



# Air Ambulance Quality and Patient Safety (AAQPS) Advisory Committee

July 10, 2025



**Federal Aviation  
Administration**

# Agenda



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## Session

Introduction and Background	10:00–10:30 AM
Flight Safety Subcommittee Recommendation	10:30–11:10 AM
Flight Safety Language Review	11:10 –11:30 AM
Clinical Standards Subcommittee Overview	11:30–11:45 AM
Lunch	11:45–12:45 PM
Clinical Standards Subcommittee Recommendation	12:45–2:30 PM
Break	2:30–2:40 PM
Clinical Standards Subcommittee Recommendation	2:40–3:40 PM
Review of Recommendations and Discussion	3:40–4:10 PM
Break	4:10–4:20 PM
Public Comments	4:20–4:30 PM
Closing	4:30–5:00 PM

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# AAQPS Committee Member Roll Call



## HHS Designee



**Jeff Richey, RN, MHA, FACHE**  
Executive Director, Airlift Northwest;  
Associate Administrator, University of  
Washington Medical Center

## Healthcare Provider



**William Hinckley, MD**  
Associate Professor, Emergency  
Medicine – University of Cincinnati

## Accrediting Bodies Representative



**Eileen Frazer, RN, CMTE**  
Executive Director and Founder of the  
Commission on Accreditation of  
Medical Transport Systems

## HHS Additional Representative



**Jason Clark**  
Senior Vice President of Field  
Operations, APOLLO MedFlight

## HHS Additional Representative



**Mark Gamber, MD**  
Chief Medical Officer, Alacura  
Medical Transport Management

## Group Health Plans & Health Insurance Insurers



**Jordan Pritzker, MD**  
Executive Regional Medical  
Director, Aetna

## State Insurance Regulator



**Grace Arnold**  
Commissioner, Commerce  
Department, Minnesota

# AAQPS Committee Member Roll Call



## DOT Designee



**Robert Reckert**

Division Manager, FAA

## DOT Appointee



**Ben Clayton**

Chief Executive Officer,  
LifeFlight Network

## DOT Appointee



**Jim Houser**

President of the Center for Emergency  
Medicine of Western Pennsylvania,  
and CEO of STAT MedEvac

## DOT Appointee



**Thomas Judge**

Founding Executive Director,  
LifeFlight of Maine

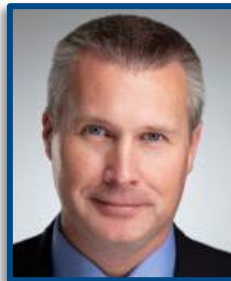
## DOT Appointee



**Paul Julander**

Co-President,  
PHI Air Medical

## DOT Appointee



**Jason Quisling**

Senior Vice President  
Flight Ops/Air Methods

## Patient Advocacy Group



**Col. Steven Coffee**

Founding Member, Patients for  
Patient Safety U.S.

# Overview of the AAQPS Committee



- The No Surprises Act calls for the Department of Health and Human Services (HHS) to establish an Advisory Committee to address the following topics in its deliberations and in a subsequent report to Congress:
  - Qualifications of different clinical capability levels and tiering of such levels
  - Patient safety and quality standards
  - Clinical triage criteria for air ambulances
  - Options for improving service reliability during poor weather, night conditions, or other adverse conditions
  - Differences between air ambulance vehicle types, services, and technologies, and other flight capability standards, and the impact of such differences on patient safety

# AAQPS Overview



## Purpose:

- Review options to improve quality, patient safety, and clinical capability standards for each clinical capability of air ambulances.

## Outcome:

- Define innovative approaches to improve quality, accessibility, affordability, and sustainability of air ambulance services for safe, quality healthcare.

# AAQPS Subcommittees

There are two Subcommittees that inform the main Committee:

## Clinical Standards:

- Qualifications of different clinical capability levels and tiering of such levels
- Patient safety and quality standards
- Clinical triage criteria for air ambulances

### **Members:**

- Committee members were selected from those who applied for the main Committee.

## Flight Safety:

- Options for improving service reliability during poor weather, night conditions, or other adverse conditions.
- Differences between air ambulance vehicle types, services, and technologies, and other flight capability standards, and the impact of such differences on patient safety.

### **Members:**

- DOT appointees on the main AAQPS Committee serve on the Subcommittee.

Both Subcommittees provided updates to the Committee on their deliberations, looked to the Committee for guidance on prioritization, and helped Committee members understand the background and nuance of each of their recommendations.

# Voting Process

- The Committee chair, Jeff Richey, will call a vote
- The voting choices will be: Yes, No, or Abstain
- All Committee members will send a private chat with their vote to a designated team member (Yes, No, or Abstain)
- The Committee chair will call out each member's name, and they will read aloud the vote they submitted via chat and note if they have a conflict of interest
- The Committee chair will read the calculated votes aloud
- Recommendations will be incorporated into the Report to Congress if the majority of Committee members voting cast a "Yes" vote



# **Review of May 8, 2025, Meeting**

Jeff Richey

# AAQPS Committee Meeting on May 8, 2025

- Subcommittee chairs presented recommendations for AAQPS consideration and answered questions
- AAQPS Committee:
  - Discussed and deliberated on recommendations
  - Voted on and passed nine recommendations to be included in a Report to Congress
  - Agreed to discuss one additional Flight Safety-focused recommendation and five Clinical Standards-focused recommendations today (July 10, 2025)

# Recommendations Adopted by the Committee

## (1 of 2)

- **AAQPS Recommendation 3:** Congress should pass legislation to establish air ambulance as a provider type regulated by Medicare so that CMS may establish Conditions of Participation and enforce basic clinical safety standards.
- **AAQPS Recommendation 4:** Congress should direct HHS to develop a Patient Safety Structural Measure (PSSM) adapted for the air ambulance setting, and to establish a new quality reporting program for air ambulance which includes reporting on the PSSM.
- **AAQPS Recommendation 5:** HHS should issue guidance to hospitals and air ambulance providers clarifying that HIPAA does not prevent sharing patient clinical data for quality improvement purposes and clarifying the specific limitations and requirements for hospitals to share patient clinical data back to air ambulance providers.
- **AAQPS Recommendation 6:** Congress should provide additional funding to bolster existing state and federal efforts to develop and promote health information exchange. This funding should specifically support improving the bidirectional exchange of patient clinical data between air ambulance providers and hospitals.
- **AAQPS Recommendation 8:** Congress should allocate funding to expand weather services in non-terminal areas and invest in the research and development of new and innovative weather reporting and forecasting technologies through targeted grants and initiatives. Congress should direct the FAA to expand access to FAA-approved sources of real-time weather data and advanced predictive capabilities, prioritizing non-terminal areas. This effort should prioritize: Deploying additional new Visual Weather Observation Systems (VWOS); Installing weather cameras to enable real-time monitoring across the United States; Increasing access to Terminal Doppler Weather Radar (TDWR) systems; Enhancing surface detection capabilities, improving forecasting accuracy, and advancing predictive analysis tools; Integrating approved weather sources into the National Airspace Data Interchange (NADIN) for Graphical Forecasts for Aviation – Low Altitude (GFA-LA).

Note: The numbering of these recommendations was updated on 7/30/25 to align with the Report to Congress.

# Recommendations Adopted by the Committee

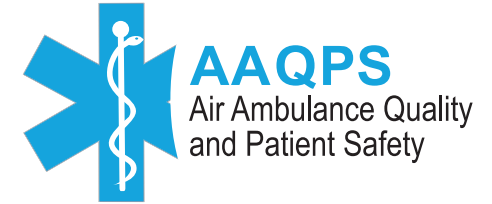
## (2 of 2)

- **AAQPS Recommendation 9:** Congress should direct the FAA to develop low-altitude IFR routes and enhance air traffic control (ATC) capabilities. Congress should increase Helicopter Air Ambulance (HAA) use of the IFR system by funding the required infrastructure and directing the FAA to adopt policies and procedures to support its use by all low altitude aircraft, crewed and uncrewed. Infrastructure needs include adding additional Automatic Dependent Surveillance–Broadcast (ADS-B) transmitters, radar systems, controller–pilot data link communications (CPDLC), and communication equipment and incentivizing hospitals and operators to adopt IFR-compatible infrastructure. Necessary policies and procedures include expansion of low-altitude IFR routes and approaches, including an HAA Performance Based IFR route structure. Additionally, Congress should direct the FAA to develop a traffic management framework to mitigate risks associated with the growth of unmanned aircraft system (UAS) and advanced air mobility operations.
- **AAQPS Recommendation 10:** Congress should authorize funding and establish initiatives to modernize and digitize the Airport Data Information Portal (ADIP) in collaboration with the FAA and industry stakeholders. This effort should ensure accurate and comprehensive data on heliports, helipads, and landing zones, including critical information such as weight limits, markings, and Instrument Flight Rules (IFR) compatibility. This effort should prioritize: Integrating updated helipad and heliport data into commercially available pilot navigation tools; Establishing competitive grants to upgrade substandard helipads and heliports to meet FAA design standards (e.g., Advisory Circular 150/5390-2D); Including maintenance of hospital helipad data in the ADIP as a Condition of Participation (CoP) to be evaluated by hospital accreditation organizations; Adding IFR-compatible infrastructure to improve safety and reliability, especially in rural and underserved areas (non-terminal areas); Incorporating locations with medical services into the United States Notices to Airmen (NOTAM) system.
- **AAQPS Recommendation 11:** Congress should mandate that new air ambulance helicopters be equipped with Stability Augmentation Systems (SAS) or Auto Flight Control Systems (AFCS) and require pilot training on their use. Additionally, Congress should provide funding incentives to retrofit existing helicopters and support FAA research into enhanced vision technologies, workload reduction systems, and advanced simulation tools (including virtual reality), with expedited development through industry collaboration.
- **AAQPS Recommendation 13:** Congress should mandate that the FAA develop performance-based standards and establish standardized policies and procedures, across all offices, to streamline the certification process for advanced aircraft systems and medical equipment. Congress should also mandate the development of expedited approval pathways for technologies critical to patient care and operational safety, ensuring timely certification of innovations that enhance emergency medical services to include a dedicated liaison team within the FAA Aircraft Certification Service to improve communication with operators and manufacturers, expedite approvals, and provide regulatory guidance.

Note: The numbering of these recommendations was updated on 7/30/25 to align with the Report to Congress.

# Flight Safety Subcommittee Recommendation

# Agenda



- **Recommendation #FS-6:** Mandate Critical Safety Standards for Air Ambulance Occupant Protection
  - *FAA Aviation Rulemaking Advisory Committee (ARAC) Recommendations:* discussion to focus on the details of the ARAC recommendations and clarifying language around what exactly is being proposed with the recommendation.
- **Recommendations #FS-1 through #FS-6**
  - *Helicopter vs. Fixed-Wing:* discussion on the request for clarification to language indicating whether each recommendation applies to helicopter or fixed-wing air ambulances.

# AAQPS Statutory Mandate



The HHS Secretary and the Secretary of Transportation are required to establish an Advisory Committee on Air Ambulance Quality and Patient Safety for the purpose of reviewing options to establish quality, patient safety, and clinical capability standards for each clinical capability level of air ambulances. The Advisory Committee shall study and make recommendations, as appropriate, to Congress regarding each of the following with respect to air ambulance services:

- Qualifications of different clinical capability levels and tiering of such levels.
- Patient safety and quality standards.
- **Options for improving service reliability during poor weather, night conditions, or other adverse conditions.**
- **Differences between air ambulance vehicle types, services, and technologies, and other flight capability standards, and the impact of such differences on patient safety.**
- Clinical triage criteria for air ambulances.

**These recommendations will be used to enhance CMS's approach to air ambulance quality and safety and may be used to help establish an air ambulance quality reporting or value-based purchasing program in the future.**

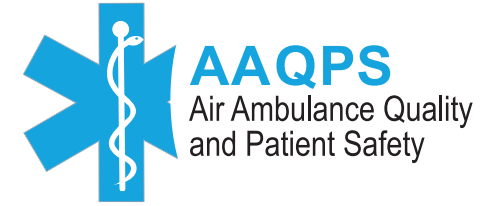
# Background on Air Ambulance Flight Safety Quality and Patient Safety



- **Increased Demand for Air Ambulance Services:** *The need for air ambulance operations has grown significantly, particularly in rural and remote areas where access to critical care facilities is limited. These services are vital for rapid patient transport during emergencies.*
- **Safety Concerns in Adverse Weather Conditions:** *Air ambulance operations in poor visibility, low ceilings, and adverse weather conditions continue to pose significant risks to patient and crew safety, highlighting the need for improved infrastructure and technology.*
- **Focus on Crash Survivability:** *Despite advancements, crash survivability remains a challenge, with ongoing efforts to improve aircraft design, such as energy-absorbing seats, stronger airframes, and fire-resistant fuel systems.*
- **Focus on Technology Integration:** *Although cost barriers have impeded the adoption of some advanced technologies, such as terrain awareness and warning systems (TAWS), autopilot systems, and enhanced GPS navigation, new technology can improve situational awareness and operational safety for air ambulance crews.*
- **Performance-Based Standards:** *The development of performance-based standards can help operators and manufacturers design more efficient and safety-compliant aircraft, streamlining the certification process.*
- **Public and Legislative Attention:** *Air ambulance safety has gained attention from policymakers and the public, prompting calls for continued investment in infrastructure, technology, and regulatory oversight to ensure patient and crew safety.*



# Meetings and Process of the Subcommittee



The Subcommittee held **five** meetings from December 2024 through April 2025.

