TEXAS AIR MEDICAL SERVICE

~~LICENSURE THROUGH STATE ACCREDITATION~~ LICENSURE RULE

PROGRAM GUIDEBOOK

DRAFT DOCUMENT

(~~OCTOBER 2009~~FEBRUARY 2010)

CONTENTS

ACKNOWLEDGEMENTS:

The preparation of this manual was project led by Alicia Wiren FP-C. It has been based on the foundation of The State of Texas's Comprehensive Clinical Management Program Guidelines Manual as presented by Leigh Ann Bedrich RN in 2007. It has been produced within the Governor's EMS and Trauma Advisory Councils Air Medical Committee and brings together best practices from some of our Nations most recognized organizations.

I want to gratefully acknowledge all those who have dedicated their time and professional expertise to the creation of this manual including the clinicians, pilots, medical directors and administrative staff from the Air Medical Providers in the State of Texas.

PRIMARY AUTHORS:

Stacy Gregory, RN, LP
James Speier Jr, NREMT-P
Tim Pickering, JD, CMTE
Alicia Wiren LP, FP-C

CONTRIBUTORS:

Robert L Byrd, Jr., EMT-P
Mike David Eastlee, ATP
Craig Mattingly CCEMT-P
Dr. Robert Phalen M.D.
Randall Rowe, EMT-P, CMTE
Shawn Salter EMT-P, RN
Dr. Robert Simonson D.O.
Jack Sosebee LP
Steve Soliz, RN
Danny Updike, RN, LP

INTRODUCTION AND OVERVIEW

This manual is designed to help EMS providers understand the Texas State Air Medical Service ~~Texas Accreditation Process~~Licensure Rule ~~(TAP)~~ planning, application and approval processes. It serves as a planning and pre-assessment guide for organizations administering or planning to administer a Licensure process~~(TAP)~~.

EMS has evolved in Texas from very humble beginnings. The first piece of legislation regarding Texas EMS was passed in about 1943. Article 4590b required a traction splint and a first aid kit and an attendant with eight hours of first aid training to use them. There were no vehicle requirements. The first aid kit was not even defined. It was left to the attorney general to decide that it would consist of 15 simple items such as scissors, bandages and splints. EMS basically remained unchanged until about 1971. At that time the Texas Department of State Health Services' Civil Defense and Traffic Safety Division began offering voluntary ECA (First Responder) training in a twenty-four hour course in their communities. The first air-medical program in Texas was established in Houston in 1976.

The next major legislative change in EMS occurred in 1984 when the Texas legislature passed the first comprehensive EMS Act in Texas and for the first time the "ambulance driver" was required to be an ECA. Fortunately many communities were also training EMTs and a few were even training Paramedics.

In the eighties and nineties Texas adopted Federal Department of Transportation standard curriculums for EMTs as well as modified Federal DOT curriculums for Paramedics, and EMS training began to be offered in various junior colleges around the State.

EMS in Texas continues evolving rapidly. Today's evolution includes sophisticated trauma systems and the system participants, which includes Air Medical Service providers, which are being called upon to learn more, do more and be more than ever before. The key to continued success is no longer just willingness to serve. The key to success is ongoing improvement and professional development.

The Comprehensive Clinical Management Program (CCMP) was the next step in the evolution of EMS in Texas. Even though the CCMP is offered as a "recertification" option, it is truly an EMS provider function. The CCMP is not simply minimum standards that a provider must meet for a state license. It is a voluntary option that EMS providers may attempt in order to raise the bar of clinical and operational competency in their communities. EMS providers that choose to attempt this option are doing so of their own free will and accept the higher standards imposed by a program such as the CCMP.

Building off the great work set forth in the CCMP manual the Air Medical Community in Texas has defined what providers have been expecting for years, proof of a higher level of training and clinical competency of our Air Medical Service Providers and a site survey process to measure that level of training and clinical competency. This

verification will be substantiated in the acquisition of CAMTS Accreditation by Air Medical Service providers in the State of Texas to obtain Deemed Status. The alternative process to CAMTS accreditation, in order to obtain State Licensure and validate the high level of care required of an AMP, is the State Air Medical Survey Process ~~(TAP~~Licensure~~)~~. The process will be a comprehensive look at the clinical care and operational standards of a provider holding a Texas State Air Medical Service License. All components of the Texas State Air Medical Survey process will meet or exceed the CCMP licensure requirements.

The following document is a resource for prospective Air Medical Providers (AMP) to use to prepare their service for the Alternate Survey Process in the State of Texas in lieu of CAMTS Accreditation. It is a reference document to aid in the success of the Provider not to dictate the extent or the exact nature of policy that may be necessary for your service.

In this document you will find that the Survey Process is defined, as well as broken down, into twelve individual sections as listed in the Table of Contents. You will also note that each section begins with a copy of the State EMS Rule for Air Medical Providers ~~TAP~~Licensure Rule that you will be evaluated on during your site survey for your reference. ******You are responsible to make sure that you read the most current Rules offered by DSHS as documents and rules may change.****** After the Rule you will note justifications, resources, intent and citations written for every part of the process.

Within this document you will also find a list of definitions and reference guides in the attached Appendixes.

PLANNING AND PREPARATION

157.12 Proposed Rule Language – Rotor Wing Operations

(a) The Air Medical Provider seeking licensure through the State of Texas who does not wish to obtain deemed status through Commission on Accreditation of Air Medical Transport Services (CAMTS) Accreditation must acquire ~~Accreditation, and therefore~~ licensure, through the ~~Texas Accreditation Process~~Licensure Rule ~~(TAP)~~.

(1) Submission of the appropriate application, self assessment and supporting documents must be submitted to DSHS prior to the establishment of a new Air Medical Program.

(A) Initial applicants *may* initiate a pre-survey process with a DSHS-approved surveyor. The surveyor and applicant will undertake an evaluation of the applicant's training, resources and plans concerning Air Medical Operations to assist the program in preparation for the initial ~~TAP~~Licensure.

(B) Initial applicants will be licensed with a provisional license upon successful completion of the initial ~~TAP~~Licensure.

(C) A provisional initial license holder must complete a ~~TAP re-accreditation~~the Licensure survey not less than 12 months or more than 15 months after the initial provisional license issuance.

(D) A provisional initial license holder who successfully completes ~~a TAP reaccreditation~~ the Licensure survey will be awarded regular license status.

(2) Established Air Medical Programs (AMP's) who wish to seek licensure through the ~~Texas Accreditation Process~~Licensure Rule must complete their survey process and obtain re-licensure within two years after the effective date of the ~~TAP~~Licensure Rule to remain an Air Medical Provider.

(3) The complete self assessment package with supporting documents will be completed and submitted with the application for provider license to DSHS.

(A) The self assessment, documentation and application must be submitted in electronic format as acceptable by DSHS.

(i) Documentation must include:

(aa) Current FAA Part 135 Air Carrier Certificate.

(bb) Current individual aircraft FAA Airworthiness Certificate(s).

(cc) All other documentation as required to demonstrate evidence of program components.

(A) Associated fees must be included with application.

(B) All program records that support the ASP process must be on site during the site survey.

(C) Established Air Medical Providers must provide a minimum of 6 months documented compliance with the ASP requirements prior to the date of application.

(D) Application for initial provider license must show documentation of protocols, policies, procedures, training, Quality Improvement (QI) and evaluation of outcomes that comply with the ASP requirements.

(4) Notification of the intent to perform a site visit will be delivered to the AMP 90 days in advance.

(A) The site visit cannot be delayed by the AMP more than 90 days after intent to visit date established by DSHS.

(B) The site visit team will be composed of DSHS department representatives along with other AMP Personnel which could include but is not limited to:

(i) Physician Medical Director

(ii) AMP Administrator

(iii) AMP Educator

(iv) AMP Nurse or Paramedic

(v) AMP Pilot

(vi) AMP Mechanic

(vii) Federal Aviation Administration (FAA) Representative

(C) The AMP is responsible for reasonable expenses incurred by Non-DSHS Department Members conducting the review.

(5) The site visit team will establish and provide a schedule to the applicant.

(A) No personnel or program component may be excluded or exempt from participation in site survey.

(B) Scheduled activities may include but are not limited to:

(i) Meeting with the AMP Medical Director and Administrator.

(ii) Interviewing staff members.

(iii) Reviewing records.

(iv) Interviewing hospitals and other appropriate regional personnel.

(v) Site visits to bases, offices and communication centers.

(vi) Preparation of initial evaluation in the form of a short oral summery of what was found by the survey team to AMP by evaluators prior to completion of survey.

(vii) Programs will provide clarification of evaluation points to evaluators.

(C) A copy of the final written report will be mailed to DSHS and the Air Medical Program Director within 30 days of the completion of the site visit.

(i) Deficiencies may result in disciplinary action as authorized by §157.16 of this title (relating to Emergency Suspension, Suspension, Probation, Revocation or Denial or a Provider License). The department may grant a

reasonable period of time for the provider to correct deficiencies as defined in §157.16 . If the department must reinspect the provider because of noncompliance noted during a previous inspection, the provider shall pay a nonrefundable administrative fee, if applicable.

(ii) Failure to correct identified deficiencies within a period of time determined to be reasonable by the DSHS or if the deficiencies are found to be repeated, the provider shall be subject to disciplinary actions in accordance with §157.16 of this title.

(6) If a provider changes any part of the originally completed survey process it must be reported to DSHS in writing within (XX) days with an explanation.

(A) DSHS will evaluate the change and decide if a new site visit is warranted to assure compliance with the ASP.

(7) DSHS regional office may perform or order an unannounced site visit at any time.

(8) Program renewal applications must consist of an update to the original program self assessment that addresses and documents all changes and updates to the program.

(A) DSHS requires an on-site survey to renew a provider license.

(9) A program may contest, in writing, a site survey result to DSHS no later than 30 days after the receipt of the rejection of application for initial or renewal licensing.

(A) Appeals must include either supporting documentation to refute the deficiencies or provide an acceptable plan of corrective action to correct the deficiencies.

(B) Appeals will be reviewed by DSHS with decision delivered within (XX) calendar days after receipt of appeal.

157.13 Proposed Rule Language – Fixed Wing Operations

(a) The Air Medical Provider seeking licensure through the State of Texas who does not wish to obtain deemed status through Commission on Accreditation of Air Medical Transport Services (CAMTS) Accreditation must acquire ~~Accreditation, and therefore~~ licensure, through the ~~Texas Accreditation Process~~Licensure Rule ~~(TAP)~~.

(1) Submission of the appropriate application, self assessment and supporting documents must be submitted to DSHS prior to the establishment of a new Air Medical Program.

(A) Initial applicants *may* initiate a pre-survey process with a DSHS-approved surveyor. The surveyor and applicant will undertake an evaluation of the applicant's training, resources and plans concerning Air Medical Operations to assist the program in preparation for the initial ~~TAP~~Licensure.

(B) Initial applicants will be licensed with a provisional license upon successful completion of the initial ~~TAP~~Licensure.

(C) A provisional initial license holder must complete ~~a TAP re-accreditation~~the Licensure survey not less than 12 months or more than 15 months after the initial provisional license issuance.

(D) A provisional initial license holder who successfully completes ~~a TAP reaccreditation~~ the Licensure survey will be awarded regular license status.

(2) Established Air Medical Programs (AMP's) who wish to seek licensure through the ~~Texas Accreditation Process~~Licensure Rule must complete their survey process and obtain re-licensure within two years after the effective date of the ~~TAP~~Licensure Rule to remain an Air Medical Provider.

(3) The complete self assessment package with supporting documents will be completed and submitted with the application for provider license to DSHS.

(B) The self assessment, documentation and application must be submitted in electronic format as acceptable by DSHS.

(i) Documentation must include:

(aa) Current FAA Part 135 Air Carrier Certificate.

(bb)Current individual aircraft FAA Airworthiness Certificate(s).

(cc)All other documentation as required to demonstrate evidence of program components.

(A) Associated fees must be included with application.

(B) All program records that support the ASP process must be on site during the site survey.

(C) Established Air Medical Providers must provide a minimum of 6 months documented compliance with the ASP requirements prior to the date of application.

(D) Application for initial provider license must show documentation of protocols, policies, procedures, training, Quality Improvement (QI) and evaluation of outcomes that comply with the ASP requirements.

(4) Notification of the intent to perform a site visit will be delivered to the AMP 90 days in advance.

(A) The site visit cannot be delayed by the AMP more than 90 days after intent to visit date established by DSHS.

(B) The site visit team will be composed of DSHS department representatives along with other AMP Personnel which could include but is not limited to:

(i) Physician Medical Director

(ii) AMP Administrator

(iii)AMP Educator

(iv) AMP Nurse or Paramedic

(v) AMP Pilot

(vi) AMP Mechanic

(vii) Federal Aviation Administration (FAA) Representative

(C) The AMP is responsible for reasonable expenses incurred by Non-DSHS Department Members conducting the review.

(5) The site visit team will establish and provide a schedule to the applicant.

(A) No personnel or program component may be excluded or exempt from participation in site survey.

(B) Scheduled activities may include but are not limited to:

(i) Meeting with the AMP Medical Director and Administrator.

(ii) Interviewing staff members.

(iii) Reviewing records.

(iv) Interviewing hospitals and other appropriate regional personnel.

(v) Site visits to bases, offices and communication centers.

(vi) Preparation of initial evaluation in the form of a short oral summery of what was found by the survey team to AMP by evaluators prior to completion of survey.

(vii) Programs will provide clarification of evaluation points to evaluators.

(C) A copy of the final written report will be mailed to DSHS and the Air Medical Program Director within 30 days of the completion of the site visit.

(i) Deficiencies may result in disciplinary action as authorized by §157.16 of this title (relating to Emergency Suspension, Suspension, Probation, Revocation or Denial or a Provider License). The department may grant a reasonable period of time for the provider to correct deficiencies as defined in §157.16 . If the department must reinspect the provider because of noncompliance noted during a previous inspection, the provider shall pay a nonrefundable administrative fee, if applicable.

(ii) Failure to correct identified deficiencies within a period of time determined to be reasonable by the DSHS or if the deficiencies are found to be repeated, the provider shall be subject to disciplinary actions in accordance with §157.16 of this title.

(6) If a provider changes any part of the originally completed survey process it must be reported to DSHS in writing within (XX) days with an explanation.

(A) DSHS will evaluate the change and decide if a new site visit is warranted to assure compliance with the ASP.

(7) DSHS regional office may perform or order an unannounced site visit at any time.

(8) Program renewal applications must consist of an update to the original program self assessment that addresses and documents all changes and updates to the program.

(A) DSHS requires an on-site survey to renew a provider license.

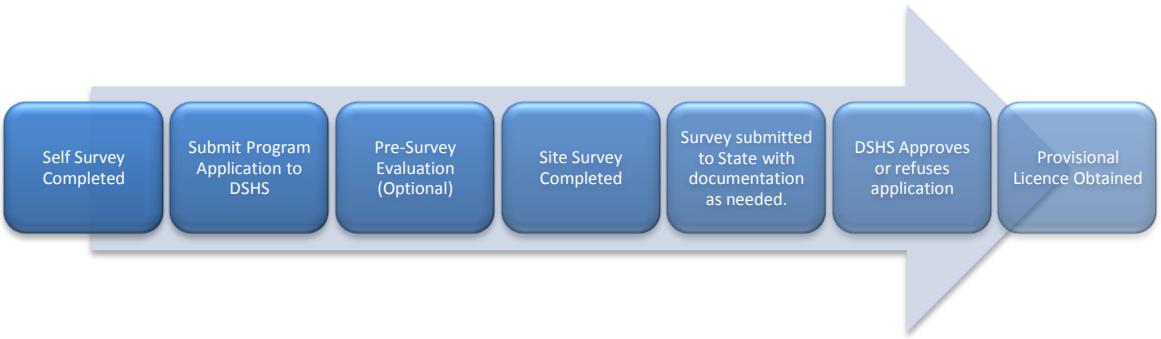
(9) A program may contest, in writing, a site survey result to DSHS no later than 30 days after the receipt of the rejection of application for initial or renewal licensing.

(A) Appeals must include either supporting documentation to refute the deficiencies or provide an acceptable plan of corrective action to correct the deficiencies.

(B) Appeals will be reviewed by DSHS with decision delivered within (XX) calendar days after receipt of appeal.

INITIAL PROVIDER LICENSE APPLICANTS

APPLICATION PROCESS FLOW AND TIMELINE



SUBMITTING A PROGRAM APPLICATION

Anyone who has the desire and dedicated resources necessary to maintain a Provider License as an Air Medical Service and does not wish to obtain CAMTS Accreditation may submit an application for an ~~TAP~~License as set forth in rule 157.(XX) The application, self assessment and fee should be submitted to the appropriate DSHS EMS regional office prior to initiating service for new programs. Upon reviewing the initial application and self assessment, a DSHS-approved surveyor will meet with the applicant to begin an evaluation of the applicant's training, resources, and plans concerning Air Medical management.

THE APPLICATION – A SELF STUDY

All of the planning and preparation a provider carries out in anticipation of accomplishing the alternative state survey process must be documented in the

Application and supporting documents. The application and supporting documents are intended to be a thorough self assessment of the Air Medical Service Provider and provide the background material necessary to demonstrate program compliance. The application and supporting material will be verified during a site visit.

The application and self study is available on the DSHS website.

In preparing the application, information must be well organized and in a manner that clearly indicates the providers willingness and ability to support an Air Medical Service Program. The application must be submitted in electronic format as acceptable by DSHS. Please see the Application for exact submission requirements, including the number of copies to be submitted and the applicable fee.

After reviewing a complete application, self assessment and supporting documents, the regional office shall notify the program of deficiencies or, noting none, notify the provider of the intent to perform a site visit.

Initial applicants *may* initiate a pre-survey process with a DSHS-approved surveyor. The surveyor and applicant will undertake an evaluation of the applicant's training, resources, and plans concerning Air Medical Operations to assist the program in preparation for the initial ~~TAP~~Licensure ~~Accreditation~~.

Upon review and determination that the application is complete, a letter will be sent to the Medial Director and the Air Medical Service Provider Administrator to outline the procedures for setting up a site visit. Such notification shall take place no later than sixty-days (60) from the submission of a complete self-assessment.

In addition to addressing all the program components in the application, complete records must be maintained documenting problems, successes, administrative actions and program revisions that unfold as the program progresses. The site visit team at the initial and subsequent site visits will review all files. New applicants must show documentation of protocols, policies, procedures, QI and evaluation of outcomes to support the application in all areas along with associated training of all personnel.

THE SITE VISIT

After the application is approved, the program will be site visited. The DSHS regional office shall notify the program in writing at least 90 days in advance of the proposed visit. The program and regional staff or approved contracted surveyors shall agree upon an appropriate date for the site visit. However, the program will not be allowed to delay the site visit more than 90 days beyond the date proposed by the Department.

The site visit team will be composed of a DSHS representative and a ~~department r~~representative~~s along with an~~ such as: Air Medical Service physician medical director,

an Air Medical Service provider administrator, and one other personnel member that can be comprised of an educator, line staff personnel, pilot or FAA representative who is approved to conduct on-site ~~Alternative State Process~~ review of Air Medical Service providers. The applicant agency shall be responsible for reasonable expenses incurred by the non-DSHS Department members conducting the review.

Typical Schedule for the Site Visit Evaluation

The full exposure of the program to the site visit evaluation team provides the evaluators with an awareness of both the objective and subjective components of the program. The site visit team will establish the actual schedule. It may vary to accommodate the program and its personnel, but it may not exempt any program personnel from participation and it may not exempt any program component from review.

The schedule should include but is not limited to the following program personnel and types of activities:

- Meeting with the Air Medical Service medical director and provider administrator to review the schedule of activities planned for the site visit.
- Interviewing the provider's staff to obtain general reactions to the program and to assess the feelings of involvement in the total program initiation. As this is a comprehensive program, staff of all levels and from all aspects of the provider (billing, communications, medical care operations, mechanics, pilots etc.) must be included.
- Reviewing of records to assess the manner in which the program maintains records of all aspects of the program.
- Interviewing hospitals, RAC officers and other appropriate regional.
- Site visits of bases, equipment and personnel.
- Preparing an initial report to allow the evaluators to provide a short oral summary of findings, conclusions, comments, and concerns regarding the program's compliance with guidelines. Program representatives may respond to this report and allow for clarification to insure that the final report is reflective of the current state of the program. (A final written report will be mailed to the program director within 30 days of the site visit.)
- The ~~Air Medical Service Alternative Survey~~ AMP Licensure application will require additional background information about the service area, the agency, and other related matters. This information will be used to establish context for the reviewers and assist in preparing them for the site visit. Providing this information will expedite the site visit and help agencies achieve their goal of Texas Air Medical Service ~~accreditation~~Licensure.

EXISTING AIR MEDICAL PROVIDERS WHO ARE ~~BRIDGING TO TAP LICENSURE~~RELICENSING UNDER THE NEW RULE:

APPLICATION PROCESS FLOW AND TIMELINE

SUBMITTING A PROGRAM APPLICATION

Anyone who has the desire and dedicated resources necessary to maintain a Provider License as an Air Medical Service and does not wish to obtain CAMTS Accreditation may submit an application for an ~~TAP~~Licensure as set forth in rule 157.(XX) The application, self assessment and fee should be submitted to the appropriate DSHS EMS regional office prior to initiating service for new programs or within two years after the adoption of the ~~TAP~~ Licensure Rule for established programs. Upon reviewing the initial application and self assessment, a DSHS-approved surveyor will meet with the applicant to begin an evaluation of the applicant's training, resources, and plans concerning Air Medical management.

THE APPLICATION – A SELF STUDY

All of the planning and preparation a provider carries out in anticipation of accomplishing the alternative state survey process must be documented in the Application and supporting documents. The application and supporting documents are intended to be a thorough self assessment of the Air Medical Service Provider and provide the background material necessary to demonstrate program compliance. The application and supporting material will be verified during a site visit.

The application and self study is available on the DSHS website.

In preparing the application, information must be well organized and in a manner that clearly indicates the providers willingness and ability to support an Air Medical Service

Program. The application must be submitted in electronic format as acceptable by DSHS. Please see the Application for exact submission requirements, including the number of copies to be submitted and the applicable fee.

After reviewing a complete application, self assessment and supporting documents, the regional DSHS office shall notify the program of deficiencies or, noting none, notify the provider of the intent to perform a site visit.

Initial applicants *may* initiate a pre-survey process with a DSHS-approved surveyor. The surveyor and applicant will undertake an evaluation of the applicant's training, resources, and plans concerning Air Medical Operations to assist the program in preparation for the initial ~~TAP~~ Licensure ~~Accreditation~~.

Upon review and determination that the application is complete, a letter will be sent to the Medial Director and the Air Medical Service Provider Administrator to outline the procedures for setting up a site visit. Such notification shall take place no later than sixty-days (60) from the submission of a complete self-assessment.

In addition to addressing all the program components in the application, complete records must be maintained documenting problems, successes, administrative actions and program revisions that unfold as the program progresses. The site visit team at the initial and subsequent site visits will review all files. Established Air Medical Service programs applicants must be able to produce documentation that supports the prior six months of programmatic compliance with the Alternate Survey Requirements.

The Site Visit

After the application is approved, the program will be site visited. The DSHS regional office shall notify the program in writing at least 90 days in advance of the proposed visit. The program and regional staff or approved contracted surveyors shall agree upon an appropriate date for the site visit. However, the program will not be allowed to delay the site visit more than 90 days beyond the date proposed by the Department.

The site visit team will be composed of department representatives and three other personnel members that can be comprised of an Air Medical Service physician medical director, a provider administrator, educator, line staff personnel, pilot or FAA representative who is approved to conduct on-site Alternative State Process review of Air Medical Service providers. The applicant agency shall be responsible for reasonable expenses incurred by the non-DSHS Department members conducting the review.

Typical Schedule for the Site Visit Evaluation

The full exposure of the program to the site visit evaluation team provides the evaluators with an awareness of both the objective and subjective components of the program. The site visit team will establish the actual schedule. It may vary to accommodate the

program and its personnel, but it may not exempt any program personnel from participation and it may not exempt any program component from review.

The schedule should include but is not limited to the following program personnel and types of activities:

- Meeting with the Air Medical Service medical director and provider administrator to review the schedule of activities planned for the site visit.
- Interviewing the provider's staff to obtain general reactions to the program and to assess the feelings of involvement in the total program. As this is a comprehensive program, staff of all levels and from all aspects of the provider (billing, communications, medical care operations, mechanics, pilots etc.) must be included.
- Reviewing of records to assess the manner in which the program maintains records of all aspects of the program.
- Interviewing hospitals, RAC officers and other appropriate regional personnel to assess their relationship with the applicant provider as related to the provision of adequate patient care, if applicable, for a renewal or established provider.
- Site visits of bases, equipment and personnel.
- Preparing an initial report to allow the evaluators to provide a short oral summary of findings, conclusions, comments, and concerns regarding the program's compliance with guidelines. Program representatives may respond to this report and allow for clarification to insure that the final report is reflective of the current state of the program. (A final written report will be mailed to the program director within 30 days of the site visit.)
- The Air Medical Service Alternative Survey application will require additional background information about the service area, the agency, and other related matters. This information will be used to establish context for the reviewers and assist in preparing them for the site visit. Providing this information will expedite the site visit and help agencies achieve their goal of Texas Air Medical Service ~~accreditation~~Licensure.

Program Approval

When the AMP receives the final written report, they have two options. The AMP can either allow their report to be considered, as is, with their application or they can forward a copy of the report with additional documentation in support of modifications and additions made to their program to meet areas of deficiency.

If the program is found to be in compliance with established criteria and standards, and all fees and required documents have been submitted, the DSHS shall approve the program for a period to coincide with the provider's license renewal period and issue an approval number. The AMP administrator and medical director shall receive a written report of the site-review team's findings, including areas of exceptional strength, areas of weakness and recommendations for improvement.

Approval of the AMP will include all aspects of the Air Medical Service Survey Criteria which must be maintained at all times. If at any time, a provider agency changes any aspect of the originally completed survey process it must be reported immediately to the DSHS regional office with an explanation. An AMP must retain a Medical Director who meets the qualifications set forth in Section 11 and Rule 157.11, 157.12 and 157.13.

The DSHS office will determine if another site visit is necessary to ensure compliance with the rule. The DSHS regional office may perform, or contract, an unannounced site visits at any time.

Program Re-~~approval~~Licensing

To be eligible for re-~~approval~~licensing, the program shall maintain all the requirements of this manual, submit an application and non-refundable fee DSHS of $XXX.00 and prepare an update to the program's self-assessment that addresses significant changes in the program's personnel, structure, processes, policies or procedures. A successful site survey must be accomplished. The agency must also document progress toward correction of any deficiencies identified by the program or the department and will have to host another on-site review to have their license renewed.

Appeals Process

A program is eligible to contest the site survey results, in writing, through DSHS State Offices no more than 30 calendar days after receipt of rejection of application for initial or renewal licensing. Appeals must include supporting documentation of how you meet or exceed the outlined Air Medical Service Survey expectations or your immediate corrective actions to accommodate the requirements that are deficient. The appeal will be reviewed and decision for approval, rejection or temporary approval until the time that the deficiencies have been validated by additional site visits or documentation as required by Rule and DSHS. The Air Medical Service Provider will receive written notice within (XX) of calendar days after receipt of appeal of the decision of DSHS.

SECTION 1: CREDENTIALING OF PATIENT CARE PROVIDERS

157.12 Proposed Rule Language – Rotor Wing Operations

(b) The AMP must demonstrate a hiring, education and credentialing process.
  (1) The AMP should be able to provide a job description for each clinical and operational position.
    (A) The AMP must document a process by which air medical personnel applicants are screened to insure that they meet the minimum qualifications for the position for which they apply.
  (2) The AMP must administer an employment application process that includes an assessment of the candidate's knowledge, skills and experience.
  (3) After selection for employment, the AMP should have a credentialing process that incorporates the following:
    (A) A defined preceptor selection process.
      (i) That involves the Medical Director in the selection of appropriate preceptors.
      (ii) The Medical Directors approval of the development and training of preceptors.
    (B) The Medical Directors established clinical competencies.
    (C) The Program Director established program competencies.
    (D) New employee proficiency criteria:
      (i) The new employee must attend an initial didactic training session.
      (ii) The new employee must demonstrate understanding of aircraft safety, protocols, procedure manuals, and proficiency in clinical procedures to the agency's standard.
        (aa) In accommodating airframes, new employees will ride as 3rd person until the preceptor establishes that the new employee has met pre-established competencies as defined by the Medical Director and Program Director.
        (aa) In airframes that cannot accommodate a "third" person, new employees will ride as a 2nd person until preceptor establishes that the new employee meets the prerequisites for independent duty as determined by the Medical Director and Program Director.
    (E) New employees must demonstrate proficiency to second evaluator.
  (4) New employee clinical evaluation must be completed using:

(A) A process that allows the new employee to evaluate the new employee program.
(B) A process to promote inter-rater reliability.
(5) A process for remediation and reeducation must be defined.
(6) A representative sample of call types (minimum number to be determined by the Medical Director) of critically ill adult patients, pediatric patients and trauma patients will be correctly cared for by the new employee prior to release from new employee.
(7) Must demonstrate loop closure from preceptor to new employee and from new employee back to preceptor in evaluation.
(8) The AMP must maintain documentation that employee certifications and/or licensures are verified.
(9) The AMP must maintain documentation of a system that requires each patient care provider to demonstrate skills appropriate for their level of training to the satisfaction of the Medical Director.
(10) The AMP must have an established process for reintegration of personnel.
(11) The AMP must have an established policy for administrative personnel to remain field credentialed.
(12) The AMP must at a minimum document initial demonstration of patient care skills, scene control skills, program competencies, ethics, compliance, and to include but not be limited to:
(A) Advanced airway management.
(B) Altitude physiology.
(C) Stressors of flight.
(D) Anatomy and physiology along with assessment of adult, pediatric and neonatal patients, as appropriate, within the programs scope of care.
(E) Aircraft and ambulance orientation including safety procedures (for all crew members including specialty team members).
(F) Emergency access and egress training.
(G) Orientation to all emergency procedures.
(H) Air Medical Service Crew Resource Management including human factors, stress recognition and management.
(I) Survival training.
(J) Cardiac emergencies and advanced cardiac critical care.
(K) Mission specific education for patient populations encountered (i.e. environmental emergencies, high risk OB, multi-system trauma, neonatal emergencies, thermal related injuries, etc.).
(L) Disaster and triage including Hazardous Materials (Haz-Mat) recognition and response.

(M) Radio communications.
(N) Hemodynamic monitoring, pacemakers (invasive and non invasive), automatic implantable cardiac defibrillators, intra-aortic balloon pump, central lines, pulmonary artery and arterial catheters, ventricular assist devices and extracorporeal membrane oxygenation (ECMO), as appropriate, within the programs scope of care.
(O) Infectious control.
(P) Mechanical ventilation and respiratory physiology for adult, pediatric and neonatal patients, including oxygen therapy in the transport environment.
(Q) Pediatric medical and trauma emergencies.
(R) Pharmacology.
(S) Quality Management education.
(T) Respiratory emergencies.
(U) Scene management.

157.13 Proposed Rule Language – Fixed Wing Operations

(b) The AMP must demonstrate a hiring, education and credentialing process.
(1) The AMP should be able to provide a job description for each clinical and operational position.
(A) The AMP must document a process by which air medical personnel applicants are screened to insure that they meet the minimum qualifications for the position for which they apply.
(2) The AMP must administer an employment application process that includes an assessment of the candidate's knowledge, skills and experience.
(3) After selection for employment, the AMP should have a credentialing process that incorporates the following:
(A) A defined preceptor selection process.
(i) That involves the Medical Director in the selection of appropriate preceptors.
(ii) The Medical Directors approval of the development and training of preceptors.
(B) The Medical Directors established clinical competencies.
(C) The Program Director established program competencies.
(D) New employee proficiency criteria:
(i) The new employee must attend an initial didactic training session.
(ii) The new employee must demonstrate understanding of aircraft safety, protocols, procedure manuals, and proficiency in clinical procedures to the agency's standard.

