Comments for the FIRST Draft  
Committee responses are in red.

Date 08/20/2019 #1
Standard # - Suggested Change and Rationale for Change
ME 01.06.07 4.
Policy addresses pre-hire drug testing. By definition "random" and "for cause" are two different things. The same issue is not seen in 01.06.02 3 and 4.
We believe this was an oversight and will change the wording and separate the two, to be the same as in 01.06.02 3. and 4.:

3. A policy addresses pre-hire (whether or not it is required) drug screening.
4. A policy addresses criteria to require “for cause” drug screening.

Date 08/20/2019 #2
Standard # - Suggested Change and Rationale for Change
03.06.01 8. c
The DEA no longer requires each base to have a separate drug license for EMS. See Public Law 115-83 - 115th Congress
We will delete the second half of the wording to the second bullet under Standard 03.06.01 8. c.:

▲ For services that transport medications between bases, a policy exists that assures safe and secure transport of medications between bases that is consistent with state and/or national laws. In the U.S. there is a DEA license required for each base that stores and dispenses narcotics. A hospital pharmacy that stocks controlled substances for various locations needs a terminal distribution license, for example.

01.06.01 6.
Consider adding a requirement for eye exams following a laser strike.
The committee’s proposed wording changes the current standard from:

“6. Managers require by policy that any encounter with an unmanned aerial systems (UAS), laser or bird while in flight require reports submitted to local law enforcement and/or ATC on a timely basis.
   a. Policy defines who is responsible to notify and submit a written report to local authorities.”
To the following:

6. There is a policy that address encounters with an unmanned aerial system (UAS), laser or bird while in flight, which includes:
   a. Reporting to local law enforcement and/or FAA on a timely basis
   b. The responsible person for the reporting
c. Assessment of those impacted by a laser strike for the need for medical follow-up

d. Limiting additional exposure by leaving the area of encounter or taking other countermeasures

01.06.01 6.
Add wording the requires the aircraft to leave the area of the laser strike and not to stay and search of the laser user.
As noted above

02.03.07 2.d
Add requirement for reflective striping or other reflective markings on the helmets.
The committee agreed to add an additional bullet:

“Helmets have reflective striping or other reflective markings that can be seen in the event the wearer is in the water or other environments requiring search and rescue.”

Various areas
AMRM training is already required every year but increase the Standards by requiring that in-person training must be done at least every two years.
The committee is seeking additional information and has referred this to the CAMTS Education and Aviation Advisory Committees. The committee also suggests that AMRM training standards be centrally located in the education section (and removed for the mode specific standards) since it should apply to all modes of transport and special operations.

Note: Comments # 3 and # 4 were duplicates from the same person of these same suggestions.

Date 08/20/2019 #5
Standard # - Suggested Change and Rationale for Change
Add new:

Note: The wording in the following three comments comes directly from the 2018-2019 NTSB Most Wanted Safety Recommendations.
A required policy on portable electronic devices to prohibit their nonoperational use during safety-related activities, such as flight planning and preflight inspections, as well as in flight.
We will add a fourth item under 04.02.04 related to cellphones to read:

4. A required policy on portable electronic devices to prohibit their nonoperational use during safety-related activities, such as flight/transport planning, refueling, transport vehicle inspections and while the vehicle is in motion.

02.03.07 2. h
Add "energy-absorbing seats" to the list of aircraft requirements.
This item will be added to the existing list:

• If not required by the AHJ, it is strongly encouraged to install the following on helicopters (reference NTSB recommendations): (RW)
- Helicopter Terrain Awareness and Warning Systems (HTAWS)
- Flight Data Recording devices
- Flight Control stabilization systems for single pilot operations
- Traffic Collision Avoidance Systems (TCAS)
- Crash Resistant Fuel Systems
- Energy-absorbing seats

Add new:
Crash-resistant flight recorder systems which include cockpit audio and images with a view of the cockpit environment and as much of the outside view as possible, and parametric data per aircraft and systems installation are encouraged. The cockpit image recorder should be equipped with an independent power source consistent with that required for cockpit voice recorders.

To this same section, Standard 02.03.07 2. h, we will change the wording on the flight data recorder to that offered in the NTSB recommendations:

- If not required by the AHJ, it is strongly encouraged to install the following on helicopters (reference NTSB recommendations): (RW)
  - Helicopter Terrain Awareness and Warning Systems (HTAWS)
  - Flight Data Recording devices
  - Crash-resistant flight recorder systems which include cockpit audio and images with a view of the cockpit environment and as much of the outside view as possible, and parametric data per aircraft and systems installation are encouraged. The cockpit image recorder should be equipped with an independent power source consistent with that required for cockpit voice recorders.
  - Flight Control stabilization systems for single pilot operations
  - Traffic Collision Avoidance Systems (TCAS)
  - Crash Resistant Fuel Systems
  - Energy-absorbing seats

Date 08/22/2019 #6
Standard # - Suggested Change and Rationale for Change

03.02.02 4. Should this state "appropriate utilization of air medical/surface interfacility services"
The word “air” was inadvertently left out of the standard and will be added:

  4. Appropriate utilization of **air** medical/surface interfacility services

Date 08/25/2019 #7
Standard # - Suggested Change and Rationale for Change

All paramedics should have an AAS.
The committee believes this lays outside the concept of the Standards and no changes to the Standards will be made.
New Standard: There is a plan for succession and unanticipated extended absence for key positions including program director, clinical supervisor, quality coordinator, education coordinator, safety officer, director of operations, director of maintenance, communications manager and ground operations manager as applicable. The plan should address position vacancies, including when there is no incumbent to provide transition training, as well as unplanned extended temporary absences, designed to preserve the integrity of the program. This may include cross-training, identification of successors with support of formal and informal education, mentorship, opportunities to participate in projects/presentations/events in the future role, scenarios/case studies, shadowing, job expansion, mechanisms to preserve and provide access to needed information/documents, contacts lists, task lists, detailed instruction on processes that are critical/known only to the position and periodic review/updating of the plan’s references. Rationale: Management turnover/vacancies are the common theme and have the greatest negative impact in programs that evidence significant setbacks in compliance with the standards. This is preventable. We have addressed the issue of terminated employees taking knowledge/documents with them in our standards but not the void that is often left when key personnel depart.

The committee believes this will be very difficult, if not impossible for many programs to accomplish, however it is sorely needed. Instead of a hard standard we will encourage programs to develop succession plans:

**New 01.06.04**

Programs are encouraged to develop a plan for succession and unanticipated extended absence for key positions. The plan should address position vacancies, including when there is no incumbent to provide transition training, as well as unplanned extended temporary absences, designed to preserve the integrity of the program.

**Examples of evidence to meet compliance:**

This may include cross-training, identification of successors with support of formal and informal education, mentorship, opportunities to participate in projects/presentations/events in the future role, scenarios/case studies, shadowing, job expansion, mechanisms to preserve and provide access to needed information/documents, contacts lists, task lists, detailed instruction on processes that are critical/known only to the position and periodic review/updating of the plan’s references.

HI Dudley—these questions have come up as we discussed here in Ohio. It is perhaps more of a discussion point for the committee on how we would have the surveyors consider the issue.

03.01.03 2. a.-programs have asked about the IABP experience-ED nurses may not have
experience is this area but will be trained. Also, we state the primary caregiver and include paramedics in that statement however IABP may be outside their scope, etc.

The Committee agreed the wording might be misleading and recommended the following change:

03.01.03 2.

A. The primary care provider of the critical care crew may be a resident or staff. In addition, nurses, physician assistants, and paramedics in the primary care provider role must have pre-hire experience in the medications and interventions as defined in the program’s scope of care and services. Listed below as well as IABP management (if part of scope of care), central line monitoring, left arterial wedge pressure monitoring and ventilator management.

03.01.04 2.b. - this is gray for now, however programs are worried about the language of the 3 years experience with the paramedic shortage.

The committee agreed this would lower the current standards and to make no changes at this time.

Date 10/13/19 #10

Standard # - Suggested Change and Rationale for Change

As I read the 11th Edition Standards I do see several references to “essential life-saving measure(s)”, cardiac monitors with the ability to defibrillate, and CPR (attached are several of these below). However, as my research and several other projects have revealed CPR and chest compressions specifically have been shown to be of low quality or ineffective in aircraft. In light of these findings is there any movement within CAMTS to require agencies to demonstrate either the ability to provide effective CPR in the aircraft or require them to carry an mechanical compression device?

"Since airway management is an essential life-saving measure no less than 5 successful live, (animal labs are also acceptable), cadaver, or HPS airway management experience is required for each provider for each age group in scope of care and each type of airway listed within the program protocols (endotracheal, supraglottic, nasal, etc). Supraglottic, nasal and other airway measures for each age group in scope of care may be practiced on static mannequins" pg 52, 53

"10. Medical supplies and equipment must be consistent with the service's mission statement and scope of care. Additionally, the following equipment must be on the transport vehicle and available per Type of Care. a. Cardiac monitoring capabilities: A cardiac monitor capable of performing defibrillation, external cardiac pacing and 12 lead capture is secured and positioned so that the display is visible. b. Extra batteries or power source are available for cardiac monitor/defibrillator or external pacemaker. 11. Defibrillator: a. Defibrillator is secured and positioned for easy access. b. Semiautomatic or automatic external defibrillator is required for some BLS Providers (where permitted as scope of care for EMT). 66 c. Pediatric paddles/pads are available if applicable to the scope of care of the medical transport service. d. A defibrillator with appropriate size pads and settings must be available for neonatal transports (if neonatal transports are conducted)." (pg 65)
17. The transport vehicle design and configuration must not compromise patient stability in loading, unloading or transport operations. 
   a. The transport vehicle must have an entry that allows loading and unloading without excessive maneuvering (no more than 45 degrees about the lateral axis and 30 degrees about the longitudinal axis) of the patient, and does not compromise functioning of monitoring systems, intravenous lines, and manual or mechanical ventilation. 
   b. There is a written policy on conducting CPR during transport. 
   c. A minimum of one stretcher must be provided that can be carried to the patient. 
   • Aircraft stretchers and the means of securing it in-flight must be consistent with national aviation regulations. Ambulance stretchers must comply with state and national laws. 
   • Policy indicates the maximum gross weight allowed on the stretcher (inclusive of patient and equipment) as consistent with manufacturer’s guidelines. 
   • The stretcher must be large enough to carry the 95th percentile adult patient, full length in the supine position. (Estimated 95th percentile adult American male is 5’10” tall (177 cm.). and 242 lbs. (110.2 kg.) – may differ internationally) 
   • The stretcher must be sturdy and rigid enough that it can support cardiopulmonary resuscitation. If a backboard or equivalent device is required to achieve this, such device will be readily available. (pg 68) 

The committee agreed that requiring mechanical CPR equipment is a good idea, but limits with aircraft space, additional weight and cost may make this prohibitive for most programs. The committee did agree to add wording encouraging methods for improving CPR effectiveness.

03.06.01
10. Medical supplies and equipment must be consistent with the service’s mission statement and scope of care. Additionally, the following equipment must be on the transport vehicle and available per Type of Care.
   a. Cardiac monitor capabilities: A cardiac monitor capable of performing defibrillation, external cardiac pacing and 12 lead capture is secured and positioned so that the display is visible.
   b. Extra batteries of power source are available or cardiac monitor/defibrillator or external pacemaker.
   c. A feedback mechanism and/or mechanical compression device for effective cardiopulmonary resuscitation is encouraged.

**********************************************************************************
Date 11/01/19 #11
Standard # - Suggested Change and Rationale for Change

Indicate the edition you are addressing.*:

Standard # - Suggestion for Change and the Rationale for Change
03.06.01 18. b: Change wording to "There must be adequate lighting for patient care THAT IS BLOCKED (i.e. CURTAIN, DOOR) FROM INTERFERING WITH THE PILOT OR DRIVERS’S NIGHT VISION. Use of red lighting or low .......