- **December 19:** Focused on understanding the two statutory areas of improving service reliability and enhancing patient safety, and identifying key concerns such as infrastructure gaps, human factors, low-altitude congestion, and unimplemented National Transportation Safety Board (NTSB) recommendations.
- **January 29:** Further discussed improving air ambulance safety through better weather reporting, updated infrastructure, unified standards, and enhanced technology and regulations.
- **February 18:** Reviewed problem statements developed in January and explored solutions, including NTSB recommendations, funding priorities, improved weather sensors, expanded weather cameras, and collaboration on helipad safety and patient protection.
- **March 20:** Prioritized solutions to improve air ambulance service reliability and patient safety, informed by subject matter experts who presented insights on vertical flight safety, heliport infrastructure challenges, and advancements in weather monitoring, with plans to finalize recommendations in April.
- **April 10:** Reviewed and finalized draft recommendations on improving weather reporting, helipad infrastructure, low-altitude instrument flight rules (IFR) systems, and safety of single pilot operations, while also prioritizing two additional recommendations to streamline technology certification and mandate occupant protection standards.

# Summary of Flight Safety Subcommittee Recommendations (1 of 2)



## Adverse Weather (Gaps in Weather Reporting in Non-Terminal Areas)

**Problem Statement:** Adverse weather creates significant challenges for smaller aircraft, especially helicopters that often take off and land at small, private **hospital helipad and scene** locations (non-terminal areas) rather than large, well-equipped airports **with full weather forecasts**. Weather information for flights close to the ground – below 5,000 feet – is often incomplete or unavailable, particularly in non-terminal areas where there are fewer weather stations and limited access to approved weather sources.

✓ **Recommendation #FS-1: Enhance Weather Reporting and Infrastructure in Non-Terminal Areas**

## Facility Infrastructure (Hospital Helipad Safety and Data Gaps)

**Problem Statement:** Many hospital helipads, critical for air ambulance operations, are not listed in the FAA's ADIP database, leaving over a third unaccounted for. This lack of comprehensive data, combined with voluntary heliport design standards and inconsistent oversight, results in safety risks such as airspace conflicts, substandard facilities, and inadequate disaster management capabilities. Additionally, the absence of standardized markings and unclear weight and size limitations further complicates safe operations.

✓ **Recommendation #FS-2: Modernize Helipad Data, Infrastructure, and Safety Standards**

## Instrument Flight Rules (IFR) Infrastructure (Challenges with Low-Altitude IFR Operations)

**Problem Statement:** Air ambulance operations face significant limitations due to the lack of low-altitude Instrument Flight Rules (IFR) infrastructure, including IFR approaches to helipads. This restricts operations during poor weather, delays patient transport, and increases safety risks. The complexity of accessing the IFR system and the absence of mandated standards for helipad design exacerbate these challenges, hindering reliable and timely emergency medical services. Additionally, the rapid growth of low-altitude aviation, UAS including drones and advanced air mobility vehicles, is increasing airspace congestion near hospitals and airports, potentially delaying critical life-saving missions.

✓ **Recommendation #FS-3: Improve Low-Altitude IFR infrastructure**

# Summary of Flight Safety Subcommittee Recommendations (2 of 2)



## Single Pilot Operations (Addressing Safety and Airspace Challenges in Air Ambulance Operations)

**Problem Statement:** Air ambulance operations face significant safety challenges due to high pilot workload in demanding conditions like adverse weather, low visibility, and night flights, which can impact situational awareness and decision-making. Additionally, the rapid growth of low-altitude aviation, including UAS and advanced air mobility vehicles, is increasing airspace congestion and pilot workload near hospitals and airports, potentially interfering with critical life-saving missions.

✓ **Recommendation #FS-4: Enhance Safety and Technology for Single-Pilot Operations**

## Barriers to Innovation (New Technology and Medical Equipment Certification)

**Problem Statement:** Current certification requirements restrict the timely adoption of new technologies, including advanced aircraft systems, medical equipment, and safety technologies, and limit the ability to enhance patient care and improve operational efficiency in emergency medical services.

✓ **Recommendation #FS-5: Streamline Certification and Expedite Approval Pathways for Air Ambulance Technologies and Medical Equipment**

## Occupant Safety Standards (Addressing NTSB Recommendations)

**Problem Statement:** A regulatory gap exists that allows certain helicopters with Type Certificates issued prior to 1994 and manufactured prior to 2020 to operate without meeting current safety and certification standards outlined in CFR 14 Parts 27 and 29. These certification requirements have been proven to reduce injuries and fatalities for occupants of helicopters. Allowing helicopters with a type certificate prior to 1994 to continue to operate in the absence of mandatory adherence to updated safety standards – such as crash-resistant fuel systems, enhanced occupant protection, and structural integrity requirements – heightens the likelihood of preventable injuries and fatalities in the event of an accident.

✓ **Recommendation #FS-6: Mandate Critical Safety Standards for Air Ambulance Occupant Protection**

# **Recommendation #FS-6: Mandate Critical Safety Standards for Air Ambulance Occupant Protection**

# Context for FS-6



- The Flight Safety Subcommittee leveraged open and outstanding recommendations from the NTSB safety recommendations and FAA Working Groups.
- In 2018 the FAA Rotorcraft Occupant Protection Working Group (ROPWG) issued final recommendations for Task 5: Crash Resistant Seats and Structures (CRSS), and Task 6: Crash Resistant Fuel Systems (CRFS) and these were subsequently accepted by the FAA Aviation Rulemaking Advisory Committee (ARAC).
- FAA outlined the implementation process for CRFS in FAA Safety Alert For Operators 19006 (SAFO 19006) and a Special Airworthiness Information Bulletin SW-17-31R2.
- Any aircraft with a Type Certification occurring after 1994 must be in compliance with requirements listed in CFR 14 Part 27 and 29 in the following areas:
  - Requiring the installation of crash resistant fuel bladders that meet the requirements of the 50-foot fuel cell drop test in or out of structure, and that demonstrate a minimum of 250 lb. puncture resistance. CFR 27/29.952(a)(1)(2)(3)(5)(6), 27/29.952(f), and 27.963(g)/29.963(b)
  - Requiring installation of occupant seats that pass the vertical and horizontal dynamic seat tests. CFR 27/29.562, 27/29.785(c) and (g)
  - Requiring the restraint of occupants and items of mass in the cabin at the g-levels required for newly certified helicopters. CFR 27/29.561

Differences between air ambulance vehicle types, services, and technologies, and other flight capability standards, and the impact of such differences on patient safety	
Problem Statement	<b>Occupant Safety Standards (Addressing NTSB Recommendations):</b> A regulatory gap exists that allows certain helicopters with Type Certificates issued prior to 1994 and manufactured prior to 2020 to operate without meeting current safety and certification standards outlined in CFR 14 Parts 27 and 29. These certification requirements have been proven to reduce injuries and fatalities for occupants of helicopters. Allowing helicopters with a type certificate prior to 1994 to continue to operate in the absence of mandatory adherence to updated safety standards – such as crash-resistant fuel systems, enhanced occupant protection, and structural integrity requirements – heightens the likelihood of preventable injuries and fatalities in the event of an accident.
Rationale	<ul style="list-style-type: none"><li>✓ Legislative action is necessary to close this regulatory gap, reduce risks associated with outdated certification standards, and ensure the highest level of safety for air ambulance passengers and crew.</li><li>✓ Implementing proven protective technologies improves survivability for passengers and crew during accidents and strengthens public confidence in the industry.</li><li>✓ Aligning practices with established safety standards reflects a commitment to accountability and continuous improvement, creating a safer operational framework while reducing the financial and societal consequences of preventable injuries and fatalities.</li></ul>

# Discussion

## Differences between air ambulance vehicle types, services, and technologies, and other flight capability standards, and the impact of such differences on patient safety

Subcommittee Recommendation	<p><b>Mandate Critical Safety Standards for Air Ambulance Occupant Protection:</b> Congress should mandate the implementation of FAA Part 135 ARAC recommendations on helicopter air ambulance occupant protective technologies, including crashworthy fuel systems as referenced in SAFO 19006. Legislative action is necessary to ensure industry-wide compliance with proven safety standards and bring all helicopters utilized for air ambulance operations into compliance with CFR 14 Part 27 and 29 in the following areas:</p> <p>CFR 27/29.952(a)(1)(2)(3)(5)(6), 27/29.952(f), and 27.963(g)/29.963(b) CFR 27/29.562, 27/29.785(c) and (g) CFR 27/29.561</p>
Benefits	<ul style="list-style-type: none"><li>✓ <b>Enhanced Safety for Passengers and Crew:</b> Implementing crashworthy and crash-resistant technologies significantly reduces the risk of injuries and fatalities during accidents, ensuring greater protection for those aboard air ambulances.</li><li>✓ <b>Alignment with Proven Safety Standards:</b> Adopting these technologies brings industry practices in line with established safety benchmarks, fostering consistency and accountability while promoting a culture of safety.</li></ul>
Challenges for Consideration	<ul style="list-style-type: none"><li>⦿ <b>Financial Burden:</b> Retrofitting aircraft or purchasing compliant models may impose significant costs on operators, particularly smaller ones, potentially impacting service availability.</li><li>⦿ <b>Operational Disruptions:</b> Upgrading aircraft could temporarily disrupt air ambulance services, especially in underserved areas.</li><li>⦿ <b>Industry Resistance:</b> Operators and manufacturers may resist due to cost concerns or perceived regulatory overreach, potentially delaying compliance.</li><li>⦿ <b>Regulatory Complexity:</b> Enforcing the mandate will require coordination between Congress, the FAA, and stakeholders, potentially leading to lengthy processes and oversight challenges.</li></ul>

# Voting



Each Committee Member will be asked to submit their vote via Zoom chat directly to a designated team member.

## Differences between air ambulance vehicle types, services, and technologies, and other flight capability standards, and the impact of such differences on patient safety

Subcommittee Recommendation	<b>Mandate Critical Safety Standards for Air Ambulance Occupant Protection:</b> Congress should mandate the implementation of FAA Part 135 ARAC recommendations on helicopter air ambulance occupant protective technologies, including crashworthy fuel systems as referenced in SAFO 19006. Legislative action is necessary to ensure industry-wide compliance with proven safety standards and bring all helicopters utilized for air ambulance operations into compliance with CFR 14 Part 27 and 29 in the following areas: CFR 27/29.952(a)(1)(2)(3)(5)(6), 27/29.952(f), and 27.963(g)/29.963(b) CFR 27/29.562, 27/29.785(c) and (g) CFR 27/29.561
Voting Options	<i>Committee members should vote yes/no/abstain for the recommendation (#FS-6).</i>  <i>Committee members should note if they believe they have a conflict of interest.</i>



## **Flight Safety Subcommittee: Language Update and Review**

# Background and Proposal

During the May 8, 2025, AAQPS Committee Meeting there was a request for clarification to language indicating whether each recommendation applies to both helicopter or fixed-wing air ambulances or one type of aircraft.

## Proposed Language for Report to Congress:

- **Report Introduction:** *“Throughout this report and in individual recommendations, air ambulance refers to both fixed-wing and helicopter aircraft unless otherwise specified.”*
- **For FS-3,** the recommendation specifies “helicopter air ambulance.” In the Report, include that the problem statement for this recommendation is *“focused on helicopter air ambulance, but fixed-wing aircraft will also be impacted by UAS and airspace congestion.”*
- **For FS-4,** the recommendation specifies “air ambulance helicopters.” The report should note *“although this recommendation focuses on air ambulance helicopters, the Committee also recommends exploring opportunities to support new technology for fixed-wing air ambulances.”*
- **For FS-5,** the recommendation refers to “advanced aircraft systems” but does not refer to air ambulances at all. In the Report, include language that notes *“this recommendation impacts both fixed-wing and helicopter air ambulances.”*

# Updated Report Language

*Helicopter vs. Fixed-Wing:* discussion on the request for clarification to language indicating whether each recommendation applies to helicopter or fixed-wing air ambulances.