(aa) In accommodating airframes, new employees will ride as 3rd person until the preceptor establishes that the new employee has met pre-established competencies as defined by the Medical Director and Program Director.

(bb) In airframes that cannot accommodate a "third" person, new employees will ride as a 2nd person until preceptor establishes that the new employee meets the prerequisites for independent duty as determined by the Medical Director and Program Director.

(E) New employees must demonstrate proficiency to second evaluator.

(4) New employee clinical evaluation must be completed using:

(A) A process that allows the new employee to evaluate the new employee program.

(B) A process to promote inter-rater reliability.

(5) A process for remediation and reeducation must be defined.

(6) A representative sample of call types (minimum number to be determined by the Medical Director) of critically ill adult patients, pediatric patients and trauma patients will be correctly cared for by the new employee prior to release from new employee.

(7) Must demonstrate loop closure from preceptor to new employee and from new employee back to preceptor in evaluation.

(8) The AMP must maintain documentation that employee certifications and/or licensures are verified.

(9) The AMP must maintain documentation of a system that requires each patient care provider to demonstrate skills appropriate for their level of training to the satisfaction of the Medical Director.

(10) The AMP must have an established process for reintegration of personnel.

(11) The AMP must have an established policy for administrative personnel to remain field credentialed.

(12) The AMP must at a minimum document initial demonstration of patient care skills, scene control skills, program competencies, ethics, compliance, and to include but not be limited to:

(A) Advanced airway management.

(B) Altitude physiology.

(C) Stressors of flight.

(D) Anatomy and physiology along with assessment of adult, pediatric and neonatal patients, as appropriate, within the programs scope of care.

(E) Aircraft and ambulance orientation including safety procedures (for all crew members including specialty team members).

(F) Emergency procedures for depressurization for fixed wing.

(G) Emergency access and egress training.
(H) Orientation to all emergency procedures.
(I) Air Medical Service Crew Resource Management including human factors, stress recognition and management.
(J) Survival training.
(K) Cardiac emergencies and advanced cardiac critical care.
(L) Mission specific education for patient populations encountered (i.e. environmental emergencies, high risk OB, multi-system trauma, neonatal emergencies, thermal related injuries, etc.).
(M) Disaster and triage including Hazardous Materials (Haz-Mat) recognition and response.
(N) Radio communications.
(O) Hemodynamic monitoring, pacemakers (invasive and non invasive), automatic implantable cardiac defibrillators, intra-aortic balloon pump, central lines, pulmonary artery and arterial catheters, ventricular assist devices and extracorporeal membrane oxygenation (ECMO), as appropriate, within the programs scope of care.
(P) Infectious control.
(Q) Mechanical ventilation and respiratory physiology for adult, pediatric and neonatal patients, including oxygen therapy in the transport environment.
(R) Pediatric medical and trauma emergencies.
(S) Pharmacology.
(T) Quality Management education.
(U) Respiratory emergencies.
(V) Scene management.

A. Initial Assessment of New Field Care Providers

The term "candidate" refers to new job applicants, individuals seeking promotion or position changes, and those achieving a new EMS, RT or RN certification.
For Air Medical Service Programs, the initial screening and assessment of candidates is a difficult, time consuming and often arduous task. Although personnel may share the same certification or license, the education, training, and experience among similarly certified or licensed individuals varies greatly. Failing to identify poor candidates can cost an agency time, resources and reputation, and may potentially expose the agency to unnecessary risk and litigation.

This requires that systems implement and maintain strong initial assessment programs. This preliminary assessment tool will allow the agency's management and medical

director to have insight into the candidate's strengths and weaknesses thereby facilitating successful completion of the credentialing process for that individual.

The screening process not only identifies candidates optimally suited for success, the data collected during the process will provide the system valuable information for the quality improvement program. The data can be used to design education programs to bring candidates to entry-level requirements. Over time, initial assessment data can be correlated to job performance data to provide predictive measures for future hiring and promotions.

A prerequisite to any initial screening process is the presence of a comprehensive position description. Hiring qualifications should include experience relevant to the program's scope of care and patient population and may include but is not limited to:

Specific position duties:

- Essential duties and responsibilities
- Education qualifications
- Professional experience
- Computer skills
- Language skills
- Math skills
- Reasoning ability and critical thinking skills
- Interpersonal and communication skills
- Certificates, licenses, and registration
- Physical demands of the position

Initial assessment should begin with a thorough screening to insure that candidates meet the minimum qualifications and requirements outlined in the position description. The process usually continues with *an assessment of the candidate's knowledge, skills and experience.*

Agencies should be able to provide the job description for each clinical and operational position and document a process by which candidates are screened to insure that they meet the minimum qualifications for the position for which they desire.

Written assessment of didactic knowledge

This knowledge evaluation should be specific to the certification level of the applicant and focus on clinical information. An AMP should NOT rely on the Texas Department of State Health Services or National Registry examination as their written assessment tool. AMP's are encouraged to use a numeric scoring system to allow the agency and candidates to easily assess the level of preparedness for the candidate. The use of non-specific Pass/Fail criteria is discouraged.

Situation-based practical assessment

This evaluation is designed to assess the candidate's ability to process information and make quality clinical decisions. It may also provide insight into the candidate's interpersonal skills. Situational based practical assessments must be in scenario form and may or may not include practical skills evaluation simultaneously.

Practical skills assessment

In addition to the situation-based assessment, agencies must conduct practical skills evaluations of certain skills. Most elect to do this separately if they cannot devise a method of including the skills in the situational assessments.

~~Background Investigation~~

~~This portion of the process must include, at minimum, verification of TDSHS certification, BNE licensure, NBRC licensure, and research into the candidate's criminal history, work history, driving record, and administrative history with the Bureau of Emergency Management.~~

Process Must Document

- Presence of detailed position descriptions for all positions relative to the Air Medical Service crew.
- Documentation of the screening process of applications to insure minimum qualifications are met.
- Documentation of Medical Director involvement in the initial screening process criteria development.

~~Personality profiles~~

~~Many industries, including the National Football League and law enforcement, perform personality profiles on potential candidates. These evaluations can identify personality traits that correlate with job satisfaction and overall successful performance in the specific industry. Personality profiles are recommended but not required by State Rule.~~

Medical Director Involvement in Hiring

In some systems, the Medical Director may have limited involvement in the actual hiring process. It is understood that different systems will have different approaches to the initial assessment process. The Medical Director must take an active participation in hiring.

In Medical Control Systems, the new hires are not the employees of the medical control firm or the Medical Director, but rather the individual agency. The initial screening process is one of the best opportunities for risk management with respect to clinical issues. The agency should be able to demonstrate how they incorporate the medical control system into the hiring process assist them in determining the suitability of each candidate for the system.

The Medical Director (or employees of the Medical Control System on behalf of the Medical Director) must actively participate in the initial screening process of the individuals agencies and the cumulative review of candidates and have a voice in the final selection of successful candidates.

Applicants must be able to demonstrate the Medical Directors involvement in the initial screening process.

B. Credentialing Process

Formal credentialing of healthcare providers has its origins in hospital compliance with the standards that later became the Joint Commission on Accreditation of Hospital Organizations (JACHO). Originally focused solely on physicians, in recent years it has expanded to include a variety of professionals providing patient care. The application of credentialing concepts to the EMS setting is long overdue.

~~Accreditation~~Licensure and empowerment to credential began in 1912 at Third Clinical Congress of Surgeons of North America. A proposal for hospital standards ultimately led to the JCAHO.

Joint Commission definition of credentialing:

- Process of obtaining, verifying, and assessing the qualifications of a health care practitioner to provide patient care services in or for a health care organization.
- The primary purpose of credentialing is to ensure that any individual who wishes to provide patient care is qualified and competent to exercise the clinical privileges granted.
- Credentialing is a process of differentiating membership on the staff (or employment) from specific clinical privileges. It seems like such a simple issue, but is actually quite complex.

The Medical Director is charged with the responsibility for:

- The appropriateness of care provided under his or her direction.
- Approving the level of pre-hospital care rendered by each provider regardless of the level of state certification or licensure.
- Establish and monitor compliance with field performance guidelines.
- Establish and monitor compliance with training guidelines that meet or exceed the minimum standards set forth in DSHS regulations.
- Developing and monitoring a Quality Assurance process(es) all areas of clinical care including chart reviews.
- Suspend any authorized medical personnel from medical care duties for due cause.

The credentialing process is specific to the medical director. It is separate from the following:

- General employment (employer)
- General certification or licensing (Texas Department of State Health Services, BNE or NBRC)
- Operations and Management (Chief or CEO)

In most systems, the medical director has an area of authority over patient care, including defining and controlling each provider's clinical privileges. This provides local decision-making and accountability for the medical director. Separate from certification and licensure which is a state minimum, credentialing allows a way for individual Air Medical Services providers to establish their minimums above those of state requirements. While the credentialing process is labor intensive, it provides superior protection to medical directors and agencies against malpractice and administrative liability.

C~~D~~. Preceptor / New employee orientation/Clinical Component of Initial Training.

The term "new employee orientation" is used to refer to on the job training, mentoring, and/or precepting. Such a process can be applied to students, new employees, and those that are promoting or changing to new positions. The term "preceptor" is used generically to refer to an actual preceptor, field training officer, mentor, or other such person that works directly with an individual participating in a new employee orientation.

Initial assessment identifies candidates that possess the requisite traits necessary to be successful in a particular position. Ensuring success requires job specific mentoring, training, and skill building.

The new employee orientation and clinical rotations provides the opportunity for individual care providers to transition into the actual work environment under the guidance of an experienced preceptor. This process allows the opportunity for new caregivers to refine clinical patient assessment and therapeutic skills in the presence of a preceptor thereby accelerating the maturation process while protecting the public from errors due to lack of experience on the part of a new Air Medical Service provider. The new caregiver can become proficient in the delivery of quality patient care while becoming familiar with system specific operational practices.

Ideally, the new employee orientation would involve direct patient care across numerous patient interactions with a variety of presenting complaints, ranging from stable to critical. However, budget, manpower, and call volume realities may make this goal difficult if not impossible. Air Medical Service candidates must be able to demonstrate an effective new employee orientation process. They may make use of mixture of

scenario based evaluations and actual life patient care observation. If scenario based evaluation is utilized, the agency must be able to demonstrate how the process duplicated the realism and spontaneity of actual emergency responses.

There must be a defined process for selecting and training the preceptors. The Medical Director, in consultation of other appropriate parties, should make the final selection of preceptors. In addition, preceptors should be individually authorized to mentor and oversee up to specific certification or licensing levels.

Post episode reviews (i.e. chart audits and interviews) are not a substitute for real-time preceptor evaluation.

Various individuals within the organization may develop preceptor training. Agencies may also choose to outsource this development process. Regardless of who develops the training program, the medical director is responsible for approving the clinical aspects of the training program.

A new employee orientation and clinical manual describing the objectives, content, and measurement points of the new employee orientation and rotations must be developed and distributed to all preceptors and candidates. The manual should include all the necessary forms to document the progress and successful completion of the new employee orientation. Agencies must be able to demonstrate how new employee orientation objectives have been fulfilled.

To insure consistency and to allow the preceptor to monitor the progress of each individual candidate, employees should be assigned to one specific preceptor. In some cases, additional preceptors may be necessary to meet special needs, but the number of different preceptors for any individual candidate should be kept to a minimum.

The preceptor is responsible for insuring that the employee is thoroughly briefed on all operational and clinical issues that impact patient care, including but not limited to:

- Individual protocols
- Individual clinical procedures
- Operational and clinical policies
- Documentation
- Radio communication
- Territory orientation
- Flight operations orientation
- Safety
- Unit operations
- Infection Control Practices
- Mutual Aid Response
- Agency norms and culture

On accommodating airframes, employees will ride as "third" person on the aircraft until the preceptor establishes that the employee has met pre-established competencies as defined by the Medical Director

On airframes that cannot accommodate a "third" person, employees will ride as a "second" person until the preceptor establishes that the employee meets the prerequisites for independent duty as determined by the Medical Director. The new employee orientation manual should address how the preceptor monitors and measures the employee's progress.

Clinical experiences will be based on the programs 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. The following areas will need to be included for the scope of practice in areas in which the team transports.

- Adult, pediatric and neonatal critical care.
- Adult, pediatric and neonatal emergency care.
- Invasive procedures utilizing animal models, human cadavers or Human Patient Simulators for demonstration of invasive procedure competencies.
- Neonatal intensive care.
- Obstetrics.
- Pre-hospital critical care.
- Tracheal intubations with no less the 5 live intubations which could include animal labs, cadaver and Human Patient Simulator (HPS) experience as well as alternative airway management.

The prerequisites for independent duty must require at a minimum that the employee demonstrates thorough understanding of aircraft safety, the agency protocols, ability to use protocol and procedure manuals as a reference tool, and proficiency in clinical procedures as listed above. Agencies are encouraged to develop measurement tools for other operational areas that impact patient care as well.

Proficiency in clinical procedures must be verified by a second evaluator for objectivity purposes, in addition to the assigned preceptor.

It is recommended that the employee be evaluated on a representative sample of call types, such as adult, pediatric, trauma and others identified by the medical direction.

Toward the conclusion of the new employee experience the employee must complete protocol testing. Although this evaluation may include a practical component, agencies are encouraged to utilize a written assessment tool so that a broader scope of material may be assessed. The medical director, in coordination with other appropriate parties, must establish pass/fail criteria for the protocol evaluation.

The organization must have an established separation, re-education or remediation criteria for those that are not successful in completing the process.

Upon completion of the new employee orientation, the employee should complete a comprehensive evaluation of the new employee orientation process. The agency should use this information to modify and improve the process for future candidates.

DC. Didactic Initial Education:

As Air Medical Service Providers it is imperative to establish a didactic component of initial education of all medical personnel. This education should be specific and appropriate for the mission statement and scope of care of the medical transport service. This educational experience should include but is it not limited to:

Required:

- Advanced airway management
- Altitude physiology and stressors of flight.
- Anatomy and physiology along with assessment of adult, pediatric and neonatal patients, as appropriate, within the programs scope of care.
- Aircraft and ambulance orientation including safety procedures (for all crew members including specialty team members)
- Emergency procedures for depressurization for fixed wing.
- Emergency access and egress training.
- Orientation to all emergency procedures.
- Air Medical Service Crew Resource Management including human factors, stress recognition and management.
- Survival training.
- Cardiac emergencies and advanced cardiac critical care.
- Mission specific education for patient populations encountered (i.e. environmental emergencies, high risk OB, multi-system trauma, neonatal emergencies, thermal related injuries, etc.)
- Disaster and triage including Haz-Mat recognition and response.
- Radio communications.
- Hemodynamic monitoring, pacemakers (invasive and non invasive), automatic implantable cardiac defibrillators, intra-aortic balloon pump, central lines, pulmonary artery and arterial catheters, ventricular assist devices and extracorporeal membrane oxygenation (ECMO).
- Infectious control.
- Mechanical ventilation and respiratory physiology for adult, pediatric and neonatal patients, including oxygen therapy in the transport environment.
- Pediatric medical and trauma emergencies.
- Pharmacology

- Quality Management education.
- Respiratory emergencies.
- Scene management.

~~D. Preceptor / New employee orientation/Clinical Component of Initial Training.~~

~~The term "new employee orientation" is used to refer to on the job training, mentoring, and/or precepting. Such a process can be applied to students, new employees, and those that are promoting or changing to new positions. The term "preceptor" is used generically to refer to an actual preceptor, field training officer, mentor, or other such person that works directly with an individual participating in a new employee orientation.~~

~~Initial assessment identifies candidates that possess the requisite traits necessary to be successful in a particular position. Ensuring success requires job specific mentoring, training, and skill building.~~

~~The new employee orientation and clinical rotations provides the opportunity for individual care providers to transition into the actual work environment under the guidance of an experienced preceptor. This process allows the opportunity for new caregivers to refine clinical patient assessment and therapeutic skills in the presence of a preceptor thereby accelerating the maturation process while protecting the public from errors due to lack of experience on the part of a new Air Medical Service provider. The new caregiver can become proficient in the delivery of quality patient care while becoming familiar with system specific operational practices.~~

~~Ideally, the new employee orientation would involve direct patient care across numerous patient interactions with a variety of presenting complaints, ranging from stable to critical. However, budget, manpower, and call volume realities may make this goal difficult if not impossible. Air Medical Service candidates must be able to demonstrate an effective new employee orientation process. They may make use of mixture of scenario based evaluations and actual life patient care observation. If scenario based evaluation is utilized, the agency must be able to demonstrate how the process duplicated the realism and spontaneity of actual emergency responses.~~

~~There must be a defined process for selecting and training the preceptors. The Medical Director, in consultation of other appropriate parties, should make the final selection of preceptors. In addition, preceptors should be individually authorized to mentor and oversee up to specific certification or licensing levels.~~

~~Post episode reviews (i.e. chart audits and interviews) are not a substitute for real-time preceptor evaluation.~~

~~Various individuals within the organization may develop preceptor training. Agencies may also choose to outsource this development process. Regardless of who develops the training program, the medical director is responsible for approving the clinical aspects of the training program.~~

~~A new employee orientation and clinical manual describing the objectives, content, and measurement points of the new employee orientation and rotations must be developed and distributed to all preceptors and candidates. The manual should include all the necessary forms to document the progress and successful completion of the new employee orientation. Agencies must be able to demonstrate how new employee orientation objectives have been fulfilled.~~

~~To insure consistency and to allow the preceptor to monitor the progress of each individual candidate, employees should be assigned to one specific preceptor. In some cases, additional preceptors may be necessary to meet special needs, but the number of different preceptors for any individual candidate should be kept to a minimum.~~

~~The preceptor is responsible for insuring that the employee is thoroughly briefed on all operational and clinical issues that impact patient care, including but not limited to:~~

- ~~Individual protocols~~
- ~~Individual clinical procedures~~
- ~~Operational and clinical policies~~
- ~~Documentation~~
- ~~Radio communication~~
- ~~Territory orientation~~
- ~~Flight operations orientation~~
- ~~Safety~~
- ~~Unit operations~~
- ~~Infection Control Practices~~
- ~~Mutual Aid Response~~
- ~~Agency norms and culture~~

~~On accommodating airframes, employees will ride as "third" person on the aircraft until the preceptor establishes that the employee has met pre-established competencies as defined by the Medical Director~~

~~On airframes that cannot accommodate a "third" person, employees will ride as a "second" person until the preceptor establishes that the employee meets the prerequisites for independent duty as determined by the Medical Director. The new employee orientation manual should address how the preceptor monitors and measures the employee's progress.~~

~~Clinical experiences will be based on the programs 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. The following areas will need to be included for the scope of practice in areas in which the team transports.~~

- ~~Adult, pediatric and neonatal critical care.~~
- ~~Adult, pediatric and neonatal emergency care.~~
- ~~Invasive procedures utilizing animal models, human cadavers or Human Patient Simulators for demonstration of invasive procedure competencies.~~
- ~~Neonatal intensive care.~~
- ~~Obstetrics.~~
- ~~Pre-hospital critical care.~~
- ~~Tracheal intubations with no less the 5 live intubations which could include animal labs, cadaver and Human Patient Simulator (HPS) experience as well as alternative airway management.~~

~~The prerequisites for independent duty must require at a minimum that the employee demonstrates thorough understanding of aircraft safety, the agency protocols, ability to use protocol and procedure manuals as a reference tool, and proficiency in clinical procedures as listed above. Agencies are encouraged to develop measurement tools for other operational areas that impact patient care as well.~~

~~Proficiency in clinical procedures must be verified by a second evaluator for objectivity purposes, in addition to the assigned preceptor.~~

~~It is recommended that the employee be evaluated on a representative sample of call types, such as adult, pediatric, trauma and others identified by the medical direction.~~

~~Toward the conclusion of the new employee experience the employee must complete protocol testing. Although this evaluation may include a practical component, agencies are encouraged to utilize a written assessment tool so that a broader scope of material may be assessed. The medical director, in coordination with other appropriate parties, must establish pass/fail criteria for the protocol evaluation.~~

~~The organization must have an established separation, re-education or remediation criteria for those that are not successful in completing the process.~~

~~Upon completion of the new employee orientation, the employee should complete a comprehensive evaluation of the new employee orientation process. The agency should use this information to modify and improve the process for future candidates.~~

SECTION 2: REQUIRED PROFESSIONAL DEVELOPMENT

157.12 Proposed Rule Language – Rotor Wing Operations

(c) The AMP must implement and maintain Professional Development Programs that:
- (A) Reinforce and expand the knowledge base of the individual provider.
- (B) Have objectives based upon quality improvement outcomes.
- (C) Are designed to incorporate best practices from industry, Protocol Development Review Committee (PDRC), and Quality Improvement Committee (QIC).

(2) The AMP will maintain minimum professional requirements.
- (A) Hours as required by the professional certifying or licensing authority.
- (B) Consisting of at least 50% in person training.
- (C) Must offer a Professional Development Program on at least a semi-annual basis.
- (D) The Medical Director shall be responsible for defining and approving the objectives of the professional development hours.

(3) The AMP will provide Professional Development Training Programs that annually include:
- (A) Hazardous Materials.
- (B) Human Factors and Crew Resource Management (including specialty team members).
- (C) Infectious Control.
- (D) State EMS rules and regulations regarding ground and air transport.
- (E) Stress recognition and management.
- (F) Survival Training (including specialty team members).
- (G) Medical patient transport considerations (assessment/treatment/preparation handling/equipment)
- (H) Day and night flight protocols
- (I) General aircraft safety including (including specialty team members): Emergency shut down and aircraft evacuation procedures.
- (J) Aviation terminology and communications procedures including emergency frequency uses.
- (K) In flight and ground fire suppression procedures (fire extinguishers)
- (L) In flight emergency landing procedures.
- (M) Safety in and around the aircraft, including FAA rules and regulations pertinent to safety for medical team members, patient(s) and lay individuals.

(N) Specific capabilities and limitations for each aircraft used, which includes backup aircraft.
(O) Use of emergency locator transmitter (ELT)
(P) Scene landing operations.
(Q) Hospital landing site changes or special needs review.
(R) Patient loading and unloading (including specialty team members)
(S) Refueling policy for normal and emergency situations.

(4) The AMP shall provide outreach professional development:
(A) That clearly identifies the FAA Part 135 Certificate Holder as the entity that is operating the aircraft.
(B) The Air Medical Provider must provide education regarding safe Ground Operations in and around the aircraft.
(C) Safety program consisting of patient preparation criteria and personal safety around the aircraft.
(i) Including landing zone (LZ) designation for rotor wing services.
(ii) Information on how to initiate a flight.
(iii) Hours of operations.
(iv) Helicopter shopping dangers.
(v) Access to services/services available from the flight program including crew composition and specialty teams.

157.13 Proposed Rule Language – Fixed Wing Operations

(c) The AMP must implement and maintain Professional Development Programs that:
(A) Reinforce and expand the knowledge base of the individual provider.
(B) Have objectives based upon quality improvement outcomes.
(C) Are designed to incorporate best practices from industry, Protocol Development Review Committee (PDRC), and Quality Improvement Committee (QIC).

(5) The AMP will maintain minimum professional requirements.
(A) Hours as required by the professional certifying or licensing authority.
(B) Consisting of at least 50% in person training.
(C) Must offer a Professional Development Program on at least a semi-annual basis.
(D) The Medical Director shall be responsible for defining and approving the objectives of the professional development hours.

(6) The AMP will provide Professional Development Training Programs that annually include:
(A) Hazardous Materials.

(B) Human Factors and Crew Resource Management (including specialty team members).
(C) Infectious Control.
(D) State EMS rules and regulations regarding ground and air transport.
(E) Stress recognition and management.
(F) Survival Training (including specialty team members).
(G) Medical patient transport considerations (assessment/treatment/preparation handling/equipment)
(H) Day and night flight protocols
(I) General aircraft safety including (including specialty team members): Emergency shut down and aircraft evacuation procedures.
(J) Aviation terminology and communications procedures including emergency frequency uses.
(K) In flight and ground fire suppression procedures (fire extinguishers)
(L) In flight emergency landing procedures.
(M) Safety in and around the aircraft, including FAA rules and regulations pertinent to safety for medical team members, patient(s) and lay individuals.
(N) Specific capabilities and limitations for each aircraft used, which includes backup aircraft.
(O) Use of emergency locator transmitter (ELT)
(P) Landing operations.
(Q) Patient loading and unloading (including specialty team members)
(R) Refueling policy for normal and emergency situations.

(7) The AMP shall provide outreach professional development:
(A) That clearly identifies the FAA Part 135 Certificate Holder as the entity that is operating the aircraft.
(B) The Air Medical Provider must provide education regarding safe Ground Operations in and around the aircraft.
(C) Safety program consisting of patient preparation criteria and personal safety around the aircraft.
(D) Information on how to initiate a flight.
(E) Hours of operations.
(F) Access to services/services available from the flight program including crew composition and specialty teams.

Air Medical Service Programs must implement and maintain professional development programs designed to reinforce current knowledge and to expand the knowledge base of the pre-hospital provider.

Professional development is the natural outgrowth of an outcomes based quality improvement program. Through the QI program, an agency will define objectives that must be addressed through professional development.

The professional development hours required in this section may be defined by the Quality Improvement process objectives, other clinical or operational topics, career development, or other items deemed appropriate by the agency. This section is being considered outside the Quality Improvement section so that agencies may have the flexibility to allocate the professional development hours as necessary to fulfill agency goals. However, the QI program may be the exclusive source for Professional Development objectives.

Agencies will provide a minimum number of professional development hours for their EMS personnel designed to meet objectives identified through the quality improvement program. The minimum number of hours for State ~~each~~ certification must be met. ~~shall be:~~

- ~~24 hours per year for certified and licensed Paramedics~~
- ~~20 hours per year for EMT-Intermediates~~
- ~~16 hours per year for Basic Emergency Medical Technicians~~

Other ~~Air Medical Service~~ AMP personnel (i.e., flight nurses, Respiratory Therapists, and communications personnel) will be required to obtain at least minimum continuing education as directed by the certifying or licensing authority. These hours may be concurrent with the requirements above.

At least 50% of professional development hours must be in-person training.

Agencies must offer professional development on at least a semiannual basis.

Professional development should span the three domains of learning (cognitive, psychomotor, and affective.) as appropriate.

The medical director shall be responsible for defining and approving the objectives of the professional development hours. The actual content development and presentation may be delegated to appropriate individuals. However, the medical director is responsible for insuring that the content meets the defined objectives.

~~In larger systems or in Medical Control Systems, multiple instructors may be necessary to reach all the employees of the agency. Because of this, the potential exists for inconsistency in instructional delivery and the failure to meet the objections of the program. Agencies should be able to demonstrate the methods used to promote consistent delivery of the objectives and an evaluative process that monitors for potential deviation. Methods to promote consistent delivery might include curriculum develop by the instructional group, providing supporting materials for the curriculum, meetings of~~

~~the instructional staff to discuss the material, or having instructors attended session prior to instructing.~~

~~Agencies should be able to document strengths in their training program and describe how they overcome weaknesses. They should be able to document:~~

- ~~credentials of their instructional staff~~
- ~~involvement of the medical director~~
- ~~correlation of quality review to educational objectives~~
- ~~correlation of prospective goals to educational objectives~~
- ~~meet the varying needs of the their staff~~
- ~~administrative support for professional development~~
- ~~appropriate methodology for the objectives offered~~
- ~~appropriate class size for the objectives offered~~
- ~~inter-rater reliability where appropriate~~
- ~~method to evaluate long term impact of professional development activities~~

~~In addition to the quality improvement driven professional development needs addressed above, agencies must ensure that personnel remain credentialed in nationally endorsed courses (or a determined equivalent) such as, Advanced Cardiac Life Support, Advanced Trauma Life Support, and Pediatric Advanced Life Support. Some form of provider oriented CPR certification for Adult, Pediatric and Neonatal patient populations is required as well. The maintenance of these credentials shall be in addition to the professional development requirements outlined above.~~

~~The following is a required list of credentials by certification:~~

-	~~CPR~~	~~Cardiac~~	~~Trauma~~	~~Pediatrics~~	~~Neonatal~~
~~EMT~~	~~X~~	-	~~X~~	~~X~~	-
~~Flight Nurse~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~
~~Flight Paramedic~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~
~~Physicians~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~
~~Respiratory Therapists~~	~~X~~	~~X~~	-	~~X~~	~~X~~

Agencies shall maintain appropriate records, including but not limited to:

- Current certifications and credentials
- Objectives
- Lesson plans
- Attendance rosters
- Completion records
- Course evaluations

Agencies are encouraged to reference the continuing education rule for guidelines for appropriate continuing education documentation.

Professional development hours:

- ~~24 hours per year for EMT-P's~~
- ~~20 hours per year for EMT-Is~~
- ~~16 hours per year for EMTs~~
- All personnel (i.e., flight nurses, flight paramedics, Respiratory Therapists, and communications personnel) will be required to obtain at least minimum continuing education as directed by the certifying or licensing authority.

Content and delivery:

- The CE content shall be defined and approved by the Medical Director.
- The CE content must be driven by the results of Quality Improvement efforts.
- At least 50% of CE is in-person training
- CE occurs on at least a semiannual or quarterly basis.
- ~~Evidence that the instruction spans the three learning domains~~
- ~~Documentation of programmatic strengths and performance improvement plan for weaknesses.~~

Must include annual review of:

- Hazardous Materials
- Human Factors and Crew Resource Management (including specialty team members)
- Infectious Control
- State EMS rules and regulations regarding ground and air transport.
- Stress recognition and management.
- Survival Training (including specialty team members).
- Medical patient transport considerations (assessment/treatment/preparation handling/equipment)
- Day and night flight protocols
- General aircraft safety including (including specialty team members): Emergency shut down and evacuation procedures.
- Aviation terminology and communications procedures including emergency frequency uses.
- In flight and ground fire suppression procedures (fire extinguishers)
- In flight emergency landing procedures.

- Safety in and around the aircraft, including FAA rules and regulations pertinent to safety for medical team members, patient(s) and lay individuals.
- Specific capabilities and limitations for each aircraft used, which includes backup aircraft.
- Use of emergency locator transmitter (ELT)
- Scene landing operations.
- Hospital landing site changes or special needs review.
- Patient loading and unloading (including specialty team members)
- Refueling policy for normal and emergency situations.
- Survival training/techniques/equipment that is pertinent to the environment/geographic coverage area of the medical service (including specialty team members)

~~Flight nurses remain current on a nationally recognized and organized educational program for advanced cardiac, advanced trauma, advanced pediatric, and advanced neonatal treatment techniques.~~

~~Flight paramedics remain current on a nationally recognized and organized educational program for advanced cardiac, advanced trauma, advanced pediatric, and advanced neonatal treatment techniques.~~

~~Physicians remain current on a nationally recognized and organized educational program for advanced cardiac, advanced trauma, advanced pediatric, and advanced neonatal treatment techniques.~~

~~Respiratory Therapists remain current on a nationally recognized and organized educational program for advanced cardiac, advanced pediatric, and advanced neonatal treatment techniques.~~

~~A method for ensuring consistent instructional delivery across multiple instructors~~

OUTREACH PROFESSIONAL DEVELOPMENT

GENERAL PUBLIC EDUCATION

The FAA Part 135 Certificate Holder must be clearly identified as the entity that is operating the aircraft on the program's website, in marketing materials and on the aircraft. Other community outreach as per your program needs arise.

FIRST RESPONDER/HOSPITAL EDUCATION

The Air Medical Provider must provide education regarding safe Air Medical Operations in and around the aircraft. Safety program consisting of patient preparation and personal safety around the aircraft to include landing zone (LZ) designation for rotor

wing services, information on how to initiate a flight, hours of operations, helicopter shopping dangers, access to services/services available from the flight program including crew composition and specialty teams.