The committee agreed this is already addressed in Standard 02.03.07 2. c and no additional wording is recommended.

Standard # - Suggestion for Change and the Rationale for Change
02.01.02 1. : Change wording to "There is a written policy that outlines THE process THAT DEFINES, identifies, documents and analyzes sentinel events, never events, adverse medical events......" Add loop closure, part of QM
The committee agreed the wording, as is, is fine and no changes are needed.

Standard # - Suggestion for Change and the Rationale for
04.08.04 2. : Add: "Written debriefing and critique of PAIP drills must be shared with all staff members AND MUST INCLUDE A SUMMARY OF THE DRILL, LESSONS-LEARNED AND CORRECTIVE ACTIONS TAKEN"
The committee addressed this suggestion as part of comment # 12 below.

Standard # - Suggestion for Change and the Rationale for
01.09.01 1.: Add: "There are defined methods, such as a staff notebook, or electronic mechanism, for disseminating information between meetings. THERE IS A PROCESS THAT VERIFIES THAT THE MEETING MINUTES HAVE BEEN RECEIVED BY EACH STAFF MEMBER."
The committee agreed the method used for disseminating information within the program should be left to the program, as long as it is effective. No changes to the wording are recommended.

Standard # - Suggestion for Change and the Rationale for Change
01.09.01 1 a. Add new "a": "THE MEETING MINUTES FOR EACH OF THE PROGRAM'S COMMITTEES SHOULD FOLLOW A STANDARD FORMAT APPROVED BY THE PROGRAM AND MEETING THE CAMTS STANDARDS."
The committee agreed that different committees may find it more beneficial to have different formats, however all meeting minutes should have basic components, and these should be more clearly defined in the standards. The committee recommends the following wording and additions:

From......
01.09.01 Meetings

1. There are formal, periodic staff meetings for which minutes are kept on file. Minutes will include who attended, base identification (if multiple bases), who is presiding and discussion (versus agenda/topics only). There are defined methods, such as a staff notebook or electric mechanism, for disseminating information between meetings.
   a. Meeting minutes (Staff, Safety, QM meetings, etc.) are kept on file and maintained for a minimum of three years.
   b. Minutes are dated and personnel present are clearly identified by title or function. (i.e., Director, RN, EMT-P, RRT)

To......
01.09.01 Meetings

1. There are formal, periodic staff meetings for which minutes are kept on file.
2. All meeting minutes (Staff, Safety, QM, etc.) include the following:
   a. Date and time of the meeting
   b. Base identification (if multiple bases)
   c. Meeting type (Staff, Safety, QM, etc.)
d. List of those in attendance by both name and title or function (i.e., Director, RN, EMT-P, RRT)

e. Name of the person presiding

f. Discussions (versus agenda/topic headings)

g. Assignments and responsibilities for open issues

h. Progress reports on open issues

i. Clear identification that an issue has been resolved (loop closure)

3. There are defined methods, such as a staff notebook or electric mechanism, for disseminating information between meetings.

4. All meeting minutes (Staff, Safety, QM meetings, etc.) are kept on file and maintained for a minimum of three years.

Standard # - Suggestion for Change and the Rationale for Change

01.04.00 Under Ethical Business Practices add new section:

For scheduled transport, UPON REQUEST, THE PROGRAM PROVIDES A PATIENT, PATIENT FAMILY OR THIRD PARTY PAYER WITH A TIMELY WRITTEN, HONEST, BEST ESTIMATE OF THE TOTAL COST OF THE PATIENT TRANSPORT. Without interfering with the patient transport

The committee agreed with the intent on this suggestions and recommends the following addition to the standards:

01.04.01 The transport service develops and demonstrates use of a written code of ethical conduct in all areas of business that demonstrates ethical practice in business, marketing and professional conduct.

1. The code of conduct guides the service when confronted with potential compliance or ethical issues.

2. The code of conduct outlines the service’s standards for ethical behaviors as well as contact information and reporting protocols if a standard has been violated.

3. The code of contact outlines ethical billing practices.

4. Upon request, for elective and/or non-emergent transports, the program provides a patient, patient family member or third-party payor with a timely written, honest best estimate of the total cost of the patient transport.

5. There is a policy that addresses privacy rights in regard to photographing and the use of photos or other media that includes prohibiting photos in social media that would compromise HIPAA requirements without a patient’s written permission.

Standard # - Suggestion for Change and the Rationale for Change

Suggest adding a page to the Standards that outlines the process for submitting changes/comments to the Standards, process for submitting complaints and concerns about accredited programs and filing accreditation appeal.

The committee agreed we do not what to duplicate the CAMTS Policies in the Standards, however it is a good idea to reference that the policies and forms for filing complaints and concerns, and making suggests to future standards, can be found on the CAMTS website. We will add a referral to the website at the beginning of the next set of Standards.
Date 11/02/19 #12
Standard # - Suggested Change and Rationale for Change

03.02.01 The medical director(s) must be licensed and authorized to practice in the location in which the medical transport service is based and have educational experience in those areas of medicine that are commensurate with the mission statement of the medical transport service (i.e., adult trauma, pediatric, neonatal transport, etc.) or utilize specialty physicians as consultants when appropriate. End this standard after the licensure statement because the education and experience expectations are included in the next standard:

03.02.02 The medical director(s) must have experience in both air and surface emergency medical services and must have education as a medical director (see Section 03.01.00 for each type) as appropriate to the mission statement and be familiar with the general concepts of appropriate utilization of air and surface interfacility services. In addition, the medical director must be current and demonstrate competency or provide documentation of equivalent educational experiences directed by the mission statement and scope of care. Certifications are required as pertinent to the program’s scope of care. If a physician is board-certified in an area appropriate to the mission and scope of the service, certifications #1., 2., 11., and 13. are optional...

The committee agreed that the wording should be changed to move the experience requirement in the same section. The committee recommends the following change.

03.02.01 The medical director(s) must be licensed and authorized to practice in the location in which the medical transport service is based and have educational experience in those areas of medicine that are commensurate with the mission statement of the medical transport service (i.e., adult trauma, pediatric, neonatal transport, etc.) or utilize specialty physicians as consultants when appropriate.

03.02.02 The medical director(s) must have experience in both air and surface emergency medical services and have educational experience in those areas of medicine that are commensurate with the mission statement of the medical transport service (i.e., adult trauma, pediatric, neonatal transport, etc.) or utilize specialty physicians as consultants when appropriate. The medical director and must have education as a medical director (see Section 03.01.00 for each type) as appropriate to the mission statement and be familiar with the general concepts of appropriate utilization of air and surface interfacility services. In addition, the medical director must be current and demonstrate competency or provide documentation of equivalent educational experiences directed by the mission statement and scope of care. Certifications are required as pertinent to the program’s scope of care. If a physician is board-certified in an area appropriate to the mission and scope of the service, certifications #1., 2., 11., and 13. are optional...

Standard # - Suggestion for Change and the Rationale for Change
03.01.03 Emergency Critical Care
2. Clinical Crew
a. A minimum of two medical personnel (who are licensed according to state and/or national requirements) who provide direct patient care plus a vehicle operator
• The primary care provider of the clinical crew may be a resident or staff physician, registered nurse, physician assistant or a paramedic. The nurse, physician assistant, or paramedic who is the primary care provider must have 3 years of critical care experience. (Critical care experience is defined as no less than 4000 hours’ experience in an ICU or an emergency department. In addition, nurses, physician assistants, and paramedics in the primary care provider role must have pre-hire experience in the medications and interventions listed below as well as IABP management (if part of scope of care), central line monitoring, left arterial wedge pressure monitoring and ventilator management.

First change, "...no less than 4000 hours’ experience" to, "...no less than 4000 hours’ patient contact experience" and also add, "patient contact" in 03.01.03 2.c. twice in the parentheses.

Second change, "...in an ICU or an emergency department." to, "...in a combination of ICU, emergency department, or medical transport settings."

Also support the concept of standard revision that eliminates, "green on green" medical provider scheduling.

The committee agreed there should be no change to this section. The “green on green” issue however is addressed in Comment # 15 below.

Standard # - Suggestion for Change and the Rationale for Change
03.01.04 Intensive Care
2. Clinical Crew – is composed of a minimum of two medical personnel (who are licensed according to state and/or national requirements) attending to the patient at all times plus a vehicle operator.

a. One crewmember is a registered nurse with CFRN, CCRN or CTRN within 2 years of hire or equivalent national certification (required). The primary care provider may also be a resident staff physician or physician assistant with minimum critical care experience (signed off by the medical director) and ICU rotation and FCCS preferred. Nurses and physician assistants who are the primary care providers in this level must have 3 years of critical care experience (critical care experience is defined as no less than 4000 hours’ experience in an ICU or an emergency department that is part of an academic or tertiary care center*).

First change, "...no less than 4000 hours’ experience" to, "...no less than 4000 hours’ patient contact experience" and also add, "patient contact" in 03.01.04 Intensive Care 2.b. and c. in the parentheses.

Second change, "...in an ICU or an emergency department." to, "...in a combination of ICU, emergency department, or medical transport settings."

Also support the concept of standard revision that eliminates, "green on green" medical provider scheduling.

The committee agreed there should be no change to this section. The “green on green” issue however is addressed in Comment # 15 below.

Standard # - Suggestion for Change and the Rationale for Change
02.01.07 Performance metrics as identified by the program must be multidisciplinary and reviewed at least quarterly (at a senior executive level). Based on the scope of care of the service, at least one performance metric from the following groups (with examples) is required to be tracked and trended on an annual basis.

1. Patient safety (this category requires tracking and trending of two metrics in addition to “a” below)
a. Interfacility patients not transported bedside to bedside

The committee agreed with the suggestions and will make the following changes:

02.01.07 Performance metrics as identified by the program must be multidisciplinary and reviewed at least quarterly (at a senior executive level). Based on the scope of care of the service, at least one performance metric (including those marked required) from the following groups (with examples) is required to be tracked and trended on an annual basis.

1. Patient safety (this category requires tracking and trending of one metrics in addition to “a” and “g” below)
   a. Interfacility patients not transported bedside to bedside (required)
   b. Out-of-range cabin temperatures without risk mitigation
   c. Arrest during transport (i.e. CPR)
   d. Two-patient transports (Volume required for Program Information Form, (PIF), CAMTS application)
   e. Single-medical provider transports
   f. Transports of infectious-disease patients realized during/after transport
   g. Number of Never Events (see References) (required)

03.02.00 MEDICAL DIRECTION

Reorder this section so the substandards are in this order:

First, 03.02.01
Second, 03.02.07
Third, 03.02.02
Fourth, 03.02.08
Fifth, 03.02.04
Sixth, 03.02.05 and add a third sentence, "The guidelines indicate what therapies can be performed without on-line medical direction/what therapies require contacting on-line medical direction."
Seventh, 03.02.03
Eighth, 03.02.06
Ninth, 03.02.09

Then remove the 03.02.14. Medical Control standard and instead use add sections of this as a subset of 03.02.09, modifying the language as:

1. On-line medical control physicians must be available 24/7/365 and have the appropriate knowledge base and experience sufficient to provide medical control for all patient types served by the medical transport service.

2. Medical control physicians are provided with triage guidelines to determine appropriate transport mode and team composition and on-scene triage guidelines developed and accepted by the specific EMS region. See References. (RW)
So this removes the current 2. (implied by this new 1.), current 3. (this is part of the clinical guidelines standard 03.02.05 now), current 4.a. (unnecessary language), and current 5. which is not part of on-line medical control anyway so suggest moving this to 01.06.00 MANAGEMENT/POLICIES.

Tenth, 03.02.12
Eleventh, 03.02.13
So then remove 03.02.10 and 03.02.11 from this section and move these somewhere into 03.06.00 MEDICAL CONFIGURATION OF THE TRANSPORT VEHICLE.