Report Language	<ul style="list-style-type: none"><li>• <b>Report Introduction:</b> <i>“Throughout this report and in individual recommendations, air ambulance refers to both fixed-wing and helicopter aircraft unless otherwise specified.”</i></li><li>• <b>For FS-3,</b> the recommendation specifies “helicopter air ambulance.” In the Report, include that the problem statement for this recommendation is <i>“focused on helicopter air ambulance, but fixed-wing aircraft will also be impacted by UAS and airspace congestion.”</i></li><li>• <b>For FS-4,</b> the recommendation specifies “air ambulance helicopters.” The report should note <i>“although this recommendation focuses on air ambulance helicopters, the Committee also recommends exploring opportunities to support new technology for fixed-wing air ambulances.”</i></li><li>• <b>For FS-5,</b> the recommendation refers to “advanced aircraft systems” but does not refer to air ambulances at all. In the Report, include language that notes <i>“this recommendation impacts both fixed-wing and helicopter air ambulances.”</i></li></ul>
Voting Options	<p><i>Committee members should vote yes/no/abstain in favor for the Report language.</i></p> <p><i>Committee members should note if they believe they have a conflict of interest.</i></p>

# FS-1 Optional Voting

Each Committee Member will be asked to submit their vote via Zoom chat directly to a designated team member.

## Options for improving service reliability during poor weather, night conditions, or other adverse conditions

Subcommittee Recommendation	<p><b>Enhance Weather Reporting and Infrastructure in Non-Terminal Areas:</b> Congress should allocate funding to expand weather services in non-terminal areas and invest in the research and development of new and innovative weather reporting and forecasting technologies through targeted grants and initiatives. Congress should direct the FAA to expand access to FAA-approved sources of real-time weather data and advanced predictive capabilities, prioritizing non-terminal areas. This effort should prioritize:</p> <ul style="list-style-type: none"> <li>• Deploying additional new Visual Weather Observation Systems (VWOS).</li> <li>• Installing weather cameras to enable real-time monitoring across the U.S.</li> <li>• Increasing access to Terminal Doppler Weather Radar (TDWR) systems.</li> <li>• Enhancing surface detection capabilities, improving forecasting accuracy, and advancing predictive analysis tools.</li> <li>• Integrating approved weather sources into the National Airspace Data Interchange (NADIN) for Graphical Forecasts for Aviation – Low Altitude (GFA-LA) .</li> </ul>
Voting Options	<p><i>Committee members should vote yes/no/abstain for the recommendation (#FS-1).</i></p> <p><i>Committee members should note if they believe they have a conflict of interest.</i></p>

# FS-2 Optional Voting

Each Committee Member will be asked to submit their vote via Zoom chat directly to a designated team member.

Options for improving service reliability during poor weather, night conditions, or other adverse conditions	
Subcommittee Recommendation	<p><b>Modernize Helipad Data, Infrastructure, and Safety Standards:</b> Congress should authorize funding and establish initiatives to modernize and digitize the Aeronautical Data Information Portal (ADIP) in collaboration with the FAA and industry stakeholders. This effort should ensure accurate and comprehensive data on heliports, helipads, and landing zones, including critical information such as weight limits, markings, and IFR (Instrument Flight Rules) compatibility. This effort should prioritize:</p> <ul style="list-style-type: none"> <li>• Integrating updated helipad and heliport data into commercially available pilot navigation tools.</li> <li>• Establishing competitive grants to upgrade substandard helipads and heliports to meet FAA design standards (e.g., Advisory Circular 150/5390-2D).</li> <li>• Including maintenance of hospital helipad data in the ADIP as a Condition of Participation (CoP) to be evaluated by hospital accreditation organizations.</li> <li>• Adding IFR-compatible infrastructure to improve safety and reliability, especially in rural and underserved areas (non-terminal areas).</li> <li>• Incorporating locations with medical services into the United States Notices to Airmen (NOTAM) system.</li> </ul>
Voting Options	<p><i>Committee members should vote yes/no/abstain for the recommendation (#FS-2).</i></p> <p><i>Committee members should note if they believe they have a conflict of interest.</i></p>

# FS-3 Optional Voting

Each Committee Member will be asked to submit their vote via Zoom chat directly to a designated team member.

Options for improving service reliability during poor weather, night conditions, or other adverse conditions	
Subcommittee Recommendation	<b>Improve Low-Altitude IFR Infrastructure:</b> Congress should direct the FAA to develop low-altitude IFR routes and enhance ATC capabilities. Congress should increase HAA use of the IFR system by funding the required infrastructure and directing the FAA to adopt policies and procedures to support its use by <b>all</b> low altitude aircraft, crewed and uncrewed. Infrastructure needs include adding additional ADS-B transmitters, radar systems, CPDLC, and communication equipment and incentivizing hospitals and operators to adopt IFR-compatible infrastructure. Necessary policies and procedures include expansion of low-altitude IFR routes and approaches, including an HAA Performance Based IFR route structure. Additionally, Congress should direct the FAA to develop a traffic management framework to mitigate risks associated with the growth of UAS and advanced air mobility operations.
Voting Options	<p><i>Committee members should vote yes/no/abstain for the recommendation (#FS-3).</i></p> <p><i>Committee members should note if they believe they have a conflict of interest.</i></p>

# FS-4 Optional Voting

Each Committee Member will be asked to submit their vote via Zoom chat directly to a designated team member.

Options for improving service reliability during poor weather, night conditions, or other adverse conditions	
Subcommittee Recommendation	<b>Enhance Safety and Technology for Single-Pilot Operations:</b> Congress should mandate that new air ambulance helicopters be equipped with SAS or AFCS and require pilot training on their use. Additionally, Congress should provide funding incentives to retrofit existing helicopters and support FAA research into enhanced vision technologies, workload reduction systems, and advanced simulation tools (including virtual reality), with expedited development through industry collaboration.
Voting Options	<p><i>Committee members should vote yes/no/abstain for the recommendation (#FS-4).</i></p> <p><i>Committee members should note if they believe they have a conflict of interest.</i></p>

# FS- 5 Optional Voting

Each Committee Member will be asked to submit their vote via Zoom chat directly to a designated team member.

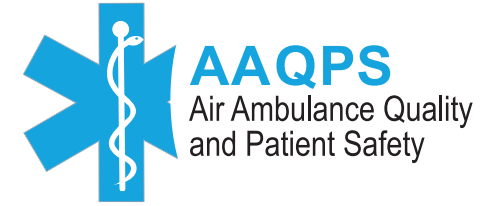
## Differences between air ambulance vehicle types, services, and technologies, and other flight capability standards, and the impact of such differences on patient safety

Subcommittee Recommendation	<b>Streamline Certification and Expedite Approval Pathways for Air Ambulance Technologies and Medical Equipment:</b> Congress should mandate that the FAA develop performance-based standards and establish standardized policies and procedures, across all offices, to streamline the certification process for advanced aircraft systems and medical equipment. Congress should also mandate the development of expedited approval pathways for technologies critical to patient care and operational safety, ensuring timely certification of innovations that enhance emergency medical services to include a dedicated liaison team within the FAA Aircraft Certification Service to improve communication with operators and manufacturers, expedite approvals, and provide regulatory guidance.
Voting Options	<p><i>Committee members should vote yes/no/abstain for the recommendation (#FS-5).</i></p> <p><i>Committee members should note if they believe they have a conflict of interest.</i></p>



# Reference

## FS Recommendations Adopted May 8, 2025



- **Recommendation #FS-1:** Enhance Weather Reporting and Infrastructure in Non-Terminal Areas
  - **Voting Results:** 12 Yes; 0 No; 2 Abstain
- **Recommendation #FS-2:** Modernize Helipad Data, Infrastructure, and Safety Standards
  - **Voting Results:** 11 Yes; 0 No; 3 Abstain
- **Recommendation #FS-3:** Improve Low-Altitude IFR infrastructure
  - **Voting Results:** 12 Yes; 0 No; 2 Abstain
  - **Verbal Confirmation of Vote:** Mark Gamber
- **Recommendation #FS-4:** Enhance Safety and Technology for Single-Pilot Operations
  - **Voting Results:** 11 Yes; 0 No; 3 Abstain
  - **Verbal Confirmation of Vote:** Paul Julander, Mark Gamber
- **Recommendation #FS-5:** Streamline Certification and Expedite Approval Pathways for Air Ambulance Technologies and Medical Equipment
  - **Voting Results:** 13 Yes; 0 No; 1 Abstain
  - **Verbal Confirmation of Vote:** Paul Julander, Mark Gamber

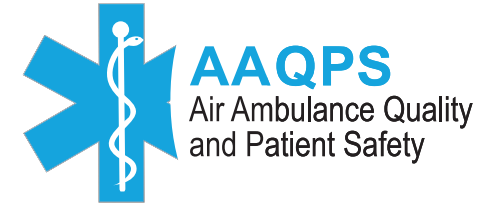
# Clinical Standards Subcommittee Recommendations

# Agenda



- Overview of clinical standards recommendations and alignment to AAQPS statutory mandate (15 minutes)
- Discuss and vote on endorsement of three AAPB recommendations (115 minutes)
- Continue discussion and vote on CS-1b (60 minutes)

# AAQPS Statutory Mandate



The HHS Secretary and the Secretary of Transportation are required to establish an Advisory Committee on Air Ambulance Quality and Patient Safety for the purpose of reviewing options to establish quality, patient safety, and clinical capability standards for each clinical capability level of air ambulances. The Advisory Committee **shall study and make recommendations, as appropriate**, to Congress regarding each of the following with respect to air ambulance services:

- Qualifications of different clinical capability levels and tiering of such levels.
- Patient safety and quality standards.
- Options for improving service reliability during poor weather, night conditions, or other adverse conditions.
- Differences between air ambulance vehicle types, services, and technologies, and other flight capability standards, and the impact of such differences on patient safety.
- Clinical triage criteria for air ambulances.

**These recommendations will be used to enhance CMS's approach to air ambulance quality and safety and may be used to help establish an air ambulance quality reporting or value-based purchasing program in the future.**

More info: <https://www.cms.gov/medicare/regulations-guidance/advisory-committees/advisory-committee-air-ambulance-quality-and-patient-safety>

# Meetings and Process of the CS Subcommittee



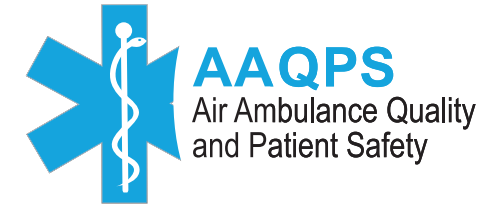
- Held four half-day working meetings between January 2025 and April 2025.
  - Brainstormed key issues and challenges for each of the topics defined in the statute for the Report to Congress and refined these into specific problem statements.
  - Brainstormed and prioritized potential solutions for each problem statements.
    - As part of this work, reviewed the recommendations of the AAPB Advisory Committee, and determined which problem statements might be addressed (in whole or in part) by the AAPB recommendations.
- Focused remaining time performing options analysis and developing new recommendations for the remaining problem statements, to address those gaps.

# Summary of Problem Statements and Approach to Developing Recommendations



Problem Statements Identified by the Clinical Standards Subcommittee	Approach
<b>Clinical triage criteria for air ambulances</b>	
<b>Problem statement:</b> Claims can be denied due to medical necessity based on patient information collected after the transport or with lack of context regarding geography and available resources, even though it met triage standards (scene calls) or was certified by physician for air transport (interfacility transport) at the time of call.	Endorse outstanding AAPB recommendations
<b>Qualifications of different clinical capability levels and tiering of such levels</b>	
<b>Problem statement:</b> Clinical capabilities available may not be appropriately matched to the community (may have insufficient or excessive supply of specific clinical services).	Endorse outstanding AAPB recommendations
<b>Problem statement:</b> Variability in the equipment and clinical capabilities available on air ambulances can present a clinical risk to patient safety when the available equipment, personnel, and training are not adequately matched to the needs of the patient; this presents particular risks for specialty populations and low frequency/high risk patients (e.g., neonatal/pediatric, high-risk OB, patients in rural areas).	Develop new recommendation
<b>Patient safety and quality standards</b>	
<b>Problem statement:</b> There is no consistently used, non-retaliatory framework for advancing patient safety in the air ambulance setting (analogous to the Aviation Safety Action Program, Maintenance Safety Action Program, or Safety Management System for aviation safety) which follows the principles of a just culture based on trust, fairness, and learning.	Develop new recommendation
<b>Problem statement:</b> It is difficult for air ambulance providers to get follow-up information on patient clinical data after transfer of care, limiting quality improvement activities and negatively impacting crew well-being.	Develop new recommendation

# Clinical Triage Criteria



For each of the problem statements below, the Subcommittee brainstormed solutions and settled on an overall goal for each recommendation. The Subcommittee then analyzed options for achieving each goal and refined a specific recommendation for each.