SECTION 3: PROTOCOL/STANDARDS OF CARE MANAGEMENT

157.12 Proposed Rule Language – Rotor Wing Operations

(d) An AMP must demonstrate protocol administration and oversight.
- (1) The AMP must demonstrate that the protocol is annually reviewed and updated.
- (2) The AMP protocol must be executed/approved by the Medical Director.
- (3) The AMP must demonstrate a process for assessing relative benefit from protocol revisions.
- (4) The protocol criteria will be jointly defined by the Medical Director and by the provider's PDRC.
- (5) The AMP must demonstrate protocol compliance.
  - (A) The AMP must demonstrate the level of clinical care provider proficiency as defined by the Medical Director.
  - (B) The AMP must demonstrate a remediation process for clinical care providers and timeline that clearly identifies the criteria for successful completion and for revocation of credentials.

157.13 Proposed Rule Language – Fixed Wing Operations

(d) An AMP must demonstrate protocol administration and oversight.
- (1) The AMP must demonstrate that the protocol is annually reviewed and updated.
- (2) The AMP protocol must be executed/approved by the Medical Director.
- (3) The AMP must demonstrate a process for assessing relative benefit from protocol revisions.
- (4) The protocol criteria will be jointly defined by the Medical Director and by the provider's PDRC.
- (5) The AMP must demonstrate protocol compliance.
  - (A) The AMP must demonstrate the level of clinical care provider proficiency as defined by the Medical Director.
  - (B) The AMP must demonstrate a remediation process for clinical care providers and timeline that clearly identifies the criteria for successful completion and for revocation of credentials.

PROTOCOL REVIEW PROCESS

(Note: The term "protocol" will be used synonymously with the terms patient care guidelines, standing delegated orders, standing orders, and local standard of care.)

Protocol review and evaluation should be an on-going process. However, many agencies elect to make this a once a year process, or worse ignore the process all together. The former assumes that protocol knowledge degrades minimally throughout the year and only needs to be refreshed and re-measured annually. The latter assumes that personnel are all knowing and that there is no knowledge degradation in the industry's health care providers.

Intuitively, we know that neither of these assumptions is accurate. As humans, knowledge actively degrades from our memory. Only through consistent practice or reinforcement are we able to maintain cognitive and practical efficiency over time.

In truth, Air Medical Service personnel do not have to be all knowing or all remembering to make quality patient care decisions. Having a strong base knowledge and a solid set of user-friendly protocols as reference material should allow the provider ample knowledge, as long as it is used wisely. However, occasions will occur in which the provider is unable to reference the protocols in a timely fashion, leaving them will little more than their innate resources. Therefore, it is recommended that agencies implement and maintain some form of on-going protocol reinforcement.

Protocol evaluation is a three-step process.

- Maintaining current protocols
- Ongoing protocol reinforcement
- Ongoing surveillance of protocol compliance (found in the QI Section)

The medical director is responsible for ensuring that the protocols are updated annually and that they reflect the current clinical trends and best practices of the industry. While the medical director is responsible for the protocol content, the process of insuring that they remain current can be delegated and shared among the staff. Often, ancillary personnel perform the routine duties for the medical director. Field staff often takes an active role in this process as well. The Air Medical Director should review and incorporate the PDRC recommendations as part of the process of field involvement. Anecdotally, the greater the staff participation in protocol development, the greater the compliance with the protocols will be. As each new breakthrough in clinical fronts occurs, a medical director must assess its application to the Air Medical Service arena.

While medical directors are responsible for considering current industry trends, they are not bound to accept and incorporate those trends in the clinical practice. There are numerous reasons why a particular trend might not be incorporated. Agencies must balance the benefit to patients with the cost of implementation, including financial, administrative and operational investments. The agency should be able to demonstrate a

cost-benefit process used to determine when and if a particular protocol change should be implemented.

Regardless, on-going protocol review against current literature should be executed on at least an annual basis. Many agencies elect to do this on a quarterly basis, dedicating each period of the calendar to a particular component of the practice, i.e. medical, cardiac, trauma, or pediatrics.

Traditionally, protocol evaluation has taken the form of a written examination. Many agencies rely on this method, especially when new versions of the protocols are disseminated. Many alternative methods are available to agencies. In fact, one might attempt to implement a variety of methods in order to maintain interest in the process and reach a diverse population of learners.

Here are a few examples:

- Monthly case study with a protocol assessment on the topic. This might be accomplished in the classroom, on the internet, or as a independent study item
- Periodic "game" competition using Trivial Pursuit, Jeopardy, or similar game formats to make the session more enjoyable
- Monthly open book study sheets on rotating topics
- Medical Director led discussions or forums

The goal is two-fold. First, get the personnel to open and re-familiarize themselves with the protocols. Secondly it is to provide documentation and compliance of the same.

Regardless of the method, the medical director is responsible for defining the content and approving the methodology of assessment. The medical director may defer to the administration and others versed in adult learning methodology to find the right mix of instruction and measurement for the particular agency's personnel mix.

Through such a process, agencies might find that a small number of personnel will fail to demonstrate the level of proficiency defined by the medical director. A remediation process, complete with an improvement timeline, must be defined in policy. To be fair to the provider and to insure that that the provider meets expectation, reassessment must have been substantively different than original evaluation.

Decisions on re-evaluating the entire span of content or focusing on the area requiring improvement are the discretion of the medical director or designee.

SECTION 4: OPERATIONAL STANDARDS

157.12 Proposed Rule Language – Rotor Wing Operations

(e) The AMP must demonstrate operational standards:

(1) The AMP must demonstrate aircraft design and configuration that does not compromise patient stability in loading, unloading or in-flight operations.

(A) The aircraft 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) The AMP must demonstrate that aircraft have a minimum of one stretcher/sled.

(i) The stretcher/sled must be able to be carried to the patient.

(ii) The AMP must demonstrate aircraft stretchers and the means of securing it in-flight must be consistent with FAR's.

(iii) The AMP must demonstrate a policy that indicates the maximum gross weight allowed on the stretcher (inclusive of patient and equipment) as consistent with manufacturer's guidelines.

(iv) The stretcher must be large enough to carry the 95th percentile adult patient, full length in the supine position. (The 95th percentile adult American male is 6 ft. and 212 lbs.)

(v) The stretcher should 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.

(vi) The head of the stretcher must be capable of being elevated at least 30 degrees for patient care and comfort.

(vii) If the stretcher is floor supported by its own wheels, there must be a mechanism to secure it in position under all conditions. These restraints permit quick attachment and detachment for patient transfer.

(C) The AMP must demonstrate operational standards that require securing the patient to the stretcher/sled.

(i) Patients transported by air are restrained with a minimum of three cross straps and shoulder straps that must comply with FAA regulations including applicable STCs. (cross straps are expected to restrain the patient at the chest, hips and knees). Belt locations should be adjustable along the length of the stretcher to accommodate patients' specific medical situations (Such as pregnant patients or specific injury locations)

(ii) Patients less than 60 pounds (27kg.) should be provided with an appropriately sized FAA approved restraining device (for patient's height and weight), which is further secured by a locking device.

(2) The AMP must demonstrate operational standards that address the use of an Isolette when it is part of the AMP's mission profile.

(A) There must be a restraining device within the isolette to protect the infant in the event of air turbulence or poor road conditions.

(B) Isolettes must be capable of being opened from its secured position in order to provide full access to the infant in the event of complicated airway problems or extrication from the isolette becomes necessary.

(3) The AMP must demonstrate an aircraft policy to address the need for supplemental lighting system installed in any aircraft in which standard lighting is insufficient for patient care.

(A) A self-contained lighting system may be powered by a battery pack or a portable light with a battery source must be available.

(B) In an aircraft, there must be a means to protect the pilot's night adaptation vision provided for night operations, either through the medical configuration or by a dividing curtain. (Use of adaptive lighting or low intensity lighting in the patient care area is acceptable if not able to isolate the patient care area.)

(4) The AMP must document that medical equipment complies with the applicable F.A.R. on avionics interference.

(5) The AMP Aircraft must have operational controls and communications equipment that are physically protected from any intended or accidental interference by the patient, medical transport personnel, or equipment and supplies.

(6) The AMP must demonstrate policies that address storage, maintenance, use and accessibility of inhaled gases.

(7) The AMP must demonstrate policies that address medication:

(A) Storage within the manufacturers recommendations

(B) Security that complies with federal and state narcotic laws

(8) The AMP must demonstrate policies that require environmental temperature control and address the effects of hyperthermia and hypothermia extremes on patients and crew.

(9) The AMP must demonstrate that it is providing equipment to support patient care such as:

(A) Cardiac monitor, defibrillator and external pacemaker that are secured and positioned so that displays are visible.

(B) Ventilator capable of supporting the AMP's mission.

(C) 3 Chamber intravenous administration device.

(i) May not substitute mechanical metering devices for infusion pump.

(D) Vital sign monitoring capable of non-invasive blood pressure, heart rate, external temperature, pulse oxymetry, exhaled carbon-dioxide, endotracheal end tidal CO2.

(E) Additional devices as determined by the AMD.

(F) Electric power outlet must be provided with an inverter or appropriate power source of sufficient output to meet the requirements of the complete specialized equipment package without compromising the operation of any electrical aircraft/ambulance equipment. (An extra battery may be the back-up power source for equipment.)

(G) AMP must document a program of biomedical support for the devices as required by the device manufacturers.

(10) The AMP must demonstrate written operational policies to address personnel staffing:

(A) That demonstrates strategies to minimize duty-time fatigue, length of shift, number of shifts per week and day-to-night rotation

(B) That documents scheduled clinical personnel shift times that do not exceed 24 hours.

(i) Exceeding twenty-four hours in exigent circumstances is permitted on infrequent basis, and must be documented and evaluated by the SMSC.

(ii) During exigent shifts beyond twenty-four hours, the AMP must evaluate fitness for duty of personnel on an ongoing basis during the additional hours.

(aa) Exigent shifts beyond twenty-four hours will not be permitted to exceed thirty-six hours in total duty time.

(iii) That documents clinical personnel twenty-four-hour shifts that:

(aa) Do not include any duties beyond those associated with the transport service.

(bb) Clinical personnel are provided with access to and permission to uninterrupted rest after daily medical personnel duties are met.

(cc) The physical base of operations includes an appropriate place for uninterrupted rest.

(iv) That documents communications personnel twelve hour shifts that:

(aa) Do not include any duties beyond those associated with the transport service.

(bb) A secure environment that is free of non communications essential distractions.

(v) The AMP must demonstrate policies that require all personnel must have at least eight hours of rest with no work-related interruptions prior to any scheduled shift of twelve hours or more. Aviation and aircraft maintenance personnel must adhere to the applicable F.A.R.s.

(vi) The AMP must demonstrate policies that all personnel have the right to call "time out" and be granted a reasonable rest period if the team member (or fellow team member) determines that he or she is unfit or unsafe to continue duty, no matter what the shift length. There should be no adverse personnel action or undue pressure to continue in this circumstance.

(vii) The AMP must demonstrate policies that require management to monitor transport volumes and personnel's use of "time out" policy.

(viii) AMP must have policies that address crew interface requiring team members to stay alert on all legs of the transport, requiring at least one team member on empty legs, to assist the pilot in staying alert.

(C) The AMP must demonstrate programs to promote personnel well being through:

(i) Wellness programs that promote healthy lifestyles (e.g. balanced diet, weight control, no smoking).

(ii) Evidence of an injury prevention program and ergonomic strategies to reduce employee injuries.

157.13 Proposed Rule Language – Fixed Wing Operations

(e) The AMP must demonstrate operational standards:

(1) The AMP must demonstrate aircraft design and configuration that does not compromise patient stability in loading, unloading or in-flight operations.

(A) The aircraft 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) The AMP must demonstrate that aircraft have a minimum of one stretcher/sled.

(i) The stretcher/sled must be able to be carried to the patient.

(ii) The AMP must demonstrate aircraft stretchers and the means of securing it in-flight must be consistent with FAR's.

(iii) The AMP must demonstrate a policy that indicates the maximum gross weight allowed on the stretcher (inclusive of patient and equipment) as consistent with manufacturer's guidelines.

(iv) The stretcher must be large enough to carry the 95th percentile adult patient, full length in the supine position. (The 95th percentile adult American male is 6 ft. and 212 lbs.)

(v) The stretcher should 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.

(vi) The head of the stretcher must be capable of being elevated at least 30 degrees for patient care and comfort.

(vii) If the stretcher is floor supported by its own wheels, there must be a mechanism to secure it in position under all conditions. These restraints permit quick attachment and detachment for patient transfer.

(C) The AMP must demonstrate operational standards that require securing the patient to the stretcher/sled.

(i) Patients transported by air are restrained with a minimum of three cross straps and shoulder straps that must comply with FAA regulations

including applicable STCs. (cross straps are expected to restrain the patient at the chest, hips and knees). Belt locations should be adjustable along the length of the stretcher to accommodate patients' specific medical situations (Such as pregnant patients or specific injury locations)

(ii) Patients less than 60 pounds (27kg.) should be provided with an appropriately sized FAA approved restraining device (for patient's height and weight), which is further secured by a locking device.

(2) The AMP must demonstrate operational standards that address the use of an Isolette when it is part of the AMP's mission profile.

(A) There must be a restraining device within the isolette to protect the infant in the event of air turbulence or poor road conditions.

(B) Isolettes must be capable of being opened from its secured position in order to provide full access to the infant in the event of complicated airway problems or extrication from the isolette becomes necessary.

(3) The AMP must demonstrate an aircraft policy to address the need for supplemental lighting system installed in any aircraft in which standard lighting is insufficient for patient care.

(A) A self-contained lighting system may be powered by a battery pack or a portable light with a battery source must be available.

(B) In an aircraft, there must be a means to protect the pilot's night adaptation vision provided for night operations, either through the medical configuration or by a dividing curtain. (Use of adaptive lighting or low intensity lighting in the patient care area is acceptable if not able to isolate the patient care area.)

(4) The AMP must document that medical equipment complies with the applicable F.A.R. on avionics interference.

(5) The AMP Aircraft must have operational controls and communications equipment that are physically protected from any intended or accidental interference by the patient, medical transport personnel, or equipment and supplies.

(6) The AMP must demonstrate policies that address storage, maintenance, use and accessibility of inhaled gases.

(7) The AMP must demonstrate policies that address medication:

(A) Storage within the manufacturers recommendations

(B) Security that complies with federal and state narcotic laws

(8) The AMP must demonstrate policies that require environmental temperature control and address the effects of hyperthermia and hypothermia extremes on patients and crew.

(9) The AMP must demonstrate that it is providing equipment to support patient care such as:

(A) Cardiac monitor, defibrillator and external pacemaker that are secured and positioned so that displays are visible.

(B) Ventilator capable of supporting the AMP's mission.

(C) 3 Chamber intravenous administration device.

(i) May not substitute mechanical metering devices for infusion pump.

(D) Vital sign monitoring capable of non-invasive blood pressure, heart rate, external temperature, pulse oxymetry, exhaled carbon-dioxide, endotracheal end tidal CO2.

(E) Additional devices as determined by the AMD.

(F) Electric power outlet must be provided with an inverter or appropriate power source of sufficient output to meet the requirements of the complete specialized equipment package without compromising the operation of any electrical aircraft/ambulance equipment. (An extra battery may be the back-up power source for equipment.)

(G) AMP must document a program of biomedical support for the devices as required by the device manufacturers.

(10) The AMP must demonstrate written operational policies to address personnel staffing:

(A) That demonstrates strategies to minimize duty-time fatigue, length of shift, number of shifts per week and day-to-night rotation

(B) That documents scheduled clinical personnel shift times that do not exceed 24 hours.

(i) Exceeding twenty-four hours in exigent circumstances is permitted on infrequent basis, and must be documented and evaluated by the SMSC.

(ii) During exigent shifts beyond twenty-four hours, the AMP must evaluate fitness for duty of personnel on an ongoing basis during the additional hours.

(aa) Exigent shifts beyond twenty-four hours will not be permitted to exceed thirty-six hours in total duty time.

(iii) That documents clinical personnel twenty-four-hour shifts that:

(aa) Do not include any duties beyond those associated with the transport service.

(bb) Clinical personnel are provided with access to and permission to uninterrupted rest after daily medical personnel duties are met.

(cc) The physical base of operations includes an appropriate place for uninterrupted rest.

(iv) That documents communications personnel twelve hour shifts that:

(aa) Do not include any duties beyond those associated with the transport service.

(bb) A secure environment that is free of non communications essential distractions.

(v) The AMP must demonstrate policies that require all personnel must have at least eight hours of rest with no work-related interruptions prior to any scheduled shift of twelve hours or more. Aviation and aircraft maintenance personnel must adhere to the applicable F.A.R.s.

(vi) The AMP must demonstrate policies that all personnel have the right to call "time out" and be granted a reasonable rest period if the team member (or fellow team member) determines that he or she is unfit or unsafe to continue duty, no matter what the shift length. There should be no adverse personnel action or undue pressure to continue in this circumstance.

(vii) The AMP must demonstrate policies that require management to monitor transport volumes and personnel's use of "time out" policy.

(viii) Fixed wing AMP policies must address preparation for transport based on an available patient report and distance of transport (including international transports) to appropriately assess staffing and equipment/supplies needs.

(ix) AMP must have policies that address crew interface requiring team members to stay alert on all legs of the transport, requiring at least one team member on empty legs, to assist the pilot in staying alert.

(C) The AMP must demonstrate programs to promote personnel well being through:

(i) Wellness programs that promote healthy lifestyles (e.g. balanced diet, weight control, no smoking).

(ii) Evidence of an injury prevention program and ergonomic strategies to reduce employee injuries.

Aircraft Design and Configuration

Patient Access

As an AMP develops its configuration of the aircraft interior design, it should not compromise the ability to provide appropriate basic and advanced care or prevent providers from performing emergency procedures if necessary. There are many different aspects to designing an aircraft configuration, some of which are reviewed as follows.

The aircraft configuration allows for stabilizing the patient's airway, and childbirth procedures if that is part of the service's mission.

The aircraft configuration and patient placement allows for safe medical personnel egress.

1. Doors must be fully operable from the interior.
2. Doors must be capable of being opened fully and held by a mechanical device.

If the service's mission includes the ability to transport two or more patients aircraft configuration should not compromise either patient's airway or the ability to perform emergency procedures or impede necessary medical devices on any on-board patient.

1. The aircraft should have access for simultaneous airway management if there is a two-patient configuration.
2. For all transports, when the aircraft configuration does not allow for full access to the second patient the AMP will establish written guidelines describing types of patients that can be transported in a two-patient stretcher configuration.
3. For all transports, the AMP will establish strict policies that reflect the F.A.R.s requirements for weight limitations, patient condition based on anticipated needs, and patient position in the aircraft.
4. The AMP will establish policies that address under what circumstances two critical patients may or may not be transported, including requirements for staffing and equipment.

When designing aircraft configuration there should be access and necessary space to ensure that patient care is capable of being provided from the secured, seat-belted position of medical transport personnel.

Inhaled Gases

If inhaled nitric oxide or other inhaled gases are used, it is critical that the AMP develop policies to address the following:

1. Monitoring gases pressures, lot numbers and refill level requirements.
2. Cylinder safety.
3. Transportation regulations.
4. Occupational exposure.
5. Equipment issues:
    a. Weight
    b. Mounting in the vehicle
    c. Delivery of the drug
6. Emergency procedures.

Oxygen is installed according to federal regulations in the aircraft. Medical transport personnel should be able to determine how oxygen is functioning by pressure gauges mounted in the patient care area.

1. Each gas outlet is clearly identified.
2. Oxygen flow can be stopped at or near the oxygen source from inside the aircraft.

3. The following indicators are accessible to medical transport personnel while in flight:
    a. Quantity of oxygen remaining.
    b. Measurement of liter flow.

MEDICATION AND EQUIPMENT

An AMP relies upon numerous pharmaceuticals to aid patient treatment. These include, injectable, topical, infusible, and reconstatutable medications that can come in vials, ampoules, preloaded syringes, tubexes and other methods of administration.

Medications require storage in temperature controlled environments in order to protect their patency and shelf life. An AMP should consult with the individual package inserts and manufacturers recommendations for proper storage of medications.

Some of the medications that an AMP team will use are controlled substances under the laws of the Drug Enforcement Administration (add DEA reference) and the state's requirements (reference) for the AMD and require secure storage and accountability.

The AMP should consider how their medications are obtained, received, and stored:

1. Quantities required to be stocked and available to maintain levels of availability.
2. Processes to order and receive medications.
3. Processes to properly account for medications in inventory
    i. Certain medications are required to be strictly accounted for and the policies should reflect accountability and security of these controlled substances.
4. Storage of medications should be consistent with the manufacturer's recommendations for temperature.

Once the medications are issued to the aircraft in the field the same criteria as above apply for security and storage. The AMP must have policies and processes in place to provide a means of storing medications within the specified temperature ranges. Some methods for this can be limiting the time a medication is able to be administered, storing in temperature controlled compartments, storage in temperature controlled areas for retrieval by teams prior to a flight. Methods to ensure the security of medications may include the use of double safes, double lock systems, limited amounts of medications in the field, multiple signatures and witnesses to procurement, administration and wastage.

THE INTERIOR OF THE AIRCRAFT OR AMBULANCE SHOULD BE CLIMATE CONTROLLED.

If air conditioning or heat is not available, the AMP will have a policy to address what type of patients cannot be transported during extreme temperatures as defined by the

program and what measures are taken to avoid adverse affects on patients and personnel on board.

There is evidence of tracking requests that were denied (in the QM process) due to the affects of hyperthermia or hypothermia on patients and personnel in extreme temperatures. (Put under QI section).

MEDICAL EQUIPMENT AVAILABILITY

A critical component of clinical care for an AMP is the ability to access all the medical equipment carried within the aircraft. This includes use of devices as ventilators, IV pumps, balloon pumps and vital sign monitors. As such an AMP should have:

1. Cardiac monitor, defibrillator and external pacemaker that are secured and positioned so that displays are visible.
2. Ventilator capable of supporting the AMP's mission.
3. 3 Chamber intravenous administration device.
    a. May not substitute mechanical metering devices for infusion pump.
4. Vital sign monitoring capable of non-invasive blood pressure, heart rate, external temperature, pulse oxymetry, exhaled carbon-dioxide, endotracheal end tidal CO2. May optionally include, invasive line monitoring, internal temperature, and other devices as determined by the AMD.
5. Optional support devices may include, Intra Aortic Balloon Pump, iStat portable lab, extra corporeal membrane oxygenation, bi ventricular assist device, invasive pacemaker, and other devices as determined by the AMD.
6. Extra batteries or power source(s) must be available for all equipment.

It is important for an AMP to understand that medical devices require constant care and maintenance. The best way to accomplish this is to consider retaining an external company to undertake regular periodic maintenance and to be available for emergency repairs. This maintenance should follow the recommendations of the device manufacturer.

STAFFING

The service should have written operational policies to address each of the areas listed below:

1. Scheduling and individual work schedules demonstrate strategies to minimize duty-time fatigue, length of shift, number of shifts per week and day-to-night rotation. (See References in Appendix for circadian rhythm and other fatigue studies.) These criteria do not address payment for overtime regulations, which vary from state to state, and by agreements with labor unions as applicable.

2. On-site shifts scheduled for a period to exceed 24 hours are not acceptable. Twenty-four-hour shifts are acceptable if:
    a. Medical personnel are not required to routinely perform any duties beyond those associated with the transport service.
    b. Medical personnel are provided with access to and permission to uninterrupted rest after daily medical personnel duties are met.
    c. The physical base of operations includes an appropriate place for uninterrupted rest.
    d. Personnel must have at least eight hours of rest with no work-related interruptions prior to any scheduled shift of twelve hours or more. The intent is to preclude back-to-back shifts with other employment, commercial or military flying, or significant fatigue-causing activity prior to a shift.
    e. Medical personnel must have the right to call "time out" and be granted a reasonable rest period if the team member (or fellow team member) determines that he or she is unfit or unsafe to continue duty, no matter what the shift length. There should be no adverse personnel action or undue pressure to continue in this circumstance.
    f. Management should monitor transport volumes and personnel's use of "time out" policy ensures that medical personnel utilize the right to call "time-out" appropriately.
3. Policies should address minimum rest/duty time requirements for transports that are
4. international or involve overnight stays, not to exceed more than 16 hours on duty in a 24-hour period OR a minimum of two medical team members to allow one member rest during the transport and insure another attends the patient.
5. Policies that address preparation for transport based on an available patient report and distance of transport (including international transports) to appropriately assess staffing and equipment/supplies needs.
6. Policies address crew interface so that team members are expected to stay alert on all legs of the transport, including at least one team member on empty legs, to assist the pilot in staying alert (especially in one-pilot operations) and the driver to stay alert for ground transports.
7. Physical well-being is promoted through:
    a. Wellness programs that promote healthy lifestyles (e.g. balanced diet, weight control, no smoking).
    b. Evidence of an injury prevention program and ergonomic strategies to reduce employee injuries.

SECTION 5: ADMINISTRATIVE OVERSIGHT

157.12 Proposed Rule Language – Rotor Wing Operations

(f) The AMP must demonstrate Program Administrative oversight.
- (1) The AMP must provide an organizational chart that outlines a well defined line of authority.
- (2) This reporting structure should support following chain of command when addressing or handling issues or concerns within the complexity of the air medical program.
  - (A) There should be a clear and direct method in place for reporting information within the organization with rapid communication throughout.
  - (B) There should be a mechanism in place for loop closure.
- (3) The AMP must ensure that a policy manual is available and familiar to all personnel.
  - (A) Policies are dated and signed by the appropriate manager(s).
  - (B) Policies are reviewed on an annual basis.
- (4) The AMP must demonstrate that all disciplines understand their role in aviation operations and Operational Control.
  - (A) Hospital or non-hospital based program director/administrator must be oriented to Federal ~~Flight~~ Aviation Regulations (FAR's) that are pertinent to the medical service and state ambulance rules.
- (5) The AMP should have a policy in place that documents the employer's disciplinary process.
- (6) The AMP will document formal, periodic staff meetings for which minutes will be kept for four years.
  - (A) Minutes will document attendance, base identification and who is presiding and any discussion items.
  - (B) The AMP must demonstrate a process for disseminating information between meetings.
- (7) The AMP management must demonstrate written guidelines for media issues and marketing activities.
- (8) The AMP must demonstrate a policy that addresses transfers of patient care occur from a lower level of care to an equal or higher level of care, except for elective transfers.
- (9) The AMP must demonstrate an appropriate utilization review process through trending and tracking requests.

(A) The AMP must provide evidence of feedback to the requesting agents and feedback from the patient receiving facilities.
(B) The AMP must demonstrate utilization review that may be prospective, concurrent, or retrospective.
(C) The AMP's collected data must be tabulated.
(D) The AMP must establish trigger criteria for utilization review.

(10) The AMP must establish and demonstrate a practice of ethical conduct.
(A) The AMP must provide evidence of use of a written code of ethical conduct.
(i) The AMP must demonstrate ethical practices in business operations.
(ii) The AMP must demonstrate ethical practices in marketing.
(iii) The AMP must demonstrate ethical practices in professional conduct.
(B) The AMP must demonstrate ethical practices in clinical operations.
(C) The AMP must demonstrate a written compliance plan that is in accordance with the HHS OIG's "Compliance Guidance for Ambulance Providers".
(D) The AMP Ethical/Compliance (EC) Plan must contain the following elements:
(i) Ethical and Compliance Management Plan (EMP)
(aa) The AMP must clearly states the policies, objectives and requirements of the EMP.
(bb) The AMP's plan must define each element of the EMP.
(cc) The plan must clearly identify the responsibilities and authority of key individuals for managing the EMP.
(ii) EC Promotion
(aa) The AMP must clearly demonstrate that EC is a core value through procedures, practices and training.
(iii) Document and Data Information Management
(aa) The AMP must clearly document and publicize the organization's EC policies, objectives and EMP.
(bb) The AMP demonstrates that the organization provides change control for all applicable documents and has a process to communicate changes in documents to all personnel.
(cc) The AMP must establish periodic review of all EC documents.
(iv) Occurrence Reporting
(aa) The AMP must demonstrate procedures for internal reporting of EC concerns.
(v) Occurrence Investigation and Analysis
(aa) Every EC concern must be investigated by the AMP.

(bb) All investigations must be documented with an analysis by the AMP.

(vi) EC Oversight Programs.

(aa) The AMP must demonstrate oversight programs that evaluate the effectiveness of the EMP.

(bb) The AMP's oversight programs must include internal and external assessments.

(cc) The AMP must demonstrate that all oversight programs are integrated.

(vii) EC Training Requirements

(aa) The AMP must document that all personnel are given introductory and recurrent EC training.

(bb) The training requirements for the AMP must include:

1. An EC orientation for all new personnel, stressing the AMP's commitment to ethics and compliance including everyone's role in the EMP.
2. A tracking mechanism for training requirements.
3. Access to conferences, workshops, literature and trade journals.

(viii) Management of Change

(aa) The AMP must have a process to ensure that all personnel are made aware of and understand any changes in requirements and policies.

(ix) Key Objectives and Continuous Improvement

(aa) The AMP must identify key EC objectives.

(bb) The AMP must demonstrate EC key objectives which are tailored to the size, nature and complexity of the organization.

(cc) The AMP must demonstrate proactive and reactive monitoring of key EC objectives.

(dd) The AMP must demonstrate response to detected offenses and development of corrective action plans.

157.13 Proposed Rule Language – Fixed Wing Operations

(f) The AMP must demonstrate Program Administrative oversight.
(1) The AMP must provide an organizational chart that outlines a well defined line of authority.
(2) This reporting structure should support following chain of command when addressing or handling issues or concerns within the complexity of the air medical program.
(A) There should be a clear and direct method in place for reporting information within the organization with rapid communication throughout.
(B) There should be a mechanism in place for loop closure.
(3) The AMP must ensure that a policy manual is available and familiar to all personnel.
(A) Policies are dated and signed by the appropriate manager(s).
(B) Policies are reviewed on an annual basis.
(4) The AMP must demonstrate that all disciplines understand their role in aviation operations and Operational Control.
(A) Hospital or non-hospital based program director/administrator must be oriented to Federal~~Flight~~ Aviation Regulations (FAR's) that are pertinent to the medical service and state ambulance rules.
(5) The AMP should have a policy in place that documents the employer's disciplinary process.
(6) The AMP will document formal, periodic staff meetings for which minutes will be kept for four years.
(A) Minutes will document attendance, base identification and who is presiding and any discussion items.
(B) The AMP must demonstrate a process for disseminating information between meetings.
(7) The AMP management must demonstrate written guidelines for media issues and marketing activities.
(8) The AMP must demonstrate a policy that addresses transfers of patient care occur from a lower level of care to an equal or higher level of care, except for elective transfers.
(9) The AMP must demonstrate an appropriate utilization review process through trending and tracking requests.
(A) The AMP must provide evidence of feedback to the requesting agents and feedback from the patient receiving facilities.
(B) The AMP must demonstrate utilization review that may be prospective, concurrent, or retrospective.
(C) The AMP's collected data must be tabulated.
(D) The AMP must establish trigger criteria for utilization review.

