Position Paper:
Pay for Performance: Core Measures / Never Events

15 June 2009

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FOR REVIEW AND ENDORSEMENT

The Patient First Air Ambulance Alliance (PFAA) is comprised of and supported by nearly one hundred medical transport and professional medical organizations.

The PFAA is committed to assuring an accountable and safe air and critical care medical transport system that recognizes the interests of patients as the first priority in medicine.

The Institute of Medicine Emergency Care Series reports published in 2006 highlighted that accountability has "failed to take hold" in EMS and called for the development of system performance measures.

Assuring accountability in healthcare and current reform efforts underway in the United States are focused on value based, pay for performance (P4P), purchasing of healthcare services. The current financial models of healthcare in the U.S. are widely acknowledged to be unsustainable. Providers must lead the effort towards a better system. Patient safety, assurance of medical necessity for services, improving quality, and measurable performance indicators are needed by patients, the public, purchasers, and providers.

This paper is the start of a process of developing an accountable system in the medical transport arena. It initiates the pay for performance model now widely accepted in the hospital and physician sectors.

The work group plans to continue the P4P process to develop further core measure reporting, "never events," quality measures for purchasing, and quality bundling. On behalf of the PFAA the following individuals have contributed to this paper.

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The Patient First Air Ambulance Alliance, (PFAA) believes in an accountable emergency medical transport system and recommends implementation of recommendations called for in the 2006 Institute of Medicine *Emergency Medical Services: at the Crossroads* report.

The *Crossroads* report, noting that accountability has "failed to take hold" in the EMS system, calls for the development of system performance indicators that "*include structure and process measures, but evolve toward outcome measures over time. These performance measures should be nationally standardized so that statewide and national comparisons can be made. Measures should evaluate the performance of individual components of the system, as well as the performance of the system as a whole. Measures should also be sensitive to the interdependence of these components.*" [i]

Appropriately used, air medicine is an integrator of care due to its multiple jurisdictional reach, as compared with ground EMS services, and its facilitation of patient transfer within regional systems from community to tertiary care. Concerns regarding rapid growth in providers, appropriateness of utilization, and patient safety have raised questions as to the value of this transport modality. The air medical sector has more than doubled in fleet size over the last decade with growth associated with an increase in the number of accidents and increased questioning of appropriate use. Specifically the *Crossroads* report identified growth, efficacy / appropriateness of transport modality decisions, and safety as essential concerns in improving the accountability of air medical transport.

One of the challenges, noted by multiple reviews of the sector is the paucity of standardized use data and quality assurance standards. Current lack of use data has been highlighted in successive Government Accountability Office (GAO) reports [ii], [iii] and leads to questions of accountability only answerable by anecdote. A recent paper from the American College of Surgeons (ACS) has questioned medical appropriateness of air medical tasking and overuse associated with non-medically based decisions on transport and hospital destination.[iv]

A new report by the Flight Safety Foundation highlights that "inconsistency and lack of standardization" results in "significant risk entrenched within the tasking continuum used for allocating HEMS air medical assets." [v] Recognizing the complexity and wide variability in air medical scene response triage and requests by ground providers, the

Department of Transportation National EMS Advisory Council requested that the National Highway Traffic Safety Administration and the CDC develop a national air medical triage system.

Assuring medical propriety and integration of medical helicopters within the wider emergency system are essential to the performance of the out of hospital care system. Achieving these imperatives is the responsibility of all medical transport providers. Similar to other sectors, however, as noted by the National Quality Forum, “prevailing methods of paying for healthcare in the United States do not incentivize or reward the provision of high-quality care.” [vi]

The PFAA believes it is possible and achievable to develop standardized use and quality assurance data and accomplish this in the near term. The air medical sector is uniquely positioned to develop performance indicators due to its relatively small size in providers, as compared with ground EMS, and its broad use of electronic medical records. Further, much of the use data is also reasonably available at the provider level due to wide voluntary adoption of Commission for the Accreditation of Medical Transport Systems (CAMTS) requirements.