## Clinical Triage Criteria for Air Ambulances

**Problem statement:** Claims can be denied due to medical necessity based on patient information collected after the transport or with lack of context regarding geography and available resources, even though it met triage standards (scene calls) or was certified by physician for air transport (interfacility transport) at the time of call.

✓ **Goal:** Reduce claim denials for medical necessity.

AAPB recommendation

# Clinical Capability Levels



For each of the problem statements below, the Subcommittee brainstormed solutions and settled on an overall goal for each recommendation. The Subcommittee then analyzed options for achieving each goal and refined a specific recommendation for each.

Qualifications of different clinical capability levels and tiering of such levels	
<b>Problem statement:</b> Clinical capabilities available may not be appropriately matched to the community (may have insufficient or excessive supply of specific clinical services).	
✓ <b>Goal:</b> Modernize payment approach to ensure payment adequacy for specialty care.	AAPB recommendations
✓ <b>Goal:</b> Collect and analyze data on industry to better understand what capabilities are currently available in which communities and costs associated with providing various capabilities.	
<b>Problem statement:</b> Variability in the equipment and clinical capabilities available on air ambulances can present a clinical risk to patient safety when the available equipment, personnel, and training are not adequately matched to the needs of the patient; this presents particular risks for specialty populations and low frequency/high risk patients (e.g., neonatal/pediatric, high-risk OB, patients in rural areas).	
✓ <b>Goal:</b> Establish minimum national clinical standards.	2 new recommendations



# Patient Safety and Quality Standards



For each of the problem statements below, the Subcommittee brainstormed solutions and settled on an overall goal for each recommendation. The Subcommittee then analyzed options for achieving each goal and refined a specific recommendation for each.

Patient Safety and Quality Standards	
<b>Problem statement:</b> There is no consistently used, non-retaliatory framework for advancing patient safety in the air ambulance setting (analogous to the Aviation Safety Action Program, Maintenance Safety Action Program, or Safety Management System for aviation safety) which follows the principles of a just culture based on trust, fairness, and learning.	
✓ <b>Goal:</b> Promote a Just Culture Framework for patient safety.	1 new recommendation
<b>Problem statement:</b> It is difficult for air ambulance providers to get follow-up information on patient clinical data after transfer of care, limiting quality improvement activities and negatively impacting crew well-being.	
✓ <b>Goal:</b> Improve access to patient clinical data.	2 new recommendations

# Lunch

# **AAPB Recommendations Relevant to AAQPS**

# Background: Air Ambulance and Patient Billing (AAPB) Advisory Committee



- The AAPB Advisory Committee issued its report in March 2022.
  - **AAPB Report:** <https://www.transportation.gov/airconsumer/AAPB>
  - The AAQPS Clinical Standards Subcommittee tried to avoid venturing into topics related to billing, as these were discussed in depth by the AAPB and strayed from the AAQPS mandated focus areas.
  - Three existing AAPB recommendations have direct implications for two problem statements identified by the AAQPS Clinical Standards Subcommittee.
  - The Clinical Standards Subcommittee **recommends that the Report to Congress include these problem statements and endorse the existing AAPB recommendations** rather than generating new, potentially duplicative recommendations. This will help to highlight the importance of those recommendations for clinical standards and patient safety and allow time for those recommendations to be fully implemented and see their complete impact.

# Summary of Relevant Recommendations from the Advisory Committee on Air Ambulance Patient Billing



## AAPB Recommendations for Endorsement

### Clinical Triage Criteria

**Problem statement:** Claims can be denied due to medical necessity based on patient information collected after the transport or with lack of context regarding geography and available resources, even though it met triage standards (scene calls) or was certified by physician for air transport (interfacility transport) at the time of call.

- ✓ Recommendation #CS-A is related to **medical necessity determinations**.
- ✓ **Goal:** *Reduce claim denials for medical necessity.*

### Clinical Capability Levels

**Problem statement:** Clinical capabilities available may not be appropriately matched to the community (may have insufficient or excessive supply of specific clinical services).

- ✓ Recommendation #CS-B is related to **adequacy of Medicare reimbursement**.
- ✓ **Goal:** *Modernize Medicare payment approach to ensure payment adequacy for specialty care.*
- ✓ Recommendation #CS-D is related to **collecting and analyzing data on the air ambulance industry**.
- ✓ **Goal:** *Improve information on geographic availability of capabilities costs associated with providing various capabilities to inform future policy and reimbursement conversations.*

# Problem Statement and Recommendation



## Building on AAPB Recommendations

### Clinical Triage Criteria

**Problem statement:** Claims can be denied due to medical necessity based on patient information collected after the transport or with lack of context regarding geography and available resources, even though it met triage standards (scene calls) or was certified by physician for air transport (interfacility transport) at the time of call.

- ✓ **Recommendation #CS-A:** Congress should direct HHS to implement the following AAPB recommendation clarifying that there should be a “rebuttable presumption” in the No Surprises Act Independent Dispute Resolution (IDR) process that the air ambulance service was medically necessary for purposes of adjudicating payment disputes for out of network services.

**AAPB recommendation #12:** The AAPB recommends that HHS should issue a regulation addressing medical necessity within the IDR process. Specifically, within the IDR process, there should be a rebuttable presumption that the air ambulance service was medically necessary, but an insurer can overcome that presumption by first presenting evidence that either the third-party first responder/medical professional who requested the transport was not a neutral third party, or that the air ambulance provider did not act in good faith. (See Chapter 5, page 42)

**How implementing this recommendation will support clinical standards and patient safety:** Air Ambulance (AA) operators have reported that fear of a claim being denied can cause a chilling effect on providers ordering air transport which may be medically indicated, presenting a risk to patient safety. Many of these denied claims are related to out-of-network coverage. Implementing this recommendation would support AA operators in addressing unpaid claims through the IDR process by shifting the burden of proof to insurers denying claims based on medical necessity, which ideally will increase provider confidence in ordering medically indicated air transport. Further, denied claims cause financial hardship for AA operators and hospitals, and takes away revenue that could be used to invest in quality improvement and safety.

# Voting

Each Committee Member will be asked to submit their vote via Zoom chat directly to a designated team member.



## Clinical Triage Criteria: Medical Necessity

### Subcommittee Recommendation

✓ **Recommendation #CS-A:** Congress should mandate implementation of the following AAPB recommendation clarifying that there should be a “rebuttable presumption” that an emergency air ambulance service was medically necessary, if consistent with provisions of Section 415 of the Medicare Modernization Act of 2003, but an insurer can overcome that presumption by presenting evidence that clinical circumstances known at time of transport did not support medical necessity for the transport, third-party first responder/medical professional who requested the transport was not a neutral third party, or that the air ambulance provider did not act in good faith.

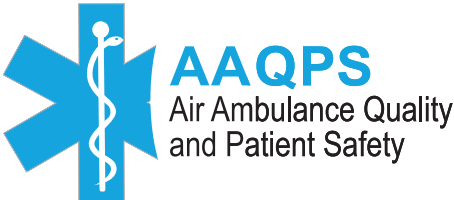
**AAPB recommendation #12:** The AAPB recommends that HHS should issue a regulation addressing medical necessity within the IDR process. Specifically, within the IDR process, there should be a rebuttable presumption that the air ambulance service was medically necessary, but an insurer can overcome that presumption by first presenting evidence that either the third-party first responder/medical professional who requested the transport was not a neutral third party, or that the air ambulance provider did not act in good faith. (See Chapter 5, page 42)

### Voting options

*Committee members should vote yes, no, or abstain.*

*Committee members should note if they believe they have a conflict of interest.*

# Problem Statement and Recommendation



## Building on AAPB Recommendations

### Clinical Capability Levels

**Problem statement:** Clinical capabilities available may not be appropriately matched to the community (may have insufficient or excessive supply of specific clinical services).

- ✓ **Recommendation #CS-B:** Congress should enact legislation to implement the following AAPB recommendation for HHS to evaluate the adequacy of Medicare reimbursement rates for air ambulance. This evaluation should specifically assess whether reimbursement should be differentiated for transports involving specialty care or more intensive procedures to ensure payment is adequate for the diversity of critical services provided in the air ambulance setting, and should consider use of add-on payments, modifier codes, and/or procedure codes commonly used across payors to ensure clarity and efficiency in claims processing. The evaluation should also assess adequacy of reimbursement for aviation operational and training costs in the context of current FAA requirements and advancements in best practices for flight safety.
- AAPB recommendation #17:** The AAPB recommends that legislation be enacted to require HHS to: (i) study Medicare rates for air ambulance services; and (ii) if warranted, for HHS to take steps to increase the reimbursement rates for air ambulance services upon conclusion of the study. The Advisory Committee also recommends that the study should be based on actual cost data, with “cost” including (1) the definition of cost as set forth in the Balance Billing Subcommittee’s recommendation; (2) cost elements set forth in Section 106 of the No Surprises Act; and (3) volume of transports. (See Chapter 9, page 60)
- How implementing this recommendation will support clinical standards and patient safety:** AA providers have reported that Medicare rates are often insufficient to cover the costs of transport. The current payment model reimburses based on mileage and aircraft type only and does not account for the high fixed costs associated with readiness (the ability to respond 24/7 in an emergency). Inadequacy of payment is exacerbated for specialty transports, which require additional equipment, training, and staff. AA providers and clinicians have reported improper equipment available for specialty populations (e.g., neonatal) that could have negative impacts on patient care. Implementing this recommendation would help to ensure Medicare payment rates are adequate to ensure that these critical services are sustainable and available to the communities they serve.



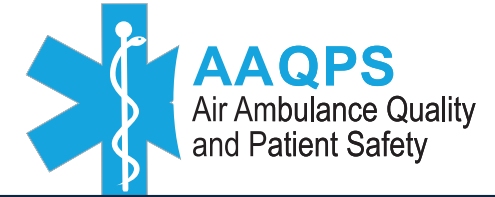
# Voting



Each Committee Member will be asked to submit their vote via Zoom chat directly to a designated team member.

Clinical Capability Levels: Reimbursement Adequacy	
Subcommittee Recommendation	<p>✓ <b>Recommendation #CS-B:</b> Consistent with the following AAPB recommendation, Congress should enact legislation to evaluate the adequacy of Medicare reimbursement rates for air ambulance. This evaluation should specifically assess whether reimbursement should be differentiated for transports involving specialty care or more intensive procedures to ensure payment is adequate for the diversity of critical services provided in the air ambulance setting, and should consider use of add-on payments, modifier codes, and/or procedure codes commonly used across payors to ensure clarity and efficiency in claims processing. The evaluation should also assess adequacy of reimbursement for aviation operational and training costs in the context of current FAA requirements and advancements in best practices for flight safety. The evaluation should also include analysis of potential gaps in reimbursement for specialty services and market-wide impact of any changes to Medicare reimbursement rates.</p> <p><b>AAPB recommendation #17:</b> The AAPB recommends that legislation be enacted to require HHS to: (i) study Medicare rates for air ambulance services; and (ii) if warranted, for HHS to take steps to increase the reimbursement rates for air ambulance services upon conclusion of the study. The Advisory Committee also recommends that the study should be based on actual cost data, with “cost” including (1) the definition of cost as set forth in the Balance Billing Subcommittee’s recommendation; (2) cost elements set forth in Section 106 of the No Surprises Act; and (3) volume of transports. (See Chapter 9, page 60)</p>
Voting options	<p><i>Committee members should vote yes, no, or abstain.</i></p> <p><i>Committee members should note if they believe they have a conflict of interest.</i></p>

# Problem Statement and Recommendation



## Building on AAPB Recommendations

### Clinical Capability Levels

**Problem statement:** Clinical capabilities available may not be appropriately matched to the community (may have insufficient or excessive supply of specific clinical services).

✓ **Recommendation #CS-D:** HHS should implement the following AAPB recommendation regarding implementation of data collection requirements authorized under No Surprises Act (section 106) and subsequent Notice of Proposed Rulemaking (CMS-9907-P, Document Number 2021-19797, 86 FR 51730-51779), which would allow CMS to collect operational data on the air ambulance industry for two years and issue a report on the current state of the air ambulance industry.

