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Air Ambulance Quality and Patient Safety (AAQPS) Advisory Committee Public Meeting #2 – Meeting Transcript May 8, 2025

-Alright, good morning, everyone. My name is Jeff Richey, and welcome to the AAQPS Committee, which is the Air Ambulance Quality and Patient Safety Advisory Committee. I am Jeff Richey, and I am the chair of the Committee, and I welcome you to hear all the amazing things that we have done over the last several months.

What I'd like to be able to start off with right now is a roll call. So, I'm just going to go down in alphabetical order. If you can just say you're here we can make that happen.

Committee Member	Response
Dr. Hinckley	Good morning. I'm here
Eileen Fraser	Here
Jason Clark	Good morning. Here
Dr. Gamber	Here
Dr. Pritzker	Here
Commissioner Arnold	I'm here
Robert Reckert	Good morning
Ben Clayton	Here
Jim Houser	Here
Tom Judge	Here
Paul Julander	Present
Jason Quisling	I'm here
Colonel Coffee	I'm here

-Okay, so everyone can see the members of our committee are here. Alright, next slide please.

So, this is our agenda. As you can see, it's very, very packed, and we're going to be doing a lot of things over the next several hours with some breaks in there to be able to do that.



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So, if you can see that you probably saw in the slide before, this is our day that we get to spend together. So next slide, please.

So, the meeting objectives reviewing the findings of the Subcommittee on each topic area, including problem statements and recommendations. We're going to hear from Committee members and other subject matter experts as needed to provide additional context around Subcommittee recommendations, come to consensus, and vote on Subcommittee recommendations, and then we're going to be discussing gaps in Subcommittee recommendations as we go throughout the day. Next slide please.

So, I'm going to turn it over to, to David Wright to be able to add any other, comments.

-Thanks so much, Jeff, and good morning, everyone. It's great to have the participation we have today. I want to thank the Committee members for their ongoing work and commitment to patient safety. My name is David Wright.

I'm the Designate Federal Officer with the Centers for Medicare and Medicaid Services. It's my pleasure today. With Jeff, our chairman to open this 1st meeting. I'm sorry. This public meeting of the Air Ambulance Quality and Patient Safety Advisory Committee. This meeting is being held pursuant to a notice published in the federal register on November 27, 2024, the agenda was posted on the AAQPS Committee website. I serve as the designated federal officer responsible for compliance with the Federal Advisory Committee Act under which this meeting is being conducted. It is my responsibility to see to it that the agenda is adhered to and that accurate minutes are kept.

Also, it is my responsibility to adjourn the meeting should I find it necessary to do so in the public interest. In the meantime, look forward to the discussion and participation and turn it back over to you, Jeff. Thank you so much.

-All right, thank you. Thank you very much. Thanks, David. So, the next piece, that I would like, to be able to start us off is, I'd like to be able to introduce Colonel Coffee to be able to provide the patient experience, which is very, very important within this Committee.

So, I'd like to turn this over to Colonel Coffee, and he can do his introduction and go through his presentation.

-Thank you so much for the opportunity, and thanks for the Committee and the work we've done. You know, I think it was someone mentioned in one of the previews about being fully caffeinated and so this is a great opportunity for us all to, what I call have a little bit of a coffee



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break, a little bit of play on my last name, So, we can play a video. It will help us to I think center on the why we're here.

So, we'll play the video.

-I want to make sure that we are hearing the video. From everyone? Is there sound?

-No.

-Well, just imagine in your mind's eye some very dramatic music. That's going on in the back.

And I'll tell you, even without sound, that video gets me every single time. That is my son Steven, and that is what helps remind me of the why I do the work that I do and it just center us on the why and the importance of the work that we do.

Yeah, I think I started with a quote from one of my favorite authors, Charles Dickens. He said, "It was the best of times. It was the worst of times. Was the age of wisdom. It was the age of foolishness," and those words really rang true with the birth of my son, Steven Coffee II. With his life, my life would change forever, and the world will be introduced to this living miracle. Next slide.

So, Steven was born on September the 28, 2012 and I was so excited because I knew that I would have a son that could carry on the good name.

And if you look really closely there, you can see that's my hand that's cutting the umbilical cord and I think that the doctors gave me the dull pair of scissors because it was a lot more difficult to cut that than what it looked like on YouTube and kind of what I imagined. But when I when I did that, I really had this life-changing moment because now I became a father. And one of the things that happens with all newborns, they go through newborn screening and tests. And next slide.

The test they ran, he came back and he had this low glucose level, this high bilirubin, and he was a little bit jaundice, but the nurses and doctors assured me that he would be okay. Now what I found out then is that those signs, those symptoms were classic signs of a much graver condition as you would have later on. Next slide.

And so what I think what I start to do is to really lay out his journey, his experience through the diagnostic process, and I use the one that is with the National Academy of Science and Engineering and Medicine to really show where there are gaps in seams in medicine to show where there are gaps in seams that patients can help to identify those blind spots, patients and



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families identify those blind spots to help us have safer care. 1st build. And so, when I think back to my son and we've been going back and forth to the hospital, multiple times. Next build.

We've been going back and forth to the hospital multiple times, and one day we get this call from his provider and the provider says to us, "You know, you need to stop giving him milk. He has this Galactosemia." Now at the time when I got the phone call, I put the call on speakerphone with this intent of having myself and my wife both hear what's going on?

Why have they been going back and forth to the hospital so often? And so, what you start to hear is this provider tells me, a layperson, that my son has this metabolic condition called galactosemia. Now for those who are unaware or maybe forgotten, galactosemia is the metabolic condition that his body cannot break down the simple sugar galactose that is found in human and animal milk because he lacks the GALT-1-p (galactose-1-phosphate uridylyltransferase (*GALT*)) enzyme in his liver.

And so, this provider tells me, go to a larger hospital and tell them about galactosemia. Now understand that there are a bunch of barriers to communication in that instance. There's a barrier of communication that the provider is on a speaker phone, and so, you understand that there is the message, there's the messenger, and then there's a receiver. And so, in that white space that noise where the message can be disturbed and jumbled, that's what happens there. We have this provider telling me to go tell providers at a different place about a complex metabolic condition. There's a barrier of communication in that the provider had a very pronounced accent. And so again, it was a little distorted when I was trying to hear on the speaker phone. And so, what you understand is that there are many gaps in scenes that start to appear in that instance from when we get the diagnosis to where we're told to go to a larger hospital.

Next slide.

And so, as we get to this larger hospital, they run tests. And that is normal. I was very happy that they were running the test, but they said, "Hey! He doesn't actually have galactosemia. He actually has a trait for galactosemia. And in having that trait, they said, "Don't worry about it. Don't change his diet. Just go back to what you've been giving him it's no big issue."

And so, as I'm discharged in that very same day, I go back home, and I get a phone call from the smaller hospital that says, "Hey, stop giving him milk. He has galactosemia." And I tell them, "Wait a minute! You sent me to a larger hospital, and they said it's only a trait." And that smaller hospital despite having the correct diagnosis said defer to the larger hospital. Size does not always matter. When it comes to those things that deal with people.



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And so, I fast forward to November the 28th. So, it's actually about Thanksgiving and what you may not realize or understand from my wearing this uniform is that I am the shopper in my family. I really enjoy going out in the Black Friday and shopping because it gets me into the holiday spirit. So, I am going into my first holiday with my son. I'm going go to Walmart. I'm dressed in my comfortable clothes. I'm ready to do battle. I'm getting this GI Joe with a Kung Fu grip. I've got it in my hands. I have really wrestled to keep this thing, and I get a phone call from my wife. And in that phone call, she says, "Something is wrong with Stephen. He has a lump on his leg, and we need to go take him to the hospital."

So now I'm mad because I've had to like, you know, really get in there and muscle my way in to get that GI Joe, and I give it to the person that I ended up taking from in the first place, but I rush home. And as we take our son to the hospital, our concerns were dismissed. They looked at the lump on his leg and they said, "Oh, you know, it's just fatty tissue. It's a swollen lymph node. Don't worry about it." And I was dismissed.

So maybe there was a bias that was there when I came in because of the way I looked. The very next day that swelling had spread, and things got to a critical point for me, and I asserted that we needed to have some treatment. We needed to have some tests run and tests were run. And in that moment, it will, I'll never forget these two days, the 27th of November of 2012, we were in this hospital, and we got told we've done all we can do for your son, and we're going to transport him to a larger hospital in the mid-Atlantic area here in the DC.

And that was my first time ever hearing or understanding this idea of an air ambulance. And I didn't know what I could receive on an air ambulance. I was told that if there was a fixed wing aircraft, then my wife or I could possibly come up, but if it was a rotary wing aircraft, that neither of us could ride in the aircraft. And so, the fear and trepidation that sets in when you have a 2-month-old baby, who is now being transported across state lines to a hospital that I don't know about, that was a very scary moment and one that really pushes me to want to do this type of work.

And so, I think about November 28, 2012, and I'm sitting in the PICU. Now understand, I have a TS/SCI clearance with a number of accoutrements behind my name doing a lot of great work here in the Pentagon, and I had no idea that the PICU is where we send our sickest children.

