Mr. Judge, you state that "The result of the broadly preemptive nature of the ADA [Airline Deregulation Act] in its applicability to medical helicopters as air carriers is a major gap in [HEMS] regulation because states are prohibited from effective state health planning." Please explain how the ADA prohibits effective state health planning. What are states prohibited from doing?

Answer. State health planning takes a variety of forms but typically encompasses determining the appropriate level, quality, licensing, utilization, extent and distribution of health care services within its borders. Further, States are responsible for planning, establishing and maintaining emergency medical services and trauma systems to ensure coordinated care for the critically ill or injured. Thirty-six states have certificate of need or equivalent laws which govern most health care services, although a limited number still apply them to air ambulance services. Among the remaining states, most have some other means of planning the development of health care services. The North Carolina certificate of need law, prior to its being struck down in *Med-Trans v. Benton* only for purposes of air ambulance regulation (it remains in tact for other health care services), included a legislative finding that exemplifies the need for state health planning of health care resources:

> "...if left to the market place to allocate health service facilities and health care services, geographical maldistribution of these facilities and services would occur and, further, less than equal access to all population groups, especially those that have been traditionally been medically underserved, would result." NCGS Section 131E-175 et seq.

The ADA expressly preempts a State from enacting or enforcing laws ***related to*** a price, route, or service of air carriers.[i] Several courts[ii] and the DOT through opinion letters to some states[iii] have interpreted the ADA to preempt state regulation of air ambulance routes and services as prohibited "economic regulation." For example, the DOT letter to Hawaii[iv] found state requirements related to "accessibility and availability" and the state's certificate of need (CON) law to be preempted. As another example, in, the North Carolina court struck down the state's CON law and invalidated state requirements regarding participation in the North Carolina emergency medical services (EMS) system including obtaining an EMS license, affiliating with an EMS system, and establishing an EMS Peer Review Committee. In finding these EMS-related requirements to be contrary to Congress' mandate in establishing the ADA, the Court recognized the adverse impact of its ruling on North Carolina's EMS system, stating that the Court "is loath to disturb the carefully coordinated state and local EMS systems, and it does not do so lightly."[v]

The result of the broadly preemptive nature of ADA creates a major gap in HMS regulation because states are prohibited from effective health planning of health care services and providing rationality as to the number, location and geographic distribution of HMS services. States are unable to regulate air ambulances as they do ground ambulances, ensure patients have coordinated transport, and appropriately oversee air ambulance access, availability, and delivery as part of their EMS and Trauma Systems. The FAA is not authorized to provide system medical oversight as health services are historically a state governance function.

Examples of Dismantled State Laws Governing Air Ambulance Services:

- Requiring 24/7 availability, weather permitting, or defined response times
- Designating bases of operations and service areas to assure adequate and coordinated response and prevent call-jumping (multiple helicopters responding to same scene or hospital) and flight stacking (accepting flight request without available aircraft rather than referring request to another provider)

- Requiring demonstrable need for new or expanded air ambulances
- Determining the number of air ambulances needed within a state or region thereof
- Requiring demonstration of least-cost alternative analysis and non-duplication of services
- Requiring affiliation with a trauma center / system as part of a trauma plan
- Requiring an air carrier operating an air ambulance to provide services to all emergency patients
- Requiring affiliation with EMS system or EMS Peer Review Committee for quality assurance.

Please also note that even to the extent that States may impose certain medically necessary requirements such as medical equipment required aboard the helicopter for the provision of critical care services, such requirements might still be determined individually or in their entirety to constitute expressly preempted economic regulation. The 2007 DOT letter to Hawaii indicated that to the extent that an air ambulance must obtain an operating certificate dependent on the State's determination as to "quality, accessibility, availability and acceptability" criteria, they are preempted. Although the 2008 DOT letter to Texas indicated that states may establish medical equipment requirements, [vi] the letter provided no specificity as to the *kinds* of medical equipment that states may require. The only specificity that the DOT has provided came in the 2007 DOT letter to Hawaii in which DOT indicated that medical requirements "which involve such items as patient oxygen masks, litters, blankets, sheets and trauma supplies" were not preempted, but also indicated that

> "it is possible that a State medical program, ostensibly dealing with only medical equipment/supplies aboard aircraft, could be so pervasive or so constructed as to be indirectly regulating the preempted economic area of air ambulance prices, routes, or services."[vii]

The scope of medical equipment and supplies deemed permissible in the Hawaii letter was very narrow and leaves open the question as to whether requirements for more comprehensive and expensive equipment are permissible because they "indirectly regulat[e] in the preempted economic area of air ambulance prices, routes, or services."[viii] For example, state medical requirements relating to the quantity of on-board oxygen and number of oxygen and suction outlets; on-board engine-powered suction; ventilator systems; cardiac and hemodynamic monitors; infusion and cardiac balloon pumps and climate control are costly and thus may be susceptible to challenge as impermissible barriers to entry and thus prohibited on economic grounds.

Although States can require compliance with basic sanitation and infection control protocols, it is not clear the extent to which States can implement other quality measures as part of health planning, such as ensuring that critically ill and injured patients are flown by air only when medically necessary and safe to do so. The Hawaii letter specifically found to be preempted the State's determination as to "quality and acceptability" criteria.[ix] Further, *Med-Trans* ruled that requiring an air ambulance provider to have an EMS Peer Review Committee approved by a county government official is preempted.[x]

Examples where unclear as to States' ability to regulate quality of patient care and safety:

- Peer review processes
- Error and occurrence reporting systems
- Medical records maintenance
- Utilization review with reporting requirements to state EMS and health authorities
- Medical quality control

For further explanation, please see the documents previously provided by PFAA counsel to the Committee counsel which expand further upon the information provided in this response to the question posed: ***Gaps, Overlaps, Vagaries and the Chilling Effect on State Oversight of Air Ambulances.*** Patient First Air-Ambulance Alliance, 12 May 2009; ***Air Ambulance Regulation Overview*** Patient First Air-Ambulance Alliance, 12 May 2009.

I have also attached a detailed white paper chart which illustrates with specificity each area of various state regulations deemed impermissible by Courts or DOT guidance letters. These charts illustrate state EMS regulation that has been struck down as unenforceable is attached and a detailed chart which notes specifics on federal express and field preemption, specific state regulations and statutes that have been effected, issues of clarification, apparently permissible state regulation, and how proposed legislation would clarify interface between federal and state regulatory oversight of HMS services.

Attachment A: ***Gaps, Overlaps, Vagaries and the Chilling Effect on State Oversight of Air Ambulances.*** Patient First Air Ambulance Alliance 12 May 2009
Attachment B: ***Air Ambulance Regulation Overview*** Patient First Air Ambulance Alliance. 12 May 2009

Question 2. Mr. Judge, you state that "the underlying economic challenges and underpinnings of [HEMS] reimbursement drive decision making which is all too often not in the best interests of aviation or patient safety." Please explain.

Answer. Unlike other essential emergency services, such as police and fire, in which the ability to respond / fixed costs are carried by taxes, reimbursement for ambulance services including those provided in medical helicopters is based on the actual transport of a patient (i.e. a bill for patient services is generated by the transport of a Medicare, Medicaid, or private commercial insurance beneficiary, or directly to the patient if the patient is uninsured). Medicare reimbursement is the only national fee schedule in the country. All other payor sources vary widely in reimbursement rates.

It is essential to note that the national Medicare fee schedule is based on cost data derived for hospital based, twin engine helicopters. This reimbursement policy was adopted many years ago to incentivize emergency care providers to transport patients in an emergency. Ambulance charges are predominantly composed of a base fee ("lift off" in air services) and a charge per "loaded" mile derived from the actual mileage incurred when the patient is on the aircraft. Generally the financial incentive for providers is to generate as many base fees with as little mileage incurred as possible in order to increase the productivity of the ambulance.

The result is an incentive is to find as many transports as possible. HMS providers follow the incentive model by concentrating service provision in more urban areas. Further, they attempt to locate services in areas with better payor profile, i.e. more insured patients. The trend is towards loaded mileage has come down steadily and nationwide averages are under 20 miles.

Unfortunately, intense competition in oversaturated markets for individual patient volume rather than markets reduces volume per provider. There is a limited number of patients who ever should be flown by medical helicopters as many can more efficiently be moved by ground ambulance, and at a lower cost. While the number of medical helicopters has more than doubled since 2000 and the

number of patients transported by air has also dramatically increased, the number of patients transported per helicopter has been static for over a decade. Recent evidence suggests the number of patients transported per helicopter is now declining due to lower motor vehicle crash rates, concerns about medical helicopter safety, and the economic downturn.

Consequently there are predictable responses to the economics of helicopter medical services affecting both aviation and patient safety:

- **Pressure to fly increasing risks to air medical crews and patients:**
  As further evidenced by the pilots union (PHPA) in their testimony before the Aviation Subcommittee hearing, there is an economic pressure to fly. The National Association of EMS pilots, the flight nurses (ASNTA), the flight paramedics (IAFP), and the physicians (AMPA) all testified to economic pressure to fly at the NTSB hearing in February. Despite assurances to the contrary, self dispatch by air medical operators occurs with some frequency due to the pressure to fly.

- **Pressure to fly in marginal weather resulting in increased risk of accidents:**
  Pressure to fly in marginal weather has been identified in FAA surveys of industry. Helicopter medical services are among the most dangerous occupations possible. (See Ira Blumen testimony to NTSB)

- **"Competitive" weather minimums:**
  While the FAA has recently updated A021 Operations specifications to increase weather minima for all HMS operations, competitive markets tend to have weather minimums pushed down by the lowest operating provider in order for all other providers to not lose flights. While industry and the FAA discourage "helicopter shopping" it exists because there is very often a provider that will take the flight, despite the poor weather, resulting in pressure on other operators and pilots to accept flights in marginal weather. The crash in South Carolina several years ago exemplifies this as several other programs in North Carolina had turned down the flight for poor weather and the South Carolina based program accepted the flight and crashed killing four people.

- **The Pressure to Reduce costs of operations impacts safety:**
  The pressure in oversaturated and highly competitive markets to reduce costs to cover only limited flight volume is resulting in a trend towards single engine aircraft. Market areas such as Kansas City have transitioned from dual to primarily single engine aircraft. The PHPA representative who works for Air Methods community based division at the Aviation Subcommittee hearing testified: *"We have a multi-engine aircraft that is not certified for IFR but does have full instrumentation. But I am seeing at our program the degradation of the equipment we utilize. We are being reduced to single engine aircraft at some of our outlying bases."* He also noted that the single engine aircraft did not have separation between the patient and pilot, i.e. the patient's legs and feet are directly next to the pilot.

- **VFR only operations impacting safety:**
  While the FAA is trying to incentivize IFR, virtually all of the growth in non-hospital based providers has been in single engine aircraft with only VFR capability. Two of the largest operators in the country, Air Methods and AirEvac Lifeteam testified at the NTSB hearings that they did not see IFR operations as a useful safety enhancement. The pilots union testified at the Aviation Subcommittee Hearing: *"While we would like to believe that the free*

market system would resolve these issues for us by eliminating marginal operators and rewarding those operators that spend the additional funds necessary to properly equip, train, and support the safest operations possible ... this has not proven to be the case." There are fewer providers operating IFR aircraft and programs and they are disadvantaged economically in doing so. There is only one for profit entity that has long standing provided IFR operations. (REACH, Santa Rosa, CA).

- **Inappropriate transport of patients with marginal or no medical necessity increasing risk and costs:**
  While uncertainty is a real problem in emergency medicine, one blunt tool to assess medical necessity for helicopter transport is discharge from the emergency department within 24 hours after flight, indicating that the patient's acuity level may not have warranted flight by medical helicopter since they were not sick or injured enough to require inpatient hospital admission. Increases in the number of helicopters correspond to increased early discharge percentages. As an example, the long standing rate in Houston was about 9% discharge after flight. The number of helicopters and operators has quadrupled in the market area and the discharge rate is now in the 40% range.

- **Increase charges with costs to patients and the healthcare system:**
  HMS transport is a high cost unit of service due to a fairly low volume of patients with very substantial fixed costs for aircraft and response capability. Standard charges vary widely with $6500 to $25,000 per transport reported around the country. In most places in the country $12-16,000 per transport is the norm.

  Unlike expected market behavior, increased numbers of providers actually increase charges as each provider is sharing a smaller volume of patients in a given market area. As an example, New England with very few helicopters has charges that are substantially lower than Pennsylvania or Florida with numerous providers. (Standard charges in Maine for a transport of 70 miles are approximately half of standard charges in Florida for a transport of 15 miles)

- **Inappropriate marketing behavior resulting in unnecessary costs and risks to patients being transported unnecessarily:**
  This was highlighted earlier this month in a news story in Houston in which a new incentive to fly patients rather than transport to the hospital by ground resulted in a 783% increase in flight volume from the same urban area already served by multiple helicopters between 2007 and 2008. The air medical company also employed the physician certifying medical necessity for this provider. There are numerous reports in various parts of the country of referral fees paid to fire and EMS providers by HMS operators. This results in unnecessary costs to the healthcare system and patients. The Houston story interviewed a patient discharged from the emergency department without any serious injury. Already in a ground ambulance enroute to the hospital he was transferred to a helicopter. He apparently incurred no broken bones or wounds requiring stitches.

Question 3. Mr. Judge, in your written testimony you assert that "an unregulated market does not guarantee access to a needed emergency system." Please explain.

Answer. General competitive market behavior is expected to do three things in order to differentiate suppliers:

a) improve availability of service and choice of supplier
b) reduce costs
c) improve quality

Healthcare markets do not function as other markets. While the ADA has been successful in lowering costs and improving services in the general aviation industry, it has not had the same positive effects in HMS. HMS is not driven by traditional aviation economics, but by health care economics. This is especially true in emergency medical care which must function as a public utility to achieve both equity and access. Medical helicopters are not transporting passengers, tourists or goods – they are transporting critically ill patients. One can choose whether to take a vacation or go on a business trip on an airline, one does not choose to have a life threatening medical emergency. Further, one does not choose which emergency provider responds.

HMS has unique passenger without choice of carriage or carrier. As the number of patients who should be transported by medical helicopter in any given region is limited, unregulated competition in HMS is not lowering prices and improving services – it is having the opposite effect. The quality of care, services and aircraft capability are being lowered, healthcare costs and utilization are skyrocketing, and both aviation and patient safety are negatively impacted. Emergency care must be available and accessible 24/7 to every potential patient care for a potentially life taking illness or injury.

Availability of service does not equal access to care. Mere availability, in the absence of regulation, will be focused on areas in which the suppliers can expect to achieve better reimbursement for services which may or may not be where services are needed. There is substantial evidence that in the absence of state regulatory requirements to provide services, access to emergency care is compromised. As States cannot regulate "service" provision under the ADA a medical helicopter provider cannot be compelled to provide services to the entirety of the citizenry. For example, states cannot require 24/7 availability, or that medical helicopters serve all regardless of ability to pay, or appropriately distribute bases or service areas to assure full coverage both day and night and throughout a state's borders.

More specifically and as noted in the answer to Question 1, the DOT has specifically noted in guidance for the state of Hawaii that regulating access is federally preempted and it should be noted that there is no federal requirement to provide access.

> *"State operating certificate dependent on the State's determination of the "public need" for it, the "reasonableness: of the "cost of the...service," and other criteria including* ***"quality, accessibility, availability, and acceptability"*** *(see subsections 323D-12(b)(5),-43(a) and 43(b) of the Hawaii Revised Statutes), they are preempted by the Federal criteria prohibiting State Regulation "related to" and air ambulance's "price, route, or service." 23 April 2007 Rosalind Knapp USDOT*

Under the provisions of the federal preemption provisions of the Airline Deregulation Act there are several examples of the non-alignment of economics and equitable access to medical helicopter services.

First, the most recent DOT guidance letter provided to the State of Texas prohibits the state from regulating ground ambulances (911 system) that are "operated as an integral part of an air ambulance service." The guidance further noted:

> *"The Texas provisions also regulate the terms of service and its availability—in this case requiring the service to be available to all persons, including paying subscribers and non-subscribers alike—and thus are "related to" an air carrier's service, contrary to Section 41713(b)(1)." 3 November 2008 D. Gribben, USDOT*

This guidance prohibited a 24/7 emergency response requirement was preempted also noted that costs incurred by requiring an air carrier to provide emergency service to all citizen's could negatively impact the charges for its subscriber program, allowing a provider to decline service in an emergency to a non-covered individual.

Second, both court decisions and DOT guidance letters have noted that States cannot require 24/7 availability nor compel a provider seeking to establish new services to locate in an underserved area rather than in a served area. The geographical maldistribution of services that occurs in unregulated markets can be seen in the following:

i) Most recent growth of HMS is driven by changes in Medicaid funding. Those states with higher Medicaid funding attract helicopters, i.e. rapid growth in Kentucky and Indiana are recent examples while poor Medicaid funding has resulted in consolidation or closure of helicopter programs seen most recently in Georgia and Kansas.

ii) Growth in the number of helicopters in a state does not guarantee access to all populations; one example is Arkansas where the placement of aircraft base locations follows insurance and payor profiles. The northwest corner of the state and the capitol area has multiple providers while the very poor southeast quadrant of the state has no providers.

iii) Much of the recent growth of services is in areas where there are already helicopters rather than in areas without helicopters. (please see successive generations of the ADAMS database)

iv) Closures of helicopter bases is accelerating and areas of closures tend to occur with low volume and poor payor mixes. The equivalent in other public safety arenas would be to close fire stations in poor neighborhoods.

The state of North Carolina specifically addressed this issue in their findings supporting their Certificate of Need legislation recently struck down by the 4th District Court.

> *"That if left to the market place to allocate health service facilities and healthcare services, geographical maldistribution of these facilities and services would occur and, further, less than equal access to all population groups, especially those that have traditionally been medically underserved would result."*

There is only one system, the Maryland based Shock Trauma / Maryland State Police system that assures full access and equity to patients with basing and numbers of helicopters. It is interesting to note that the opponents of HR978 who have argued for open access to a market have told the state of Maryland that they could reduce system costs by <u>reducing the number of aircraft</u> and privatizing the system.

It is also worth noting that the text cited in testimony regarding Certificate Need legislation based on a legislative study in Georgia as presented by the representative from AMOA at the Congressional Hearings is taken out of context and was a based on a presentation to the panel. Indeed the conclusion of the report noted:

> *"The Commission has been able to reach consensus on a number of ways to improve upon Georgia's Certificate of Need Program. However, sharp disagreement remains with regard to a number of areas of regulation, most notably, regulation of ambulatory surgery centers and free-standing imaging centers.*
>
> *Although the Commission's deliberations have been informed by data, previous research and the experiences of other states, the particular areas of disagreement are linked tightly to the financial operating environment for both physicians and hospitals in Georgia at the present time. For this reason, experiences of other states or at different points in time in which the operating environment was and are different from that experienced by providers in Georgia at present can only provide a certain amount of guidance." 29 December 2006: An Analysis and Evaluation of the Certificate of Need Regulation in Georgia. Final Report to the Georgia General Assembly and Governor Perdue. Executive Summary ES-1 Final Report of the Commission on the Efficacy of the CON Program.*

I would also like to take this opportunity to address a question posed at the hearing from Ranking Member Thomas Petri:

This is a clearly heart-wrenching situation and there is even a broader aspect to it, the loss of life of crew members and passengers is tragic. On the other hand, you are in an emergency situation and someone may be dying in an auto accident or because of heart failure or some other thing that conceivably could be prevented if there was quick action taken.

Is that an aspect of the problem too? Are there cases, do we have any statistics where people could have been saved but the crew or the airline company said, well, we are going to save the equipment and it really wasn't that dangerous, but we are not going to go ahead and do it, and a family has lost their father or their wife or some other thing: How do you balance these sorts of situations is what I am asking.

This is an extremely important question. There is not a single data source nationally although we hope that continued support from Congress of the National EMS Information System will help address this issue.

I can address this question from Maine's perspective. The short answer to the question is that we do know how many people are not served with potentially life taking injury or illness and the number is very small despite assertions that Maine does not have "enough helicopters." The question then becomes how we know the number is small and would we be able to reduce preventable death from injury given another system design in the absence of massive subsidy. From a context perspective:

- LifeFlight of Maine is a private, non-profit organization owned by a consortium of competing healthcare systems and is supported by all of the hospitals in the state.

- The program is operated stand alone and without subsidy.
- The state has invested heavily in IFR infrastructure to support medical and emergency helicopters.
- LifeFlight owns twin engine, full IFR helicopters, with full Night Vision Capability. LifeFlight's aircraft are operated under a contract with a Part 135 Aviation vendor with a bright line between medical and aviation decision making.
- LifeFlight provides the same teams and equipment in ground critical care units.
- Maine, the most heavily forested state outside of Alaska, presents a challenging flight environment with extremes of temperature, mountains, an extensive coast line, hundreds of islands with year round or seasonal population, rapidly developing fog due to the Labrador Current and 90% of public roads classified as rural or wilderness.
- In addition to LifeFlight there are two fixed wing providers of services with geographically distinct bases of operations—one to the islands and one hospital based transport from the northern part of the state. There are 208 EMS agencies providing ambulance services.

System Organization and Regulation:

- Single detailed set of EMS Rules and state wide clinical EMS protocols used by every EMS provider.
- All ambulance providers in the State are required to provide services 24/7 (exception for air medical based on safety) and to identify a primary and secondary geographic area in which they guarantee emergency services. In the case of LifeFlight, the primary service area is the entire state of Maine.
- The state has innovatively supported the wide availability of paramedics and advanced EMT's. 70% of the EMT's and paramedics work for voluntary or call paid services.
- All services must provide a standard patient care record that goes into the state and is linked to motor vehicle crash, outpatient and inpatient hospital discharge statistics, and coroner mortality databases. The standard report has been used since 1979 and Maine is a fully compliant NEMSIS state.
- LifeFlight is overseen by specialist and emergency physicians from across the state and all use data must be publicly reported. Quality assurance data is also provided for external review.
- LifeFlight is full accredited by the Commission for the Accreditation of Medical Transport Services which requires extensive quality and utilization review. (CAMTS)

Population / Need:

There are existing metrics which accurately predict the appropriate need for air medical services in a geographic area based on population, specific diseases / injury, age, and rural square mile coverage. Need is not the same as demand. This needs assessment should drive the planning of numbers and base locations of helicopters.

- Base predicted rate of use per 1000 population:
- Adjust down for urban areas and high speed travel corridors
- Adjust up for Rural Critical Access Hospitals
- Adjust up for extremely rural / frontier areas
- Adjust up for seasonal population changes
- Adjust for mutual aid (New Hampshire, Vermont, and MA)
- Adjust for changes in clinical care, i.e. addition of primary cardiac intervention

Efficiency Ratio measurement:

- The industry standard for efficiency under Visual Flight Operations is 65% of flight requests successfully transported. LifeFlight uses a number of additional measures to improve safety, reliability, and efficiency.
- Fully developed ground paramedic availability with local mutual aid plans. Due to time and distance there is little helicopter mutual aid available from other medical providers, the military, or the USCG.
- A fully developed IFR system including remote fuel systems, hospital helipads, weather stations, and helicopter GPS instrument approaches integrated into the State's aviation master plan. It should also be noted that LifeFlight operates with much more stringent flight minimums than required by the FAA.
- Full IFR operations in aircraft that also incorporate NVG operations. (75% efficiency)
- Full ground critical care services which allow the pilots and medical crews to always have an option for transport if the weather conditions are such to preclude safe flight. (85% efficiency)

System data on potentially preventable death:

- Weather turndowns 4% (Under VFR only operations this was 18%. LifeFlight continues to use VFR weather minimums that substantially exceed FAA requirements under A021
- Weather aborts (aircraft enroute and encounters marginal wx. at or below minimums 1.5%
- Missed efficiency ratio—more requests than aircraft with mutual aid, time to patient, aircraft in maintenance, all assets including ground in use. 3.1%
- Died prior to arrival of helicopter team <1%
- Death prior to arrival in ED via ground <3% estimated for patients in non-traumatic cardiac arrest.

Overall, there are less than 10% of patients that are impacted by non-availability of LifeFlight services and <5% are potentially salvageable with a different system configuration. Providing additional helicopter resources to these patients would require substantial system subsidy likely in excess of $2M annually.

---

[i] 49 U.S.C. 41713(b)(1).

[ii] *See e.g., Hiawatha Aviation of Rochester, Inc. v. Minnesota Dept. of Health,* 389 N.W.2d 507 (Minn. 1986); *Med-Trans v. Benton*, 581 F.Supp.2d 721 (E.D. NC 2008).

[iii] *See* April 23, 2007 letter from U.S. Department of Transportation to Gregory S. Walden, Counsel for Pacific Wings, LLC (Hawaii letter); February 20, 2007 letter from U.S. Department of Transportation to Texas Department of State Health Services (2007 Texas letter); October 10, 2007 letter from U.S. Department of Transportation to Florida Department of Health; June 16, 1986 letter from U.S. Department of Transportation to State of Arizona; November 13, 2007 letter from U.S. Department of Transportation to Albert B. Randall, Esq., Counsel for Med-Trans Corp (North Carolina letter).

[iv] *See* Hawaii letter, at 2.

[v] *Med-Trans*, at 738.

[vi] 2008 Texas letter, at 13.

[vii] Hawaii letter, at 5.

[viii] *Id.*

[ix] Hawaii letter, at 2.

[x] *Med-Trans,* at 737-8.

Gaps, Overlaps, Vagaries and the Chilling Effect on State Oversight of Air Ambulances

Compromising Patient Safety, Quality, Coordination

OVERVIEW

Critically ill or injured patients who require medical transport are among the most vulnerable patients treated in the medical system. Patients who require helicopter medical services (HMS) must be transported safely and receive high-quality critical care during transport to the closest appropriate medical facility as part of a coordinated, integrated EMS and trauma system. Protecting patient health and safety is paramount as care is provided in austere settings and air medical transport -- whether from scene to hospital or during transfer between hospitals -- involves inherent risks.

Medical helicopters are both ambulances and aircraft. The Federal Aviation Administration (FAA) maintains complete governance over the flight safety of direct and indirect air carriers operating medical helicopters. States, however, must have complete governance of medical helicopters operated as ambulances, as long as states do not infringe on federal authority over single system flight safety. Regulatory oversight to protect patient health and safety in all ambulances and coordinate patient care and transport is an essential state responsibility. However, numerous challenges around the nation to long-standing state laws governing air ambulances based on the Airline Deregulation act (ADA) have created enormous gaps in oversight over HMS, a lack of clarity over the degree to which states may regulate, and a chilling effect on state regulators.

While States generally regulate the medical care and equipment provided aboard helicopters, the extent to which they can establish all medically necessary requirements related to patient health and safety is not clear. Further, court cases and Department of Transportation (DOT) letters pursued by a small group of air carriers contesting state oversight have interpreted the ADA to prohibit States from fully regulating helicopter medical services such as by establishing 24/7 availability (weather permitting), primary service areas and hospital destination criteria, and determining the location and number of aircraft necessary to best meet the needs of their citizens. For States to adequately assure public accountability of the air medical system, statutory clarification is warranted to allow existing and future appropriate state oversight of HMS in the best interest of patients.

GAPS -- *State Oversight of Air Ambulance Routes and Services is Expressly Preempted*

The ADA expressly preempts a State from enacting or enforcing laws ***related to*** a price, route, or service of air carriers.[i] Several courts[ii] and the DOT through opinion letters to some states[iii] have interpreted the ADA to preempt state regulation of air ambulance routes and services as prohibited "economic regulation." For example, the DOT letter to Hawaii[iv] found state requirements related to "accessibility and availability" and the state's certificate of need (CON) law to be preempted. As another example, in *Med-Trans v. Benton*, the North Carolina court struck down the state's CON law and invalidated state requirements regarding participation in the North Carolina emergency medical services (EMS) system including obtaining an EMS license, affiliating with an EMS system, and establishing an EMS Peer Review Committee. In finding these EMS-related requirements to be contrary to Congress' mandate in establishing the ADA, the Court recognized the adverse impact of its ruling on North Carolina's EMS system, stating that the Court "is loath to disturb the carefully coordinated state and local EMS systems, and it does not do so lightly."[v]

The result of the broadly preemptive nature of ADA creates a major gap in HMS regulation because states are prohibited from effective health planning and providing rationality as to the number, location and geographic distribution of HMS services. States are unable to regulate air ambulances as they do ground ambulances, ensure patients have coordinated transport, and appropriately oversee air ambulance access, availability, and delivery as part of their EMS and Trauma Systems. The FAA is not authorized to provide system medical oversight as health services are historically a state governance function.

Examples of Dismantled State Laws Governing Air Ambulance Services:

- Requiring 24/7 availability, weather permitting, or defined response times
- Designating bases of operations and service areas to assure adequate and coordinated response and prevent call-jumping (multiple helicopters responding to same scene or hospital) and flight stacking (accepting flight request without available aircraft rather than referring request to another provider)
- Requiring demonstrable need for new or expanded air ambulances
- Determining the number of air ambulances needed within a state or region thereof
- Requiring demonstration of least-cost alternative analysis and non-duplication of services
- Requiring affiliation with a trauma center / system as part of a trauma plan
- Requiring an air carrier operating an air ambulance to provide services to all emergency patients
- Requiring affiliation with EMS system or EMS Peer Review Committee for quality assurance.

While the ADA has been successful in lowering costs and improving services in the general aviation industry, it has not had the same positive effects in HMS. HMS is not driven by traditional aviation economics, but by health care economics. Medical helicopters are not transporting passengers, tourists or goods – they are transporting critically ill patients who do not have a choice of carriage or carrier. As the number of patients who should be transported by medical helicopter in any given region is limited, unregulated competition in HMS is not lowering prices and improving services – it is having the opposite effect. The quality of care, services and aircraft capability are being lowered, healthcare costs and utilization are skyrocketing, and both aviation and patient safety are negatively impacted. Enabling states to fully regulate the coordination and competition of HMS, while maintaining federal aviation oversight must be addressed and clarified by Congress.

OVERLAPS – *Scope of Field Preemption over Medical Requirements Relating to Aircraft is Unclear*

The FAA determines the airworthiness of aircraft and required aviation-related equipment. The FAA does not regulate the medical aspects of air ambulance operations, but such State regulation could be deemed preempted if found by DOT or the Courts to infringe upon flight safety where the FAA has "occupied the field." For example, the DOT letter to Hawaii reiterated that under field preemption, matters concerning aviation safety (*i.e.*, aircraft equipment, operation, and pilot qualifications—all things relating specifically to flight safety) are under the exclusive jurisdiction of the FAA and are field preempted by Federal law. The *Med-Trans* case, and a 2008 DOT letter to Texas[vi] have noted that state regulations serving primarily a patient care objective are properly within the states' regulatory scope. However, the extent to which states may prescribe medical requirements for patient care that relate to the aircraft is not sufficiently clear or defined and such requirements remain vulnerable to field preemption challenges.