**AAPB recommendation #14:** The AAPB recommends that HHS and DOT collect data from air ambulance providers and suppliers regarding: (1) average cost per trip; (2) air ambulance base rates and patient-loaded statute mileage rates; (3) ancillary fees for specialty services; (4) reimbursement data aggregated by payor type and per transport, based on median rate and ZIP code, with data regarding private insurance further identified by provider type; (5) alternate revenue sources (e.g., subsidies or membership programs) broken down per transport for reporting purposes; (6) volume of transports, segregated by aircraft type (fixed wing and rotary wing) and takeoff ZIP code for government purposes, or for public use when aggregated with other data; (7) market share for air transport, obtained from the FAA certificate holder and identifying the certificate holder's parent company; and (8) market share for healthcare, by looking at the program type for the FAA certificate holder. (See Chapter 6, page 51)

**How implementing this recommendation will support clinical standards and patient safety:** AAPB recommended that this data be collected at the federal level to (a) advance the understanding of the air ambulance industry by policymakers, (b) increase transparency of market conditions impacting air ambulance services. The CS Subcommittee discussed that this transparency and understanding of the industry landscape would be critical to informing other recommendations regarding adequacy of reimbursement, availability of clinical capabilities in each market, and federal or state oversight of clinical standards and patient safety.

# Voting



Each Committee Member will be asked to submit their vote via Zoom chat directly to a designated team member.

Clinical Capability Levels: Data Collection	
Subcommittee Recommendation	<p>✓ <b>Recommendation #CS-D:</b> HHS should implement the following AAPB recommendation regarding implementation of data collection requirements authorized under No Surprises Act (section 106) and subsequent Notice of Proposed Rulemaking (CMS-9907-P, Document Number 2021-19797, 86 FR 51730-51779), which would allow CMS to collect operational data on the air ambulance industry for two years and issue a report on the current state of the air ambulance industry.</p> <p><b>AAPB recommendation #14:</b> The AAPB recommends that HHS and DOT collect data from air ambulance providers and suppliers regarding: (1) average cost per trip; (2) air ambulance base rates and patient-loaded statute mileage rates; (3) ancillary fees for specialty services; (4) reimbursement data aggregated by payor type and per transport, based on median rate and ZIP code, with data regarding private insurance further identified by provider type; (5) alternate revenue sources (e.g., subsidies or membership programs) broken down per transport for reporting purposes; (6) volume of transports, segregated by aircraft type (fixed wing and rotary wing) and takeoff ZIP code for government purposes, or for public use when aggregated with other data; (7) market share for air transport, obtained from the FAA certificate holder and identifying the certificate holder's parent company; and (8) market share for healthcare, by looking at the program type for the FAA certificate holder. (See Chapter 6, page 51)</p>
Voting options	<p><i>Committee members should vote yes, no, or abstain.</i></p> <p><i>Committee members should note if they believe they have a conflict of interest.</i></p>

# **Recommendation #CS-1b: Establish Minimum National Clinical Standards**

# Problem Statement and Recommendations



## Clinical Capability Levels

**Problem statement:** Variability in the equipment and clinical capabilities available on air ambulances can present a clinical risk to patient safety when the available equipment, personnel, and training are not adequately matched to the needs of the patient; this presents particular risks for specialty populations and low frequency/high risk patients (e.g., neonatal/pediatric, high-risk OB, patients in rural areas).

- ✓ **Recommendation #CS-1a:** Congress should pass legislation to establish air ambulance as a provider type regulated by Medicare so that CMS may establish Conditions of Participation and enforce basic clinical safety standards.  
*Approved by AAQPS at the May 8, 2025, meeting*

### For discussion today:

- ✓ **Recommendation #CS-1b:** Congress should pass legislation to require compulsory accreditation for Medicare air ambulance providers. The minimum standards assessed by the accrediting organization(s) should include specific standards for safe transport of specialty populations. The process must include periodic reassessment of compliance and must include exceptions or waivers for operators in rural/frontier areas where certain standards may not be feasible to implement without creating barriers to access (e.g., due to shortage of specialists). Accreditation standards should be reassessed on a periodic basis, soliciting industry input on proposed changes.

# Background and Current State



## Qualifications of Different Clinical Capability Levels: Establish Minimum National Clinical Standards

- AAs, like ground ambulance, is not a recognized Medicare provider type. Ambulance services are a covered Medicare benefit, and ambulance providers are considered suppliers in the Medicare program. AA is a “transport only” benefit reimbursed based on vehicle type and mileage – there is no differential payment for clinical capabilities requiring specialized personnel or equipment.
- Ambulance providers (air and ground) are required to demonstrate they have met very basic requirements (described in [42 CFR 410.41](#) and [42 CFR 414.610](#)) to be reimbursed by Medicare for supplying ambulance services. This is done as part of processing claims, rather than a periodic certification process that is common for institutional providers participating in Medicare. There are few requirements specific to air ambulance.
- Other types of Medicare providers subject to certification requirements (e.g., CoPs) must meet established health and safety standards and are “certified” by CMS. Certification by CMS includes surveys to evaluate compliance with the CoPs, which are conducted by State Survey Agencies, or by an accreditation organization approved by CMS.

Current ambulance supplier requirements:

<https://www.ecfr.gov/current/title-42/chapter-IV/subchapter-B/part-410/subpart-B/section-410.41>

<https://www.ecfr.gov/current/title-42/chapter-IV/subchapter-B/part-414/subpart-H/section-414.610>

Example CoPs (hospital Emergency Department): <https://www.ecfr.gov/current/title-42/chapter-IV/subchapter-G/part-482/subpart-D/section-482.55>

# Background and Current State, Continued



## Qualifications of Different Clinical Capability Levels: Establish Minimum National Clinical Standards

- The clinical components of AA are regulated by the states, like other healthcare providers. However, this picture is complicated by the ADA, which preempts states from regulating anything which impacts “routes, prices, or services” for an air transport operator (including AA). There is some ambiguity regarding what clinical aspects of AA services (personnel, equipment) are subject to state regulation vs. preempted by the ADA. However, there is no specific federal regulation of the clinical aspects of AA.
- States do impose clinical requirements (when not preempted by ADA), resulting in a patchwork of requirements across states, which presents challenges as many AA operators must operate across state lines.
- Patients generally do not have a choice of supplier for AA transport, heightening the need to ensure all AA services meet a minimum standard.
- A large majority of AA operators participate in voluntary accreditation programs such as Commission on Accreditation of Medical Transport Systems (CAMTS) and National Accreditation Alliance of Medical Transport Applications (NAAMTA). Some accreditation programs cover both clinical and flight safety. FAA does not have authority to accept accreditation in lieu of FAA oversight of compliance with flight safety standards.

# Background: Overview of Options



## Comparison of different approaches to establishing minimum national clinical standards

*Note: these options are not mutually exclusive and may be recommended in combination.*

Option	Actor and specific action	Rationale
Update existing Medicare supplier requirements for ambulance services	CMS issues rulemaking to update existing requirements for suppliers of ambulance services to add requirements specific to AA.	Builds on the current state in which AA (along with ground ambulance) are considered suppliers of a Medicare benefit/service. Updates to 42 CFR 410.41 are within existing HHS statutory authority but would be limited to very basic requirements.
Establish new Medicare provider type	Congress directs CMS to establish AA as a new Medicare provider type with CoPs.	The clinical care provided on AA includes advanced clinical capabilities and specialty care; providers delivering similar services in brick-and-mortar are considered Medicare providers and are subject to CoPs. This approach recognizes AA as a medical provider within the continuum of care and allows Medicare to add CoPs. This may also lay the foundation for further changes to how Medicare reimburses AA.
Compulsory accreditation for AAs seeking reimbursement as Medicare suppliers of ambulance services	Congress creates legislation giving HHS statutory authority to require accreditation for Medicare suppliers of ambulance services.	Would impose more meaningful minimum standards to all suppliers of AA services seeking reimbursement from Medicare. CMS would designate organizations to accredit suppliers; this could include existing accrediting organizations provided their requirements meet or exceed those established by Medicare.
Compulsory national accreditation for <u>all</u> air ambulance providers, regardless of Medicare participation	Congress creates new legislation to require accreditation of clinical aspects of AA at a national level (through HHS or FAA).	This would require <u>all</u> AA providers to be accredited as a requirement to operate – regardless of payer. This process could include existing accrediting organizations provided they are approved by CMS for this purpose. While most healthcare providers are regulated/licensed at the state level, there is precedent for national regulation – for example, laboratories are certified nationally because 1) they participate in interstate commerce and 2) patients generally do not have a choice of supplier. Both of those conditions are also true for air ambulance, and AA is already subject to federal regulation from FAA.



# Recommendations



## Qualifications of Different Clinical Capability Levels: Establish Minimum National Clinical Standards

<b>Subcommittee Recommendation</b>	<p><b>Recommendation #CS-1a:</b> Congress should pass legislation to establish air ambulance as a provider type regulated by Medicare so that CMS may establish Conditions of Participation and enforce basic clinical safety standards.</p> <p><b>Recommendation #CS-1b:</b> Congress should pass legislation to require compulsory accreditation for Medicare air ambulance providers. The minimum standards assessed by the accrediting organization(s) should include specific standards for safe transport of specialty populations. The process must include periodic reassessment of compliance and must include exceptions or waivers for operators in rural/frontier areas where certain standards may not be feasible to implement without creating barriers to access (e.g., due to shortage of specialists). Accreditation standards should be reassessed on a periodic basis, soliciting industry input on proposed changes.</p>
<b>Rationale</b>	<p>This option would result in the most meaningful improvement in clinical standards and patient safety relative to the status quo. Building on existing supplier standards, or implementing CoPs without additional accreditation standards, would not be sufficient. In addition, establishing AA as a provider type is an important step in achieving recognition throughout the healthcare industry that AA providers are a critical component of the healthcare ecosystem, and provides a foundation for other subsequent recommendations.</p>
<b>Benefits</b>	<ul style="list-style-type: none"> <li>✓ Creates a survey and enforcement mechanism for basic patient safety requirements (CoPs).</li> <li>✓ Creates a required, higher tier of more meaningful accreditation standards which are more flexible to update than CoPs.</li> <li>✓ Could leverage existing accreditation organizations (AOs) already widely adopted in industry but would not be limited to existing AOs.</li> <li>✓ AA providers may continue to operate outside of Medicare if accreditation is not feasible.</li> <li>✓ Recognizes AA as a healthcare provider with an important role in the continuum of care, particularly in rural and frontier communities.</li> </ul>
<b>Challenges</b>	<ul style="list-style-type: none"> <li>⊗ Not within current HHS statutory authority (requires legislation and rulemaking to establish provider type and compulsory accreditation).</li> <li>⊗ Complicates the regulatory environment for ambulance services (there are no CoPs for ground ambulance).</li> <li>⊗ If the standard is unobtainable for certain AA companies (and cannot be resolved through the remediation process), and there is no exception or waiver process, this could leave certain regions with an insufficient number of AA to serve the population.</li> <li>⊗ If the standard is too low, would impose additional burden without meaningful improvement from status quo.</li> <li>⊗ High administrative burden (e.g., cost and time) on the AA provider to maintain compliance and accreditation requirements.</li> </ul>

# **Operational Challenges in Frontier Areas**

## **Todd McDowell, Director of EMS, State of Alaska**

# Geographical Challenges

**FACT:** Alaska has less paved highway miles than Rhode Island



How large  
Alaska  
actually is

How Alaska is always  
depicted on maps

- Off-Road System Communities to Anchorage
  - Juneau (Capitol) 725 miles
  - Nome 540 miles
  - Bethel 400 miles
  - Adak 1,200 miles
  - Cold Bay 626 miles
  - Shemya 1,500 miles
- Closest Level 1 Trauma Center to Anchorage
  - Seattle 1,438 miles
- CONUS comparisons
  - Chicago to Dallas 804 miles
  - Seattle to San Diego 1,063 miles
  - NYC to Miami 1,090 miles

# Logistical Challenges and Why a Waiver Process is Needed



## Air ambulance accreditation and staffing standards

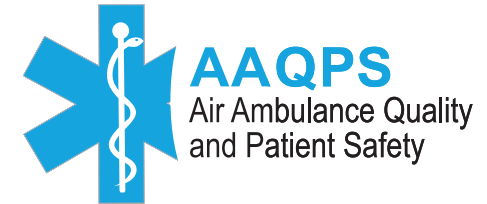
- Alaska realities
  - Double paramedics in remote bases
  - Small rural air medical services may rely on any available volunteer EMT
  - A single neonate specialty team exists in Anchorage
  - Mostly fixed wing, only three rotors operating in Alaska

## Triage for air medical

- Alaska realities
  - Lack of road systems can lead to air ambulance versus commercial air triage decisions
  - Some communities are three to five hours away from the nearest hospital, and volunteer services cannot engage in a 12-hour transport
  - A simple arm or ankle fracture may get transported by air

# Discussion with CMS/FAA:

## Additional Information requested by AAQPS



- **Establishing and updating accreditation standards:** What is the process by which CMS sets and updates minimum standards? What are the opportunities for expert and public input? How does CMS leverage existing accreditation standards? How would CMS do due diligence to ensure there are not unintended impacts (e.g., to aviation operations)?
- **Accrediting organizations:** What is the process by which CMS approves and oversees accrediting organizations? Does tying accreditation to Medicare participation put AOs at increased risk of litigation? How do existing AOs navigate this risk?
- **Exemptions/waivers:** What are the different approaches available to CMS to support organizations that may have difficulty coming into compliance with national standards (e.g., in frontier areas) so that access to critical services is not adversely impacted? How does CMS ensure these exceptions are used only when necessary to preserve access to care?
- **Reconciling oversight from two federal agencies:** How can CMS and FAA divide responsibilities for oversight of clinical versus aviation standards? How would CMS and FAA work together to ensure regulations and guidance are not in conflict?