The committee agreed to no change the existing order of the current standards because of the logistics involved in changing the compliance tool, etc, and the fact that many of the site surveyors and other know these numbers over the years. The committee did agree however to the following changes:

03.02.05 The medical director(s) updates the medical guidelines at least annually to ensure current best practices. The guidelines indicate what therapies can be performed without on-line medical direction and what therapies require contacting on-line medical direction. The medical guidelines are in a written format and include updated attestation signed and dated by the medical director(s).

03.02.14 Medical Control
Add to # 1
1. Medical Control Physicians – On-line medical control physicians who are trained and identified must be available 24/7/365 and have the appropriate knowledge base and experience sufficient to ensure proper medical care and medical control during transport of all patient types served by the medical transport service.

Remove #3
2. Written policies and procedures indicate what therapies can be performed without on-line medical direction.

Move # 5 under Medical Control
5. There is a policy that prohibits “freelance responses” to individual events or disasters (responding without being specifically requested)
   To
   01.06.01 Management/Policies – new #12 and renumber #12 as #13.

Standard # - Suggestion for Change and the Rationale for Change
04.08.04 A readily accessible post accident/incident plan must be part of the transport following protocol...
2. A drill is conducted semi-annually (one in daytime and one at night)...
   Rewrite to:
2. A drill is conducted annually that tests the entire post incident / accident plan and thus involves pilots, medical personnel, communications personnel, mechanics, administrative personnel, etc. (not a tabletop or partial drill) and, during the accreditation period:
a. A minimum of one daytime and one nighttime drill is completed.
b. Each mode of transport (RW, FW, S) is included in a drill.
c. Following each drill:
   i. A thorough debrief occurs that identifies lessons learned that are included in a PIAP drill summary
   ii. Action items are generated to improve the plan as needed
   iii. These activities are communicated to the entire medical transport service
   iv. A method exists to document each medical transport service individual reviewed this information to demonstrate loop closure
     e. An actual incident may be used as a drill if the entire PIAP plan was utilized and c. above is completed.

The committee agreed this entire standard needs to be reworded and the standards strengthened.
(Also see comment # 15, which in included in the recommended changes) The committee recommends the following changes. Key changes are bolded.

04.08.04
2. A PAIP drill is conducted at least every six months that tests the entire post accident/incident plan. The drill must include all aspects of the plan and all disciplines involved (pilots/drivers, medical personnel, communication personnel, mechanics, administration, etc.).
   a. A minimum of one daytime and one nighttime drill is completed each year.
   b. During the accreditation period all modes of transport provided are tested.
   c. Following each drill:
      i. A through debrief occurs that identifies lessons-learned from the drill
      ii. There is a written after-action report/plan (AAR/P) that summaries the drill including the major events and the people, locations, agencies and vehicles involved. The AAR/P includes the lessons-learned and any corrective actions taken or planned.
      iii. The results of the drill and the after-action report/plan are shared with the entire staff, including those not involved directly with the drill
      iv. A method exists to document progress and loop closure on any corrective items identified in the after-action plan.
   d. An actual incident or accident may be used as a replacement for a drill provided it meets all of the items listed in c. above.

Standard # - Suggestion for Change and the Rationale for Change
Before publication, hit F7 to identify and correct those spelling, grammar, punctuation, and spacing errors.
The committee so noted.
******************************************************************************
Date 11/05/19 #13
Standard # - Suggested Change and Rationale for Change

03.05.01. 1.d. Re: HPS scenarios: in the PIF, attachment #77 asks that the scenarios have references that were used to create and update them and that they be reviewed on an annual basis but this is not in the standards or HPS section. This should be included in the standards if an expectation.
The committee agrees with this recommendation and will add the wording as noted:

d. Clinical Component of Initial Training – Clinical experiences will be based on the program’s mission, scope of care and patient population. Measurable objectives need to be developed and documented for each experience listed below reflecting hands-on experience versus observation only.

If simulation teaching/learning modalities are used as an adjunct to or substitution for clinical experiences, there must be documentation that the scenarios and objectives are reviewed annually, references are current and learning objectives were met. A four step process (found in the Education Matrix) provides .......

Standard # Suggestion for Change and the Rationale for Change OR Suggestion for ADDING a Standard and the Rationale:

03.01.03 Emergency Critical Care #7 Quality - GAMUT (and other types of care sections). As discussed in the Standards Committee: Programs should select a minimum of 5 GAMUT metrics. The chosen metrics may be those that are performing below the GAMUT ABC (Achievable Benchmarks of Care) scores and/or GAMUT averages; those deemed critical to the program’s performance; and/or those relevant to adverse events. Programs are encouraged to report their metric results to the GAMUT database.

The committee agreed to these change and will change the wording:

From.....

7. Quality - The GAMUT (Ground and Air Quality Metrics Transport). May 16, 2016 metrics are in the Appendix, however for the most current version of the GAMUT metrics go to http://gamutqi.org/metrics.html. (see GAMUT Metrics Addendum)

To....

7. Quality - Programs should select a minimum of 5 GAMUT (Ground and Air Quality Metrics Transport) metrics. For the most current version of the GAMUT metrics go to http://gamutqi.org/metrics.html. (see GAMUT Metrics Addendum). The chosen metrics may be those that are performing below the GAMUT ABC (Achievable Benchmarks of Care) scores and/or GAMUT averages; those deemed critical to the program’s performance; and/or those relevant to adverse events. Programs are encouraged to report their metric results to the GAMUT database.

Date 11/05/19 #14

Standard # - Suggested Change and Rationale for Change

06.04.03 2.

Suggest changing the chart to allow for 750 hours instead of 1000 hours for Multi-Engine Turbo-jet for SIC Total Experience. The rational is it is harder to find qualified newer pilots and they can gain experience with a PIC.

This suggestion was reviewed and approved by the Aviation Advisory Committee.
The committee agrees with the recommendation however for consistence both the Multi-engine Turbo-prop and Multi-engine Turbo -jet will be changed to 750 hours. This is also being referred back to the Aviation Advisory for any additional comments in the next version of the draft.

Date 11/05/19 #15
Standard # - Suggested Change and Rationale for Change

04.08.04 2. Communication Policies
Change the wording to require a PAIP drill at least every six months (instead of semi-annually) and add that all parts of the PAIP must be tested.
The committee agrees and the new wording is outlined under the response to recommendation # 12 above.

01.07.01 Staffing
Add new item: "A written policy addresses scheduling to avoid new employees working together (Green-on-Green) on the same vehicle.
The committee agrees and will add a new standard:

   01.07.01
   8. For all positions (aviation, clinical, communication, maintenance), a written policy addresses scheduling to avoid new employees working together (Green-on-Green).

The committee also will update the glossary definition as:
Green-on-Green: The combination of two unseasoned (green) or less-experienced pilots or, medical crew team members, communications specialist or mechanics working together without a more experienced person present. Green is often defined as less than one year.

Date 01/10/20 #16
Standard # - Suggested Change and Rationale for Change

I think there needs to be a standard that addresses the minimum number of shifts or flights per month/year to maintain flight safety competence. I am aware of some programs who have part-time staff that work so rarely that they might have only 1 or 2 flights per year. There is no on-going aviation training for competence validation - not only aircraft safety but how to use the clinical equipment or knowing where supplies are located. They are depending on the full-time crew member to pick up the slack. This essentially makes the second crew member a passenger. Clinical competence is not usually an issue because these people work on a hospital unit.
The committee agrees to the intend of the recommendation and believes the proposed standard would be too restrictive. As an alternative the committee will add the following new standard:

   01.07.01
   9. A written policy addresses safety and clinical competency requirements for part-time or full-time staff experiencing a low volume of transports. The policy should assure all onboard staff are
current and competent to the level of full-time, active staff in flight/transport safety and the use of aviation (NVG, etc.) and clinical equipment.

I think CAMTS should consider using a tracer methodology for the survey to evaluate quality and safety of the patient care and transport process. Allowing a program to pull charts for review gives them the opportunity to pick good charts. Are you really getting a representative sample?

This recommendation is related to process and not standards. The committee appreciates the comments and will consider the recommendation.

Date 01/14/20 #17
Standard # - Suggested Change and Rationale for Change

05.04.03 Pilot in command (PIC) qualifications:

1. The pilot must possess at least a commercial rotorcraft-helicopter and instrument helicopter rating.

2. If not exceeded by applicable national AHJ regulations, the pilot in command must possess 2000 total flight hours (or total flight hours of at least 1500 hours and recent experience that exceeds the operator’s pre-hire qualifications such as current air medical and/or search and rescue experience or ATP rated) prior to an assignment with a medical service with the following stipulations:
   a. A minimum of 1200 helicopter flight hours
   b. At least 1000 of those hours must be as PIC in rotorcraft
   c. 100 hours unaided (if pilot is not assigned to an NVG base/aircraft)
   d. 50 hours unaided as long as the pilot has 100 hours aided (if assigned to an NVG base/aircraft)
   e. A minimum of 500 hours of turbine time 1000 hours of turbine time strongly encouraged

3. ATP certificate and instrument currency is strongly encouraged.

Suggested revision of highlighted text:

c. 100 hours unaided (if pilot is not assigned to an NVG base/aircraft). This may be reduced to 50 hours unaided if pilot has 100 hours aided.

d. 100 hours aided if assigned to an NVG base/aircraft.

The committee discusses the recommendation and agrees the wording is appropriate as written. No changes will be made at this time, however the recommendation will be referred to the Aviation Advisory Committee for their input.

Date 01/22/20 #18
Standard # - Suggested Change and Rationale for Change
Observer/Third Rider / Media: In cabin - Helicopter safety: Third Riders/Media Observers with Cameras - should not have loose straps (neck straps etc) on their gear; as recognized by the NTSB in the tragic FlyNon accident in NYC - March 11, 2018 with 5 fatalities. The NTSB noted in their report, that a strap from a piece of photo gear accidentally caught on the fuel shut off switch of the helicopter, causing the engines to stop during flight.

Standard # Suggestion for Change and the Rationale for Change OR Suggestion for ADDING a Standard and the Rationale.: 
Observer / Third Rider / Media: Operations - Third Riders + Media Observers who are not part of the patient care setting, and obviously understand the law and spirit of HIPAA, should then be still active as an extra set of eyes observing the flight and setting outside the aircraft. (the tendency these days is to start reading texts or editing images/video on the back of the camera - as I have certainly done in the past)- but in reality, and extra set of eyes should still be looking out the window for hazards at any time of the flight.

Standard # Suggestion for Change and the Rationale for Change OR Suggestion for ADDING a Standard and the Rationale.: 
Observer / Third Rider / Media: Positioning - The Media observer should be pro-active in describing where they would like to capture an image or video outside the aircraft during operations - such as loading/unloading - This assists the AMC and Pilot in verifying the Third Riders actions, and thus not taking away from any patient care (even momentarily) as the AMC is dealing with the patient during a stable cold unload, or a more active hot unload.

Standard # Suggestion for Change and the Rationale for Change OR Suggestion for ADDING a Standard and the Rationale.: 
Observer / Third Rider / Media: Safety Gear - Proper protective clothing - it is a given that an Observer is suited in up in the Flight Programs’ Nomex flight suit (or their own Flight suit) and fitted with a proper helmet supplied However, footwear should also be rugged or safety based for traction, and injury prevention (toe protection) From my experience, Flight programs always do have all the safety gear required - except footwear. Observers/Media should be given a simple brief days prior if possible, to obtain or bring along suitable safety minded footwear. The PIC and AMC’s should double check the Observers’ helmet if a small camera is attached to it again - referencing the aforementioned tragic 2018 accident with FlyOn and photo gear inadvertently touching aircraft controls. Standard # - Observer / Third Rider / Media: Face Shields - as much as possible - Media Observers do need

Suggestion for Change and the Rationale for Change OR Suggestion for ADDING a Standard and the Rationale.: 
to keep their facesheilds in place, as much as possible. The tendency (and my own experience is to keep it up), is to have a camera or video camera’s viewfinder close to your eyes. The amount of facesheilds "up time” needs to be limited as much as possible - especially when the Observer is in the front seat accompanying the Pilot. This heads up action, also can assist the Pilot who immediately requests it, with
an additional set of eyes viewing the airspace on the port side of the aircraft. Every small amount of visual assistance helps.