Configuration and Attribute Requirements that Relate to the Aircraft. Of significant concern is the lack of clarity concerning whether states may impose medical requirements necessary for the proper provision of critical care that involve the characteristics of the aircraft. The issue is whether a state requirement with a primarily patient care objective remains open to a field preemption challenge if it involves the physical attributes of an aircraft. For example, *Med-Trans* indicated that the State may adopt rules specifying medically related equipment, sanitation, supply and design requirements for air ambulances and that only those regulations governing equipment directly related to aviation safety are field preempted.[vii] As such, the Court upheld a requirement related to the configuration of the aircraft for the provision of patient care. Nonetheless, the Court also struck down a State requirement for tail rotor illumination (not required by FAA), thus posing health risks to patients and medical personnel during nighttime loading/unloading of patients in the rear of the aircraft when the tail rotor is not visible.[viii] The lighting equipment requirement serves primarily a patient care objective (in addition to protecting medical personnel) rather than a flight safety objective (evidenced by the fact that the FAA does not require it as a matter of flight safety). But, because of *Med-Trans*, North Carolina may not impose this requirement. Further, the Court in *Med-Trans* never ruled on climate control as it was not a state requirement at the time of the litigation. This exemplifies the need for clarity. Although climate control has since been added as a state requirement following the litigation, Med-Trans Corporation has recently challenged its validity as field preempted.

Moreover, none of the DOT letters, including the 2008 Texas letter, have explicitly recognized the authority of States to impose requirements related to configuration or physical attributes of the aircraft for the provision of patient care. Thus, there remains lack of clarity as to whether states may impose requirements for the proper provision of critical care that relate to physical attributes of the aircraft.

Examples Aircraft Attributes where Overlap Exists between Patient Health and Flight Safety

- Configuration to allow view of full-body of patient and appropriate access to render critical patient care, and access to medical equipment and supplies
- Climate control to prevent compromise to temperature of patients (*e.g.*, unstable cardiac/neonatal)
- Electrical supply sufficient for certain medical equipment without compromising aircraft power
- Designation of certain space inside air ambulance to enable patient care
- Adequate illumination for tail rotor for night visibility in loading patients
- Second search light with defined minimum candlepower

Equipment Requirements that Relate to Both Patients and the Aircraft. Although the 2008 DOT letter to Texas indicated that states may establish medical equipment requirements,[ix] the letter provided no specificity as to the *kinds* of medical equipment that states may require. The only specificity that the DOT has provided came in the 2007 DOT letter to Hawaii in which DOT indicated that medical requirements "which involve such items as patient oxygen masks, litters, blankets, sheets and trauma supplies" were not preempted. This letter references FAA's plenary authority over the flight safety aspects of medical equipment installation and storage aboard the aircraft, but none of the particular medical items allowed in the Hawaii letter are permanently affixed or relate to the aircraft. They are all loose equipment carried aboard which severely limits the usefulness of the Hawaii letter as guidance in determining the extent to which states may impose specific medical requirements involving equipment that must be fixed or integrated into the aircraft without running afoul of field preemption. As explained further in the Vagaries section below, the same letter further cautions that more expansive medical equipment requirements may not be allowed as indirect economic regulation.

Med-Trans attempted to set forth a test for deciding what medical equipment falls within field preemption. The court implied that equipment requirements that can reasonably be detached from aviation safety and associated solely with EMS are not preempted. However, the Court in *Med-Trans* did not provide any detail about what kind of "medically related equipment" satisfied its test for being reasonably detachable from aviation safety and associated solely with EMS. As a result, uncertainty remains, even after *Med-Trans* and the 2008 DOT letter to Texas, about what kinds of air ambulance equipment requirements the states may impose for patient care, safety and protection.

Examples of Medical Equipment where Overlap Exists between Patient Health and Flight Safety:

- Suction pump is necessary medical equipment, affixed to aircraft, and must be powered by the aircraft's electrical system or vacuum generated by the engines without dependence on device battery power to ensure patient's airway is not compromised while aircraft in flight and on the ground
- Cardiac monitors, ventilators, infusion pumps, which are portable but require sufficient electrical power, primarily from aircraft with battery as back up and not primary source because if the battery fails or loses charge, the device will not function at a critical moment, endangering the patient's health
- Oxygen cylinder is affixed to aircraft, but the amounts of on-board oxygen, consequent system capacity, and refill time needed for missions vary greatly (*e.g.*, due to geography and differential in flight times). Because portable oxygen may be insufficient or drain, there must be sufficient on-board oxygen powered by aircraft to support in-flight patient care and ventilators for critically ill patients.

Given the potential for changes in DOT interpretations and the lack of clarity regarding the appropriate categorization of patient related equipment that must be permanently affixed to or that requires power from the aircraft, statutory clarification is warranted.

Accreditation: Medical care-related accreditation requirements are generally permissible state requirements. However, in DOT's 2007 letter to Texas state officials,[x] it indicated that requiring the accreditation of a body that also sets aviation safety standards (such as the Commission for the Accreditation of Air Medical Transport Systems (CAMTS) or the Airborne Law Enforcement Association (ALEA)) is not permissible. Both CAMTS and ALEA accreditation governs a variety of aspects including some that could be deemed aviation safety. Further, several of those aviation safety related requirements have been ruled federally field preempted such as a state requiring a radar altimeter. Whether a state may require full CAMTS accreditation has been the subject of pending litigation in Colorado, in part based on the cost of compliance with CAMTS requirements. As the case was recently dismissed as moot after the parties settled,[xi] a definitive answer to the issue remains unresolved. Congressional clarification is needed as to what accreditation requirements states may or may not impose to ensure that such requirements related to medical services are not preempted as economic regulation.

VAGARIES – *Examples of When State Medical Requirements May Become Impermissible*

Medical Equipment and Supplies Requirements: Even to the extent that States may impose certain medically necessary requirements without field preemption challenge, such requirements might still be determined individually or in their entirety to constitute expressly preempted economic regulation. For example, the DOT letter to Hawaii indicated that to the extent that an air ambulance must obtain an operating certificate dependent on the State's determination as to "quality, accessibility, availability and acceptability" criteria, they are preempted. The letter indicated that Hawaii may require items such limited patient care items as patient oxygen masks, litters, blankets, sheets and trauma supplies aboard the air ambulance, but also indicated that

> "it is possible that a State medical program, ostensibly dealing with only medical equipment/supplies aboard aircraft, could be so pervasive or so constructed as to be indirectly regulating the preempted economic area of air ambulance prices, routes, or services."[xii]

The scope of medical equipment and supplies deemed permissible in the Hawaii letter was very narrow and leaves open the question as to whether requirements for more comprehensive and expensive equipment are permissible because they "indirectly regulat[e] in the preempted economic area of air ambulance prices, routes, or services."[xiii] For example, state medical requirements relating to the quantity of on-board oxygen and number of oxygen and suction outlets; on-board engine-powered suction; ventilator systems; cardiac and hemodynamic monitors; infusion and cardiac balloon pumps and climate control are costly and thus may be susceptible to challenge as impermissible barriers to entry and thus prohibited on economic grounds.

Quality Requirements: Although States can require compliance with basic sanitation and infection control protocols, it is not clear the extent to which States can implement other quality measures, such as ensuring that critically ill and injured patients are flown by air only when medically necessary and safe to do so. The Hawaii letter specifically found to be preempted the State's determination as to "quality and acceptability" criteria.[xiv] Further, *Med-Trans* ruled that requiring an air ambulance provider to have an EMS Peer Review Committee approved by a county government official is preempted.[xv]

Examples where unclear as to States' ability to regulate quality of patient care and safety:

- Peer review processes
- Error and occurrence reporting systems
- Medical records maintenance
- Utilization review with reporting requirements to state EMS and health authorities
- Medical quality control
- Internal configuration and materials used in the aircraft and all components to be latex free
- Internal configuration and materials of the passenger cabin to allow complete isolation from the pilot and cleaning for infection control of highly resistant bacterial and viral contagions

Medical Personnel Requirements. In the 2007 Texas letter, the DOT indicated that the training and licensure requirements of the medical crew are not preempted. However, the letter cautions that FAA does have some minimum requirements for medical personnel aboard an aircraft acting as flight crew, such that such issues should be raised with the local FAA for their review. Such *ad hoc* review leaves state regulations open to challenge as the lack of clarity as to what is permissible and what is not due to the individual interpretations of standards by FAA principal operations inspectors.

THE CHILLING EFFECT – *Court Cases, DOT Letters Combine to Limit and Chill State Regulation*

The patchwork of DOT opinions and court cases leave states unclear as to the extent to which they may prescribe reasonable requirements related to patient care and safety. Any attempt by a State to regulate the economics of medical helicopters and reign in oversaturation of markets is thwarted by air carriers use of the ADA preemption provision. As noted by Dr. Robert Bass in his testimony before the House Transportation and Infrastructure Aviation Subcommittee, the combined effect is to discourage enactment or enforcement of state regulation for fear of having to defend such regulation against another lawsuit or DOT opinion letter.

THE WAY FORWARD – *Clarifying the ADA to Protect Patients*

Congress has provided the DOT with preemptive authority over matters involving motor carriers that is strikingly similar to the ADA's express preemption in aviation matters. However, there is an exception that allows state regulation of safety of motor carriers.[xvi] Similar statutory relief is warranted for state regulatory authority over matters affecting patient health and safety in connection with air ambulance services. An explicit statutory exception to ADA preemption is necessary because the patchwork of DOT opinions and court rulings do not provide states with a clear picture of what oversight regarding air ambulance services are permissible, and because those areas of state regulation which are clearly preempted by ADA leave critical aspects of helicopter medical services without any effective oversight in the best interests of patients. Clarifying the limit of both Federal and State regulatory oversight of the economic regulation of HMS services, while maintaining exclusive and plenary FAA authority over aviation safety, is possible and in the public interest. As the FAA has identified HMS as a unique aviation endeavor, an exception does not create any broad precedent for other aviation sectors.

6300733_v1

---

[i] 49 U.S.C. 41713(b)(1).

[ii] *See e.g., Hiawatha Aviation of Rochester, Inc. v. Minnesota Dept. of Health*, 389 N.W.2d 507 (Minn. 1986); *Med-Trans v. Benton*, 581 F.Supp.2d 721 (E.D. NC 2008).

[iii] *See* April 23, 2007 letter from U.S. Department of Transportation to Gregory S. Walden, Counsel for Pacific Wings, LLC (Hawaii letter); February 20, 2007 letter from U.S. Department of Transportation to Texas Department of State Health Services (2007 Texas letter); October 10, 2007 letter from U.S. Department of Transportation to Florida Department of Health; June 16, 1986 letter from U.S. Department of Transportation to State of Arizona; November 13, 2007 letter from U.S. Department of Transportation to Albert B. Randall, Esq., Counsel for Med-Trans Corp (North Carolina letter).

[iv] *See* Hawaii letter, at 2.

[v] *Med-Trans*, at 738.

[vi] November 3, 2008 letter from U.S. Department of Transportation to Texas Attorney General (2008 Texas letter).

[vii] *Med-Trans*, at 740.

[viii] *Ibid.*

[ix] 2008 Texas letter, at 13.

[x] 2007 Texas letter, at 3.

[xi] *Eagle Air Med Corporation v. Colorado*, 570 F.Supp.2d 1289 (D.Co., 2008).

[xii] Hawaii letter, at 5.

[xiii] *Id.*

[xiv] Hawaii letter, at 2.

[xv] *Med-Trans*, at 737-8.

[xvi] For example, the preemption provision for motor carriers of property states: "[A] State . . . may not enact or enforce a law, regulation or other provisions having the force and effect of law related to a price, route, or service of any motor carrier . . . with respect to the transportation of property." 49 U.S.C. § 14501(c)(1). Section 14501(c)(2)(A), however, contains an express exception from the preemptive scope of subsection 1 for the "safety regulatory authority" of a state with respect to motor vehicles. *See* 49 U.S.C. § 14501(c)(2)(A) ("paragraph (1) shall not restrict the safety regulatory authority of a State with respect to motor vehicles . . . .")

AIR AMBULANCE REGULATION OVERVIEW

	Federal Express or Field Preemption	Dismantled State Regulations	Lack of Clarity between Federal/State Domains	Apparently Permissible State Regulation	S. 848*/H.R. 978
General Summary	Express preemption of State regulation related to price, route or service, broadly interpreted to invalidate numerous State economic regulations, including those covering: • Rates • Advertising • Scheduling • Insurance • Routing • Accounting and reporting systems • Air ambulance subscription programs Field preemption of airworthiness and minimum standards related to flight safety: • Aircraft certification • Aircraft equipment (*e.g.*, avionics and VHF aircraft frequency transceivers) • Installation/storage of medical equipment aboard the aircraft • Qualifications for pilot and for certain medical personnel acting as flight crew • Weather minimums • Flight operations • Flight safety inspections	Federal law found to preempt public health regulations that, for example: • Specified operating (*e.g.*, 24/7 availability) and minimum response times • Required trauma center affiliation, EMS system affiliation or having in place EMS peer quality review • Designated base of operations, service areas, destinations of patient transport • Required demonstrable need for new or expanded air ambulance services • Limited number of air ambulances within a State/region • Required least-cost alternative analysis/non-duplication Federal law found to preempt state standards relating to aircraft attributes, equipment and training that cannot reasonably be detached from aviation safety, such as: • Safety-related training for medical personnel • Pilot medical training • Prohibition on structural or functional defects affecting safe operation of aircraft • Accreditation by outside body that sets aviation safety standards • Inspection requirements related to aviation safety • Duplicative regulation, even if identical, and independent enforcement	The patchwork of DOT and court opinions does not provide a clear picture of what regulations concerning air ambulances are permissible. Although DOT has indicated that state regulations serving primarily a patient care objective are properly within the states' regulatory authority, DOT has also indicated that a State medical program, ostensibly dealing with only medical equipment/supplies aboard the aircraft, could be so pervasive or so constructed as to amount to indirect regulation of prices, routes, or services which is preempted. Thus, lack of clarity exists as to what point State regulation of public health constitutes impermissible economic regulation. Further, under field preemption, the extent to which states may regulate and the interface between state and FAA rules are both less defined, particularly where the state regulation impacts the aircraft: • Aircraft attributes required for patient safety (*e.g.*, climate control, lighting, configuration to allow access to patient and medical equipment). • Equipment required for patient safety (*i.e.* States may set requirements but may intersect with FAA regulation over affixing of equipment) • FAA maintains no bright line standards and advises states to consult them on a case-by-case basis thus leaving open varying interpretations	DOT, in line with several court cases, has indicated that state regulations serving primarily a patient care objective are properly within the states' regulatory authority including the adequacy of medical equipment, qualifications of medical personnel and the need to maintain sanitary conditions. DOT has opined more specifically that oxygen masks, litters, blankets, sheets and trauma supplies are permissible so long as FAA requirements are met regarding how those items are safely installed and carried aboard aircraft and as long as they do not constitute preempted economic regulation.	Recognizes State authority to regulate intrastate helicopter medical services including by: • Requiring medical licenses • Setting qualifications and training of medical staff • Requiring compliance with health rules such as coordinating patient transport; demonstrating need for new services; determining number and base location of helicopters; affiliating with health care institution; sanitation, infection control, peer review quality control; regulating gifts to referring entities[i]. • Establishing medical criteria for where to transport patients from scene; service-areas, hours of availability (such as 24/7), accreditation regarding medical services;[ii] flight request coordination; and serving all as medically necessary and appropriate but must all be harmonized with and may not infringe FAA operating requirements • Determining necessary medical equipment and aircraft attributes for quality patient care and communications equipment; but regulations must be consistent with and cannot infringe upon Federal operating requirements State health regulations shall not supersede or be inconsistent with any FAA operating rules regarding aviation safety. [iii]

Flight Safety, Flight Operations and Airworthiness Standards	Field Preemption: Aircraft airworthiness and flight safety (Federal Aviation Regulations Parts 91, 135; 2007 TX DOT letter; HI DOT letter; *Air Evac*, *Med-Trans*) Minimum standards for aircraft, pilots and weather minimums (2007 TX DOT letter, *Air Evac*, *Med-Trans*) FAA has plenary authority over aircraft, airmen, airspace, air traffic and operations, and air carriers and other aircraft operators (2007 TX DOT letter, HI DOT letter) Medical personnel acting as actual or possible flight crew (2007 TX DOT letter)	Federal law preempts State law (based on field preemption): • Requiring that any air ambulance shall not have structural or functional defects affecting the safe operation of the aircraft (*Med-Trans*) • Governing equipment or training directly related to aviation safety – VHF aircraft frequency transceivers related primarily to aviation safety (*Med-Trans*) – Requiring a pilot to provide backup medical care (*Med-Trans*) – Requiring medical personnel to be trained in in-flight emergencies specific to the aircraft and aircraft safety (*Med-Trans*)	Regarding field preemption issues, some potential state requirements related to aircraft attributes remain preempted or unclear. The NC Court never ruled specifically on climate control which was not a NC regulatory requirement at the time of the litigation. Further, the NC Court found preempted external aircraft lighting requirements such as tail rotor illumination which is necessary for patient and medical crew safety while loading patients in night time conditions. In all of the examples provided by DOT as legitimate state authority (e.g. medical equipment, staffing and sanitation), the DOT has never explicitly addressed the permissibility of aircraft attribute requirements such as climate control or configuration of the patient compartment for patient care purposes. The Hawaii DOT letter found that state regulation of "quality, accessibility, availability, and acceptability" prohibited by ADA express preemption leaving unclear whether a State can require such attributes as: • Climate control to ensure stable patient body temperature • Amount of electrical supply needed to power equipment • Loading doors of sufficient size for safe patient load/unloading • Patient care area inside air ambulance of certain space • Pressurization impact on patient condition • Distance of patient transport without refueling	In the North Carolina ruling, the Court upheld a general requirement that configuration of the aircraft patient care compartment shall not compromise the ability to provide appropriate care. The Court also held that the State regulation requiring that any air ambulance "shall not have structural of functional defects that may adversely affect the patient, the EMS personnel, or the safe operation of the aircraft" is preempted only to the extent that it prohibits defects affecting the "safe operation of the aircraft." FAA has preemptive control over only safe operation of the aircraft, and not State requirements affecting the patient or EMS personnel. (*Med-Trans*) Vehicle- or equipment-related training undertaken specifically for the purposes of ensuring proper patient care (*e.g.*, training regarding cabin pressurization/altitude physiology) (*Med-trans*)	States may prescribe regulations concerning helicopter physical attributes that are necessary for the provision of quality medical care by helicopter medical personnel, such as climate control systems; configuration that allows adequate access to the patient, medical equipment and medical supplies; use of materials in the helicopter that are appropriate for proper patient care; sufficient electrical supply to support medical equipment; and the ability of the helicopter to transport a patient a certain distance without refueling within the State[b] but regulations must be consistent with, and may not supersede[c] or infringe upon, any Federal operating requirements. A State also may prescribe regulations concerning helicopter physical attributes that are necessary to protect helicopter personnel, ground medical personnel, and emergency response personnel and to ensure that the helicopter has no structural or functional defects that may adversely affect such personnel (such as tail rotor illumination for loading patients at night or external search lights), but such regulations must be consistent with and may not supersede or infringe upon FAA operating requirements.

Equipment	Equipment that cannot reasonably be detached from aviation safety and associated solely with EMS is field preempted (*Med-Trans*; HI DOT letter) Safety aspects of medical equipment installation and storage aboard aircraft (*e.g.*, to prevent shifting of heavy equipment in flight, which could cause an abrupt and dangerous change in the aircraft's center of gravity) are field preempted (2007 TX and HI DOT letters)	Federal field preemption of State requirements relating aviation safety measures, such as flight equipment requirements that cannot reasonably be detached from aviation safety and associated solely with EMS. For example: • a light which illuminates the tail rotor; • two 360-channel VHF aircraft frequency transceivers; • one VHF omnidirectional ranging (VOR) receiver; • attitude indicators; • one transponder with 4097 code, Mode C with altitude encoding; • turn and slip indicator in the absence of three attitude indicators; • current FAA approved navigational aids and charts for the area of operations; • radar altimeter; • Satellite Global Navigational System; • Emergency Locator Transmitter (ELT); • a remote control external search light; • a fire extinguisher; and • survival gear appropriate for the service area and the number of occupants (*Med-Trans*)	The NC ruling recognized the permissibility of state regulation regarding medical equipment, and the DOT recently stated its agreement with the NC ruling in its 2008 letter to Texas. However, several areas of concern remain. First, the most specificity as to what *kinds* of medical equipment DOT has explicitly found permissible came in the Hawaii letter and was extremely limited -- oxygen masks and trauma supplies, litters, blankets are permitted. Second, DOT also qualified in the Hawaii letter that a state medical program, ostensibly dealing with only medical equipment/supplies aboard aircraft, could be so pervasive or so constructed as to indirectly regulate the preempted area of air carrier economics -- prices, routes, or services. Thus, it is unclear where the line falls such that State requirements for expensive medical equipment may constitute a barrier to market entry prohibited by express preemption. Examples of expensive but medically necessary equipment: • Quantity of on-board oxygen, number of oxygen and suction outlets (as opposed to just oxygen "masks") • On-board engine-powered suction (versus a. portable unit that depends on batteries) • Ventilator system • Cardiac monitors • Infusion pumps • Intra aortic balloon pumps	The NC Court found equipment requirements that can reasonably be detached from aviation safety and associated solely with EMS to be permissible including medical-related equipment, sanitation, supply and design requirements for air ambulances and inspection for compliance with these medically-related regulations, and two-way radio for medical communications with various public safety entities and internal communications between flight and medical crew in order to facilitate patient care (*Med-Trans*). DOT has also indicated that states may regulate medical equipment requirements (2008 TX letter). DOT validated Hawaii's requirements for patient oxygen masks, litters, blankets, sheets, and trauma supplies, so long as FAA requirements are met regarding installation, storage and carriage aboard aircraft. However, the letter further qualified that equipment requirements could be so pervasive as to indirectly regulate price, route or service (HI DOT letter).	States may require a medical helicopter providing intrastate services to be properly equipped: • to facilitate quality medical care such as requiring certain medical equipment and supplies and access thereto necessary to the care of a patient in transit (*e.g.*, medical oxygen, ventilator); • to communicate with ground emergency responders or a receiving trauma center • to permit the medical team to communicate with the flight crew (Analogous requirements are commonly applied to ground ambulances.) Such medical and communications equipment requirements must be consistent with and may not supersede[vi] or infringe upon applicable Federal operating requirements.

Coordination of Air Ambulance Services as Part of State Public Health Planning	Express preemption of State laws and regulations that have a connection with prices, routes, or service at least where the state law has a significant impact on those prices, routes, or services (*Med-Trans et al*)	Federal law preempts State regulation of economic matters including rates, advertising, scheduling, routing, or when and where air ambulances may fly even when transportation is solely intrastate (2007 TX DOT letter; *Med-Trans*). Express preemption prohibits State requirements to establish public need for a service and other criteria including "quality, accessibility, availability, and acceptability". (HI DOT letter). Economic requirements found to be preempted: • Affiliation with an EMS system; obtaining a franchise where relevant; an EMS Peer Review Committee; and local official endorsement, which might preclude an air carrier from operating within a State. (*Med-Trans*) • Demonstration of need via CON, PC&N, and other equivalent laws (*Med-Trans et al*; FL, AZ, HI, NC DOT letters) • Establishment of local support, documentation of the population to be served, showing whether adverse effects on existing providers, whether costs commensurate with benefits or other alternative was proposed, whether proposed service will not result in duplication of existing or approved services (*Med-Trans*)	State public health/economic regulation that affects air carriers are best reviewed on an *ad hoc* basis. (2007 TX, AZ DOT letters)	State law, which has merely tenuous, remote or peripheral impact on prices, routes or service (*Med-Trans*). Documentation of a provider's plan for ensuring that patients will be transported to an appropriate medical facility in the event of a diversion or a bypass is permissible. (*Med-Trans*)	States may require intrastate helicopter air ambulance services providers to comply with State laws related to health care planning and coordination of services. Such requirements may include: coordination of interrelationships, interaction, and agreements among providers of helicopter medical services, other EMS and medical transport services, referring entities, and hospitals that receive patients transported by helicopter[vii]; demonstration of adequate capacity and the need for new or expanded services including through CON, PC&N or equivalent State regulatory schemes; determinations as to the number and base locations [viii]of helicopters within the State or region thereof or the regulation of competition for specific markets within the State; affiliation with health care institutions; sanitation and infection control protocols; medical records requirements; quality of medical care requirements, including participation in patient safety and medical quality control efforts such as peer review processes, utilization review, and error reporting; and regulate the proffer of gifts of monetary value (other than training or educational programs) to referring entities or their personnel[ix].

Provision of Ambulance Services	Express preemption of air carrier routes and services (*Med-Trans et al*)	Federal law expressly preempts States from requiring or regulating: • Defined service areas and routes (*Med-Trans*) • Base of operations, operating and response times (AZ DOT letter) • Service to all patients (TX DOT letter 2008) • 24/7 service availability (*Med-Trans*; HI DOT letter), 24/7 telephone answering capability and 24/7 availability for pilot, medical personnel and a physician—to the extent they require equipment and flight crew capabilities that are different from those needed for FAA approvals because the requirements "relate to" an air carrier "service" and because they intrude on regulations and operations specifications for aircraft and crew operations, which are within plenary authority of FAA (HI DOT letter).	See Note 1 (below).	Written plan for transporting patients to appropriate facilities when diversion or bypass plans are activated is not preempted because too tenuous (*Med-Trans*)	States may require air ambulance providers to obtain medical license for the provision of helicopter medical services between locations within the State and prescribe regulations relating to the provision of such services.[x] States may prescribe regulations relating to the provision of helicopter medical services as to the establishment of appropriate medical criteria for determining the appropriate medical institution to receive a patient being transported form the scene[xi] at which the patient's injury or accident occurred; the specification of service requirements as to geographic areas within the State or during specified hours and days; the coordination of flight requests; the compliance with accreditation requirements regarding medical services; and the provision of services to all persons for whom such services are medically necessary and appropriate but any such State requirements must be harmonized with, and not infringe upon, Federal aircraft operating requirements. States shall establish, as necessary, regulations or negotiate mutual aid agreement with adjacent States or providers of helicopter medical services in adjacent States to ensure access to helicopter medical services across State borders.[xii]

Quality of Services	Express preemption of air carrier services (*Med-Trans et al*)	DOT asserts that preemption prohibits State requirements as to quality, accessibility, availability, and acceptability. (HI DOT letter) Federal law also preempts licensure requirements that include an EMS Peer Review Committee which might preclude an air carrier from operating within a State (*Med-Trans*)	The extent to which quality of services can be regulated and its meaning are ambiguous as DOT is unclear as to effect of preemption on medical requirements which relate to quality and acceptability. It is also unclear as to whether a State can require: • Peer review • Error and occurrence reporting • Medical records maintenance and retention • Utilization review • Medical quality control	State may promulgate standards for maintenance of sanitary conditions (*Med-Trans*; *Hiawatha*, 2008 DOT TX letter) Regulation of medical services provided inside the air ambulance. (2007 TX DOT Letter)	States may require that air ambulance providers comply with sanitation and infection control protocols; medical records requirements; or other quality requirements such as participation in patient safety and medical quality control efforts, peer review, utilization review and error reporting systems.
Accreditation	Aviation safety standards (2007 TX DOT letter).	Federal law preempts State requirement for accreditation by outside body (*e.g.*, CAMTS) that sets aviation safety standards. (2007 TX DOT letter)	Whether States can require CAMTS accreditation, even just related to medical services, appears unclear as it was challenged on economic grounds in the *Eagle case* (now moot because parties settled; case dismissed).	Accreditation requirements dealing exclusively with medical care are permissible. (2007 TX DOT letter)	States may require air ambulance providers to comply with accreditation requirements regarding medical services, except where such requirements infringe upon relevant Federal operating requirements.[xiii]
Personnel Qualifications and Training	Minimum standards for pilots (2007 TX DOT letter; HI DOT letter) Requirements as to medical personnel when acting as flight crew (HI DOT letter)	Federal law preempts: • Medical qualification standards for pilots (*Med-Trans*) • Requirement for a helicopter pilot to provide backup medical care for EMS personnel (*Med-Trans*) • Training in in-flight emergencies related to a specific aircraft and aircraft safety (*Med-Trans*)	State training and licensure requirements of medical personnel may be permissible with caveat that because FAA has minimum requirements for medical personnel acting as flight crew, not reducible to bright line standards so should be checked with local FAA (2007 TX DOT letter).	Qualifications of medical personnel and staffing requirements (2008 TX DOT letter). Requirement that an ambulance be staffed by at least two medical personnel (as long as no requirements on pilot), vehicle- or equipment-related training undertaken specifically for the purposes of ensuring proper patient care (to include training regarding cabin pressurization of a specific aircraft as it relates to specific medical conditions) are all permissible (*Med-Trans*)	States may require medical personnel aboard air ambulances providing intrastate services to meet certain qualifications relating to their medical skills (*e.g.*, training and certification, continuing education). Such requirements are commonly applied to personnel in ground ambulance services, ordinarily on a tiered basis (*e.g.*, Basic Life Support, Advanced Life Support Level I, *etc.*). The legislation does not allow a State to impose such medical training requirements upon an FAA-licensed pilot.

Insurance and Bonding Regulation	Air carrier liability insurance for injuries, death and/or property damage to third parties caused by the crash of an aircraft (2007 TX DOT letter); federal aircraft accident liability insurance is pervasive, fully occupying the field, such that a State may not even ascertain or enforce independently whether the federal requirements are being met (HI DOT letter)	Federal law preempts State regulations concerning: • Certification and bonding requirements (AZ DOT letter) • Duplicative insurance requirements (2007 TX DOT letter)	If the State requirement requires insurance covering other perils, the issue would have to be addressed on a case-by-case basis (2007 TX DOT letter)	Malpractice insurance for emergency medical technicians or other medical professional staff (2007 TX DOT letter)	The legislation does not provide the States the ability to regulate insurance or bonding
Rates	Express preemption of air carrier rates (Med-Trans et al)	Federal law preempts State regulation of rates (AZ DOT letter) including the reasonableness of the cost of the service (HI DOT letter), and subscription/membership programs (2008 DOT letter) See Note 2 (below).			The legislation does not enable state regulation of rates and it does not address subscription/membership programs.
Other Limitations as to State authority[xiv]					All State health-related regulations shall not supersede or be inconsistent with any Federal operating requirement as to aviation safety.[xv] If a helicopter medical services provider is licensed in more than one State, and the States have inconsistent regulations, the provider must comply with the most stringent of the regulations. A State may not delegate its authority over medical equipment, aircraft configuration or communications equipment to a political subdivision of the State.

* Tracks legislative text of S. 848, which reflects changes to accommodate DOT and FAA concerns. Differences from legislative text of H.R. 978 are noted.