# Discussion



## Qualifications of Different Clinical Capability Levels: Establish Minimum National Clinical Standards

<b>Subcommittee Recommendation</b>	<p><b>Recommendation #CS-1a:</b> Congress should pass legislation to establish air ambulance as a provider type regulated by Medicare so that CMS may establish Conditions of Participation and enforce basic clinical safety standards.</p> <p><b>Recommendation #CS-1b:</b> Congress should pass legislation to require compulsory accreditation for Medicare air ambulance providers. The minimum standards assessed by the accrediting organization(s) should include specific standards for safe transport of specialty populations. The process must include periodic reassessment of compliance and must include exceptions or waivers for operators in rural/frontier areas where certain standards may not be feasible to implement without creating barriers to access (e.g., due to shortage of specialists). Accreditation standards should be reassessed on a periodic basis, soliciting industry input on proposed changes.</p>
<b>Rationale</b>	<p>This option would result in the most meaningful improvement in clinical standards and patient safety relative to the status quo. Building on existing supplier standards, or implementing CoPs without additional accreditation standards, would not be sufficient. In addition, establishing AA as a provider type is an important step in achieving recognition throughout the healthcare industry that AA providers are a critical component of the healthcare ecosystem, and provides a foundation for other subsequent recommendations.</p>
<b>Benefits</b>	<ul style="list-style-type: none"> <li>✓ Creates a survey and enforcement mechanism for basic patient safety requirements (CoPs).</li> <li>✓ Creates a required, higher tier of more meaningful accreditation standards which are more flexible to update than CoPs.</li> <li>✓ Could leverage existing accreditation organizations (AOs) already widely adopted in industry but would not be limited to existing AOs.</li> <li>✓ AA providers may continue to operate outside of Medicare if accreditation is not feasible.</li> <li>✓ Recognizes AA as a healthcare provider with an important role in the continuum of care, particularly in rural and frontier communities.</li> </ul>
<b>Challenges</b>	<ul style="list-style-type: none"> <li>⊗ Not within current HHS statutory authority (requires legislation and rulemaking to establish provider type and compulsory accreditation).</li> <li>⊗ Complicates the regulatory environment for ambulance services (there are no CoPs for ground ambulance).</li> <li>⊗ If the standard is unobtainable for certain AA companies (and cannot be resolved through the remediation process), and there is no exception or waiver process, this could leave certain regions with an insufficient number of AA to serve the population.</li> <li>⊗ If the standard is too low, would impose additional burden without meaningful improvement from status quo.</li> <li>⊗ High administrative burden (e.g., cost and time) on the AA provider to maintain compliance and accreditation requirements.</li> </ul>

# Voting



Each Committee Member will be asked to submit their vote via Zoom chat directly to a designated team member.

Qualifications of Different Clinical Capability Levels: Establish Minimum National Clinical Standards	
Subcommittee Recommendation	<b>Recommendation #CS-1b:</b> Voluntary accreditation by CMS approved accrediting agencies should provide deemed status for meeting Medicare Conditions of Participation (CoPs). The minimum standards assessed by the accrediting organization(s) should include specific standards for safe transport of specialty populations. The process to develop CoPs and accreditation standards must include periodic reassessment of compliance and must include exceptions or waivers for operators in frontier areas where certain standards may not be feasible to implement without creating barriers to access (e.g., due to shortage of specialists). Accreditation standards should be reassessed on a periodic basis, soliciting industry input on proposed changes.
Voting options	<i>Committee members should vote yes, no, or abstain.</i>  <i>Committee members should note if they believe they have a conflict of interest.</i>

# Background: Options Analysis



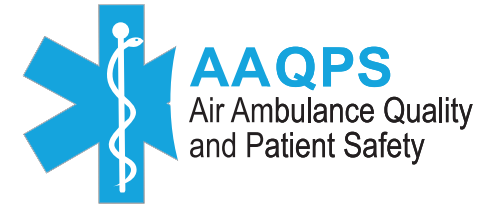
Comparison of different approaches to establishing minimum national clinical standards (Note: these options are not mutually exclusive)

Options	Benefits	Challenges
Update existing Medicare supplier requirements for ambulance services	<ul style="list-style-type: none"> <li>✓ Creates basic national standards for suppliers of AA services</li> <li>✓ Close to status quo; would not disrupt business practices</li> <li>✓ Within existing HHS statutory authority</li> </ul>	<ul style="list-style-type: none"> <li>⊗ Very basic standards may have little impact on quality and safety</li> <li>⊗ Does not resolve the ambiguity of ADA preemption</li> <li>⊗ Little change to status quo</li> <li>⊗ Requires rulemaking</li> </ul>
Establish new Medicare provider type	<ul style="list-style-type: none"> <li>✓ <i>Same as above, plus:</i></li> <li>✓ Creates a survey and enforcement mechanism for basic safety requirements (currently no such mechanism exists for AA)</li> <li>✓ AA would be recognized as a CMS-certified healthcare provider</li> <li>✓ May lay the foundation for updating Medicare reimbursement or implementing additional quality and safety standards</li> <li>✓ Requires legislative action, but builds on an existing framework</li> </ul>	<ul style="list-style-type: none"> <li>⊗ <i>Same as above, plus:</i></li> <li>⊗ Not within current HHS statutory authority (requires legislation)</li> <li>⊗ May be disruptive for providers of both ground and air services</li> <li>⊗ Complicates the regulatory environment for ambulance services (there are no CoPs for ground ambulance)</li> <li>⊗ Unlikely to be a significantly higher standard than current state (see example of CoPs provided as a handout)</li> </ul>
Compulsory accreditation for AAs seeking reimbursement as Medicare suppliers of ambulance services	<ul style="list-style-type: none"> <li>✓ Creates more meaningful national standards for AA providers</li> <li>✓ States still retain oversight of licensure of clinicians</li> <li>✓ Could potentially leverage existing AOs already familiar and respected in industry</li> <li>✓ AOs can more easily update standards to reflect current industry norms/best practices (does not require rulemaking)</li> <li>✓ AA operators could continue to operate if not accredited, they just would not be eligible for Medicare reimbursement</li> </ul>	<ul style="list-style-type: none"> <li>⊗ Not within current HHS statutory authority (requires legislation)</li> <li>⊗ If standard is too high, it may put operators out of business and reduce access in frontier and rural areas</li> <li>⊗ If standard is too low, may have little impact on quality and safety</li> <li>⊗ Administrative burden to maintain compliance</li> <li>⊗ Need to assess capacity of existing accrediting organizations</li> </ul>
Compulsory national accreditation for <u>all</u> air ambulance providers, regardless of Medicare participation	<ul style="list-style-type: none"> <li>✓ Creates more meaningful national standards for AA providers</li> <li>✓ National oversight of a critical piece of the healthcare ecosystem (esp. frontier/rural)</li> <li>✓ Resolve ambiguity of ADA preemption of states by clearly defining federal role in oversight of clinical aspects of AA</li> <li>✓ Reduce impact of conflicting state standards on interstate AAs</li> </ul>	<ul style="list-style-type: none"> <li>⊗ <i>Same as above, plus:</i></li> <li>⊗ Need clear division of roles and coordination between HHS/FAA</li> <li>⊗ Need to clarify to what extent this new national regulation preempts or is complementary to existing state and FAA oversight</li> </ul>



# Reference:

## CS Recommendations Adopted May 8, 2025



- **Recommendation #CS-1a:** Congress should pass legislation to establish air ambulance as a provider type regulated by Medicare so that CMS may establish Conditions of Participation and enforce basic clinical safety standards.
  - **Voting Results: 9 Yes; 2 No; 3 Abstain**
- **Recommendation #CS-2:** Congress should direct HHS to develop a Patient Safety Structural Measure (PSSM) adapted for the air ambulance setting, and to establish a new quality reporting program for air ambulance which includes reporting on the PSSM.
  - **Voting Results: 14 Yes; 0 No; 0 Abstain**
- **Recommendation #CS-3a:** HHS should issue guidance to hospitals and air ambulance providers clarifying that HIPAA does not prevent sharing patient clinical data for quality improvement purposes and clarifying the specific limitations and requirements for hospitals to share patient clinical data back to air ambulance providers.
  - **Voting Results: 13 Yes; 0 No; 1 Abstain**
- **Recommendation #CS-3b:** Congress should provide additional funding to bolster existing state and federal efforts to develop and promote health information exchange. This funding should specifically support improving the bidirectional exchange of patient clinical data between air ambulance providers and hospitals.
  - **Voting Results: 12 Yes; 0 No; 2 Abstain**

# Review of Recommendations and Discussion

# Recommendations



- **Recommendation #FS-6: Mandate Critical Safety Standards for Air Ambulance Occupant Protection**
  - Voting Results: 12 Yes; 0 No; 1 Abstain
- **Flight Safety Updated Report Language**
  - Voting Results: 13 Yes; 0 No; 0 Abstain
- **Recommendation #CS-A: Medical Necessity**
  - Voting Results: 10 Yes; 0 No; 3 Abstain
- **Recommendation #CS-B: Reimbursement Adequacy**
  - Voting Results: 12 Yes; 0 No; 1 Abstain
- **Recommendation #CS-D: Data Collection**
  - Voting Results: 11 Yes; 0 No; 2 Abstain
- **Strike Recommendation #CS-1b: Establish Minimum National Clinical Standards**
  - Voting Results: 10 Yes; 1 No; 2 Abstain

# Recommendations Adopted by the Committee (1 of 4)

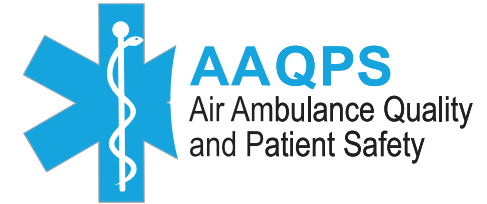


- ✓ **AAQPS 1:** Consistent with the following AAPB recommendation, Congress should enact legislation to evaluate the adequacy of Medicare reimbursement rates for air ambulance. This evaluation should specifically assess whether reimbursement should be differentiated for transports involving specialty care or more intensive procedures to ensure payment is adequate for the diversity of critical services provided in the air ambulance setting, and should consider use of add-on payments, modifier codes, and/or procedure codes commonly used across payors to ensure clarity and efficiency in claims processing. The evaluation should also assess adequacy of reimbursement for aviation operational and training costs in the context of current FAA requirements and advancements in best practices for flight safety. The evaluation should also include analysis of potential gaps in reimbursement for specialty services and market-wide impact of any changes to Medicare reimbursement rates.

AAPB recommendation #17: The AAPB recommends that legislation be enacted to require HHS to: (i) study Medicare rates for air ambulance services; and (ii) if warranted, for HHS to take steps to increase the reimbursement rates for air ambulance services upon conclusion of the study. The Advisory Committee also recommends that the study should be based on actual cost data, with “cost” including (1) the definition of cost as set forth in the Balance Billing Subcommittee’s recommendation; (2) cost elements set forth in Section 106 of the No Surprises Act; and (3) volume of transports. (See Chapter 9, page 60)

# Recommendations Adopted by the Committee

## (2 of 4)

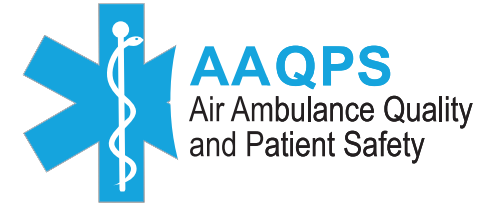


- ✓ **AAQPS 2:** HHS should implement the following AAPB recommendation regarding implementation of data collection requirements authorized under No Surprises Act (section 106) and subsequent Notice of Proposed Rulemaking (CMS-9907-P, Document Number 2021-19797, 86 FR 51730-51779), which would allow CMS to collect operational data on the air ambulance industry for two years and issue a report on the current state of the air ambulance industry.