Standard # Suggestion for Change and the Rationale for Change OR Suggestion for ADDING a Standard and the Rationale:
Observer / Third Rider / Media: Repeating safety briefing - Third Riders should always be given a Passenger briefing, regardless as to how many times that Observer/Third rider a has flown. New items, procedures and elements that can affect even the most seasoned Observer, and should always be considered.
The committee discussed each of these recommendation and felt they can be combined into one new standard.

02.03.07
2. Written policy to address observers, third riders or media being transported with or without a patient on board. At a minimum the policy should address:
   a. Understanding patient privacy and confidentiality laws (HIPAA, etc.)
   b. Safety in and around the vehicle (safety briefing, sterile cockpit, etc.)
   c. Proper appeal (footwear, winter coats, helmet, etc.)
   d. Appropriate use of assigned equipment such as visors on helmets, intercom systems, etc.
   e. Securing personal equipment and items to avoid interference with safety or patient care.

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Date 02/18/20 #19
Standard # - Suggested Change and Rationale for Change

d Advanced Practice Nurse (APRN) to the list of acceptable clinical staffing in each type of care.
The committee agrees with this recommendation and will make the change throughout the standards.

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Date 02/18/20 #19
Standard # - Suggested Change and Rationale for Change

Standard 03.05.02 3. Specialty personnel We say the following for specialty teams who are added to the RST but what about the specialty team that is the primary but has a “Safety Officer” accompany the specialty team.
I think there is a difference between adding a Specialty person versus adding a “Safety officer” to a specialty team and perhaps we need to clarify this. If adding a RST member to a Specialty team, then the Specialty team needs more than just an undocumented safety briefing because now you are depending on one person who may or may not be capable of helping with emergency procedures and survival in the event of an accident?
We do not mention “Safety Officer” – that is a term used by programs. I don’t think we define that person other than he or she is part of the regularly scheduled medical personnel.
The committee discussed and believes the current standards address this concern and suggest no changes.

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AS OF: February 18, 2020
These items were posted for public comment. This list is closed. Additional comments will be posted as part of the second draft.
The Rotor Wing Maintenance section was also discussed by the CAMTS Aviation Advisory Committee on November 2, 2019. They approved and recommend the following changes to that section. The items in green were comments after the Aviation Advisor submitted their changes. They are being referred back to the Aviation Advisor for additional consideration.

05.05.00 MAINTENANCE

05.05.01 Training – There must be a mechanic primarily assigned to each specific aircraft who must be trained and qualified in accordance with the operator’s maintenance program and procedures, prior to performing any maintenance functions. Appropriately qualified to maintain the aircraft operated by the medical service and who possesses two years of rotorcraft experience as a certified airframe and power plant mechanic prior to assignment with the medical service.

1. The mechanic primarily assigned to a specific aircraft must be factory schooled or other equivalent training in accordance with 14CFR Part 142 within 24 months equivalent in an approved program and appropriately certificated by AHJ regulations on the type specific airframe, the power plant and all related systems. The primarily assigned mechanic provides direct (on-site during maintenance) supervision to other mechanics assisting with maintenance that may not have this level of experience or training. (The following comment was received from a Standards Committee member “Part 142 applies to certification and operation of training centers for flight crewmembers. Although Part 147 is the regulation covering Aviation Maintenance Technician Schools I talked with my PMI and the FAA does not certify or conduct surveillance on OEM factory schools. He recommended removing (in accordance with 14CFR Part 142). Not sure if the intent was that the AMT attend the OEM facility and not the on-site training offered by many manufactures” The Standard Committee agrees and will make the change in the first draft and refer the recommendation back to the Advisory Committee for comment.)

2. All mechanics must receive formal training on human factors, fatigue management and maintenance error reduction. (See References)

3. A policy is written that grants the mechanic permission without fear of reprisal to decline performing any maintenance critical to flight safety that he has not been appropriately trained for, until an appropriately trained mechanic is available to directly supervise or assist.

4. There must be an annual review of infection control, medical systems and installations on the aircraft, patient loading and unloading procedures for all mechanics.

5. At least one technician is available for each service with formal training on the aircraft electrical system and formal training on the autopilot system. (Redundant)

5. Training related to the interior modification of the aircraft:
a. Must prepare the mechanic for inspection of the installation as well as the removal and reinstallation of special medical equipment

b. Includes supplemental training on service and maintenance of medical oxygen systems and a policy as to who maintains responsibility for refilling the medical oxygen systems

05.05.02 Staffing – A single mechanic on duty or on call 24 hours a day must be relieved from duty for a period of at least 24 hours during any seven consecutive days, or the equivalent thereof, within any one calendar month. In addition:

1. It is strongly encouraged that mechanics must not be permitted to work more than 14 continuous hours. (This should mention/include driving time, on many occasions AMT’s cover sister bases and could drive several hours to and from the actual work location)

2. Following extended maintenance such as 12-14 continuous hours, the mechanic is scheduled for ten hours of uninterrupted rest.

3. 1.5 mechanics for a single engine aircraft and two mechanics for twin engine. This should not include lead mechanics, maintenance managers, or mechanics that work at heavy maintenance facilities that do not actively help with base maintenance or coverage. Full-time equivalents are encouraged for one 24-hour aircraft. For more than one aircraft, staffing must be appropriate to the hours the aircraft are in service, the availability of backup or on-call mechanics and the number of bases necessitating travel time or an agreement and/or contract be in place for an operator to provide maintenance services in the absence of the operator’s maintenance staff.

4. Back-up personnel must be provided to the mechanic during periods of extensive scheduled or unscheduled maintenance or inspection. Complexity of the aircraft and an increased number of flight hours may be considerations for increased mechanic staffing. (Items 3-4. Some maintenance task require more than one AMT to perform as per the approved data. Heavy Maintenance/Rover AMT’s fill this requirement. More AMT’s are always better for reduced OOS time but as long as rest requirements, human factors, and approved data requirements are adhered to the current 1.5 AMT’s standard seems adequate for safety.)

05.05.03 Maintenance Facilities

1. The maintenance operation is certificated by the AHJ regulator or meets standards included in 05.05.04 through 05.05.07.

2. There must be a written policy and procedure to notify mechanism/procedure for alerting flight and medical personnel when the aircraft is out of service or undergoing maintenance and is not available for flight. Not airworthy.

3. A hangar or similar-type facility must be available during inclement weather and for the mechanic to perform heavy maintenance. (Heavy maintenance is generally described as removal
and installation of any component that requires a lift device or inspections that require five or more hours).

4. Specific workshop area criteria. Workshop area must be within reasonable close proximity to the helipad. A workshop area is defined as an area where a desk, shelves, workbench and, storage, and telephone are available.

   a. Workshop area must be climate-controlled, heated and cooled, to avoid adverse effects of temperature extremes.

   b. Appropriate ventilation will be installed to clear the facility of hazardous fumes (such as those from fuels, solvents, oils, adhesives, cleaners) common to the aviation environment.

   c. Workshop area must be well lit with the appropriate number of electrical outlets.

   d. Floodlights must be available on the helipad – fixed and/or portable. Luminescence level will be equal to the modern office environment.

   e. Hand cleaners, disinfectants and eye wash bottles are to be available.

   f. Tools are locked in a secured area when not in use.

   g. There is a written policy to address the control of foreign object debris (FOD).

   h. There is a tracking system for the mechanic to account for tools and parts after performing maintenance.

   i. All consumables must be labeled and have current expiration dates listed on the can, bottle, tube, etc.

5. Storage of equipment, parts, and tools is orderly and clear of fire hazards and in compliance with national health and safety standards i.e., OSHA and Environmental Protection Agency (EPA) regulations.

6. There is a system to periodically track timed parts and expiration dates on shelf items.

   a. All parts are properly tagged and environmentally protected.

      • Parts are wrapped or boxed in a manner that prevents damage or contamination.

      • Open ends of fabricated and bulk lines and hoses are capped or covered.

      • Serviceable parts are kept in a separate area from unserviceable parts.
b. Parts received are inspected to ensure an approved vendor provided them and that the required certification documentation is provided.

c. Maintenance operation/provider has a Suspected Unapproved Parts System (SUPS) to verify all parts are properly documented, by appropriate means (such as a 8130 form). All parts must be traceable and overhauled or repaired by properly certificated organizations.

7. Airworthiness directives and service bulletins are coordinated to ensure they are accomplished on time. (REDUNDENT with 05.05.04)

7. There is a method to track all deferred maintenance items and coordinate all requirements to support closure.

8. There is a method to track tool calibration status.

   a. Tools requiring calibration have documentation or tags on the tools that list the last calibration date and the next due date.

   b. If employee-owned tools are permitted on the premises, there is a system to ensure that these tools are currently calibrated.

05.05.04 The certificate holder will have a system in place to track service bulletins and all scheduled inspections as required by its Authority Having Jurisdiction regulations approved maintenance program. This system will include all Airworthiness Directives (AD) and applicable Instructions for Continued Airworthiness (ICA) or the national equivalent.

05.05.05 If the certificate holder has been issued Operations Specification D095 (Minimum Equipment Lists) or AHJ regulations specific to maintenance item, then there must be a method to track all deferred maintenance items and coordinate all requirements to support closure, as well as trends tracked to determine repetitive failures. If an MEL has been approved, a Non Essential Furnishings program should accompany the MEL.

05.05.06 The certificate holder has a policy and/or program in place to track and trend maintenance issues such as part failures, items deferred under an MEL, and engine trend data. The program should contain a process to collect, analyze, and use data collected. Suspected issues should be addressed when determined and appropriate.

05.05.07 Maintenance Distractions – A policy must be written and implemented to reduce the likelihood of interruptions and distractions to the mechanic, such as:

   1. The mechanic’s phone must have voice mail or messaging.

   2. Aircraft tours, public relations events, janitorial services, etc., must be postponed or canceled if involving the aircraft while maintenance is being performed.
3. Mechanic’s work site (hangar-helipad) must not be used as a gathering place/social area by the flight team while maintenance is being performed.

4. All calls and inquiries regarding the aircraft status will be screened.

AS OF: February 18, 2020
These items were posted for public comment. This list is closed. Additional comments will be posted as part of the second draft.

Comments for the SECOND Draft

Committee responses are in red.

Date 03/25/2019 #21
Standard # - Suggested Change and Rationale for Change

01.07.01 8. For all positions (aviation, clinical, communications, maintenance), a written policy addresses scheduling at avoid new employees working together (Green-on-Green). Note: we will also expand the glossary definition. Green-on-Green: The combination of two unseasoned (green) or less-experienced pilots or, medical crew team members, communications specialist or mechanics working together without a more experienced person present. Green is often defined as less than one year

***Change to read: Green if defined as less than one year of experience

The committee elected to leave the first draft wording as written.

02.03.07 Safety and Environment #2 v. Written policy to address observers, third riders or media being transported with or without a patient on board. At a minimum the policy should address: c. Proper appeal (footwear, winter coats, helmet, etc.)

We will correct the spelling error. Thank you for catching the error.

As a Surveyor I have posed this one before. Please give highest consideration to changing the following. It is the only way we will impact culture. 02.03.07 Safety and Environment #2 (e) • If an engineered mount is provided for specific equipment, that equipment must be secured in the mount at all times during the transport. ***Please add this includes the "dead legs" as well. Otherwise you find people not paying any attention to this standard after we leave from doing the visit. The asset is out of the mount more than in. Thank you!

Many program secure equipment and bags to the stretcher when there is no patient on board. As long as the equipment and bags are secured this is acceptable. In most cases the FAA considers these to be carry ons and are not required to be secured in the mount. However, if the mount was approved by the FAA with the equipment attached then they should be in the mount. Each aircraft could be different. The committee elected to leave the first draft wording as written.