(10) The AMP must establish and demonstrate a practice of ethical conduct.
(A) The AMP must provide evidence of use of a written code of ethical conduct.
(i) The AMP must demonstrate ethical practices in business operations.
(ii) The AMP must demonstrate ethical practices in marketing.
(iii) The AMP must demonstrate ethical practices in professional conduct.
(B) The AMP must demonstrate ethical practices in clinical operations.
(C) The AMP must demonstrate a written compliance plan that is in accordance with the HHS OIG's "Compliance Guidance for Ambulance Providers".
(D) The AMP Ethical/Compliance (EC) Plan must contain the following elements:
(i) Ethical and Compliance Management Plan (EMP)
(aa) The AMP must clearly states the policies, objectives and requirements of the EMP.
(bb) The AMP's plan must define each element of the EMP.
(cc) The plan must clearly identify the responsibilities and authority of key individuals for managing the EMP.
(ii) EC Promotion
(aa) The AMP must clearly demonstrate that EC is a core value through procedures, practices and training.
(iii) Document and Data Information Management
(aa) The AMP must clearly document and publicize the organization's EC policies, objectives and EMP.
(bb) The AMP demonstrates that the organization provides change control for all applicable documents and has a process to communicate changes in documents to all personnel.
(cc) The AMP must establish periodic review of all EC documents.
(iv) Occurrence Reporting
(aa) The AMP must demonstrate procedures for internal reporting of EC concerns.
(v) Occurrence Investigation and Analysis
(aa) Every EC concern must be investigated by the AMP.
(bb) All investigations must be documented with an analysis by the AMP.
(vi) EC Oversight Programs.
(aa) The AMP must demonstrate oversight programs that evaluate the effectiveness of the EMP.

(bb) The AMP's oversight programs must include internal and external assessments.

(cc) The AMP must demonstrate that all oversight programs are integrated.

(vii) EC Training Requirements

(aa) The AMP must document that all personnel are given introductory and recurrent EC training.

(bb) The training requirements for the AMP must include:

1. An EC orientation for all new personnel, stressing the AMP's commitment to ethics and compliance including everyone's role in the EMP.
2. A tracking mechanism for training requirements.
3. Access to conferences, workshops, literature and trade journals.

(viii) Management of Change

(aa) The AMP must have a process to ensure that all personnel are made aware of and understand any changes in requirements and policies.

(ix) Key Objectives and Continuous Improvement

(aa) The AMP must identify key EC objectives.

(bb) The AMP must demonstrate EC key objectives which are tailored to the size, nature and complexity of the organization.

(cc) The AMP must demonstrate proactive and reactive monitoring of key EC objectives.

(dd) The AMP must demonstrate response to detected offenses and development of corrective action plans.

~~TAP~~ ADMINISTRATIVE OVERSIGHT

Administrative support is the foundation of any successful program. There must be active participation from every discipline to ensure program viability. A successful program is similar to a puzzle in which every piece must fit well together to create the final product. A supportive administration provides the framework for the program to grow and function in. Successful leadership combines both human skill, the ability to lead and work effectively in a group, and conceptual skill for critical policy decision

making that involves the ability to see the organization as a whole, recognize how various functions interrelate and understand the dynamics of the industry, community and State EMS system to maintain a harmonious program.

As a part of a well-defined line of authority an organizational chart will define how the medical transport service fits into the governing/sponsoring institution, agency or corporation. This reporting structure should support following chain of command when addressing or handling issues or concerns within the complexity of the air medical program. There should be clear guidelines describing the lines of authority. There should be a clear and direct method in place for reporting information, problems and concerns and a mechanism in place for loop closure and the structure of the organization supports rapid communication throughout.

Medical personnel must understand that the pilot has ultimate authority for the aircraft and safe operations. Managers are aware of the names and titles of each person authorized by the FAA Part 135 Certificate Holder and respect their duty to exercise operational control over the aviation part of the program. Hospital or non-hospital based program director/administrator must be oriented to FARs that are pertinent to the medical service and state ambulance rules and regulations pertaining to ground ambulances. Hospital or non-hospital based program director/administrator is oriented to how management can affect aeronautical decision-making and utilizes AMRM or equivalent as a tool to keep the lines of communication open.

A policy should be in place that documents the employer's disciplinary process and protects employees from capricious actions. The disciplinary process should be well defined and provide documentation of how this process is adhered to.

Staff meetings are one of the best ways to encourage active communication and to provide information to all members in the program. There must be formal, periodic staff meetings for which minutes will be kept. Minutes will document who attended, base identification (if multiple bases), who is presiding and any discussion (versus agenda/topics only). There program should demonstrate defined methods, such as a staff notebook, for disseminating information between meetings.

For public or private institutions and agencies that contract with an aviation firm to provide medical services or an ambulance firm to provide ground transport services, there should be a policy that specifies the lines of authority between the medical management team and the aviation/ambulance management team.

It is important for management to set written guidelines for press-related issues and marketing activities.

Management ensures, through policy, that all transfers of patient care occur from a lower level of care to an equal or higher level of care except for elective transfers for patient convenience or returning a patient to a referring facility/residence.

Management ensures an appropriate utilization review process through trending and tracking requests. There is evidence of feedback to the requesting agents and feedback from the patient receiving facilities. Utilization review may be prospective, concurrent, or retrospective. The collected data should be tabulated in ways that can be used to measure, report on, and benchmark system performance, generating information useful for ongoing feedback and process improvement. The following criteria may be considered but not limited to:

1. Medical denials or requests that should have been denied for a specific transport mode
2. (such as RW when ground would have been appropriate) are tracked and evaluated specific to the program's scope of care and mission.
3. Specialized medical transport personnel expertise and/or equipment available during transport that would otherwise not be available.
4. Safety of the transport environment.
5. Cost of the transport:
    a. Emergency transports do not require a guaranteed payment prior to transport.
    b. Calling agents for non-emergent requests are assisted with information about the cost of the transport as well as alternative, more economical (and equally appropriate) means of transport, if available.
6. A structured, periodic review of transports (to determine transport appropriateness or that the mode of transport enhances medical outcome, safety or cost effectiveness over other modes of transport) performed at least semiannually and resulting in a written report.
7. The following indicators may trigger a review of the record to determine the medical appropriateness of the transport based upon patients:
    a. Who are discharged home directly from the Emergency Department, or discharged
    b. within 24 hours of admission.
    c. Who are transported without an IV line or oxygen.
    d. Upon whom CPR is in progress at referring location.
    e. Who are not transferred from a critical care unit.
    f. Who are "scheduled transports."
    g. Who is air transported more than once for the same illness or injury within 24 hours.
    h. Who are transported from the scene of injury with a trauma score of 15 or greater or fails to meet area-specific triage criteria for a critically injured trauma patient.
    i. Who are treated at scene, but not transported.
        1. Who are not transferred bedside to bedside by the flight team.
    j. Who are transported interfacility, and the receiving facility is not a higher level of care than the referring facility.

k. Who are transported from the scene of injury to any hospital which was not the closest appropriate and available trauma center (based on regional trauma plans, if present).
l. Who are flown initially by fixed-wing and transported from the airport to the receiving facility by helicopter.
m. Who are ground transported with red lights and sirens.
n. Who are served by an inappropriate aircraft (time/distance/speed considerations etc.)
o. Who are served by an inappropriate team (i.e. ALS team used but patient requires critical care skills)
p. Who are served by an inappropriate ambulance that met the aircraft to continue transport with the level of care, equipment and supplies inappropriate to the patient's specific need.

8. Requests that are referred or subcontracted must be included in each review for appropriateness.

Management ensures that patient care records, meeting minutes, policies and procedures are stored according to hospital or agency policies and HIPAA regulations are indicative of the individual medical transport service's sensitivity to patient confidentiality.

1. A record of patient care is completed, and a copy remains at the receiving facility for appropriate continuity of care.
a. A policy outlines minimal requirements for items to be documented in the patient care records that include:

- Purpose of the transport
- Treatments, medications, intake and output and patient's response to treatments and medications.
- Signature of each care provider and clarity as to what care was performed by each provider (administering medications and performing procedures) and indicates who actually documented patient information.
- Transport facilities (to and from) and whom report was given to at the receiving facility.
- Patient condition at certain predetermined altitudes.

b. Records are stored according to hospital or agency medical records policies and are indicative of the individual medical transport service's sensitivity to patient confidentiality.

2. Meeting minutes (Staff, Safety, QM meetings etc.) are kept on file and maintained for a minimum of three years.
a. Minutes are dated, and personnel present are clearly identified by title (e.g., Director, RN, EMT-P, RRT).
3. A policy manual is available and familiar to all personnel.
a. Policies are dated and signed by the appropriate manager(s).
b. Policies are reviewed on an annual basis as verified by dated manager's signature on a cover sheet or on respective policies.

Management monitors and evaluates the quality and appropriateness of the medical transport service through an active Quality Management (QM) program, including the following:

1. At a minimum, reviews the periodic QM committee reports.
2. Encourages staff participation in the QM Program.
3. Promotes the effectiveness of the QM program through active participation by management in the program and by sponsoring active communication pathways bidirectionally between staff and management.

Ethical and Compliance Considerations

Ethical Considerations

The material outlined in this section is intended ~~for guidance~~ to guide the applicant ~~for the TAP in order~~ to better understand ethical considerations in providing Air Medical Services for the citizens of the State of Texas. Each system, based on its size and complexity, should build and adapt an appropriate operational systems based on these guidelines.

~~In the AAMS Membership Task Force meeting held in January 2008 (Kinkade, 2008), the recommendation to refine the AAMS core values included the following:~~

1. ~~Commitment – Evidenced in behavior that:~~
   - ~~Places patient care before self-interest~~
   - ~~Celebrates common dedication to teamwork, compassion for patients, and a passion for safety and quality care~~
2. ~~Integrity – Evidenced in behavior that:~~
   - ~~Demonstrates commitment to high professional standards~~
   - ~~Promotes ethical behavior among all individuals involved in the work of the association~~
3. ~~Respect – Evidenced in behavior that:~~
   - ~~Honors the exchange of ideas~~
   - ~~Embraces diverse viewpoints~~
4. ~~Responsibility – Evidenced in behavior that:~~
   - ~~Exemplifies transparent decision making~~
   - ~~Values honest communication and productive dialogue~~

~~Business and clinical ethical standards can be drawn from many sources including the following excerpts are taken from:~~

~~Complete Guide to Ethics Management: An Ethics Toolkit for Managers (McNamara)~~

One Description of a Highly Ethical Organization

Mark Pastin, in The Hard Problems of Management: Gaining the Ethics Edge (Jossey-Bass, 1986), provides the following four principles for highly ethical organizations:

1. They are at ease interacting with diverse internal and external stakeholder groups. The ground rules of these firms make the good of these stakeholder groups part of the organizations' own good.
2. They are obsessed with fairness. Their ground rules emphasize that the other persons' interests count as much as their own.
3. Responsibility is individual rather than collective, with individuals assuming personal responsibility for actions of the organization. These organizations' ground rules mandate that individuals are responsible to themselves.
4. They see their activities in terms of purpose. This purpose is a way of operating that members of the organization highly value. And purpose ties the organization to its environment.

Doug Wallace asserts the following characteristics of a high integrity organization:

1. There exists a clear vision and picture of integrity throughout the organization.
2. The vision is owned and embodied by top management, over time.
3. The reward system is aligned with the vision of integrity.
4. Policies and practices of the organization are aligned with the vision; no mixed messages.
5. It is understood that every significant management decision has ethical value dimensions.
6. Everyone is expected to work through conflicting stakeholder value perspectives.

Ethics Management Programs: An Overview

About Ethics Management Programs Organizations can manage ethics in their workplaces by establishing an ethics management program. Brian Schrag, Executive Secretary of the Association for Practical and Professional Ethics, clarifies. "Typically, ethics programs convey corporate values, often using codes and policies to guide decisions and behavior, and can include extensive training and evaluating, depending on the organization. They provide guidance in ethical dilemmas." Rarely are two programs alike.

Benefits of Managing Ethics as a Program

There are numerous benefits in formally managing ethics as a program, rather than as a one-shot effort when it appears to be needed. Ethics programs:

- Establish organizational roles to manage ethics
- Schedule ongoing assessment of ethics requirements
- Establish required operating values and behaviors
- Align organizational behaviors with operating values
- Develop awareness and sensitivity to ethical issues
- Integrate ethical guidelines to decision making
- Structure mechanisms to resolving ethical dilemmas
- Facilitate ongoing evaluation and updates to the program
- Help convince employees that attention to ethics is not just a knee-jerk reaction done to get out of trouble or improve public image

8 Guidelines for Managing Ethics in the Workplace

The following guidelines ensure the ethics management program is operated in a meaningful fashion:

1. Recognize that managing ethics is a process. Ethics is a matter of values and associated behaviors. Values are discerned through the process of ongoing reflection. Therefore, ethics programs may seem more process-oriented than most management practices. Managers tend to be skeptical of process-oriented activities, and instead prefer processes focused on deliverables with measurements. However, experienced managers realize that the deliverables of standard management practices (planning, organizing, motivating, controlling) are only tangible representations of very process-oriented practices. For example, the process of strategic planning is much more important than the plan produced by the process. The same is true for ethics management. Ethics programs do produce deliverables, e.g., codes, policies and procedures, budget items, meeting minutes, authorization forms, newsletters, etc. However, the most important aspect from an ethics management program is the process of reflection and dialogue that produces these deliverables.
2. The bottom line of an ethics program is accomplishing preferred behaviors in the workplace. As with any management practice, the most important outcome is behaviors preferred by the organization. The best of ethical values and intentions are relatively meaningless unless they generate fair and just behaviors in the workplace. That's why practices that generate lists of ethical values, or codes of ethics, must also generate policies, procedures and training that translate those values to appropriate behaviors.
3. The best way to handle ethical dilemmas is to avoid their occurrence in the first place. That's why practices such as developing codes of ethics and codes of conduct are so important. Their development sensitizes employees to ethical considerations and minimizes the chances of unethical behavior occurring in the first place.
4. Make ethics decisions in groups, and make decisions public, as appropriate. This usually produces better quality decisions by including diverse interests,

perspectives, and increases the credibility of the decision process and outcome by reducing suspicion of unfair bias.

5. Integrate ethics management with other management practices. When developing the values statement during strategic planning, include ethical values preferred in the workplace. When developing personnel policies, reflect on what ethical values you'd like to be most prominent in the organization's culture and then design policies to produce these behaviors.
6. Use cross-functional teams when developing and implementing the ethics management program. It's vital that the organization's employees feel a sense of participation and ownership in the program if they are to adhere to its ethical values. Therefore, include employees in developing and operating the program.
7. Value forgiveness. This may sound rather religious or preachy to some, but it's probably the most important component of any management practice. An ethics management program may at first actually increase the number of ethical issues to be dealt with because people are more sensitive to their occurrence. Consequently, there may be more occasions to address people's unethical behavior. The most important ingredient for remaining ethical is trying to be ethical. Therefore, help people recognize and address their mistakes and then support them to continue to try operate ethically.
8. Note that trying to operate ethically and making a few mistakes is better than not trying at all. Some organizations have become widely known as operating in a highly ethical manner, e.g., Ben and Jerry's, Johnson and Johnson, Aveda, Hewlett Packard, etc. Unfortunately, it seems that when an organization achieves this strong public image, it's placed on a pedestal by some business ethics writers. All organizations are comprised of people and people are not perfect. However, when a mistake is made by any of these organizations, the organization has a long way to fall. In our increasingly critical society, these organizations are accused of being hypocritical and they are soon pilloried by social critics. Consequently, some leaders may fear sticking their necks out publicly to announce an ethics management program. This is extremely unfortunate. It's the trying that counts and brings peace of mind -- not achieving a heroic status in society.

6 Key Roles and Responsibilities in Ethics Management

Depending on the size of the organization, certain roles may prove useful in managing ethics in the workplace. These can be full-time roles or part-time functions assumed by someone already in the organization. Small organizations certainly will not have the resources to implement each of the following roles using different people in the organization. However, the following functions points out responsibilities that should be included somewhere in the organization.

1. The organization's chief executive must fully support the program. If the chief executive isn't fully behind the program, employees will certainly notice -- and this apparent hypocrisy may cause such cynicism that the organization may be

worse off than having no formal ethics program at all. Therefore, the chief executive should announce the program, and champion its development and implementation. Most important, the chief executive should consistently aspire to lead in an ethical manner. If a mistake is made, admit it.

2. Consider establishing an ethics committee at the board level. The committee would be charged to oversee development and operation of the ethics management program.
3. Consider establishing an ethics management committee. It would be charged with implementing and administrating an ethics management program, including administrating and training about policies and procedures, and resolving ethical dilemmas. The committee should be comprised of senior officers.
4. Consider assigning/developing an ethics officer. This role is becoming more common, particularly in larger and more progressive organizations. The ethics officer is usually trained about matters of ethics in the workplace, particularly about resolving ethical dilemmas.
5. Consider establishing an ombudsperson. The ombudsperson is responsible to help coordinate development of the policies and procedures to institutionalize moral values in the workplace. This position usually is directly responsible for resolving ethical dilemmas by interpreting policies and procedures.
6. Note that one person must ultimately be responsible for managing the ethics management program.

The intent of this section is to give guidance and resources to Air Medical Providers. Ethics are a crucial core aspect for all organizations to incorporate within their operational systems. This Rule does not require a specific ethical standard design but permits organizations, based on their size and complexity, to build an ethical program based on their individual needs.

Compliance Guidelines

There is a corporate compliance officer or designated person responsible for ensuring that the service is in compliance with external laws and regulations, payer requirements and internal policies and procedures.

Compliance issues may include but are not limited to:

1. HIPAA
2. Federal Civil Statutes (False Claim Act)
3. Balanced Budget Act of 1997
4. OIG Compliance Program Guidance
5. OIG annual work plans (hospital affiliated)
6. Anti-kickback and Stark Laws
7. EMTALA

The compliance program shall include:

1. Written policies and procedures.

2. Designation of a compliance officer or assign responsibility to a specific individual.
3. Conducting effective training and education for staff with documented initial and ongoing competency.
4. Developing effective lines of communication.
5. Enforcing standards through well-published disciplinary guidelines.
6. Auditing and monitoring.
7. Responding to detected offenses and developing corrective action.

~~Survey Coordinator~~

- ~~Agency must designate a Survey Coordinator who is responsible for the administrative functions related to the Air Medical Service Program~~
- ~~Dedicate staff time sufficient to fulfill the programmatic requirements of CCMP~~
- ~~Provide Air Medical Service program organizational chart and describe the administrative reporting structure of the Survey Coordinator~~
- ~~Document quality improvement experience and/or training sufficient to implement and maintain Texas Air Medical Service standards~~

Section 6: Communication Center

157.12 Proposed Rule Language – Rotor Wing Operations

(g) The AMP will have a center to receive and coordinate all requests for the medical transport service.
  (1) The center will be staffed by Communication Specialists.
    (A) Communication Specialists will be utilized to maintain contact with the medical personnel for response ready status and/or patient coordination and communication of patient status change.
  (2) The Communication Center shall be equipped with communication capabilities appropriate to the mission profile.
    (A) The AMP should have a backup emergency power source for communications equipment, or a policy delineating methods for maintaining communications during power outages and in disaster situations.
  (3) The AMP must retain paperwork/database information regarding transport requests for a period of four years.
    (A) The AMP must have a method of audio recording or documenting call taking and radio traffic.
  (4) The AMP will demonstrate written policies concerning communications.
    (A) The Communications Specialist must document all aspects of the transport.

(B) The AMP shall have a written policy requiring that all transport requests are screened for turn downs by other agencies.
(i) Information obtained from flight screening shall be communicated internally and externally.
(C) The AMP shall have written policies outlining Visual Flight Rule (VFR) flight following requirements.
(D) The AMP must demonstrate policies that address post flight debriefings and shift briefings with Communication Specialist.
(E) The AMP must maintain written records collecting data as required by Federal, State and Local requirements.
(5) The AMP will provide initial training and annual competencies for Communication Specialists.
(A) Initial and recurrent training shall include:
(i) Navigation techniques and map reading skills.
(ii) Radio operations.
(iii) Telephonic equipment training.
(iv) Hazardous materials protocols and procedures.
(v) Weather interpretation training.
(vi) Stress recognition and management.
(vii) Customer service/public relations/phone etiquette.
(viii) Computer literacy and skills.
(ix) Current Post Accident/Incident Plan (PAIP).
(6) The AMP shall demonstrate participation in weather turndown notification systems and other reporting mechanisms appropriate to your region.
(7) The AMP shall have written policies regarding communication center operations during IFR flights.
(8) The AMP should have a backup system in place for the computerized systems utilized for flight following and mapping.

157.13 Proposed Rule Language – Fixed Wing Operations

(g) The AMP will have a center to receive and coordinate all requests for the medical transport service.
(1) The center will be staffed by Communication Specialists.
(A) Communication Specialists will be utilized to maintain contact with the medical personnel for response ready status and/or patient coordination and communication of patient status change.
(2) The Communication Center shall be equipped with communication capabilities appropriate to the mission profile.

(A) The AMP must have a backup emergency power source for communications equipment, or a policy delineating methods for maintaining communications during power outages and in disaster situations.

(3) The AMP must retain paperwork/database information regarding transport requests for a period of four years.

(A) The AMP must have a method of audio recording or documenting call taking and radio traffic.

(4) The AMP will demonstrate written policies concerning communications.

(A) The Communications Specialist must document all aspects of the transport.

(B) The AMP shall have a written policy requiring that all transport requests are screened for turn downs by other agencies.

(i) Information obtained from flight screening shall be communicated internally and externally.

(C) The AMP shall have written policies outlining Visual Flight Rule (VFR) flight following requirements, if applicable.

(D) The AMP must demonstrate policies that address post flight debriefings and shift briefings with Communication Specialist.

(E) The AMP must maintain written records collecting data as required by Federal, State and Local requirements.

(5) The AMP will provide initial training and annual competencies for Communication Specialists.

(A) Initial and recurrent training shall include:

(i) Navigation techniques and map reading skills.

(ii) Radio operations.

(iii) Telephonic equipment training.

(iv) Hazardous materials protocols and procedures.

(v) Weather interpretation training.

(vi) Stress recognition and management.

(vii) Customer service/public relations/phone etiquette.

(viii) Computer literacy and skills.

(ix) Current Post Accident/Incident Plan (PAIP).

(6) The AMP shall demonstrate participation in weather turndown notification systems and other reporting mechanisms appropriate to your region.

(7) The AMP shall have written policies regarding communication center operations during IFR flights.

(8) The AMP should have a backup system in place for the computerized systems utilized for flight following and mapping.

The communication center for Air Medical Service programs will provide continuity of communications and serve as the link between the pilot, the medical crew and the ground contact during the medical transport. This center will receive and coordinate all requests for the medical transport service. The communication specialist is an integral part of the Air Medical Service program team and there should be evidence of participation within the group.

~~To ensure role clarification it should be understood that communication for Air Medical Service providers will be accomplished through "communication" centers, not to be synonymous with an accredited FAA dispatch or ATC center. Communication through these providers will be utilized to maintain contact with the medical personnel for response ready status and/or patient coordination and communication of patient status change.~~

The FAA Part 135 certificate holder has the responsibility and authority to make all flight release decisions, and must have procedures in place for locating each flight for which an FAA flight plan is not filed. The pilot maintains command of the aircraft during a mission, and should be able to control and override radio communications from the cockpit in the event of an emergency. Aircraft should be equipped so that all flight members are able to communicate with each other. The use of cell phones must follow current FCC and FAA regulations.

Roles and Responsibilities of Communicators

The communication specialist must have direct or indirect communication with the medical and aviation personnel at all times. Along with receiving and coordinating flight requests for areomedical transport, he/she has the responsibility to ensure communication regarding patient condition, status and ETA to receiving facilities, additional information as requested, and must be an effective link amongst medical care providers. Equipment should be functioning and in good repair in the center and in the aircraft, and should be capable of transmitting and receiving the following: 1. Communications Center. 2. Medical Direction. 3. EMS, First Response, and Law Enforcement Agencies.

At minimum, one communication specialist must be present in the communication center at all times for the duration of the mission. This specialist should be trained on the initial coordination of a mission that includes the communication and documentation required to complete that mission. This training should include the ability to screen for a flight turn down by other programs in the area when applicable. Communication must be maintained incrementally with the medical crew member from initiation of flight until arrival back at base in order to maintain flight crew status and availability.

A post flight debrief of each mission should include the communication specialist. Shift briefings should be conducted to assure continuity between shifts. Participation is required in safety, staff and quality improvement meetings by a representative of the communication center.

Training and/or certification will be maintained, according to communication center SOP. The communication specialist shall have basic knowledge EMS roles, terminology, operations, along with state and local regulations. Initial training and annual competencies shall include navigation techniques and map reading skills, radio operations, hazardous materials protocols and procedures, stress recognition and management, customer service/public relations/phone etiquette, computer literacy and skills, and current Post Accident/Incident Plan (PAIP). The communication specialist must have knowledge of FAR and industry related information or changes as they are relevant to the Air Medical Service industry and operations. There must be proof of yearly competency in flight following for each communication specialist. Provide proof of yearly training on and abiding by FAA sterile cockpit rules and other FAA regulations is required to ensure the safety of each mission. Training should also include weather and METAR interpretation training. The communication specialist is not required to be a weather interpretation expert but at least possess general knowledge and understanding of postings so that information may be relayed to the pilot when needed.

The PAIP, a readily accessible post accident/incident plan, must be part of the flight following protocol so that appropriate search and rescue efforts may be initiated in the event the aircraft is overdue, and radio communications cannot be established nor location verified. Post accident/incident plans should be easily identified, readily available, and understood by all program personnel and minimally include a list of personnel with current phone numbers, in the event of a program incident/accident. This list should minimally include sponsoring organization individuals where applicable, risk management attorney, family members of team members, family of patient, referring hospital, receiving hospital, security (as applicable), human resources (as applicable), media relations or pre-identified individual who will be responsible for communicating with the media, state health department and other team members.

~~There must be an accessible PAIP (Post Accident/ Incident Plan) plan with proof of training and documented annual proficiency. Training and knowledge on types of aviation emergencies and proof of emergency preparedness drill should be documented to include fire drill, forces of nature, helicopter mishaps, etc.~~

GENERAL STANDARDS

Education and Certifications such as EMT, EMD, NAACS Certified Flight Communication course are highly encouraged, and if required by organization, must remain current.

There should be evidence by the program and communication center of participation in weather turndown notification systems appropriate to your region. Each region has its own regional advisory council that should create or endorse an avenue of communication

whereby weather turn down notifications are communicated and received. It is imperative that the program participates in the regional advisory council and that either a representative of the communication center is involved or that information is communicated in a timely manner to this group. There should be participation in EMResource (EMSystems) for updated status of aircraft availability and mass casualty use. NAACS certification by Communicators is preferred.

POLICY AND PROCEDURES

Established Policy and Procedure to reflect basic communication and operations between the center and ground, air and LZ coordinators and/or facilities is imperative. These should be reviewed and updated annually or as needed.

Information and details to be obtained and documented for each mission request might include:

1. Time of call. (Time request/inquiry received)
2. Name and phone number of requesting agency or person.
3. Age, diagnosis or mechanism of injury.
4. Referring and receiving physician and facilities (for interfacility requests) as per policy of the medical transport service.
5. Verification of acceptance of patient and verification of bed availability by referring physician and facility.
6. Destination airport, refueling stops (if necessary) location of transportation exchange and hours of operation.
7. Weather checks prior to departure and during mission as needed.
8. Previous turn-downs of the mission (i.e. helicopter shopping)
9. Ground transportation coordination at sending and receiving areas.
10. Time of Dispatch (Time medical personnel notified flight is a go, post pilot OK's flight)
11. Time Depart Base (Time of lift-off from base or other site.)
12. Number and names of persons on board.
13. Amount of fuel on board.
14. Estimated time of arrival (ETA).
15. Pertinent LZ information.
16. Time Arrive Location (Time aircraft/ambulance arrives at landing zone or helipad)
17. Time Depart Location (Time aircraft/ambulance lifts off from landing zone or helipad)
18. Time Arrive Destination (Time patient transferred to receiving clinical team – in unusual circumstances, this may not be at a healthcare facility.)
19. Time Depart Destination (Time left patient destination. Will be recorded for transports not ending at base).
20. Time Arrive Base (Time arrive base after call completed)
21. Time Aborted (Time authorized transport aborted/cancelled after dispatch)

Concluding documentation may include calculation of:

1. Response Time (Time interval between Time of Dispatch and Arrive Location)
2. Ground Time (Time interval between Time Arrive Location and Time Depart Location)
3. Transport Time (Time from Time Depart Location to Time Arrive Location)
4. Total Mission Time (Time interval between Time of Dispatch and Time Arrive Base)

Additional Criteria for Fixed Wing Operations should be conducted using VFR flight plans minimally, and IFR flight plans whenever feasible. Procedures ensure that pilots use ATC radar and/or communications services whenever operating under VFR and within the service area of an ATC facility or a communications service. In addition to IFR flight plans, there are procedures to notify the communications center of the specific aircraft departure time, estimated time of arrival and arrival at the scheduled destination. For a fixed wing service that flies only pre-scheduled flights, an answering service may serve as the receiving point for requests for service. Answering service personnel must be trained to obtain specific information when receiving a request to schedule fixed wing patient transportation. The items should include but not be limited to name and telephone number of caller, patient type/condition, date and time call received, anticipated or scheduled date/time of departure, location of patient and destination, and specific methods must be used by the answering service for contacting the medical service coordinator (or designee) to relay request information, i.e. pager numbers, telephone and/or cellular numbers. Guidelines of timely notification (less than thirty [30] minutes) should be established. Alternate procedures for notification must be in place in case the coordinator is not available to receive the request/information. An on-call roster of the medical team must be provided to the answering service. The roster includes a priority phone list of personnel to notify in the event of an emergency.

There should be retention of paperwork/database information for a period of (XX) years. Audio recordings of call taking and radio traffic must be retained for a minimum of 90 days.

There should be a process in place to ensure complete and ongoing quality improvement including feedback and procedure for loop closure. A representative from the communication center should be involved in this process.

~~Safety~~

~~In an effort to ensure a well rested, alert individual, the specialist must have 8 hours of uninterrupted rest time prior to scheduled shift. Personnel have the right to call a "time out" and be granted a reasonable amount of rest time without retribution when working extended periods of time or periods high call volume. Policies must be in place to~~

~~demonstrate strategies to minimize fatigue related to duty time, length of shift, and number of shifts worked per week. Relief personnel must be available for periodic breaks. Seating and work stations that are ergonomically appropriate shall be provided for each communication specialist on duty.~~

~~A status display with information regarding pre-scheduled missions, maintenance information, on duty team members, weather information should be prominently displayed. Current local service maps and navigation charts, along with mapping software must be available.~~

Program must have an evacuation plan which provides for continuous communications with transport personnel in the event there is a need to evacuate the communications center. There should also be a backup emergency power source for communications equipment, or a policy delineating methods for maintaining communications during power outages and in disaster situations. The communication specialist should be involved in an annual safety in service which could be AMRM, CRM or equivalent content.

FLIGHT FOLLOWING

The intention of flight following is to maintain awareness of the flight crew and patients status, in service and launch capabilities and safety of the crew. In no way does a communications center dispatch flights. The PIC remains the final decision maker on flight launches and flight activities not pertaining to direct medical care. The medical crew and communications center aid in decision making by providing valuable information and input into the call.

Call taking will consist of obtaining information that is pertinent to flight related activities and medical decision making efforts by the entire team and must consist of: A dedicated phone line for flight requests, and a system for recording all incoming and outgoing telephone and radio transmissions with time recording and playback capabilities

Point of contact and call back number for sending agency, suspected injury/illness, weight and height of patient and destination requested should be obtained at the time of the call.

All flights will be screened for turn downs by other agencies and information obtained will be communicated to the pilot of the requesting flight prior to launch.

Inter facility requests will include, MOT information, destination of patient and ground transportation coordination, if needed.

Flight following will consist of obtaining information that is pertinent to flight safety and patient information.

1. VFR flight following shall not impede the communication needs of the pilot with appropriate ATC centers.
2. VFR flights will update location on an established regular basis not to exceed 15-minute intervals and locations will be documented during flight.
3. IFR flights should have a system in place to notify the communications center of appropriate launch and landing times as well as diversion from the original flight plan which will require a change in patient transport needs.
4. All IFR flight plans should be known by communications prior to launch.
5. PAIP activation if crew has not checked in and is unable to be contacted 30 minutes after expected arrival time.