And this resident is a presenting my son to these senior attendees, and they say, "This is Stephen, our 2-month-old from an outside hospital, who has fulminant liver failure secondary to



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galactosemia, and five days later he became the youngest person in the country to have a liver transplant at only 8 weeks old.

And so, as I look at where we are now in this story, in this tapestry of his experience, I start to have these questions of what if. What if the providers had had a more conservative approach when they were looking at diagnosing? What if the providers on the front end had done a better job of communicating and didn't rely on me a layperson, to then tell a larger hospital about a complex metabolic condition. Would my son have had a liver transplant? Next slide.

And so, when I think about all of those things together, there's a common theme and thread I think you can see between his experience and the story, is that I felt like I wasn't heard. And I'd venture to say that many patients have that exact same feeling, next slide.

And, and so it's funny because as I was making the slides, I, you know, people oftentimes will say things without having some kind of research that undergirds that statement. But in this case, the IHI did a study and it absolutely proved that many patients say that the most common contributing factor to perceive diagnostic error is feeling that they aren't heard. And it's something that is very pervasive across all of patients. Is very pervasive in medicine is that if I feel like I'm not a partner, I feel that I'm not heard. Next slide.

And actually, you can, yeah, build our way out. And so the thing that, that when you look at my situation, look at my son's experience, it was not necessarily a lack of an access to care or information because I actually lived about two minutes, literally two minutes away from the hospital that was taking care of my son, but I still felt I wasn't heard. I was missing information. I didn't know who to call when I had conflicting information from providers. People that I trust.

And so, what I'm really excited about with this Committee and with the work that we've done is that we're not just doing things in the vacuum of a clinical sense or from an aviation sense, but we're actually doing this collectively across the whole of government across and including patients. Next.

And I think what's important is that when, you think about how we do things collectively, I, first I tell a story about my son. I was doing this prep for this, and I asked my son and said, "What do you see in this picture?" and my son said, "Well, it's a giraffe that's painting a hat." And for me, it was a giraffe that's painting a lady.

And so again, as I talk about why this work is important and the fact that we have this whole of government approach where we're also including patients is that we provide perspective. And the thing that I want everyone on the Committee to understand is that the patients and the families, those customers, if you will, have a unique perspective to what's going on clinically.



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And so, while I may not have the clinical background, that some providers may have, I do have this experiential intelligence. So, I can tell you exactly what my son's AST, ALT, GGT, what his Prograf® (tacrolimus) numbers are, how he was affected when those Prograf® (tacrolimus) numbers were up or when they were down. I have that kind of perspective and vantage point that I can bring when brought in as a partner to clinical care to make care safer. Next.

And so, I think that, next slide. And so, I think that when we think about how we use patients, how we use families, we need to use them as data points. And I look at that as being a resource. And so, if you think about your money, you think about your time, there are really four things I believe we can always do with a resource.

We can spend resources, we can waste resources, we can save them, we can invest them. And when we spend resources, whether it's your time with a rich of money, it's something that's very transactional. It's transactional in the sense that if I look at it from a lens of patient safety, a patient will come into a hospital, they will have an issue, we will fix them and then they will go home. A patient will use an air ambulance to go somewhere, and it becomes a transactional thing. We've done our job on to the next one.

We can waste resources when we have patients that come into a hospital, and they have an experience, and they have data, and they have input, but we disregard that experience. We disregard that input to affect our change. So, we waste that opportunity to make meaningful change and be impactful.

We save resources by a sense that if we have these things called patient and family advisory councils, and I've been to many hospitals around the country as we've established those PFACs, and as we've worked through them and some are more effective than others, and some key facts that I found who will have those patients and those family members and advisors sit on a committee just to sit there and they serve more for confirmation- please tell me I'm doing the right things, agree with the policies I have. And they serve for ornamentation-oh look what we have as opposed for information that the patients and families and advisors can give to hospitals and to systems to make care more safe.

But I believe the secret sauce really lies when we look at patients and families and use them and invest in them and really partner with them to make care safer. Again, I have data points that I can bring to clinical medicine. I have a perspective I can bring as a caregiver, as a consumer of medicine, myself that I can bring to help see and identify those blind spots that are often within medicine. Next slide.



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And so, I'll sort of wrap up here with really kind of going back to where I started, which is remembering our why. Remembering why we're here in that this is a large component to clinical care. It's not just transportation between point A to point B or to get you to get other clinical care. There's a huge piece of care that happens in these air ambulances, and I think that it's important that we remember that behind every single person that comes here and every story we hear rather, there's a person that also is there and that's the reason why we're here.

That's why the work that we do is so important. And I just appreciate the chair, I appreciate the Committee for the work we've done this far, and I'll yield my time back.

Thanks so much.

-Alright, thank you very much for your remarks, Colonel Coffee, and continue to convey the importance of air ambulance quality and patient safety. Now we are going to turn it over to our DFO to provide an overview of the of the report to Congress.

-Thank you, Jeff, very much, and I would just like, this is David Wright again, the Designate Federal officer here. I would just like to give you all a brief synopsis of the product of this Committee which is going to be a report to Congress and this is a platform used many times across the federal government in order to help inform both legislation and policies at the Congressional level as well as the executive level.

Oftentimes reports to Congress are, congressionally mandated and this Committee's report is, in fact, congressionally mandated through the No Surprises Act. And as we've discussed, even though it's called a report to Congress it does apply and is utilized by executive level agencies, specifically of note here would be FAA and CMS, but other agencies can and will have access to it to inform their policy making.

Next slide, please.

And there are five mandates that this Committee has been charged to address. First is the qualifications of different clinical capability levels. Second is patient safety and quality standards. Third is the options for approving service reliability during poor weather night conditions or other adverse conditions. Fourth is the differences between air ambulance vehicle types, services, and technologies and other flight capability standards and the impact of such differences on patient safety. And fifth is the clinical triage criteria for air ambulances.

We can go to the next slide.

So, the report will include an overview of this Committee, an overview of the process by which you all have come to your recommendations, a summary of the deliberations including the



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presentations and recommendations, and the voting record as well as final recommendations, covering the five statutory mandated areas of focus.

One thing I want to reinforce is that this Committee is solely charged with complying and meeting these mandated areas of focus, and I would just say that the way that you do it, is really reflective of the Subcommittees' work and then the deliberations that will take place today and in the future. This is a report that does not have to be written for any particular point in time. It should reflect what the Committee believes are the best recommendations to meet these mandated areas, but it shouldn't be something that is considered for only of use within the next year or within the next 3 years or the next 5 years. These reports and the expertise contained and reflected within, are used for quite a while. And so, I would ask that you don't constrain yourself to anything other than meeting the statutory charge, as well as reflecting, you know, the reason that you all, are on this Committee and that's because you represent, certain experiences, certain expertise or perspectives, and those should all be brought to bear to provide the best recommendations to inform the federal government, specifically Congress and the executive level agencies on how to manage the these issues moving forward.

Jeff, did I miss anything or anything you want to highlight or reinforce?

-No, I, no, I think that spot is on of where we're at, and I think that if there's any questions about that, please put that into chat, and we'll try to be able to address them as we're moving forward, but I think it's very, very important. Particularly I think on the last points of what the report is going to be and how long we can reference back to it. So very important pieces that we're talking about. So great. Thank you, David.

So, I would, so during the meeting, we're going to hear from our Subcommittee and the work that they have been conducting around potential recommendations. To get us started this morning, we are now going to hear from the Subcommittee chairs, from the clinical Subcommittee chairs Kolby Kolbet and Keith McMinn. I'd like to introduce Kolby Kolbet as a national recognized innovator and thought leader in critical care transport currently serving as the chief innovation officer at Lifelink III, one of the largest nonprofit air medical programs in the United States. A nurse by training and flight nurse by experience, Kolby spent over 20 years at the bedside from the emergency department PICU/ NICU and as a flight nurse with the last 12 years as chief clinical officer at Lifelink III before stepping into the enterprise-wide innovation role focused on transforming operations far beyond the clinical domain.

Keith McMinn is a director of Penn State Health Life Lion and an instructor in public health sciences at Penn State Health, Milton S. Hershey Medical Center and College of Medicine. He serves as a member of the senior management team of the Children's Hospital Leadership



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Council and sits on the board of directors for the Pennsylvania Emergency Health Services Council.

I'd like to go ahead and hand it over. To our two chairs and start the discussion.

-Alright, thanks Jeff.

I'll first introduce the Clinical Standard Subcommittee members. Keith and I have already been introduced, so I'll start with Emily Colyer. She's the Director of Patient Safety at Air Methods. Michelle Greeson is the Infection Control Officer at the University of Vermont Health Network. Krista Haugen, Co-Founder of the Survivors Network for the Air Medical Community. Todd McDowell, the Director of EMS in the state of Alaska. And Frankie Toon, program director AirMed, University of Utah, Hospitals and Clinics.

Next slide.

Alright, I'll let Jason introduce his Subcommittee members.