Date 04/02/2019 #22
Standard # - Suggested Change and Rationale for Change

02.03.07 2. d – Add to section on helmets: The helmet intercommunication systems (ICS) cord shall not be directly connected to the airframe. A compatible intermediate cord between the ICS cord and the
Airframe, or other quick disconnect device, should allow for a clean separation during egress. ICS cords shall be secured from potential snagging or entanglement with components such as flight control and medical equipment.

This comes from a September 2017 NTSB Safety Alert following two incidents were people were unable to rapidly egress the helicopter because the helmet intercom system cord was attached directly to the airframe and the direction of the cord release was opposite the direction of egress.

The comment agrees with this recommendation and will add it to the next draft:

**02.03.07 2. d The helmet intercommunication systems (ICS) cord shall not be directly connected to the airframe. A compatible intermediate cord between the ICS cord and the airframe, or other quick disconnect device, should allow for a clean separation during egress. ICS cords shall be secured from potential snagging or entanglement with components such as flight control and medical equipment.**

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**Date 04/14/20 # 23**

**Standard # - Suggested Change and Rationale for Change**

**02.03.07 Safety and Environment - page 28 "d"** Helmets have reflective striping or other markings that can be seen in the event the wear is in the water or other environments requiring research and rescue. Are you sure you didn't mean to say "search & rescue"? Research & rescue sounds a little odd.

**02.03.07 Safety and Environment - page 35 c.** Proper appeal (footwear, winter coats, helmet, etc.). I believe you meant to say "apparel" not appeal.

**04.08.04 page 84. Under "c", i. A thorough debrief occurs that identifies lessons-learned from the drill. I believe you meant to say "thorough" not "through". These will all be corrected in the next draft. Thank you for catching these errors.**

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**Date 04/15/20 # 24**

**Standard # - Suggested Change and Rationale for Change**

**02.01.07 1.(a) Please define bedside to bedside. For example if the sending MD elects to send a patient to the airport to meet a FW transport team is that "bedside to bedside" How about a rendezvous with an ambulance from a rural hospital with a patient? Is the goal of this metric to track out of hospital transfers of patients as in the above examples where the sending MD arranges or is it to capture when a program cannot complete a transport bedside to bedside due to a program issue or practice? This section refers to Performance Metrics related to safety. We will define “bedside to bedside” in the glossary as written below. The Standards are not saying, those transports not being completed bedside to bedside are bad, but they should be reviewed as part of the program’s quality management program for appropriateness and best patient care and safety. No change will be made to the standard, however we will add the follow definition to the Glossary:**

**Bedside to Bedside: Accepting and providing care of a patient at their bed within a medical facility to the time they are accepted and received at their new bed within the receiving facility.**

**02.01.07 1.(g) Please make sure to include the full glossary and references in any drafts for review. These sections are key to understanding and commenting on any edits of the standards. Thank you for the suggestion. We will add new definitions to the drafts. All other definitions can be found in the 11th Edition of the Standards.**

**05.04.03 should be updated. All programs should be flying NVGs so the language around pilot night flight time should be simplified**
This was referred to the Aviation Advisory Committee (AAC) for comments. The ACC recommends that we make no changes to the standards. The Standards Committee accepts the recommendation and no changes will be made.

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Date 04/16/20 # 25
Standard # - Suggested Change and Rationale for Change

03.03.01 This limits non-nurse flight crew members from advancing within a flight service and implies that non-nurse members are clinically inferior. I agree that a nurse should oversee nursing care, however, they should not oversee paramedic or respiratory therapy care unless said nurse also holds those credentials. I would suggest adding that "paramedics must report to a paramedic or physician on clinical issues," and "respiratory therapists must report to a respiratory therapist or physician on clinical issues."

Under many state laws and within many current practices nurses must report to a nurse or a physician on clinical issues. As noted in the standards (03.0300) the clinical care supervisor must be someone knowledgeable and legally enabled to perform clinical supervision. A paramedic, respiratory therapist or others could serve as a supervisor or manager for any discipline for non-clinical issues. The committee elected to make no changes to the standards.

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Date 05/04/20 # 26
Standard # - Suggested Change and Rationale for Change

03.07.00 Infection Control On page 75 occupational health standards are embedded in infection prevention. These standards and recommendations should be broken out among their own category as these needs encompass occupational health and safety which is independent of infection prevention. I am happy to help with all recommendations to support the unique needs of those who are part of medical transport. This workforce cannot be cookie cut into job descriptions that work in a controlled environment like a hospital or clinic.

The committee elected to change the name of the section from Infection Control to “Exposure Control”

03.07.00 (7.a) Annual physical exams must be defined: criteria and specifics must be noted for transparency and consistency. This removes options for interpretation to flex standards that could result in crew and patient harm. Please define: Weight and lifting/strength/agility testing. Some agencies may only be measuring cervical (neck) health., while others are measuring total body. This must be defined to credibility of having a standard.

The current standards call for the program to have a policy and procedure for annual physical exams or screening for clinical staff. The type of evaluation is left to the program “as appropriate to the polices of the service”. The committee believes the program should determine the level and detail of the annual evaluation based on type of services provided, modes of transport, safety risks, etc. The committee believes this section should not be prescriptive in exactly what tests or evaluation should be required. The committee elected to make no changes to the standards.

03.07.00 Infection Control On page 75, there is no mention of Hearing Conservation. This is an essential component to worker health and is mandated by OSHA. Anytime 85db is reached, even one time for one day, employers must act. This also gives CAMTS credibility to supporting worker safety. Also, A8 jet fuel is a known as an ototoxicant and hazardous agent and can exacerbate hearing loss.

Hearing protection is addressed in Standard 01.08.01 6. A, which states there must be a written policy addressing hearing protection requirements. This section will be reworded to state:

01.08.01 6. Written policies addressing:
a. Hearing protection and conservation requirements.
b. – e - remain unchanged.

03.07.00 Infection Control On page 75. "Determination of whether individual is fit for duty" Please define if the desire is annual fit for duty or annual exam. If the board decides annual exam, this must be defined and cannot be left up to the policies of the agency. Fit for duty is language that is used by OSHA and is an in depth exam. see link and page 5-9 for suggestions for an algorithm. https://www.osha.gov/Publications/complinks/OSHG-HazWaste/5-6.pdf

The current standards call for the program to have a policy and procedure for fit for duty exams or screening for clinical staff. The committee believes the program should determine the level and detail of the fit for duty evaluation based on type of services provided, modes of transport, safety risks, etc. The committee believes this section should not be prescriptive in exactly what tests or evaluation should be required. The committee elected to make no changes to the standards.

03.07.00 Infection Control On page 75- Annual tuberculosis testing, must be defined as a skin test or IGRA. which is a TB Quantiferon Gold or T-Spot.

The current standards call for the program to provide TB testing “as consistent with current national guidelines” (such as the CDC, AHJ, or WHO). Because these guidelines could change during the time of the current standards, the committee believes this section should not be prescriptive in exactly what tests should be required. The committee elected to make no changes to the standards.

Date 05/13/20 # 27
Standard # - Suggested Change and Rationale for Change
For #5, in standard 02.03.07 2. h. It might be a good recommendation to add HUMS to the strongly encouraged list for aircraft requirements? This is an International Helicopter Safety Foundation recommendation. (again, a little contentious but all can live with “encourage”).

The committee agrees with the recommendation and will add HUMS to the already proposed first draft changes. The section will now read:

Standard 02.03.07 2.

h. If not already required by the AHJ, it is strongly encouraged to install the following on helicopters (reference NTSB recommendations): (RW)

- Helicopter Terrain Awareness and Warning Systems (HTAWS)
- Flight Data Recording devices
- Crash-resistant flight recorder systems which include cockpit audio and images with a view of the cockpit environment and as much of the outside view as possible, and parametric data per aircraft and systems installation are encouraged. The cockpit image recorder should be equipped with an independent power source consistent with that required for cockpit voice recorders.
- Flight Control stabilization systems for single pilot operations
- Traffic Collision Avoidance Systems (TCAS)
- Crash Resistant Fuel Systems
- Energy-absorbing seats
- Health and Usage Monitoring System (HUMS)
For #11, in standard 01.09.01; In the new edit for #3 I recommend adding “... to all staff members.” at the end of the sentence as part of the Safety Promotion component in their SMS.

The committee agrees with the recommendation. The first draft standard will be reworded:

01.09.01 Meetings

1. There are formal, periodic staff meeting for which minutes are kept on file.
2. All meeting minutes (Staff, Safety, QM, etc.) include the following:
   a. Date and time of the meeting
   b. Base identification (if multiple bases)
   c. Meeting type (Staff, Safety, QM, etc.)
   d. List of those in attendance by both name and title or function (i.e., Director, RN, EMT-P, RRT)
   e. Name of the person presiding
   f. Discussions (versus agenda/topic headings)
   g. Assignments and responsibilities for open issues
   h. Progress reports on open issues
   i. Clear identification that an issue has been resolved (loop closure)
3. There are defined methods, such as a staff notebook or electric mechanism, for disseminating information to all staff members between meetings.
4. All meeting minutes (Staff, Safety, QM meetings, etc.) are kept on file and maintained for a minimum of three years.

For the comment in green for section 05.05.02.1 regarding the 14 hours duty time. It seems appropriate to account for travel time. However, I also recommend we add a similar statement found in the pilot section for Fatigue Risk Management:

"1. Scheduling practices reflect consideration for minimizing duty-time fatigue, length of shift, number of shifts per week, and day-to-night rotation. The implementation and maintaining of an operator-specific fatigue risk management system (FRMS), based on a scientific analysis, is strongly encouraged."

The committee agrees with the recommendations to include duty travel time for the mechanics. The wording in the pilot section is different and this concern should be addressed. The standard will be reworded to state:

05.05.02 Staffing – A single mechanic on duty or on call 24 hours a day must be relieved from duty for a period of at least 24 hours during any seven consecutive days, or the equivalent thereof, within any one calendar month. In addition:

1. It is strongly encouraged that mechanics must not be permitted to work more than 14 continuous hours. **This includes any duty related travel time.**

New recommendation:

In section 02.03.00, we should make reference to the internationally defined/accepted four components of SMS. I believe that the standard should be aligned with the FAR Part 5 requirements and ICAO guidance. Especially if we soon see new regulatory requirements for Part 135 operators as recommended by the NTSB.

Recommended change -
02.03.02 "The Safety Management System is proactive in identifying risks and eliminating injuries to
personnel and patients and damage to equipment. A Safety Management System includes the four components of Safety Policy, Safety Risk Management, Safety Assurance and Safety Promotion. Several elements of these components include:

The committee agrees with this recommendation and the wording will be changed as highlighted:

02.03.02 The Safety Management System is proactive in identifying risks and eliminating injuries to personnel and patients and damage to equipment. A Safety Management System includes:

A Safety Management System includes the four components of Safety Policy, Safety Risk Management, Safety Assurance and Safety Promotion. Several elements of these components include:

1. A statement of policy commitment from the accountable executive

2. A risk identification process and risk management plan that include a non-punitive system for employees to report hazards, risks and safety concerns

3. A system to track, trend and mitigate errors or hazards

4. A system to track and document incident root cause analysis

5. A safety manual (electronic or hard copy)

6. A system to audit and review organizational policy and procedures, ongoing safety training for all personnel (including managers), a system of pro-active and reactive procedures to insure compliance, etc.

For #8, in the new standard 01.06.04. The "plan for succession and unanticipated extended absence for key positions", this process would normally be a requirement of an organization’s Change Management/Management of Change Process in their SMS (within the Safety Assurance component). Perhaps this needs to also be referenced in this new standard? If this is not already evaluated by the site surveyor, it should be included.

This is a new Standard to be added in the 12th addition, the Committee chose to remain with the proposed addition previously recommended.

