CAMTS PO Box 130 Sandy Springs, SC 29677 117 Chestnut Lane Anderson, SC 29625 (864) 287-4177 Phone (864)287-4251 Fax

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.

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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

camts
Commission on Accreditation of Medical Transport Systems

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