-Thank you, Kolby. I'll introduce Ben Clayton who's CEO for Life Light Network. Jim Houser, President for the Center for Emergency Medicine and CEO of STAT MedEvac. Thomas Judge, who is the Founding Executive Director for LifeFlight of Maine. Paul Julander, the COO for PHI Health. And Robert Reckert, Deputy Director, Office of Safety Standards and Flight Standard Service at the FAA. I'll turn it back over.

-Next slide.

-Okay. So, presentation of the Subcommittee recommendations and then I'll turn it over to, to, Kolby.

So again, welcome to both Committees and the work they've done. So the Subcommittee recommendations will be discussed in detail.

The AAQPS Committee members are encouraged to ask questions and request changes and edits and work together to determine a final recommendation to vote on. The Chair, which is me, will move the Committee to a vote once deliberation has reached a consensus or near consensus.

Committee members should voice any questions or concerns prior to voting. Voting will occur after each Subcommittee recommendation is presented.

If the Committee cannot come to a type of consensus, voting may be delayed until the July, 10th meeting, especially if the Committee agrees additional expertise is needed.



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Next slide, please.

So the voting process, so the Committee Chair, myself, 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 the 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 then read the calculated vote allowed and then recommendations will be then incorporated into the report to Congress if the majority of the Committee members voting, vote yes.

Next slide.

Okay, so, now we're going to go ahead, and I'm going to turn it over to Kolby and Keith as we start our Clinical Standards Subcommittee report out.

-Alright, next slide.

All right, as a reminder, this Advisory Committee was established under the Department of Health and Human Services and the Department of Transportation to explore standards for quality, patient safety, and clinical capabilities in air ambulance services.

While the Committee is tasked with making recommendations across several areas, today I'll be focusing specifically on three of them. Number one, is the qualifications and tiering of clinical specialty or clinical capability levels. Number two, patient safety and quality standards. Number three, clinical triage criteria for area ambulances. These areas are central to our Subcommittee's work and directly tied to the recommendations we'll be discussing.

Next slide.

We'll take a moment to review the work completed by our Clinical Standards Subcommittee so far. Between January and April of 2025, we've held four, half day working sessions. We began by brainstorming key issues and challenges related to each of the topics outlined in the statute for the report to Congress. From there we refined our discussions into a set of specific problem statements. Once the problem statements were defined, we moved into identifying potential solutions. As part of that process, we've reviewed existing recommendations from the Advisory Committee on Air Ambulance Patient Billing.

We assessed which of our clinical problems statements could be fully or partially addressed by implementing those AAPB recommendations.



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Finally, the Subcommittee used its remaining time to analyze our options and begin developing new recommendations to address the remaining gaps. Those problem areas are not covered by the existing Air Ambulance Patient Billing guidance.

So we'll go to the next slide.

The Clinical Standards Subcommittee identified five key problem areas. Number one is claim denials tied to medical necessity. Number two, limited market availability of appropriate clinical capabilities. Number three, absence of minimum national standards. And number four, the need to promote a just culture that supports patient safety. Five, lack of access to follow-up clinical information and patient outcomes data to effectively support quality improvement.

For the first two issues, we believe that fully implementing four existing AAPB recommendations would significantly move the needle. For the remaining three challenges, we've developed new recommendations that we're bringing forward today for the Committee's consideration.

Next slide.

Now, I'd like to give you a quick preview of the four AAPB recommendations that our Subcommittees are recommending for endorsement. We'll go into detail later in the meeting, after lunch, specifically on the Air Ambulance Patient Billing, its background, and our rationale for supporting these recommendations. But for now, I want to provide a high-level overview of what we'll be covering.

The four recommendations align with two of the problem statements we identified earlier. Recommendation CS-A, addresses how medical necessity is determined. Recommendation B focuses on the adequacy of Medicare reimbursement. C, deals with the ADA preemption of state regulatory authority and the resulting ambiguity in clinical oversight. And D, supports data collection and industry analysis to inform future policy and reimbursement efforts.

So, with that quick preview in mind, let's move into the main portion of our discussion. The new recommendations we've developed to address the remaining three problem statements.

Once we've worked through those, we'll come back to these Air Ambulance Patient Billing recommendations for a deeper dive.

I will now turn it over to co-chair Keith McMinn to share the new recommendations from the Clinical Subcommittee.

-Thank you, Kolby. For each of the problem statements that the Subcommittee felt were gap areas, not already addressed in the AAPB recommendations, the Subcommittee brainstormed



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possible solutions and settled on a goal for each recommendation which you can see listed on this slide. The goals are: establish minimum national clinical standards, promote just culture for patient safety, and improve access for patient clinical data.

Next slide, please.

We'll, now move into discussing some of the additional recommendations. Next slide, please.

Our first problem statement discussed in depth, is the 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 is a very patient centric approach. This presents particularly risk for specialty populations and low frequency, high-risk patients such as neonatal and pediatric transports, high-risk OB patients in rural areas.

We have two recommendations for this problem statement. One A is to establish an air ambulance as a provider type in the Medicare program with their own conditions of participation. One B is to require compulsory accreditation for Medicare, air ambulance providers which would establish a rigorous standard than the conditions of participation. I want to note upfront that accreditation, as we discuss it here, is not necessarily accreditation as it exists in the industry today. CMS would approve accrediting organizations. The standards each organization uses could meet different use cases as long as they meet CMS standards. Just want to be clear upfront that this is not recommending the existing accreditation organizations be expanded nationally, but there would certainly be a place for the existing accrediting bodies in this framework.

Next slide, please.

Some important context before we discuss our other analysis. Air ambulances, like all air ambulance services, like all ambulance services, is considered a supplier of transportation benefit for Medicare programs, and it's not recognized currently as a Medicare provider type. Reimbursement is for transportation only with no differential for services requiring special personnel or equipment. Ambulance providers do not have to demonstrate, I'm sorry, ambulance providers do have to demonstrate some basic requirements to be reimbursed for Medicare supplier chains, but these are very basic and don't differentiate between ground and air. Other types of Medicare providers are subject to certification requirements known as conditions of participation which include minimum health and safety standards. These providers must be periodically certified by CMS to remain in compliance. These certifications are conducted by state survey agencies or accreditation organizations approved by CMS.



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Clinical aspects of air ambulances are regulated by the states like other health care providers. However, as we know, this is complicated by the ADA, the Airline Deregulation Act which has, in some cases, caused some ambiguity around what states can and cannot regulate with respect to clinical services.

For this reason, the Subcommittee felt it was important to establish some kind of national minimum standard to ensure a shared understanding across the industry and reduce the mismatch of requirements across state lines. Finally, many air ambulance operators already participate in voluntary accreditation programs though so, there is a strong foundation to build on here.

Next slide, please.

Here are the four options the Subcommittee considered for the Committee's awareness. The final recommendation reflects options two and three in this table. Our options analysis including the benefits and challenges associated with each of these four options can be seen on slide 33.

For today's discussions, we will focus on discussing the rationale associated with our recommendations rather than the options we choose not to recommend, but the analysis for all the options the Subcommittee considers are provided in the deck for reference. Now I'd like to invite CMS to provide some additional context of the distinction between these four options. They can seem similar on paper, but there are some important differences that need to be considered.

-Thanks, Keith. This is David Wright again with CMS. I will state that I'm only providing clarity and that's it with regard to these options. The first, that Keith and Kolby both discussed all of these, but the first is to update the existing Medicare supplier requirements. This can be done through rulemaking, so it can be done at the agency level through an administrative process.

To update these, the existing requirements under which air ambulances are reimbursed by Medicare to include additional requirements specific to air ambulance.

The second option is to establish air ambulance as a specific provider type under Medicare. So, we have twenty-two certified provider types under Medicare. They include hospitals, home health, nursing homes, ambulatory, surgical centers, and end stage renal disease facilities. So, this would put air ambulance in a category similar to those provider types as was reference.



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They would then also have to operate under conditions of participation which are health and safety requirements that would especially speak to the clinical standards expected for air ambulances in order to be certified as a new provider type that does require a congressional action to create that new certification.

The next option is compulsory accreditation in order to be qualified to receive Medicare reimbursement. So, this would again require a congressional action to provide HHS with the authority to require accreditation for Medicare suppliers of ambulance services so not all air ambulance providers would have to be accredited, but those that wanted to receive Medicare reimbursement would and the accreditation would be approved, the accreditation organizations would be reviewed and approved through CMS. The fourth option is compulsory national accreditation for all air ambulance providers regardless of Medicare participation. So, in order to operate as an air ambulance operator in the United States, this option would require, which again requires congressional legislation, would require accreditation of the clinical aspects for air ambulances and this again could be done through HHS or FAA, but the accrediting organizations would be approved. And then an air ambulance operator would have to be accredited by one of the approved, accredited organizations in order to operate within the United States regardless of Medicare participation.

So, I'll pause there to make sure Kolby and Keith, if I missed anything and you all need more clarity on it, but happy turn back over to you all.

-Alright, any questions before we go to the next slide?

-Thank you, David. We'll go to the next slide.

Here are the Subcommittee's recommendations.