New 01.06.04

Programs are encouraged to develop a plan for succession and unanticipated extended absence for key positions. The plan should address position vacancies, including when there is no incumbent to provide transition training, as well as unplanned extended temporary absences, designed to preserve the integrity of the program.

Examples of evidence to meet compliance:
This may include cross-training, identification of successors with support of formal and informal education, mentorship, opportunities to participate in projects/presentations/events in the future role, scenarios/case studies, shadowing, job expansion, mechanisms to preserve and provide access to needed information/documents, contacts lists, task lists, detailed instruction on processes that are critical/known only to the position and periodic review/updating of the plan’s references.
1.09.00 MEETINGS AND RECORDS 1. There are formal, periodic staff meeting for which minutes are kept on file and accessible for reference.

The committee agrees with the recommendation and the standard will be reworded:

1.09.00 MEETINGS AND RECORDS 1. There are formal, periodic staff meeting for which minutes are kept on file and accessible for reference.

02.03.07 – Safety and The Environment

k. The transport vehicle must be equipped with survival gear appropriate to the coverage area and the number of occupants. Individual survival gear carried on each crew member is strongly encouraged.

The committee agrees with the recommendation and will add the following wording:

k. The transport vehicle must be equipped with survival gear appropriate to the coverage area and the number of occupants.

• Survival gear will be maintained appropriately per written policy and must be available to personnel on board.

• A written policy must be in place regarding checking survival kit contents and expiration dates on timed supplies.

• Individual survival gear carried on each crew member is strongly encouraged. At a minimum, the gear should include an appropriate signaling device.

02.03.07 Helmet reflective Stripe – 1 inch, visible from all sides

The issue of adding reflective striping to the helmet was referred to the Aviation Advisory Committee. A concern was expressed in the committee that the reflective materials may interfere with NVGs. The Aviation Advisory Committee reviewed the concern for interference with the NVG and found no documented evidence there is an issue. They also pointed out that many military helmets have reflective materials and that there is already reflective material of the flight uniforms. The standards committee also agreed the 1” stipe may be too prescriptive for this new change and to leave the wording as it was first proposed in the first set of standard change recommendations. We can revisit more details in the next revision if necessary. The new standards will read as it did in Draft 1 of the 12th Edition Standards:

02.03.07 2.d

Add requirement for reflective striping or other reflective markings on the helmets.

The committee agreed to add an additional bullet:

“Helmets have reflective striping or other reflective markings that can be seen in the event the wearer is in the water or other environments requiring search and rescue.”
For clarity in the staffing schedules the following recommendations were recommend and committee approved.

01.07.00 STAFFING

1. **On-site shifts scheduled for a period to exceed 24 hours are not acceptable under most circumstances.** The following criteria must be met for shifts scheduled more than 12 hours.

   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 for 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 must be no adverse personnel action or undue pressure to continue in this circumstance.

   e. Management must monitor transport volumes and personnel’s use of a “time out” policy.

   d. **A fatigue-risk management tool is utilized**

2. In addition to the requirements above, any regularly scheduled shifts that exceed 24 hours must follow the additional criteria below extended over several days may be scheduled to address long commutes at programs with low volumes. The program must clearly demonstrate and document it meets the above criteria for shifts over 12 hours. In addition:

   a. A program’s base averages less than 1 transport per day over a six-month time period

   b. The program provides at least 10 hours of rest in each 24-hour period

   c. The location of the base or program is remote, and one-way commutes are more than 2 hours

   d. **A fatigue-risk management tool is utilized**
This is specifically for medical personnel - Fatigue Risk Management also on page 4.2 for comm specs along with scheduling policies, 5.3 for RW pilots, 6.3 for FW pilots and ME 1.7 for medical escort along with scheduling criteria.

THERE IS NOTHING FOR AMBULANCE OPERATORS - IT IS TIME TO ADDRESS THIS AS WE SHOULD NOT HAVE AMBULANCE OPERATORS WORKING 24 HOUR SHIFTS (my opinion) BUT THEY DO IN MANY PLACES. WE HAVE NO SUCH SPECIFICS IN THE SURFACE SECTION only requiring a policy –

07.01.08 1. Vehicle operator duty and rest time.

I suggest we add to 07.01.08 1.

The following criteria must be met for shifts scheduled more than 12 hours. SHIFTS ARE NOT SCHEDULED TO EXCEED 24 HOURS.

a. Vehicle operators are not required to routinely perform any duties beyond those associated with the transport service.

b. Vehicle operators are provided with access to and permission for uninterrupted rest after daily duties are met.

c. The physical base of operations includes an appropriate place for uninterrupted rest IF SCHEDULED FOR 24 HOURS.

d. Vehicle operators 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 must be no adverse personnel action or undue pressure to continue in this circumstance.

e. Management must monitor transport volumes and personnel’s use of a “time out” policy.

**d. A fatigue-risk management tool is utilized**

The committee agreed the scheduling requirements for surface drivers should be similar to that of the medical teams. A new section will be added under 07.04.00 Vehicle Operator and be written as:

07.04.07 STAFFING

1. The following criteria must be met for shifts scheduled more than 12 hours. Shifts of 12 hours or less are strongly encouraged.
a. Vehicle operators are not required to routinely perform any duties beyond those associated with the transport service.

b. Vehicle operators are provided with access to and permission for uninterrupted rest after daily medical personnel duties are met.

c. The physical base of operations includes an appropriate place for uninterrupted rest.

D. Vehicle operators 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 must be no adverse personnel action or undue pressure to continue in this circumstance.

e. Management must monitor transport volumes and personnel’s use of a “time out” policy.

d. A fatigue-risk management tool is utilized

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Date 06/04/20 # 30
Standard # - Suggested Change and Rationale for Change
02.02.07 Performance metrics, as identified by the program, must be multidisciplinary and reviewed at least quarterly (at a senior executive level). Based on the scope of care of the service, at least three performance metric (including those marked required) from the following groups (with examples) is required to be tracked and trended on an annual basis.

#5 Communications. If you do not do RW and 3 of the 5 choices being specific to RW, you cannot have 3 metrics from this group.

#6 & 7 – verbiage saying “one additional metric” contradicts three.

Can the verbiage clarify if it is three metrics from each of the 8 groups or is it 3 in addition to the required from all the groups?

I see later in 03.01.01 #8, it is a minimum of 5 GAMUT metrics from group #8, so wording should be consistent here in 02.02.07.

Correction to the Standard number quoted in this suggestion is 02.01.07. The committee noted that the discrepancy in the suggestion is not in the Standards, but in the Standards Compliance Tool (SCT). Therefore, no changes are needed to the Standards. The 12th Edition Standard read: “at least one performance metric”, and not three. The SCT will be reviewed by staff. As part of the discussion the committee did identify one change to the quality metric listed under 5. Communications.

02.01.07
5. Communication
   a. ETA accuracy
   b. Accuracy of coordinates (RW) and/or accuracy of patient pick up locations and destinations (FW and S).
   c. Number of missed and aborted transports (Volume required for PIF)
   d. Total number of auto launched and number of completed transports versus aborted transports as a result of the auto launch (RW)
   e. Total number of stand-bys and number of subsequent responses versus cancelled responses. (RW) (Volume required for PIF)

Date 06/08/20 # 31
Standard # - Suggested Change and Rationale for Change
In light of the ongoing pandemic I would suggest we have some standard related to vehicle decontamination after suspected or positive patients that such as covid-19. The committee believes this is already covered in Section 03.07.00 Infection Control under Standard 03.07.01 7. B and in Section 07.05.00 under standard 07.05.04. No further changes will be made to the standards.

Date 06/17/20 # 32
Standard # - Suggested Change and Rationale for Change
01.06.01 #6: I was reviewing our UAS policy and I questioned the use of "unmanned aerial system" for the acronym UAS as it should be "unmanned aircraft systems" as per the official term used by the industry and the FAA. He told me it came from the CAMTS standards. I wanted to just reach out and make you aware of this in case it should be adjusted. I did confirm the term use on the FAA website. The committee confirmed the FAA is using “Unmanned Aircraft Systems” and will make the change in the standards.

Date 06/26/20 # 33
Standard # - Suggested Change and Rationale for Change
03.05.01 Section 1 Paragraph C Didactic Component, Bullet Point 5, Subsection 7
Hemodynamic monitoring devices (such as pacemakers, automatic implantable cardiac defibrillator (AICD))

Pacemakers and AICD are not hemodynamic monitoring devices. These devices respond to changes in electrical function of the heart.

03.05.01 Section 1 Paragraph C Didactic Component, Bullet Point 5, Subsection 15
Multi-trauma (chest, abdomen, facial)

Change to Multisystem trauma. Eliminate reference to chest, abdomen, facial or expand reference to other body systems including brain, pelvis, etc.

03.05.01 Section 1 Paragraph C Didactic Component
Arrange this section so it flows better. Alphabetically causes clinical and non-clinical topics to be mixed together and harder to follow. Organize either by body systems or by patient type, then non-clinical topics.
This set of comments has not yet been reviewed by the committee and will moved to the 3rd draft comments.

**AS OF: July 16, 2020**

These items were posted for public comment. This list is closed. Additional comments will be posted as part of the third draft.

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**Submitted comments for Standards Changes from the 11th Edition to the 12th Edition Standards**

Comments for the THIRD Draft

Committee responses are in red.

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Date 06/26/20 # 33

Standard # - Suggested Change and Rationale for Change

**03.05.01** Section 1 Paragraph C Didactic Component, Bullet Point 5, Subsection 7

Hemodynamic monitoring devices (such as pacemakers, automatic implantable cardiac defibrillator (AICD))

Pacemakers and AICD are not hemodynamic monitoring devices. These devices respond to changes in electrical function of the heart.

The committee agreed to eliminate the reference to the examples. The wording for these bullet point will change to:

- **Clinical equipment as appropriate to the program’s scope of care.**

**03.05.01** Section 1 Paragraph C Didactic Component, Bullet Point 5, Subsection 15

Multi-trauma (chest, abdomen, facial)

Change to Multisystem trauma. Eliminate reference to chest, abdomen, facial or expand reference to other body systems including brain, pelvis, etc.

The committee agrees and will change the wording to:

- **Multisystem trauma**

**03.05.01** Section 1 Paragraph C Didactic Component

Arrange this section so it flows better. Alphabetically causes clinical and non-clinical topics to be mixed together and harder to follow. Organize either by body systems or by patient type, then non-clinical topics.
The committee agrees. The entire section will be rearranged and replaced with the following. Items noted in red are new. Items in blue are deletions.

• Didactic Component of Initial Education must be specific and appropriate for the mission statement and scope of care of the medical transport service. Measurable objectives need to be developed and documented for each experience. The transport program will provide a basic outline of initial education that is not limited to, but must include:

  ○ Transport specific topics
    - Altitude physiology/stressors of flight (RW/FW)
    - Disaster and triage
    - EMS radio communications
    - Highway scene safety management (RW)
    - Infection/exposure control and prevention in transport environment
    - Medical patient transport considerations (assessment/treatment/stabilization/preparation/handling) Note – delete from 03.05.02
    - Oxygen quality controls include: hazard awareness, how to read cylinder levels, basic understanding of Compressed Gas Association (CGA) connections; how to safely transport liquid oxygen cylinders (if utilized) and knowledge of cylinder durations as per local and national regulations. (e.g. FDA Section 211.25(a) and NFPA 53M)
    - Scene management/rescue/extrication
    - State EMS rules and regulations (AHJ) rules regarding surface and air transport
    - Transport vehicle orientation/safety and in-transport procedures/general vehicle safety including all types of vehicles the team may be exposed to including depressurization procedures for fixed wing (as appropriate) (See Safety Education 03.05.02)

  ○ General quality, safety and compliance topics
    - Compliance issues and regulations (See Compliance 01.05.01)
    - “Just Culture” or equivalent education – strongly encouraged
    - Quality Management – didactic education that supports the medical transport service’s mission statement and scope of care
      - Examples of evidence to exceed compliance: *TEAMSTEPPS and LEAN are examples of processes that provide teamwork, root cause analysis and problem solving. (See References)
    - Risk management training (strongly encouraged)
    - Safety (See specific Safety Education – 03.05.02)
    - Sleep deprivation, sleep inertia, circadian rhythms and recognizing signs of fatigue
    - Stress recognition and management/resilience

• Didactic education that is mission specific and specific to scope of care and patient population: for example:
  - Advanced airway management
Anatomy, physiology and assessment for adult, pediatric and neonatal patients as included in the program’s scope of care and patient population outlined within the program’s scope of care and patient population. (For example, if the program’s scope of care includes all age groups of patients, then the anatomy, physiology and assessment of neonates, pediatric and adult patients must be included.)