As initial steps to improving the accountability of the air medical system and incentivizing quality, the PFAA supports:

- the development of a national mandatory performance data set to evaluate use; and
- establishing a framework of quality assurance “never events” in concert with the National Quality Forum

<u>1) Performance data:</u>

Adoption of performance measurement as a condition of participation for Medicare, Medicaid, and other contracted payer relationships should occur in a stepped process to build simple and reliable processes and improve system understanding prior to policy review. The PFAA believes the following four basic integrated data elements are needed to initiate systemic use data for appropriateness of transport modality decision making:

- **<u>Compliance with national consensus criteria for air medical dispatch:</u>**

The National Association of EMS Physicians, supported by the Association of Air Medical Services, the American College of Emergency Physicians, and the Air Medical Physicians Association [vii] have published criteria for resource decision allocation for helicopter, fixed wing, and ground critical transport modalities. A compliance testing project was successfully run New England wide in 2007 to test whether compliance with consensus dispatch could be measured. Significantly, one element in the criteria “in the professional opinion of the requestor” was removed from the New England data set as it was considered non-explicit in measurability. The PFAA also recommends this data element not be included in required data submission.

- **<u>Use data for scene and inter-hospital transport to include mileage of flight and ground critical care transport segments with patient on board:</u>**

While air medical resources have been identified as important to rural access, much of the recent growth in medical helicopters has been in more urban settings. Further, there is substantial variation in the availability of critical care ground transport resources. While recognizing the challenges of congestion in urban transport corridors it is intuitive that urbanized centers have more hospital and ground EMS resources thus diminishing the need for air medical transport. Understanding and identifying potential variation in numbers of scene and inter-hospital transport for both air and ground critical care by locale as well as patient mileage segments are necessary elements in monitoring system performance and resource availability.

- **<u>Discharge from Emergency Department after flight:</u>**

Medical triage is fraught with uncertainty and over-triage defined by the absence of serious injury or illness and rapid discharge from the emergency department is a significant issue in pre-hospital care. Rates of discharge however vary widely from reported 3.5% in Maine and Minnesota to rates as high as 40-70% in Texas and Pennsylvania. While transport and subsequent discharge may be appropriate medical necessity decisions, the wide variability in results with generally similar triage criteria merits evaluation and benchmarking for both scene direct and inter-hospital transfers. Implementing this benchmark would also integrate EMS and hospital use data.

- **<u>Transport numbers and rates by hospital in response area to include patient age:</u>**

With rapid growth in market areas and concerns noted by the ACS as to non-medical reasons for transport and hospital destination, it is important to evaluate ongoing data on the relationship between transport and provider affiliation or exclusive contract agreements with hospitals. This measurement should include age in order to identify appropriate transport to designated specialty pediatric centers by specialized pediatric teams.

<u>2) Quality Measures:</u>

Assuring patient safety is the first and foremost task of medical providers. Leading medical provider organizations and physicians have established a framework for events that should never occur during patient care. The following are an initial set of provider agreed occurrences which must be prevented if patient safety is to be assured. Establishing processes to protect patients from these sentinel type events improve the overall safety of patients during medical transportation. The following should be considered a first cut at “never events” as a means for providers to develop systems and measurement tools to improve safety. The work group has committed to continuing the development of this process in concert with the National Quality Forum.

List of Serious Reportable Events

Care Management Event

Event	Additional Specifications	Implementation Guidance
1. Patient death or disability caused by loss of supply of oxygen or any incident in which a line designated for oxygen or other gas to be delivered to the patient contains the wrong gas or is contaminated by toxic substances.	Includes a) depletion of vehicle oxygen supplies; b) mechanical malfunction of oxygen supply system; c) inability of transport crews to operate the oxygen system; d.) inability to deliver oxygen due to oxygen delivery system incompatibility with vehicle ports Excludes a) unanticipated addition of a patient due to unforeseen circumstances (e.g. family member accompanying patient on transport becomes ill); b) oxygen supply and delivery within a referring or receiving facility; c) oxygen depletion via portable tanks at an out-of-hospital scene where extended scene time is necessary due to environment / safety / logistical needs.	This event is intended to capture: ▪ Occurrences of unintended depletion or non-delivery of oxygen concentrations necessary to maintain adequate patient oxygenation during the patient transport phase of a medical transport mission. Proper transport planning should be completed prior to any patient transport. This planning should include potential oxygen needs for any patient transport or patient condition change during transport. If multiple patient transport is within the mission profile, this must also be taken into consideration. Replenishment of oxygen at designated facilities may need to be planned for in the mission. Daily shift checks and preventative maintenance on oxygen delivery systems should assure that oxygen depletion or non-delivery does not occur due to device malfunction. Education should assure that all crew members can complete shift checks, operate, and appropriately trouble-shoot equipment. A medical transport services (MTS) must have assurance that vendor sources of gas supply have effective safety compliance programs.