Notes:

1. In Maryland, the Attorney General's Office has indicated that a proposed State regulation to require determination of safety and appropriateness of a helicopter landing ("clearance") for patient transport would not be preempted to the extent that the proposed regulation is concerned only with the safety of flights and health of patients. For example, clearance decisions would be permissible if based on, for example: (1) medical necessity for helicopter transport; (2) nature of the scene; (3) personnel present at or en route to scene; and (4) equipment, including vehicles, present at or en route to scene. But, if the determination is based on considerations of economic competition, it would be preempted. (Letter from Richard E. Israel, Assistant Attorney General of Maryland, to John J. Hafer, Maryland State Senator, dated April 11, 2002 ("MD AG Letter"))
2. In Maryland, the Attorney General's Office has opined that federal preemption prevents the State from requiring that air ambulance service must be provided without regard to patient's ability to pay and without charge to State or local government. (MD AG Letter)

Sources Cited:

November 3, 2008 letter from U.S. Department of Transportation to Texas Attorney General ("2008 TX DOT letter")
February 20, 2007 letter from U.S. Department of Transportation to Texas Department of State Health Services ("2007 TX DOT letter")
April 23, 2007 letter from U.S. Department of Transportation to Pacific Wings, L.L.C., regarding Hawaii CON requirements ("HI DOT letter")
Med-Trans v. Benton, 581 F.Supp.2d 721 (E.D. NC 2008) ("*Med-Trans*")
Air Evac v. Robinson, 486 F.Supp.2d 713 (M.D. TN 2007)) ("*Air Evac*")
June 16, 1986 letter from U.S. Department of Transportation to State of Arizona ("AZ DOT letter")
Eagle Air Med Corporation v. Colorado, 570 F.Supp.2d 1289 (D. Co., 2008) ("*Eagle*")
May 23, 2007 letter from U.S. Department of Transportation to Texas Department of State Health Services ("Second TX DOT letter")
Hiawatha Aviation of Rochester, Inc. v. Minnesota Dept. of Health, 389 N.W.2d 507 (Minn. 1986) ("*Hiawatha*")
Rocky Mountain Holdings, LLC v. Cates, 97-4165-CV-C-9(W.D.MO), September 3, 1997
Baptist Hospital, Inc. v CJ Critical Care Transportation Systems of Florida Inc., CV-07-900193, Cir. Ct. Montgomery Co. AL, July 31, 2007.

6254007_v4

---

[i] S. 848 has a new definition for the term "referring entity," which means any entity that dispatches or provides a referral for a provider of helicopter medical services, such as a medical institution, an agency providing emergency medical services, or a first responder.
[ii] S. 848 more clearly authorizes States to prescribe regulations concerning accreditation requirements for medical services.
[iii] S. 848 includes this new subsection (b) make explicit that State health-related regulations cannot supersede or be inconsistent with Federal operating requirements involving aviation safety.
[iv] New in S. 848. H.R. 978 does not contain a similar provision.
[v] S. 848 includes a new subsection (b) make explicit that State health-related regulations cannot supersede or be inconsistent with Federal operating requirements involving aviation safety.
[vi] Ibid.
[vii] H.R. 978 requires only coordination between emergency medical services providers, receiving institutions, and other medical transport service providers.
[viii] H.R. 978 does not provide authority for states to regulate base locations.
[ix] New in S. 848. H.R. 978 does not contain a similar provision.
[x] S. 848 more clearly gives States the authority to require helicopter medical services providers to obtain medical licenses and to prescribe regulations governing those services.
[xi] New in S. 848. H.R. 978 permits States to regulate only the designation of destinations for emergency patient transport.
[xii] New in S. 848. H.R. 978 permits mutual aid agreements, but does not include an obligation on the States to negotiate mutual aid agreements to ensure cross-border access to the helicopter medical services.
[xiii] S. 848 makes it clear that accreditation may only be required as to medical services but that such requirements may not infringe on FAA requirements.
[xiv] New in S. 848. H.R. 978 does not contain similar provisions.

[xv] S. 848 includes this new subsection (b) make explicit that State health-related regulations cannot supersede or be inconsistent with Federal operating requirements involving aviation safety.

6254007_v4

Testimony of

Ms. Sandra Kinkade, RN, MSN, MBA, CMTE
President
Association of Air Medical Services (AAMS)
526 King Street, Suite 415
Alexandria, Virginia 22314-3143
Telephone: 703-836-8732
Web page: www.aams.org

Before the
Committee on Transportation and Infrastructure's Subcommittee on Aviation

On the
Oversight of Helicopter Medical Services

April 22, 2009

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

---

[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)

---

[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.

TESTIMONY ON

OVERSIGHT OF HELICOPTER MEDICAL SERVICES

PROFESSIONAL HELICOPTER PILOTS ASSOCIATION
(PHPA),
OFFICE OF PROFESSIONAL EMPLOYEES
INTERNATIONAL UNION (OPEIU)

BY

MR. JEFF STACKPOLE, COUNCIL MEMBER FOR PHPA

BEFORE

THE SUBCOMMITEE ON AVIATION OF THE
TRANSPORTATION AND INFRASTRUCTURE COMMITTEE

U.S HOUSE OF REPRESENTATIVES

WASHINGTON, DC

APRIL 22, 2009

Professional Helicopter Pilots Association
354 South Daleville Ave.
Daleville, AL 36322
(334) 598-1031

PROFESSIONAL HELICOPTER PILOTS ASSOCIATION

Office and Professional Employees International Union
AFL-CIO

Recommendations to Congress on Helicopter Emergency Medical Services (HEMS) Operations

April 17, 2009

The Professional Helicopter Pilots Association (PHPA) has a membership of over 4,000 helicopter pilots around the United States and Canada, over 1,500 of which are active HEMS pilots.

While there is no inexpensive easy fix to the issue of HEMS safety, solutions to well known problems do exist. If helicopter safety in the United States is to approach the level of airline safety, the model has only to be copied. Equipment, training and support systems must be brought up to the levels that have resulted in such visible improvements to airline safety over the past several decades. Airline equivalent safety records have been obtained in other countries, most notably Canada, where there has not been a fatal HEMS accident in over three decades.

PHPA recognizes that there is significant financial cost to any change in current equipment provisions or practices; and every effort has been made to temper our desire for immediate improvements with the practical realities of the HEMS business. Yet there is a cost in maintaining the status quo, and we believe that cost, one measured in lives lost and confidence destroyed in the system, to be far higher. Furthermore, responsible operators trying to do right by voluntarily adopting safer aircraft and practices are placed at a competitive disadvantage by those looking for ways to operate at the margins.

The general public usually does not have a choice in selecting the equipment or the operator that will transport them, or a member of their family, in a situation requiring a HEMS flight. Where choice over matters of health and welfare are restricted, government has traditionally stepped in to insure that an adequate level of safety is provided. Even when choice is available, in matters of public transportation the government has always taken an active role in establishing minimum equipment requirements and safe operating practices, and modified those requirements as necessary to address changes within the industry.

It is our contention that relying on voluntary compliance for essential equipment and practices will only result in a continuation of the status quo.

The recommendations below address both immediate requirements and long term goals. They represent the combined concerns of professional career pilots who want the tools to go along with the responsibility for insuring that every flight is brought to a safe and successful conclusion.

I. AIRCRAFT RELIABILITY:

1. Maintenance:

   Recommendations – PHPA is currently monitoring the efforts of the International Helicopter Safety Team (IHST) to see if their recommendations in the maintenance field are sufficient to warrant the confidence of our membership.

II. PILOT RELIABILITY:

1. Training:

   Recommendations – Total pilot flight hours and experience outside the HEMS segment do not represent the best measure of a pilots' suitability for this work. The amount of pre-employment training that should be provided depends to a large degree on whether or not the new employee will be immediately flying HEMS flights as a single pilot, or as part of a crew under the tutelage of an experienced HEMS pilot. Since there are presently very few two-pilot HEMS operations in the United States, PHPA believes that better guidelines for new HEMS pilot training are needed to ensure that solo pilots are properly prepared for the job. These guidelines should be developed considering the amount of single pilot experience, night experience, and experience in aircraft type along with other appropriate factors so as to arrive at a template for training based on the individual pilots' needs, as opposed to "cookie cutter" training programs that vary from operator to operator.

   Beyond new employee training, better guidance for routine refresher training in perishable skills is needed. Such training should go beyond simple emergency procedure training and use realistic HEMS scenarios that have specific training objectives. These training flights would ideally be performed several times per year in the same type aircraft and location that the pilot normally flies. However, due to the high cost of such training, similar training conducted in a modern, high fidelity flight simulator representing the type of aircraft normally flown and programmed to the pilots' home location would be an acceptable substitute.

2. Crew Rest:

   Recommendation - Incorporate recent white paper on the subject as the basis for an industry wide standard which includes training on dealing with fatigue in the HEMS community.

3. Safety Motivation:

   Recommendation - Require all operators institute a Safety Management System that goes beyond documents and lip service and makes safety the top priority of the

organization. Establish an ISO-9000 equivalent structure to set standards and certify that operators have true "buy-in" at the Senior Executive level. This could be accomplished by industry with insurance company negotiated benefits for those found to be in compliance, and regulatory penalties for those who are not.

SUPPORT SYSTEMS:

Primary Support Systems

1. Night Vision Goggles or Night Vision Imaging System:

   Recommendation - Require one of these systems be onboard and functioning in each aircraft in the current HEMS fleet as quickly as equipment can be purchased, aircraft modified and crews trained. Restrict noncompliant aircraft to day-only flight beyond mandatory implementation date of 24 months.

2. Helicopter - Terrain Awareness and Warning System (H-TAWS):

   Recommendation - Require installation in the current HEMS fleet within 36 months, with equipment based on the FAA's recently published TSO. Require on all HEMS aircraft purchased for replacement or expansion.

3. Wire-strike Protection System:

   Recommendation - Require installation in the current HEMS fleet where systems exist for individual models. Require on all HEMS aircraft purchased for replacement or expansion.

4. Color Moving Map GPS:

   Recommendation - Require installation in current HEMS fleet within 18 months.

5. Flight Data Recorder / HUMS:

   Recommendation - Require installation in current HEMS fleet within 48 months to include cockpit voice recorder and instrument monitoring through video (as a minimum) where full flight parameter monitoring on legacy aircraft is not practical. Data developed should be used pre-accident for refresher training as part of a FOQA program.

6. IFR Certified Aircraft

   Recommendation - Require replacement or expansion aircraft to meet full IFR certification. Within 60 months, restrict non-compliant VFR aircraft to day-only flight.

7. Two Pilot Crews:

   Recommendation - A two pilot crew is likely the single most effective tool available to reduce human error accidents. It should be the standard for most operations, particularly those conducted at night into unprepared landing sites. While not a substitute for a second pilot, a functioning auto-pilot should be required for all single pilot HEMS flights.

8. Multi Engine:

   Recommendation - Require replacement or expansion HEMS aircraft to meet ICAO Category A, Class 1 or 2 requirements.

Secondary Support Systems

1. ASAP & FOQA Programs:

   Recommendation - PHPA supports the implementation of non-punitive ASAP & FOQA programs that encourage pilot participation and reporting of safety related issues. A well designed and managed program can provide pilots with invaluable feedback to improve overall safety performance.

2. Weather Reporting:

   Recommendation - The FAA and the National Weather Service should secure increased funding to place fully capable automated weather observation platforms in locally identified problem weather areas shown to impact safe HEMS operations. Information from these sites should be available to pilots both pre-flight, and during flight.

3. ADS-B

   Recommendation – The FAA has been very slow in developing and funding the implementation of this system. It is particularly useful to low flying helicopters and will help provide separation between other air traffic as well as improve communications. Congress should insure adequate funding is available for this system and provide oversight on the FAA to insure the program moves along at a reasonable pace.

4. Flight Dispatching / Customer Interference:

   Recommendation – Any pressure applied to a pilot to accept a flight, whether overtly or covertly applied, will continue to have a negative impact on safety. The FAA must be more aggressive in ensuring that the operational control vested with the HEMS certificate holder is not in any way violated or undermined.

PROFESSIONAL HELICOPTER PILOTS ASSOCIATION

Office and Professional Employees International Union
AFL-CIO

April 17, 2009

ACHIEVING SAFER HELICOPTER OPERATIONS

The safe operation of helicopters is the function of three things: Aircraft Reliability, Pilot Reliability, and Support System Availability.

I. AIRCRAFT RELIABILITY: Requires two things: sound engineering, and proper maintenance.

Engineering: The vetting process for aircraft manufacturing is well established and for the most part results in aircraft that are fundamentally safe. New designs incorporate lessons learned from the past and new aircraft, once they are properly field tested, are steadily gaining in reliability. This part of the industry is highly regulated and all manufacturers must adhere to strict, standardized requirements.

Maintenance: The weak link in the aircraft reliability chain is maintenance. Aircraft maintenance is expensive. Helicopter components are particularly subject to high stresses and many expensive parts must be replaced routinely. In addition, aircraft undergoing maintenance are not generating revenue. Some operators, seeking to hold down costs, delay making repairs until absolutely forced to. Pilots who refuse to fly aircraft with equipment problems are sometimes branded complainers and risk disciplinary action.

Qualified mechanics are in short supply and industry does not seem to be providing the compensation packages and working conditions to entice enough talented people into the field. Even airlines are increasingly outsourcing maintenance to offshore operations where costs are lower, but standards are suspect. While not yet a major issue causing accidents in the helicopter industry, the quality of aircraft maintenance is a weak point in the aircraft side of the system as it does not have the safeguards that exist in the manufacturing side of the industry. This entire segment warrants additional review.

II. PILOT RELIABILITY: Requires a pilot who is well trained, well rested and properly motivated.

"Pilot Error" is a term that is well known, but poorly understood by the public. Pilots make errors for reasons that are well known and mostly preventable.

Training: Can be divided into two parts, Initial Pilot Qualification (along with the experience gained prior to assuming responsibility for a particular type of operation); and Specific Job Training (along with ongoing refresher training while employed in a particular type of helicopter operation).

Unlike airline piloting, where the differences between jobs simply involves becoming familiar with a different aircraft and routes, helicopter piloting jobs vary widely in scope and complexity. A highly experienced and skilled off-shore pilot is not necessarily a good candidate to put in command of a HEMS (Helicopter Emergency Medical Service) flight, even if the helicopter is the same make and model.

Initial helicopter pilot qualification takes two forms: civil training and military training. Both have their strengths and weaknesses. Suffice it to say both systems produce pilots capable of safe operations. The experience they gain and the training they receive AFTER they get their license is far more important than the type of flight school that they attended to earn their wings.

Experience is an important teacher, but not all experience is equal particularly in operating helicopters. A pilot who is highly experienced operating a two pilot, large sophisticated twin engine helicopter under instrument flight rules (IMC) over water is cannot be considered experienced or safe if placed in a single pilot situation operating a small basic helicopter under visual meteorological conditions (VMC) at night over mountainous terrain.

Even with the best of training, pilot proficiency in seldom used skills deteriorates rapidly. The established minimum standards for keeping pilots current in critical skills are insufficient. Operators must therefore determine what if any additional training they will provide. Cost-benefit determinations are often arrived at which have far more to do with cost than benefit. Airlines, whose pilots do the same things day after day, spend more time and effort on refresher training than do virtually any helicopter operators whose pilots can find they are dealing with situations they haven't seen in years. While refresher training is likely as important as initial job qualification training in accident prevention, it often receives far less attention from operators.

Crew Rest: Well trained and experienced pilots make mistakes if they are not properly rested. The regulatory environment addressing both fixed wing and rotary wing crew rest is fundamentally flawed and in need of revision.

Much of the responsibility is currently placed on individual pilots to insure that they are rested before accepting a flight. But work schedules often place pilots in situations that are guaranteed to result in fatigue. A fatigued pilot is less capable of dealing with high workload situations in the cockpit. Yet a pilot who refuses to fly because he or she is tired risks a reputation for being unmotivated or lazy at best, and discipline or loss of employment at worst.

Many operators keep pilots on duty schedules that bump right up against the maximum permitted by the FAA, and these limits were never based on scientific study. No one can argue that many "pilot error" accidents resulted from pilots who were simply too fatigued to deal with the situation in which they found themselves. Yet fatigue, leading to poor decisions in flight, seldom leaves a calling card to be read by accident investigators. The final report will simply read "pilot error".

The most effective way to deal with the whole subject of fatigue and distractions is to have a second pilot on board the aircraft. The most important part of having a second pilot on board is the likelihood that if one human is about to make a mistake, the other human will catch it in time to prevent an incident or accident. Since 70% to 80% of accident reports cite the pilot as at least a contributing factor, pilot reliability obviously needs improvement and the best method available to achieve that is redundancy.

Safety Motivation: All pilots are supremely confident in their own ability. It's a prerequisite for the job. People who are hesitant or unsure of themselves never make it past initial flight training.

Such confidence can be counterproductive. It causes pilots to ignore warning signs (internal and external) because they believe that "they can handle it". As a result, some pilots may fly tired, or in unsuitable weather, or accept aircraft that have maintenance problems.

Most operators would take offense to an accusation that they place profit before safety. Yet they constantly talk about tight budgets, high costs, and the need for every revenue flight. Some HEMS operations even post signs in the pilots ready room listing the number of flights needed to make budget for the month, counting down as each flight is completed. Such practices are an unrelenting pressure on the pilot to fly, even when he feels it is not safe to do so.

This is the dirty little secret of aviation. Outsiders wonder why the pilot, the final authority over the safe operation of the aircraft, would do something that he/she had to know was risky. Perhaps it was lack of proper training, or fatigue, or inadequate equipment - but all too often it just might be a pilot trying to keep his employer happy, and keep his job.

Helicopter safety ultimately is determined by the safety culture of the organization. If pilots know that their job will be in jeopardy if they do not place safety above all else, those pilots will be motivated to be cautious pilots. The pressure to fly, to accept every revenue generating opportunity, must be removed from the pilot, so that they are motivated to fly safely by those who provide them with the opportunity to do what they love to do.

A properly designed and executed Safety Management System can be very effective in improving the safety culture of an organization, and it will be discussed more in the following section.

III. SUPPORT SYSTEMS: Refers to issues ranging from onboard support systems for the type of operation desired, to ground support systems such as proper dispatching, air traffic control and weather observations/forecasts.

Onboard Support Systems: Those following the concerns over the HEMS accident rate are familiar with calls for better onboard equipment, ranging from Night Vision Goggles (NVG) and Terrain Awareness and Warning System (TAWS) to Multi-Engine helicopters. Onboard equipment is no more than the tools to be used by the pilot. Not all flights need the same tools to make the flight easier or safer. But all too often, critical tools are not made available to the pilot, and the job becomes much more difficult and subject to increased risk.

The most conscientious humans have sensory limitations and are error prone. Properly designed equipment utilized by properly trained people can help reduce errors. Consider that the most widely used turbine powered helicopter in the country first flew in 1967 and with few exceptions, the equipment currently available in HEMS helicopters in use today does not differ greatly from what was available in that early model. By comparison, consider an automobile built in 1967 and the equipment differences between that and the 2009 model. Most parents would not let their teenage child drive a car without airbags and anti-lock brakes. Yet that same child, following an accident, might be placed in a medical helicopter that is lacking the aviation equivalent to these technological safety advancements.

Pilot calls for modern equipment are too often met with the oft repeated financial concerns from owner/operators. Yet some types of flights simply require a certain level of equipment sophistication to reach a reasonable expectation of a successful conclusion. One example is the routine operating of HEMS aircraft in situations where un-forecast instrument conditions can be encountered, but not requiring that those aircraft and crews to be certified and competent to fly IFR. Regulations specifying required onboard equipment need to catch up to the equipment manufactures who are producing some very useful tools, and the requirements should be tailored to the type of operation anticipated.

While proper tools are important to safe flight, the most significant onboard support system to flight safety is a second qualified pilot. The significance of a second pilot to offset fatigue and personal distractions has already been addressed. Having a second pilot seat also helps rectify the training issues mentioned earlier. Pilots new to a type of operation such as HEMS can gain experience under the tutelage of a pilot experienced in those operations. Beyond these concerns, a second set of eyes and hands are invaluable when the workload starts to increase due to deteriorating weather, changes to the flight plan, or onboard malfunctions.

Operators will insist that a second pilot is just too expensive. Even some pilots will argue that "they can handle it" solo and don't need a co-pilot. But the simple truth is that the single most effective way to improve safety in the helicopter industry is to require two pilots on board the helicopter. That is the requirement in Canada, where they have an outstanding HEMS safety record with no fatal accidents in over 30 years. Closer to home, many forward thinking oil producing companies have started requiring two pilot aircraft to transport their workers to off-shore platforms. They must know something.

Ground Support Systems: The most important ground support system is a safety culture in the organization that operates the aircraft. If the certificate holder makes safety a real priority and not just a slogan, the rest of the organization will follow. The formalized way to accomplish this is with a Safety Management System.

Unfortunately, many managers are far more concerned about controlling expenses. Everything about aviation operations is expensive. New helicopters cost many millions of dollars, they are expensive to maintain and operate. Pilots want fair compensation for the years of training they have obtained and the high cost in dollars or years of military service they spent obtaining that training. Pilots also want the best equipment, and good equipment is expensive.

Operators who truly want to do the right things (as most do) face a competitive disadvantage from those who try to operate on the cheap. How can an operator buy the latest twin engine design with all the latest tools, pay for two pilot operations and compete against another operator who buys a used single engine airframe designed over 40 years ago and puts a young hungry pilot alone at the controls? Yet this is the history of this industry.

There is an expectation from the public that if they pay for air transportation, the government is making sure that the aircraft and their operation are safe. We expect to be able to get on any airliner and safely get to our destination. We should be able to expect the same when we get on board any helicopter. Unfortunately, we are not at that point in this industry, and the situation is even worse for HEMS as the public often does not have a choice whether or not they even want to be transported, much less who the carrier will be.

The above fact alone is enough justification for increased government oversight of helicopter operations, at least in the HEMS segment. The proper role of government should be one of leveling the playing field for businesses to compete upon. Mandatory minimum equipment requirements should be increased for the HEMS industry, so that operators trying to offer the safest environment possible are not undercut by those only interested maximizing profits.

Beyond a safety culture, there are ground support systems that impact the safety of helicopter operations, many of them functions of State or National government.

Inadequate weather reporting is a constant problem for helicopters that normally operate visually at low altitude and are subject to dealing with low ceilings and visibilities during the entire flight, not just at takeoff and landing like an airliner. HEMS and off-shore operations in particular need better real time weather observations and reporting systems for the areas they operate.

Air traffic control and separation is another layer of safety that is readily available to every airliner, but not to many helicopter operations because they often fly too low to be seen on radar or communicate with ground controllers. New systems like ADS-B can make these ATC capabilities available to low altitude helicopter operations, but government funds have been slow in coming. Once the system is in place, new (expensive) equipment will be required in the aircraft, and such equipment should be made mandatory and not left up to the discretion of cost conscious operators.

Flight Dispatching / Customer Interference: Some operations are negatively influenced by customers who push for flights to be completed to serve their own agendas. Control over who has the ability to dispatch a flight and what pressure is placed on the crew to accept a flight continue to be issues that need resolution. Customer interference can even become an issue during flight where aircraft design is not suitable to properly separate the cockpit and flight crew from interference or distractions from passengers or patients.

CONCLUSIONS: Helicopter safety requires safe aircraft, well trained pilots, and a safe environment in which to operate. There are many ways to improve the level of helicopter safety. The hard part is determining what level of safety is sufficient and sustainable.

Different stake holders will have different opinions on where that level should be. Owner/operators, pilot groups, equipment and airframe manufacturers, along with regulators and politicians must work together to find an acceptable level of safety at a cost that is supportable over the long term.

Work in this direction is already happening to a degree under the umbrella of the International Helicopter Safety Team (IHST). The effort is a long term one, and the ultimate impact of this effort will be slow in developing. Yet one aspect of this effort will limit the potential effectiveness of the program – it relies almost exclusively on voluntary compliance with the safety recommendations being developed.

The Professional Helicopter Pilots Association does not believe that the current industry composition of numerous small, weakly capitalized operators is

conducive to voluntary compliance with costly safety recommendations. Many small operators will continue to try and undercut the competition by utilizing dated equipment and pushing crews to the limit. That the industry is consolidating is ultimately a positive development since larger, well financed operators are more capable of financing the types of changes that can bring significant improvements in the safety picture. But until that process is further developed, far too many small operators ignoring recommended safety practices will keep the full value of the IHST from being realized.

For the foreseeable future, we believe that there must be an honest broker to mediate the differences between the various groups on what measures should be taken to improve the current situation. We can see no other viable entity to perform this function besides the government. While our membership is as wary as the rest of industry over legislators and regulators telling us how to conduct our business, the remedies we believe will result in real change will not occur through voluntary compliance by profit oriented organizations. Some initiatives simply must be mandated.

PHPA stands prepared to share our members' collective experience with all who will listen. We are also prepared to be convinced that there are better alternatives to those that we are proposing. What we are not prepared to do is accept the status quo, which for too long has simply blamed the pilot when things go wrong. Such a solution is no solution and will do nothing to improve the safety record of this industry.

National Transportation Safety Board

490 L'Enfant Plaza, SW
Washington, D.C. 20594
(202) 314-6000

Robert L. Sumwalt, III
Board Member

Testimony of the Honorable Robert L. Sumwalt, III
Board Member
National Transportation Safety Board
Before the
Subcommittee on Aviation
Committee on Transportation and Infrastructure
United States House of Representatives

Hearing on the Oversight of Helicopter Medical Services
April 22, 2009

Good morning, Chairman Costello, Ranking Member Petri, and the Members of the Subcommittee. Thank you for the opportunity to appear before you today on behalf of the National Transportation Safety Board regarding helicopter emergency medical services.

As the Members of the Subcommittee are aware, the Safety Board is very concerned about the alarming number of accidents that have occurred involving helicopters in emergency medical services (EMS). I personally have a long-standing interest in this subject and chaired four days of public hearings held by the Safety Board in early February of this year.

Background and Recent Accidents

The Safety Board recognizes that operations involving helicopter medical services provide an important service to the public by transporting seriously ill patients and donor organs to emergency care facilities. Each year, approximately 400,000 patients and transplant organs are safely transported via helicopters. This vital service is credited with saving countless lives each year. However, the pressure to safely and quickly conduct these operations in various environmental conditions (for example, in inclement weather, at night, and at unfamiliar landing sites for helicopter operations) increases the risk of accidents when compared to other types of commercial flight operations.

The recent increase in accidents involving these operations is alarming. In the last six years, there have been 84 EMS helicopter accidents, resulting in 77 fatalities. Calendar year 2003 had 19 accidents and 7 fatalities; in 2004, there were 13 accidents with 18 fatalities; in 2005, there were 15 accidents and 11 fatalities. In 2006, 13 medical helicopter accidents occurred with a total of 5 fatalities. In 2007, there were 11 accidents with a total of 7 fatalities. And while these losses themselves are unacceptable, calendar year 2008 was the most deadly year on record for medical helicopters, with 13 accidents, and 29 fatalities. The death toll is even more striking when looking at the 11-month period between December 2007 and October 2008; there were 9 fatal accidents

that took the lives of 35 people. At this point, I would like to summarize each of these nine fatal accidents:[1]

- On December 3, 2007, a Eurocopter BK117C1, N141LG, crashed into the ocean about 3 miles east of Whittier, Alaska. The helicopter was operated by Evergreen Alaska Helicopters, Inc., under contract to Providence Hospital, Anchorage, Alaska, as a visual flight rules (VFR) patient transport flight when the accident occurred. Of the four persons aboard, only one body was recovered. The remaining three are presumed dead. Instrument meteorological conditions prevailed in the area of the accident, and company VFR flight following procedures were in effect.

- On December 30, 2007, a Bell 206L-3, N109AE, owned and operated by Air Evac EMS Inc., crashed while maneuvering near Cherokee, Alabama. The certificated airline transport pilot, paramedic, and flight nurse were fatally injured. Night visual meteorological conditions prevailed, and a company flight plan was filed for the local aerial search flight.

- On February 5, 2008, a Eurocopter AS350B2, N911VA, impacted water on Laguna Madre near South Padre Island, Texas. The helicopter was destroyed. The airline transport pilot, flight nurse, and flight paramedic sustained fatal injuries. The helicopter was operated by Metro Aviation, Inc., doing business as Valley Air Care, Harlingen, Texas. Visual meteorological conditions prevailed. The flight was en route to pick up a patient at an emergency landing zone in the parking lot of the South Padre Island Convention Center.

- On May 10, 2008, a Eurocopter EC 135 T2+, N135UW, operated by Air Methods Corporation, was destroyed during an in-flight collision with trees and terrain near La Crosse, Wisconsin. Night visual meteorological conditions prevailed. The pilot, physician, and flight nurse sustained fatal injuries.

- On June 8, 2008, a Bell 407, N416PH, owned by PHI, Inc., and operated as Med 12, was destroyed when it impacted a heavily forested area in the Sam Houston National Forest, south of Huntsville, Texas. Night visual meteorological conditions prevailed at the time of the accident. The pilot, flight nurse, flight paramedic, and passenger were fatally injured. The flight had departed Huntsville Memorial Hospital Heliport after picking up a patient, and was en route to Herman Memorial Hospital, Houston, Texas.

- On June 29, 2008, a Bell 407, N407GA, and a Bell 407, N407MJ, collided in mid air while approaching the Flagstaff Medical Center helipad, Flagstaff, Arizona.

[1] Reports from these investigations have been released on the Safety Board's web site at www.ntsb.gov. Four of the nine reports have had probable causes adopted. The information released on the remaining five investigations is factual in nature and does not provide any analysis. The public may view and download the docket contents via the NTSB's web site at the "FOIA Reading Room" link on the home page.

Both helicopters were destroyed, and all seven persons aboard the two aircraft were fatally injured. N407GA was operated by Air Methods Corporation, Englewood, Colorado, and registered to Flagstaff Medical Center. N407MJ was operated by Classic Helicopter Services, Page, Arizona, and registered to M&J Leisure, L.L.C., Ogden, Utah. Visual meteorological conditions prevailed, and company flight plans were filed for both flights. N407GA's flight departed Flagstaff Pulliam Airport and N407MJ's flight departed the Grand Canyon National Park Service South Rim helibase, Tusayan, Arizona.

- On August 31, 2008, a Bell 206L-1, N37AE, operated by Air Evac EMS Inc., was destroyed during an in-flight collision with terrain and post-impact fire near Greensburg, Indiana. Visual meteorological conditions prevailed. The pilot, flight nurse, and paramedic sustained fatal injuries. The accident flight departed from Burney, Indiana, with the intention of returning to the aircraft's base located in Rushville, Indiana.