- Burn emergencies (thermal, chemical and electrical)
- Cardiac emergencies and advanced cardiac critical care
- Environmental emergencies
- Equipment education specific to the equipment used by the program — airway, breathing and circulation equipment, defibrillators, pacemakers, monitors, IABP etc.
- Hemodynamic monitoring devices (such as pacemakers, automatic implantable cardiac defibrillator (AICD), intra-aortic balloon pump, central lines, pulmonary artery and arterial catheters, ventricular assist devices and extracorporeal membrane oxygenation (ECMO) as appropriate to program’s scope of care
- GI and abdominal emergencies
- Infectious and communicable diseases
- High risk obstetric emergencies defined as “A transport that is directly related to pregnancy that may endanger the mother or fetus of a gestational age greater than 20 weeks. This does not include preexisting conditions or trauma in the pregnant patient.” (Specific training guidelines can be found in References.) (Note already defined in the definitions)
- Mechanical ventilation and respiratory physiology for adult, pediatric and neonatal patients as appropriate to the mission statement and scope of care of the medical transport service specific to the equipment used by program
- Metabolic endocrine emergencies
- Multi system trauma
- Neonatal emergencies (respiratory distress, surgical, cardiac)
- Neurological emergencies
- Pediatric medical emergencies
- Pediatric trauma
- Pharmacology
- Respiratory emergencies
- Sepsis
- Shock
- Toxicology

Date 07/12/20 # 34
Standard # - Suggested Change and Rational for Change

03.01.03 No provision is made for paramedics who further their education and become an RN. As per the standards and industry practices at the big agencies, the paramedic is given two options: resign and get ICU experience, or continue working as a paramedic. However, if the paramedic already has ample experience in airway management, hemodynamics, pharmacology, and otherwise, patient care in the air typical of flight medicine, I fail to see the logic in this. Scopes of practice as a whole are almost totally overlapping. Yes, I am writing as one in these shoes now. Having been a paramedic for under 15 years,
switching to nursing school, already with numerous credentials under my belt, however not meeting the three year requirement, I suggest revisiting these standards or considering provisions for RNs with paramedic experience.

The committee agreed to not change the standard. CAMTS has reached out to several nursing organizations for input on this issue. As it stands now, there are no national guidelines. Programs may develop their process and policies for transitioning transport paramedics to transport RNs, provides they meet the state licensing requirements and the CAMTS education standards. Examples of current transition programs are available in the CAMTS 2020 Best Practice manual.

Date 07/17/20 # 35
Standard # - Suggested Change and Rational for Change

03.03.01 If transport nurses are part of the medical team, they must report to a nurse or physician on clinical issues. ADD: If transport respiratory therapist are part of the medical team, they must report to a respiratory therapist or physician on clinical issues. Rationale: This would be in line with standard clinical practice as RT's in the hospital clinical setting report to another RT or their medical director for clinical issues. Nurses do no supervise nor are RT's subordinate to nurses on clinical issues.

The committee agreed to not change the standard. This standard is specific to nurses and follows many state nursing laws. The reporting structure for all other clinical positions is left to the program, provided the Clinical Care Supervisor meets the other standards outlined in AS: 03.03.00.

Date 07/12/20 # 36
Standard # - Suggested Change and Rational for Change

01.07.01 Staffing Add new item: "A written policy addresses scheduling to avoid new employees working together (Green-on-Green) on the same vehicle. The committee agrees and will add a new standard: 01.07.01 8. For all positions (aviation, clinical, communication, maintenance), a written policy addresses scheduling to avoid new employees working together (Green-on-Green). The committee also will update the glossary definition as: Green-on-Green: The combination of two unseasoned (green) or less-experienced pilots or, medical crew team members, communications specialist or mechanics working together without a more experienced person present. Green is often defined as less than one year. _____ I would like to suggest that the committee be a little more flexible with respect to communication specialists. Many comm centers have high turnover and there have been points in the past year where the majority of my staff was under 1 year of experience. We didn't have the luxury of preventing scheduling issues such as this. The way we facilitated this was by promoting more senior people to supervisory staff who are available in person during peak hours. During non-peak hours the CS's have a number of 24/7/365 on call people for unusual situations or times where they are overwhelmed. For these times, we have a duty supervisor, the comm center director, or the administrator on call assigned to be able to answer calls from any personnel on duty who need assistance. Perhaps the wording of this standard can account for this? The original standard was written to account for the "same vehicle". This addresses direct patient care or situations (such as scene flights) where the crew can be separated from on demand support systems. The new positions added of mechanic or CS are in stable environments where help can be summoned at a moments notice.

The committee agreed to retain the draft wording. The new standard requires a policy to address scheduling to avoid new employees working together. The policy could also state actions required to mitigate risks when these situations cannot be avoided. We realize putting new people together may be required when establishing a new base or service, during unforeseen circumstances (such as short staffing
during a pandemic) or as a result of high turn-over. These should be the exceptions and not the rule. The intent of the standards is to reduce risk by assuring experience in a team.

Date 07/29/20 # 37
Standard # - Suggested Change and Rational for Change
EMT-P is an outdated reference to a paramedic. NRP (nationally registered paramedic) is what is currently being used.
The committee agreed to not change the standard. All states have licensing/certification requirements for paramedics but not all require National Registry. Therefore, not all paramedics are NRP.

Date: 07/30/20 #38
Standard # - Suggested Change and Rational for Change
03.01.03 and 03.01.04 I'd like to see a policy that addresses requests by a provider for a second ALS level provider to accompany them on assignments with emergent/critical patients. I recognize the difficulties of making that possible at times, but some companies like to put "Newbie EMT" as the "second provider" in the back since technically it meets the CAMTS requirements, and "Newbie EMT" can be more harmful than helpful. In certain situations we need a second set of eyes that understands the significance or criticality of the patient.
Sample Standard: The company shall have in place a policy to provide a second provider at the requested level of care (e.g. ALS/Crit Care) upon request to a provider who requests one in good faith if the provider believes it is necessary for safe completion of the transport (as in the patient is unstable, is likely to clinically deteriorate, or care requested is outside the scope of the provider). The company shall keep a record of each request made which shall be documented including time of request, time a second provider arrived, and reason for the request. If a second provider can not be provided the company shall document why. The company shall implement reasonable measures to ensure a second provider can be provided at a minimum of 90% of the time (for full accreditation points), 80% of the time (for partial accreditation points), 70% of the time for (minimal accreditation points). Below 70% the company fails the measure. Exceptions made for areas in which it is operationally or logistically impossible, such as significantly remote regions where it would be impossible to get a second provider in a timely fashion. Clinicians shall not be penalized for requests made in good faith.
The committee agreed to not change the standard. The committee believes the concern here is addressed in the new Green-on-Green standards and in AS 03.01.02 for ALS. For transport for patients requiring critical care they must be staffed meeting AS 03.01.03 Emergency Critical Care, which requires at least two clinical care providers in addition to the driver or pilot. Situations as described in the comment should also be reviewed as part of the program’s quality management as noted in AS 02.01.07 1. Patient safety e. Single-medical-provider transports

Date: 07/30/20 #39
Standard # - Suggested Change and Rational for Change
03.03.02 Item #6: Waveform Capnography The use of continuous waveform capnography on transport for neonates, much less it’s use in the hospital setting such as the OR, is still much debated in the Neonatology world. There is no real scientific evidence justifying it as the Standard of Care. I recently had a very long conversation with Dick Orr & Tammy Rush re it’s inclusion in the CAMTS Standards, despite my objection as stated in my review on behalf of the AAP, a few years ago when it first appeared with the revision of the 10th standards. The evidence has shown it to be very inaccurate in neonates under 5 kg, it can only be used as a trend at best, and the change in clinical parameters seen in the
extubated or respiratory depressed infant are much more reliable. Also, there are transcutaneous CO2 monitors (TCM) approved for transport. The problem is CAMTS is made up of Pediatric & Adult Intensivist whose patient population is not as sensitive to unplanned extubation, require an inline tool to monitor, and have technology which can detect a lot more accurate ETCO2. On behalf of the Neonatologists in the AAP Section on Transport Medicine, I am submitting a request to have the waveform capnography requirement softened in the next CAMTS Standards. In addition, I would ask CAMTS to allow other clinical based tools or TCMs to be used as an alternative.

This comment was referred to Dr. Orr and Tammy Rush for additional comments.

The following was received from Dr. Orr. His comment was, “Folks, take a look at this from Rob Holcomb as an amendment to our current standard. I’ve talked to a number of neonatologists (including Dr. Null) on this. The current practice seems to include transcutaneous CO2 monitoring along with clinical acumen. Some would say that ETCO2 monitoring could even be “dangerous” given it’s weight and tension on the circuit and increased dead space leading to erroneous readings. I actually agree somewhat with my personal experience in the ICU with neonates.”

Rob Holcomb’s response was the following recommendation:

03.06.01,13,f - End tidal CO2 continuous waveform monitoring capabilities available.
   i. Neonatal transport, with unique challenges, may substitute a policy clearing outlining monitoring for clinical changes.
   ii. Concurrent use of a transcutaneous CO2 monitor is highly encouraged.

He also noted they are currently working to obtain a transcutaneous CO2 monitor for transport for 2021.

Tammy Rush also added: I definitely support an amendment to the Standards regarding neonatal capnography. There is not sufficient data to support ETCO2 monitoring in the neonate with an uncuffed ETT. As previously discussed, it is not an accurate tool for this population.

The committee agreed not to discourage the use of ETCO2 monitors on neonates but will add that use of transcutaneous CO2 monitoring is an acceptable alternative for neonates. The most current GAMUT data (Jul19-Jun20) shows neonatal waveform capnography being used in 56.3% (3021/5363) of neonatal transports of infants with advanced airways in place. The standard will be changed to read:

03.06.01 13. Advanced airway and ventilatory support equipment:
   f. End-tidal CO2 continuous wave-from monitoring capabilities available (transcutaneous CO2 monitoring is an acceptable alternative for neonates)

Date: 07/30/20 #40
Standard # - Suggested Change and Rational for Change
03.01.02 #6 Waveform Capnography The use of continuous waveform capnography on transport for neonates, much less it’s use in the hospital setting such as the OR, is still much debated in the Neonatology world. There is no real scientific evidence justifying it as the Standard of Care. I recently had a very long conversation with Dick Orr & Tammy Rush re it’s inclusion in the CAMTS Standards, despite my objection as stated in my review on behalf of the AAP, a few years ago when it first appeared with the revision of the 10th standards. The evidence has shown it to be very inaccurate in neonates under 5 kg, it can only be used as a trend at best, and the change in clinical parameters seen in the extubated or respiratory depressed infant are much more reliable. Also, there are transcutaneous CO2 monitors approved for transport. Patients under the care of Pediatric & Adult Intensivist are not as
sensitive to unplanned extubation, require an inline tool to monitor, and have technology which can
detect a lot more accurate ETCO2. I am submitting to CAMTS on behalf of the AAP Section On Transport
Medicine Neonatologists, a request to have the waveform capnography requirement softened in the
next CAMTS Standards. I would like CAMTS to allow other clinical based tools or TCMs to be used as an
alternative.
See above comments.