List of Serious Reportable Events (continued)		
Patient Protection		
Event	**Additional Specifications**	**Implementation Guidance**
2. Patient or passenger death or serious disability caused by the MTS vehicle failure or crash	Includes vehicle crashes or failures due to mechanical reasons or human error. Excludes a) acts of terrorism by entities outside of the MTS, patient, or passengers screened by the MTS and b) acts of God (e.g. bird strikes).	This event is intended to capture: ▪ Occurrences where a vehicle failure or crash caused patient or passenger death or disability through direct injury or through the delay in delivery to definitive care. The primary goal of an MTS is to provide the appropriate level of medical care while delivering the patient safely to the intended destination. If the vehicle fails or crashes due to mechanical reasons or human error, the MTS was unable to provide the intended service or it provided a disservice to the patient. The MTS must assure quality maintenance and complete documentation of maintenance of all vehicles utilized by patients, passengers, and crew members. The MTS must assure quality maintenance and complete documentation of maintenance of all vehicles utilized by patients, passengers, and crew members. The MTS must assure quality initial and recurrent vehicle operation and safety education and complete documentation of this education for crewmembers transporting patients or passengers. The MTS must create, educate, and utilize post incident/accident processes to respond to vehicle failures or crashes. The policies should primarily address patient and crew safety needs and provide options for transporting the patient and any other injured passengers to appropriate medical care with minimal delay.

List of Serious Reportable Events (continued)		
Patient Protection Event		
Event	Additional Specifications	Implementation Guidance
3. Patient death or serious disability caused by transport to an unintended destination	Includes unintended patient transport to destinations through human error. Excludes a) specific destinations within a receiving facility (e.g. emergency department, catheterization lab, critical care unit) and b) diversions due to hospital / physician orders, patient condition, weather, or any other safety issue necessitating a diversion from the planned destination.	This event is intended to capture: ▪ Occurrences where the transporting program unintentionally transports a patient to an unintended destination through human error in communication, navigation, or other means. The primary goal the MTS is to provide the appropriate level of medical care while delivering the patient safely to the intended destination. Appropriate and expedient medical care at the destination facility can have a significant affect on patient outcomes. Unintended transport to other facilities may cause delays to definitive care and lesser or deficient medical capabilities may create a negative patient outcome.

List of Serious Reportable Events (continued)		
System Event		
Event	**Additional Specifications**	**Implementation Guidance**
4. Respond without a formal request	Includes any freelance responses to potential patient transports. Excludes a) the MTS that participates in auto-response/ standby responses as part of a coordinated, integrated and published policy developed in cooperation with local / regional requesting agencies and b) instances when the MTS crew happens upon the scene of an EMS need and initially acts as a first responder, notifying the public service answer point (PSAP) to activate standard response protocol for that location.	This event is intended to capture: ▪ Occurrences where a MTS self-dispatches resources to scenes or health care facilities without a formal request from or coordination with personnel on scene. The utilization of MTS resources are coordinated events between the MTS, PSAPS, dispatch centers, other responding EMS resources, and hospitals. Freelance responses to potential patient transports by MTS resources can jeopardize coordination efforts as well as impact crew and patient safety. There must be a formal request of service to respond with MTS resources.