- On September 27, 2008, an Aerospatiale (Eurocopter) AS365N1, N92MD, call sign Trooper 2, registered to and operated by the Maryland State Police, on what the Federal Aviation Administration (FAA) has declared a public use EMS flight, was substantially damaged when it collided with trees and terrain in Walker Mill Regional Park, District Heights, Maryland. The flight had been cleared by air traffic control for an instrument landing system approach to runway 19R at Andrews Air Force Base, Camp Springs, Maryland. Instrument meteorological conditions prevailed at the time of the accident, and no flight plan was filed. The commercial pilot, one flight paramedic, one field provider, and one of two automobile accident patients being transported were fatally injured. The other patient being transported survived the helicopter accident and was taken to a local hospital with serious injuries. The flight originated from a landing zone located at Wade Elementary School, Waldorf, Maryland, initially under VFR conditions. The flight was destined for the Prince George's County Hospital in Cheverly, Maryland, but was diverted to Andrews Air Force Base due to foggy conditions at the hospital.

- On October 15, 2008, a Bell 222, N992AA, operated by Air Angels Inc., and piloted by a commercial pilot, was destroyed when it struck a radio station tower and then impacted the ground in Aurora, Illinois. A post-crash fire ensued. The EMS flight was en route from the Valley West Hospital Heliport, Sandwich, Illinois, to the Children's Memorial Hospital Heliport, Chicago, Illinois, when the accident occurred. Night visual meteorological conditions prevailed in the area of the accident site. All four occupants, including the pilot, a flight paramedic, a flight nurse, and the 14-month-old patient, were fatally injured.

Previous Safety Board Studies and Special Investigations

The Safety Board has a long-standing interest in EMS aviation. In 1988, the Board conducted a safety study of commercial EMS helicopter operations. That study evaluated 59 EMS helicopter accidents and resulted in the Safety Board issuing 19 safety recommendations. The majority of these recommendations to the FAA were closed as a result of the June 20, 1991, issuance of Advisory Circular (AC) 135-14A, "Emergency Medical Services/Helicopter (EMS/H)," which addressed equipment, training, crew resource management (CRM), decision-making, flight-following procedures, weather minimums, and the development of safety programs for EMS helicopter flights operating under 14 *Code of Federal Regulations* (CFR) Part 135. Although the Safety Board expressed concern at the time that the FAA chose to issue an AC instead of regulations, the number of EMS accidents was decreasing; thus, the recommendations were closed. Despite the guidance provided in AC 135-14A and AC 135-15,[2] EMS aircraft accidents have continued to occur in significant numbers. In the late 1990s and early 2000s, there was a significant growth of helicopter EMS and the number of accidents began to rise.

Prompted by this rise in EMS accidents, in January 2006, the Safety Board conducted a special investigation that analyzed 41 helicopter EMS and 14 airplane EMS accidents that had occurred in the previous three years, claiming 39 and 15 lives, respectively. In its final Special Investigation Report of EMS Operations,[3] the Safety Board identified the following recurring safety issues:

- less stringent requirements for EMS operations conducted without patients on board;
- a lack of aviation flight risk evaluation programs for helicopter EMS operations;
- a lack of consistent, comprehensive flight dispatch procedures for EMS operations; and
- no requirements to use technologies such as terrain awareness and warning systems (TAWS) and Night Vision Imaging Systems (NVIS) to enhance EMS flight safety.

Recommendations to the Federal Aviation Administration and Their Status

The 2006 special investigation resulted in the Safety Board issuing four recommendations to the FAA to improve the safety of these operations. Of significance, the Board determined that 29 of the 55 reviewed accidents could have been prevented if the corrective actions recommended in the report had been implemented. The four safety recommendations called on the FAA to:

[2] On November 19, 1990, the FAA issued AC 135-15, "Emergency Medical Services/Airplane," which contained guidance information similar to AC 135-14A. However, the recommendations from the 1988 study focused on EMS helicopter operations; the closure of these recommendations was based on the issuance of AC 135-14A.

[3] The full report can be found on the Safety Board's web site at the following address: http://www.ntsb.gov/publictn/2006/SIR0601.pdf.

- Require all EMS operators to comply with 14 *Code of Federal Regulations* Part 135 operations specifications during the conduct of all flights with medical personnel on board. (Recommendation A-06-12)

- 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. (Recommendation A-06-13)

- 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. (Recommendation A-06-14)

- 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. (Recommendation A-06-15)

Following the adoption of the Safety Board's 2006 Special Investigation Report, the number of people killed in helicopter EMS accidents decreased each year, until last year, when the number suddenly spiked to 29 fatalities in 13 accidents. Despite the FAA's efforts to improve EMS operations safety, the FAA has not taken sufficient action on the Safety Board's recommendations. Instead, in many cases, the FAA chose to publish notices that simply constitute information that principal operations inspectors may provide to their operators and encourage the operators to incorporate into their operations specifications. However, there is no requirement for operators to make the safety improvements mentioned in the notices.

As a result of the lack of timely and appropriate action by the FAA, and in the wake of the alarming number of fatalities, the four recommendations were added to the Safety Board's "Most Wanted List of Transportation Safety Improvements" in October, 2008. At that time, three of these recommendations were reclassified by the Board as "Open—Unacceptable Response." The Safety Board is concerned that these types of accidents will continue if a concerted effort is not made to improve the safety of emergency medical flights.

Specifically, the Safety Board has currently classified each recommendation as follows:

A-06-12

Require all emergency medical services operators to comply with 14 *Code of Federal Regulations* Part 135 operations specifications during the conduct of all flights with medical personnel onboard.

The intent of this recommendation is to ensure that weather minimums and pilot flight and duty time limitations in Part 135 be applied to all EMS flights, including those with medical personnel but no patients on board. On November 14, 2008, the FAA published revised Operations Specification (OpSpec) A021, which requires that all EMS flights with medical personnel on board, regardless of the presence of patients, be subject to the weather minimums limitation stated in Part 135. Although the revised OpSpec is partially responsive to the recommendation, the FAA must still require the Part 135 flight and duty time limitations for EMS flights in order to fully satisfy this recommendation. Accordingly, pending the issuance of a requirement that all EMS flights with medical personnel on board, regardless of the presence of patients, be subject to the flight and duty time limitations stated in Part 135, Safety Recommendation A-06-12 is classified "Open—Unacceptable Response."

A-06-13

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.

In May 2006, the FAA indicated that it planned to add a specific requirement for a risk assessment program to OpSpecs A021 and 024. The FAA stated that these revisions would be completed by September 2006. At the end of December 2006, the Board verified that the revisions had not yet been incorporated into the OpSpecs. On April 3, 2007, Safety Recommendation A-06-13 was classified "Open—Acceptable Response," pending the addition of this requirement to the OpSpecs. As of today, the FAA has still not completed this action.

In August 2005, the FAA issued Notice N8000.301, "Operational Risk Assessment Programs for Helicopter Emergency Medical Services," which provided detailed guidance on the development and use of flight risk evaluation plans by EMS operators. This notice expired in August 2006, without further action for almost 2 years. In May 2008, the guidance within the expired notice was incorporated into FAA Order 8900.1, "Flight Standards Information Management Systems."

Although guidance is valuable, Safety Recommendation A-06-13 asks for a *requirement*, such as an operations specification, that all EMS operators develop and use flight risk evaluation programs. The Safety Board continues to investigate a number of accidents involving EMS flights where a flight risk evaluation was not performed. Therefore, the Safety Board believes that the FAA's failure to take action is unacceptable. Pending incorporation of a specific requirement into OpSpecs A021 and 024 to develop and use a flight risk assessment program, Safety Recommendation A-06-13 is classified "Open—Unacceptable Response."

A-06-14

Require emergency medical services operators to use formalized dispatch and flight-following procedures that include up-to-date weather information and assistance in flight risk assessment decisions.

In May 2008, the FAA published AC 120-96, which provides detailed guidance about the creation of Operations Control Centers for helicopter EMS operations. Among the activities described in the AC are the formalized dispatch and flight-following procedures recommended; however, an AC is only a guidance/advisory document and does not represent a requirement. Although the AC is responsive to the recommendation, the FAA now should require that all EMS operators incorporate the guidance contained in the AC into their operations. Pending the FAA's implementing such a requirement, Safety Recommendation A-06-14 remains classified "Open—Acceptable Response."

A-06-15

Require emergency medical services (EMS) operators to install terrain awareness and warning systems [TAWS] on their aircraft and to provide adequate training to ensure that flight crews are capable of using the systems to safely conduct EMS operations.

In June, 2006, at the request of the FAA, the Radio Technical Commission for Aeronautics (RTCA), an industry group that establishes standards for equipment used on aircraft, established a special committee to develop Helicopter TAWS (H-TAWS) standards. In March, 2008, the committee completed its work and in December, 2008, the FAA published a Technical Standards Order (TSO) based on the RTCA standard. However, the FAA will still need to consider rulemaking to require H-TAWS on EMS flights. Pending rulemaking action to mandate the installation and use of H-TAWS on all EMS flights, Safety Recommendation A-06-15 is classified "Open—Unacceptable Response."

Recent NTSB Public Hearing on Helicopter Emergency Medical Services

Based on strong concern about helicopter EMS accidents, the Safety Board recently voted unanimously to conduct a public hearing regarding issues surrounding safety of this industry. The Board's public hearing lasted four days, from February 3 to February 6 of this year, making it one of the longest NTSB public hearings on record.

The Safety Board obtained the perspectives of nearly every facet of the EMS helicopter industry, including large and small companies, VFR and instrument flight rules (IFR) operations, hospital programs, and those who oversee them. The hearing featured 41 expert witnesses, representing 8 helicopter EMS operators, 12 associations, 6 manufacturers, and 4 hospitals. The majority of witnesses participated as part of small panels and addressed particular safety issues. Additionally, several organizations had an opportunity to question the witnesses directly. Federal regulations provide for the designation of parties to an NTSB public hearing. The parties assisting the Safety Board in this hearing were designated for their technical expertise in their respective fields. The

parties to the hearing were: FAA; Association of Air Medical Services; Helicopter Association International; National EMS Pilots Association; Professional Helicopter Pilots Association; Air Methods (representing a relatively large operator); and CareFlight (representing a relatively small operator).

The hearing took a comprehensive look at the EMS helicopter industry. It provided a better understanding of why this industry has grown significantly in recent years, and explored whether increasing competitive pressures to complete flights might be contributing to accidents. Also examined were flight operations procedures including flight planning, weather minimums, and preflight risk assessment, as well as safety enhancing technology such as TAWS and NVIS. Flight recorders and associated flight operations quality assurance programs were discussed. Training, including use of flight simulators, was discussed at length, as well as corporate and government oversight of helicopter EMS operations. These issues were organized and addressed in nine sessions in which panels of witnesses were questioned, under oath, by Safety Board staff, a Board of Inquiry, and the parties to the hearing. The nine sessions were:

- Current EMS Models and Reimbursement Structures
- State Oversight and Competition
- Patient Transport Request Process
- Flight Dispatch Procedures
- Safety Equipment and Flight Recorders
- Flight Operations Procedures and Training
- Corporate Oversight
- Safety Management Systems
- FAA Oversight

Not only did the Safety Board receive information from the participants in the hearing, but we also openly solicited the EMS helicopter community to submit additional information that would be evaluated and possibly entered into the public docket. That solicitation yielded hundreds of pages of documents. The submissions to the public docket closed on March 9, 2009.

Outcomes from the Public Hearing and Future NTSB Actions

There are many possible courses of action resulting from the Safety Board's public hearing and from the recent helicopter EMS accident investigations, including an updated safety study on EMS operations, additional safety recommendations, and a white paper for use when addressing EMS safety issues. A complete written transcript of the hearing has been posted on the NTSB web site. Additionally, a comprehensive executive summary of this hearing will soon be posted on the web site.

One aspect that has already emerged from the hearing is that the Safety Board established a firm standard to classify an EMS accident in an attempt to harmonize its EMS accident census data with that of the air medical industry and the FAA. Under these revised standards, the Safety Board now classifies an EMS accident as one in which the

accident flight involved an aircraft dedicated to air medical operations, configured for such operations, and piloted by a dedicated EMS crew. As a result of this standard, the Safety Board's EMS accident statistics have been revised accordingly.

The Safety Board staff will continue examining the information obtained from the public hearing and from the nine recent fatal accidents – over 3000 pages in total – to look for innovative ways to improve safety. The Safety Board does not have statutory authority to promulgate regulations – the Board's primary products for change are safety advocacy and safety recommendations resulting from our investigations.

The Safety Board staff is drafting additional recommendations for the Board Members' consideration in the areas of oversight, equipment and training. The Safety Board staff anticipates having several proposed recommendations for the Board to review and adopt later this summer.

In closing, the Safety Board would like to take a moment to acknowledge the family members of those who have lost their lives and those who have survived helicopter EMS accidents. As an agency, we would like to offer our sincere condolences for their loss and for the difficulties that they and their families have endured.

Mr. Chairman, this concludes my prepared testimony, and I would be happy to answer questions at the appropriate time.

U.S. House of Representatives
Committee on Transportation and Infrastructure

James L. Oberstar
Chairman

David Heymsfeld, Chief of Staff
Ward W. McCarragher, Chief Counsel

Washington, DC 20515

John L. Mica
Ranking Republican Member

James W. Coon II, Republican Chief of Staff

May 8, 2009

The Honorable Robert L. Sumwalt, III
Board Member
National Transportation Safety Board
490 L'Enfant Plaza East
Washington, D.C. 20594

Dear Member Sumwalt:

On April 22, 2009, the Subcommittee on Aviation held a hearing on the "Oversight of Helicopter Medical Services."

Attached are questions to answer for the record. I would appreciate receiving your written response to these questions within 14 days so that they may be made a part of the hearing record.

Sincerely,

Jerry F. Costello
Chairman
Subcommittee on Aviation

APRIL 22, 2009
SUBCOMMITTEE ON AVIATION
HEARING ON
OVERSIGHT OF HELICOPTER MEDICAL SERVICES

QUESTIONS FOR THE RECORD
TO:
THE HONORABLE ROBERT L. SUMWALT, III
BOARD MEMBER
NATIONAL TRANSPORTATION SAFETY BOARD

1. Mr. Sumwalt, you state that the NTSB issued a recommendation to require EMS operators to comply with title 14 Code of Federal Regulations (C.F.R.) part 135 during the operation of all flights rather than part 91 when medical personnel are onboard. Does FAA's recent regulatory change (through an operations specification, or "OpsSpec") adequately address this recommendation?

2. Mr. Sumwalt, there has been a lot of discussion about the effectiveness of technologies, such as helicopter terrain awareness and warning systems and night vision goggles, in reducing helicopter EMS accidents. Would recent helicopter EMS accidents have been prevented if these technologies were used? Do you think that operators will voluntarily equip with safety technology?

National Transportation Safety Board

Washington, D.C. 20594

May 22, 2009

Honorable Jerry F. Costello
Chairman
Subcommittee on Aviation
Committee on Transportation and Infrastructure
U.S. House of Representatives
2251 Rayburn House Office Building
Washington, D.C. 20515

Dear Mr. Chairman:

Enclosed are the responses of Board Member Robert L. Sumwalt III to questions regarding his testimony at the April 22, 2009 Aviation Subcommittee hearing on the "Oversight of Helicopter Medical Services." If I may be of further assistance to you in this matter, please do not hesitate to contact me at 202-314-6121.

Sincerely,

Mildred H. Starek
Government and Industry
Affairs Liaison

Enclosure

HEMS QFRs from Chairman Costello

1. Mr. Sumwalt, you state that the NTSB issued a recommendation to require EMS operators to comply with title 14 Code of Federal Regulations (C.F.R.) part 135 during the operation of all flights rather than part 91 when medical personnel are onboard. Does FAA's recent regulatory change (through an operations specification, or "OpsSpec") adequately address this recommendation?

ANSWER:

The FAA's issuance of an Ops Specs PARTIALLY satisfies this recommendation.

The intent of this recommendation is to ensure that weather minimums AND pilot flight and duty time limitations in Part 135 be applied to all EMS flights, including those with medical personnel but no patients on board. As referenced in the question, on November 14, 2008, the FAA published revised Operations Specification (OpSpec) A021, which requires that all EMS flights with medical personnel on board, regardless of the presence of patients, be subject to the weather minimums limitation stated in Part 135. Although the revised OpSpec is partially responsive to the recommendation, the FAA must still require the Part 135 flight and duty time limitations for EMS flights in order to fully satisfy this recommendation. Accordingly, pending the issuance of a requirement that all EMS flights with medical personnel on board, regardless of the presence of patients, be subject to the flight and duty time limitations stated in Part 135, Safety Recommendation A-06-12 is classified "Open—Unacceptable Response."

2. Mr. Sumwalt, there has been a lot of discussion about the effectiveness of technologies, such as helicopter terrain awareness and warning systems and night vision goggles, in reducing helicopter EMS accidents. Would recent helicopter EMS accidents have been prevented if these technologies were used?

ANSWER:

In 2006, the Safety Board adopted a Special Investigation Report that addresses the safety of EMS operations.. That investigation examined 41 helicopter EMS accidents and 14 aircraft EMS accidents. The Board found that 17 of the 55 accidents may have been prevented through use of TAWS and 13 of the 55 could have been prevented through of night vision imaging systems (NVIS).

Since that study was conducted, the Safety Board has continued to investigate EMS accidents where use of this safety equipment may have prevented the accident.

Do you think that operators will voluntarily equip with safety technology?

ANSWER:

The Safety Board notes that many HEMS operators have not yet voluntarily implemented recommended practices, such as risk assessment programs or flight-following, despite FAA guidance and encouragement. Additionally, the FAA has been "encouraging" operators for the past several years to utilize NVGs, yet many operators still have not equipped their helicopters and crews with them. Furthermore, during the NTSB's February 2009 public hearing on HEMS safety, testimony indicated that only approximately 40 percent of the current HEMS fleet is equipped with TAWS. For these reasons, I am not optimistic that voluntary compliance will lead the significance compliance levels with these important, life-saving technologies.

Testimony of Mr. Craig Yale
Executive Vice President, Air Methods Corporation
on behalf of the Air Medical Operators Association
Before the Transportation and Infrastructure Committee
Aviation Subcommittee
U.S. House of Representatives
April 22, 2009

Mr. Chairman, members of the Subcommittee, my name is Craig Yale, I am the Executive Vice President of Air Methods Corporation and I am here today on behalf of the Air Medical Operators Association (AMOA). AMOA would first like to thank you all for the opportunity to offer this testimony, and on behalf of our members and their over 8,500 employees represented by the Association nation-wide, would like to thank the members of the Subcommittee for their interest in air medical transportation safety and effective oversight.

The Air Medical Operators Association is a group of companies and organizations that hold FAR Part 135 Certificates and are therefore authorized to conduct on demand air transportation. Our members are engaged in the safe operation of over 700 helicopters, nearly 92 % of those providing air medical transportation in the United States, and over 60 dedicated fixed wing air medical aircraft. Further, our members must agree to meet the safety benchmarks and standards under development by AMOA, including a commitment by each member to establish operational control systems beyond the current FAA standard, equip or operate with a system or systems to avoid terrain and obstacles recognized as effective mitigation systems by AMOA, requirements for frequent recurrent training, and the installation of flight data monitoring systems as part of an effective flight quality assurance and safety management system.

While these benchmarks are currently under development, we are very proud to point out that these initiatives represent the best practices already in place in the air medical community. In fact, we believe we are one of the most advanced industry segments in on-demand aviation. This commitment to safety technology, to training, to enhanced operational control and more robust management systems has not come in response to pending rulemaking, legislation, or recommendations. In fact, the most significant technological change in the air medical industry in the last 3 years has been the tremendous increase in the use of night vision goggles by operators, especially those operating in very low-light and rural environments. This commitment was made outside of any regulatory pressure and in the absence of an NTSB safety recommendation; rather, it was made based on a practical examination of the operating environment and the development of a rational risk mitigation strategy.

In late 2007 and throughout 2008, helicopter air medical services experienced a tragic and unacceptable number of accidents and fatalities. The tragedy of this time period is only compounded by the fact that these accidents occurred in a variety of environments and types of aircraft, leading to no clear causal factor or intervention strategy. No type of operation, size of operations, management structure, or operating area has been immune from accidents, making it impossible to point to a single safety enhancement as a universal solution. As those responsible for the safe aviation operations of air medical transport, air medical operators formed the AMOA to provide safety standards and benchmarks for the implementation and operation of a variety of risk mitigations, enhanced procedures, training methods, and new technologies that we believe, when combined with more effective management oversight and practical and effective regulation, can reduce the risk of accidents in air medical transport.

Air medical transportation has become vital to the healthcare community. Millions of Americans continue to rely on air medical transport as a critical resource, and in some cases the only option, to transport them to appropriate care in the event of a traumatic accident or serious illness. There is a misperception among the public that the nearest hospital can provide the appropriate level of

care; that is often not the case, as hospitals have become increasingly specialized and the cost of healthcare has caused the closure or significant reduction of a hospital's ability to provide care to certain types of conditions. In these situations, the sole lifeline to critically ill and injured patients is air medical transport.

Air medical operators take great pride in their commitment to providing that transportation as safely as possible; while we cannot eliminate every risk, we can provide safe and effective air medical transport as requested and appropriately determined by trained and authorized medical personnel. AMOA members have taken steps beyond regulatory compliance in areas of training, terrain and obstacle avoidance, oversight, and safety systems.

We believe that it is only through our collective effort to advance safety objectives in the following four areas that we can continue to provide the safest possible air medical transport service.

- **Terrain and Obstacle Avoidance**: Operators must provide the necessary tools to aid in the avoidance of terrain and obstacles; AMOA believes there are a small range of technologies and procedures available to accomplish that goal. It is the position of AMOA that all helicopters performing air medical transport servicesoperate with the necessary equipment and procedures to achieve terrain and obstacle avoidance that the operator deems appropriate for their area and operation. This system can be achieved by any of the following:

  - Operating with Night Vision or Night Vision Imaging System (NVIS), with the appropriate level of initial and recurrent training.
  - Operating with some type of Helicopter Terrain Alert Warning System (HTAWS) or Terrain Awareness 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 AMOA that any rule addressing terrain and obstacle avoidance must allow for the consideration of comparable options to achieve compliance.

- **Training:** Air medical services operate in a myriad of operating environments and with several different types of aircraft with different capabilities and limitations. While there are other safety objectives listed here, none of them can provide a level of risk mitigation equal to that of a frequent training program that makes use of available Flight Training Devices (FTD's), simulators or operational aircraft with instructors providing simulated scenarios, including Inadvertent Instrument Meteorological Conditions (IIMC) on at least a semi-annual recurrent basis.

  It is the position of AMOA that operators provide pilots with recurrent aviation training and that training include the following scenarios:

  - Inadvertent Instrument Meteorological Conditions (IIMC).

- Emergency Procedures (Engine & Component Failures).
- Night Operations.
- TAWS/HTAWS & NVIS

Further, air medical operators provide Air Medical Resource Management (AMRM) and Risk Management training to all personnel on a recurrent basis at least annually.

- **Oversight**: Effective management oversight is a critical safety component; it is not enough to provide enhanced regulations and procedures- operators must also monitor those enhancements and provide effective guidance on risk assessment and mitigation.

  It is the position of AMOA that air medical operators provide effective management oversight through the development of Operational Control in compliance with Operations Specification A008 and subsequent guidance on Risk Assessment and Operational Control Centers. Further, those must include:

  - Satellite Tracking or ADS-B Capability
  - Approved Risk Assessment and Risk Management Procedures
  - Regional or Centralized Operational Control Systems

  Further, operators must initiate flight data monitoring devices and coordinate that implementation with a standardized helicopter specific Flight Operations Quality Assurance (FOQA) or similar program.

- **Safety Systems:** All of these concepts require a collective management system that combines the attributes of these objectives into one cohesive system. Safety Management Systems (SMS), as recommended by the International Helicopter Safety Team (IHST) should be modeled after the International Civil Aviation Organization (ICAO) Safety Management Manual (Doc 9859-AN/460) and Federal Aviation Administration (FAA) Advisory Circular, AC 120-92, Introduction to Safety Management Systems for Air Operators. The fully-developed SMS must represent a structured methodology for managing safety across the entire spectrum of aviation operations. The SMS attributes are interdependent and must enhance the safety of every process or activity within the collective operation or system. The SMS is dynamic and must be updated through continuous quality improvement.

  This SMS must include but is not limited to the following attributes:

  - Senior-Level Commitment (Advocacy, Resourcing, Values & Culture)
  - Safety Structure, Hierarchy & Accountability
  - Compliance-Based Requirements (Policies, Procedures, Guidelines, Checklists, etc…)
  - Risk Management Methodology (Systematic Process)
  - Safety Reporting (Standard & Anonymous Functionality, Proactive Hazard Identification & Reactive Occurrence/Event Disclosure)
  - Root Cause Analysis/Investigation Methodology

- Safety Trend Analysis Program
- OSHA & Safety-Related Training Program
- Best Safety Practices (BSP) Sharing & Lessons-Learned
- Action-Oriented Safety Committees
- Safety Awards Program
- Audit & Surety Program

AMOA remains committed to working with industry organizations, our international partners, and governmental entities to establish and participate in voluntary programs to craft viable regulations, operations specifications, and guidance that will enhance the safety posture of the industry and allow mission availability.

To that end, AMOA is happy to present this testimony, and with it an explanation of the very complex issues and topics before the Subcommittee. Yet the subject of oversight is relatively simple: the FAA has, and should continue to maintain oversight as the sole regulator authorized to oversee aviation operations and aviation safety; state medical authorities now have and should continue to have the full authority over the medical segment of the operation. AMOA fully supports the current legal and regulatory framework and will gladly work with each of these entities to provide safe, effective, and practical regulation; however, we believe efforts to change or modify the fundamental aviation legal structure may have serious unintended consequences for aviation safety and the effectiveness and viability of air medical transport by creating a patchwork of aviation and regulatory regimes. Further, these unintended consequences could lead to limits on air medical resources especially in rural areas where they are most sorely needed, creating gaps in coverage and possibly limiting the public's accessibility to sorely needed medical care.

H.R. 1201, Bill to Increase Safety in Air Medical Services

The provisions of H.R. 1201 are rooted in the safety recommendations made by the NTSB Special Investigation Report on Emergency Medical Services Operations (Adopted Jan. 25, 2006). The recent public hearings held by the NTSB reviewed both the FAA's and the air medical industry's response to those recommendations. We believe that 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.

Observance of Part 135 Rules on all Legs of Flight

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 efforts 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. Helicopter Emergency Medical Services (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.

Mandatory Risk Assessments (Operational Control)

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)

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.

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.

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."

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

Although not referenced in H.R. 1201, AMOA members have made significant gains in the areas of terrain and obstacle avoidance. It is the position of 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 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. 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.

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.

AMOA encourages 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.

Installing Devices that Perform the Function Recording Flight Data

While not specifically referenced in the 2006 recommendations, flight data monitoring devices and voice recorders specifically designed for helicopter operations have developed very quickly in the last three years. As noted in the above standards under development for AMOA membership, AMOA members are committed to pursuing the implementation of these devices in aircraft and using the data collected by these devices for a multitude of different applications, including management oversight, quality assurance, training, and post-accident data gathering.

Many previous devices were too large and too heavy for installation in most helicopters; however, many new devices are smaller, lighter, easy to install and maintain. They also collect data differently, and in some cases more effectively, than some previous devices. While this is an excellent benefit to helicopter operations, the FAA still maintains specific definitions for flight data and cockpit voice recorders, leading some helicopter operators and device manufacturers to refer to these devices by different definitions in order to install the devices. This is simply a matter of the technology developing far faster than the regulatory language.

A rulemaking process to require these devices would also have to include a study on the standardization of these devices, and new regulatory language, or a re-defining of current definitions, to be effective.

Specific Modifications to H.R. 1201

AMOA supports the objectives of each of the provisions of H.R. 1201. Operators' support of these objectives is evident in their current operations and the commitments they have made as part of their membership in AMOA. While the bill is of great benefit, there are specific issues that must be addressed in order to provide both the safety benefits intended by the bill and avoiding any unintended consequences that may decrease safety or limit an operator's ability to implement these safety enhancements as effectively as possible.

The following is an explanation of the modifications that AMOA proposes to H.R. 1201:

- **Requiring a Rulemaking to Require Part 135 Rules on All Legs-** As a general matter, AMOA is not opposed to the application of key Part 135 requirements to all legs of a flight including one patient transportation segment but we urge that a FAA rulemaking process should used to get to this requirement. Rulemaking will allow the FAA, air medical operators and other stakeholders to have input into the specifics of this requirement and ensure there are no untended consequences. The following point is just one example of possible unintended consequences of a legislative mandate versus a participatory rulemaking process. This amendment also alleviates a concern that future enhancements to the rules, or the development of a separate set of rules for air medical services would not be impeded by this statute, thus requiring a return to Congress to get legislative relief for future safety improvements that could be accomplished better and more swiftly by FAA rulemaking.

- **Providing an Exemption for Instrument Flight Rules (IFR)**- The FAA has recognized the safety of IFR operations by providing for an exemption that allows a Part 135 Certificate Holder to conduct IFR operations to destinations without approved weather reporting at the destination. This proposed modification preserves and acknowledges that existing exemption and allows for the continued operation of the safety benefits of IFR.
- **Removing "pilots" from Flight Dispatch Procedures**- This modification would simply expand the scope of this section to include pilots, operators, and any other body that may provide some level of flight following services and allow those procedures to inform a broader audience.
- **Requiring "Devices that Perform the Function of Voice Communications and Flight Data Information"**- AMOA proposes replacing this terminology. The FAA currently has very narrow, strict definitions of CVR and FDR and those definitions are not consistent with rotorcraft design (many simply will not fit in a helicopter cockpit). This change allows for this study and rule to include the new and innovative technology currently on the market that can meet the objectives of having CVR's FDR's aboard rotorcraft. This modification also reinforces AMOA's firm commitment to flight data management and flight operational quality assurance programs as safety management tools.
- **Allowing the Study of Requiring Devices to Inform the Rulemaking**- We believe this is an excellent opportunity to ensure that the study on feasibility, once complete, will inform sound rulemaking.

Again, we strongly affirm the intent of this legislation, and offer these amendments to enhance its objectives by providing a process that assures that unintended consequences in the complex area of aircraft operational safety are not encountered.

H.R. 978, "Helicopter Medical Services Patient Safety, Protection, and Coordination Act"

AMOA believes the Helicopter Medical Service Patient Safety, Protection, and Coordination Act's (H.R. 978) shifting of authority to the states to regulate placement and authorized routing of air carriers engaged in air medical transport operations would have significant negative unintended consequences. Further, it is the position of AMOA that HR 978 provides no substantive incremental benefit to patient care or states' well-established ability to regulate medical matters, while compromising safety and enabling limitation on air medical transport access for patients and communities. We believe this compromises aviation safety, significantly harms the nation's emergency air response capacity, and limits patient access to potentially lifesaving health care.