Date: 07/30/20 #41
Standard # - Suggested Change and Rational for Change
Suggest considering minimum training requirements for non-staff (i.e., resident) physicians that
comprise a dedicated seat in a medical transport program (e.g., resident plus flight nurse). Experiential
and certification requirements exist for all other disciplines within the CAMTS standards. A second-year
emergency medicine resident, with one year of internship, cannot be considered adequately trained to
provide critical care services when a critical care nurse with one year of academic ICU experience, or a
paramedic with one year of high-volume, urban 911 response is not? Likewise, many EM programs do
not offer prehospital training; requirement (not suggestion) for TPATC, FCCS, and similar preparation
should be considered.
The committee agreed to make no changes at this time. We are gathering additional information.

Date: 07/30/20 #42
Standard # - Suggested Change and Rational for Change
03.01.03 - Regarding the statement, "In addition, nurses, physician assistants and paramedics in the
primary-care-provider role must have pre-hire experience in the medications and interventions as
defined in the program’s scope of care and services”. Physicians should not be excluded from this
requirement. Resident physicians, especially early on in their training, expected to perform as the
primary caregiver of a medical transport setting must be able to function in that role. The transport
team as a whole, whether physician, nurse, or otherwise, must be familiar with, and competent in, all
aspects of that transport team’s medications, interventions, and equipment.
The committee agreed to make the following wording change:
“In addition, clinicians must have pre-hire experience and/or education in the medications and
interventions as defined in the program’s scope of care and services.”

Standard # - Suggestion for Change and the Rationale for Change
03.05.01 (3)(f) - Would suggest requiring, rather than encouraging, transport-specific board
certifications for nurses and paramedics who are regular members of a transport team when those
certifications are available. This in no way prohibits them from holding other certifications (e.g., also
holding CEN or CCRN), however, the transport-specific board certifications (e.g., CTRN, CFRN) identify
expertise in not only clinical but also operational and safety standards that are unique to the transport
environment and not reflected in other certification exams. During the call for comments when revising
the 10th edition standards, I had suggested including advanced practice boards (e.g., ACNP or CCNS) as
appropriate examples of nursing certification (for advanced-practice nurses), and feedback from this
Committee pointed out that they are not transport-specific. Personally holding AGACNP-BC, ACCNS-AG,
and CCRN certifications (in addition to CFRN), I can attest that the acute care NP and CNS board
certifications are not vastly different than CCRN, but none of the above provide for the unique
considerations of the transport nurse.
The committee agrees. The wording will be changed to:

f. Current transport specific nursing certification (CFRN or CTRN) pertinent to scope of care and
patient population (such as C-NRT for teams that transport neonatal or pediatric patients) required for nurses who are employed for more than 2 years.

For the 12th Edition we will also add a notation box under the reworded standard:

|CAMTS will continue to accept non-transport specific advanced nursing certifications as meeting the standard until the current certification(s) expires.|

This would also change the wording in the following standards:

AS 03.01.04 Intensive Care, 2. Clinical Crew a. Remove CCRN

The committee also agreed to make no changes to the current certification requirements for Medical Escorts and will continue to accept alternative advanced certifications.

AS ME 03.05.02 Advance Care Medical Escort 2. c.

There are several “Examples of evidence to exceed compliance” that list CEN, CCRN and CTRN

Date: 08/04/20 # 43
Standard # - Suggestion Change and Rational for Change
I'd like to see an inclement weather policy mandated for ground units. The policy should exclude jobs based on significance of the weather and criticality using reasonable criteria. For example "winds sustained greater than 60mph, critical care, specialty care, and emergent transports only". It should be specific that for the transport taking place the benefits must outweigh the risks and that jobs done "emergently" during severe weather should be an exception and not the norm. During a state of emergency it should be routine to seriously assess the impacts of weather on the operations of crews and develop specific plans of operation for the operating period. If this includes telling the hospitals "the bad weather will be here at 12, we want to move up non-emergent transports because we are not doing them from 12-2" that's what they should do.

My old company asked that I perform a "routine transport" during Hurricane Sandy and I had no real way to refuse it. The patient was being moved "because the family wanted them moved". It was a routine job. My partner and I had to drive over the Raritan Bay Bridge in New Jersey and the winds were strong enough that they were pushing the ambulance towards the jersey barrier.

At a different company there was an incident where the field staff recommended a stop to non-emergent transports when there were vehicles stopped and abandoned during snow on the side of the roads. The company continued operations as normal until one of our ambulances ended up off the road in a ditch heading for another routine transport.

I recognize that events are unique, but there should be reasonable measures taken to ensure safety. It shouldn't just be "Has an inclement weather policy" as a checkbox for accreditation, but rather specifics.

Also keeping track of accidents during a declared state of emergency for statistical purposes as well as acuity of the job, etc.

The committee believes the current standards address this concern in the Safety standards, AS 02.09.03 2., however we will expand the wording in AS 07.03.01 to read:
There must be a written policy addressing weather/environmental conditions that prohibit transports in such cases as zero/zero visibility, high winds, weather advisories and highway patrol road closures.

Standard # - Suggestion Change and Rational for Change
Compliance line for CAMTS. I would like to see a compliance line which company employees can reach out to for compliance issues similar to The Joint Commission.

The committee noted that there is a Concern/Complaint form available on the CAMTS website for reporting any type of compliance issue or other concerns. Each item received is automatically logged and the CAMTS administration does follow-up with each one. This could include a letter to the program asking for clarification or action, or a supplemental or monitor visit, which may result in further accreditation actions

Date: 08/1/20 # 44
Standard # - Suggestion Change and Rational for Change
4.03.02 #3 Assumes there is a position description for the Communications Specialist that is commensurate with the duties and responsibilities of the position. There are organizations that have "ambulance dispatchers" who's responsibilities were expanded with the addition of Specialty Care Transport ground units and Air Ambulance services, however the specialized training, knowledge, and skill set are considered "other duties assigned" by the position description. There should be a standard, as there is with medical practitioners, that requires a detailed and comprehensive position description for Communications Specialists reflecting the scope of the job for the accredited organization.
The committee agrees the standards do not specifically state that a job description is required for the Communication Specialist and will add:

04.03.01 Staffing
(new #1). Staffing must be commensurate with the mission statement and scope of care of the medical transport service. A well-developed position description for the communication specialist is written.
The committee also pointed out that the initial and annual training requirements are outlined in the standards and address anyone acting in the role of the communication specialist.

Date: 08/12/20 # 45
Standard # - Suggestion Change and Rational for Change
03.01.03 4. Equipment (Emergency Critical Care)(also add to Intensive Care 03.01.04)
Consider adding:
Point of Care Testing (cardiac marker analysis)
Ultrasound

03.01.03 5. Medications
Consider adding:
Whole blood

03.01.03 6. Interventions
Consider adding:
Ability to interpret ultrasound for emergency care
The committee agreed to not change the standard. These items are left to the discretion of the program and the program medical director. When used they must follow the CAMTS Standards.

Date: 09/09/20 # 46
Standard # - Suggestion Change and Rational for Change

01.07.01.8
This is a wise idea however, we recommend that the wording be "It is highly encouraged that the program develop a plan to reduce the occurrence of "green on green" staffing". Programs should include in the plan, a system to evaluate and mitigate any of these situations. Such as additional supervisors or experienced on-call staff.
The committee agreed to retain the draft wording. The new standard requires a policy to address scheduling to avoid new employees working together. The policy could also state actions required to mitigate risks when these situations cannot be avoided. We realize putting new people together may be required when establishing a new base or service, during unforeseen circumstances (such as short staffing during a pandemic) or as a result of high turn-over. These should be the exceptions and not the rule. The intent of the standards is to reduce risk by assuring experience in a team.

02.01.07.1
We fully support collecting data for quality management and focusing change of practice based off of metrics that don’t meet standard. We feel that mandating three metrics is excessive and that when you have this abundance of data collecting, that we open up the possibility of departments monitoring metrics that aren’t fully applicable to positive outcomes and are just being tracked, to be tracked.
The committee agreed to not make changes to the number of required metrics however will move 1. a. Interfacility patients not transported bedside to bedside to 3. Fixed Wing Operations.

05.05.02.3
The correlation between number of mechanics and number of engines on the airframe is irrelevant. Specific airframes require specific maintenance i.e one manufacturer of a twin engine could require a significant amount of maintenance vs another. Another example, there are some single engine aircraft that would require more maintenance than a twin. The recommendation is to remove the number of mechanic vs engine correlation and to adjust the verbiage to allow the operator to establish the number of mechanics based on the required maintenance for the airframe. At minimum, the 1.5 mechanics per base is agreeable to allow for time off for the full-time mechanic at the base.
This was a change recommended by the CAMTS Aviation Advisory Committee and included in the 2nd draft of the 12th Edition. The comments were referred back to the committee for their comments and agreed to make no changes to the current 11th edition standards. The third draft will delete the recommended changes. The Aviation Advisory and the Standards Committee agree that the number of mechanic should be, at a minimum, 1.5 mechanics for one aircraft to allow for time off and assistance. The number of mechanics is then up to the program based on a multitude of factors, some of which are already listed in the standard.

Date: 09/09/20 # 47
Standard # - Suggestion Change and Rational for Change
I am concerned that the "green-on-green" standard would be too restrictive when starting a new base of operation. I agree with the premise, but it would be nearly impossible to start a new base of operation and guarantee that 2 new people never work together for an entire year. Considering most
flight program hire experienced employees, many with previous flight experience, as this standard is currently written is too restrictive.

The committee agreed to retain the draft wording. The new standard requires a policy to address scheduling to avoid new employees working together. The policy could also state actions required to mitigate risks when these situations cannot be avoided. We realize putting new people together may be required when establishing a new base or service, during unforeseen circumstances (such as short staffing during a pandemic) or as a result of high turn-over. These should be the exceptions and not the rule. The intent of the standards is to reduce risk by assuring experience in a team.

Date: 09/25/20 # 48
Standard # - Suggestion Change and Rational for Change
07.02.01 Change wording to: Ground ambulance must meet KKK-A-1822, Commission on Accreditation of Ambulance Services (CAAS) Ground Vehicle Standards (GVS), National Fire Protection Association (NFPA) 1917 Standards or....

The committee agrees with the recommendation and will make the addition as stated. The standard will be reworded to:

07.02.00 surface Vehicle
07.02.01 Ground ambulance must meet KKK-A-1822 standards, Commission on Accreditation of Ambulance Services (CAAS) Ground Vehicle Standards (GVS), National Fire Protection Association (NFPA) 1917 Standards or state licensure requirements in place at the time the vehicle was built.

03.06.01 add under 17. c: The use of a power cot lift system, power loader or lift gate system is strongly encouraged.

The committee agrees with the recommendation and will make the addition as stated. The standard will be expanded with an additional bullet under 17. C for stretcher requirements:

• The use of a power cot lift system, power loader or lift gate system is strongly encouraged.

Date: 09/29/20 # 49
Standard # - Suggestion Change and Rational for Change

My question has to do with laptop usage in flight as it relates to attention being divided between collusion avoidance, weather/outside conditions observations- aviation related duties for medical crew. Depending on the airframe- both medical crew members should be actively involved and a laptop for documentation can detract from that- was looking to see if it had been discussed before either at the standards level or during site visits. Is a laptop comparable to a cell phone? Thank you.

Since this was a question it was answered by the CAMTS staff: “This item has been addressed in the changes posted in the first draft of the 12th Edition standards. The wording comes directly from the 2018-2019 NTSB Most Wanted Safety Recommendations.

We will add a fourth item under 04.02.04 related to cellphones to read:

4. A required policy on portable electronic devices to prohibit their nonoperational or clinical use during safety-related activities, such as flight/transport planning, refueling, transport vehicle inspections and while the vehicle is in motion.

AS OF: November 11, 2020

These items were posted for public comment. This list is closed. Additional comments are still being accepted will be posted along with the final 12th Edition Standards.