AAPB Recommendation #14: The AAPB recommends that HHS and DOT collect data nationally from AA providers and suppliers regarding: (1) average cost per trip; (2) air ambulance base rates and patient-loaded statute mileage rates; (3) ancillary fees for specialty services; (4) reimbursement data aggregated by payor type and per transport, based on median rate and ZIP code, with data regarding private insurance further identified by provider type; (5) alternate revenue sources (e.g., subsidies or membership programs) broken down per transport for reporting purposes; (6) volume of transports, segregated by aircraft type (fixed wing and rotary wing) and takeoff ZIP code for government purposes, or for public use when aggregated with other data; (7) market share for air transport, obtained from the FAA certificate holder and identifying the certificate holder's parent company; and (8) market share for health care, by looking at the program type for the FAA certificate holder.

# Recommendations Adopted by the Committee

## (3 of 4)



- ✓ **AAQPS 7:** Congress should mandate implementation of the following AAPB recommendation clarifying that there should be a “rebuttable presumption” that an emergency air ambulance service was medically necessary, if consistent with provisions of Section 415 of the Medicare Modernization Act of 2003, but an insurer can overcome that presumption by presenting evidence that clinical circumstances known at time of transport did not support medical necessity for the transport, third-party first responder/medical professional who requested the transport was not a neutral third party, or that the air ambulance provider did not act in good faith.

AAPB Recommendation #12: The Advisory Committee recommends that HHS should issue a regulation addressing medical necessity within the IDR process. Specifically, within the IDR process, there should be a rebuttable presumption that the air ambulance service was medically necessary, but an insurer can overcome that presumption by first presenting evidence that either the third-party first responder/medical professional who requested the transport was not a neutral third party, or that the air ambulance provider did not act in good faith.

- ✓ **AAQPS 12:** Congress should mandate the implementation of [FAA Part 135 ARAC recommendations](#) on helicopter air ambulance occupant protective technologies, including crashworthy fuel systems as referenced in SAFO 19006. Legislative action is necessary to ensure industry-wide compliance with proven safety standards and bring all helicopters utilized for air ambulance operations into compliance with CFR 14 Part 27 and 29 in the following areas:  
CFR 27/29.952(a)(1)(2)(3)(5)(6), 27/29.952(f), and 27.963(g)/29.963(b)  
CFR 27/29.562, 27/29.785(c) and (g)  
CFR 27/29.561

# Recommendations Adopted by the Committee

## (4 of 4)



- **AAQPS 12:** Congress should mandate the implementation of the Federal Aviation Administration (FAA) Part 135 Aviation Rulemaking Advisory Committee (ARAC) recommendations on Helicopter Air Ambulance occupant protective technologies, including crashworthy fuel systems as referenced in Safety Alert for Operators (SAFO) 19006. Legislative action is necessary to ensure industry-wide compliance with proven safety standards, and bring all helicopters utilized for air ambulance operations into compliance with Code of Federal Regulations (CFR) 14 Part 27 and 29 in the following areas:
  - CFR 27/29.952(a)(1)(2)(3)(5)(6), 27/29.952(f), and 27.963(g)/29.963(b)
  - CFR 27/29.562, 27/29.785(c) and (g)
  - CFR 27/29.561

# Break



# Public Comments

# Final Reflections



- Committee final reflections:
  - Commissioner Grace Arnold
  - Jason Clark
  - Ben Clayton
  - Colonel Steven Coffee
  - Eileen Frazer
  - Dr. Mark Gamber
  - Dr. William Hinckley
  - Jim Houser
  - Thomas Judge
  - Paul Julander
- Dr. Jordan Pritzker
- Jason Quisling
- Robert Reckert
- Next steps regarding the Report to Congress
- Email [AAQPS@cms.hhs.gov](mailto:AAQPS@cms.hhs.gov) to provide additional comments
- Thank you, Committee and Subcommittee members, and the public

**Thank you!**

# Appendix

# Air Ambulance Overview (1 of 2)



An air ambulance is an aircraft equipped with medical equipment appropriate to the type of care required for the patient (Source: FAA Order 8900.1, Vol 3, Ch 18, § 3). Air ambulances provide critical or life-saving transportation between an accident site and a health care facility, or between two health care facilities. In addition to moving patients to care, referred to as medical evaluation or medevac, air ambulances move skills, resources, and care to patients, also referred to as critical access or advanced in critical care (e.g., bringing blood to a patient where it is not immediately available).

Critical care transport delivers time-critical, ICU-level care in the out-of-hospital setting, bringing the highest level of clinical expertise directly to patients whose needs exceed ground-based ALS capabilities. Utilizing specially configured ground, rotary, or fixed-wing vehicles, highly trained medical crews provide continuous critical care during transport, supporting advanced interventions such as mechanical ventilation, blood product administration, vasoactive infusions, and mechanical circulatory support. Functioning as mobile intensive care units, critical care transport extends the reach of tertiary and quaternary care into rural, remote, and resource-limited areas, ensuring rapid access to lifesaving care. These services support both emergent scene responses and complex interfacility transfers from lower-resourced facilities to higher-level centers, maintaining continuity of care throughout the transport.

Air ambulance operations typically utilize fixed-wing aircraft and rotorcraft, commonly known as airplanes and helicopters. These operations may also transition to ground ambulances, particularly in adverse weather conditions or when larger teams are required. There are a variety of ways to conduct air ambulance flights, but primarily the scene response refers to landing at or near a patient, not at a medical facility (i.e., at the side of a road of a car accident or in a snow field in Alaska for a patient in labor). Interfacility transports are between facilities, and largely from one level of care to a higher one. Specialty transports usually refer to specific teams with specific equipment, such as neonatal teams with an isolate. Air ambulances are utilized to move organ harvesting resources and can be utilized to support mass casualties as well. Typically moving patients farther away from the event, the ground ambulances, or during disasters, such as when ground ambulance transport is not available. Generally, rotor wing aircraft are used for shorter transports. For longer transports, fixed-wing aircraft are used.

# Air Ambulance Overview (2 of 2)



Air ambulance services combine aviation and medical expertise to provide life-sustaining critical care for ill or injured individuals during transport. From a clinical perspective, Air Medical transport programs are outfitted with medical equipment, medications, and interventions tailored to their mission and scope of patient care.

The capability to provide advanced interventions in an aircraft have greatly improved patient outcomes. Some examples include, but are not limited to:

- Ventricular Assist Devices
- ECMO/ECPR therapies
- Neonatal equipment/ Isolettes
- High-Risk OB transport/ Fetal monitoring devices

## General Flight Safety Recommendations Additional Background

- Air ambulance transport impacts hundreds of thousands of Americans every year.
- The ability to serve rural and geographically isolated areas is critical for access to pre-hospital care and support, particularly as decreases in ground transport availability and hospital closures adversely impact access to care in remote areas. Aviation is one way to address those gaps and ensure all Americans can receive the care they need.
- Depending on the aircraft, air ambulances are equipped to deliver critical out-of-hospital services and are outfitted with specialty medical interiors, advanced medical equipment, medications, and interventions tailored to their mission and scope of patient care.
- It is not uncommon for most helicopter operations to occur under VFR, versus the IFR primarily used by airplanes. This is often due to the lack of infrastructure for low altitude operations, private helipads, and other uncontrolled areas.
- The environment, equipment, and performance of low-altitude IFR operations results in a larger index of risks.
- Though some of the Flight Safety Recommendations are directed specifically at HAA operations, they will often provide additional benefit to all aircraft operating in the National Airspace System (NAS).
- Civil aircraft conduct air ambulance operations for hire under Title 14 of the Code of Federal Regulations (14 CFR) part 135. Public aircraft air ambulance operations were not in the scope of the subcommittee recommendations.

Information on this slide draws in part from the following sources: National Association of Insurance Commissioners (2018). [Understanding Air Ambulance Insurance Coverage](#); Lifeline EMS (2024). [Understanding the Different Types of Ambulance Services and When to Use Them - Lifeline EMS](#); Ramee, C.; Speirs, A. Payan, A.P.; Mavris, D. (2021). [Analysis of Weather-Related Helicopter Accidents and Incidents in the United States](#); Speirs, A.; Ramee, C.; Payan, A.P.; Mavris, D.; Feigh, K. (2021). [Impact of Adverse Weather on Helicopter Pilot Decision-Making](#); Miller, K.E.; James, H.J.; Holmes, G.M.; Van Houtven, C.H. (2020). [The effect of rural hospital closures on emergency medical service response and transport times](#); Chen, X. et al. (2018). [Logistics of Air Medical Transport](#); United States Code of Federal Regulations. [eCFR :: 14 CFR Part 135 Subpart L -- Helicopter Air Ambulance Equipment, Operations, and Training Requirements \(FAR Part 135 Subpart L\)](#)

# Additional Background Reference- FS 1: Enhance Weather Reporting and Infrastructure in Non-Terminal Areas (1 of 2)

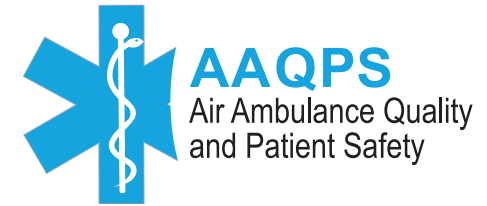


- Rapidly changing weather one of the top causes of helicopter air ambulance accidents. Encountering unforeseen conditions increases the risk of an IMC encounter and unnecessary occupant risk.
- Some pilots report weather as a key reason for inability to fulfill patient transport requests by helicopter.
- Low level operations cannot evade weather like high altitude operations above the weather. Even in an IFR-certified aircraft flown by an instrument rated pilot, avoiding potentially hazardous weather conditions is limited by information collected, analyzed, and transmitted to the crew in real time.
- Aviation weather reporting systems are primarily available at large airports.
- Non-terminal areas feature take-off and landing zones not designed for wide-ranging aviation operations, often lacking sufficient weather stations and advanced meteorological equipment.
- Weather information for flights en-route below 5,000 feet is often incomplete, as most aviation weather systems prioritize higher altitude routes.

Information on this slide draws in part from the following sources: Ramee, C.; Speirs, A. Payan, A.P.; Mavis, D. (2021). [Analysis of Weather-Related Helicopter Accidents and Incidents in the United States](#); Speirs, A.; Ramee, C.; Payan, A.P.; Mavis, D.; Feigh, K. (2021). [Impact of Adverse Weather on Helicopter Pilot Decision-Making](#); Federal Aviation Administration (2024). [Human Factors Analysis of Helicopter Air Ambulance Accidents, Incidents, and Events \(2013-2023\)](#); Federal Aviation Administration (2024). Aviation Weather Handbook, Chapter 27: [FAA-H-8083-28A](#); AAIA (2025). [Challenges to the Commercialization of Advanced Air Mobility](#); [Terminal Doppler Weather Radar \(TDWR\) | Federal Aviation Administration](#); Bajaj et al. (2024). [A Nationwide Weather Radar Network to Support Low Altitude Aircraft Operations](#)



# Additional Background Reference- FS 1: Enhance Weather Reporting and Infrastructure in Non-Terminal Areas (2 of 2)



- Approval of enhanced weather products that provide low-cost enhanced weather information, like weather cameras and other visual weather observation systems has been challenging. Though they have been helpful in local systems, technologies such as these have not been thoroughly vetted for use in national weather systems.
- The density of weather observation systems for low level operations, especially in rural areas, is not sufficient to support pilots encountering rapidly changing weather.
- Technologies like Terminal Doppler Weather Radar (TDWR) can increase coverage of weather reporting in non-terminal areas, though their accessibility to pilots is limited.
- The National Airspace Data Interchange Network (NADIN) integrates approved weather services and transmits weather observations, forecasts, and other data from weather sensors. Limitations on the weather sensor technologies allowed into NADIN can hinder incorporation of subsequent updates in weather sensor technology, including lower-cost sensors.
- Additional collaborative research and funding would help advance innovative and cost-effective solutions for low-altitude and non-terminal operations.