First, establishing a new provider type would come with some additional basic standards above what is required as a supplier, but these standards would still be very basic. However, it would establish a more robust process for assessing compliance and establishing air ambulances as a Medicare provider would likely be a platform for a number of other recommendations such as implementing quality programs or requiring a patient safety structural measure, which we'll talk about later, and would provide more of a foundation for changing how air ambulances are reimbursed by Medicare, which we all agree would be beneficial.

Second, because CoPs would be very basic standards, we think there is compelling need for more meaningful shared standards at a national level. The Subcommittee also recommends requiring accreditation for participating in the Medicare program. This would allow for more



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meaningful standards and could leverage existing accreditation organizations, as well as, new ones that would likely crop up to fill different market needs.

As noted earlier, accreditation would not just be about existing accrediting organizations. With a new requirement for accreditation, it's likely additional organizations would crop up and provide different flavors of accreditation, which is acceptable as long as they meet CMS standards and minimums.

There might also be exceptions for air ambulances in rural or frontier areas. Things such as waivers to ensure access is not negatively impacted. Just want to be clear that we're recommending accreditation does not mean recommending national expansion of existing accrediting bodies.

The Subcommittee recommends proceeding with both these options. The Committee may adopt one, both or neither. If the Committee chooses to adopt B, which is the compulsory accreditation, but not A, established new Medicare provider type, the language for B should be updated to refer to Medicare air ambulance suppliers rather than providers.

So, at this point, Jeff, I'll turn it over to you.

-Okay, so let's say this is where, thank you very much. This is very good. Like to just open it up to the panel or to the Committee members for open discussion or questions to both Kolby and Keith.

-Yeah, Eileen's got her hand up.

-Eileen, go ahead.

-Yeah, so we have gone through this a couple of times where we've been sued, and I know you keep saying you're not going to refer to a specific accreditation agency and what we found was, what would be the, I guess my main question is how would CMS evaluate an accreditation agency because right now there's two existing in the US. I know we're talking about future, but what are the criteria they're going to use to evaluate an accreditation agency.

-That's a good question, Eileen, and I'll turn that over to David because that was a discussion that we had as well.

-Yeah, so this would go through rulemaking. We'd first have to identify what standards, the accrediting organizations would have to be able to demonstrate that their standards meet. In other words, we would kind of establish the threshold, through rulemaking, which involves public comment, as well. As to what we believe the standards should be for accreditation



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regardless of any existing entities. And then, accreditation organizations would be able to then apply for approval for CMS that they are able to demonstrate that they meet or exceed those standards. So I can't get there's not a specific answer, but that's, kind of how, in general, accreditation is done. Is that we have again, develop a list of standards and then ensure that any accrediting organization can meet or exceed those standards in terms of being approved by the agency.

I hope that helps.

-Just as a follow-up. So, the standards that you're looking to create, to judge whether an accrediting agency was accepted, will those just be whatever standards they're publishing, or would you also look at the organization itself? Because there are vast differences right now in the two that, you know, one doesn't really even have a board of directors of experts. And those are the kind of things that I think are important in when decisions are made about accreditation. Are the right people making those decisions?

-So, I can't speak to any specific accrediting organizations. What I would say is that in the public comment of, in the development of those standards, there will be opportunities for, folks to identify what, what are believed to be important aspects of any accrediting organization. I will tell you, you know, some things we look at with existing accrediting organizations include their financial solvency, we do look at their governance, we look at whether they're national in scope and those are aspects that can be borrowed and incorporated into a new accrediting organization review as well.

-Okay, thank you.

-And Grace had her hand up. Grace, did you still have a question?

-Oh, this is Ben, Clayton.

-This might be, I think this will. Is better suited to some of the billing questions, the recommendations, but I have a bunch of questions about the interaction between a provider type, how that gets billed, what you know, under which Medicare like advantage or part A. I have a bunch of questions about that, but I think probably better to hold until the billing recommendation, but you tell me. I'm happy to ask them now, if this is the right place to ask them.

-Yeah, sure, we can hold on that a little bit, and get more explanation around that topic.

-Great.



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-Thanks. Jason?

-Okay. Are you able to hear me?

- Oh, there sorry, Ben.

-Hey, so going to the accreditation thing, I guess, a question that I would have and like I'm very much supportive of accreditation in a voluntary sense. I think it helps advance safety, but I do know there's a lot of the accreditation organizations. It talks a lot about their voluntary safety standards both on the aviation side and on the clinical side. So my question is this seems like it opens the door for CMS to be making safety determinations when our safety regulator is the FAA, and so now we've got competing regulating bodies potentially. Where CMS is making determinations on safety related items as well as the FAA, and that seems like it could be problematic for providers trying to live by all the rules.

-And this topic did come up, and David, you want to touch on it as far as past experiences with multiple agencies' oversight?

-Yeah, so this could be again, this is within your recommendation. If that's a concern that the Committee wants to include in the report there can be, you know, differing levels of engagement participation among the federal agencies. It could be that there's an FAA accreditor for the flight standards part and then the CMS accreditor for the clinical standards part. They could be the same accreditor, but we certainly would not be either developing or monitoring any accrediting organization with regards to flight safety and flight standards.

So it may be that this has to be parsed a little bit, but there could be overlap for accrediting organizations for the standards that they have to meet through engagement with both FAA and CMS. I hope that helps address your question, Ben.

-It does. Thanks, it just seems sticky with the ADA preemption and that's not [inaudible]...

-Jason, I'm sure that you still have a question or probably aligned with Ben's.

-Hey, I did have a question, Kolby. Thanks. Yeah, I mean, I would say that I share some similar concerns that Ben has brought up in terms of how things work with an overlap that's not well defined. As well as, I think from the AA Patient Billing Committee, I think there was discussion around there needs to be research if we're going to kind of go down this path in where the ADA ends and where other things could pick up, but I would like to maybe just take one step back from some of the specifics here and just ask, I'm trying to from an impact level on patient safety, I'm trying to understand, kind of the current baseline. Is there data or studies that have been able to tell us the current risk to patients and the quality of patient care?



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Without this in existence today, you know, what does that baseline look like? Do we have anything like that?

-It was a significant topic of conversation. We talked about, you know, the different levels or capabilities of a program.

What we realized is that many states impact or regulate clinical scope of practice, and it was very important to this Committee to start to make recommendations that would standardize what a consumer would expect when a helicopter shows up no matter what state you're in, that you knew you were getting at least, you know, this level of service. And I'll give a local example in Minnesota. It's a medical director determined state so, we work at the scope of practice of the medical director and something that is permitted is finger thoracostomies, you know for scene flights, but we crossed the river into Wisconsin and that's, you know, EMS providers, paramedics, and such are not allowed or permitted to do finger thoracostomies. So, you know, this is what the impetus behind this really was to help standardize the clinical expectations.

You know, they don't vary by hospitals when you go in for a procedure or you know, you expect, you know, that you're going to get similar treatment or therapy, no matter if you're in a different state, if you're in the same level of care. So. You know, thinking through this, a lot of this is, you know, we want to standardize the product, if you will, but you know, this is an opportunity for us to as Air Ambulance just to become more integrated with the health system and less with EMS, especially at the critical care level as a provider type, I think that's the advantage of this approach that we were taking.

Jim?

-Oh, I was just curious if the Committee in your discussions talk through and maybe, this has already been covered, but just to make sure that I have clarity.

Did you discuss how to deconflict the competing overlap? Because as I see it, if I understand correctly, the recommendation that you're trying to achieve, and I want to make sure I understand this correctly, is specific to the medicine. In the clinical capabilities of a given service when we're talking about the things that fall into that category, scope of practice, required provider level, whether it be certification, licensure, all those things. Then we realize that there is a transition point to what is regulated by the FAA from an aviation perspective.

So did you all talk about how to deconflict those two, and how you would see the alignment of regulating medicine at this level in relationship to regulating aviation and then the last comment I would make is the nuance of accreditation recommendation versus a requirement, and how that comes into play with both of these things because I see them as to your point, aviation



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operations and the protections that are in place for being able to operate that nationally versus the challenges that we run into when it comes to state –to- state requirements on the medicine.

-Yeah, we talked about that a lot and keep mind where the Clinical Subcommittees, so we're focusing on the back of the aircraft and the patient care that we deliver. So, I think with that said, that assumption goes on to, you know, we don't expect CMS to be involved with the cockpit or the aircraft configuration and things like that. That's why I think Keith was you know, assured to mention that we have to not think about our accreditation today for that reason because that is, you know, all encompassing. And you know, certainly there'll be some elements, I would imagine of standards but not that would be regulatory in nature for, you know, the operation of the aircraft and such. That answer your question?

-Yep.

-I think so. So just making sure that when we're talking about this as a recommendation, the recommendation would be around some type of standardization of the clinical components to come up to a line that sounds like may have to have some additional discussion on where that stops as it relates to the requirements either regulatory or accreditation related to the aviation operations.

-Jim, this is Keith. I also think it becomes more clear later in this morning's presentation when we talk about potentially implementing patient safety structural measures, which are hospital-based patient safety rules and regs that may help that in the in the deconfliction that you're asking about. It might become clearer to you later in some of the other additional recommendations.

-Thank you. Thank you for that.

-Eileen.