There should be a backup system in place to the computerized systems utilized for flight following. Hard copies of aviation maps must be readily available to communicators with training on interpretation to provide assistance to flight crews when an alternate system must be relied upon.

~~PATIENT SECURITY~~

~~Family members or other passengers that accompany patients must be properly identified and listed by name (in compliance with HIPAA regulations) in the communications center or by the transport coordinator~~.

SECTION 7: BASE/FACILITY STANDARDS

157.12 Proposed Rule Language – Rotor Wing Operations

(h) The AMP must demonstrate an appropriate and safe work environment for all personnel.
  (1) The facility must have adequate lighting, ventilation, work and rest space commensurate to mission profile and scheduled duty hours.
  (2) The facility will have allocated location for storage of equipment required for patient care and care of the aircraft.
    (A) The crew quarters must be in a quiet, secure, environmentally safe area away from the public.
    (B) The crew quarters must accommodate:
      (i) Flight planning.
      (ii) Crew briefings.
      (iii) Access to a weather reporting system.
      (iv) Computer and internet access.

(v) Proper rest quarters with chairs, beds, tables and desks as appropriate for the Air Medical assignment.

(3) The AMP must demonstrate a designated medical oxygen storage location with policies for safe handling and storage.

(A) The AMP must demonstrate training on available medical oxygen systems, safe storage and handling.

(4) The AMP must demonstrate a designated biohazard storage location with policies for safe handling and disposal.

(5) The AMP must demonstrate Material Safety Data Sheets (MSDS) is accessible at every base and operational facility as appropriate.

(A) The AMP must demonstrate training on MSDS awareness and use.

(6) The AMP must demonstrate a policy to address the control of foreign object debris (FOD).

157.13 Proposed Rule Language – Fixed Wing Operations

(h) The AMP must demonstrate an appropriate and safe work environment for all personnel.

(1) The facility must have adequate lighting, ventilation, work and rest space commensurate to mission profile and scheduled duty hours.

(2) The facility will have allocated location for storage of equipment required for patient care and care of the aircraft.

(A) The crew quarters must be in a quiet, secure, environmentally safe area away from the public.

(B) The crew quarters must accommodate:

(i) Flight planning.

(ii) Crew briefings.

(iii) Access to a weather reporting system.

(iv) Computer and internet access.

(v) Proper rest quarters with chairs, beds, tables and desks as appropriate for the Air Medical assignment.

(3) The AMP must demonstrate a designated medical oxygen storage location with policies for safe handling and storage.

(A) The AMP must demonstrate training on available medical oxygen systems, safe storage and handling.

(4) The AMP must demonstrate a designated biohazard storage location with policies for safe handling and disposal.

(5) The AMP must demonstrate Material Safety Data Sheets (MSDS) is accessible at every base and operational facility as appropriate.

(A) The AMP must demonstrate training on MSDS awareness and use.

(6) The AMP must demonstrate a policy to address the control of foreign object debris (FOD).

THE PHYSICAL BASE OF OPERATIONS

An Air Medical Provider should demonstrate an appropriate and safe work environment for all personnel with adequate lighting, ventilation, work and rest space as well as an allocated location for storage of equipment required for patient care and care of the aircraft.

ADEQUATE CREW QUARTERS

Rule: Rest quarters must be located away from general public access and should allow for uninterrupted rest after daily duties are met.

Adequate crew quarters are essential to the well being and safety of the air medical operation. Each member of the flight team will have different needs for adequate rest. A flight crew consists of pilot(s) and medical crew members which have needs appropriate for their job.

Pilots: The crew quarters should be in a quiet, secure, environmentally safe area away from the public sector, which accommodates flight planning, crew briefings, access to a weather reporting system, computer access, and all those essential items that provide the pilots with the tools needed to plan a flight. To include those essential items needed to accommodate proper rest, chairs, beds, tables and desks as appropriate for the Air Medical assignment.

The FAA Regulation /Part 135 .271 states: that for a Helicopter Emergency Medical Service (HEMS) must provide "an adequate place of rest at, or in close proximity, to the hospital that the HEMS assignment is being performed."

Medical Flight Crew: The crew quarters should be in a quiet, secure, environmentally safe area away from the public sector, in close proximity to the helipad and pilot. The area should include proper desks, chairs, tables, beds, computer access and those essential items needed to provide proper rest to perform the air medical task.

Call in program facilities: EXPLAIN!!

OXYGEN AND BIOHAZARD STORAGE

Oxygen storage and handling are matters of great concern for an AMP. Oxygen is not only a prescription controlled medication, but is a compressed gas. Compressed gases exist all around us, in one form or another. Thus familiarity can breed complacency in our storage, handling and use of such materials and their containers. Excellent guidance on storage of nonflammable compressed gasses may be found in the National Fire

Protection Association's standards. In particular "Storage for nonflammable gases less than 3000 cubic feet" maybe found in the NFPA Standard 99.

Such storage and handling requirements should include concern over the location, access to, ventilation of the area, electrical systems in the area, and proximity to other potentially flammable materials. AMPs should consider a training module that includes many aspects of industrial safety. In particular attention to proper handling of compressed gasses will enable a safe workplace environment encompassing one of the catastrophic "hidden" dangers of everyday use.

AMP should have a designated biohazard storage location with policies for safe handling and disposal.

MSDS

MSDS should be accessible at every base and operational facility as appropriate. These forms "contain vital information needed by a variety of people involved in working with hazardous materials. MSDS came about as part of a federal regulation, the "Right-to-Know Law," which guarantees workers have access to the right to information about how to safely handle workplace materials. By U.S. law, MSDS must accompany every hazardous material sent to a workplace." (ABRN web)

FOD

An AMP should have a policy to address control of foreign object debris (FOD) on the flight line. "Most of us are familiar with the term Foreign Object Debris/Damage or FOD. Foreign objects and debris (i.e., rocks, nails, screws, fasteners, tools, rivets, and wire) can find their way into the strangest places and do considerable damage. Those of us who work on or near the flight line are thoroughly aware of FOD and its associated hazards, but a reminder every now and then never hurts."

"Damage to aircraft caused by FOD ingestion can be very expensive. We must do all we can to prevent and control FOD. Bits of rock, sand, grass, metal, and even ice and snow ingested into a jet engine can cause significant damage to the compressor blades and other internal parts. This translates into a lot of money to repair or replace a FOD-damaged engine."

"Preventing this damage starts with awareness of its presence on the [landing zones (LZ), hospital helipads or LZ's, parking ramps, taxiways, runways, and even the roads that lead into and out of these areas. Good housekeeping on the parking ramp will go a long way in preventing hardware, stones, rocks, medical equipment, rubbish, and clothing from finding its way into a jet engine. This is the responsibility of every aircrew member, mechanic, technician, and driver who works on the flight line." (FOD news web)

~~Maintenance facilities for FW and RW aircraft~~

~~Aviation maintenance is a strictly regulated aspect of the operation of an AMP. Maintenance is administered by the FAA which develops regulations, standards, policies and procedures, letters, notices, orders, and Advisory Circulars (AC) through its Flight Standards Services Air Carrier Maintenance Branch. An AMP should develop or require that its maintenance standards include such matters as compliance with all Advisory Orders (AO), Advisory Circulars and Advisory Directives (AD) to ensure that its aircraft are maintained to the most current and highest standards. Maintenance standards are also critical in the use of and accessibility of the proper parts and equipment, the FARs will instruct and require that certain tools and parts be maintained, calibrated and stored in particular manners prescribe to ensure safety.~~

~~A maintenance work environment is much more than an aircraft "garage." Support of and requiring that maintenance work areas be well lit, clean and accessible, have adequate ventilation, adequate storage for tools and parts, comply with OSHA and NFPA standards and are heated and protected from weather will establish the AMP's concern for high standards of maintenance to enhance safety. Of particular concern is supporting the human endeavor of the maintenance enterprise. AMPs should consult the FAA's Maintenance Human Factors website for a large volume of information to assist in designing systems, policies and processes to support the maintenance effort and the maintenance technician.~~

~~Communications between all members of an AMP is vital for its safe and effective operation. Mechanics are often over looked in this communications procedural development. Mechanism need to be established for communications between mechanic and operational crews for status and availability of aircraft. Communications procedures during aircraft maintenance should also be established as per FAA Advisory and be included in AMRM training within a program.~~

SECTION 8: SAFETY STANDARDS

157.12 Proposed Rule Language – Rotor Wing Operations

(i) An Air Medical Provider must demonstrate Safety initiatives in the workplace.
  (1) The AMP must provide evidence of a Safety Management System with the following elements:
    (A) SMS Management Plan
      (i) The organization clearly states the policies, objectives and requirements of the SMS.

(ii) The plan defines each element of the SMS.
(iii) The plan clearly identifies the responsibilities and authority of key individuals for managing the SMS.

(B) Safety Promotion
(i) The organization clearly demonstrates that safety is a core value through procedures, practices, training and allocation of resources.

(C) Document and Data Information Management
(i) The organization clearly documents and publicizes the organization's safety policies, objectives and SMS procedures.
(ii) Demonstrates that the organization provides change control for all applicable documents and has a process to communicate changes in documents to all personnel.
(iii) The organization establishes annual review of all SMS documents.

(D) Hazard Identification and Risk Management
(i) The organization demonstrates a process to identify hazards and to manage risks.
(ii) The organization demonstrates a process to prioritize risk management.
(iii) The organization demonstrates a method to track identified hazards.

(E) Occurrence and Hazard Reporting
(i) The organization demonstrates procedures for internal reporting of hazards.
(ii) The organization demonstrates a hazard reporting form available to all employees.
(iii) The organization demonstrates timely collection of occurrence and hazard information.

(F) Occurrence Investigation and Analysis
(i) Every hazard, incident or accident must be investigated by the organization.
(ii) All investigations shall be documented with an analysis by the organization.

(G) Safety Assurance Oversight Programs
(i) The organization demonstrates oversight programs that evaluate the effectiveness of the SMS.
(ii) The organization's oversight programs must include internal and external assessments.
(iii) The organization's oversight programs must proactively seek out potential hazards based on available data as well as evaluating the organization's safety program.

(iv) The organization must demonstrate that all oversight programs are integrated.

(H) Safety Management Training Requirements

(i) Organization must document that all personnel are given introductory and recurrent SMS training.

(ii) Training requirements for the organization must include:

(aa) A safety orientation for all new personnel, stressing the organization's commitment to safety and everyone's role in the SMS.

(bb) Document SMS competency requirements for personnel.

(cc) Track training requirements

(dd) Provide access to conferences, workshops, literature and trade journals.

(I) Management of Change

(i) The organization must have a process to ensure that all personnel are made aware of and understand any changes in requirements, procedures and applicable maintenance and operator manuals.

(J) Emergency Preparedness and Response

(i) Organization must have a written Emergency Response Plan (ERP).

(aa) Plan must outline what should be done when an emergency occurs.

(bb) Plan must outline what to do after an accident happens.

(cc) Plan must define roles that are responsible for each action.

(ii) The organization's ERP must be readily available to staff on duty.

(iii) Organization must demonstrate that the plan is updated when information changes.

(iv) Organization must document at least annual training, review and practiced.

(K) Performance Measurement and Continuous Improvement

(i) Organization must identify key safety goals.

(ii) Organization must demonstrate proactive and reactive monitoring of key safety goals.

(iii) Demonstrates performance measurements that are tailored to the size, nature and complexity of the organization.

(2) The AMP must demonstrate the implementation of Personal Protective Equipment (PPE) appropriate to the environment and provider mission profile.

(A) The AMP must demonstrate appropriate outerwear for Rotor-Wing Operations

(i) Boots or sturdy ankle supporting footwear

(ii) Flame retardant clothing
(iii) Clothing must have reflective material or reflective striping on uniforms for nighttime operations
(iv) Flight helmets with visor(s) and appropriate communications capabilities.
(v) Appropriate outerwear pertinent to survival in the environment
(vi) Personnel must wear only natural fibers (i.e. cotton) under flight uniforms.
(vii) Other clothing or personal protective equipment as required for mission profile (i.e. rescue, extrication, law enforcement assist)
(viii) AMP must document a program of ongoing maintenance and replacement as required by manufacturer's recommendation for all PPE.

(3) The AMP must demonstrate an Exposure Control Plan consistent with Federal OSHA Guidelines.

(4) The AMP must demonstrate policies regarding:
(A) Dress codes.
(B) PPE use including the use of eye protection.
(C) Crew rest for medical staff that addresses maximum duty time and assurance for adequate crew rest.
(D) Safety complaint and feedback system.
(E) Fitness for duty status:
(i) Duty status during illness (i.e. sinusitis, otitis media, etc.).
(ii) Medical conditions, including pregnancy, which may cause an employee to be unable to perform job function that requires clearance to return duty by personal physician.
(iii) Duty status while taking medications which may cause drowsiness.

157.13 Proposed Rule Language – Fixed Wing Operations

(i) An Air Medical Provider must demonstrate Safety initiatives in the workplace.

(1) The AMP must provide evidence of a Safety Management System with the following elements:
(A) SMS Management Plan
(i) The organization clearly states the policies, objectives and requirements of the SMS.
(ii) The plan defines each element of the SMS.
(iii) The plan clearly identifies the responsibilities and authority of key individuals for managing the SMS.
(B) Safety Promotion
(i) The organization clearly demonstrates that safety is a core value through procedures, practices, training and allocation of resources.

(C) Document and Data Information Management
- (i) The organization clearly documents and publicizes the organization's safety policies, objectives and SMS procedures.
- (ii) Demonstrates that the organization provides change control for all applicable documents and has a process to communicate changes in documents to all personnel.
- (iii) The organization establishes annual review of all SMS documents.

(D) Hazard Identification and Risk Management
- (i) The organization demonstrates a process to identify hazards and to manage risks.
- (ii) The organization demonstrates a process to prioritize risk management.
- (iii) The organization demonstrates a method to track identified hazards.

(E) Occurrence and Hazard Reporting
- (i) The organization demonstrates procedures for internal reporting of hazards.
- (ii) The organization demonstrates a hazard reporting form available to all employees.
- (iii) The organization demonstrates timely collection of occurrence and hazard information.

(F) Occurrence Investigation and Analysis
- (i) Every hazard, incident or accident must be investigated by the organization.
- (ii) All investigations shall be documented with an analysis by the organization.

(G) Safety Assurance Oversight Programs
- (i) The organization demonstrates oversight programs that evaluate the effectiveness of the SMS.
- (ii) The organization's oversight programs must include internal and external assessments.
- (iii) The organization's oversight programs must proactively seek out potential hazards based on available data as well as evaluating the organization's safety program.
- (iv) The organization must demonstrate that all oversight programs are integrated.

(H) Safety Management Training Requirements
- (i) Organization must document that all personnel are given introductory and recurrent SMS training.
- (ii) Training requirements for the organization must include:

(aa) A safety orientation for all new personnel, stressing the organization's commitment to safety and everyone's role in the SMS.

(bb) Document SMS competency requirements for personnel.

(cc) Track training requirements

(dd) Provide access to conferences, workshops, literature and trade journals.

(I) Management of Change

(i) The organization must have a process to ensure that all personnel are made aware of and understand any changes in requirements, procedures and applicable maintenance and operator manuals.

(J) Emergency Preparedness and Response

(i) Organization must have a written Emergency Response Plan (ERP).

(aa) Plan must outline what should be done when an emergency occurs.

(bb) Plan must outline what to do after an accident happens.

(cc) Plan must define roles that are responsible for each action.

(ii) The organization's Emergency Response Plan must be readily available to staff on duty.

(iii) Organization must demonstrate that the plan is updated when information changes.

(iv) Organization must document at least annual training, review and practiced.

(K) Performance Measurement and Continuous Improvement

(i) Organization must identify key safety goals.

(ii) Organization must demonstrate proactive and reactive monitoring of key safety goals.

(iii) Demonstrates performance measurements that are tailored to the size, nature and complexity of the organization.

(2) The AMP must demonstrate the implementation of Personal Protective Equipment (PPE) appropriate to the environment and provider mission profile.

(A) The AMP must demonstrate appropriate outerwear for Fixed-Wing Operations

(i) Boots or sturdy ankle supporting footwear

(ii) Flame retardant clothing

(iii) Clothing must have reflective material or reflective striping on uniforms for nighttime operations

(iv) Appropriate outerwear pertinent to survival in the environment

(v) Personnel must wear only natural fibers (i.e. cotton) under flight uniforms.

(vi) Other clothing or personal protective equipment as required for mission profile (i.e. rescue, extrication, law enforcement assist)

(vii) AMP must document a program of ongoing maintenance and replacement as required by manufacturer's recommendation for all PPE.

(3) The AMP must demonstrate an Exposure Control Plan consistent with Federal OSHA Guidelines.

(4) The AMP must demonstrate policies regarding:

(A) Dress codes.

(B) PPE use including the use of eye protection.

(C) Crew rest for medical staff that addresses maximum duty time and assurance for adequate crew rest.

(D) Safety complaint and feedback system.

(E) Fitness for duty status:

(i) Duty status during illness (i.e. sinusitis, otitis media, etc.).

(ii) Medical conditions, including pregnancy, which may cause an employee to be unable to perform job function that requires clearance to return duty by personal physician.

(iii) Duty status while taking medications which may cause drowsiness.

Safety Management Systems:

The single greatest impediment to error prevention in the medical industry is "that we punish people for making mistakes." Dr. Lucian Leape, Professor. Harvard School of Public Health, Testimony before Congress on Health Care Quality Improvement.

Definition of Safety Management Systems (SMS)

"SMS enhances an airlines [organizations] ability to operate safely; it breaks down barriers between the employer and employee, and leads to shared values on acceptable levels of risk." (Canada, 2009)

SMS can be defined as a coordinated, comprehensive set of processes designed to direct and control resources to optimally manage safety. SMS takes unrelated processes and builds them into one coherent structure to achieve a higher level of safety performance, making safety management an integral part of overall risk management. SMS is based on leadership and accountability. It requires proactive hazard identification, risk management, information control, auditing and training. It also includes incident and accident investigation and analysis (IHST, 2007).

At a minimum a Safety Management System should include (IHST, 2007):

1) SMS Management Plan: A SMS Management Plan should clearly define safety objectives, how the organization intends to execute and measure the effectiveness of the SMS, and how the SMS will support the organization's business plan and/or objectives.

The plan should include: An expression of management's commitment to safety that clearly state the policies, objectives and requirements of the SMS; define the structure of the SMS as well as the responsibilities and authority of key individuals for managing the SMS; define each element of the SMS; convey the expectations and objectives of the SMS to all employees; and explain how to identify and maintain compliance with current safety regulatory requirements.

2) Safety Promotion: The organization must demonstrate that safety is a core value. Procedures, practices, training and the allocation of resources must clearly demonstrate management's commitment to safety. The organization should be able to demonstrate top down and bottom up dedication to a "just culture" in the organization. A "just culture" demonstrates balancing safety and accountability as well as treating people fairly.

3) Document and Data Information Management: Organizations should demonstrate procedures to identify and manage the information necessary to ensure compliance with SMS policies, procedures and goals. This procedures should: Document and publicize the organization's safety policies, objectives and SMS procedures; identify the safety regulations that govern the organization; provide all employees access to pertinent regulatory information; consolidate documentation describing the systems for each SMS component; provide change control for all applicable documents; have a process to communicate changes in documents to all personnel; promptly remove obsolete documents; establish periodic review of documents.

4) Hazard Identification and Risk Management: The SMS needs to include a process to identify hazards and develop processes to identify and manage risks. Key elements of hazard identification and risk management programs are: Proactive identification of existing and potential hazards; a process to prioritize risk management; a method to track identified hazards.

5) Occurrence and Hazard Reporting: Occurrences are unplanned safety related events, including accidents and incidents that could impact the safety of guests, passengers and personnel, equipment or the work environment. The identification of a hazard provides an opportunity to learn how to prevent accidents and incidents it might cause. Procedures need to be in place for internal reporting of hazards. Timely collection

of information allows the organization to react to the information. A hazard reporting form should be simple, convenient and available to all employees.

6) Occurrence Investigation and Analysis: Every hazard, incident or accident needs to be investigated for the purpose of gathering information that may help prevent similar occurrences. An initial risk assessment will assist in determining the extent of the full investigation. Reports that demonstrate a high potential hazard should be investigated in greater depth than those with low potential. An investigation should not be limited by "who is to blame", it should encompass the "what and why" of the incident as well as the causal, contributing and organizational factors that may have exacerbated the incident.

7) Safety Assurance Oversight Programs: Good oversight programs evaluate the effectiveness of the organization's SMS. They help management improve safety services. Evaluation of the safety program should include internal and external assessments. Safety oversight is provided in part by some of the attributes of the SMS such as, occurrence reporting and investigation. However, safety assurance and oversight programs need to proactively seek out potential hazards based on available data as well as evaluating the organization's safety program.

8) Safety Management Training Requirements: All personnel should be given introductory and recurrent SMS training. When establishing training requirements for the organization, you should: Include a safety orientation for all new personnel, stressing the organization's commitment to safety and everyone's role~~l~~ in the SMS; document competency requirements for personnel; have a system to track training requirements; make effective use of conferences, workshops, literature and trade journals.

9) Management of Change: Unless properly managed, changes in organizational structure, personnel, documentation, processes or procedures can result in the inadvertent introduction of hazards and increased risk. Have a process to ensure that all personnel are made aware of and understand any changes in requirements, procedures and applicable maintenance and operator manuals.

10) Emergency Preparedness and Response: An Emergency Response Plan outlines in writing what should be done when an emergency occurs, what to do after an accident happens, and who is responsible for each action. The better prepared an organization is for an emergency, the better the chances that injuries to personnel and damage to equipment, property or the environment can be minimized. The plan should: Be readily available, be relevant and useful to people on duty, be exercised periodically; be updated when information changes; be briefed to all personnel along with their responsibilities, and should be practiced.

11) Performance Measurement and Continuous Improvement: The safety performance of the organization needs to be proactively and reactively monitored to ensure that the key safety goals continue to be achieved. *Relying on accident rates as a safety performance measure can create a false impression because not having accidents does not necessarily indicate the organization is safe.* In reality, there will always be latent conditions within the system that might lead to an accident. Performance measurements must be tailored to the size, nature and complexity of the organization.

~~As documented in (reference documents AC 120-92 and IHST).~~

~~Safety Management Systems may be defined as a businesslike approach to safety. It is a systematic, explicit and comprehensive process for managing safety risks. As with all management systems, a safety management system provides for goal setting, planning, and measuring performance. A safety management system is woven into the fabric of an organization. It becomes part of the culture, the way people do their jobs (Canadian Aviation)~~

~~Air Medical Resource Management~~

~~According to the Federal Aviation Administration (FAA), "Helicopter Emergency Medical Service (HEMS) is a very demanding and time critical / mission orientated operation. One consistent priority that needs to be addressed by each individual air ambulance organization is the safety of the flightcrew, medical crew, patient passengers, and support personnel. No operator goes out anticipating the occurrence of an accident, and like most aviation accidents, there is rarely a single event that is the cause of an accident. It is usually a multitude of contributing factors that lead to potentially catastrophic results. *Preventing accidents is the responsibility of everyone involved and takes the dedicated involvement of all of the aviation and medical professionals involved in the operation to provide the public the safest possible air ambulance service.*"~~

~~The State of Virginia Medevac Committee has set out a best practices document that clearly outlines the state of the AMP's Community in utilizing and operationalizing AMRM in its "Virginia Office of Emergency Medical Services, Medevac Best Practice 2.2.1, Air Medical Resource Management."~~

Crew Rest and Staffing:

Refer to Operational Standards Staffing.

PERSONAL PROTECTIVE EQUIPMENT

~~While the likelihood of being involved in a survivable, post-crash fire is low; the consequence of not being properly attired is extremely high.~~

~~Currently, there are no Federal flammability standards or regulations that exist pertaining to uniforms for Air Medical Service personnel, airline pilots or flight attendant personnel beyond the standards applied to consumer clothing. In Advisory Circular A-96-88, the FAA stated: "Safety experts agree that in order to decrease the chance of sustaining burns, it is better to wear long sleeves and pants, than it is to wear short sleeves and short pants. In addition, 'natural' fibers such as wool and cotton are better than synthetic fabrics. Also it is better to have low heel shoes which are enclosed, and straps or laces are encouraged while sandals are discouraged."~~

~~Flammability assessments performed by Thiokol Chemical Corporation (July 1967) and separate testing performed by the Department of the Navy (December 1987) demonstrated that Nomex® was superior to cotton in its flame retardant ability but both were susceptible to heat transfer. Both reported reduction in heat transfer when multiple layers of natural fibers were worn.~~

~~Rotor-wing incidents and crashes place occupants at increased risk for head trauma due to blunt force impact with cabin / cockpit interiors and potential head strikes associated with improperly secured equipment within the aircraft. To reduce the likelihood of significant head trauma, helmet use in strongly encouraged. Helmets with visors deployed offer added protection to cockpit occupants in the event of windscreen penetration associated with bird strikes during forward flight.~~

~~Head-strike envelope~~

1. ~~The interior modification of the aircraft is clear of objects/projections OR the interior of the aircraft is padded to protect the head-strike envelope of the medical personnel and patients as appropriate to the aircraft.~~
2. ~~The head-strike envelope in the ambulance should be clear of hard objects that could cause injury in the event of poor road conditions or sudden stops.~~
3. ~~Helmets are required for rotor wing operations. Helmets for crewmembers must be appropriately fitted and maintained according to the program's manufacturer's criteria or program's policy.~~

~~All aircraft equipment (including specialized equipment) and supplies must be secured according to FAR's. (Use of bungee cords is not considered appropriate when securing equipment and supplies). Ambulance equipment must be secured by an appropriate clamp, strap, or other mechanism to the vehicle or stretcher/isolette to prevent movement during a crash or abrupt stop.~~

The program leadership is responsible for ensuring safety principles and practices are established and followed by those working for the program. Appropriate equipment for

Air Medical Service providers is essential to their safety and those they care for. The program should address the following elements.

1. Rotor-Wing Operations
   a. Boots or sturdy ankle supporting footwear
   b. Flame retardant clothing
   c. Clothing must have reflective material or reflective striping on uniforms for nighttime operations
   d. Flight helmets with visor(s)
   e. Appropriate outerwear pertinent to survival in the environment
   f. Undergarments: Encourage personnel to wear only natural fibers (i.e. cotton) under flight uniforms.

2. Fixed-Wing Operations
   a. Boots or sturdy ankle supporting footwear;
   b. Flame retardant clothing;
   c. Appropriate outerwear pertinent to survival in the environment;
   d. Undergarments: Encourage personnel to wear only natural fibers (i.e. cotton) under flight uniforms.
   e. Hearing protection if required by aircraft makes and type.

Additionally, programs must have written policies & procedures for Rotor-Wing and Fixed-Wing operations addressing the following items pertaining to Air Medical Service Personnel and Patient Safety:

INFECTION CONTROL

There is an Exposure Control Plan consistent with Federal OSHA Guidelines.

Additional medical and agency resources pertinent to infection control must be identified and made available in the policy manual to all medical transport personnel. Education programs will include the institution's/service's infection control resources, programs, policies and CDC recommendations. Policies and procedures will be reviewed on an annual basis.

1. The dress codes should address jewelry, hair and other items of personnel that may interfere with patient care or crewmember safety (i.e. wearing of N-95 particulate mask, etc.);
2. Duty status during illness (i.e. sinusitis, otitis media, etc.)
3. Duty status while taking medications which may cause drowsiness.
4. Crew rest for medical staff that address maximum duty time and assurance for adequate crew rest.
5. Eye protection.
6. Safety complaint and feedback system.

~~Safety Initiatives~~

~~Medical transport services are required to report aviation and ground ambulance accidents and strongly encouraged to report incidents to the CONCERN network, NOTAMS, Weatherturndown.com and other locally accepted reporting systems and must report to the appropriate government agencies. There is a written policy that addresses reporting incidents or accidents and assigns certain individual(s) with the responsibility to report.~~

~~Hot refueling policies for normal and emergency situations:~~

~~For aircraft/ambulance, refueling with the engine running, rotors turning, and/or passengers onboard are not recommended. However, emergency situations of this type can arise. Specific and rigid procedures should be developed by the operator to handle these occurrences. Such "rapid refueling" procedures will be covered by the operator's training program. Refueling policies should address:~~

- ~~Refueling with engine(s) running or shut down.~~
- ~~Refueling with medical transport personnel or patient(s) on board, which includes a requirement that at least one medical transport person remain with the patient at all times during refueling or stopover.~~
- ~~Fire hazard policies pertinent to refueling procedures are addressed in the certificate holder's Operations Specifications Manual.~~

~~See ICAO SMM Draft in Appendix (XX)~~

~~See Risk Management A/C~~

~~See Canadian Air SMS Fatigue~~

~~See Safety Management Systems A/C 120- 92~~

Section 9: Quality Improvement

157.12 Proposed Rule Language – Rotor Wing Operations

(j) The AMP must have a Quality Improvement (QI) Program which demonstrates an ongoing system that includes retrospective review, concurrent review, and prospective forecasting of clinical care.

(1) The AMP QI Program must be overseen by the Medical Director.

(2) The AMP QI Program must demonstrate that it is designed to be a source of Clinical Practice improvement.
(3) The AMP QI Program must demonstrate that it is designed to be non punitive.
(A) The QI program must include a remediation process.
(B) The AMP QI Program must demonstrate inclusion of disciplinary action as a last resort or in extreme instances of violations of protocol or policy.
(4) The AMP should be able to demonstrate an appropriate method of chart review given their resources and abilities.
(5) The AMP must demonstrate the methods used to define the review process, including the sampling methodology, filters, and triggers.
(6) The AMP must demonstrate ongoing performance improvement through direct observation and retrospective review
(A) Retrospective audits should be accomplished through chart audits or patient care records reviews.
(B) Direct observation of performance.
(7) The AMP shall demonstrate a customer service process which addresses complaints, concerns, comments, and service inquiries.
(A) The AMP shall document investigation.
(B) The AMP must document written closure.

157.13 Proposed Rule Language – Fixed Wing Operations

(j) The AMP must have a Quality Improvement (QI) Program which demonstrates an ongoing system that includes retrospective review, concurrent review, and prospective forecasting of clinical care.
(1) The AMP QI Program must be overseen by the Medical Director.
(2) The AMP QI Program must demonstrate that it is designed to be a source of Clinical Practice improvement.
(3) The AMP QI Program must demonstrate that it is designed to be non punitive.
(A) The QI program must include a remediation process.
(B) The AMP QI Program must demonstrate inclusion of disciplinary action as a last resort or in extreme instances of violations of protocol or policy.
(4) The AMP should be able to demonstrate an appropriate method of chart review given their resources and abilities.
(5) The AMP must demonstrate the methods used to define the review process, including the sampling methodology, filters, and triggers.
(6) The AMP must demonstrate ongoing performance improvement through direct observation and retrospective review
(A) Retrospective audits should be accomplished through chart audits or patient care records reviews.

(B) Direct observation of performance.

(7) The AMP shall demonstrate a customer service process which addresses complaints, concerns, comments, and service inquiries.

(A) The AMP shall document investigation.

(B) The AMP must document written closure.

For centuries, humankind has striven to improve upon the status quo. There has been a continuous process of examining present day performance in an attempt to improve understanding, efficiency, and outcomes.

Quality Improvement is an ongoing system that includes retrospective review, concurrent review, and prospective forecasting of clinical care. Quality Improvement also combines a circular response through measurement of identified goals and sentinel events, identifying opportunities for improvement, re-education, process redesign, and measurement of corrective efforts. It is the process of taking a collective look in the mirror, and discovering what parts of the service we want to improve? Should we find that we are satisfied with the reflection, we need to be able to explain why.

The ultimate goal of Quality Improvement focuses on enhancing the provider's ability to provide patient care and excellent customer service while continuing to be clinically sophisticated and fiscally responsible.