The Courts have consistently confirmed that States already have sole and exclusive authority to control and regulate any aspect of patient care aboard an air medical aircraft. Indeed all states impose licensing requirements on air medical operators related to patient care aboard the aircraft. These licenses prescribe a number of conditions and qualifications on both medical equipment and medical personnel aboard the aircraft. AMOA fully supports and encourages the exercise of already ample state authority in this area.

Under the bill states could prescribe routes of flight, they would have authority to prohibit an aircraft from operating within the state, and they could mandate certain airframes or structural changes to airframes -- activities that are properly and safely administered by the FAA. H.R. 978 could turn the current federal aviation system into a patchwork of systems determined by state borders.

There is no countervailing justification for the resulting harm that is possible. State, not federal, protocols currently control which air medical operator is called to a scene; new federal law is not necessary provide states this authority. Air medical services do not self-dispatch; services arrive at a scene only after being specifically called and after a determination as to the need for air medical transport has been made by a trained on-scene first responder and/or a licensed physician.

In summary, H.R. 978:

- **Compromises Aviation Safety**: Allowing state authorities to create a parallel regulatory scheme for aspects of aviation now under exclusive federal authority and creating questions as to which regulatory body is controlling would be to ignore history's aviation safety lessons. Federal aviation laws and regulations are designed to ensure that a single comprehensive safety and regulatory standard exists for all aviation users throughout the entire country.
- **Significantly Undermines the Nation's Existing Air Medical Transportation Capacity:** Modern air medical transport, like the rest of the air carrier industry, is an interstate, not a local, business. Allowing each state separately to regulate the aviation aspects of this sector will produce a multiplicity of potentially conflicting state requirements that will undermine its strength and integrity, threatening its failure. This is precisely what the federal preemption provisions of the Airline Deregulation Act (ADA) were designed to avoid. The threat to air medical transport capacity will poorly serve both the nation's health care needs and its ability to respond to national and regional disasters.
- **Limits Community Access to Critical Air Medical Transport Services, Especially in Rural Areas:** Limiting the number of air medical services in a state will cause a significant decrease in access to trauma and critical health care needs, especially in rural areas in cases where state regulated systems do not determine a sufficient need based on cost for air medical services, even though a rural community or healthcare system desires it.
- **Limits Patient Care Decisions by Referring Physicians and Hospitals:** In the case of inter-facility transports, which represent more than 50% of air medical transports, physicians are currently able to make a transport determination based on their expertise and the condition of the patient, including the determination of the most appropriate receiving hospital regardless of location. This bill would limit that decision-making ability and may conflict with the Emergency Medical Treatment and Labor Act (EMTALA).

AMOA is firmly committed to increasing aviation safety for every patient by continuing our efforts for enhanced federal aviation regulations and raising the safety standard for the entire air

medical industry. Unfortunately, H.R. 978 does not enhance aviation safety; it only undermines the well-established federal aviation statutory and regulatory framework without demonstrable justification.

AMOA believes that the Department of Transportation (DOT) and FAA should retain existing sole and exclusive authority over all aviation aspects of air medical transport, with states retaining regulatory oversight and coordination of patient medical care. AMOA believes this bill's shifting of authority to the states to regulate placement and authorized routing of air carriers engaged in air medical transport operations would have significant negative unintended consequences. Further, it is the position of AMOA that H.R. 978 provides no substantive incremental benefit to patient care or states' well-established ability to regulate medical matters, while compromising safety and enabling limitation on air medical transport access for patients and communities.

In response to the unacceptable number of accidents and tragic deaths in 2008, AMOA has joined with the Helicopter Association International (HAI) and the Association of Air Medical Services (AAMS), the national association representing all aspects of air medical transport services, in submitting to the National Transportation and Safety Board (NTSB) fourteen recommendations. These recommendations represent a cooperative effort to advance the safe operation of air medical transport services by decreasing risks through a combination of enhanced training, technology, data collection, and oversight. They represent the commitment of air medical transport services in new technologies for obstacle and terrain avoidance, in advanced training methods, in data collection and analysis, and in enhanced operational control and management oversight. We believe these initiatives are a *cooperative* and *direct* solution to the issue at hand, mindful of avoiding unintended consequences or upending existing laws and regulatory structures, and without compromising access to this valuable service.

The DOT and courts have been consistent and offered clear guidance confirming that states have complete authority over their emergency medical services (EMS) systems, including scene dispatch protocols, medical standards and training, medical equipment and its maintenance, state and local inspection for compliance with medically oriented regulations and licensure. States may not, however, limit the number of aircraft based within their jurisdiction, create "borders in the sky" through defining/restricting service areas, require certain aviation-related equipment, limit charges for air medical transport services, or in any way interfere with the licensing of pilots or the operation of the aircraft. On those occasions where 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, the DOT and the courts have intervened. AMOA believes that the federal government should retain its existing sole and exclusive authority over all aviation aspects of air medical transportation, including the authority over air carrier routes, prices and services, airspace management and aviation safety regulation and oversight.

On the other hand, H.R. 978 does not provide a substantive safety solution; rather, HR 978 would carve select protections out of the ADA and create parallel state aviation safety authority for air carriers engaged in medical transportation under the pretense these are medical and not aviation matters.

In fact, while undermining the existing, clear aviation regulatory framework, the legislation provides states with little if any incremental oversight in the regulation of medical personnel qualification and training, medical equipment and other medical matters that relate to patient care. Instead, the primary effect of H.R. 978 is to grant states authority – through certificate of need processes, required healthcare affiliations, requirements to demonstrate need and capacity for services, and other exclusionary measures – to limit access. In promoting H.R. 978, proponents have failed to demonstrate that the federal preemption of state regulation of air carrier prices, routes and services under the ADA is undermining air medical transportation safety or patient care, with no published evidence suggesting that federal laws have caused an accident or poor patient outcomes.

H.R. 978 represents a misdiagnosis of the issue at hand and is the wrong medicine for the patient. H.R. 978 provides opportunities that can only serve to limit access to patients and communities as compared to the status quo, with little substantive benefit to medical regulatory oversight for improving patient care, while creating a slippery slope for air commerce providers to be carved out of the ADA and opening up the ambiguous authority for states to *harmonize* to federal aviation rules, in place of the well-defined, strictly enforced, consistent nationwide regulations overseen by the federal government.

Exclusive Federal Airspace and Aviation Safety Authority

AMOA is concerned that H.R. 978 would have the unintended consequence of *reducing* aviation safety by its unprecedented blurring of regulatory jurisdiction between federal and state governments. Congress created the FAA and passed the ADA because it recognized that a uniform system of nationwide regulation was needed to achieve both safe and accessible air transportation without "borders in the sky." Air medical transportation is no exception. As AAMS has stated: "It is not possible to address a perceived shortfall of the FAA's interest in aviation safety by increasing state authority over the economics of aviation, unless the intent of the proposal is to provide some means for state regulatory authorities to usurp or assume duties currently retained by the FAA".[1]

H.R. 978 will undermine the direct and exclusive relationship the FAA currently maintains with FAA certificated air carriers by creating a parallel state aviation safety regulatory structure over certain matters, essentially creating a second bureaucracy responsible for ensuring compliance with federal regulations. Ironically, this is the very thing the ADA aimed at avoiding in its goal to maintain safety as the highest priority in air commerce, and why the preemption provision of the ADA has been successfully used to prevent states from regulating aviation safety. Supporters of HR 978 argue that medical organizations around the country have used federal preemption principles to overturn state EMS and healthcare legislation around the country and, in those cases where state EMS rules have intruded on FAA authority and they are correct. In just one example, the state of Tennessee enacted regulations requiring, among other things, that "[a]ll helicopters performing air medical missions shall be equipped with avionics and instruments necessary to enable the pilot to execute an instrument approach under instrument meteorological conditions."[2] In connection with a lawsuit brought by a provider against the state

[1] AAMS Response to the "White Paper" Published and subsequently withdrawn by the National Association of State EMS Officials (NASEMSO), dated November 14, 2008.
[2] Tennessee Comp. R & Regs. 1200-12-1-.05(2)(c).

EMS Board, the Department of Justice (DOJ) and FAA argued that this approach "threatens the uniform system of regulation mandated by Congress in the Federal Aviation Act by placing aircraft operators under the control of at least 50 different potential state regulators, all with potentially different views of what is necessary to ensure safe operation." The DOJ went on to say that "[t]he FAA does not seek to interfere with Tennessee's ability to regulate the provision of emergency medical services to protect patient safety."[3] In its ruling against the EMS Board, the court rejected the notion that state regulations are permissible if they merely duplicate or supplement federal enactments but do not conflict with them. It is difficult to see how notions of "harmonization" are compatible with this and similar court rulings and ensuring safety as the highest priority in air commerce.

Finally, proponents of H.R. 978 have argued that "air ambulances are not and should not be simply air taxis"[4] but, as related to certain to rates, routes and services, air medical transport is first and foremost a medical operation (note that it is unclear how this applies to the airspace), which the states should consolidate into their regulatory purview, similar to ground ambulances. Completely missing from this simplistic analogy, apart from historical context on CON's, is the fact that transport by a truck down the highway and transport by a helicopter in the airspace are two totally different things, with significantly differing levels of complexity, operational needs, technology, equipment and downside risk. Modern air medical transport, like the rest of the air carrier industry, is an interstate, not a local, operation, even if some aspects take place within a state. Allowing each state separately to regulate the aviation aspects of this sector will produce a multiplicity of potentially conflicting state requirements that will undermine its strength and integrity, threatening its failure. This is precisely what the federal preemption provisions of the ADA were designed to avoid. The threat to air medical transport capacity will poorly serve both the nation's health care needs and its ability to respond to national and regional disasters.

If Congress' goal in the ADA was to ensure safety as the highest priority in air commerce, which air medical transport undeniably qualifies as, it is unjustifiable that any existing oversight over rates, routes and services by the federal government for air medical transport should be relegated to the states, based on comparisons to ground ambulances.

Preservation of States' Ability to Regulate Medical Care

AAMS has stated that it does not support the conclusion that federal legislation is necessary to preserve the medical care prerogatives of state officials. In a Response to the "White Paper" published and subsequently withdrawn by the National Association of State EMS Officials (NASEMSO), a paper based on previous legislation on the simliar subject of expanding state authorities, AAMS stated the following:

> The power and role of state officials over medical care certification, regulation, and standards associated with air ambulance operations is not now and never have been in question. States currently have the ability to regulate all medical aspects of air ambulance operations (McGinnis, Judge, & O'Connor, 2007).

[3] Statement of Interest of United States of America filed Nov. 29, 2006, *Air Evac EMS v. Kenneth S. Robinson, Commissioner of Health*, Case No. 3:06-0239, U.S. District Court, M. D. of Tenn.
[4] The "HMS Patient Safety Act (HR 978) Frequently Asked Questions" document.

> AAMS does not believe there is need for new, far-reaching federal legislation to clarify that States have the right to regulate medical care. Federal Courts and the United States Department of Transportation (DOT) have repeatedly done so by stating that the Federal preemption established by the ADA does not limit a State's ability to control medical care. Most recently, in the North Carolina case decided on September 26, 2008, the Federal District Court Judge held that limiting competition through a CON process was indeed preempted by Federal Law. However, the Judge clarified that this would not impact a State's ability to oversee and regulate medical care: *"As detailed above, those portions of the challenged laws and regulations that relate primarily to patient care are not preempted, and the state's interest in overseeing the medical aspects of air ambulance service is thus not unduly compromised."*[5]

The document entitled "Overview of The Helicopter Medical Services Patient Safety, Protection and Coordination Act (HR 978)" asserts that "in the past few years, the appropriate boundary between state and federal oversight of HMS has been undermined" and that "there is lack of clarity between these two spheres [aviation and medical] and this threatens patient safety and the quality of patient care and impedes the proper coordination of services." This is simply not the case. The DOT and numerous courts have clearly delineated, particularly in recent years, the areas in which states control medical care and the areas in which the federal government controls aviation operations, as presented in: "Federal Preemption of State Regulation over Air Ambulances," *Air Medical Journal*, 2008 (Exhibit A).

In summary, AMOA agrees with AAMS' analysis, supported by numerous DOT and court decisions, that states currently have clearly-defined authority and means to regulate medical care and supports the continued exercise of this authority. The assertion that the HMS Patient Safety Act will "ensure a level playing field where all helicopter medical service providers must meet quality standards and participate in a coordinated air medical transport system that promotes the best interests of the patients"[6] is without merit. States already have this authority.

Full Access for Patients and Communities

If, as has been demonstrated above, the states already have the authority over medical care and the federal government has the regulatory authority over aviation operations, the remaining question becomes: How does this bill affect safety and patient care in ways that cannot already be accomplished within the existing regulatory framework? The simple answer is the bill creates the opportunity for states to regulate access, which can only be more limiting than the status quo, through CON's and/or other similar exclusionary measures currently preempted under the ADA's regulation of rates, routes and services, and which has been the central issue in many of the state challenges to the ADA.

There is no factual or anecdotal evidence that CON processes increase the availability of air ambulance services to a community. In fact, CON's are designed to limit, rather than expand,

---

[5] IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF NORTH CAROLINA, WESTERN DIVISION NO.5:07-CV-222-FL, September 26, 2008.

[6] The "HMS Patient Safety Act (HR 978) Frequently Asked Questions" document.

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. Unfortunately, the CON process, in the very few states retaining it, can become a political tool used by incumbents to keep competition at bay by creating barriers to entry.

In 2003, the Federal Trade Commission (FTC) 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. A written statement prepared for a Joint Session of The Health and Human Services Committee of the State Senate and The CON Special Committee of the State House of Representatives of the General Assembly of the State of Georgia, on February 23, 2007 by Mark J. Botti, Chief, Litigation I Section, U.S. Department of Justice, Antitrust Division states:

> *"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 thus are 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."* He went on to add: *"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 the use of CON's in the air medical transport industry, AAMS has noted the following:[7]

> History has shown that those few States who implement CON-type regulatory schemes designed to regulate the number of air ambulance providers stifled competition, resulting in fewer, not more air ambulances, and this, in turn, results in less, not more availability to the public, thus decreasing access to life-saving services. In a twenty year period between 1986 and 2006 there were eight instances where States attempted to limit the number of air ambulance providers in their jurisdiction based on a CON-type regulation. In each of these cases (Minnesota 1986, Arizona 1987, Nebraska 1989, Missouri

[7] AAMS Response to the "White Paper" published and subsequently withdrawn by the National Association of State EMS Officials (NASEMSO), dated November 14, 2008.

1997, Kentucky 1998, New York 2000, Tennessee 2002, Hawaii 2006) the State reversed their position either as a result of a court order, or at the direction of their State's Attorney General, thus allowing more air ambulances to operate within their jurisdiction. In each of these instances, there was, and continues to be, a net increase in the number of air ambulances providing services in those states, and therefore a net increase availability of the service to the public.

Currently only six (6) States continue to attempt to regulate the number of air ambulance providers through a CON process (Connecticut, Maine, Massachusetts, Michigan, North Carolina, and Vermont). According to data from the Atlas and Database of Air Medical Services (ADAMS), (The Center for Transportation Injury Research, 2008, NHTSA, 2005), those states that regulate the number of helicopters via a CON process have fewer helicopters relative to their population than do states that allow free market competition to dictate the number and location of helicopter air ambulances. While this fact alone may not tell the entire story as population density and the distances between major hospitals should also be considered, it is consistent with the experience of the past twenty years, in that the CON process tends to limit rather than expand the number of air ambulances. The national average is 1 helicopter per 346,000 people. By comparison, those few States that attempt to limit the number of helicopter air ambulances average far less than half that ratio:

- Connecticut -- 1 helicopter for every 1,702,783
- Maine -- 1 helicopter for every 637,462
- Michigan -- 1 helicopter for every 903,495
- Massachusetts -- 1 helicopter for every 1,587,274
- North Carolina -- 1 helicopter for every 536,621
- Vermont -- 0 helicopters for a population of 608,827 (served by an aircraft in NH)

As the healthcare industry undergoes its own changes, the demand for air medical services, particularly for millions of rural Americans who are unable to access specialty care in a timely fashion without the aid of air medical services, has become even greater, including for the following well-documented reasons:

- Loss of full-service community hospitals in rural areas, as well as local, community-based ambulance services;
- Decreasing specialist and subspecialist coverage at community hospitals (e.g., generally surgery, neuro-surgery, obstetrics, orthopedics);
- Decline of specialist and sub-specialist physicians willing to take unassigned patients (most of whom are uninsured or under-insured) at community hospitals;
- Declining capabilities of rural EMS services which are heavily volunteer dependent;
- General contraction of the health care system with the loss of emergency departments and Level I and II trauma centers;

- Increasing number of time-sensitive therapies requiring major center care for the treatment of time dependent diseases, especially cardiac, stroke and trauma patients;
- Regional corporate health system hub and spoke array development of hospitals and services; and
- Increasing number of "baby boomers" and rates of trauma, cardiac and stroke.

It is incumbent upon the healthcare system and medical authorities to allow medical providers to meet that increasing demand as part of our nation's healthcare infrastructure with the highest levels of safety and quality patient care to ensure the public trust, acknowledging that different types of providers serve different types of communities, even within a state, and one size does not fit all.

In summary AMOA fully supports, promotes and encourages the wide ranging ability and authority of state EMS and other medical officials to regulate the medical aspects of air medical transport and continue to license air medical transport services under this authority. Limiting the use of air medical transport service is not a safety solution; simply flying less theoretically may lead to fewer accidents, but that will not increase aviation safety in air medical transport services. Furthermore, facilitating means for limiting the use of air medical transport services is in direct opposition to improving patient care. We do not believe that providing states with the ability to reduce or restrict access of air medical resources to communities have the patients' best interests in mind. This was demonstrated in an earlier, similar rendition of this bill in North Carolina, one of six states with an air medical CON, where patients flown by out of state operators were prevented from picking up a North Carolina patient and flying that patient to a North Carolina hospital, thereby requiring transport to an out of state hospital, by virtue of the state's certificate of need regulation. This regulation was overturned.

The assertion that "the ADA has been used been used to overturn long standing state EMS and public health regulations to enable unfettered entry into geographic areas where air medical programs already exist and to eliminate the need to comply with quality air medical transport standards"[8] flies in the face of the facts and circumstances of the North Carolina, Tennessee and other legitimate operator challenges to state EMS regulations. We believe H.R. 978, and the ability it would provide a state to limit the number of aircraft operating within a state is not only in conflict with the intent of the ADA, but we believe it represents bad public policy. H.R. 978 would create the potential for a patchwork of 50 different state regulatory structures governing the aviation economic aspects of air medical transportation, parallel state aviation safety regulatory structures, undermining the capacity of the nation's air medical transportation resources, unnecessarily restricting the number of aircraft available to respond to medical emergencies and putting a significant number of current and future aviation and medical professionals' jobs at risk.

[8] The "HMS Patient Safety Act (HR 978) Frequently Asked Questions" document.

Other Air Medical Issues Important to Aviation Safety

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.

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 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.

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, equipage requirements, pilot training, communications, and any other standards specifically made applicable to all other operators engaged in air medical transportation.

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.

Instrument Flight Rules Operations and Improved Infrastructure

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. 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 en route network as well as "precision" WAAS GPS approaches; these joint initiatives are an industry first, are in their infancy, and require continued support.

The enhancement of the low-altitude infrastructure must include 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.

Conclusion

AMOA remains committed to the principal that advancing safety through both voluntary standardization efforts and regulatory oversight will result in a decrease in air medical accidents. Further, we believe that through effective cooperation with state officials, exercising their current authorities over the medical segment of the operation of air medical transport, we can continue to provide this service in a safe manner when deemed appropriate by medical personnel. The current rulemaking process allows for this cooperative effort to take place. Air medical operators working together, and in conjunction with federal authorities for the development of practical and effective aviation safety rules will ensure the safest possible transportation; these operators working in conjunction with the medical community and state medical officials will result in similar levels of oversight in the medical arena. While we cannot promise that there will never be another accident of a medical or transportation nature in an air medical helicopter, we can collectively promise to work together to ensure that those accidents are prevented to the fullest extent of our abilities as providers and regulators.

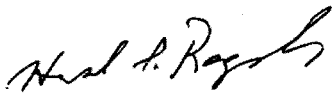
There are many myths about air medical services circulating in the media and in conversations concerning the efficacy and necessity of this service. As we believe we have illustrated through this testimony, air medical transport services are a vital component of the emergency medical system and are a highly regulated and appropriately overseen segment of both the aviation and medical communities. Air medical services, either for-profit or non-profit, submit to the same licensure and oversight process at both the federal and state level, both respond to requests for transport only when deemed appropriate by referring medical personnel and do so without the knowledge of or guarantee of payment. Finally, despite allegations that air medical helicopters are poorly equipped and under-regulated, these aircraft are in fact some of the most

technologically advanced aircraft, under the most scrutiny from management and regulatory agencies, providing helicopter transportation in the United States today.

In closing, we ask that you continue your vigilance on behalf of the public we transport, and help us support this vital service.

Sincerely,

Craig Yale
Executive Vice President,
Air Methods Corporation
On Behalf of the Air Medical Operators Association (AMOA)



Howard Ragsdale
President, AMOA

Christopher Eastlee
Managing Director, AMOA

U.S. House of Representatives
Committee on Transportation and Infrastructure

James L. Oberstar
Chairman

David Heymsfeld, Chief of Staff
Ward W. McCarragher, Chief Counsel

Washington, DC 20515

John L. Mica
Ranking Republican Member

James W. Coon II, Republican Chief of Staff

May 8, 2009

Mr. Craig Yale
Executive Vice President,
Air Methods Corporation
Air Medical Operators Association
1940 Duke St., Suite 200
Alexandria, VA 22314

Dear Mr. Yale:

On April 22, 2009, the Subcommittee on Aviation held a hearing on the "Oversight of Helicopter Medical Services."

Attached are questions to answer for the record. I would appreciate receiving your written response to these questions within 14 days so that they may be made a part of the hearing record.

Sincerely,

Jerry F. Costello
Chairman,
Subcommittee on Aviation

APRIL 22, 2009
SUBCOMMITTEE ON AVIATION
HEARING ON
OVERSIGHT OF HELICOPTER MEDICAL SERVICES

QUESTIONS FOR THE RECORD
TO:
MR. CRAIG YALE
EXECUTIVE VICE PRESIDENT,
AIR METHODS CORPORATION
ON BEHALF OF
AIR MEDICAL OPERATORS ASSOCIATION

1. Mr. Yale, in your testimony you state that "the CON [Certificate of Need] process tends to limit rather than expand the number of air ambulances." Please explain.

2. Mr. Yale, Mr. Tom Judge stated in his written testimony that "The result of the broadly preemptive nature of the ADA [Airline Deregulation Act] in its applicability to medical helicopters as air carriers is a major gap in [HEMS] regulation because states are prohibited from effective state health planning." Please comment.

3. Mr. Yale, in your testimony you state that operators should provide pilots with recurrent aviation training for specific scenarios. Please explain what that training should entail.

Congressman Jerry F. Costello, Chairman
Subcommittee on Aviation
Committee on Transportation and Infrastructure
U.S. House of Representatives
Washington, DC 20515

May 21st, 2009

Dear Mr. Chairman,

Thank you for your continued interest in the issues of air medical transport safety and the current issues affecting the air medical transport industry. I am happy to reply to your questions, sent in a letter dated Mar 8th, 2009, on behalf of the Air Medical Operators Association (AMOA).

Those questions, and my response, are as follows:

1.) Mr. Yale, in your testimony you state that "the CON [Certificate of Need] process tends to limit rather than expand the number of air ambulances."
Please explain.

Mr. Chairman:

By its very design, the CON process limits, rather than expands, the number of healthcare providers in a given area. In order to understand this, one must first understand how the CON process works. States do not use the CON process to solicit new healthcare providers into a given market, rather the CON process is only triggered after a healthcare provider makes the initiative to establish or expand services within a State and makes an application for that ability. The prospective applicant is then burdened with demonstrating to a political body that there is indeed adequate demand for the new or expanded service. Existing providers of course, are motivated to keep new competition out of their market, and have the ability to lobby the same political body to deny the application based on their assertion that they already provide an adequate quantity or quality of service, and that there is no "need" for additional providers.

The CON process is a very expensive and time consuming process than can take many months and cost tens, if not hundreds of thousands of dollars before the applicant receives a determination from the political body. If either the applicant or existing providers do not get the results they want, or believe that the political process was unfair, it is very common for them to seek relief from the courts.

The very prospect of having to face the daunting CON process serves as a deterrent for new providers to enter a market.

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

1940 Duke Street, Suite 200, Alexandria, VA 22314 T: 703-684-4447 F: 703-548-9446 www.airmedicaloperators.com

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 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.

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. As illustrated in our written testimony and restated here, The Association of Air Medical Services (AAMS) in its response to the "White Paper" published and subsequently withdrawn by the National Association of State EMS Officials (NASEMSO), dated November 14, 2008, notes the following:

> "History has shown that those few States who implement CON-type regulatory schemes designed to regulate the number of air ambulance providers stifled competition, resulting in fewer, not more air ambulances, and this, in turn, results in less, not more availability to the public, thus decreasing access to life-saving services. In a twenty year period between 1986 and 2006 there were eight instances where States attempted to limit the number of air ambulance providers in their jurisdiction based on a CON-type regulation. In each of these cases (Minnesota 1986, Arizona 1987, Nebraska 1989, Missouri 1997, Kentucky 1998, New York 2000, Tennessee 2002, Hawaii 2006) the State reversed their position either as a result of a court order, or at the direction of their State's Attorney General, thus allowing more air ambulances to operate within their jurisdiction. In each of these instances, there was, and continues to be, a net increase in the number of air ambulances providing services in those states, and therefore a net increase availability of the service to the public.
>
> Currently only six (6) States continue to attempt to regulate the number of air ambulance providers through a CON process (Connecticut, Maine, Massachusetts, Michigan, North Carolina, and Vermont). According to data from the Atlas and Database of Air Medical Services (ADAMS), (The Center for Transportation Injury Research, 2008, NHTSA, 2005), those states that regulate the number of helicopters via a CON process have fewer helicopters relative to their population than do states that allow free market competition to dictate the number and location of helicopter air ambulances. While this fact alone may not tell the entire story as population density and the distances between major hospitals should also be considered, it is consistent with the experience of the past twenty years, in that the CON process tends to limit rather than expand the number of air ambulances. The national average is 1 helicopter per 346,000 people. By comparison, those few States that attempt to limit the number of helicopter air ambulances average far less than half that ratio:
>
> - Connecticut -- 1 helicopter for every 1,702,783
> - Maine -- 1 helicopter for every 637,462
> - Michigan -- 1 helicopter for every 903,495
> - Massachusetts -- 1 helicopter for every 1,587,274
> - North Carolina -- 1 helicopter for every 536,621
> - Vermont -- 0 helicopters for a population of 608,827 (served by an aircraft in NH)"

AMOA believes that an unrestricted market is the best way to determine the optimal number of aircraft in any given market at any given time. AMOA does support legislation to assure safety and compliance of all operators and aircraft in those market areas.

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.

We also question the use of CON's in aviation or patient safety discussions. 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. All emergency responses by HEMS programs must be at the request of a qualified medical professional. None of the issues surrounding CON's have any context in safety discussions, as CON's only affect issues of competition, and have no bearing on the state's ability to effectively regulate medical care, patient safety, or the FAA's ability to regulate aviation safety.

Further, the air medical industry is committed to safety throughout the industry, and should remain under the exclusive regulation by the FAA. We also believe that the FAA's authority over aviation safety is, and should remain, exclusive.

2.) Mr. Yale, Mr. Tom Judge stated in his written testimony that "The result of the broadly preemptive nature of the ADA [Airline Deregulation Act] in its applicability to medical helicopters as air carriers is a major gap in [HEMS] regulation because states are prohibited from effective state planning.
Please comment.

Mr. Chairman: As noted above, the "state planning" that Mr. Judge refers to, the CON process, has been noted on numerous occasions to hinder, rather than expand, availability of and access to needed healthcare services.

With respect to State regulation, we believe that DOT and the Courts have been very consistent and have offered clear guidance on these issues. 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 aviation safety issues such as 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, medical 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. Again as noted above, state health planning is in no way prohibited by the current federal legal framework; a state has the uncontested ability to regulate medical care for patients aboard an air medical aircraft. The only ability the CON process gives a state is the ability to bar the entry of air medical transport services into existing markets; often these states make these determination based on the influence of incumbent hospitals and medical systems.

This statement by Mr. Judge does not indicate how, if the ADA could not be applied to HEMS, the introduction or preservation of a CON process would address any perceived shortfall of HEMS regulation, either on the state or federal level. We have stated, repeatedly, that any regulatory shortfall can be addressed by the state's medical authority or the federal government's aviation authority- perfectly workable solutions are available under the current federal statutory framework.

We must therefore conclude that the only other "gap" in the state's ability to regulate created by the ADA is not strictly the CON, but the ability of the state to regulate aviation issues. The proponents of this profound change are seeking to divest the federal government of its current authority, create a patchwork of aviation regulations restricting transports, and provide state medical regulators with aviation authorities for which they have no knowledge or expertise.

Further, AMOA would like to formally contest the statements made regarding so-called "wallet-biopsies", "call jumping", improper or unsafe cabin conditions during transport, or improperly trained medical crews. We believe that these statements, and others relating to so-called regulatory "gaps" are overwhelmingly based on little more than hearsay and conjecture; further, in the aberrant case where there problems have occurred, the affected air medical services have worked with state and federal regulators to ensure those issues are addressed in a timely manner with appropriate corrective action.

3.) Mr. Yale, in your testimony you state that operators should provide pilots with recurrent aviation training for specific scenarios. Please explain what that training should entail.

Mr. Chairman: One of the key mitigations to the risks and causal factors of accidents is increased training, both for aviation and medical personnel. It is for this reason that AMOA joined with HAI and AAMS to recommend that 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. By providing more information of this type, post-accident investigations can better inform future training requirements, and other regulatory and air medical service policy changes.

Many of the methods of instruction (MOI) employed by Part 135 air carriers were influenced by the experiences that key training personnel brought from the military. The training focused on handling in-flight emergencies and the pilot's flying proficiency in performing his duties as pilot in command. From the inception of the air medical industry, the pilot in command has been the final authority responsible for accepting and conducting a flight.

In the late 80s and the early 90s, many Part 135 air carriers added Crew Resource Management (CRM) training to their curriculum. They then embraced an additional philosophy focused on Aviation Decision Making (ADM) that has evolved to an industry specific combination of these philosophies—now called Air Medical Resource Management (AMRM). Unlike previous efforts, this MOI embraced all parties involved in the air medical transport to include pilots, clinicians, maintenance, communications and management personnel.

The proliferation of available flight training devices (FTD) and flight simulators have been incorporated into many pilot training programs in recent years. All Part 135 carriers are utilizing Federal Administration Aviation (FAA) approved training programs which meet or exceed existing regulatory training requirements. More dollars are invested into training personnel involved in the air medical transport sector today than in any previous period of the industry's history.