-Yeah, I was going to ask, we'll be discussing the levels kind of levels of care or is this we're going to discuss that as far as we've tried for years to define critical care, and I'm sure you're going to have the same problem every time you think that, oh well it's because somebody does balloon pump transports their critical care or they're a higher level of critical care? Have you talked about that and is that later in discussions?

-Yeah, that's later in discussions and you know, and we'll get to it one. One of the challenges we don't we haven't defined the floor and that's what you're talking about right like.

-Oh. Yeah, exactly.



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-And the challenge, like I mentioned a little bit ago about, you know, being tied or integrated with EMS, I think is we identified as a barrier as a challenge and to separate ourselves from an EMS entity, you know, tied to NEMSIS. It's self-limiting in our ability to clearly define and articulate the level of care that we all deliver. And so that's why you know the standards as we say it in, you know, standards maybe isn't our accreditation isn't the word to use, it's more validation maybe, or meeting their requirements set forth by CMS to meet their conditions of participation, and I would say conditions of participation is a better example or a better description of what we're trying to articulate.

-Yeah. That might be there.

-Okay.

-Paul?

-This is Ben again. I'm curious about like unintended consequences. So, CMS, let's say that they have now authority to determine whatever is in the back. May not be experts in because it is inextricably linked with the aviation side, right? Like there's only so much room and so, there's also much weight. So, do we have a potential around unintended consequences here where a regulation comes down from CMS that does impact aviation. Even though they don't have that expertise on the aviation side.

-I think probably from, again, I'm kind of going be leaning on the Subcommittee from that side. So, I think that would it have to be, I mean I see this as a collaboration between and we're setting the standards through the rulemaking of what that's going to be because I think what I hear right now, is there has to be a distinction between what the FAA and the FAR say versus what is in the back. I think the Subcommittee, I believe, Subcommittee is wanting to be able to set the standards. For what's happening in the back.

Now equipment, Ben that you were talking about, it all has to go through, you know, the FAA rules, right? You know, STC and EMI. And I mean, I'm just kind of just throwing things out there, but I think it's the task was to be able to set the clinical standard to be able to set the baseline into that, the clinical care that's being delivered.

Kolby, Keith, am I missing something on that one just to be able to make sure that because I think that Ben your points are correct. We just have to make sure that we're not, during the rule making, we're not blurring those lights.

-Right. I think establishing ourselves as a clinical provider first and vehicle afterwards, you know, that's it does make things complicated when we focus so much on the vehicle and the



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regulations in the FAA, you know, too. It is a challenging environment because it's heavily regulated on two from two different entities so no doubt it'll have to be decoupled a little bit and boundaries established.

-Tom, I'll go to you next.

-Yeah, thank you. First of all, I'd like to commend the Subcommittee. I think this is really thoughtful work and really appreciate what they've done. I think if you go to the top of this, it's establishing minimum national clinical standards. So, this isn't referencing aviation whatsoever. So, I think that the worry about aviation, the lot the bright line between aviation and clinical, I think we're setting it up front that this is clinical. I would also urge us to really, you know, we get lost in today. Everything comes to like this is the way it works today, and what I would urge us to do is to think about what is a better way for this to work tomorrow?

And clearly one of the long term problems for everything in ambulances is that the ambulance and CMS said this to the Committee. The CMS reimbursement for an ambulance service is a transport reimbursement. It has nothing to do with clinical care and so I think the idea of establishing, you know, and this is a change and it's a big change, but to become providers rather than suppliers. And to agree with CMS to undergo conditions of participation, to establish a clinical standard that every patient, no matter where you are in this country and patients don't get a choice of carriage or carrier. They get put into an aircraft. They don't really know much about the aircraft, and they certainly don't know much about the clinical care. And you know, while states, you know, oversee that clinical care, as Kolby has said, it can vary tremendously state-to-state. So, there should be a public expectation that we meet of what this all looks like.

So, I think that, you know, both of these things are really important, you know, there may be some finesse that needs to be done. The one other comment I would have is that in recommendation CS-1B. And I always worry, I live in a state you know, we don't have as much white space as Montana and Alaska, but we actually have the most rural population in the country. A much higher percentage of our population in Maine is more rural than Montana or Alaska. And so, I get a little concerned when we look at this that we're going to have exemptions and waivers for rural and frontiers. I know what that challenge is on that, but I think we shouldn't be relegating people that live in a rural area to an upfront agreement that there can be a lower standard of care. So, I'm a little bit worried about that piece of it understanding. You know, the thought behind it. So, I really commend, and I think both of these are important to go forward.



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-Thanks, Tom. We did have a lot of discussion around the rolling frontier simply, you know, Todd McDowell, one of our Subcommittee members, he's their Director of EMS for the state of Alaska. There's a lot of sensitivities around the vast territory that's covered, and the limited number of providers that are available, and you know they have EMTs and fixed wings. Sometimes it's just about access and not so much about what they can bring. So that's the reason that came up and we took other states into consideration that we didn't want to shut places down because of, you know, just a simple not having access, but I understand your point, and I think that should be considered moving forward.

-Jim?

-Yep. Thank you.

-I agree with you, Tom, on the point that you made regarding access and ensuring that we're being thoughtful about standards. I would only reiterate my comments about the deconflicting aviation from medicine is to just be sensitive to the unintended consequences that we might have as we go through this discussion.

I am definitely for an idea where we can come up with whether it's conditions of participation or whatever the parameters that we set forth, and I like using the term meeting the requirement of, not accreditation or standard, but specifically if we're talking about CMS with the caveat that whatever we determine those requirements to be, there could be an unintended consequence because if we set a clinical standard, while they are two separate things medicine in the mode in which it's delivered. If the mode in which it's delivered cannot accommodate the standard, then it does become a problem and that's where we have to make sure that we're not being naive or unthoughtful about how those two things could, in fact, become a potential to not be able to provide patients access. We just have to be very thoughtful about how we articulate that particular part of the conversation. While it is not aviation, there are particular areas that are required. And then lastly, we are charged with thinking about this holistically both modes of air ambulance operation, but I would remind ourselves when we're talking about, which again I'm in favor of thinking about this in the lens of trying to provide a new definition to how we are categorized in this scheme of reimbursement with CMS. Ground transportation is a key component to critical care access in many parts of every one of our service areas.

So, we do have to be thoughtful about where those two intersect as well. So that's my additional thoughts on the last couple of clarifying comments.

-Thanks, Jim.



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-Jason.

-Thanks. I guess just three final thoughts from me. I want to be careful that we're not bringing too much around billing into a conversation on safety. And so, I do think, you know, one place I struggle with here, a little bit, is trying to understand the risk component and what the current state of impact to patient care is versus what we're talking about changing and how would that improve that situation being able to actually measure that or quantify it, I think is important. I think that plays into the comments around access and I think certainly the highest level of care is always a great thing to have, but part of what we do in our country, is we try and provide access to emergency care at all different levels because we quite simply can't put the highest level of care everywhere, and so I think it's important that we don't limit that and certainly, conflicting regulatory bodies, it does get quite complicated. Just as an example, the patient litter in the back of the aircraft has to be installed and it has to be certified under FAA. Yet it's used for patient care and has implications around that patient, right?

So, there are a lot of places where we see this overlap and it would certainly be in our best interest to define what that looks like because in, my brief tenure at aviation, there's always been great risk in proposing regulation when we don't have a clear understanding of what we're trying to have the regulation say.

So, I think this is a very noble, you know, topic to discuss and put forward. I can certainly see the benefits around it, but I want to be very careful that we have good definition and understanding of what we're actually proposing.

Thank you.

-Colonel Coffee.

-So definitely appreciate the discussion and Tom, I was sitting over here just clapping in my seat with some of the points that you brought out. And same for you Jason, I mean, I think the thing that you just laid out so eloquently, and I think we don't want to get confused or just get, still, prepped into thinking that it has to be an either or. It's not a binary choice. There's certainly the partnership that we have and you know in my comments about my son's experience I talked about this whole of government approach and so using CMS, using FAA, using patient data to really address this. It's noble. I think the thing that stuck out to me, and I was putting in the comment to someone else that, you know, I was really swayed on just saying, hey CS-1A is a I like that one. And Tom, you swayed me to now look at, 1B as another COA. And so I really think that both of those combined really would sort of move the needle as we start to improving care, safety from the patient perspective. I think Jason, your comments they were really resonated



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because you're right, there is this idea that we have to have a standards that go with the mechanical parts we have to put the in gurney, we have to put in the litter in at a certain standard but that patient does not necessarily get wrapped around- are you only meeting FAA standards, or you only need a CMS. We're really focused on do we have quality care? And so, I say that only just to sort of knock down some of the barriers that we oftentimes have. I have that same challenge often in the Department of Defense where we're looking at things as only a defense type of solution to the problem when in actuality, it really is that whole government, is a whole approach, where we're looking at things from other agencies as well.

So more just commentary that one, you swayed me on my vote, but two, to just again show my appreciation for the fact that we're looking at things not from this, not just a binary sense of it's FAA or it's CMS, but we're looking at it as a whole. That we're including patient perspectives and really looking at some of those underserved populations and communities as well. Just it was just commentary there.