~~The ultimate goal focuses on providing better care and service tomorrow than we are capable of today.~~

~~Information discovered as a result of a legitimate quality improvement program MAY be protected from discovery in administrative hearings and civil litigation. The Texas Department of State Health Services, the legislature and the Courts recognize that this protection is necessary so that employees and volunteers are encouraged to bring items of concern in matters of policy, protocol, or treatment to the attention of the QI manager. Agencies are encouraged to learn how to provide optimal protection for their QI process.~~

Quality Improvement is a non-punitive process designed to provide opportunities for personal and/or professional growth for the individual and agency. In order to be successful, the entire firm must embrace the philosophy. This may be a difficult concept for some to understand. One's past experience may indicate that it is much easier to punish than to teach. Because of this, many staff members doubt the sincerity of the commitment to grow, and instead, fear punishment.

Disciplinary action is a last resort for any quality improvement program. Disciplinary action should be reserved for extreme instances of repeated violations of protocol or policy despite remediation efforts, the breach of confidentiality, or refusal to participate in the quality improvement program.

Participation of the medical director is essential. As Medical Director, responsibility and liability begins when the call is received. The medical director is responsible for every phase of the emergency response and the actions of the personnel until the release of the patient. A QI program serves to provide a monitoring mechanism for patient care, response times, equipment and apparatus, and patient outcomes. QI provides a platform from which to direct continuing education, allowing CE to be tailored to the specific needs of the service and it provides a consistent and even handed measure to determine problem trends that may require intervention by the medical director.

It is the system administrator's duty to ensure the viability of the quality improvement program. Open mindedness cannot be overemphasized. The nature of quality improvement may be threatening to the administration. No one enjoys being scrutinized. Thus, the role of the administration is to make the process non-threatening so that looking in the mirror is a less painful process.

Staff members should be given the opportunity to actively participate in the program. Peer review auditing and upward evaluation of clinical practice provides the staff member with avenues to effect positive change and may serve to improve morale.

In order for the process to be efficient, a limited number of people should be involved at any one time. This group of people should include representation of the agency from all levels. The medical director and the administrator should remain active in the process, but other members should be rotated so that anyone willing to participate has the opportunity to do so.

Other potential participants in the Quality Improvement Committee include:

- Medical Director
- Clinical Manager
- Field Representative
- Field Supervisor Representative
- Hospital ER Representative
- Representation from the local physician community
- Professional Educator
- Billing Representative
- Communications Representative
- Pilot
- Mechanic
- Administrative Assistant

~~Quality improvement is a problem solving process. It is comprised of five familiar components that closely mirror the problem-solving process used in patient care and other daily activities.~~

~~The components are:~~

- ~~Assessment~~
- ~~Goal setting~~
- ~~Plan development~~
- ~~Intervention~~
- ~~Progress evaluation~~

~~Monitoring and evaluation involves continuously collecting data about important aspects of care/service, analyzing the data and recommending needed steps to improve based up on the analysis. The lingering question is "how to carry out monitoring and evaluation?"~~

~~A sample, well proven, 10-step Monitoring and Evaluation process.~~

1. ~~Assign responsibility~~
2. ~~Delineate scope of care~~
3. ~~Identify important aspect of care~~
4. ~~Identify indicators~~
5. ~~Establish thresholds for evaluation~~
6. ~~Collect and organize data~~
7. ~~Evaluate care~~
8. ~~Take actions to improve care~~
9. ~~Assess effectiveness of action~~
10. ~~Communicate findings~~

~~Some example indicators to assess may include:~~

- ~~Scene times~~
- ~~Protocol compliance~~
- ~~Endotracheal intubation success~~
- ~~Cardiac arrest survival~~
- ~~Specialty patients (pediatric, OB)~~
- ~~IABP or Invasive Monitoring Patients~~
- ~~Pain management~~
- ~~Unit hour utilization~~
- ~~Controlled substance use~~
- ~~Invasive Procedures~~
- ~~Who are discharged home directly from the Emergency Department, or discharged within 24 hours of admission.~~
- ~~Who are transported without an IV line or oxygen?~~
- ~~Upon whom CPR is in progress at referring location.~~
- ~~Who are not transferred from a critical care unit?~~
- ~~Who are "scheduled transports?"~~
- ~~Who is air transported more than once for the same illness or injury within 24 hours.~~

- ~~Who are transported from the scene of injury with a trauma score of 15 or greater or fails to meet area-specific triage criteria for a critically injured trauma patient.~~
- ~~Who are treated at scene, but not transported.~~
- ~~Who are not transferred bedside to bedside by the flight team?~~
- ~~Who are transported inter-facility, and the receiving facility is not a higher level of care than the referring facility?~~

~~The strengths of using a monitoring and evaluation system are:~~

1. ~~It is a viable method of performance improvement, and~~
2. ~~It is a systematic approach that guides staff through this difficult and time consuming event. It emphasizes the importance of collecting data – the lynch pin of improvement efforts – related to valid and reliable indicators.~~

~~It also emphasizes linking improvement actions to that data so that changes are made based on solid information rather than intuition.~~

~~Organizations are encouraged to set priorities for improvement by first cataloging the range of services provided and then giving priorities to the most important aspect – those that are high risk/low volume (less than 30 per period), high risk/high volume(greater than 30 per period), and/or problem prone. Agencies should consider building a matrix of these situations to focus their monitoring and evaluation system.~~

With the advent of electronic patient care records, chart review may take many forms beyond reading a written record. Agencies should be able to demonstrate an appropriate method of chart review given their resources and abilities. Random audits of at least 5% of high risk/high volume or 100% of high risk/low volume should be included. Agencies should be able to demonstrate their approach to reviewing particular problem prone situations.

Agencies must demonstrate the methods used to define the review process, including the sampling methodology, filters, and triggers.

An organized method of obtaining direct observation through field evaluations and feedback from hospital personnel should also be considered.

Finally, organizations should consider the needs and expectations of "customers." Measuring their satisfaction can provide valuable assessments of the quality of care rendered by an organization.

A small number of steps can be summarized for implementation of a complete monitoring and evaluation program:

- Set priorities for measurement
- Identify worthwhile indicators– identify audit filters

- Teach staff how data for the indicators can be collected
- Encourage staff to study data

The agency is also responsible to insure that the corrective action plans are implemented and reassessed, also known as "closing the loop."

Ongoing Performance Improvement

Evidence of ongoing surveillance of field implementation of the agencies protocols is essential. Ongoing review as previously described merely demonstrates that the protocols were reviewed by the medical director and that personnel were exposed to the material. The final piece of the protocol puzzle is ongoing surveillance of the protocols in the actions of the field personnel. Again, many methods are available to an agency to fulfill this goal.

Typically, surveillance falls into two broad categories:

- Direct observation
- Retrospective review

Direct Observation

Direct observation can be accomplished by peer review, field training officers, the medical director, or others charged with performing field evaluations. Some agencies prefer that the evaluator ride as a third participant on the aircraft so that they can view the call from beginning to end. Others rely on a third party arriving on scene and performing the evaluation. Still others have an appropriate party meet the crew at the receiving facility or rely on hospital staff to review the progress and initial outcome of the patient. Ideally, an agency would incorporate all three aspects into the evaluation process. Regardless, an agency must be able to demonstrate some form of practical protocol compliance.

For some agencies on scene evaluation is an unrealistic expectation. Barriers, such as financial constraints, low call volume, expansive territory, or an unreasonably small or large staff, might necessitate an alternative method of observation. In these cases, an agency might look to realism training or scene simulations as a legitimate method of measuring "real world" protocol compliance.

Retrospective Analysis

Retrospective analysis is most often accomplished by auditing charts or patient care report (PCR) records. While this may be the most time efficient method of assessing protocol compliance, it is also the most biased. First, auditing records makes the giant assumption that the record accurately reflects the actions and timeline of the actual call.

At a minimum, the run record is an annotated description of the call's events, devoid of contextual reference. Agencies must promote accurate and thorough documentation by their field crews.

Agencies forced to rely on retrospective analysis, should define a minimum data set of objective criteria in which to evaluate protocol compliance.

Although not condoned, it is not unreasonable to believe that the average provider paints the best picture possible of the call just completed. Often, real time data is lost and the times documented are an estimate at best.

In addition, retrospective analysis does not have the benefit of context. Minor deviations or protocol interpretations may seem less defensible when considered in an air-conditioned room, out of the rain, or away from screaming bystanders. Many times, making decisions with the information available at the time cannot be compared to those made after more complete, thoughtful deliberation.

Again, regardless of the method, the agency must demonstrate an effective method of providing actual compliance with the written protocols. The agency must develop a policy or procedure for managing protocol deviations as well.

Required:

- Ongoing Performance Improvement
- A five component problem solving process with the following components:
- Assessment
- Goal Setting
- Plan Development
- Intervention
- Progress Evaluation
- There shall be an assessment of the provider's daily activities.
- Agencies shall have measurable clinical indicators that are regularly assessed for compliance with established thresholds.
- An appropriate, organized and prioritized monitoring and evaluation system for compliance with documentation standards, correct protocol selection, and appropriate patient care.

~~All individual performance of skills will be tracked for each patient care provider.~~
~~There shall be an assessment of the following categories:~~

- ~~Personnel/Staffing~~
- ~~Clinical Care (Skills performance, Protocol Selection, Patient Assessment, etc.)~~
- ~~Customer Relations program.~~
- ~~Education~~
- ~~Administrative/operational policies~~

- ~~Compliance with Safety Guidelines~~
- ~~Compliance with Infection Control Practices~~

COMPLAINT RESOLUTION PROCESS

Customers (i.e. patients, family members, facility representatives, first responders, tax payers, etc.) contact their local EMS agency with a variety of questions and concerns, complaints and/or compliments. EMS agencies must be responsive these issues, insuring that the public's interest is addressed.

Tracking and monitoring the substance of such inquiries will aid an agency in better meeting the needs of its customer base and/or constituency. Informal and formal complaints provide the agency with insight into areas of potential improvement. Questions and comments may demonstrate a need for greater public awareness or advertising on a particular topic or issue. Compliments and other expressions of gratitude provide the agency and its employees with a glimpse of the good work that is done in the community. Regardless of its motivation or content, customer feedback is a valuable tool for system improvement.

Examples:

- The trauma surgeon reports a good patient outcome because the crew rapidly assessed the patient
- You receive a card thanking the crew for their timely response and quality care
- A caller thinks you should be doing more to combat drunk driving
- Through your website, a citizen e-mails a request asking why you bill for services when you they pay taxes to support the agency
- A fire chief feels that response times are slipping

Constructing and adhering to a service inquiry protocol is an essential step in tracking and analyzing customer service inquiries. Such a protocol insures that the customer's concern is documented, investigated, and appropriate steps taken to maintain or enhance the system's performance. This includes complaints, comments, and compliments.

COMPONENTS OF A SERVICE INQUIRY PROTOCOL:

INTAKE

As noted in the examples above, initial contact with the agency may occur through a variety of channels. An agency should establish and advertise a variety of means for the

public to contact the agency. Such variety encourages public comment and enhances the likelihood that any given citizen will correspond with the agency.

Examples of intake opportunities include:

- Phone
- Address
- Email
- Website
- Billing department
- Customer satisfaction survey
- Dedicated comment field on invoices
- Suggestion boxes in local ER's
- Customer Inquiry Hotline

The person or collection device receiving the initial contact should attempt to record the customer's name, contact number, and general nature of the inquiry. Additional information, such as specific call data, can be very helpful.

POLICY

The agency must establish and maintain a service inquiry policy/procedure. The policy should define what constitutes an inquiry.

The policy should address what should be done when a complaint, concern, or compliment is received by an interested party (another professional in the field, patient, citizen, co-worker, etc.). The policy shall address what information should be gathered, appropriate consultation of supervisors, the timely implementation of a resolution and the appropriate type of feedback to the individuals involved in the incident. Each of these areas is further discussed below.

DOCUMENTATION

Regardless of the method of initial contact, all inquiries should be routed to central point to be recorded in a logbook and forwarded to the appropriate party for further information gathering.

INVESTIGATION

(The term "investigation" should be implied to mean appropriate follow-up on both positive and negative customer service inquires. It does not necessarily refer to a potential disciplinary situation.)

It is recommended that the lead investigator should make contact with the customer. This conveys a since of importance to the customer, letting them know that their complaint,

concern, or compliment is important to the agency. During this contact, the investigator can get more specific information regarding the event or issue.

In situations involving customer complaints, the investigator should inform the customer of the complaint investigation process, a timeline for completion, and inquire as the feedback that the customer expects. Often customer do not want feedback, they merely want to make you aware of a situation. If feedback is requested, the investigator should inform the customer that the agency cannot discuss potential disciplinary action, but will be happy to inform them of the general outcome of the investigation and resolution of the complaint.

Knowing that there are two sides of every story, it is imperative that the agency personnel involved have an opportunity to relate their version of the event. Even in complimentary cases, the personnel may be able to report actions or strategies they initiated that caused the customer to be especially grateful. Certainly, if a particular crew receives an extraordinary amount of positive customer appreciation, the agency should observe the crew's actions and attempt to seed similar behavior in other personnel.

Both customer and personnel accounts of the event should be documented by the investigator. Written accounts by the personnel may be helpful as well, especially if disciplinary action is anticipated.

The investigator should document what they believe to be chain of events based on the information obtained from all pertinent parties.

Referral

In some cases, the investigator will find it necessary to include other individuals in the investigation and decision-making process. The agency administrator, medical director, human resources coordinator and immediate supervisors are likely to be advised of the situation or called upon to craft and prudent outcome.

Closure

At the conclusion of the investigation, feedback should be given to all parties involved. For praise situations, this might include providing a copy of the appreciation letters to the employee and their personnel file.

In quality improvement and/or disciplinary situations, personnel should be coached in method to avoid similar situations in the future. In some cases, case studies can be developed and published so that the entire agency can benefit from what might have been an unusual situation.

Follow-up with the customer will often provide a since of closure and satisfaction. Customers expect that service will not always be delivered at peak efficiency. They

know that individuals have bad days. In most cases, what really matters is how an agency responds to their concerns. Demonstrating that the agency listened and responded in an appropriate manner may be all that is necessary to convert an unsatisfied complainer into a completely satisfied customer.

RECORD KEEPING

One of the first steps in the service inquiry protocol should be the recording of the complaint, concern or compliment in some form of inquiry log. The person maintaining the log should be charged with insuring that inquiries are handled in an appropriate time frame and returned for filing. Should this person recognize that a particular inquiry has not been closed, this should be reported to a person of sufficient authority who can urge the process to a resolution.

To be anything more than a complaint resolution process, an agency must maintain inquiry records and periodically complete a trending analysis. The importance of such a process has been previously discussed, but its importance cannot be under-emphasized.

Required:

- Complaint Resolution Process
- A centralized location and/or process for receiving inquiries.
- An established triage process to direct inquiry resolution along potential disciplinary or Quality Improvement avenues
- A process that ensures the confidentiality of all complaints and investigations.
- A method to track/trend the nature of each inquiry and feed data into the Quality Improvement program.

~~RESPONSE TO SENTINEL EVENTS~~

~~Emergent problems (sentinel events) may arise in any of the categories and topics listed above. The most noticeable tend to fall in the clinical arena. These problems are the ones that tend to get everyone's attention, spread quickly through the agency, and cause each individual to comment on how they would have handled the situation differently. They are also the problems that are most likely to cause spontaneous, adverse reactions from supervisors, managers, and the medical director.~~

~~The first question one must ask when faced with such a situation, clinical or not, is what was the root cause of the decisions and/or actions that were made. Was it due to malice or a defective process? The cause should determine whether the corrective action should be handled via operations (discipline) versus quality improvement (growth).~~

~~Assuming you find the error was made due to a deficit in processes, it is the agency's obligation to prevent the error and similar errors in the future.~~

~~Various mechanisms can be instituted to find problems. An EMS provider should provide formal methods of data analysis. Other more informal methods such as the "grapevine" can also be used. The most common method of finding problems is the "grapevine". Some services require complaints and/or concerns to be in writing. Because people are often reluctant to "document" concerns against a peer, quality improvement requires that hearsay concerns be investigated.~~

~~All aspects of the problem must be investigated. How and why the problem occurred should be the focus. Each individual involved should be asked about their observations and opinions of the incident as it occurred, and retrospectively, what they would do differently.~~

~~Given time and due consideration, rather than immediate reaction to a given problem, the QI process may discover extenuating circumstances which may justify the decisions made, or point to a simple education/training solution, rather than a punitive solution based on reflex.~~

~~Trending is important to know how often this situation presents itself. In addition, an attempt should be made to assess how likely others have been and/or would be to make the same decisions and actions.~~

~~Resolution and prevention may take many forms. Most common is some form of education to bring all personnel to a higher minimum competency level. Often, re-engineering of the work place or effort may improve efficiency or avoid future problems. Protocols may be revised or clarified. Likewise, policies or procedures may be developed or re-written. Administrative or clinical controls may be implemented to accommodate the new information received during the process.~~

~~Quality improvement is a dynamic process that is used to not only improve the service to the community, but to prove the value of your agency to the community. Excellence can only be achieved with active participation in a process that explores daily activities. Activities that demonstrate excellence should be documented and emphasized. Those needing improvement must be recognized and adapted. In the end, the public will receive a higher level of care in a more efficient manner.~~

~~Required:~~

- ~~Sentinel Event Management~~
- ~~There shall be a definition for sentinel event and "near-misses."~~
- ~~There shall be an assessment of the provider's response to emergency problems (sentinel events). (Equipment failures, supply deficiencies, medication errors, fleet failures, etc.)~~
- ~~A system in place to monitor customer satisfaction and conflict resolution with the system (Patients and Hospital Personnel are considered customers)~~

On-Going Corrective Action

No Quality Improvement or Service Inquiry system could ever be complete without on-going corrective action. The whole purpose of the improvement cycle is to ensure that problem areas are corrected and that the corrections can be documented.

By documenting any on-going corrective action, a provider can ensure that the Quality Improvement and Formal Complaint Tracking Process are directing its improvement activities.

Some examples of on-going corrective action are: education for personnel with an identified deficiency, re-engineering of the work place to improve efficiency, revision of protocols for clarification and policies or procedures developed or re-written to address a new problem or issue.

All Air Medical Service providers must document problems and report the action taken to correct these problems. This documentation must be used to create a reporting structure that will allow for analysis of trends and statistics and still protect the confidentiality of the documents being studied.

Required:

- On-Going Corrective Action
- At least annual documentation of the results of the Quality Improvement efforts and Formal Inquiry Tracking Process. Areas of the program determined to be in need of improvement will be identified, objectives developed and implemented, reassessed, and reported.
- Efforts to resolve and reassess identified individual deficiencies will be documented.
- Privilege/confidentiality policies and methods.

Section 10: Established Committees

157.12 Proposed Rule Language – Rotor Wing Operations

(k) An AMP must provide evidence of Oversight Committees with the following elements:

(1) The AMP shall demonstrate the ability of all personnel to report and direct information to its committees
  (A) In a defined and easily accessible method.
  (B) Anonymously if the respondent so desires.
  (C) That provides a recording and tracking mechanism for the report.
(2) The AMP shall demonstrate that its oversight committees publish and disseminate their meeting minutes and provide information to all levels of the organization.
(3) The AMP committee's must:
  (A) Have a charter that clearly states the policies, objectives and requirements of the committee.
  (B) Have representatives from all disciplines with the AMP.
  (C) Must review and oversee each element of its charter.
(4) An Air Medical Provider must provide evidence that it has Oversight Committees encompassing:
  (A) Safety Management Systems Committee (SMSC)
  (B) Quality Improvement Committee (QIC)
  (C) Education Committee (EC)
    (i) The EC includes external representatives as required to review education processes.
  (D) Communications Committee (CC)
    (i) The CC includes external representative customers for review of external relationships as required.
  (E) Public Information & Outreach Committee (PIOC) [Optional]
    (i) The PIOC incorporates external representatives for review as required.
  (F) Product Review Committee (PRC) [Ad Hoc]
  (G) Protocol Development and Review Committee (PDRC)
    (i) The PDRC reviews and oversees each element of the Protocol based on QIC reports and best practices within the pre-hospital environment.
  (H) Customer Service Committee (CSC)
    (i) The CSC incorporates external representative stakeholders as indicated by program needs.
(5) An Air Medical Provider must demonstrate its active participation with all required external committees.

157.13 Proposed Rule Language – Fixed Wing Operations

(k) An AMP must provide evidence of Oversight Committees with the following elements:

(1) The AMP shall demonstrate the ability of all personnel to report and direct information to its committees
  (A) In a defined and easily accessible method.
  (B) Anonymously if the respondent so desires.
  (C) That provides a recording and tracking mechanism for the report.
(2) The AMP shall demonstrate that its oversight committees publish and disseminate their meeting minutes and provide information to all levels of the organization.
(3) The AMP committee's must:
  (A) Have a charter that clearly states the policies, objectives and requirements of the committee.
  (B) Have representatives from all disciplines with the AMP.
  (C) Must review and oversee each element of its charter.
(4) An Air Medical Provider must provide evidence that it has Oversight Committees encompassing:
  (A) Safety Management Systems Committee (SMSC)
  (B) Quality Improvement Committee (QIC)
  (C) Education Committee (EC)
    (i) The EC includes external representatives as required to review education processes.
  (D) Communications Committee (CC)
    (i) The CC includes external representative customers for review of external relationships as required.
  (E) Public Information & Outreach Committee (PIOC) [Optional]
    (i) The PIOC incorporates external representatives for review as required.
  (F) Product Review Committee (PRC) [Ad Hoc]
  (G) Protocol Development and Review Committee (PDRC)
    (i) The PDRC reviews and oversees each element of the Protocol based on QIC reports and best practices within the pre-hospital environment.
  (H) Customer Service Committee (CSC)
    (i) The CSC incorporates external representative stakeholders as indicated by program needs.
(5) An Air Medical Provider must demonstrate its active participation with all required external committees.

While the medical director is ultimately responsible for the quality of pre-hospital care provided under his/her license, quality care is dependent on more than just the input of the medical director. Every facet of an agency's operation can and does impact the

patient's overall therapeutic experience. Many of these areas are far beyond the scope of the medical director's knowledge, skill, experience, or interest.

Even within the clinical arena, those delivering the care have a vested interest in the development of the agency's therapeutic personality. Experience tells us that those employees long for involvement as it increases a sense of personal value and contribution to the agency. A positive side effect of such involvement is the fact that employee involvement fosters ownership in the decisions and greater compliance and satisfaction with the process. In situations where a plan obtains limited success, the inclusion of a variety of personnel in the planning and implementation process dilutes the negative impact of the failed operation on any one person.

Every agency is composed of personnel who have opinions on how to get the job done (just ask the personnel). Personnel have a unique vantage point within the agency and many times have a wealth of knowledge and ideas that could enhance area of the operation that impact the provision of clinical care. It is critical that organizations provide methods for any employee to report their suggestions, concerns and comments through a defined process that is easy for the employee to utilize. Some examples may be found in compliance processes; in fact the system should mimic that style of reporting mechanism, an 800 number, an email address, a fax line and/or a secure suggestion box.

~~Likewise every agency is unique in its structure and components. This then will require unique adaptation of the structure and interaction of committees. For example a small single aircraft operator may only have enough personnel to man every committee by themselves. A unique and creative solution to this circumstance may be that the entire employee group serves on multiple, concurrent committees, which may or may not choose to convene at the same times. Use of the power of the individual personnel is the emphasis and strength behind committees. Committees enable consensus and evolution of the AMP to provide significant increases in ability to understand and improve operations.~~

~~Traditionally, we think of committees as small working groups that exist into perpetuity. Over time, it is common for committees to stagnate and become counterproductive. This does not necessary need to be the case. In fact, it may be beneficial for such groups to have a limited scope and a defined lifespan.~~

~~A task force or working group can be formed to explore a particular topic, formulate a report and implement the result. Once complete, the group is disbanded and new group is composed to tackle the next opportunity. Such an approach maximizes the opportunity for individual participation and tends to promote a greater degree of enthusiasm within the organization.~~

~~Regardless of the approach, there are a limitless number of areas for personnel to contribute. Listed below are a variety of committee examples that an agency should consider. Just as the Incident Command System can be consolidated or expanded in~~

~~scope dependent on the demands of the particular incident, so too can the committee options listed below dependent on the size and nature of the agency.~~

Safety Management Systems Committee

Workplace injuries and exposures pose a significant threat to physical health pre-hospital providers and to the financial health of the agency. A safety committee is designed to review workplace practices and offer suggestion and/or policies that promote a safer work environment. Specific attention should be dedicated to the proactive review of infection control methods, techniques, aviation safety, crew resource management, communications center, etc.

Quality Improvement Committee

In most agencies, the QI process utilizes a committee to review clinical care and recommend improvement strategies.

Education Committee

In conjunction with the Quality Improvement process, the education committee recommends, develops, and implements professional development programs. Many of these will be clinically focused to meet proactive or retrospective clinical QI needs. However, other aspects of the QI process, including the Service Inquiry Protocol, may identify issues not traditionally classified as clinical, but important to patient's overall outcome. Examples might include such things as preceptor training or conflict resolution skills.

Communications Committee

Quality clinical care begins when the phone rings in the communications center. The committee should be charged with monitoring compliance with the protocols, phone etiquette, and compliance with weather reporting turndowns, EMResource (EMSystems) updates and daily briefing.

Public Information and Education Committee (Optional)

Outreach programs designed to raise awareness and promote the health and safety of the community are an important part of many Air Medical Service Programs. The responsibility for assessing the need and meeting the demand falls to a Public Information and Education Committee.

Product Evaluation Committee (Ad Hoc)

The delivery of out of hospital care is advancing at a pace equivalent to the health care industry as a whole. Because of this, a tremendous number of new products and supplies

are being introduced each year. Agencies owe it to their constituency, personnel, and patients to critically review these potential advancements for their efficacy and utility in the Air Medical Service environment.

Protocol Development and Review Committees

Many medical directors have found it near impossible to research every advancement and alteration in clinical practice across the broad horizon of out of hospital care. In general, Air Medical Service Personnel are extremely interested in remaining current in EMS clinical issues. Consequently, they are often eager to participate in committee work in specific areas of clinical interest. An agency might establish small work groups focused on areas such as cardiac, respiratory, trauma, or pediatrics.

This committee should encompass advising the Medical Director on protocol development as well as being stewards of the AMP's involvement with the Healthcare System. A Healthcare system is composed of pre-hospital providers, sending and receiving facilities, tertiary facilities and educational institutions. An AMP should strive to regularly incorporate comments, input and feedback from the Healthcare System in protocol development and clinical care.

Customer Satisfaction Committee

Agencies have a vested interest customer satisfaction. Meeting the expectations of patients and the constituency at large is essential for the long-term success of an agency. Failure to address satisfaction issues might lead to public discord, hostility and eventually threats of changing who provides service to a particular population or facility.

Agencies must take advantage of the resources found in their employee roster. The intellectual experience of sharing ideas through a collaborative environment will promote quality patient care and a more productive workplace.

The organization should provide documentation that it participates in outside committees as well. Some committees that require active involvement of a licensed AMP in the State of Texas are the Air Medical Providers Group (AMPAG) of the Regional Advisory Council (RAC), voluntary participation local EMS systems and trauma groups, statewide Governor's Emergency Trauma Advisory Council Air Medical Committee, EMS Committee and other opportunities to engage as a state wide resource in the state wide EMS System.

Section 11: Medical Director Qualifications

157.12 Proposed Rule Language – Rotor Wing Operations

(l) The AMP shall designate or employ a medical director who shall meet the following qualifications:
  (1) A physician who is currently licensed in the state of Texas, in good standing with the Texas Medical Board, in compliance with the Texas Board of Medical Examiners Rules, particularly regarding Emergency Medical Services as outlined in 22 TAC 197, and in compliance with Subtitle B of Title 3 of the Texas Occupations Code;
  (2) Have knowledge and experience consistent with the transport of patients by air;
  (3) Be knowledgeable in aeromedical physiology, stresses of flight, aircraft safety, patient care, and resource limitation of the aircraft, medical staff and equipment;
  (4) Have access to consult with medical specialists for patient(s) whose illness and care needs are outside the medical director's area of practice; and
  (5) The physician shall fulfill the following responsibilities:
    (A) Ensure that there is a comprehensive plan/policy to address selection of appropriate aircraft, staffing and equipment.
    (B) Be involved in the selection, hiring, training, and continuing education of all medical personnel.
    (C) Be responsible for overseeing the development and maintenance of a QI program.
    (D) Participate in any administrative decision making processes that affect patient care.
    (E) Ensure that there is an adequate method for on-line medical control, and that there is a well defined plan or procedure and resources in place to allow off-line medical control.
    (F) Oversee the review, revision and validation of written medical policies and protocols annually.
    (G) Knowledgeable about laws and regulations affecting local, regional, and state EMS operations.
    (H) Actively involved in administrative and legislative environments affecting regional and/or state pre-hospital organizations.

157.13 Proposed Rule Language – Fixed Wing Operations

(l) The AMP shall designate or employ a medical director who shall meet the following qualifications:
  (1) A physician who is currently licensed in the state of Texas, in good standing with the Texas Medical Board, in compliance with the Texas Board of Medical Examiners Rules, particularly regarding Emergency Medical Services as outlined

in 22 TAC 197, and in compliance with Subtitle B of Title 3 of the Texas Occupations Code.

(2) Have knowledge and experience consistent with the transport of patients by air.

(3) Be knowledgeable in aeromedical physiology, stresses of flight, aircraft safety, patient care, and resource limitation of the aircraft, medical staff and equipment.

(4) Have access to consult with medical specialists for patient(s) whose illness and care needs are outside the medical director's area of practice.

(5) The physician shall fulfill the following responsibilities:

(A) Ensure that there is a comprehensive plan/policy to address selection of appropriate aircraft, staffing and equipment.

(B) Be involved in the selection, hiring, training, and continuing education of all medical personnel.

(C) Be responsible for overseeing the development and maintenance of a QI program.

(D) Participate in any administrative decision making processes that affect patient care.

(E) Ensure that there is an adequate method for on-line medical control, and that there is a well defined plan or procedure and resources in place to allow off-line medical control.

(F) Oversee the review, revision and validation of written medical policies and protocols annually.

(G) Knowledgeable about laws and regulations affecting local, regional, and state EMS operations.

(H) Actively involved in administrative and legislative environments affecting regional and/or state pre-hospital organizations.

No Air Medical Service Program can possibly succeed without the dedication and support of an active medical director. Although the amount of time needed may vary depending upon the provider, the medical director for an Air Medical Service Program must be prepared to spend several hours to several days a week working with the provider and its staff.

The medical director is responsible for the overall clinical aspects of the provider. In order to qualify as a medical director, each physician should address the following elements:

Required:

1. Medical Director Must be:
   a. Physician licensed to practice in Texas and shall be registered as an EMS medical director with the Texas Department of State Health Services;
   b. Familiar with the design and operation of Air Medical Service systems;

c. Experienced in emergency care of acutely ill or injured patients;
d. Actively involved in:
    i. The emergency management of acutely ill and/or injured patients;
    ii. The training and/or continuing education of Air Medical Service Personnel, under his or her direct supervision, at their respective levels of certification;
    iii. The medical audit, review, and critique of the performance of personnel under his or her direct supervision;
    iv. The administrative and legislative environments affecting regional and/or state pre-hospital organizations;
    v. Knowledgeable about local multi-casualty plans;
    vi. Familiar with dispatch and communications operations of Air Medical Service aircraft
    vii. Knowledgeable about laws and regulations affecting local, regional, and state EMS operations.