AMOA is currently focused on providing benchmarks for "scenario based training" which can employ FTD's to simulate scenarios otherwise impossible to simulate safely in reality, such as recovery in inclement weather, engine and equipment failures, and other situations that would dangerous to practice in live-action training exercise. Further, AMOA members recognize that more frequent recurrent training is needed on new technology, as the implementation of a safety enhancement, such as night vision goggles or terrain alert warning systems, requires a more focused training regimen that occurs more frequently. These training scenarios do not necessarily need to be simulator based, but can be performed in conjunction with other scenarios, or as part of training exercises in new aircraft types.

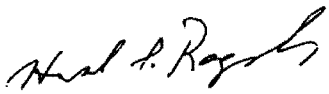
AMOA firmly believes that a focus on training with more frequency and a wider scope of scenarios is needed to address the human factors issues that are evident in the recent accidents in air medical transport. To this end, AMOA plans to include training in its benchmarking efforts, along with terrain and obstacle avoidance systems, management oversight, and enhanced safety management and data collection.

I would like to again thank you, Mr. Chairman, for this opportunity to further inform the Subcommittee on behalf of AMOA. I would also like to take this opportunity to recommend that the Subcommittee consider legislation that would direct the Department of Transportation (DOT), to perform a study of the claims made some members of the Subcommittee and the witnesses who provided testimony to the Subcommittee hearing on April 22, 2009. AMOA believes that these claims are false and misleading, and a study will effectively put these issues to rest and once again provide clear guidance to state and federal regulators on the issue of regulatory jurisdiction.

As the parties responsible for aviation safety, AMOA is dedicated to providing air medical transport in the safest manner possible, and will continue to work to that end. Similarly, we are committed to ensuring that as an organization representing over 93% of the air medical transport industry, we provide those services in the safest and most effective medical and aviation environment possible. It is our singular goal to provide access to safe and effective air medical transport to every patient who needs those services, and will continue to work with federal and state regulators to ensure that goal.

Sincerely,

Craig Yale
Executive Vice President,
Air Methods Corporation
On Behalf of the Air Medical Operators Association (AMOA)



Howard Ragsdale
President, AMOA

Christopher Eastlee
Managing Director, AMOA

1635 Prince Street, Alexandria, Virginia 22314-2818 Telephone: (703) 683-4646 Fax: (703) 683-4745

HELICOPTER ASSOCIATION INTERNATIONAL

TESTIMONY ON OVERSIGHT OF HELICOPTER MEDICAL SERVICES

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
SUBCOMMITTEE ON AVIATION
UNITED STATES HOUSE OF REPRESENTATIVES

April 22, 2009

Matthew Zuccaro
President

Dedicated to the advancement of the international helicopter community
www.rotor.com

HELICOPTER ASSOCIATION INTERNATIONAL

TESTIMONY ON
OVERSIGHT OF HELICOPTER MEDICAL SERVICES

HOUSE TRANSPORTATION AND INFRASTRUCTURE COMMITTEE
SUBCOMMITTEE ON AVIATION
UNITED STATES HOUSE OF REPRESENTATIVES

April 22, 2009

HAI sincerely appreciates the opportunity to address legislative proposals offered by Mr. Salazar (H.R. 1201) and Mr. Altmire (H.R. 978) and to discuss the oversight of helicopter medical services with the committee. I respectfully request that you accept my full written testimony into the official record.

HAI represents the international helicopter community and is a not-for-profit, professional trade association of over 2,800 members, inclusive of 1,400 companies and organizations. HAI members safely and professionally operate in excess of 5,000 helicopters, and fly more than two million flight hours per year.

Member companies include helicopter and heliport operators, as well as manufacturers, and unlike many other trade associations, operations conducted by HAI members are not limited to one type of specific flying or purpose. HAI members operate helicopters across a wide spectrum of over 50 missions, such as offshore oil and gas support in the Gulf of Mexico, on-demand charter, utility services, public service, law enforcement, and agricultural, as well as emergency medical services.

HAI represents 93 air medical service operators, providing service throughout the U.S. These operators are comprised of 74 commercial operators and 17 government service operators, flying a total of 1,219 aircraft, which we estimate represents 90 % of the helicopter EMS operations being conducted within the United States.

HAI believes the current emergency medical services (EMS) accident rate is unacceptable and that the recent series of events were preventable. We fully support any initiative that improves the safety of EMS operations, and recommend a cooperative effort between industry and FAA, with a resultant FAA rulemaking initiative as necessary to achieve a safer EMS industry. In recognition of this, HAI has worked with EMS operators to mitigate accidents, emphasizing risk management, and advocates for the extensive use of safety management systems (SMS). HAI has been instrumental in working closely with the FAA in the development of long-term initiatives addressing such issues as 135 vs. 91 operations on all legs, utilization of such technology as Night Vision Goggles, radar altimeters, HTAWS, devices that perform the

function of CVR/FDR, operational control centers, and formalized risk assessment/hazard mitigation programs.

HAI has also been an industry leader by sponsoring numerous Safety forums focused on helicopter EMS operations. Participation in these forums has involved industry as well as executive level representatives of the FAA and NTSB, all working towards our common goal of enhanced safety.

Additionally, HAI has committed resources and staff in support of the efforts of the International Helicopter Safety Team (IHST), a worldwide helicopter industry initiative with a goal of reducing helicopter accidents by 80% within the next 10 years. In addition to my position as President of HAI, I am also honored to serve as the Co-Chair of the IHST global effort, which is a data driven analysis process, modeled after the successful CAST program utilized by scheduled air carriers.

As a result of a recent in-depth collaborative industry / FAA safety effort, the FAA made revisions to Part 135 HEMS Operations Specifications (A021), setting forth detailed flight planning and increased weather minimum requirements for EMS helicopter flights. Additionally, the FAA is currently evaluating the use of single-crew night vision goggle (NVG) operations to determine safety benefits.

Of equal importance is the need to secure Federal funding for remote weather stations that would fill the existing gap, especially at night, in the availability of off-airport automated weather reporting stations to support helicopter EMS operations. There is also a critical need for a dedicated low-altitude IFR helicopter route structure, and associated instrument helicopter approaches to hospital heliports, and other locations such as accidents scenes. This will provide all-weather helicopter instrument flight capability emergency services in the public interest, which is consistent with public expectation and necessity of such services. Any funding initiative should be inclusive of research and development of advanced technologies to facilitate this capability.

Earlier this year, the National Transportation Safety Board (NTSB) completed four days of safety hearings on the subject of helicopter emergency medical services (EMS). HAI was a designated party to and witness at the NTSB hearings and continues to serve as a major contributor to the NTSB and FAA efforts to enhance safety in EMS operations. The use of helicopters to provide emergency air ambulance transport has a unique set of operational issues that are distinct from other helicopter operations. The recent NTSB public hearings on the matter dealt with and documented this aspect.

H. R. 1201, the Salazar legislation, aims to increase safety for crew and passengers on aircraft providing emergency medical services and would require EMS pilots to comply with Part 135 regulations whenever there is medical crew on board, regardless of whether a patient is also on board. Part 135 did not envision operations <u>not</u> being conducted from or to an airport. This has produced unique issues for helicopter operations due to an inherent belief that there is always weather support wherever operations are conducted.

While HAI supports the conduct of actual EMS under Part 135, requiring non- EMS operations under Part 135 on all legs does not address all of the safety concerns. While destination weather sources are required for Part 135 IFR, some relief has been provided with the revised EMS operations specification (A021) which allows for any weather source approved by the administrator within 15 miles of destination.

Relative to the discussion of Part 135 vs. 91 on all legs, based on the initial information regarding the recent fifteen (15) accidents / incidents involving HEMS helicopters within the last sixteen (16) months, it appears that none of the 15 accidents would have been affected by implementation of the Part 135 requirement contained within the Salazar bill.

HAI believes the actual question that should be addressed regarding medical personnel being onboard the aircraft relates to their status, as to whether they are passengers or crewmembers. Once a resolution is reached as to this issue, then the proper regulatory guidance can be applied, be that FAR Part 135 or 91. Should medical personnel be granted special status such as Part 135.85? Or should they be included in the definition of crew members and potentially be subject to such oversight as drug / alcohol screening and duty/rest requirements? Also, how do we address operations where everyone aboard the aircraft is a company employee and no patient is embarked (i.e. no common carriage)? Such a flight is legitimately allowed as a Part 91 operation. Currently, the question becomes an operator-by-operator decision. HAI believes Congress should task FAA with resolving this matter.

Further H.R. 1201 should be modified calling for the operator and not the pilot to comply with Part 135 regulations whenever medical personnel are on board, regardless of whether a patient is also on board. It is the operator that holds the Part 135 certification and not the pilot.

HAI is a strong advocate of flight risk evaluation, including usage of a standardized checklist of risk evaluation factors to determine whether a flight should be conducted. A collaborative effort between the FAA and the air medical community should be undertaken to develop performance-based flight dispatch procedures and a method to measure compliance. HAI recommends H.R. 1201 be revised to clarify that the performance based flight dispatch procedures should be for the dispatch of the aircraft and not the pilot.

An appropriate feasibility study should be conducted by the FAA Administrator on "devices that perform the function of recording voice communications and flight data information" on new and existing aircraft. The use of the words "flight data and cockpit voice recorders" contained in the Salazar bill does not give recognition to alternative technologies that better serve helicopter operations.

With regard to FAA rulemaking, HAI believes the current FAA rulemaking process is unacceptable in terms of the length of time it takes to effect a rule change. Clearly, the FAA rulemaking process is not timely, and needs to be revised. Accordingly, Congress should direct the FAA to review its current rulemaking procedures and revise same to expedite implementation of beneficial safety initiatives, when appropriate.

Mr. Altmire's legislation, H.R. 978, is asking for a change in existing law under the guise of health planning and patient safety to allow states to regulate aviation operations already covered by FAA regulations. The authority of states to regulate helicopter medical services with respect to medical qualifications and training already exists.

The Airline Deregulation Act (ADA) of 1978 stipulates that the Federal government shall have preemptive rights with regard to interstate air transportation, and prohibits air carriers from operating unless they are in compliance with Federal Aviation Regulations (FARs). Under the doctrine of implied or field preemption, concurrent state regulation is preempted even if it is not in conflict with federal law. Helicopter operators who provide aircraft for EMS are by definition (14 CFR Part 119.3) on demand charters and are required to be in full compliance with applicable FAA regulations, i.e. 14 CFR Part 135.

The FAA's certification branch is responsible for determining what equipment is appropriate and does not interfere with navigational equipment or aircraft systems – similarly, the aircraft cannot have equipment installed that would interfere with necessary medical equipment. The Department of Transportation (DOT) has concluded that a state is free to regulate medical services provided inside an EMS aircraft, including establishing minimum requirements for medical equipment as well as training and licensure requirements for the medical crew.

What the Altmire bill is really saying here is that the ADA doesn't apply to medical health-related regulations. Where is the deficiency? Is substandard medical service being delivered? Medical treatment has nothing to do with safety of aircraft. This is clearly not an aeronautical deficiency, but rather economic regulation, and would result in entry controls limiting who can conduct EMS operations on a state-by-state basis, thereby eliminating robust competition where so required in the public interest to provide air transportation to the greatest number of people.

What determines adequate capacity? What is a state's interpretation? What demonstrates the need for new or expanded helicopter medical services? If you are concerned with safety and getting people to a hospital safely, why would you limit the number of helicopters or the routes they can fly? Where is the direct correlation or research that indicates the number of HEMS accidents in a given area is directly related to the number of providers in that geographic area.

What if one EMS operator could only fly from D.C. to Fredericksburg and another could only fly from Fredericksburg to D.C. because of state imposed route mandates? Is such an operational constraint in the public interest?

What about the potential impact on other industry segments? Mr. Altmire's bill would lead the aviation industry and, in particular, the helicopter industry down a slippery slope. Other helicopter segments such as pipeline and power line patrol, aerial application, and air tours, where aircraft require the ability to routinely cross state lines to conduct operations could find themselves facing a myriad of conflicting regulations or the inability to operate in a neighboring state. It also opens the door to facilitating states' collecting more revenue from additional licensing requirements. There is no need to pass a remedy to fix a problem that doesn't exist.

Congress must not allow states to regulate aeronautical issues. Aviation services and medical services are separate and distinct, except for such issues as the installation of medical equipment within the aircraft which clearly falls under FAA purview as it pertains to airworthiness. As separate and distinct entities in the course of conducting EMS operations, the unanswered questions this legislation raises are how H.R. 978 will make EMS operations safer, what is the problem that will be fixed with passage of the Altmire bill, and what unintended consequences will result for all forms of aviation if H.R. 978 is approved?

The Altmire legislation would result in a patchwork of regulations wherein helicopter operators would have to meet aviation requirements at the Federal level for their certification, at the state level for essentially the right to operate, as well as the qualification of their medical personnel and equipment, thus potentially having to meet more than one state's requirements. If the nearest trauma center is 10 minutes away across a state line, should a state be able to say operators must fly 60 miles in the opposite direction to the nearest in-state trauma facility?

By the very nature of their geographic sphere of operations, EMS operators routinely cross state borders, and one aircraft could operate in three or more states over the course of one period of duty. The Department of Transportation (DOT) opined that as a practical matter, all air ambulance providers would likely be viewed as engaging in interstate commerce under applicable legal standards, even in a state the size of Texas. Further, DOT said that "permitting a state to impose its own rules would create bureaucratic redundancies, duplicative enforcement regimens, and potentially inconsistent interpretations and enforcement approaches."

States are already regulating medical or non-aviation aspects of EMS. For example, the states regulate the licensure of EMS organizations for various types of EMS tasks, as well as the training and certification of medical professionals, and continuing education requirements for medical providers.

Helicopter operators already coordinate with emergency medical service providers, receiving institutions, and other medical transport service providers. They deliver emergency helicopter medical services to all persons as medically necessary and appropriate in accordance with the helicopter providers' contracts. Operators do not determine who is to be transported; the medical community makes that decision.

The States already regulate vehicles used for EMS, including aircraft as relates to medical issues. For example, Virginia regulates the sanitation of vehicles, including aircraft used for EMS. Virginia regulations specify the medical equipment and supplies that must be carried on board, and requires that aircraft used for EMS have radios to allow communications among different EMS providers. (See 12 VAC 5-31-720, 840, and 760). On certification and safety of flight issues, the Virginia regulations defer to the FAA, distinguishing between medical care and flight safety, extensively regulating the former and deferring to the FAA as to the latter.

Where the state of Tennessee attempted to mandate certain avionics to be used in EMS helicopters, a federal court found as a matter of law that the Tennessee regulation went too far and was preempted by Federal law. Allowing states to interfere in aeronautical equipment carried on board or affixed to the helicopter crosses the line, and this is clearly mandated by the

FAA. Physical attributes and helicopter equipment must be consistent with federal operating requirements.

The purpose, history, and language of the Federal Aviation Act and the creation of the FAA demonstrate that Congress intended a single, uniform system in place to regulate aviation safety. As has been well documented in numerous court cases, states should not be free to undermine and render ineffective federal safety programs. Application of varying state laws to aviation safety issues would be a detriment, and result in an unreasonable patchwork of state laws governing airspace safety.

Through the Airline Deregulation Act (ADA), Congress deregulated the air transportation industry to ensure that the States would not undo Federal deregulation with regulation of their own, to prevent conflicts and inconsistent regulations, preempting any state laws relating to rates, routes or services of any air carrier. Thus, there is no need for the Altmire legislation to amend the preemption provisions as proposed, since the states are already regulating the medical aspect of EMS, and the states can do so without upsetting well-settled principles of preemption and the recognized need to have uniform regulation of airspace and air operations.

Committee on Transportation and Infrastructure
U.S. House of Representatives
Subcommittee on Aviation
Hearing on the Oversight of Helicopter Medical Services
Wednesday, April 22, 2009

From: Danielle Bean
Mother of Dr. Darren Bruce Bean

Home address: 39221 Woodward-Unit #301
Bloomfield Hills, Michigan 48304

Permanent address: P.O. Box 2035
Park City, Utah 84060

Cell # (801) 209-0302
Home: (248) 593-9097

Biographical information Dr. Darren Bruce Bean:

Birthday: December 4, 1970
Killed: University of Wisconsin Medical Helicopter crash May 10, 2009
Darren's father-Bruce A. Bean, killed in a plane crash, May 19, 1972.

Family: Dr. Stacey Bean, Emergency Physician
Children: Caitlyn-6 and Parker-4

Education: Park City High School, Park City, Utah-1989
University of California-Davis, 1994
University of Vermont Medical School-1999

Residency: Carolinas Medical Center, Charlotte, North Carolina

Attending clinical practitioner and faculty member, University of Wisconsin Hospital and Medical School.

Medical Director, Fire Department, City of Madison, Wisconsin.

Mothers Day – May 11, 2008. Dr. Darren Bruce Bean died very late the night before, May 10, 2008, in a med flight helicopter crash in La Crosse, Wisconsin. The phone rang early, we were still in bed. Brian handed me the phone, I just presumed it was Darren calling on his way home from a night shift at the hospital. He was wishing me a Happy Mother's Day before the day got hectic with Stacey and the kids. He often called at all hours just to be funny because he usually was working all hours.

Dejavu! On May 19, 1972 I received a similar call telling me Darren's father, Bruce A. Bean, had died in a commuter airplane crash in Albuquerque, New Mexico. What are the odds of this happening to my only child, my only son? Winning the lottery odds? Darren was 17 months old. His father, 28, was holding him and looking at the plane he was about to board. His exact words to me were," This plane shouldn't be in the air. If something happens to me, you need to do something about it!" That was a Monday, that week on Friday the plane crashed. It wasn't pilot error. It was human error made in design/safety.

What did Darren tell me when he decided to choose med flight in addition to his clinical practice in ER and later becoming the Medical Director of the Madison Fire Department? With his sparkling eyes and his passion for helping others in his voice, and that wonderful smile of his that always melted my heart, his exact words were, "Mom, it's safe, it really is! I have a helmet. I have a fire proof suit. I have a cell phone!" "These people really need me, they really do!"

Well.....the helicopter company can call the insurance company, order a new helicopter, and their profits might go down a little, but they will recover. The families of these dedicated, caring and passionate people will never recover from their losses. Life goes on for everyone else except those that have lost their loved ones. I know this well! Two times over!

If I would have known then what I know now, I would have asked Darren more specific questions about this industry. The NTSB in 2006 made the necessary safety recommendations but no one listened. The NTSB safety recommendations came two years before Darren died. Why didn't the FAA mandate these safety improvements? The FAA feels the industry can self regulate, that medical helicopter companies will do what is right and voluntarily install safety equipment. Well, they were and are wrong, dead wrong. Darren died in the year with the most med flight helicopter crashes and fatalities. Two years after the NTSB made its recommendations for improved safety. How many other lives will be lost because of this indifference to safety recommendations and the irresistible allure of ever higher profits for a largely unregulated industry? Rules don't make things safer was a comment I heard at one of the hearings from the FAA. Well....I beg to differ. I believe those NTSB recommendations, had they been implemented, would have saved lives. A lot of lives! Perhaps, even the life of my only child.

It will be a year on Mother's Day. What has changed? Many meetings, many studies, summits on safety and hearings. Some of the technology has been in place for years but

not on medical helicopters. What makes this industry different than the regular airline industry that has safety for crews and passengers mandated? Who are the advocates for the flight crews, the medical professionals, and the people that put themselves on the front lines every day to try to help others? Who is looking out for them? Well...the FAA hasn't done anything. The industry fights regulation and accountability and wants profit margins to go up without spending the necessary money for readily available safety equipment. I know what Air Methods earnings were last year. It is public information. They could have put all of the recommended safety equipment on all of their helicopters and still had earnings in the hundreds of millions. And they can afford to install safety equipment before 2012.

This system is broken and needs to be put back together from the top down. I call it the Humpty Dumpty model. It's a valuable system but Congress and the FAA need to be an advocate for the people who get into these helicopters every day. Every time a med flight flies by I look up and ask why didn't Darren's helicopter have the safety equipment on it? Does this helicopter have the safety equipment that should be standard? I can tell you this, one industry spokesman at the NTSB hearings in February was so proud to claim they had the best helmet. A helmet that didn't save Darren, I can vouch for that first hand! On the other hand, night vision goggles and the TAWS system could have saved that crew that night. An up to date weather dispatch protocol could have helped, and a required risk assessment protocol, systemic changes resulting from regulation and oversight, could have made a huge difference in flight safety for Darren, Mark and Steve.

What happens if a pilot is overworked? You're still the pilot if you're flying with a patient on board, or without. Why do the flight hours to and from patient pick-up and hospital delivery not count when determining pilot fatigue? This makes no sense and adds significant hard-to-measure risk to helicopter med flight operations. Not counting these non-patient flying hours means the parent companies need fewer pilots and, therefore, have lower personnel costs all in the name of profit over safety.

There's always human error-what the industry invariably claims as the cause of every flight accident. Why was the human put into that situation and didn't that human have all of the necessary tools to help make the best decision possible? The arguments that I hear from the industry about human error are the same old arguments that are always used. The machine won't fail, but the human will. When in doubt, it definitely is human error, right? What about a black box to help find out what happened in those last fateful moments? You're not going to send a doctor, nurse, or a paramedic up without any medicine or equipment. Why can you send a pilot up without the necessary equipment, communications and protocols for that helicopter? Easy for management to sit in the office and make the calls but it's different for the crews and people on that plane. The playing field isn't even. It's not fair!

Darren is with me in spirit. I can hear him saying, "Mom.....we need to do this and we need to do it better and we need to reach more people and make this right!"

Someone in the industry said this would be a pity party for the families. I think it's a time for the families to stand up with others who care and demand change. You, being the industry and the FAA should be ashamed. Darren always told me that my mother, his grandmother, who suffers from Alzheimer's, needs an advocate. Well, now I'm telling you that Darren, and the others who serve the public health through med flight, all need advocates. Darren was a visionary leader. He had faith in this system. He died trying to make it better in every way. Get the patient to the cath lab faster. Put the patient in ice on the plane, and get CCR going in place of CPR in the community. He was dynamic. He was proactive and his focus was remarkable in every area of life. He pulled people together and that's what he would do in this case. I wish he were here! He would be instrumental in fixing this broken model. He would do it with such intensity. He would want everyone, industry and professionals to make it right and safer! God bless all the men and women who choose this profession because of their commitment to help others! Don't let these people die in vain! I just wish someone could fix his mother's broken heart.

Danielle Bean
39221 Woodward Avenue Unit #301
Bloomfield Hills, Michigan 48304

801-209-0302
beandfit@aol.com

Committee on Transportation and Infrastructure
U.S. House of Representatives
Subcommittee on Aviation
Hearing on the Oversight of Helicopter Medical Services
Wednesday, April 22, 2009
2167 Rayburn House Office Building
(202) 225-4472

Testimony of Laurie Brady
Sister of James W Taylor Jr. (d. July 4, 2008)

James W Taylor Jr. was a 1st Lieutenant in the Army Reserves. He was a nurse at St. Marks Hospital and had a second job as a life flight nurse out of Page, AZ. On June 29th, 2008 James's helicopter was involved in a mid-air collision with another lifeflight helicopter over Flagstaff, AZ.

Although James was the sole survivor of the initial crash, 6 others lost their lives that day, he later succumbed to his injuries and died on July 4th, 2008. He left behind a wife and 3 little boys. James devoted his life to his family, his country, and his fellow man. He gave his life while trying to save that of another.

James's circumstances are unique in that this mid-air collision occurred on a sunny cloudless day. The hospital called in two life flight helicopters at the same time, never informing either pilot that they both had an estimated time of arrival within 3 minutes of each other at the hospital's only landing pad.

There are currently no laws governing dispatch systems for EMS flights and pilots simply rely on one another to see each other and their terrain. In addition, the FAA has not required that EMS flights be equipped with TAWS (Terrain Awareness Warning Systems), despite the National Transportation Safety Boards recommendations dating back to 2006. I have no doubt that if even one of these important safety measures was a requirement, not just a recommendation, that James would still be with us today.

He would still be able to play baseball this season with his 3 sons, Mason, Weston and Jackson. He would have been there to see Mason hit his first triple and be MVP of the game. He would still be able to help them with their homework and talk about the girls in their class they think are cute. He would still be here to read them a story at night and tell them how much he loved them before they fall asleep.

The current disregard for the safety of those who step up to perform one of the most hazardous jobs in this country is unacceptable. They place their life on the line every time they fly in order to gain those precious extra seconds which may mean life or death to the person they are going save. It is a dishonor to those who have paid the ultimate price for their profession to continue to disregard safety in this industry.

James was not just a life flight nurse, a patriot to his country, and a friend to so many. James was my hero and my brother. I no longer have my big brother to call on for advice, just to talk, or to laugh with. My children will only get the chance to know how great my brother was through my memories.

I miss him every moment of every day.

Sincerely,
Laurie Brady, proud sister of James W. Taylor Jr
5895 S Hwy 111
Kearns, UT 84118
801-419-4614

Committee on Transportation and Infrastructure
U.S. House of Representatives
Subcommittee on Aviation
Hearing on the Oversight of Helicopter Medical Services
Wednesday, April 22, 2009
2167 Rayburn House Office Building
(202) 225-4472

Testimony of Susan McGlew
Sister of William (Bill) Podmayer, Jr. (d. June 30, 2005, age 49)

On the afternoon of June 30, 2005, Tri State CareFlight 4 of Durango was en-route from Mercy Regional Medical Center to a site about eight miles northeast of Mancos and 30 miles west of Durango to rescue an injured logger. At about 2 P.M. the Agusta A119 Koala crashed in a meadow ringed with Aspen trees taking the lives of three crewmen that devoted their lives to helping and saving others. Killed in the accident were Jim Saler, the Pilot, Bill Podmayer, a Flight Nurse and Scott Hyslop, a Flight Paramedic with the Durango Fire and Rescue Authority.

The circumstances of the accident that killed Bill, Jim, and Scott are somewhat unique in that this air medical accident occurred on a sunny cloudless day, unlike the many accidents that occur at night or with poor visibility. Perhaps if this helicopter had been operating under the same model as the HEMS industry in Canada (presented at the NTSB hearing held during the first week of February, 2009), with twin engine helicopters and two pilots on board, this accident could have been prevented. The crash that killed Bill, Jim, and Scott was caused by a loss of power for undetermined reasons. Recently, it was determined that a fuel control unit malfunctioned, causing the loss of engine power.

Currently, there are few rules governing EMS flights. The passage of HR 1201 and Senate Bill S. 1300, Section 508 are good places to begin. Additionally, here is a short list of the measures I would like to see implemented to safeguard the lives of all air medical crew members, going forward:

1. Modify all U.S. helicopter EMS services to use the model which has been in place in Canada, fatality-free, for the past 20 years (twin-engine helicopters with two pilots).

2. Conduct all flights carrying medical personnel in accordance with the same regulations used for commuter airliners.

3. Develop and implement flight-risk evaluation programs.

4. Require formalized dispatch and flight-following procedures, including updated weather information.

5. Install terrain-awareness and warning systems and night vision goggles on all HEMS aircraft.

Bill was more than a life flight nurse. He was a husband, friend, crackerjack CCU Nurse, my only sibling, uncle to my two children, and a devoted son to his elderly parents.

My parents were never the same after losing Bill. This year, they joined him. Ethel Podmayer died on January 1, 2009 and William Podmayer, Sr., on March 13, 2009. I put Bill's and Ethel's urns in a casket with Dad, one urn in the crook of each arm, and buried my entire family together, just a few short weeks ago.

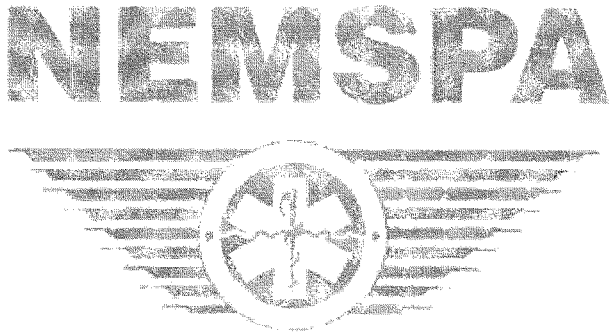
My family did not have a chance to see the air medical community make a single change, in four years, to improve the safety of this industry. In a great country like the United States of America, this lack of progress is an embarrassment.

It's a pity that the FAA has sat on their collective hands for so long, ignoring the well-researched recommendations of the NTSB; Shame on you, members of the FAA. The time to act is long past; The time to act is now.

It is my hope that you and your families, as well as all other families, never again have to mourn the loss of a family member killed in an air medical accident; never again.

Sincerely,

Susan McGlew, sister of William Podmayer, Jr.
140 Chestnut Street
West Hatfield, MA 01088
Ph 413-247-9264
Cell 413-588-8664
mcglewcrew@verizon.net



National EMS Pilots Association

NEMSPA National Office
PO Box 2128
Layton, UT 84041-9128
Office: 877-668-0430
FAX: 866-906-6023
President: 801-367-8265

Submission of Testimony of Kent Johnson
President
National EMS Pilots Association

To the
Subcommittee on Aviation
Committee on Transportation and Infrastructure
United States House of Representatives

Hearing on the Oversight of Helicopter Medical Services
Held April 22, 2009

Date: May 11, 2009

The Honorable Jerry F. Costello
US House of Representatives
Washington, DC 20515

RE: Recent HEMS Hearings

Dear Congressman,

With regard to the recent hearings that the Subcommittee on Aviation held, April 22, 2009 on the oversight of Helicopter Emergency Medical Services (HEMS), I'm writing to offer you our organization's assistance and to ask that you consider collaborating with us, the National EMS Pilots Association (NEMSPA) in your investigation and evaluation of safety in the HEMS industry. Although we did not formally participate in the hearings themselves, we feel that as aviation professionals who currently operate in the air medical industry we have a great deal of expertise and experience that would prove extremely beneficial to you as you explore possible safety initiatives for the HEMS industry.

NEMSPA is a non profit group which represents both rotor and fixed wing pilots working in the air medical industry throughout the world. Our primary mission is to enhance safety and further education in both the aviation and air medical industries. NEMSPA works very closely with the FAA, DOT, NTSB, HAI, national, state & local politicians, hospitals, health care systems, air medical providers, air medical organizations and many others to promote quality and safety in our industry.

Since the current discussions regarding air medical safety are centered on aviation issues, we believe that it is only prudent that aviation professionals with experience in the HEMS industry be involved in the process of identifying effective solutions. Please find attached material that NEMSPA has already submitted to the NTSB as a prioritized overview of initiatives we deem essential to improving safety in the HEMS industry. With your assistance we believe that NEMSPA can help pave the way for the future, providing for the safest, most advanced and effective air medical and critical care transport system possible for our country.

NEMSPA would greatly welcome any opportunity to meet with you and your colleagues to discuss issues that pertain to our industry and how we may collaborate on initiatives to improve the nation's air medical transport system.