-Paul?

-You're on mute.

-I've been involved in EMS in every in every place as, you know, as an EMT, a paramedic, a regulator and you know all of those kinds of pieces. And EMS never got designed in the United States. It basically was in a local response to a problem and there was a lot of enthusiasm and whether it was a doctor, whether it was whatever. And I mean, I remember the days when we used to get to a hospital, and we would ring the doorbell at night. There was no one in the emergency department, right? So, we've come a long way, but it's not ever been in a designed way. And I think that the other really important part of what the Subcommittee is putting forward is this idea of really thinking about it designed system in the future. And a design system that has standards and that they have that. And I trust that there's a rulemaking process.

As David said, CMS can't just say, okay, this is what we're going do. They have to go through a process. They've gone through this process with twenty-two other provider types in the country. They're used to dealing with this. And I think that at some point, we transport is important and access is important, but we have to think about this as medicine and there's a lot about medicine that we don't know and is very variable in different situations and among different suppliers. I think if we look at the ground ambulance report, the ground ambulance report referenced all of this. The as providers and suppliers and I think there's a there's a real important move to reconceptualize the idea that this is a provider of care and so needs to be governed and overseen as we would hospitals, as we would doctors, as we would other pieces



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and all of the get that gets done between the federal government and the states and all of that gets done with sometimes lots of different accrediting organizations and different standards.

A hospital has to meet the NFPA and they have to meet the Joint Commission. I mean, there's different standards organizations in lots of places. And I think people can think about how those pieces fit together as we go forward.

-Alright, well thank you very much. I would like, we probably got about fifteen minutes, little less than that, to be able to any further discussion and just try to keep us kind of moving. This has been great discussion. I would like to call on some of our physicians. So, Dr. Pritzker, I'd like to be able to get your opinion on this and your perspective on these two recommendations in the discussion.

-I support as much accreditation as possible, wherever possible on behalf of our members. The administrative hassles that the providers will have to undergo is recognized, but on the other hand, thinking about members and patient safety, accreditation is important.

-Thank you. Any other? Dr. Gambler, it looks like you tried to come off mute. I'd love to be able to hear your perspective too from our physicians.

-Yeah, I definitely support both recommendations. I think the Subcommittee did a fantastic job. I've been lucky enough to delegate my practice in medicine, I really consider it a group practice of emergency medicine with about 700 medics, and you know, we practice every week on things like rapid sequence intubation and finger thoracostomy, and I mean pretty high level procedures and it's very much, it's a practice of medicine.

So, I wholeheartedly agree with Tom's comments and yes, I agree with Jordan as well. It's complex when you bring on more regulation, but our air and ground ambulance providers need to be recognized as providers for the excellent care they provide and the high-level skills that they perform.

-Great. Thank you. I don't want to leave you out, Dr. Hinckley also. Do you have any comments?

-Yeah, thank you. I've been arguing for years that we need to stop calling what we do critical care transport, and it's critical care transport medicine. So, I'm a hundred percent behind 1A. My only concern about 1B is what Tom brought up about waivers for rural areas. I mean, the vast majority of helicopter EMS or air ambulance programs in America operate in rural areas. So, I understand the concept of a frontier area, like, upper Alaska for sure but just rural? I mean, the vast majority of us do that, and I don't think we should be excluded from 1B.



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-I think also maybe David, not to put you on the spot, but I think on the waiver piece. Is there any other further context to be able to put into that because I know that I learned a lot through the last several months about waivers and the process to be able to address frontier and the frontier areas.

-Yeah, thanks, Jeff. There's, I mean, right. This, this is a universal concern. We're national program, and so we do have to try our best to account for you know, variances in resources, geography, and everything else across the country and the points are well taken that the tension is-How can we ensure access to care? How can we ensure that our standards don't create inability of certain operators or providers to serve their communities while in also ensuring that we're not creating a two-tiered expectation with regard to quality and safety and so a lot of what's been discussed are things that we consider.

Sometimes it's delayed implementation. So, everyone has to meet the standards, but some communities have longer to get to that point. Sometimes there are specific waivers that can be given so, an operator provider who can't meet our requirements can make a specific request. Sometimes there are kind of broader exemptions saying that, you know, this doesn't apply for, an entity of this size or serving a community of this size. So, there are different ways to try our best to address the concerns that are raised, again, which is that we don't want to regulate someone out of business, but we also don't want to have people have different expectations of care based on where they live. But there are, again, there's different kind of broad paths in terms of implementation, specific waivers, broader waivers, things like that to try to address those needs.

-Okay, thanks. Mr. Reckert, do you have any other context to be able to add because of your work? Particularly I would say between two regulatory bodies.

-Oh, Jeff, thanks for the question. As I was listening to the conversation and just trying to It's a difficult place to be to ask, you know, what is the FAA's role? I think when we talk about, rulemaking the other processes here, I think one of the key things that I've been thinking about from the FAA's role, is the lack of statutory authority for to regulate any part of the patient care in the aircraft. From a flight safety standpoint that is very clear, very well defined, from a regulatory standpoint. But I think that when it crosses over into the patient care provisions, we're outside the agency's statutory authority. I understand a lot of the points that folks have made about the need to standardize. I think there's a lot that the FAA can share about how it's been able to leverage consensus standards, external accreditation to improve safety, but in the end, I'm not sure where the FAA's role would be in that patient care piece. I'm happy to take any



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questions that anybody has, but that's kind of where my mind is, is where the statutory authority gap lies in what's being discussed and what the FAA has the authority to regulate.

-Okay, thank you. Any questions, because I'm going move to the next slide for Rob?

-Yeah, I just had one question and forgive my ignorance on the billing side, and I know that like for provider types so for all these other provider types that CMS manages, do they also set rates for specific provider types? Again, forgive my ignorance for not knowing the answer.

-That's probably, David.

-Yeah, I lost the last part of that. Was it that -do we set rates for the different certified provider types?

-Yes.

-Yeah, so, I'm a health and safety guy, so it's a little outside my world, but yes, there's a fee schedule that's established for the certified provider types and then, and they're paid under those that's a little different. The certification itself doesn't really have anything to do with the reimbursement and so that's a separate and distinct process that would then take place. Does that answer your question, Ben?

-Yeah.

-Okay, thank you.

-Okay, thanks everyone for the discussion that we actually added time into this because we knew this was probably going be the biggest discussion point. So, let's move to the next slide here around the voting right now. So, thank you for I just saw it pop up. So, here's what I'd like to be able to do. So, Ali is the person you need to be able to send your votes to. Right now, the way that it is written, we would vote for both CS- 1A and CS-1B together as a vote for this recommendation to be able to adopt this. And so, it's a bundled approach from this standpoint. So I'd like to be able to proceed unless I hear from the Committees members that we should vote on them individually.

-Just from that, I think I'm directionally aligned with these, that said, like if there's an option that we can have more discussion. Let's just rethink to me like push this to July. Yeah, so I would, so I could learn more and get my head wrapped around this recommendation.

-I'm sorry, Ben. I don't have I can't hear you.

-Oh, can you hear me now?



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-Yeah.

-Sorry. Yeah, just, I guess what I was saying is, I think that for me personally, I've directionally aligned with the direction, that said, it feels like there's a lot wordsmithing that could be done. If there's option to push this, a lot more discussion to July, there are still pretty big things [we could discuss].

-Okay. Jason.

-Yeah, like comments are directly aligned with Ben on that. I think Committee has done a lot of good work here. A lot of good things that went into it and see a lot of good come out of this. Definitely, interested to have some more conversation about some unintended consequences, kind of where the jurisdiction would lie, what the agency, so I would also ask that we defer this to the next meeting for vote. So, we can have more conversation about it.

-Okay, Jim.

-My preference would be to not have them bundled. I feel one is much more straightforward. 1A is much more straightforward than 1B. And I think 1B for me would require the additional conversation around some of the specifics of that [recommendation's impact]. And so just from my perspective, if you're looking to achieve a vote on anything, I would suggest unbundling them or if you're going to keep them bundled to consider additional discussion.

-Eileen.

-Yeah, I totally agree with Jim. I think there's a lot more discussion for 1B. I think 1A is pretty straightforward. We could vote.

-Jason, do you still have more comments or is your hands still up, sir?

-Oh, then you took it down. Okay, good, good. Okay, so here's what I'm going to hear as a proposal is that we vote on CS-1A. And then we move CS-1B to the July 10th meeting to be able to have further discussion. Does that seem good with everyone? Okay, I'm just looking for head nods here, sorry.

-Colonel Coffee.

-Okay, so I am all in on 1A. My concern of pushing things to 1B, is that it becomes overcome by events, and I say that only from the battle scars that happen of continuing to do things within this five sided building. The longer we push things down, and we don't have a vote and maybe they didn't. So, like Tom's comment of, you know, voting on it now with the, kind of asterisk that says, hey, we need to still do a little more work. I don't know that there's dissension that 1B is a



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good option. There may be a little more refinement to do. And so, I'm more concerned, that we're trying to make perfection to be perfection, the enemy of good enough to get us across the line, we could still do some tweaking later.