Agencies are strongly encouraged to have a contract with their Medical Director that requires the Medical Director to be responsible for the following: Approve the level of care that may be rendered locally by each of the personnel employed by the Air Medical Service agency under the medical director's supervision, regardless of the level of state certification or licensure, before the individual is permitted to provide such care to the public;

Establish and monitor compliance with field performance guidelines for Air Medical Service personnel;

Establish and monitor compliance with training guidelines which meet or exceed the minimum standards set forth in the Texas Department of State Health Services EMS certification regulations;

Develop, implement, and revise protocols and/or standing delegation orders, if appropriate, governing care and medical aspects of patient triage, transport, transfer, dispatch, extrication, rescue, and radio-telephone-telemetry communication by the EMS;

Direct an effective system audit and quality assurance program;

Determine standards and objectives for all medically related aspects of operation of the Air Medical Service program including the inspection, evaluation, and approval of the system's performance specifications;

Function as the primary liaison between the Air Medical Service administration and the local medical community, ascertaining and being responsive to the needs of each;

Take or recommend appropriate remedial or corrective measures for Air Medical Service personnel, in conjunction with local Air Medical Service administration, which may

include, but are not limited to, counseling, retraining, testing, probation, and/or field preceptor ship;

Authority to suspend a certified or licensed individual from medical care duties for due cause pending review and evaluation;

Establish the circumstances under which a patient might not be transported;

Establish the circumstances under which a patient may be transported against his or her will in accordance with state law, including approval of appropriate procedures, forms, and a review process;

Establish criteria for selection of a patient's destination; and

Develop and implement a comprehensive mechanism for management of patient care incidents, including patient complaints, allegations of substandard care, and deviations from established protocols and patient care standards.

Be an active participant in the local Regional Advisory Committee including the Medical Directors Committee and Air Medical Service Committees.

In addition the agreement should outline the specific responsibilities and authority of the medical director(s) and the Air Medical Service administration. The agreement should describe the process or procedure by which a medical director may withdraw responsibility for Air Medical Service personnel for noncompliance with the Emergency Medical Service Act, the Health and Safety Code, Chapter 773, the rules adopted in this chapter, and/or accepted medical standards;

SECTION 12: AMP CRITICAL FAILURES

157.12 Proposed Rule Language – Rotor Wing Operations

(m) The AMP will be assessed as a part of the licensure process in demonstrating program components and compliance with law.

(1) Failure to address any of the following program components shall be considered a Critical Failure and result in loss of or denial of license.

(A) Program for credentialing of providers

(B) Program for Professional development

(C) Protocols or Standards of Care

(D) Established Operational Standards

(E) Administrative Oversight

(F) Communications Center

(G) Base or Facility Standards

(H) Program for Safety Standards

(I) Program for Quality Improvement

(J) Established Committees

(K) Medical Direction

(2) Convictions of any of the following:

(A) Violations of law regulating healthcare provider fraud, abuse, kickbacks.

(B) Management/Operator convictions of violation of laws of moral turpitude.

157.13 Proposed Rule Language – Fixed Wing Operations

(m) The AMP will be assessed as a part of the licensure process in demonstrating program components and compliance with law.

(1) Failure to address any of the following program components shall be considered a Critical Failure and result in loss of, or denial of, licensure:

(A) Program for credentialing of providers

(B) Program for Professional development

(C) Protocols or Standards of Care

(D) Established Operational Standards

(E) Administrative Oversight

(F) Communications Center

(G) Base or Facility Standards

(H) Program for Safety Standards

(I) Program for Quality Improvement

(J) Established Committees

(K) Medical Direction

(2) Convictions of any of the following:

(A) Violations of law regulating healthcare provider fraud, abuse, kickbacks.

(B) Management/Operator convictions of violation of laws of moral turpitude.

As an AMP establishing a program or renewing a program's license there are a defined set of responsibilities and accountabilities to ensure. AMP's are encouraged and expected to develop their own approach to meeting or exceeding requirements laid out in this document and the set of rules that this document supports. In developing and adapting approaches to accomplishing the licensure process an AMP cannot lose sight that there are certain elements of clinical, aviation and business operations that will be absolute. Failure to address these components of an AMP's program will be result in "Critical Failure" assessments and subsequent loss of a current license or failure to complete a new applicant process.

These critical failures are based on fundamental components as assessed by industry regulatory requirements and/or best practices, or violations of law.

The following are considered Critical Failures:

1. The AMP does not possess or contract through a Part 135 Air Carrier Certificate.
2. The AMP does not operate aircraft that have current airworthiness certificates.
3. The AMP does not have or demonstrate any of the following separate programs:
    a. Credentialing of providers
    b. Professional development
    c. Protocol or Standards of Care
    d. Established Operational Standards
    e. Administrative Oversight
    f. Communications Center
    g. Base or Facility Standards
    h. Safety Standards
    i. Quality Improvement
    j. Established Committees

k. Medical Direction

4. Convictions of violations of law regulating healthcare provider fraud, abuse, kickbacks.

5. Management/Operator convictions of violation of laws of moral turpitude.

APPENDIX A

TABLE OF ABBREVIATIONS AND DEFINITIONS

Word/Phrase	Abbreviation	Definition
Air Medical Community	**AMC**	**The spectrum of all types of provider of air medical services. Includes but is not limited to rotor and fixed wing aircraft, and governmental, not-for-profit and profit based companies.**
Air Medical Provider	**AMP**	**The individual organization that provides air medical service through the utilization of aircraft and medical personnel. The holder of the state air medical license and the applicant for Medicare and Medicaid provider numbers as a state licensed air medical provider. A person who operates/leases a fixed-wing or rotor-wing air ambulance aircraft, equipped and staffed to provide a medical care environment on-board appropriate to the patient's needs. The term air ambulance provider is not synonymous with and does not refer to the Federal Aviation Administration (FAA) air carrier certificate holder unless they also maintain and control the medical aspects that are consistent with EMS provider licensure.**
Air Medical Resource Management	**AMRM**	**An application of aviation Crew Resource Management, AMRM addresses the challenge of optimizing the human/machine interface and related interpersonal issues, with maximum focus on communication skills and team building curricula. These issues include effective teambuilding, information transfer through communications, problem solving, decision-making, maintaining situational awareness, and establishing an operational environment conducive to optimal human performance even in challenging situations. http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/0/b643be7ddea4b3af8625708c006529fc/$FILE/AC00-64.pdf**
Air Traffic Control	**ATC**	**Air traffic control (ATC) is a service provided by ground-based controllers who direct aircraft on the ground and in the air, provided under the guidance and regulation of the FAA.**
Aircraft Evacuation Procedures		**The AMP's procedures that refer to emergency evacuation from an aircraft which may take place on the ground, in water, or mid-flight. There are standard evacuation procedures and special evacuation equipment.**
Aircraft Maintenance Sterility		**The AMP's procedures to ensure that aircraft maintenance is not interrupted, or when interrupted requires the reset or restart of the entire maintenance process to ensure accurate and complete maintenance.**
Aircraft/Ambulance		**The equipment and modification of an aircraft to undertake the air**

Configuration		**ambulance mission, under the regulation of the FAA's requirements.**
Airframe		**The term airframe refers to the mechanical structure of an aircraft, and as generally used does not include the propulsion system.**
All Personnel		**All individuals of all disciplines employed by an AMP.**
AMP Medical Director	**AMD**	**The physician responsible for the provision of medical care by the AMP. Supervises protocols, medical crew training, selection of medical equipment, establishment of treatment requirements and medications, is the medially responsible individual for the AMP.**
Association of Air Medical Services	**AAMS**	**The international trade association representing the air medical and critical care ground industry. Based in Alexandria, VA, www.aams.org**
Aviation Operations		**Operations of the AMP that are directly related to or required by the operating of an aircraft.**
Backup Emergency Power Source		**Emergency power systems are a type of system, which may include lighting, generators, fuel cells and other apparatus, to provide backup power resources in a crisis or when regular systems fail.**
Biohazard		**A biological hazard or biohazard is an organism, or substance derived from an organism, that poses a threat to (primarily) human health.**
Briefing		**The act or instance of giving precise instructions or essential information, communicating amongst the team assigned to a task or project.**
Bureau of Narcotics Enforcement	**BNE**	**A division of the TX Department of Public Safety. The Texas Prescription Program was created by the Texas Legislature in 1982 to monitor Schedule II controlled substance prescriptions. Effective September 1, 2008, the Texas Legislature expanded the Program to include the monitoring of Schedule III through Schedule V controlled substance prescriptions.**
Centers for Medicare and Medicaid Services	**CMS**	**The Centers for Medicare and Medicaid Services (CMS), previously known as the Health Care Financing Administration (HCFA), is a federal agency within the United States Department of Health and Human Services (DHHS) that administers the Medicare program and works in partnership with state governments to administer Medicaid, the State Children's Health Insurance Program (SCHIP), and health insurance portability standards. In addition to these programs, CMS has other responsibilities, including the administrative simplification standards from the Health Insurance Portability and Accountability Act of 1996 (HIPAA), quality standards in long-term care facilities (more commonly referred to as nursing homes) through its survey and certification process, and clinical laboratory quality standards under the Clinical Laboratory Improvement Amendments.**
Centigrade		**relating to, conforming to, or having the international thermometric scale on which the interval between the triple point of water and the boiling point of water is divided into 99.99 degrees with 0.01°**

		representing the triple point and 100° the boiling point <10° Celsius>
Certified Flight Communicator	CFC	The Certified Flight Communicator has successfully completed a 2-day class designed for communication specialists in the Air Medical field. Topics covered include Flight Following and Navigation, Map Reading skills, Aviation weather, PAIP, Stress Management, Public Relations, and Medical Terminology. Following successful completion of the exam, status as a Certified Flight Communicator is earned.
Circadian Rhythm		being, having, characterized by, or occurring in approximately 24-hour periods or cycles (as of biological activity or function) <circadian rhythms in activity>
Clinical Care Provider		
Clinical Competencies		The body of experiences, education, skills testing and oversight by the AMD that establishes the parameters of the provision of healthcare by the AMP's clinical personnel.
Clinical Practice		The practice of healthcare by the AMP's clinical personnel under the oversight of the AMD.
Commission on Accreditation of Medical transport Systems	CAMTS	The Commission on Accreditation of Medical Transport Systems (CAMTS) (pronounced CAMTS), is an independent, non-profit agency which audits and accredits fixed-wing and rotary wing air medical transport services as well as ground inter-facility critical care services in the U.S. to a set of industry-established criteria.
Communication Committee	CC	The Committee of the ~~TAP~~ AMP -that is responsible for monitoring compliance with the protocols, phone etiquette, and compliance with weather reporting turndowns, EMResource (EMSystems) updates and daily briefing.
Communications Center		A center for the receipt and relay of requests for the services of an AMP. Maintains such documents as required and is equipped as required to communicate within the mission profile of the AMP.
Communications Specialist		A person trained to undertake emergency medical dispatch and to provide flight following services for an AMP I in accordance with a minimum of NAACS standards.
Comprehensive Clinical Management Program	CCMP	The designation by the Department of State Health Services which designates an emergency medical services provider as meeting the current "Comprehensive Clinical Management Program Criteria" and actively participates on the appropriate RAC and submits data to the Texas EMS/Trauma Registry.
Continuing Education	CE	The required amount of annual, biannual training established by a particular credentialing, licensing or accrediting entity. Maybe characterized as an all encompassing term within a broad spectrum of post-secondary learning activities and programs. Recognized forms of post-secondary learning activities within the domain include: degree credit courses by non-traditional students, non-degree career training, workforce training, formal personal enrichment courses (both on-campus and online) self-directed

		learning (such as through Internet interest groups, clubs or personal research activities) and experiential learning as applied to problem solving.
Continuous Improvement		**Continuous Improvement Process (CIP, or CI) is a management process whereby delivery (customer valued) processes are constantly evaluated and improved in the light of their efficiency, effectiveness and flexibility.**
Credentialing		**Credentialing is the process of establishing the qualifications of licensed professionals, organizational members or organizations, and assessing their background and legitimacy.**
Crew Resource Management	**CRM**	**Crew (or Cockpit) Resource Management (CRM) training originated from a NASA workshop in 1979 that focused on improving air safety. The NASA research presented at this meeting found that the primary cause of the majority of aviation accidents was human error, and that the main problems were failures of interpersonal communication, leadership, and decision making in the cockpit. CRM training encompasses a wide range of knowledge, skills and attitudes including communications, situational awareness, problem solving, decision making, and teamwork; together with all the attendant sub-disciplines which each of these areas entails. CRM can be defined as a management system which makes optimum use of all available resources - equipment, procedures and people - to promote safety and enhance the efficiency of flight operations.** **CRM is concerned not so much with the technical knowledge and skills required to fly and operate an aircraft but rather with the cognitive and interpersonal skills needed to manage the flight within an organized aviation system. In this context, cognitive skills are defined as the mental processes used for gaining and maintaining situational awareness, for solving problems and for making decisions. Interpersonal skills are regarded as communications and a range of behavioral activities associated with teamwork. In aviation, as in other walks of life, these skill areas often overlap with each other, and they also overlap with the required technical skills. Furthermore, they are not confined to multi-crew aircraft, but also relate to single pilot operations, which invariably need to interface with other aircraft and with various ground support agencies in order to complete their missions successfully.** **CRM training for crew has been introduced and developed by aviation organizations including major airlines and military aviation worldwide. CRM training is now a mandated requirement for commercial pilots working under most regulatory bodies worldwide, including the FAA (U.S.) and JAA (Europe). Following the lead of the commercial airline industry, the U.S. Department of Defense began**

		formally training its air crews in CRM in the early 1990s. Presently, the U.S. Air Force requires all air crew members to receive annual CRM training, in an effort to reduce to human-error caused mishaps.
Crew Rest		The FAA requirements of an air carrier certificate holder as to the duty time limitations and rest requirements. These may be found in F.A.R. Part 135.263 through .273.
Critical Failure		The point in which ~~Accreditation~~Licensure and subsequent Texas State Provider Licensure cannot be issued.
Customer Service Committee	CSC	The Committee of the ~~TAP~~AMP that is responsible for monitoring how the AMP is meeting the expectations of patients and the constituency they serve and for providing monitoring and documentation that it participates in outside committees in the state.
Debriefing		The process, structured or not structured of carefully reviewing an event.
Degrees of elevation		Measuring the height to which the torso supporting area of a stretcher or other patient transporting device is elevated.
Department of Health and Human Services	HHS	The United States Department of Health and Human Services (HHS), is a Cabinet department of the United States government with the goal of protecting the health of all Americans and providing essential human services.
Didactic		A didactic method (Greek: didáskein, to teach; lore of teaching) is a teaching method that follows a consistent scientific approach or educational style to engage the student's mind.
Disaster		A disaster is the tragedy of a natural or human-made hazard (a hazard is a situation which poses a level of threat to life, health, property, or environment) that negatively affects society or environment.
Disciplines		A specific branch of knowledge or learning that defines a profession.
Duty Status		The status of individual personnel's ability to undertake an assignment to work.
Education Committee	EC	The ~~TAP~~AMP committee responsible for recommending, developing, and implementing professional development programs for the AMP and staff.
Emergency Care Attendant	ECA	An individual who is certified by DSHS as minimally proficient to provide emergency prehospital care by providing initial aid that promotes comfort and avoids aggravation of an injury or illness.
Emergency Locator transmitter	ELT	Distress radio beacons, also known as emergency beacons, are tracking transmitters which aid in the detection and location of boats, aircraft, and people in distress. Strictly, they are radio beacons that interface with Cospas-Sarsat, the international satellite system for search and rescue (SAR). When activated, such beacons send out a distress signal that, when detected by non-geostationary satellites, can be located by triangulation.[citation needed] In the case of 406 MHz beacons which transmit digital

		signals, the beacons can be uniquely identified almost instantly (via GEOSAR), and furthermore, a GPS position can be encoded into the signal (thus providing both instantaneous identification and position). Often using the initial position provided via the satellite system, the distress signals from the beacons can be homed by SAR aircraft and ground search parties who can in turn come to the aid of the concerned boat, aircraft, or people.
Emergency Medical Dispatcher	EMD	A trained communicator designated by certification through the NAAD to provide emergency call taking, ambulance communications and other duties required to accurately and expeditiously process requests for emergency medical services.
Emergency Medical Report	EMR	The documentation of all the activities involved by the AMP in the treatment of a patient.
Emergency Medical Technician	EMT	An individual who is certified by the department as minimally proficient to perform emergency prehospital care that is necessary for basic life support and that includes the control of hemorrhaging and cardiopulmonary resuscitation.
Emergency Medical Technician - Intermediate	EMT-I	An individual who is certified by the department as minimally proficient in performing skills required to provide emergency prehospital or interfacility care by initiating and maintaining under medical supervision certain procedures, including intravenous therapy and endotracheal or esophageal intubation or both.
Emergency Medical Technician - Paramedic	EMT-P	An individual who is certified by the department as minimally proficient to provide emergency prehospital or interfacility care by providing advanced life support that includes initiation and maintenance under medical supervision of certain procedures, including intravenous therapy, endotracheal or esophageal intubation or both, electrical cardiac defibrillation or cardioversion, and drug therapy.
Emergency Shutdown		The procedure by which the AMP establishes the method to shut off the operating engines of an aircraft without regard to damage to the engines.
EMS Rule		Emergency Medical Services Act, Health and Safety Code, Chapter 773.
Established Program		An Air Ambulance Provider, Air Medical Service, that is already licensed to provide air medical services within the State of Texas or within any contiguous state such that they are or could be licensed in the State of Texas.
Estimated Time of Arrival	ETA	Estimated time of arrival.
Exposure Control Plan		The AMP's plan to prevent exposure to hazardous substances as required by OSHA.
Fahrenheit	F	Relating or conforming to a thermometric scale on which under standard atmospheric pressure the boiling point of water is at 212 degrees above the zero of the scale, the freezing point is at 32 degrees above zero, and the zero point approximates the

		temperature produced by mixing equal quantities by weight of snow and common salt —abbreviation F
Federal Aviation Administration	FAA	The Federal Aviation Administration (FAA) is an agency of the United States Department of Transportation with authority to regulate and oversee all aspects of civil aviation in the U.S. The Federal Aviation Act of 1958 created the group under the name "Federal Aviation Agency", and adopted its current name in 1967 when it became a part of the United States Department of Transportation.
Federal Aviation Regulations	FAR	The body of regulations established by the Federal Aviation Administration in order to regulate aviation and air carriers within the United States.
Federal Communications Commission	FCC	The Federal Communications Commission (FCC) is an independent agency of the United States government, created, directed, and empowered by Congressional statute (see 47 U.S.C. § 151 and 47 U.S.C. § 154), and with the majority of its commissioners appointed by the current President. The FCC works towards six strategic goals in the areas of broadband, competition, the spectrum, the media, public safety and homeland security, and modernizing the FCC
First Responder		Individuals or entities that provide initial response and are typically certified by the department as minimally proficient to provide emergency prehospital care by providing initial aid that promotes comfort and avoids aggravation of an injury or illness.
Fixed Wing	FW	a powered heavier-than-air aircraft with fixed wings from which it derives most of its lift
Flight Plan		Flight plans are documents filed by pilots or a Flight Dispatcher with the local Civil Aviation Authority (e.g. FAA in the USA) prior to departure. They generally include basic information such as departure and arrival points, estimated time en route, alternate airports in case of bad weather, type of flight (whether instrument flight rules or visual flight rules), pilot's name and number of people on board. In most countries, flight plans are required for flights under IFR. Under VFR, they are optional unless crossing national borders, however they are highly recommended, especially when flying over inhospitable areas, such as water, as they provide a way of alerting rescuers if the flight is overdue.
Foot		any of various units of length based on the length of the human foot; especially : a unit equal to 1⁄3 yard and comprising 12 inches
Foreign Object Damage	FOD	Foreign Object Damage or Foreign Object Debris (FOD) is a substance, debris or article alien to a vehicle or system that has potential to cause damage.[1] Foreign Object Damage is any damage attributed to a foreign object that can be expressed in physical or economic terms that may or may not degrade the product's required safety and/or performance characteristics. Typically, FOD is an aviation term used to describe both the damage done to aircraft by foreign objects, and the foreign objects

		themselves (i.e. any object that has, or is likely to, cause damage.)[
Hazardous Materials		Dangerous goods, also called hazardous materials ("HazMats"), are solids, liquids, or gases that can harm people, other living organisms, property, or the environment. They are often subject to chemical regulations. Dangerous goods include materials that are radioactive, flammable, explosive or corrosive, oxidizers or asphyxiates, biohazardous, toxic, pathogen or allergen substances and organisms, but also physical conditions as compressed gases and liquids or hot material, including all goods containing such materials or chemicals, or may have other characteristics that render it hazardous in specific circumstances. Response to or transport of Hazardous Materials in rotor and fixed wing aircraft will require special considerations in treatment, packaging and consulting of the F.A.R.s as to whether and how materials may be transported.
health care system		Health care systems are designed to meet the health care needs of target populations. There are a wide variety of health care systems around the world. In some countries, the health care system has evolved and has not been planned, whereas in others a concerted effort has been made by governments, trade unions, charities, religious, or other co-ordinated bodies to deliver planned health care services targeted to the populations they serve. However, health care planning has often been evolutionary rather than revolutionary.
Hot Refueling		The process of transferring fuel from a fixed station or mobile tanker into an aircraft while the engine(s) are operating. Will require specific policies, procedures and use of safety systems and techniques to accomplish within an AMP's SMS requirements.
Independent Duty		Assignment to duty as a part of an AMP provider team without supervision as a new employee or a reintegrating employee by preceptors or oversight.
Inhaled Gases		Inhaling a fluid (such as air) that has neither independent shape nor volume but tends to expand indefinitely, maybe a combustible gas or gaseous mixture used to produce anesthesia or a substance that can be used to produce a poisonous, asphyxiating, or irritant atmosphere.
Instrument Flight Rules	IFR	Instrument flight rules (IFR) are regulations and procedures for flying aircraft by referring only to the aircraft instrument panel for navigation. Even if nothing can be seen outside the cockpit windows, an IFR-rated pilot can fly while looking only at the instrument panel. An IFR-rated pilot can also be authorized to fly through clouds, using Air Traffic Control procedures designed to maintain separation from other aircraft. Training is normally done in simulated IFR conditions with training aids such as blockalls to help a pilot concentrate only on the instrument panel.
Inter-rater reliability		Inter-rater reliability, inter-rater agreement, or concordance is the

		degree of agreement among raters. It gives a score of how much homogeneity, or consensus, there is in the ratings given by judges. It is useful in refining the tools given to human judges, for example by determining if a particular scale is appropriate for measuring a particular variable. If various raters do not agree, either the scale is defective or the raters need to be re-trained.
Isolette		**A self contained transport device used for an incubator for premature infants that provides controlled temperature and humidity and an oxygen supply.**
Job Description		**A job description is a list of the general tasks, or functions, and responsibilities of a position. Typically, it also includes to whom the position reports, specifications such as the qualifications needed by the person in the job, salary range for the position, etc. A job description is usually developed by conducting a job analysis, which includes examining the tasks and sequences of tasks necessary to perform the job. The analysis looks at the areas of knowledge and skills needed by the job. Note that a role is the set of responsibilities or expected results associated with a job. A job usually includes several roles.**
Just Culture		**On one side of the coin, it is about creating a reporting environment where staff can raise their hand when they have seen a risk or made a mistake. It is a culture that rewards reporting and puts a high value on open communication—where risks are openly discussed between managers and staff. It is a culture hungry for knowledge. On the other side of the coin, it is about having a well-established system of accountability. A Just Culture must recognize that while we as humans are fallible, we do generally have control of our behavioral choices, whether we are an executive, a manager, or a staff member. Just Culture flourishes in an organization that understands the concept of shared accountability—that good system design and good behavioral choices of staff together produce good results. It has to be both." Marx D, Comden SC, Sexhus Z. Our inaugural issue—in recognition of a growing community. The Just Culture Community News and Views. Nov/Dec 2005;1:1.**
Kilograms		**the base unit of mass in the International System of Units that is equal to the mass of a prototype agreed upon by international convention and that is nearly equal to the mass of 1000 cubic centimeters of water at the temperature of its maximum density**
Labor Union		**A trade union (or labor union) is an organization of workers who have banded together to achieve common goals in key areas and working conditions. The trade union, through its leadership, bargains with the employer on behalf of union members (rank and file members) and negotiates labor contracts (Collective bargaining) with employers. This may include the negotiation of wages, work rules, complaint procedures, rules governing hiring, firing and**

		promotion of workers, benefits, workplace safety and policies. The agreements negotiated by the union leaders are binding on the rank and file members and the employer and in some cases on other non-member workers. These organizations may comprise individual workers, professionals, past workers, or the unemployed. The most common, but by no means only, purpose of these organizations is "maintaining or improving the conditions of their employment".
Landing Zone	LZ	A Landing Zone or "LZ" is a military term for any area where aircraft land. For civilian aviation operations, refers to any unprepared area that is utilized for individual landings as required for transport of persons or materials.
Law Enforcement Agency	LEA	In North American English, a Law enforcement agency (LEA) is an organization that enforces the law. Is typically empowered by state or federal statute to enforce laws within certain geopolitical boundaries or for certain classes of laws.
Licensure		Process through which an AMP may become licensed as an AMP.
Loop Closure		the process by which an event or occurrence investigation completes the feedback loop and concludes with results and improvement processes.
Maintain Documentation		the requirement to preserve documentation within the parameters established by the DSHS or other authorities.
Maintenance Sterile Environment		The creation of an environment in which aviation maintenance can be undertaken without risk of interference from telephone calls, human interaction, or other extraneous factors which would increase the chance of a human factor mistake in the process of aviation maintenance.
Medical Oxygen		An inhaled liquid that has been processed and refined to a level of purity so as to be used as a prescription medication as outlined by the Food and Drug Administration of the Federal Government.
Mission Profile		The description of the tasks that an AMP undertakes in the completion of requests for air medical transportation.
Mission Specific Education		A process of education that encompasses all of the requirements identified to be necessary to educate the AMP individual provider in the defined mission as approved by the AMD
Nation Fire Protection Association	NFPA	The National Fire Protection Association (NFPA) is a U.S. organization (albeit with some international members) charged with creating and maintaining minimum standards and requirements for fire prevention and suppression activities, training, and equipment, as well as other life-safety codes and standards. This includes everything from building codes to the personal protective equipment utilized by firefighters while extinguishing a blaze.
National Association of Air Medical Communication Specialists	NAACS	A not-for-profit professional organization whose mission is to represent the air medical communication specialist on a national level through education, standardization and recognition. Www.naacs.org

National Registry		**President Lyndon Johnson's Committee on Highway Traffic Safety recommended the creation of a national certification agency to establish uniform standards for training and examination of personnel active in the delivery of emergency ambulance service. The result of this recommendation was the inception of the National Registry of Emergency Medical Technicians (NREMT) in 1970. The NREMT accomplishes this goal by developing standards for competent EMS practice and measuring individuals against that standard. The NREMT works in cooperation with state EMS officials, who issue licenses to EMS professionals.**
New Applicant		**An entity that is undertaking to apply for the first time for a survey through the submission of a ~~TAP~~Licensure application.**
NIMS		**The National Incident Management System (NIMS) is a system used in the United States to coordinate emergency preparedness and incident management among various federal, state, and local agencies. The National Incident Management System (NIMS) is a structured framework used nationwide for both governmental and nongovernmental agencies to respond to natural disasters and or terrorist attacks at the local, state, and federal levels of government. See www.dhs.gov/dhspublic/interapp/editorial/editorial_0566.xml**
Notices to Airmen	**NOTAM**	**NOTAM or NoTAM is the quasi-acronym for a "Notice To Airmen". NOTAMs are created and transmitted by government agencies under guidelines specified by Annex 15: Aeronautical Information Services of the Convention on International Civil Aviation. A NOTAM is filed with an aviation authority to alert aircraft pilots of any hazards en route or at a specific location.**
Operational Control		**The requirement of the FAA of a Part 135 Certificate Holder to have a defined process under A008 to have actual control of the fitness and preparedness of the aircraft, pilot and ability to conduct flights.**
Organizational Chart		**An organizational chart (often called organization chart, organigram(me), or organogram(me)) is a diagram that shows the structure of an organization and the relationships and relative ranks of its parts and positions/jobs. The term is also used for similar diagrams, for example ones showing the different elements of a field of knowledge or a group of languages.**
Part 135	**Part 135**	**FARs are part of Title 14 of the Code of Federal Regulations (CFR). Part 135 – Operating Requirements: Commuter and On Demand Operations and Rules Governing Persons on Board Such Aircraft. For pilots, there is an important distinction in the parts that address classes of flight. These parts do not distinguish type of aircraft, but rather type of activity done with the aircraft. Regulations for commuter and commercial aviation are far more intensive than those for general aviation, and specific training is required.**
Performance Measurement		**Performance measurement is the process whereby an organization establishes the parameters within which programs, investments,**

		and acquisitions are reaching the desired results.
Periodic Review		**Once in a licensure cycle**
Personal Protective Equipment		**Personal protective equipment (PPE) refers to protective clothing, helmets, goggles, or other garment designed to protect the wearer's body or clothing from injury by blunt impacts, electrical hazards, heat, chemicals, and infection, for job-related occupational safety and health purposes, and in sports, martial arts, combat, etc. body armor is combat-specialized protective gear. In British legislation the term PPE does not cover items such as armor. The terms "protective gear" and "protective clothing" are in many cases interchangeable; "protective clothing" is applied to traditional categories of clothing, and "gear" is a more general term and preferably means uniquely protective categories, such as pads, guards, shields, masks, etc. PPE can also be used to protect the working environment from pesticide application, pollution or infection from the worker (for example in a microchip factory). The protection may be important in both ways, as with the use of disposable gloves by surgeons and dentists.**
Policy Manual		**The resource book or body of material that details an AMP's policies, expectations, procedures, requirements and guidelines for operations and employees.**
Post Accident Incident Plan	**PAIP**	**The incident management plan by which an AMP prepares to manage any occurrence that is unexpected or causes damage or injury to the AMP's personnel and property.**
Post Flight		**A debriefing that reviews the activities of a flight. May be a physical inspection of the aircraft and equipment involved in a flight.**
Pounds		**any of various units of mass and weight: as a: a unit of troy weight equal to 12 troy ounces or 5760 grains or 0.3732417216 kilogram formerly used in weighing gold, silver, and a few other costly materials—called also troy pound.**
Pre Flight		**A briefing prior to the commencement of an aircraft flight. May be a physical inspection of the aircraft and equipment to be used in a flight.**
Preceptor		**An AMP team member assigned to uphold a level of education and skills attainment for new employees.**
Product Review Committee	**PRC**	**The ~~TAP~~AMP committee responsible for reviewing and recommending the incorporation of new products for use by the AMP, maybe an adhoc committee.**
Professional Development Programs		**The AMP's program that supports the individual provider's professional competencies, knowledge and skills development under the oversight of the AMD.**
Program		**The Air Medical Provider licensed in the State of Texas.**
Program Competencies		**The set of competencies required of individual providers employed by the AMP in order to provide the program's mission under the oversight of the AMD.**

Program Director		**The individual responsible for the operations and direction of the AMP.**
Program Information Form		**The application for a prospective ~~TAP~~AMP, to be filed by the new applicant.**
Protocol		**The set of guidelines and written descriptions as approved by the AMP Medical Director that describes and proscribes the treatment provided to a patient by the AMP. "protocol" will be used synonymously with the terms patient care guidelines, standing delegated orders, standing orders, and local standard of care.**
Protocol Development Review Committee	**PDRC**	**The ~~TAP~~AMP committee responsible for regularly reviewing and recommending practice changes based on current literature, QI reports and trend analysis and other sources to the AMP Medical Director in order to regularly update the AMP's Protocol.**
Provisional License		**A temporary license issued to an AMP that allows the AAMP to operate within certain parameters.**
Public Information & Outreach Committee	**PIOC**	**The ~~TAP~~AMP committee responsible for outreach programs designed to raise awareness and promote the health and safety of the community.**
Quality Improvement		**There are many methods for quality improvement. These cover product improvement, process improvement and people based improvement. as a part of Quality management can be considered to have three main components: quality control, quality assurance and quality improvement. Quality management is focused not only on product quality, but also the means to achieve it. Quality management therefore uses quality assurance and control of processes as well as products to achieve more consistent quality.**
Quality Improvement Committee	**QIC**	**The ~~TAP~~AMP committee responsible for reviewing clinical care and recommend improvement strategies.**
Record		**Webster's: to set down in writing; to register permanently by mechanical means**
Record retention		**The ISO 15489: 2001 standard defines records management as "The field of management responsible for the efficient and systematic control of the creation, receipt, maintenance, use and disposition of records, including the processes for capturing and maintaining evidence of and information about business activities and transactions in the form of records". The ISO defines records as "information created, received, and maintained as evidence and information by an organization or person, in pursuance of legal obligations or in the transaction of business". The International Council on Archives (ICA) Committee on Electronic Records defines a record as "recorded information produced or received in the initiation, conduct or completion of an institutional or individual activity and that comprises content, context and structure sufficient to provide evidence of the activity." The key word in these definitions is evidence. Put simply, a record can be defined as "evidence of an event"**