Sincerely,

Kent Johnson
President, National EMS Pilots Association
president@nemspa.org

An Opportunity to Improve

Statements from the

National EMS Pilots Association

provided to the NTSB for consideration
for the Hearing on HEMS Safety

February 2009

National EMS Pilots Association

Position Statement

Prepared for NTSB Hearing – February 2009

Table of Contents

Introduction 1

Night Vision Goggles 4

Pressures to Fly 8

Training 11

Fatigue 17

Weather Reporting 20

Aircraft Equipment 23

Hospital Helipad Safety 25

HTAWS 28

Aircraft Recording Devices 30

HEMS-Specific Regulations 31

Copyright 2009 Permission to reproduce and distribute authorized

Introduction

In our intent to identify the most influential factors that impact the safety of flight operations in air medical transport, NEMSPA has tried to reach out to as many of the industry pilots as possible to draw on their experience and to assess their insights into where the problems are and how they might be most effectively mitigated.

At the outset, we must note that air medical transport is conducted within a fairly complex system, and, as is true with all systems, the problems and their solutions are often complex and do not lend themselves to simplistic resolutions. That said, we feel that there is some consensus on what the major problems are and how the industry can most effectively respond to the risks that have been, and are being identified.

In this position paper, the board of directors of NEMSPA presents ten topics which we believe address the factors that are most important to the identification and correction of safety deficiencies in helicopter EMS operations. For anyone who has been involved in air medical transport for any amount of time it won't come as a surprise to hear that all the problems and their solutions fall into one or more of four areas of the air medical transport system. Those areas are:

1) Organizational/Cultural
2) Training
3) Individual (human factors)
4) Technological

This introduction presents a brief overview of the topics that are presented with greater detail in the body of this paper.

The Top 10

Since so many of the preventable, or human-error accidents that have occurred involve controlled flight into terrain (CFIT) under conditions of darkness or marginal weather, or both, the top three topics presented here are those that we believe most directly address those events.

1) **Use of night vision goggles**. In May of 2008, NEMSPA conducted a survey of HEMS pilots to collect their opinions regarding the utility of NVG's for night HEMS operations. The pilots who responded to the survey were nearly universal in their support of this technology. If fact, it was interesting to note that the only respondents who expressed reservations about the effectiveness of night vision aids were a few pilots who had no experience at all flying with NVG's. A detailed report of this survey is available on the NEMSPA website at www.nemspa.org.

Copyright 2009 Permission to reproduce and distribute authorized

Introduction

2) **Pressures to fly.** A review of many HEMS flights that ended with an accident reveals that some of them took off into conditions that were marginal and that some involved transports that had already been declined by another pilot or provider. Since these accidents resulted from the pilot inadvertently flying the aircraft into the ground or some ground-based obstruction, it is difficult to avoid the conclusion that at some point the pilot made a decision to continue the flight into conditions of ceiling and/or visibility that were less than the limits established by FAR's, OpSpecs, or the program's GOM. The internal and external pressures that result in poor aeronautical decisions are examined briefly in this paper along with recommendations for improvement.

3) **Training.** Carefully designed and effectively presented training for pilots, medical crew members, and others who have a role in conducting and managing air medical transport operations is critical to operational safety. The importance of establishing and maintaining proficiency at the technical skills, the team skills, and the soft skills involved in safe operations is critical and we feel that this training can and must be improved.

The remainder of the Top 10 topics are presented in no particular order. A discussion of the items did not result in any clear consensus regarding their relative importance. That said, we list fatigue next because of its association generally with the Top 3 topics and with night CFIT accidents.

4) **Fatigue.** Although there is a lack of clear evidence that fatigue has been the primary factor in any significant number of HEMS accidents, we concede that it is present at some level in many HEMS flights conducted both during the day and at night. Even though it is difficult to determine its level of contribution to problems with HEMS operations, we feel that it is important to raise awareness of its effect on pilot performance and to provide effective education to HEMS pilots to assist in mitigating the effects of fatigue, especially during successive night shifts. A survey of HEMS pilots that NEMSPA conducted during the last quarter of 2008 on this issue is available for review on the NEMSPA web site.

5) **Weather Reporting.** The need for optimal decisions regarding weather in HEMS operations is a given. By optimal we mean accepting and continuing a flight when the actual weather is at or above the minimums established by all applicable regulations and local policies, or declining or aborting a flight when the weather does not meet those requirements. This kind of optimal decision making requires the most accurate and up-to-date weather information possible. The HEMS pilot community has warmly received the ADDS HEMS Weather Tool,

Copyright 2009 Permission to reproduce and distribute authorized

but problems with generating accurate interpolations of weather due to spotty coverage restrict the use of that tool so that it can only be used to support a No-Go decision. Recommendations are made for enhancement of that system. We also feel that the potential for the future development of the ADS-B system is worthy of consideration.

6) **Aircraft Equipment.** This section includes a recommendation regarding minimum equipment for HEMS aircraft.

7) **Hospital Helipad Safety.** The lack of consistent standards and oversight in the design and maintenance of hospital helipads is noted and recommendations are made.

8) **HTAWS.** NEMSPA has received input from members using this developing technology which indicates that it may be a good fit for HEMS operations.

9) **Aircraft Recording Devices.** Although there is some controversy regarding the implementation of this technology in HEMS aircraft, its further development and how it would best be used is worthy of continued attention.

10) **HEMS-Specific Regulations.** The unique nature of HEMS operations among all other Part 91 and Part 135 commercial operations may require the consideration of amendments to existing regulations in order to provide the direction and oversight necessary for these operations.

Copyright 2009 Permission to reproduce and distribute authorized

National EMS Pilots Association

Position Statement

Prepared for NTSB Hearing – February 2009

Night Vision Goggles

Background

The year 2008 was a dismal year for Helicopter Emergency Medical Service (HEMS). There were a total of 14 accidents that resulted in the death of 28 individuals, including 23 crewmembers and 5 patients. During this period there were also 6 serious injuries and 3 minor injuries sustained. Ten aircraft were destroyed with the remaining four sustaining substantial damage.

Two of these accidents appear to be anomalies in the HEMS operational world. The first is the accident on June 29, 2008 in Flagstaff, AZ (7 Fatalities, two destroyed aircraft). This is the first mid-air collision between a civil HEMS aircraft and any other aircraft. The second is the August 31, 2008 accident in Greensburg, IN (3 Fatalities, one aircraft destroyed), with the cause unknown at this time.

A factor that was common in the remaining 12 accidents, where there were 18 fatalities and 4 serious injuries was that all occurred at night with the pilot flying "Unaided" (without Night Vision Goggles, or NVGs).

Historically, night flying makes up about 38% of all HEMS flying. (Note 1) Logic would say that 38% of the accidents should also happen at night. This obviously is not the case for the year 2008.

What issues face the HEMS pilot when flying at night? True "night vision" using the rods in the eye is understood to be about 20/200 acuity (legally blind). This is not a serious deficiency when flying in an urban environment where surface lights are easily seen using the daytime receptors (cones) in the eye, but can become a significant problem when flying outside of a well lit environment, where typical hazards such as weather and terrain are difficult to see, as attested by the recent string of accidents. The use of NVGs raises the acuity level to 20/30, resulting in a marked increase in visual awareness.

In an effort to streamline NVG certification processes and provide for appropriate requirements for NVG usage in the cockpit, NEMSPA has been working with the FAA to resolve a number of regulatory based issues, including working with AFS 250 and Airworthiness on the following:

1) Removing the requirement for a second crewmember on NVG's for any operation. (In process)
2) Clarifying training and checking requirements for NVG operations. In the past, these requirements have been unclear and vary from one local FAA office to another. (In process)

Copyright 2009 Permission to reproduce and distribute authorized

3) Address MEL (Minimum Equipment List) relief for NVIS components. There is currently very little guidance concerning these failures. NEMSPA has been working with the FAA to provide suggestions. (In process)
4) Streamline and simplify the certification of Night Vision Systems (NVIS) in aircraft. Currently the certification requirements have not kept up with advances in technology. (Little progress)
5) Encourage HEMS Operators to introduce Night Vision technologies to HEMS programs where appropriate. (Little progress)

Recommendations

1- Remove the requirement for a second crewmember for landings at unimproved areas. This is an issue that was strongly supported by HEMS pilots in the NEMSPA sponsored survey concerning the use of NVG's. Note (2) Of the 365 pilots that responded to this question, only 11 disagreed or strongly disagreed, however 97% agreed that they would prefer to land "aided" without a second goggle-equipped crewmember, rather than landing "unaided".

- The FAA has indicated in their 2009 Calendar, that this is an issue that will be addressed by September 30, 2009.
- NEMSPA is not recommending that the second crewmember not utilize NVGs. We would like to encourage the use of a second set of goggles by medical crewmembers, just not be restricted to "unaided" flight if the second set of goggles is unavailable, out for inspection, or the crewmember is not current or not on board. We have seen flights where the medical crew is dropped off and the pilot has to reposition for any number of reasons. When the pilot returns he would not be allowed to land the aircraft aided, due to the lack of a second crewmember on NVG's.
- This issue is important to the HEMS industry. Programs may be willing to operate with two sets of goggles, knowing that they can still fly aided night when one set is out for inspection, or unavailable. With no legal requirement for the second set of NVGs, crewmembers will have the option to use monocular systems, which are less expensive and may be more user-friendly for medical crewmembers. It will also allow the pilot to land aided if there is not a crewmember on board. This will free up at least one set of goggles per base, and allow more programs to fly aided, without sacrificing safety, while reducing cost.

Copyright 2009 Permission to reproduce and distribute authorized

2- Clarify training and checking requirements for NVG operations.

- NEMSPA, in conjunction with the FAA has worked on this in the past. New guidance just released by the FAA has clarified these training and checking issues.

3- Streamline and simplify the certification of Night Vision Systems (NVIS) in aircraft.

- The current standards for certification of Night Vision Systems have not changed over the years. These standards were developed with previous generations of NVGs. Today's NVGs are much more tolerant of outside lighting, and the certification standards should reflect this newer technology.
- NEMSPA will work with FAA Airworthiness to correct these issues.

4- Address MEL relief for NVIS components. There is currently no FAA guidance concerning NVIS component failures.

- Without standards, many aircraft are rendered non airworthy for NVG usage due to the failure of a particular portion of the NVIS equipment.
- Provide reasonable relief for the ability to fly with inoperative NVIS instruments and equipment. This should be a both an issue for maintenance and the pilot in command.

5- Encourage HEMS Operators to introduce night vision technologies to HEMS programs where appropriate.

- Operators can be encouraged to utilize NVG's by increasing the minimum weather requirements for "Unaided" flight in low light areas, and by requiring greater terrain clearances when operating "Unaided" in these areas. Low light areas have been defined by the FAA in a previous AO21 Operations Specification.
- NEMSPA will work with the FAA to establish weather minimums that would strongly encourage operations outside of highly lighted areas to utilize NVG's. Operations in these areas without the use of NVG's would be at an altitude that should increase the margin of clearance, and should prevent controlled flight into terrain (CFIT) accidents if adhered to. The success of this initiative would rest on the enforcement of these standards by pilots, operators and the FAA.

Copyright 2009 Permission to reproduce and distribute authorized

Night Vision Goggles

NOTE: Although the use of NVG's will enhance a pilot's ability to see and avoid terrain and weather, there are some situations where the use of NVG's may not be required, such as flight in highly lighted urban areas.

Note 1: Frazer, Air Med, Sept/Oct 1999

Note 2: NEMSPA NVG survey may be viewed or downloaded at www.nemspa.org

Copyright 2009 Permission to reproduce and distribute authorized

Pressures to Fly

"IAFP, NAACS and AMPA agree that internal and external pressures imposed on the flight teams are some of the most pressing issues facing HEMS today. We sincerely hope the FAA and NTSB give this subject extensive review."

Background

Pressure on an EMS pilot to accept a flight has been present since the first civil HEMS program started in 1972. The "rescue" or the "we have to save a life" mentality went largely unchecked for several years. With human factors training, CRM, and AMRM training the industry began a shift away from the "rescue" style of thinking. However, with the rapid expansion of the HEMS industry, significant external and internal pressures are being brought to bear on HEMS pilots.

Internal pressures are those imposed by the pilot and flight team upon themselves. As discussed previously, this is typified as the rescue mentality, though from the standpoint of human motivation the phenomenon extends well beyond that simplistic description. The "can do", competitive, and goal-oriented nature of pilots as well as of medical team members tend to exacerbate an already demanding operational environment.

External pressures are those imposed on an individual by outside sources such as medical teams on pilots, pilots on medical teams, or by management or other forces on both pilots and medical teams, and may often come in subtle forms. These pressures stem from two major areas: 1) competition, and 2) marginal or inadequate current revenue. Flight teams often feel compelled to accept high-risk flights because they know that if they don't, their competitor will. The too-frequent scenario is one where a flight program faced with low volumes and pending closure (with a resulting job loss and necessity for employees to relocate themselves and their families) may have a tendency to accept flights into marginal weather conditions. An additional secondary factor associated with both of these conditions is the perceived or real need to gain market share by reducing lift-off times.

The reasons for implicating such pressures in HEMS incidents and accidents are not purely anecdotal. In 2005, NEMSPA and HAI sponsored a survey of more than 800 HEMS pilots which revealed a number of key factors with regards to pilot pressure. When asked their opinions on the factors that may have contributed to HEMS accidents, 92% of respondents chose "pushing weather minimums" as the primary reason. A full 56% listed "competition" as a contributing factor. An earlier survey that NEMSPA conducted in 2001, which garnered more than 300 responses, provided additional insight into the types of pressures perceived by pilots. 62% of respondents stated that they had been pressured by either their flight crew or management to accept or

Copyright 2009 Permission to reproduce and distribute authorized

continue a flight when, for various reasons, they believed it may not have been safe to do so. A full 73% accelerated lift-off times, accepted flights or continued flights into perceived unsafe conditions due to pressure they had imposed upon themselves. Recent surveys conducted by both the flight paramedics and nurses provided similar data.

In an ideal world undue pressure to fly would be eliminated. From a practical standpoint, NEMSPA believes that critical safety-of-flight decisions should be made without consideration to the pressures described. The recent focus on operational control, with the FAA's clarification of a distinction between clinical and aviation related duties, is a significant move toward isolating pilots from undue pressure, and provides a basis for future improvements. Even so, NEMSPA believes additional controls are necessary and that they must be implemented at the right level within each providing organization.

> ". . . decisions on whether or not to accept a risk should be based strictly on the magnitude of the risk and the benefits of accepting it. Nothing else counts including personal convenience, supreme self-confidence, peer pressure or any of the hundreds of other reasons someone may decide to take a risk. Furthermore, it would be nice to make these decisions in an atmosphere where there is plenty of time; plenty of information and no need to keep the desk straight and level while figuring out what to do next."
> *(Wood, Richard H, Aviation Safety Programs, Jeppesen Sanderson, Inc, 1991,1997, 2003)*

Recommendations

1- Mandate Risk Assessment Programs (RAP): The primary objective of a RAP is to provide a reasonable yet conservative threshold, that when reached requires the pilot to consult with and obtain concurrence from another individual with operational control, outside of the flight team itself, prior to accepting the flight request. While an operator may incorporate additional criteria into the risk assessment tool, a standard set of criteria should be developed as a starting point for HEMS operations.

2- Mandate the use of an En-route Decision Point Program (EDP): An EDP program sets minimum indicated airspeed and AGL altitude limits and then requires an action change when either is reached. For example, EDP limits may be 90 KIAS or 300 ft (day)/500 ft (night) AGL. If the pilot reaches either of these limits he must choose whether to alter the course, or abort, or to land if no other choice is feasible. If there are some that may feel that an established EDP is a preemption of a pilot's decision making responsibility, it should be noted that it is only

Copyright 2009 Permission to reproduce and distribute authorized

preemptive in the same way that a mandatory Decision Altitude is when performing an instrument approach.

3- Eliminate Lift Time Requirements: The process of launching a helicopter is task oriented, not time oriented.

4- Mandate Scenario Based (LOFT) Training: LOFT (Line Oriented Flight Training) training should be incorporated into all phases of HEMS operations, including a requirement for training scenarios which will require pilots and medical crews to make decisions regarding all aspects of a HEMS flight.

Copyright 2009 Permission to reproduce and distribute authorized

Training

Background

The accident rate of EMS helicopters in the air ambulance industry has risen dramatically in the last few years and has caused the NTSB to review and analyze numerous causal factors attributing to this. Through the analysis of those accidents several significant possible elements relating to the causes have been identified. One common theme to all reports has been the need for additional mission specific pilot and crew training. The suggested corrective actions from those reviews have been presented to the air ambulance industry in various formats with the intent of providing guidance on how to proceed with correcting this problem. Different organizations have offered different viewpoints but the FAA has responded most notably to the NTSB recommendations with several official Notices.

From the FAA's position they have offered guidance with three primary Notices, as follows:

1) FAA Notice 8000.293, Helicopter Emergency Medical Services Operations, Jan-28-2005 often referred to in the industry as the 13 initiatives, delved into several different aspects revolving around operators taking voluntary action to better approach safety and pilot training within their own organizations.
    - From the 13 initiatives the primary focus on EMS pilot training was on night flight Line Oriented Flight Training (LOFT), which in the words of the FAA "provides operating experience for the new crewmembers", and on conducting line checks, under those operating conditions.
    - The Notice also appears to indicate the FAA's belief that night LOFT training, including the integration of Inadvertent IMC training during night cross-country training, may have some impact on reducing CFIT and loss-of-control accidents.
    - There is also an emphasis on pre-flight planning so that the pilot has a clear understanding of the route and the significant hazards that exist along that route.
2) FAA Notice 8000.301, Operational Risk Assessment Programs for Helicopter Emergency Medical Services, Aug-1-2005. This Notice focuses on the establishment of risk assessment programs the operator should provide for the pilot to identify and quantify all elements of the proposed flight that could affect the actual level of risk for the flight.

Copyright 2009 Permission to reproduce and distribute authorized

- The FAA's view point on training the pilot to perform a risk assessment of the mission prior to acceptance would greatly enhance safety and operational capabilities through:
  a) Identifying operational hazards before mission acceptance and;
  b) Eliminating or mitigating those risks to a safe state through established policies and procedures.
- The risk assessment program presented as an example in this notice has roots in a DOD requirement for all military pilots to perform a risk assessment of the mission prior to launch or acceptance.
- Some new additional concepts in the Notice include training-weighted risk assessment tools and a reference to the pilot soft skills needed to safely complete each flight. It discusses the need for decision making, judgment, and for air medical resource management (AMRM).
- It continues to be a common theme in this notice that the pilot needs to see him/herself as part of a system that extends beyond his role in the cockpit. Pilots must understand and participate in the overall system of safety assurance that each HEMS provider must implement in their organization.

3) FAA Notice 8000.307, Special Emphasis Inspection Program for Helicopter Emergency Medical Services, Sept-27-2005. This notice seemed to wrap the other two up in a package the FSDO Principal Operations Inspector could work with when analyzing compliance with an operator who conducted Part 135 air ambulance operations.

   The focus here was on the operator to provide management oversight of the processes of :

   - Mission notification and acceptance
   - Pilot and crew training
   - Aircraft equipment utilization
   - Technological and logistical support to crews in the field

For pilot training, one item to inspect was the operator's training program to ensure an emphasis was placed on night and low visibility training, CFIT training, and recovery from IIMC.

Copyright 2009 Permission to reproduce and distribute authorized

Training

It is apparent that it is a shared responsibility for the operator and the pilot to have a focus on mission analysis and on the training required to recognize and effectively mitigate all operational hazards.

The Department of Defense published an executive summary in 2005 addressing a subject referred to as Human Factors Analysis and Classification System (HFACS). That summary concludes "there are a myriad of human factors, all of which need to be assessed for relevancy during a mishap investigation...Analysis indicates that human error is identified as a causal factor in 80 to 90 percent of the mishaps and is present but not a causal factor in another 50 to 60 percent of all mishaps and therefore is the single greatest mishap hazard."

The Army's Aviation Center Directorate of Evaluation and Standardization (DES) have determined that poor training in "degraded environmental conditions" is a problem in the Army and could provide insight into the problems in the civilian world as well.

Training for military pilots has placed strong and increasing emphasis on systems management at the cost of time spent on the basic skills needed as pilots. The military's accident rates are showing the consequences of this trend.

The accident rate for the Army and other military forces is on the increase comparable to the civilian operations. In 2004 the non-combat accident rate for the Army was 4.4/100,000 flight hours (Army Flight-fax, Dec 2004). The comparable accident rate for HEMES operations in 2004 was roughly the same statistic.

Today over 95% of the HEMES pilots in the civilian world come from the Army. There is some relationship between the military's non-combat accident rate and the civilian HEMES accident rate as well. Commonalities include wire strikes, loss of control, and accidents involving IIMC.

The HEMES accident rate is stated to be at about 80% pilot or human error and is believed to be related to specific deficits in aeronautical decision making (ADM).

It seems that basic pilot skills and a safety-based approach to mission accomplishment are lacking for some pilots and that their training in their roles as HEMS pilots has not effectively addressed this lack. Other, more experienced, pilots may have allowed complacency to creep in, which also indicates a need for an air medical provider to insure that recurrent training clearly addresses all the influences that might contribute to the kinds of accidents that are occurring in the industry.

Other organizations such as AMSAC and JHSIT have also provided significant contributions to the industry in the way of recommended practices for pilot and crew

Copyright 2009 Permission to reproduce and distribute authorized

training. While some of these organizations have provided broad recommendations, it is important to note that each operator has to design a specific program that is functional for their operations.

We believe that rather than relying on the past experience and training that may (or may *not*) be reflected in the number of hours shown in a pilot's logbook, the air medical industry must take responsibility for a training program that teaches the basic skills, the soft skills, the attitudes, and the discipline that pilots need to insure safety in the unique and demanding operations associated with air medical transport.

Recommendations

1- Pilots receive more comprehensive initial, recurrent and transition flight and ground training that is specific to HEMS operations.

2- Pilots receive, at least on an annual basis, training in an appropriate flight simulator or FTD (Flight Training Device).

3- Increase in oversight from FAA Principal Operations Inspectors to insure quality training design and implementation.

4- FAA Principal Operations Inspectors should receive training specific to EMS operations.

Additional Information

Based on ongoing analysis of the causal factors surrounding HEMS accidents, NEMSPA recommends the following pilot training requirements for all operators to complete. These items are in addition to the basic commercial pilot skills that all pilots should be evaluated on prior to commencing any Part 135 operation.

1) EMS Pilot Ground Training:
   - Minimum Safe Altitudes Training – Standardization
   - Mandatory Weather Checks
   - Critical Incident Stress Training
   - Mandatory Pre-Start Walk Around Checks
   - Human Factors ADM (Aeronautical Decision Making) Training
   - Human Factors AMRM (Air Medical Resource Management) Training – Given annually to all crew members; pilots, med, mechanics, communication specialists

Copyright 2009 Permission to reproduce and distribute authorized

- Managing task saturation
- Risk Assessment Training and its application to every flight
- IIMC training - Ground, Simulator FTD,
- CFIT Avoidance
- Weather analysis Training
- Mandatory Shift Briefings
- Sterile Cockpit Procedures Training
- Situational Awareness
- 51% rule Orientations
- Training to be proactive rather than reactive toward perceived risks

2) EMS Flight Training to include:
    - Loss of Tail Rotor Effectiveness (LTE) Training – Takeoff, Landing, and Operations below ETL
    - Loss of Control (LOC)Training
    - Landing practice in unimproved areas, pinnacle approaches and takeoffs, and landing on elevated platforms,
    - Off airport scene location and scenario training with high and low reconnaissance for both day and night
    - IIMC procedures - Day and Night
    - Additional normal and emergency flying procedures should receive emphasis in the training program as they are identified as contributing factors in the ongoing examination of HEMS accident data
3) Line Oriented Flight Training (LOFT):
    - Weather analysis Training
    - Risk Assessment and Management
    - Navigation and Communications
    - Route Planning
    - Altitude Planning
    - Emergency procedures

Copyright 2009 Permission to reproduce and distribute authorized

4) Flight Simulator or Flight Training Device (FTD): Significant value can be achieved through the use of FTD's in aircraft familiarization and emergency procedures that cannot be performed in the actual aircraft. Significant training advantages for pilots through the FTD will include Controlled Flight into Terrain (CFIT) Prevention and IIMC training for both day and night operations.
    - Actual aircraft IIMC training should follow ground and simulator training to build confidence in hands-on ability and concentration skills.
    - IIMC training should be a 6 month requirement in either a FTD or actual aircraft but the emphasis must be placed on the IIMC event and recovery.
    - Cockpit management and communications are a primary focus with any IIMC event and should be stressed during this training.
5) EMS scenario driven training that includes all EMS crew members is extremely worthwhile and beneficial to the crew's development as an integrated team.

"The process of developing a safe and proficient EMS pilot requires a return to the crawl-walk-run approach to training progression. Too often the pilot is taken halfway through the crawl phase and then for some reason is thrust directly into a fast walk or the run phase for various reasons. It may be to avoid offending the pilot undergoing the training, or perhaps to reduce the cost of the training. It is essential that operators assure that the pilot is fully trained and ready for the demands that will be placed on him or her. After training is complete, management oversight must be in place to evaluate ongoing performance and insure that the pilot will conduct operations as trained."

Stuart Buckingham

NEMSPA Board Member

Copyright 2009 Permission to reproduce and distribute authorized

Fatigue

Background

EMS pilots are exposed to some unique operational requirements that can have a significant negative impact upon alertness and therefore play havoc with everything from reaction times and decision making to overall mood and good health. In fact, it is likely that fatigue, in some measure, has a role in most accidents that occur, both day and night. But, the extent to which fatigue may have been a significant factor contributing to a specific incident is generally unknown. Currently we know of no rigorous examination specific to HEMS accidents that have scientifically sought to uncover the factors that might have contributed to an acute sleep-related influence acting upon the pilot or other crew members.

A recent sleep and fatigue survey conducted among EMS pilots by NEMSPA, which garnered approximately 700 responses, reveals that there are two common work schedules. The most prevalent, accounting for more than 50% of those who responded, was the "3/4/7" schedule, comprising three or four 12 hour day shifts followed by 24 hours off, followed by three or four 12 hour night shifts, and then seven days off. The other common schedule, accounting for about 35% of respondents, was the "7/7" schedule, where a pilot would work seven straight days, followed by seven days off, followed by seven straight nights, followed by seven days off, etc. Nearly 95% indicated that they were assigned a "secluded sleep area" with a bed to sleep in. More than 70% were generally able to sleep at least three to four hours during a typical night shift, and the vast majority (more than 90%) indicated their particular program had no restrictions regarding pilot sleep and rest activity.

The survey also showed most EMS pilots don't believe they are affected significantly by sleep inertia, that groggy feeling one experiences after awakening from a deep sleep – lasting generally from 10 minutes to sometimes more than 30 minutes - and which can result in significant performance degradation. As a typical HEMS flight can be airborne within 10 minutes of the initial call, sleep inertia has the potential to be a serious threat. Of those surveyed, 53% indicated that sleep inertia never presented a threat to safety, while another 35% believed that sleep inertia rarely compromised the safety of flight. An additional question revealed that nearly 40% believed fatigue affected them the most during the period from the preflight planning stages through the takeoff phase of flight, which could correlate with sleep inertia. More than 90% believed they were much better off sleeping at night and countering the effects of sleep inertia than not sleeping at night and trying to counter fatigue. More than 400 comments were also received as part of the survey, revealing a number of potential issues and problems.

Copyright 2009 Permission to reproduce and distribute authorized

Fatigue

It should be noted that NEMSPA has been working closely with Dr. Mark Rosekind, a world recognized expert in the areas of sleep, fatigue and alertness management strategies. At the request of NEMSPA, Dr. Rosekind recently prepared a white paper that specifically addressed sleep quantity versus sleep inertia, among other topics. That white paper is available on the NEMSPA web site at www.nemspa.org. NEMSPA is currently evaluating an alertness management program prepared by Dr. Rosekind, which could be adapted specifically to the EMS industry.

Problems Observed

The aforementioned pilot schedules can present problems in the following areas:

1) Attempting to reverse the human circadian clock is all but impossible. The body will continue to want to stay awake during the day and sleep during the night.
2) With some schedules a significant cumulative sleep debt can occur. The NEMSPA survey indicates that most pilots are getting less than six hours of sleep per day while working night shifts (which includes the sleep they get while on duty), which is less than the average eight hour minimum needed. Over a seven night shift stretch this can result in approximately 14 hours of sleep debt.

The effects of these first two items can result in both chronic and acute fatigue with all of the problems associated with those conditions.

In addition, the referenced survey indicates that there are some programs that continue to restrict pilots from sleeping during night shifts. The Rosekind white paper states that "EMS flight operations that provide worksite sleep facilities acknowledge that sleep is a critical and foundational factor to promote performance, alertness, and safety. These EMS operations should be commended for addressing a fundamental physiological factor essential to managing fatigue."

As evidenced by numerous comments received in the survey, there is an obvious need for education and training in the area of fatigue management. Dr. Rosekind goes on to say that, ". . . education about sleep, sleep loss, sleep disorders, circadian rhythms, alertness strategies and other relevant information is an important basis for the effective use of any fatigue management strategy or activity. Second, building on this educational foundation, scenarios specific to EMS flight operations should be identified and tailored guidance provided to address these situations. Just because the worksite sleep facility is provided does not mean that the operators will have knowledge or training on the most effective strategies to use the facility for optimal sleep."

Copyright 2009 Permission to reproduce and distribute authorized

Fatigue

Many programs continue to stress the importance of meeting minimum launch time criteria. NEMSPA disagrees with any launch time requirements, but, due to potential sleep inertia effects, NEMSPA especially opposes these criteria during night shift operations.

Recommendations

NEMSPA recommends the following:

1- Mandate fatigue related training, including required topics such as sleep, sleep loss, sleep disorders, circadian rhythms, alertness strategies, cumulative sleep debt, sleep inertia, use of stimulants, effective use of naps, etc.

2- Require dedicated sleep areas and adequate sleep facilities (beds) for pilots. Programs should not prohibit pilots from sleeping while on night shift duty.

3- Evaluate current pilot schedules for impact on fatigue and alertness, specifically comparing the 3/4/7 schedule to the 7/7 schedule.

4- Prohibit launch time requirements.

Copyright 2009 Permission to reproduce and distribute authorized

National EMS Pilots Association

Position Statement

Prepared for NTSB Hearing – February 2009

Weather Reporting

Background

Currently many of the 1,900 federal and nonfederal Automated Weather Observing Systems (AWOS) across the country that are capable of reporting to the FAA's National Airspace Data Interchange Network (NADIN) distribution system are not on line to do so. This has created a situation where there is valuable information available but not readily accessible to those who need it the most, i.e. pilots and meteorologists. The only way to access the information from those AWOS sites that are not currently tied into the NADIN distribution system is to call each site individually over the phone and listen to the computerized voice recording. If by chance an individual happens to be close enough to a site they may be able to tune into the radio frequency of that specific AWOS station and listen to the weather report over the radio. This is less than desirable, requiring additional time when checking multiple sites and does not lend itself to meteorological computer modeling tools or techniques. Linking these additional active AWOS systems currently in operation to the national weather system would considerably increase the overall accuracy of weather depiction in the Untied States.