-Okay. Dr. Pritzker

-So, can we bifurcate 1B vote at this point, into 1B-A: 1B1 and 1B2 and remove the sentence about the exceptions on waivers. Does that seem to be the issue? Is that in order or do we have to push it to July?

-I'm going actually look to my MITRE colleagues on this one.

-So, they can, you know, there's a lot of options. If you want, you know, we could go ahead and vote on 1A, it seems like there's decent consensus that should be voted on. We can also work on wordsmithing it now, in terms of updating 1B or there's always the option to kind of circle back once the Committee hears a little bit more of the further recommendations, the additional recommendations and then come back to 1B. So, it kind of depends. I know it's hard to come to exact consensus here, but if you want, we could take the vote on 1A and then pause and then have additional discussion around 1B.

-Okay, Eileen.

-Yes. I think, you know, everyone seems in consensus for 1A. I don't agree that we need to take out waivers in rural areas at all. My concern is that setting up the criteria, there's a lot more work behind this for how the accreditation standards are accepted. That's my big concern, and who's going to be involved in doing that.

-Okay, Jim.

-I go back to Colonel Coffee's comment. If you want momentum, that's why my suggestion would be to decouple them. You should get movement where you have movement. Cause I have a feeling that 1B is going to require a significant amount of discussion.

-Yeah. Okay, so this is where I think we should go. So I am going, let's vote on 1A and then I think that what I would like to be able to do is continue the conversation on 1B. I do think if there is some in process, changes to the language or to the recommendation, that we should work on that to be able to get us to be able to vote on that or discussion and that could be today or it could be in July, but I do want to be able to, I agree with you Jim, on that side to be able to do that.



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Okay, so what I'm hearing from everyone and Eileen, do you still have a question or your hands still up? Okay, okay, so I don't see anybody else. So, I'm going to go ahead and just call for a vote on recommendation CS-1A that 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.

And so please, put your vote to yes, no, abstain, and then if you, have a conflict of interest, please also identify that and then put that to Ali and then I will get back to everyone as we tally the votes.

-I feel like we should have some music just in the background as we vote.

-I'm just playing Jeopardy in my head.

-Yeah, it's so funny. I was having the exact same thing.

-We are still waiting on a couple votes. So, if everyone could send me your vote on CS-1A, and then we can move forward. And remember if you do not feel comfortable voting on this recommendation, you can vote, abstain.

Okay, Jeff, I think you can move forward with requesting the vote verbally. We are missing a couple of people. I think everyone might not be able to chat in. So.

-Okay, alright, I will move forward. Alright, so I'm going to start at the top, going alphabetically:

Committee Member	Response
Commissioner Arnold	Abstain
Jason Clark	Yes
Ben Clayton	Abstain
Colonel Coffee	Yes
Eileen Frazier	Yes
Dr. Gamber	Yes
Dr. Hinkley	Yes
Jim Houser	Yes
Tom Judge	Yes
Paul Julander	No



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Committee Member	Response
Dr. Pritzker	Yes
Jason Quisling	No
Robert Reckert	Abstain
Jeff Richey	Yes

-Process question. In part of the response to Ali. I'm not sure I understand that recommendation enough to say yes or no. So, I'm going to abstain.

-Okay. And then myself, Jeff Richey, yes.

Okay, so it sounds like with our rules of consensus we have 9 yes votes, 2 no votes, and 3 abstains and that we are voting to pass this recommendation.

Okay. Alright, moving on to the next, time period here, I think. It is, 11:38. I'm going look at my MITRE group here. Are we ready to be able to continue moving on to the next one or we had a break time.

-Yes, we can move on to the next one.

-Okay, thanks Michelle. Alright, so, Kolby and Keith.

-Kolby, you're muted.

-I sounded fantastic, too! That's too bad. Alright, our next recommendation focuses on promoting a just culture for patient safety.

Right now, there's no widely adopted non-retaliatory framework in the air ambulance setting that supports patient safety. Nothing comparable to the aviation programs like the ASAP (Aviation Safety Action Program), MSAP (Maintenance Safety Action Program), or SMS (Safety Management System). What's missing is a trusted, fair, and learning focused approach that reflects the core principles of a just culture.

As we all know, creating a culture of safety requires a system-based nonpunitive approach to identify and reporting and managing risks. The mindset is simply and deeply embedded in aviation and it's equally essential in the clinical care. To move the needle here, we're recommending the development of a Patient Safety Structural Measure or a PSSM, for short, which is tailored for air medical transport. We also propose integrating this into a new federal quality reporting program specifically designed for air ambulance providers.



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To expand this recommendation and share their perspectives and their expertise, I'd like to invite Krista Haugen and Emily Colyer, who are fellow members of the Clinical Safety or the Clinical Standards Subcommittee to join me. So, I'll turn it over to you, Krista and Emily.

-Thanks, Kolby.

In October of 2005, I was a flight nurse in a helicopter lifting with a patient on board when we lost power and crashed from above a rooftop helipad. All of us survived, thankfully.

It was determined that my pilot a highly experienced, highly regarded professional, had inadvertently lifted with one engine in idle. He was subsequently terminated for this error. I found this troubling at the time because I suspected there was far more to the story than simply pilot error. That may have been the proximate cause, but I suspected there were other upstream contributing factors that needed to be understood and mitigated in order for this type of crash not to happen again, because that's the point, isn't it? To prevent adverse events from happening again?

When the NTSB report was released, it cited inconsistencies in my pilot's training. I also felt that the aircraft had an engineering flaw since there was a single point of failure. For a critical operational task in that it allowed him to lift with one engine in idle to begin with. There were other contributing factors as well, and what I came to realize is that firing the pilot would not prevent this from happening again.

There were actually weaknesses in the current system just waiting for the next fallible human being to wander into its crosshairs, and I learned that mishaps can happen to the best of the best, and that we need to build systems to capture human error before it results in catastrophe. And the same is true in the clinical arena. I was never angry with my pilot because I thought they're but for the grace of God, go I, as a nurse because just as there are risks inherent to aviation, there are clinical risks as well.

We now know that in most cases, simply blaming an individual for a mishap does not work to mitigate future risk. We have to embrace the complexity of the industry we work within and utilize a philosophy framework and processes to look deeper. In the case of the crash I was involved in, in hindsight, I was looking for a just culture before I knew what that was.

Just culture is defined on this slide. It is essential that we seek to fully understand adverse events with the goal being to learn instead of to blame. This is not to absolve individuals from accountability, but to bring balance in finding real solutions to mitigate future risk by evaluating systems, context, and human factors in the spirit of shared accountability and understanding



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that untoward events are typically not caused by a singular individual or circumstance, but due to a complex convergence of variables and conditions. Next slide, please.

The air medical industry operates at the intersection of two highly complex and high-risk industries, health care and transportation. The industry needs a systematic approach, resources, and infrastructure to both reactively and predictively manage clinical hazards and risks. The aviation side of our industry has a systematic approach mandated by the FAA in the form of Safety Management Systems or SMS. SMS outlines expectations around safety policy, risk management, safety assurance, and safety promotion that help to organize and standardize safety practices within organizations and within industry. There are no such federal standards for patient safety or technical risk management.

However, recently HHS mandated the patient safety structural measures for hospital inpatient quality reporting programs. That's structural measures actually align quite nicely with the SMS, and when tailored to the air ambulance industry, could essentially serve as a clinical safety management system. Thereby providing the framework, culture, and processes necessary to help mitigate clinical risk and reduce iatrogenic harm to patients.

My colleague Emily will describe the structural measures in more detail shortly. Why is this all important? Because harm is occurring to patients in health care settings resulting in massive non-economic and economic costs. I'd like to direct your attention to the President's Council of Advisors on Science and Technology, the PCAST report cited here on this slide from 2023 and highlight some bullet points from that paper. They state patient safety is an urgent national public health issue. According to recent data, approximately one in four Medicare patients experience adverse events during their hospitalizations with many resulting in catastrophic outcomes.

More than 40% of these events are determined to be due to preventable errors. Quantifying the scope and severity of medical errors is challenging and recent studies show that the true rate of harms may be underestimated due to under reporting.

Next, harm from unsafe care occurs in all healthcare settings and affects all persons from mothers and babies to seniors, and I would add from my experience and everyone in between as well. Next point, avoidable medical errors can occur at various points over the course of the patient experience, some resulting in severe life-changing harms to the patient. And finally, the report contains numerous recommendations and comments that this transformational effort should include both immediate actions to address the crisis and actions that ensure lasting change recognizing that incremental change has not been adequate and a radical redirection of approach is required.



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While lifesaving care and clinical excellence occurs every day in the air ambulance industry. It is also true that in an inadvertent harm to some patients occurs as well. And I think it's fair to say that we have not yet wrapped our arms around the scope due to underreporting and the lack of a framework and consistent processes to manage clinical risks. Identifying and managing clinical risk is contingent upon the willingness of the frontline crew members to report unsafe conditions, errors, whether harm occurred or not, incidents and adverse events. And if collected and analyzed properly, information from the front line creates an invaluable data set that could help drive predictive risk management.