Information on this slide draws in part from the following sources: Federal Aviation Administration (2016). Off Airport, Low Altitude Aircraft: Weather Observation Technology. [faa-160324-001](#); AAIA (2025). [Challenges to the Commercialization of Advanced Air Mobility](#); Speirs, A.; Ramee, C.; Payan, A.P.; Mavris, D.; Feigh, K. (2021). Impact of Adverse Weather on Helicopter Pilot Decision-Making; National Transportation Safety Board (2019). Accident Report: [Helicopter Air Ambulance Collision with Terrain](#); Federal Aviation Administration (2023). Notice to Air Missions [7930.2T Basic dtd 12-14-23](#); National Transportation Safety Board Recommendations A-20-16 and -19 [Safety Recommendations](#); Federal Aviation Administration (2012). Belfort Automated Weather Observing System-Altimeter Visibility into the Weather Message Switching Center Replacement/National Airspace Data Interchange Network; National Association of State Aviation Officials (2011). AWOS/Weather System Connectivity Letter; NEMSPA (2009). An Opportunity to Improve Statements from the National EMS Pilots Association provided to the NTSB for consideration for the Hearing on HEMS Safety; Mills, J.C. (2003). [Proposed IFR Air Ambulance Coverage for Middle and East Tennessee](#)

# Additional Background Reference- FS 2: Modernize Helipad Data, Infrastructure, and Safety Standards



- The FAA has limited oversight of private facilities, including many hospital heliports.
- Private hospital heliports were not required to complete the 5010-form to specify their facility to the FAA's Master Record as of 2019. A 2019 assessment estimated between 1,600 and 1,800 heliports were unaccounted for in the FAA's Master Record, leaving them unseen to aircraft traffic like UAS and AAM, who are required to avoid takeoff and landing airspace.
- Heliport operators are not required to comply with standards set forth in 14 CFR Part 139. FAA standards on heliport planning, design, and construction are non-regulatory guidelines that are not enforceable unless a heliport receives federal funding, which most do not.
- Lack of oversight can lead to a failure of heliports and helipads to meet infrastructure standards, which can play a factor in accidents.
- In 2023, the FAA introduce the Air Data and Information Portal (ADIP), improving upon the previous Airport Master Record 5010 paper form. Newer helipad facilities will be more easily accounted for in the ADIP, but with over 6,000 heliports, older heliport data still contain errors. For example, many heliport locations still do not have location identifiers.

Information on this slide draws in part from the following sources: AOPA (2001). [Private Airports](#); Five-Alpha LLC (2019): Deficiencies in U.S. Helicopter Infrastructure reporting system; Federal Aviation Administration (n.d.). [What procedures must I follow to build a private-use facility?](#); Federal Aviation Administration (nd). Heliport Design. [AC 150/5390-2D - Heliport Design](#); Alexander, R.; Syms, R.A.; Johnson, C.; Roberts, J. (2021). [Vertical-Lift-Infrastructure-Accidents.pdf](#)

# Additional Background Reference- FS 3: Improve Low-Altitude IFR infrastructure



- IFR operations are the standard for commercial passenger operations, and the FAA requires instrument-rated pilots to maintain IFR proficiency to operate in the IFR system.
- IFR flight is considered the best preventative countermeasure to controlled flight into terrain accidents.
- Despite many air ambulance operators adopting IFR, only a small percentage of flights are conducted under IFR due in part to the lack of IFR routes, facilities, and areas in low-altitude airspace.
- The urgent nature of patient transport can be logistically difficult for air ambulances to obtain clearances, enter, and exit IFR systems.
- Low-altitude aviation is the fastest-growing sector in the national airspace, with significant air traffic operating at low altitudes. The introduction of unmanned aerial systems and new advanced air mobility vehicles, such as eVTOL aircraft, into existing airspace utilized by air ambulance operators could increase complexity and congestion.
- The proprietary nature of some flight procedures can be limiting for some air ambulance pilots, impeding access to certain locations.
- An operator in the Northeast is partnering with the FAA to develop a national demonstration of performance-based navigation low level precision routes, serving as a reference point for a nationwide campaign.

Information on this slide draws in part from the following sources: Federal Aviation Administration (FAA) (2022). [UAS BVLOS ARC FINAL REPORT](#); Speirs, A.; Ramee, C.; Payan, A.P.; Mavris, D.; Feigh, K. (2021). [Impact of Adverse Weather on Helicopter Pilot Decision-Making](#); FAA (2023). [Instrument Rating – Airplane ACS](#); FAA (2008). Memorandum of Agreement Between the FAA Flight Standards Service and the National Weather Service; LifeFlight of Maine (2024). [Helicopter IFR: How Technology and Innovation are Saving Lives in Maine](#); FAA (2019). OpSpec/MSpec Notice H105, Alternate Airport IFR Weather Minimums. [N8900.534](#); FAA (2025). [Helicopter Air Ambulance \(HAA\) Operations Data](#); Reich, C.; Cohen, A.P.; Fernando, C. (2021). [An Initial Assessment of the Potential Weather Barriers of Urban Air Mobility](#); FAA (n.d.) [ENR 1.10 Flight Planning](#); FAA (n.d.) [Departure Procedures](#); Clark, G.; Corey, K.; Hutchinson, T.; LaLonde, T.; Dunn, J. (2019). [Assessing Lift-Off Times for a Hospital-Based Helicopter Transport Program - Air Medical Journal](#); Clark, G.; Corey, K.; Hutchinson, T.; LaLonde, T.; Dunn, J. (2019). [Assessing Lift-Off Times for a Hospital-Based Helicopter Transport Program - Air Medical Journal](#); FAA [Helicopter IFR Operations](#)

# Additional Background Reference- FS 4: Enhance Safety and Technology for Single-Pilot Operations



- Single pilot operations can be preferable in terms of considerations like useful load, costs, ability to fly despite pilot shortage, but result in increased cockpit workload, especially during adverse weather.
- Workload can be mitigated, and survivability improved, using technologies and processes like trim control, Stability Augmentation Systems (SAS), or Auto Flight Control Systems (AFCS).
- While most fixed-wing aircraft certified by FAA are designed with stability and trim controls, rotorcraft design does not necessarily include such characteristics.
- After a study and public hearing on helicopter air ambulance operations based on multiple accidents, NTSB issued a recommendation to the FAA to require EMS transportation helicopters to be equipped with autopilots and to train those pilots to use the autopilot if a second pilot is not available. This action was closed in 2014 after not being accepted by the FAA.
- Low-altitude aviation is the fastest-growing sector in the national airspace, with significant air traffic operating at low altitudes. The introduction of unmanned aerial systems and new advanced air mobility vehicles, such as eVTOL aircraft, into existing airspace utilized by air ambulance operators could significantly increase congestion.

Information on this slide draws in part from the following sources: NTSB (2006). [NTSB Special Investigation Report on Emergency Medical Services Operations](#); Speirs, A.; Ramee, C.; Payan, A.P.; Mavis, D.; Feigh, K. (2021). [Impact of Adverse Weather on Helicopter Pilot Decision-Making](#); US Helicopter Safety Team (USHST) (2021). [HSE-70-Autopilot-Stability-Augmentation](#)

## Additional Background Reference- FS 5: Streamline Certification and Expedite Approval Pathways for Air Ambulance Technologies and Medical Equipment



- Air ambulance certification is governed by rigorous airworthiness standards (14 CFR Parts 27 and 29).
- FAA has multiple certification offices across the U.S., which can lead to differences in interpreting standards and requirements that can be difficult for operators and manufacturers to navigate.
- Challenges related to a complex regulatory system governing air ambulance certification can lead to time-consuming and costly processes to adopt new aircraft systems, medical equipment, and safety technologies.
- An update to airworthiness standards for normal category airplanes under 14 CFR Part 23 introduced performance-based requirements (PBR), which focus on achieving specific safety outcomes rather than prescribing rigid design specifications, allowing for greater flexibility.
- Operators and manufacturers still face barriers in navigating the certification process, particularly for categories not included in the PBRs, such as rotorcraft, and for cutting-edge technologies that do not fit neatly into existing regulatory frameworks.

Information on this slide draws in part from the following sources: Federal Aviation Administration Aviation Rulemaking Advisory Committee (2016). [Rotorcraft Occupant Protection Working Group Tasks 1 and 2 Cost-Benefit Analysis Report](#); AIAA (2025). [Challenges to the Commercialization of Advanced Air Mobility](#); United States Code of Federal Regulations. [eCFR :: 14 CFR Part 23 -- Airworthiness Standards: Normal Category Airplanes \(FAR Part 23\)](#); The 2012 FAA Modernization and Reform Act ([Public Law 112-95](#))

# Additional Background Reference- FS 6: Mandate Critical Safety Standards for Air Ambulance Occupant Protection



- The FAA Flight Standards Service (FS) created specific Operational Specifications (OpSpecs) to establish regulatory compliance standards to enhance air ambulance safety (A021 for HAA operations and A024 for airplane air ambulance operations).
- 14 CFR Parts 27 and 29 require any rotorcraft designed (i.e., issued a Type Certification) after 1994 feature crash resistant fuel systems (CRFS), occupant seats, and restraints that meet specific safety standards.
- The FAA Reauthorization Act of 2018 (49 U.S.C. § 44737) mandated all helicopters designed and/or built after April 5, 2020, comply with safety standards defined in 14 CFR Parts 27 and 29.
- In 2018, ARAC received 20 key proposals from the Rotorcraft Occupant Protection Working Group to enhance occupant safety in legacy helicopters. Proposals included retrofitting CRFS, crash-resistant seating, and crash-resistant interiors in all rotorcraft.
- The FAA outlined the implementation process for CRFS in FAA Safety Alert For Operators 19006 (SAFO 19006) and a Special Airworthiness Information Bulletin SW-17-31R2 recommending aircraft owners and operators ensure aircraft are compliant with the CRFS standards when utilizing helicopters certificated with November 2, 1994, and later type designs, that were also manufactured between November 2, 1994, but prior to April 5, 2020. The FAA acknowledged in the SAFO the design of helicopter models type-certificated before Nov. 2, 1994, will likely need to be updated in order to meet statutory requirements.
- Despite decades of regulatory and statutory progress, a gap still exists, allowing certain helicopters with Type Certificates issued before 1994 and manufactured before 2020 to operate without meeting safety standards outlined in CFR 14 Parts 27 and 29.

Information on this slide draws in part from the following sources: United States Code of Federal Regulations [eCFR :: 14 CFR Part 135 Subpart L -- Helicopter Air Ambulance Equipment, Operations, and Training Requirements \(FAR Part 135 Subpart L\)](#); The FAA Reauthorization Act Of 2018 ([49 U.S.C. § 44737](#)); Federal Aviation Administration Aviation Rulemaking Advisory Committee (2016). [Rotorcraft Occupant Protection Working Group \(ROPWG\) Task 6 Final Report](#); United States Code of Federal Regulations 14 CFR Part 29—Airworthiness Standards: [Transport Category Rotorcraft](#); United States Code of Federal Regulations 14 CFR Part 27—Airworthiness Standards: [Normal Category Rotorcraft](#); Federal Aviation Administration (2024). [Certification](#)



# Additional Detail Related to FS-6: Operational Standards and Regulations



Air ambulance operators use aircraft tailored for medical transport and comply with FAA regulations to ensure safety. HAA operations are governed by CFR 14 Part 135 Subpart L, while airplane air ambulance operations follow similar standards. Operators must implement service-specific policies, procedures, training, and equipment to meet FAA requirements and obtain operational specifications (OpSpecs A021 for HAA and A024 for airplanes).

## **Aircraft Types and Operational Differences:**

- Airplanes: Typically pressurized, operating at altitudes between 3,000–40,000 feet under IFR, utilizing existing airport infrastructure.
- Helicopters: Operate at lower altitudes (within 5,000 feet), often in unpressurized aircraft under Visual Flight Rules (VFR). Helicopters frequently land in uncontrolled areas, increasing operational risks. Predesignated Emergency Landing Areas (PELA) may be used to mitigate risks.

# Additional Detail Related to FS-6: Safety Recommendations and Regulatory Gaps



The FAA and NTSB have issued safety recommendations to improve crash resistance in rotorcraft. Current regulations require helicopters certified after 1994 to meet CRFS and CRSS standards. However, a regulatory gap exists for helicopters with type certificates issued before 1994 and manufactured before April 5, 2020, allowing their operation without meeting updated safety standards. This creates additional risks for occupants.

**Recommendation FS-6:** The Flight Safety Subcommittee recommends Congress mandate the FAA to eliminate this certification gap and ensure all helicopters used for air ambulance operations comply with modern safety standards under CFR 14 Part 27 and 29, including:

- Crash-resistant fuel systems.
- Crash-resistant seats and structures.
- Occupant restraint systems.

This action would enhance safety for air ambulance operations and address risks associated with outdated aircraft designs.