Reeducation		**The process of educating personnel as a repetitive step in repeating education which has already been accomplished but not completed or required to be repeated by the AMD.**
Reintegration		**The process of repeating an integration of personnel into the primary system of patient care under the oversight of the AMD.**
remediation		**The process of mediating a provider in clinical provider proficiency as defined by the AMD.**
Risk Management		**Risk management is the identification, assessment, and prioritization of risks followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events**
Role		**Is not Bread**
Rotor Wing	**RW**	**A rotorcraft is a powered heavier-than-air flying machine that uses lift generated by wings, called rotor blades that revolve around a mast. Several rotor blades mounted to a single mast are referred to as a rotor.**
Safety Management Systems Committee	**SMSC**	**A safety management systems committee that is designed to review workplace practices and offer suggestion and/or policies that promote a safer work environment.**
Scene Management		**An established process in incident management for all the separate providers of rescue services to accomplish in a coordinated manner their responsibilities in providing aid at the scene of an incident.**
Self Assessment		**A process which a New Applicant undertakes in order to ascertain the entities fitness for application to undertake and successfully complete the ~~TAP~~ Licensure Process.**
Single Pilot Instrument Flight Rule	**SPIFR**	**An aircraft that is~~-~~ equipped and type-certified for instrument flight under the control of a single pilot, and the related navigational equipment must have been inspected within a specific period of time prior to the instrument flight.**
Site Survey		**The process which an applicant for the ~~TAP~~Licensure Process undertakes to be reviewed by designated site surveyors in order to ascertain compliance with the PIF and the application for licensure as an AMP.**
Site Survey Team		**The team which is assigned to undertake the process of reviewing an applicant for the ~~TAP~~AMP to ascertain compliance with the PIF and the application for licensure as an AMP.**
Site Surveyor		**The individual who is qualified and trained to be a part of a Site Survey team.**
Site Visit		**The period of time when a site survey team visits and reviews the AMP's application for licensure.**
Specialty Transport		**the transport of teams and equipment trained and ready for unique medical transportation challenges, such as neonatal patients, high risk cardiac patients with extracorporeal devices, and others.**
Standard Operating Procedure	**SOP**	**An SOP is a written document / instruction detailing all steps and activities of a process or procedure. These should be carried out**

		without any deviation or modification to guarantee the expected outcome. A standard operating procedure is a set of instructions having the force of a directive, covering those features of operations that lend themselves to a definite or standardized procedure without loss of effectiveness.
Sterile Cockpit Rule		**The Sterile Cockpit Rule is an FAA regulation requiring pilots to refrain from non-essential activities during critical phases of flight, normally below 10,000 feet.**
Survival Training		**training in order to provide the AMP personnel with survival skills which are techniques a person may use for an indefinite duration to survive a dangerous situation (also see bushcraft). Generally speaking, these techniques are meant to provide the basic necessities for human life: fire, water, food, shelter, habitat, and the need to think straight, to signal for help, to navigate safely, to avoid unpleasant interactions with animals and plants, and for first aid.**
~~**Texas Accreditation Process**~~	~~**TAP**~~	~~**Process through which an AMP may accomplish State Accreditation to become licensed as an AMP.**~~
Texas Administrative Code	**TAC**	**The Texas Administrative Code (TAC) is a compilation of all state agency rules in Texas. There are 16 titles in the TAC. Each title represents a subject category and related agencies are assigned to the appropriate title. www.sos.state.tx.us/tac/**
Tracking		**The process undertaken by the CC to provide accurate knowledge for the AMP of the location and status of the AMP's aircraft.**
Transport Request		**The request by a source to transport an air medical patient.**
Trending		**The AMP's process statistical analysis of data to extrapolate trends.**
Triage		**A process of prioritizing patients based on the severity of their condition.**
Trigger Criteria		**Criteria that will begin a process of examination of specific data or processes.**
TX Department of State Health Services	**DSHS**	**One of five departments of the TX health and Human Services Commission.**
TX DSHS EMS and Trauma Services	**DSHS/EMS**	**A department of TX Department of State Health Services responsible for regulation and administration of EMS and Trauma services within the state of Texas. http://www.dshs.state.tx.us/emstraumasystems/default.shtm**
TX Health and Human Services Commission	**HHSC**	**The Texas health and human services system includes five agencies, which operate under the oversight of the Health and Human Services Commission. This consolidated organizational structure is enhancing delivery of services, improving efficiency and generating cost savings for Texas. The five health and human services agencies are: Health and Human Services Commission ; Department of Family and Protective Services ; Department of Assistive and Rehabilitative Services ; Department of Aging and Disability Services ; Department of State Health Services**
TX Regional Advisory	**RAC**	**A RAC is an organized group of healthcare entities and other**

Council		**concerned citizens who have an interest in improving and organizing trauma care within a specified Trauma Service Area (TSA). RAC membership may include hospitals, physicians, nurses, EMS providers, rehabilitation facilities, dispatchers, as well as other community groups. The Omnibus Rural Health Care Rescue Act, passed in 1989, directed the Bureau of Emergency Management of the Texas Department of Health to develop and implement statewide emergency medical services (EMS) and trauma care system, designate trauma facilities, and develop a trauma registry to monitor the system and provide statewide cost and epidemiological statistics. The trauma system was initially adopted by the Texas Board of Health in accordance with Senate Bill 530, Health & Safety Code, Chapter 773 (Emergency Medical Services), whereby the state was divided into twenty-two regions called Trauma Service Areas (Texas Administrative Code § Rule 157.122), provided for the formation of a Regional Advisory Council (Texas Administrative Code § Rule 157.123). In each area, a regional trauma system plan was developed and implemented, delineating the trauma facility designation process, and provided for the development of a state trauma registry. A Regional Advisory Council, an organization of healthcare entities and individuals such as hospitals, physicians, nurses, EMS providers and other individuals interested in trauma care and injury prevention thus provides a vital link in implementing the regional trauma system plan.**
U.S. Department of Health and Human Services Office of the Inspector General	**HHS/OIG**	**The United States Department of Health and Human Services (HHS), is a Cabinet department of the United States government with the goal of protecting the health of all Americans and providing essential human services. The Office of Inspector General (OIG) investigates criminal activity for HHS. The special agents who work for OIG have the same title series "1811", training and authority as other federal criminal investigators, such as the FBI, ATF, DEA and Secret Service. However, OIG Special Agents have special skills in investigating white collar crime related to Medicare and Medicaid fraud and abuse**
US Department of Transportation	**DOT**	**Oversees federal highway, air, railroad, and maritime and other transportation administration functions; components include the FAA, FHA, FRA, NHTSA, OIG, ...**
Utilization review Process		**An AMP's process of examining the requests for patient transports in order to identify requests for transport that are outside of critical care parameters.**
Visual Flight Rule	**VFR**	**Visual flight rules (VFR) are a set of regulations which allow a pilot to operate an aircraft in weather conditions generally clear enough to allow the pilot to see where the aircraft is going. Specifically, the weather must be better than Basic VFR Weather Minimums, as specified in the rules of the FAA.**
	METAR	**A METAR weather report is predominantly used by pilots in**

		fulfillment of a part of a pre-flight weather briefing, and by meteorologists, who use aggregated METAR information to assist in weather forecasting. METAR reports typically come from airports or permanent weather observation stations. Reports are typically generated once an hour; if conditions change significantly, however, they can be updated in special reports called SPECIs. Some reports are encoded by automated airport weather stations located at airports, military bases, and other sites. Some locations still use augmented observations, which are recorded by digital sensors, encoded via software, and then reviewed by certified weather observers or forecasters prior to being transmitted. Observations may also be taken by trained observers or forecasters who manually observe and encode their observations prior to transmission.

4729

4730

Appendix B

Planning and Preperation

No extra material

Credentialing of Air Medical Providers

Background Investigation

This portion of the process must include, at minimum, verification of TDSHS certification, BNE licensure, NBRC licensure, and research into the candidate's criminal history, work history, driving record, and administrative history with the Bureau of Emergency Management.

Personality profiles

Many industries, including the National Football League and law enforcement, perform personality profiles on potential candidates. These evaluations can identify personality traits that correlate with job satisfaction and overall successful performance in the specific industry. Personality profiles are recommended but not required by State Rule.

Required Professional Development

In larger systems or in Medical Control Systems, multiple instructors may be necessary to reach all the employees of the agency. Because of this, the potential exists for inconsistency in instructional delivery and the failure to meet the objections of the program. Agencies should be able to demonstrate the methods used to promote consistent delivery of the objectives and an evaluative process that monitors for potential deviation. Methods to promote consistent delivery might include curriculum develop by the instructional group, providing supporting materials for the curriculum, meetings of the instructional staff to discuss the material, or having instructors attended session prior to instructing.

Agencies should be able to document strengths in their training program and describe how they overcome weaknesses. They should be able to document:

- credentials of their instructional staff
- involvement of the medical director
- correlation of quality review to educational objectives
- correlation of prospective goals to educational objectives
- meet the varying needs of the their staff
- administrative support for professional development
- appropriate methodology for the objectives offered
- appropriate class size for the objectives offered

- inter-rater reliability where appropriate
- method to evaluate long term impact of professional development activities

In addition to the quality improvement driven professional development needs addressed above, agencies must ensure that personnel remain credentialed in nationally endorsed courses (or a determined equivalent) such as, Advanced Cardiac Life Support, Advanced Trauma Life Support, and Pediatric Advanced Life Support. Some form of provider oriented CPR certification for Adult, Pediatric and Neonatal patient populations is required as well. The maintenance of these credentials shall be in addition to the professional development requirements outlined above.

The following is a required list of credentials by certification:

	CPR	Cardiac	Trauma	Pediatrics	Neonatal
EMT	X		X	X	
Flight Nurse	X	X	X	X	X
Flight Paramedic	X	X	X	X	X
Physicians	X	X	X	X	X
Respiratory Therapists	X	X		X	X

Documentation of programmatic strengths and performance improvement plan for weaknesses.

Flight nurses remain current on a nationally recognized and organized educational program for advanced cardiac, advanced trauma, advanced pediatric, and advanced neonatal treatment techniques.

Flight paramedics remain current on a nationally recognized and organized educational program for advanced cardiac, advanced trauma, advanced pediatric, and advanced neonatal treatment techniques.

Physicians remain current on a nationally recognized and organized educational program for advanced cardiac, advanced trauma, advanced pediatric, and advanced neonatal treatment techniques.

Respiratory Therapists remain current on a nationally recognized and organized educational program for advanced cardiac, advanced pediatric, and advanced neonatal treatment techniques.

A method for ensuring consistent instructional delivery across multiple instructors

Administrative Oversight

In the AAMS Membership Task Force meeting held in January 2008 (Kinkade, 2008), the recommendation to refine the AAMS core values included the following:

5. Commitment - Evidenced in behavior that:
    - Places patient care before self-interest
    - Celebrates common dedication to teamwork, compassion for patients, and a passion for safety and quality care
6. Integrity - Evidenced in behavior that:
    - Demonstrates commitment to high professional standards
    - Promotes ethical behavior among all individuals involved in the work of the association
7. Respect - Evidenced in behavior that:
    - Honors the exchange of ideas
    - Embraces diverse viewpoints
8. Responsibility - Evidenced in behavior that:
    - Exemplifies transparent decision making
    - Values honest communication and productive dialogue

Business and clinical ethical standards can be drawn from many sources including the following excerpts are taken from:

COMPLETE GUIDE TO ETHICS MANAGEMENT: AN ETHICS TOOLKIT FOR MANAGERS (MCNAMARA)

ONE DESCRIPTION OF A HIGHLY ETHICAL ORGANIZATION

Mark Pastin, in The Hard Problems of Management: Gaining the Ethics Edge (Jossey-Bass, 1986), provides the following four principles for highly ethical organizations:

5. They are at ease interacting with diverse internal and external stakeholder groups. The ground rules of these firms make the good of these stakeholder groups part of the organizations' own good.

6. They are obsessed with fairness. Their ground rules emphasize that the other persons' interests count as much as their own.
7. Responsibility is individual rather than collective, with individuals assuming personal responsibility for actions of the organization. These organizations' ground rules mandate that individuals are responsible to themselves.
8. They see their activities in terms of purpose. This purpose is a way of operating that members of the organization highly value. And purpose ties the organization to its environment.

Doug Wallace asserts the following characteristics of a high integrity organization:

7. There exists a clear vision and picture of integrity throughout the organization.
8. The vision is owned and embodied by top management, over time.
9. The reward system is aligned with the vision of integrity.
10. Policies and practices of the organization are aligned with the vision; no mixed messages.
11. It is understood that every significant management decision has ethical value dimensions.
12. Everyone is expected to work through conflicting-stakeholder value perspectives.

ETHICS MANAGEMENT PROGRAMS: AN OVERVIEW

About Ethics Management Programs Organizations can manage ethics in their workplaces by establishing an ethics management program. Brian Schrag, Executive Secretary of the Association for Practical and Professional Ethics, clarifies. "Typically, ethics programs convey corporate values, often using codes and policies to guide decisions and behavior, and can include extensive training and evaluating, depending on the organization. They provide guidance in ethical dilemmas." Rarely are two programs alike.

BENEFITS OF MANAGING ETHICS AS A PROGRAM

There are numerous benefits in formally managing ethics as a program, rather than as a one-shot effort when it appears to be needed. Ethics programs:

- Establish organizational roles to manage ethics
- Schedule ongoing assessment of ethics requirements
- Establish required operating values and behaviors
- Align organizational behaviors with operating values
- Develop awareness and sensitivity to ethical issues
- Integrate ethical guidelines to decision making
- Structure mechanisms to resolving ethical dilemmas
- Facilitate ongoing evaluation and updates to the program
- Help convince employees that attention to ethics is not just a knee-jerk reaction done to get out of trouble or improve public image

8 Guidelines for Managing Ethics in the Workplace

The following guidelines ensure the ethics management program is operated in a meaningful fashion:

9. Recognize that managing ethics is a process. Ethics is a matter of values and associated behaviors. Values are discerned through the process of ongoing reflection. Therefore, ethics programs may seem more process-oriented than most management practices. Managers tend to be skeptical of process-oriented activities, and instead prefer processes focused on deliverables with measurements. However, experienced managers realize that the deliverables of standard management practices (planning, organizing, motivating, controlling) are only tangible representations of very process-oriented practices. For example, the process of strategic planning is much more important than the plan produced by the process. The same is true for ethics management. Ethics programs do produce deliverables, e.g., codes, policies and procedures, budget items, meeting minutes, authorization forms, newsletters, etc. However, the most important aspect from an ethics management program is the process of reflection and dialogue that produces these deliverables.
10. The bottom line of an ethics program is accomplishing preferred behaviors in the workplace. As with any management practice, the most important outcome is behaviors preferred by the organization. The best of ethical values and intentions are relatively meaningless unless they generate fair and just behaviors in the workplace. That's why practices that generate lists of ethical values, or codes of ethics, must also generate policies, procedures and training that translate those values to appropriate behaviors.
11. The best way to handle ethical dilemmas is to avoid their occurrence in the first place. That's why practices such as developing codes of ethics and codes of conduct are so important. Their development sensitizes employees to ethical considerations and minimizes the chances of unethical behavior occurring in the first place.
12. Make ethics decisions in groups, and make decisions public, as appropriate. This usually produces better quality decisions by including diverse interests, perspectives, and increases the credibility of the decision process and outcome by reducing suspicion of unfair bias.
13. Integrate ethics management with other management practices. When developing the values statement during strategic planning, include ethical values preferred in the workplace. When developing personnel policies, reflect on what ethical values you'd like to be most prominent in the organization's culture and then design policies to produce these behaviors.
14. Use cross-functional teams when developing and implementing the ethics management program. It's vital that the organization's employees feel a sense of participation and ownership in the program if they are to adhere to its ethical values. Therefore, include employees in developing and operating the program.

15. Value forgiveness. This may sound rather religious or preachy to some, but it's probably the most important component of any management practice. An ethics management program may at first actually increase the number of ethical issues to be dealt with because people are more sensitive to their occurrence. Consequently, there may be more occasions to address people's unethical behavior. The most important ingredient for remaining ethical is trying to be ethical. Therefore, help people recognize and address their mistakes and then support them to continue to try operate ethically.
16. Note that trying to operate ethically and making a few mistakes is better than not trying at all. Some organizations have become widely known as operating in a highly ethical manner, e.g., Ben and Jerry's, Johnson and Johnson, Aveda, Hewlett Packard, etc. Unfortunately, it seems that when an organization achieves this strong public image, it's placed on a pedestal by some business ethics writers. All organizations are comprised of people and people are not perfect. However, when a mistake is made by any of these organizations, the organization has a long way to fall. In our increasingly critical society, these organizations are accused of being hypocritical and they are soon pilloried by social critics. Consequently, some leaders may fear sticking their necks out publicly to announce an ethics management program. This is extremely unfortunate. It's the trying that counts and brings peace of mind -- not achieving a heroic status in society.

SURVEY COORDINATOR

- AMP must designate a Survey Coordinator who is responsible for the administrative functions related to the AMPDedicate staff time sufficient to fulfill the programmatic requirements of CCMP
- Provide AMP organizational chart and describe the administrative reporting structure of the Survey Coordinator
- Document quality improvement experience and/or training sufficient to implement and maintain standards

Communications Center

To ensure role clarification it should be understood that communication for Air Medical Service providers will be accomplished through "communication" centers, not to be synonymous with an accredited FAA dispatch or ATC center. Communication through these providers will be utilized to maintain contact with the medical personnel for response ready status and/or patient coordination and communication of patient status change.

SAFETY

In an effort to ensure a well rested, alert individual, the specialist must have 8 hours of uninterrupted rest time prior to scheduled shift. Personnel have the right to call a "time out" and be granted a reasonable amount of rest time without retribution when working

extended periods of time or periods high call volume. Policies must be in place to demonstrate strategies to minimize fatigue related to duty time, length of shift, and number of shifts worked per week. Relief personnel must be available for periodic breaks. Seating and work stations that are ergonomically appropriate shall be provided for each communication specialist on duty.

A status display with information regarding pre-scheduled missions, maintenance information, on duty team members, weather information should be prominently displayed. Current local service maps and navigation charts, along with mapping software must be available.

PATIENT SECURITY

Family members or other passengers that accompany patients must be properly identified and listed by name (in compliance with HIPAA regulations) in the communications center or by the transport coordinator

Base/Facility Standards

MAINTENANCE FACILITIES FOR FW AND RW AIRCRAFT

Aviation maintenance is a strictly regulated aspect of the operation of an AMP. Maintenance is administered by the FAA which develops regulations, standards, policies and procedures, letters, notices, orders, and Advisory Circulars (AC) through its Flight Standards Services Air Carrier Maintenance Branch. An AMP should develop or require that its maintenance standards include such matters as compliance with all Advisory Orders (AO), Advisory Circulars and Advisory Directives (AD) to ensure that its aircraft are maintained to the most current and highest standards. Maintenance standards are also critical in the use of and accessibility of the proper parts and equipment, the FARs will instruct and require that certain tools and parts be maintained, calibrated and stored in particular manners prescribe to ensure safety.

A maintenance work environment is much more than an aircraft "garage." Support of and requiring that maintenance work areas be well lit, clean and accessible, have adequate ventilation, adequate storage for tools and parts, comply with OSHA and NFPA standards and are heated and protected from weather will establish the AMP's concern for high standards of maintenance to enhance safety. Of particular concern is supporting the human endeavor of the maintenance enterprise. AMPs should consult the FAA's Maintenance Human Factors website for a large volume of information to assist in

designing systems, policies and processes to support the maintenance effort and the maintenance technician.

Communications between all members of an AMP is vital for its safe and effective operation. Mechanics are often over looked in this communications procedural development. Mechanism need to be established for communications between mechanic and operational crews for status and availability of aircraft. Communications procedures during aircraft maintenance should also be established as per FAA Advisory and be included in AMRM training within a program.

Safety Management Systems
As documented in (reference documents AC 120-92 and IHST).

Safety Management Systems may be defined as a businesslike approach to safety. It is a systematic, explicit and comprehensive process for managing safety risks. As with all management systems, a safety management system provides for goal setting, planning, and measuring performance. A safety management system is woven into the fabric of an organization. It becomes part of the culture, the way people do their jobs (Canadian Aviation)

AIR MEDICAL RESOURCE MANAGEMENT

According to the Federal Aviation Administration (FAA), "Helicopter Emergency Medical Service (HEMS) is a very demanding and time critical / mission orientated operation. One consistent priority that needs to be addressed by each individual air ambulance organization is the safety of the flightcrew, medical crew, patient passengers, and support personnel. No operator goes out anticipating the occurrence of an accident, and like most aviation accidents, there is rarely a single event that is the cause of an accident. It is usually a multitude of contributing factors that lead to potentially catastrophic results. *Preventing accidents is the responsibility of everyone involved and takes the dedicated involvement of all of the aviation and medical professionals involved in the operation to provide the public the safest possible air ambulance service.*"

The State of Virginia Medevac Committee has set out a best practices document that clearly outlines the state of the AMP's Community in utilizing and operationalizing AMRM in its "Virginia Office of Emergency Medical Services, Medevac Best Practice 2.2.1, Air Medical Resource Management."

While the likelihood of being involved in a survivable, post-crash fire is low; the consequence of not being properly attired is extremely high.

Currently, there are no Federal flammability standards or regulations that exist pertaining to uniforms for Air Medical Service personnel, airline pilots or flight attendant personnel beyond the standards applied to consumer clothing. In Advisory Circular A-96-88, the FAA stated: "Safety experts agree that in order to decrease the chance of sustaining burns, it is better to wear long sleeves and pants, than it is to wear short sleeves and short pants. In addition, 'natural' fibers such as wool and cotton are better than synthetic fabrics. Also it is better to have low-heel shoes which are enclosed, and straps or laces are encouraged while sandals are discouraged."

Flammability assessments performed by Thiokol Chemical Corporation (July 1967) and separate testing performed by the Department of the Navy (December 1987) demonstrated that Nomex® was superior to cotton in its flame retardant ability but both were susceptible to heat transfer. Both reported reduction in heat transfer when multiple layers of natural fibers were worn.

Rotor-wing incidents and crashes place occupants at increased risk for head trauma due to blunt force impact with cabin / cockpit interiors and potential head strikes associated with improperly secured equipment within the aircraft. To reduce the likelihood of significant head trauma, helmet use in strongly encouraged. Helmets with visors deployed offer added protection to cockpit occupants in the event of windscreen penetration associated with bird strikes during forward flight.

Head-strike envelope

4. The interior modification of the aircraft is clear of objects/projections OR the interior of the aircraft is padded to protect the head-strike envelope of the medical personnel and patients as appropriate to the aircraft.
5. The head-strike envelope in the ambulance should be clear of hard objects that could cause injury in the event of poor road conditions or sudden stops.
6. Helmets are required for rotor wing operations. Helmets for crewmembers must be appropriately fitted and maintained according to the program's manufacturer's criteria or program's policy.

All aircraft equipment (including specialized equipment) and supplies must be secured according to FAR's. (Use of bungee cords is not considered appropriate when securing equipment and supplies). Ambulance equipment must be secured by an appropriate clamp, strap, or other mechanism to the vehicle or stretcher/isolette to prevent movement during a crash or abrupt stop.

SAFETY INITIATIVES

Medical transport services are required to report aviation and ground ambulance accidents and strongly encouraged to report incidents to the CONCERN network, NOTAMS, Weatherturndown.com and other locally accepted reporting systems and must report to the appropriate government agencies. There is a written policy that addresses

reporting incidents or accidents and assigns certain individual(s) with the responsibility to report.

HOT REFUELING POLICIES FOR NORMAL AND EMERGENCY SITUATIONS:

For aircraft/ambulance, refueling with the engine running, rotors turning, and/or passengers onboard are not recommended. However, emergency situations of this type can arise. Specific and rigid procedures should be developed by the operator to handle these occurrences. Such "rapid refueling" procedures will be covered by the operator's training program. Refueling policies should address:

- Refueling with engine(s) running or shut down.
- Refueling with medical transport personnel or patient(s) on board, which includes a requirement that at least one medical transport person remain with the patient at all times during refueling or stopover.
- Fire hazard policies pertinent to refueling procedures are addressed in the certificate holder's Operations Specifications Manual.

See ICAO SMM Draft in Appendix (XX)

See Risk Management A/C

See Canadian Air SMS Fatigue

See Safety Management Systems A/C 120- 92

Quality Improvement

Information discovered as a result of a legitimate quality improvement program MAY be protected from discovery in administrative hearings and civil litigation. The Texas Department of State Health Services, the legislature and the Courts recognize that this protection is necessary so that employees and volunteers are encouraged to bring items of concern in matters of policy, protocol, or treatment to the attention of the QI manager. Agencies are encouraged to learn how to provide optimal protection for their QI process.

Quality improvement is a problem solving process. It is comprised of five familiar components that closely mirror the problem solving process used in patient care and other daily activities.

The components are:

- Assessment
- Goal setting
- Plan development
- Intervention
- Progress evaluation

Monitoring and evaluation involves continuously collecting data about important aspects of care/service, analyzing the data and recommending needed steps to improve based up on the analysis. The lingering question is "how to carry out monitoring and evaluation?"

A sample, well proven, 10-step Monitoring and Evaluation process.

11. Assign responsibility
12. Delineate scope of care
13. Identify important aspect of care
14. Identify indicators
15. Establish thresholds for evaluation
16. Collect and organize data
17. Evaluate care
18. Take actions to improve care
19. Assess effectiveness of action
20. Communicate findings

Some example indicators to assess may include:

- Scene times
- Protocol compliance
- Endotracheal intubation success
- Cardiac arrest survival
- Specialty patients (pediatric, OB)
- IABP or Invasive Monitoring Patients
- Pain management
- Unit hour utilization
- Controlled substance use
- Invasive Procedures
- Who are discharged home directly from the Emergency Department, or discharged within 24 hours of admission.
- Who are transported without an IV line or oxygen?
- Upon whom CPR is in progress at referring location.
- Who are not transferred from a critical care unit?
- Who are "scheduled transports?"
- Who is air transported more than once for the same illness or injury within 24 hours.
- Who are transported from the scene of injury with a trauma score of 15 or greater or fails to meet area-specific triage criteria for a critically injured trauma patient.
- Who are treated at scene, but not transported.
- Who are not transferred bedside to bedside by the flight team?
- Who are transported inter-facility, and the receiving facility is not a higher level of care than the referring facility?

The strengths of using a monitoring and evaluation system are:

3. It is a viable method of performance improvement, and
4. It is a systematic approach that guides staff through this difficult and time consuming event. It emphasizes the importance of collecting data - the lynch pin of improvement efforts - related to valid and reliable indicators.

It also emphasizes linking improvement actions to that data so that changes are made based on solid information rather than intuition.

Organizations are encouraged to set priorities for improvement by first cataloging the range of services provided and then giving priorities to the most important aspect – those that are high risk/low volume (less than 30 per period), high risk/high volume(greater than 30 per period), and/or problem prone. Agencies should consider building a matrix of these situations to focus their monitoring and evaluation system.

All individual performance of skills will be tracked for each patient care provider. There shall be an assessment of the following categories:

- Personnel/Staffing
- Clinical Care (Skills performance, Protocol Selection, Patient Assessment, etc.)
- Customer Relations program.
- Education
- Administrative/operational policies
- Compliance with Safety Guidelines
- Compliance with Infection Control Practices

RESPONSE TO SENTINEL EVENTS

Emergent problems (sentinel events) may arise in any of the categories and topics listed above. The most noticeable tend to fall in the clinical arena. These problems are the ones that tend to get everyone's attention, spread quickly through the agency, and cause each individual to comment on how they would have handled the situation differently. They are also the problems that are most likely to cause spontaneous, adverse reactions from supervisors, managers, and the medical director.

The first question one must ask when faced with such a situation, clinical or not, is what was the root cause of the decisions and/or actions that were made. Was it due to malice or a defective process? The cause should determine whether the corrective action should be handled via operations (discipline) versus quality improvement (growth).

Assuming you find the error was made due to a deficit in processes, it is the agency's obligation to prevent the error and similar errors in the future.

Various mechanisms can be instituted to find problems. An EMS provider should provide formal methods of data analysis. Other more informal methods such as the "grapevine" can also be used. The most common method of finding problems is the "grapevine". Some services require complaints and/or concerns to be in writing. Because people are often reluctant to "document" concerns against a peer, quality improvement requires that hearsay concerns be investigated.

All aspects of the problem must be investigated. How and why the problem occurred should be the focus. Each individual involved should be asked about their observations and opinions of the incident as it occurred, and retrospectively, what they would do differently.

Given time and due consideration, rather than immediate reaction to a given problem, the QI process may discover extenuating circumstances which may justify the decisions made, or point to a simple education/training solution, rather than a punitive solution based on reflex.

Trending is important to know how often this situation presents itself. In addition, an attempt should be made to assess how likely others have been and/or would be to make the same decisions and actions.

Resolution and prevention may take many forms. Most common is some form of education to bring all personnel to a higher minimum competency level. Often, re-engineering of the work place or effort may improve efficiency or avoid future problems. Protocols may be revised or clarified. Likewise, policies or procedures may be developed or re-written. Administrative or clinical controls may be implemented to accommodate the new information received during the process.

Quality improvement is a dynamic process that is used to not only improve the service to the community, but to prove the value of your agency to the community. Excellence can only be achieved with active participation in a process that explores daily activities. Activities that demonstrate excellence should be documented and emphasized. Those needing improvement must be recognized and adapted. In the end, the public will receive a higher level of care in a more efficient manner.

Required:

- Sentinel Event Management
- There shall be a definition for sentinel event and "near-misses."
- There shall be an assessment of the provider's response to emergency problems (sentinel events). (Equipment failures, supply deficiencies, medication errors, fleet failures, etc.)

- A system in place to monitor customer satisfaction and conflict resolution with the system (Patients and Hospital Personnel are considered customers)

Committee's

Likewise every agency is unique in its structure and components. This then will require unique adaptation of the structure and interaction of committees. For example a small single aircraft operator may only have enough personnel to man every committee by themselves. A unique and creative solution to this circumstance may be that the entire employee group serves on multiple, concurrent committees, which may or may not choose to convene at the same times. Use of the power of the individual personnel is the emphasis and strength behind committees. Committees enable consensus and evolution of the AMP to provide significant increases in ability to understand and improve operations.

Traditionally, we think of committees as small working groups that exist into perpetuity. Over time, it is common for committees to stagnate and become counterproductive. This does not necessary need to be the case. In fact, it may be beneficial for such groups to have a limited scope and a defined lifespan.

A task force or working group can be formed to explore a particular topic, formulate a report and implement the result. Once complete, the group is disbanded and new group is composed to tackle the next opportunity. Such an approach maximizes the opportunity for individual participation and tends to promote a greater degree of enthusiasm within the organization.

Regardless of the approach, there are a limitless number of areas for personnel to contribute. Listed below are a variety of committee examples that an agency should consider. Just as the Incident Command System can be consolidated or expanded in scope dependent on the demands of the particular incident, so too can the committee options listed below dependent on the size and nature of the agency.