A key limitation to this weather information is that it caters to the much larger fixed wing part of the industry and all but ignores the weather conditions in the lower atmosphere (below 5000-ft AGL) between reporting stations. To help remedy this deficiency in weather depiction a team of experts from the National Center for Atmospheric Research (NCAR) partnered with the Helicopter Emergency Medical Services (HEMS) industry to produce an internet based graphical weather product tailored to deliver usable weather analysis between a number of primary reporting stations and focusing on atmospheric condition in the lower atmosphere where HEMS pilots routinely fly. This became the Experimental HEMS Tools and has enjoyed a very warm reception in the industry. The HEMS tool gives a pilot a comprehensive look at primary weather data, ceiling and surface visibility profiles, radar and convection data, icing potential and severity, winds aloft in 500-ft increments, and can present historical trend animations of each of these. This weather tool also allows the user to zoom down to street level while still depicting weather phenomena in an overlay format. If development funding allows, the HEMS Tool is well positioned to add additional predictive models to these animations. At this time the FAA has limited the HEMS Tool as a "No-Go" only, support tool. With the integration of the multitude of AWOS sites in existence that are not currently in the NADIN system, the HEMS weather tool has the potential to dramatically increase weather accuracy throughout the United States and greatly improve the safety of HEMS operations.

Copyright 2009 Permission to reproduce and distribute authorized

Weather Reporting

Beyond the integration of existing weather reporting sites into the distribution system there is also the need for additional AWOS sites to be installed within those regions that currently have minimal weather reporting systems. Adding new sites in areas of minimal weather coverage will enhance the safety margins for weather decision making on both the part of the pilots and the meteorologists. Funding is a key element that prohibits these additional weather stations from being implemented at a faster pace.

In addition to increasing the currently active federal and nonfederal AWOS sites that report to the NADIN system there is also the potential for adding other non aviation weather reporting sites to this system. Given that the ADDS HEMS weather tool is based on an algorithmic function which interpolates conditions between weather sensors, the more information that can be entered into the system the more accurate the weather depiction becomes. The weather system currently on line with the Department of Transportation, specifically the 2,400 plus Environmental Sensor Stations (ESS) and Road Weather Information Systems (RWIS) could significant increase the overall coverage and accuracy of the ADDS HEMS weather tool. Many of these reporting sites measure the same parameters (temperature, humidity, visibility, wind speed, wind direction, precipitation type, lighting, storm cell locations, etc.) that aviation sites measure, with the exception of ceiling height. Given that most helicopter operations performed today are well outside of airport airspace where an operational AWOS is located these remote weather systems could potentially provide important real time data to fill in the huge weather information shadows currently in existence across the United States.

With the advancement of commercial satellite technology and ground based narrow casting; many graphical products are now available in the cockpit which provide a major step in weather awareness. A pilot can now overlay near-real time weather on a GPS moving map display and make better informed decision to avoid en-route weather hazards. The next evolution of this concept may be realized through Automatic Dependent Surveillance-Broadcast (ADS-B) technology.

ADS-B proposes the next big advancement in cockpit and ground based aircraft and weather situational awareness technology and has the potential to revolutionize weather reporting to pilots in flight. Many in the industry are familiar with commercially available GPS-based position reporting systems (e.g., Sky Connect, Outer link, etc.). What ADS-B proposes is a government based system where aircraft broadcast their 3-dimensional GPS position to any aircraft or ground based facility within range with the equipment to receive the data stream. Ground based facilities integrated with a satellite network can provid a highly accurate aircraft situational display as part of a

Copyright 2009 Permission to reproduce and distribute authorized

nationwide system. In addition, the ADS-B technology incorporates a by-directional data circuit that will allow ground facilities to broadcast weather and other data to the display in cockpit. This could provide the pilot with both weather and traffic information all in a single display

Availability of accurate and timely weather information is paramount to insuring that the right decisions are made at the right time. This is not only true for operational decisions made prior to flight but also to the decision making process after takeoff. The display of this real-time data in the cockpit would allow pilots to make better decisions based on current and accurate weather information.

Recommendations

1- Integrate all current Federal and non-Federal compatible AWOS sites into the National Airspace Data Interchange Network.

2- Provide additional and continued funding for the HEMS weather tool project to include funding for future expansion of the weather tools abilities.

3- Install additional AWOS sites in areas with minimal weather reporting coverage.

4- Incorporate compatible non-aviation weather reporting sites into the weather reporting network.

5- Make available and incorporate ADS-B technology into the HEMS industry throughout the United States.

Copyright 2009 Permission to reproduce and distribute authorized

National EMS Pilots Association

Position Statement

Prepared for NTSB Hearing – February 2009

Aircraft Equipment

Background

An often-asked question is, "What equipment should be required on an aircraft performing HEMS/EMS operations?" It is a good question and has been asked many times over the last 30+ years of EMS aviation. There is still no definitive answer. How to equip. an aircraft for air medical transport has been left up to the operator/certificate holder. The FARs detail the requirements for operations under Parts 91 and 135, with OpSpecs addressing a limited number of items. If the aircraft meets those basic requirements, it can be used as an EMS aircraft. Recent accident history and subsequent investigations have shown that additional aircraft equipment could have reduced the risk, and in some cases, possibly prevented the accident from happening. The NTSB has recommended that an increased use of technology be incorporated into the overall plan to help control the accident/incident rate in the EMS industry.

Problems Observed:

1) Lack of Standardization – There is no standard configuration or equipment package required for EMS operations. There may not even be standardization within a specific operator's fleet.
2) Fleet Size – The current size and variety of aircraft flying EMS operations poses a significant problem for equipment mandates and changes.
3) Cost – Aviation technology is expensive. We are in an era of declining revenues and increased operational expenses.
4) Availability – While the industry tries to add technology and equipment there is often a delay for TSO / certification requirements and product supply (for example, night vision goggles).
5) Effectiveness – There must be some acceptable level of confidence that a particular item of equipment will significantly contribute to the safety of flight for HEMS operations in the environments in which they typically operate.

Recommendations:

1) Develop a standard EMS aircraft minimum equipment list. The EMS MEL/MMEL would be used regardless of type of operation (VFR/IFR) or airframe (single or multi-engine), and would be based on the mission profile of the operation.

Copyright 2009 Permission to reproduce and distribute authorized

Aircraft Equipment

2) Include in the list described above the following items:
   - HTAWS
   - TCAS
   - Flight recording devices
   - Global Positioning System (GPS) with moving map
   - AFCS/SAS/Force Trim/ or Autopilot: EMS aircraft should be equipped with some type of stabilization system to reduce pilot workload, pilot fatigue, and to allow the pilot to perform other "hands off" activities.
   - Radar Altimeter with audio warning.
   - Weather radar or Satellite (XM) weather.
   - Inadvertent IMC capable platform: In the event of inadvertent IMC the aircraft should be able to facilitate the additional requirements being placed on the pilot.
   - Satellite tracking/flight following
   - Steerable search light
3) Investigate the possibility funding assistance or similar solutions to assist operators in converting legacy fleet aircraft.

Additional Information

1) Consideration should be given to MEL development where deferrals of the above listed items are more restrictive for EMS operations.
2) With regards to HTAWS, a hasty mandate to install additional systems without correlating those systems with the root causes of HEMS accidents, or without some assessment of how the systems actually perform in HEMS aircraft, may result in an undue burden on operators without providing the expected enhancement to operational safety. Although some items of this technology make sense for all HEMS aircraft, the effectiveness of other items may depend to some degree on the typical mission profile or geographical area of operation of specific providers. There is room for question regarding whether it is possible or desirable to define and mandate a fixed package of equipment for the nationwide HEMS industry.

Copyright 2009 Permission to reproduce and distribute authorized

National EMS Pilots Association

Position Statement

Prepared for NTSB Hearing – February 2009

Hospital Helipad Safety

Background

There is a tremendous amount of confusion which exists within the air medical industry, among hospitals and even inside the Federal Aviation Administration and the Department of Transportations on how to interpret the intent of the advisory circulars and regulations that apply to hospital helipads. Given this confusion with hospital helipads many organizations do not know what is expected of them and in some cases do not take appropriate actions regarding safety and operational issues. Many hospitals do an excellent job in due diligence to insure that what they provide is suitable, safe, certified and meets the standards, but there are those that do not, primarily due to this confusion.

For guidance on design, construction and operation of hospital helipads, there is an excellent guide and accepted industry standard already in place, produced by the Federal Aviation Administration (FAA) and Department of Transportation (DOT). The Advisory Circular titled "Heliport Design" (AC) 150/5390-2B. The problem, as stated above, is that there is little or no consistency in its interpretation and application from one state to another by either agency.

Some hospitals are unaware of the existence of the above Advisory Circular and hence are unaware of many of the best practices regarding design, safety and operations that are contained within this document. Other hospitals have helipads that already meet or exceed the current requirements set forth by this advisory circular but have never filed the appropriate paperwork to the FAA (FAA Form 7480-1) to have their facility certified. In turn, due to this lack of certification they can not enjoy the benefits that having a certified helipad can provide:

1) Legal insulation to law suits in case of accident or injury.
2) The capability to rezone the surrounding area of their hospital helipad out to 5,000 feet in all directions so that no one can build elevated structures within that zone without their permission.
3) Public dissemination of their helipad's information to the air medical and search and rescue community with the additional filing of FAA form 5010-5.

To some extent this continued confusion and ambiguity has caused this portion of the critical care transportation infrastructure to lag behind the expansion of the air medical industry. There are hospital helipads across the country that no longer operational but are still listed on official DOT and FAA records because of the confusion of who, if anyone, has oversight over hospital helipads. There are other helipads that were built and certified 10, 15, 20, and even 30 years ago that have never been re-inspected

Copyright 2009 Permission to reproduce and distribute authorized

since their original inception and may no longer meet the standards set forth by the FAA and DOT. This is primarily due to the fact that there is no requirement for continued inspection. Rather, once a helipad is certified it is always certified.

Some locations that in the beginning have had clear, safe approach and departure routes into and out of their landing area now have the way obstructed by buildings, power-lines, antennas and parking garages. This in turn has forced pilots to fly their helicopters into precarious and dangerous situations with little or no margin for error. To maintain control, pilots are often forced to demand the absolute maximum performance from their helicopters and fly other than standard profiles into and out of these areas. This again is primarily due to the fact that no one knew or took the time to file the paperwork for certification and never had the area surrounding the helipad rezoned to prevent this from happening.

Over the years several hospitals have contracted with firms to design and build a helipad that have never designed or built a helipad before. Some of these organizations do the right thing and hire a consultant who specializes in helipad design and construction to help them wade through the design and regulatory process to produce a well thought out, safe and effective end product. But some helipads are designed and built by organizations that do not perform this due diligence and hospitals end up with less than desirable results.

At the present time there is no clear group with oversight or authority in the United States for helipads located on hospital property. In most cases each individual State's Department of Transportation's Aeronautics Section has little or no authority over hospital based helipads other than to file paperwork on them. The FAA in turn is limited to certifying only the airspace above these landing areas, which as of late is now being done via email without an onsite visit.

While there are not a large number of air medical accidents on record that can be directly pointed to as being caused specifically by improperly designed and built helipads, there are many accidents which have been negatively influenced due to their shortcomings.

Copyright 2009 Permission to reproduce and distribute authorized

Hospital Helipad Safety

Recommendations:

1- Encourage all hospitals to meet the standards set forth by the FAA and DOT in Advisory Circular AC 150/5390-2B regarding helipad design and construction.

2- Solicit help from the FAA, DOT and HAI to help educate hospitals to the advantages of having their helipad certified and re-inspected on a regular basis.

3- The FAA and DOT should coordinate between their two departments and clarify what rules apply, how they apply and who has jurisdiction over hospital helipads.

4- Reward those hospitals that do get their helipads certified and regularly inspected with insurance incentives.

5- Make funds or low interest loans available to hospitals through government agencies for the construction of and upgrades to hospital helipads.

6- Incorporate the hospital helipad infrastructure into Homeland Security's disaster planning initiatives and public data base to help support evacuation and relief efforts across the country.

Copyright 2009 Permission to reproduce and distribute authorized

National EMS Pilots Association

Position Statement

Prepared for NTSB Hearing – February 2009

HTAWS

Background

An FAA Fact Sheet, released in June of 2008 stated the following:

> "The number of accidents nearly doubled between the mid-1990s and the HEMS industry's rapid growth period from 2000 to 2004. There were nine accidents in 1998, compared with 15 in 2004. There were a total of 83 accidents from 1998 through mid-2004. The main causes were controlled flight into terrain (CFIT), inadvertent operation into instrument meteorological conditions and pilot spatial disorientation/lack of situational awareness in night operations. Safety improvements were needed."

While fixed wing operations have experienced the same dismal record in this regard, TAWS (Terrain Awareness and Warning Systems) equipped airplanes have an excellent track record, with basic immunity to CFIT accidents. Until recently, the FAA had not developed a TSO (Technical Standard Order) for HTAWS (Helicopter Terrain Awareness and Warning System). Systems primarily designed for fixed wing use (TAWS) migrated to EMS helicopters with undesirable characteristics, Because the fixed wing derived algorithms can misinterpret the EMS pilots true intention to land at a remote scene, versus fly inadvertently into the ground, numerous pilots have reported continuous "nuisance" alerts. Well intentioned operators who have purchased and installed TAWS equipment have found their pilots disabling the system to prevent unwanted distractions, which are most likely in mountainous areas, low level flight and approaches to scene landings; some of the most task-intensive phases of flight for a HEMS pilot.

The only rotorcraft specific commercial product to date has been designed solely in accordance with the manufacturer's specifications, due to the lack of FAA standards for rotorcraft.

Two years ago a working group consisting of the FAA, aviation manufacturers and industry experts combined efforts to develop TSO C-194, which was released in December, 2008. This TSO gives manufacturers guidance in developing HTAWS equipment.

While implementation of current systems may yet remain problematic due to both cost and weight considerations, NEMSPA is receiving field reports from pilots utilizing newer generation equipment in mountainous terrain with excellent results. NEMSPA is encouraged by these reports and believes that HTAWS technology has progressed considerably. It is hoped that equipment built to the new TSO standard will provide more than acceptable CFIT protection.

Copyright 2009 Permission to reproduce and distribute authorized

HTAWS

Recommendations:

1- Continue with the development of effective HTAWS equipment for air medical operators.

2- Follow on with an eventual industry requirement for HTAWS once the effectiveness and feasibility has been established.

3- Investigate funding assistance, possibly through a tax incentive, for operators to install HTAWS equipment into legacy fleet aircraft.

Copyright 2009 Permission to reproduce and distribute authorized

National EMS Pilots Association

Position Statement

Prepared for NTSB Hearing – February 2009

Aircraft Recording Devices

Background

Aircraft recording devices are currently manufactured and governed by aircraft much larger than what is commonly used within the HEMS community. Currently no regulations require such devices on rotorcraft. Historically, such devices have been cost and weight prohibitive for use in small to medium sized rotorcraft.

Only in the past 2 years have lighter weight, cost effective alternatives become available to the HEMS industry. On one hand the devices provide significant enhancements to available flight data for safety management, accident investigations and training improvements; yet due to a lack of a specific TSO (Technical Standard Order) for these devices on rotor wing aircraft the systems are not standardized.

Another blossoming initiative resulting from this technology is the possible use of these devices in FAA approved FOQA programs as part of a safety management system in conjunction with "Just Culture". FOQA-like programs in the airlines have been in existence for a number of years and have been effective in enhancing safety by improving pilot decision making and guiding training programs. FOQA and FOQA-like programs are currently in use by at least two major offshore operators with encouraging results.

NEMSPA has been working closely with the International Helicopter Safety Team (IHST) to encourage more development in this area. NEMSPA strongly recognizes the use of a "Just Culture" environment combined with sound safety management principles with these technologies. Failure to do so may adversely affect safety culture.

Recommendations:

1- Allow for HEMS aircraft to use less stringent criteria for flight data and information recording (eg, cockpit video recording only) to achieve more cost, mission and weight effective technology while achieving the desired results of the FAA, NTSB and the HEMS industry as a whole.

2- Continue to work with the IHST and manufacturers to encourage further development of this technology and associated safety programs.

3- Develop an industry recognized or regulated standard for information gathered to include type of data collected, minimum data nodes, and data management.

4- Assist in the integration of these developments into accident investigation and the identification of causal factors.

Copyright 2009 Permission to reproduce and distribute authorized

Background

Since the advent of HEMS operations in 1972, the regulatory world has struggled to put HEMS into an existing "box" or set of regulations.

The framework for FAR 135 was established for fixed wing, airport to airport type of Air Carrier operations. Over the years this has resulted in many deviation requests, blanket exemptions that last for years, loopholes that allow less than desired oversight, and operators and pilots that ignore the intent of the FAA to maintain an acceptable level of safety for all operations. This approach has led to a standard that varies from company to company, FSDO to FSDO, and location to location.

In an effort to control a very unique segment of aviation the FAA has been trying to regulate Air Medical safety through Memos, Notices, Bulletins, Handbook guidance, Advisory Circulars, Operations Specifications and threats. In no way does NEMSPA imply that any one individual or office of the FAA has encouraged this approach, it is just the hand they were dealt.

Although Regulatory change is labor intensive and takes quite some time to accomplish, it seems very apparent that the time is well past to overhaul the regulations as they pertain to HEMS. NEMSPA believes that the time involved in doing this right the next time would be time spent well, and should save time in the future. The recent addition to FAR Part 91 to accommodate fractional ownership programs is an excellent example of how a regulatory addition could be made to accommodate HEMS.

The intent of these recommendations is to establish a minimum or baseline set of standards for air medical transport operations to insure a basic level of service and operational safety and to establish those standards at a regulatory level that applies to all operators and providers.

Recommendations

1- Establish a task force with representatives from the FAA, Industry and NEMSPA, with the objective of consolidating EMS portions of Part 135, Advisory Circular data, etc., along with additional recommendations that come from this hearing, into an appropriate self contained section of the FARs. This task force could have several sub groups to cover different areas such as:

   a) Fixed Wing EMS operations
   b) Rotor Wing EMS operations (VFR and IFR)
   c) Maintenance and medical equipment standards
   d) Operational Control
   e) Roles, responsibilities, and authority of personnel regarding medical versus aviation issues in medical transport operations.

2- Establish a time-line for submittal of proposed new regulations for comment and review.

3- Once approved, establish a timely phasing in of operators to new regulations.

4- Provide adequate FAA support down to the FSDO level for implementation and enforcement of the new regulations.

Copyright 2009 Permission to reproduce and distribute authorized

25 April 2009
To: Members of the House Subcommittee on Aviation:

Dr. Darren Bruce Bean lost his life late at night, May 10, 2008. Darren, an emergency physician and faculty member at the University of Wisconsin Hospital and Medical School, was killed along with Steve Lipperer, pilot, and Mark Coyne, flight nurse, in the tragic crash of a University of Wisconsin Medical Flight helicopter. Darren leaves his wife Stacey Bean, M.D., also an emergency physician, two young children, Caitlyn now six and Parker, now four. He also leaves his mother Danielle Bean and me. I am Darren's step-dad. I married Danielle and Darren in 1986, as Darren had lost his father, Bruce A. Bean in the crash of small, government chartered airplane in May of 1972. Darren did not know his father well as he was but seventeen months old when Bruce was killed. Darren was and is our only son.

Darren, along with many other patients and medical flight crews, lost his life needlessly due to virtually non-existent regulation of the medical flight industry by the FAA. It is interesting to note that most of the major medical flight businesses have actively resisted government regulation as an "unnecessary" intrusion on business operations. The industry purports to have the highest safety standards in mind, yet actively resists not only safety regulation but the installation of readily available flight safety technology purposely designed and built to improve in-flight safety. The lack of oversight and regulation of the medical flight helicopter industry is eerily similar to the lack of oversight of Wall Street's money lenders, investment bankers and hedge fund managers. It has taken the "train wreck" of our nation's economy to bring about regulation that is obviously needed, as it has taken the wrecks of ten medical flight helicopters in 2008, with 35 fatalities to patients and crewmembers, to bring about desperately needed safety regulation by the Federal government on behalf of all of its citizens!

My request of the Congress is simple:

1. Govern and regulate air medical flights to the same standards and safety levels as other passenger carrying commercial air flight. Standards should be as rigorous as those applied to the major airlines.
2. Provide oversight of dispatch systems for medical flight that eliminates rescue mission "shopping," creates a centralized regional dispatch system, requires documented sharing of local and regional weather and flight conditions among medical flight operators, requires documentation of safety protocols before each flight, and limits flight time for pilots to commercial aviation standards (major airlines) to avoid pilot fatigue.
3. Mandate immediate installation of terrain awareness warning systems (TAWS), night vision goggles, constantly operating in-flight GPS monitoring devices, and black boxes on all helicopters used in medical

flight operations. Much of this technology has been available since the Vietnam war.

4. Mandate development and implementation of industry-wide standards that guide/govern injury and illness levels for patients to assure that only the most critical patients are transported to medical services via medical flight helicopters.

The costs of continued inaction are enormous. Stacey, Caitlyn, Parker, Danielle and I are heartbroken. We lost a caring, adoring father, a loving husband and an only son, the first person in our family to become a physician.

The costs of Darren's death go well beyond the loss his immediate family mourns each and every day. The public health suffers because of his needless death. On the day he died, Darren and his flight crew picked up a man severely injured in a motorcycle crash. The patient died on board the flight to the hospital. Darren put a central line into the patient during flight, with the patient strapped in and while strapped in himself. Few other emergency physicians would attempt such an audacious medical procedure while in the air, as on the ground in the ER this procedure is no mean feat. The man woke up while still in the air and survived his injuries with no mental impairment. During the twenty five or more years that Darren did not get to practice and teach emergency medicine, one can only speculate about the number of lives he and his students might have saved.

Darren's work in cardiac care was cutting edge. As the lead cardiac care emergency physician in the UW-ER, Darren was instrumental in working with local agencies to reduce the time span between heart attack and cardiac catheterization, reducing the time lag from 180 minutes or so when he assumed leadership of the program to approximately 90 minutes. In addition, he introduced cooling procedures used to chill cardiac patients while in flight or during ground transport, protocols that are documented to improve patient outcomes after a cardiac event. Darren's death is a huge loss to public health in greater Madison, Wisconsin.

Darren's other role was as Medical Director for the Madison, Wisconsin fire department. Here, his interpersonal charm and his leadership skills came to the fore. In thirty years, his predecessor had been unable to achieve an inter-jurisdictional agreement on emergency services to cut travel times for ground emergency services, to improve efficiency, and to cut costs. Darren convinced all eight political entities to sign a new cooperative agreement to resolve the preceding issues within six months of his new tenure. In addition, he spearheaded a Dane County, Wisconsin initiative to replace CPR with CCR (cardio-cerebral resuscitation) for adults who have stopped breathing presumably because of a cardiac event. This cutting edge public health initiative will bring Darren a posthumous Red Cross Heroes award later this spring.

While Dr. Darren Bruce Bean was an amazing young physician and community leader, most of the caregivers killed in medical helicopter flight crashes have similar credentials. Often they are young, early career professionals, usually in their twenties or thirties. They go into the health professions for only the most noble of reasons. They often represent the best of current and future public health in our nation. This industry must be regulated and must have vigilant oversight because our nation can ill afford to lose the talent, skills and passion of these vital caregivers who risk their lives each time they fly in the honorable effort to help others. I believe, as do many flight safety specialists, that a few simple changes, both to oversight systems and to flight safety technology, can make a huge difference in the safety record for crews and patients.

In this new era of hope in our nation, motivated by a young and inspiring president, is it an audacious hope by the families who have lost family members in the medical flight industry, that not a single additional family will receive the call about the death of a loved one, patient or crewmember, in a med flight helicopter crash? Will Congress and the FAA take decisive action and act positively on the recommendations of the NTSB to improve nationwide safety of the medical flight industry? Only you have the answer!

Thank you for reading!

Sincerely,

Brian T. Schiller
39221 Woodward-Unit 301
Bloomfield Hills, Michigan 48304
Home: (248) 593-9097
Office: (248) 645-3521
Cell: (801) 209-6845
schillerbt@aol.com

Committee on Transportation and Infrastructure
U.S. House of Representatives
Subcommittee on Aviation
Hearing on the Oversight of Helicopter Medical Services
Wednesday, April 22, 2009
2167 Rayburn House Office Building
(202) 225-4472

Testimony of Tracy Schumm
Sister of William (Bill) J. Mann, Jr. (d. October 15, 2006, age 31)

I am the newest member of MedSafeFlight: Family Advocates for Safe Air Medical Flights. I unwillingly became a member of this community when my brother, William J. Mann Jr., was tragically taken from me and my family in a medical helicopter crash at midnight on October 15, 2008. Bill, along with two other crew members and a patient, were killed when their helicopter clipped a guy wire and crashed into a field in Aurora, IL. That night, I not only lost my only brother, but I lost a best friend and personal hero. My brother was a dedicated and talented flight nurse and after two stints with Air Angels, Inc., he was interviewing for a nursing coordinator position at a hospital because it was time to settle into a safer career. Bill's final interview was scheduled for October 16th and his potential supervisor came to his memorial to let us know that he had the job. Unfortunately, Bill will not be able to continue his career in the life saving industry that he was so devoted to serving. Bill's life was cut short on the job in an obviously preventable accident.

Bill died along side heroes flight paramedic Ron Battiato and pilot Del Waugh. Ron was a husband and father of six children who was also a volunteer fireman to support his family. Del was a very experienced pilot and decorated Vietnam veteran who earned two Purple Hearts while defending his country.

I am certain that Bill, Ron, and Del would still be saving lives had the FAA taken the advice of the NTSB in 2006. Since no changes have been made and more lives have been needlessly lost, HR 1201 was written to prevent more tragedies like the one my family copes with on a daily basis. HR 1201 requests that EMS helicopters meet higher weather minimums and comply with pilot rest duties in order to fly, even if a patient is not on board. It also requests that risk assessments be required for every single flight, including weather, obstacles and terrain, nighttime flight, spatial disorientation and pressure to take a flight. Thirdly, it requests full comprehensive flight dispatch procedures. Finally, HR 1201 requests that all medical helicopters be equipped with "black boxes" to help determine the cause of accidents and to answer questions so loved ones can move forward. In addition to the elements of HR 1201, SafeMedFlight is also requesting that Night Vision Goggles be required for all nighttime flights and all medical helicopters be equipped with Terrain Awareness and Warning Systems. The above listed requests could have very easily prevented the crash that took my brother and three others.

The honors that have been posthumously bestowed upon Bill have been amazing, but they will never replace his stunning smile, contagious laughter, and tremendous love for those who were blessed to call him family or friend.

As Stacy Friedman bravely speaks to you today, I am flying to my hometown of Chicago to celebrate Bill's birthday with my mother, father, sister, and loved ones on April 25th. He would have been 32 years old. I graciously ask you for the much needed help in making great improvements to this life saving industry.

Tracy Schumm
Phoenix, AZ

Committee on Transportation and Infrastructure
U.S. House of Representatives
Subcommittee on Aviation
Hearing on the Oversight of Helicopter Medical Services
Wednesday, April 22, 2009
2167 Rayburn House Office Building
(202) 225-4472

Testimony of Cece Terry
Sister (twin) of Amelia Daws Tomecko Riebe (d. September 11, 1995)
Safemedflight: Family Advocates for Air Medical Safety

4110 W. Eva St.
Phoenix, AZ 85051
(623) 930-1676

If, like myself, you find that your arm is not long enough these days, and you haven't already, please put your reading glasses on (I'm not that vain - I wear bifocals...ok, fine - they're progressives) and look at the last page of Stacey Friedman's testimony (in case you are not aware, she's the founder of SafeMedFlight.org)..."In Memory" is what it says at the top. If you count the lines, beginning with the names of those who have been killed in EMS air medical accidents, when you get to line #29 & look at the second name, you'll see "Amy Riebe", followed by her two crew-mates' names, & surrounded by hundreds of other names, none of which should be there, including the name of the pilot that eulogized her at their company's big memorial (yes, he & his crew, including Stacey's sister, Erin, died 10 years later - Amy's husband, another pilot, eulogized him). I don't need to remind you why you're here, much less why I'm writing this. You'd be writing, too, if it was your loved one that died, needlessly, doing their job. She loved it - she'd gone back, after getting her Master's Degree and becoming a Nurse Practitioner. She missed it. She'd been back for only two months, working part time, when that fateful decision to trade shifts with another nurse so she could help with the Senior's luncheon during the day at the church was realized.

They're all our heroes - why? Because they knew there were risks involved and they did their jobs anyway...but, the risks they faced, and the ones faced by those continuing to do their jobs today, should not have been as great as it was/is. The playing field needs to be leveled

and there's not one of you that would agree that the costs of doing that is far less than the cost of all these lives. Even today, each and every one of us "survivors" pay a price, exacted from us in the tears that well up "out of the blue" or the deep, heart-rending pain that feels as if it could kill us if we let it. Don't say you know how we feel unless you've lost your loved one in a preventable accident, having had them "snatched" away because someone wouldn't spend the money to keep them safe. No, we're not stupid, either.

Amy did not go "peacefully" - the crash was into water but, thank God, there was no water in her lungs (or Marna's either - Lee's body was never found). Her soul/spirit wandered for awhile before coming to me, in the pre-dawn of a day off, almost two weeks after the crash, while I was not fully asleep, but not fully awake. What transpired during our encounter is nothing I can explain in words - what I know, however, is that the body wrenching sobs that were coming from her made me feel she was very confused and extremely hurt (I don't mean physically). She couldn't even talk. I took her in my arms, rocking her back & forth while trying to soothingly explain the accident. I told her that it wasn't her fault she was gone, promising to do what I could to take care of Mom and Dad in the years to come (Daddy never got over it). I assured her that it would be ok for her "to go". I almost startled awake, then, and she never returned. While I'm happy she found peace, I sure do miss her (and her spirit/soul).

As far as the rumor that this was going to be turned into a "pity-party", whoever started that can just kiss our collective butts. Those that pity themselves are unable to move forward. They're unable to keep up with

the times and circumstances that shape how they should act. They refuse to do things morally correct and whine when confronted about it because it might cost them in one way or another (and you know the way I mean the most). That doesn't sound like us.

But, shame on me, preaching to the choir...we all know who it is I'm referring to - they're the reason we're going through this now. I'm angry. It's bad enough these tragedies started when they did. Why do they continue to happen?

A LITTLE HELP HERE, PLEASE!!!!!

Thank you.

○