List of Serious Reportable Events (continued)		
Patient Protection		
Event	**Additional Specifications**	**Implementation Guidance**
5. Patient death or serious disability caused by dropping a patient or allowing a patient to fall during the transport process.	Includes patient falls while under the care of transport crews, dropping of patients being carried or transport by a device (stair chair, wheelchair, stokes basket, stretcher, backboard, loading ramps, harnesses, or any other approved/unapproved device).	This event is intended to capture: ▪ Occurrences where a patient receives unintended trauma directly resulting from the transport process. The primary goal of the MTS is to provide the appropriate level of medical care while delivering the patient safely to the intended destination. Though MTS providers offer patient care and transport in a variety of challenging environments, it is expected that they will have the resources, equipment, and knowledge to operate in those environments and be able to transport patients without falls, drops, or other unintended injury.

List of Serious Reportable Events (continued)		
Patient Protection Event		
Event	**Additional Specifications**	**Implementation Guidance**
6. Death or serious disability to EMS personnel or patient caused by failure of the MTS to communicate an initial estimated time of arrival to the scene or subsequent delays of the transport response	Includes the communication of a) the initial estimated time of arrival (ETA) and b) all expected or unexpected delays in response. Excludes documented communication delays or errors by the requesting EMS agency or health care facility.	This event is intended to capture: ▪ Occurrences where delays in patient transport or scene hazards occur due to the lack of communicating response delays by the MTS. MTS resources are requested to provide patient transport to definitive care for injuries or illness. Response delays may impact operational / safety issues on scene as well as patient treatment plans. It is imperative that MTS providers communicate and document the initial estimated time of arrival of the medical resource on the scene of the request. If delays are expected or occur unexpectedly, MTS must communicate these delays as soon as possible to the requesting agencies. Definition: Delay is subject to a variety of factors such as response mode, distance, and patient condition. For this purpose delay is defined as a time frame that will have a negative impact on scene safety operations or patient care. It is essential that the MTS consider these factors and communicate any delay that may impact safety or care.

In conclusion, the PFAA supports the adoption of integrated mandatory performance data as an initial step towards improving the emergency care system including an evolution to pay for performance criteria. Use decisions for air medical transport have significant elements of risk and cost consequence. The PFAA is committed to outcomes research and evolution of best practices and standard quality indicators. Assuring accountability and incentivizing quality in the out of hospital care system is essential for both clinical and financial performance of the healthcare system. Implementing these initial core measures reporting and never event reporting will help providers develop the internal auditing tools to improve quality reporting and performance. Establishing uniform data reporting across the medical transport enterprise will initiate the broader needed information and metrics to establish a best practices framework.

The PFAA is committed to an accountable, safe, and reliable emergency medical care system for critically ill and injured patients. We believe that these initial data elements and "never event" quality standards can be incorporated into provider operations at minimal cost for collection and reporting, serve as a future model to build an integrated system for both air and ground providers, and ultimately deliver the vision of the IOM.

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[i] **National Academy of Sciences / Institute of Medicine: *Emergency Medical Services: at the Crossroads.* ISBN: 0-309-66216-8, (2006)**

[ii] **GAO, *Aviation Safety: Improved Data Collection Needed for Effective Oversight of Air Ambulance Industry,* GAO-07-353 (Feb. 2007).**

[iii] **GAO, *AVIATION SAFETY: Potential Strategies to Address Air Ambulance Safety Concerns* GAO-09-627T (April 2009)**

[iv] **Fallat ME, Overton J, et al, "Air Medical Transport Safety," *Bulletin of the American College of Surgeons,* May 2007.**

[v] **Flight Safety Foundation / Aerosafe Risk Management: *Helicopter Emergency Medical Services (HEMS) Industry Risk Profile* April 2009. www.flightsafety.org**

[vi] **Wu HW, Nishimi RY, Kizer KW, Pay-for-Performance Programs: Guiding Principles and Design Strategies; National Quality Forum, 2005**

[vii] **Thomson DP, Thomas SH. Position Paper: National Association of EMS Physicians: *Guidelines for air medical dispatch*. Prehosp Emerg Care 2003;7(2):265-271.**