Current quality data is based on outcomes, but outcomes are only part of the picture. This data set helps illustrate clinical risks and provides opportunity to mitigate them but acquiring this data is wholly dependent on frontline crew members willingness to report which is wholly dependent on the organizational culture and practices across the industry are consistently inconsistent. Hence, the importance of adapting a framework like the Patient Safety Structural Measures to the air ambulance industry, which would help to create the transformational change that is needed for patient safety.

And with that, I'll turn the floor over to my colleague, Emily Colyer.

-Good morning, everyone. Next slide, please.

So thinking about a patient safety structural measure from a policy standpoint as part of the 2025 final rule, CMS is requiring hospitals to participate in who participate in the hospital inpatient quality reporting program to report on the patient safety structural measure. Now we like structural measures in the quality and safety world because they provide a way for hospitals to address topics for which no outcome measures exist.

CMS expects that by attesting to these measures, hospitals will develop the necessary structures and processes to support high impact outcomes. So, reporting started this year, public recording will begin fall of 2026. And right now, there's no penalty or incentive associated with the score. Right now, the current status is that payment reductions will be slated for 2027 for hospitals that don't submit their data. This is purely a submission. You don't have to demonstrate a perfect program or outcomes, but you have to demonstrate that you're starting to work toward meeting minimum standards for patient safety protections.

So, when we think about when we were talking about our provider type, suppliers versus providers. Suppliers have to demonstrate the ability to fill the service. The DME company that you get your crutches from is the supplier. They have to demonstrate the ability to fulfill the service that's requested and built for. Providers have to demonstrate a level of quality and



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safety that you can expect no matter where you are in the country. These structural measures are specific to patient care. They don't touch our aviation safety components. These are purely specific to patient safety and patient care. Our Subcommittees are enthusiastic about adopting the patient safety structure measure in air ambulance transport, not just because of our affinity for its conceptual overlap to SMS, but because of the underlying principle where we know that if you build a structure to support the processes, you're going to have a better shot at hitting your desired outcomes.

So looking at the different domains here, the leadership commitment to eliminating preventable harm. This is where your senior leadership in governing boards demonstrate accountability for the patient safety metrics initiatives and outcomes and have to demonstrate that patient's safety is a consideration for enterprise strategic and operational decisions. This is akin to patients in our safety policy in our SMS.

Two, strategic planning and organizational policy. This is where you have to demonstrate that you've incorporated written policies and protocols that address identified hazards and risks that demonstrate that patient safety is a priority in your care.

Three, culture of safety and learning health system. This is where you have to demonstrate the iterative loop between event analysis and clinical practice improvements. This is your safety assurance safety promotion. This is this is look this is looking at your integrated infrastructure on safety culture and learning.

Four, accountability and transparency. This is this is your safety event reporting system where safety events, near misses, precursor events can be reported, and we need to demonstrate a link between that data collection and analysis and a flow of information between leadership of the front line. And this, this particular domain also, you know, highlights participating in a listen PSO, which most hospitals in America are, the large hospitals in America are related with, but very few other ambulance companies are.

And five, patient and family engagement. This is where systems need to embed patient and family input and quality and safety programming, where we're paying attention to safety signals from our patient experience data and Colonel Coffee's notes this morning on centering on the why we're here. This particular domain hardwires a path to center patients in the work what we do because we're remembering that patients don't get a choice of operator, and they deserve to have their input heard and to have minimum standards throughout the country.

So, these structural measures provide a framework for how to advance safety through the culture and practices that go beyond the voluntary accreditation of today. I'm thinking about



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our recommendations that you know about the different types of things standards that we want. The Conditions of Participation for Medicare providers are very basic standards.

Accreditation supports a more rigorous clinical standard, and the patient safety structural measure requires minimum standards for patient safety structure and process. And we feel like it's important to not only set those minimum standards for all but to have a shared framework and vision for advancing patient safety beyond that.

So, as we recommended, you know, we recommended area builds as a provider type and talking about accreditation, we're further recommending that a federal quality reporting system that includes these domains adapted to air ambulance transport will lead to improve patient outcomes by providing that shared roadmap for quality and safety structure.

So, unless there are any questions for me, I'll hand it back to Kolby and Jeff.

-Alright, thanks Krista and Emily. So, next slide, building on what's been shared with us, the Subcommittee recommends the development of a Patient Safety Structural Measure specifically adapted for the air ambulance environment.

We also propose established a new federal quality reporting program that incorporates this measure. The goal is to offer a structured path for advancing patient safety, going to beyond what's required by accreditation, but without penalizing providers who may not meet every element of the measure right away. This would serve as a compliment to the existing Safety Management Systems in aviation. It also opens the door for integrated management of clinical and aviation safety risks, something that's been long overdue.

While we recognize there will be some self-assessment and some reporting burden. We believe that the value lies in fostering meaningful safety conversations and continuous improvement at the provider level. With that, I'd like to open it up for questions and discussion, and I'll turn it over to Jeff Richey.

-Thanks, Kolby. Thanks, Krista. Thanks, Emily, for that great overview.

So. Let's open up for discussion, please.

-I love it. First comment, I absolutely love it. So. Tom, I didn't mean to jump or put you, sir.

-Thank you, Colonel Coffee.

-Tom.



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-So once again, I would really commend this Subcommittee. I think this is very creative and and far thinking. I really appreciated Emily's comments of this idea of a shared vision and framework. I know in our organization, we've, you know, long had since, you know, around 2005, this idea of an integrated risk safety and quality management system. And while there is, you know, the aviation side has the responsibilities they have to the FAA. The clinical side, we have responsibility to the hospitals we work with. There is the idea of a shared, you know, this comprehensive framework to think about risk and safety, I think is really important, and I'm wholly supportive of moving this forward. I think it's a really thoughtful and creative way in this idea of the PSSM as I think, a really an interesting way to think about this. So, commend the work.

-Thank you, Tom, Jason.

-Yeah, to some extent I'll echo, Tom's comments. I think that we've seen in aviation that you can put standards in place, you can regulate to a certain extent, but if you don't have a strong and healthy culture that allows people to come forward and tell you about what the risks are and what the solutions are to those risks, then we are not a learning culture organization, and we'll never retain the safety results we want. So, I strongly support the efforts around the ideas here too. Foster that growth inside of health care and patient quality. Thank you.

-Thank you.

-Jim.

-I'll just tag onto the echo of echoes here. So, I think these are important for us to consider for many reasons. I would be remised if I didn't acknowledge the FAA and the ASAP program, I'm a bit biased because we were an early adopter of that as an operator and certainly also being a very early adopter of the voluntary SMS accreditation process, I understand the importance of these things. And I think any way that we can encourage linkage of reporting and fostering of a culture that encourages that from a mechanism that we can learn lessons, I think we're only better off for it. My only consideration is just making sure that we keep in mind the systems that are in place, whether that's the ASAP program or other mechanisms as were highlighted here, that we're taking those into consideration as we adopt this new direction.

-Eileen.

-Yeah, what the really the most areas of weakness we see are equality, and when we look at programs and there's no standardization. Even though we try to set it down and standards, every program has a different way. Reporting is so important, and I really support this. I think this is well thought through.



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-Thank you. Ben.

And you're on mute.

-Had to do once. Yeah, I will echo, everybody. I think, you know, Emily and Krista, thanks so much for your work on this shifting that culture of, towards from the blame is so important because it, if we just blame, I think everybody knows that the risks are still out there and it's just going to hit somebody else in the future and a patient is going to be adversely impacted. So, great work on this, and I'm supportive.

-Jason.

-Definitely great work to the team, echoing, all the comments before. Just getting to see over time the benefit and the success of the ASAP and MSAP programs. What's done for industry has been huge. So essentially adding this as the CSAP will be good. Thank you, be a lot of work kind of at the state levels because that's essentially where providers are licensed at that point as opposed to being, you know, federally, or license like the pilots and maintainer so there'll be some work to get this process down to the state level. They understand it as well but really, really support this so, thank you guys.

-Thank you. Any other comments or discussion points?

-Just one comment, and I know I was very excited about this, but I think back to, you know, we've had a couple mishaps here in the Department of Defense. You know, we've had some multi-million dollar jets in the Red Sea lately. We've had some accidents that have happened with military aircraft and civilian aircraft as well. And the thing that I always go back to is that we always try to figure out what happened first before we point the finger at the pilot error. And so it's that culture that always says that we're trying to see what human factors are there, what other things are there before we do this blame culture and I think that's what's so important about establishing a culture of psychological safety, of establishing culture where we really do put the mission first without saying, without creating an environmental fear of doing your job.

And so this type of advancements here really does promote that just culture really does promote having the ability to focus on providing quality and safety in care. And so, I just, I really do appreciate this and just really fully support this.

-Thank you. Robert.

-I met with some of the clinical team in some of our SMS experts, probably month or 2 ago, around this, but I guess my curiosity is trying to understand exactly what is meant by a Patient Safety Structure Measure under the umbrella of HHS. I think about from the FAA side, and I



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appreciate all the feedback around SMS and ASAP programs because those programs today, whether it's ASAP or SMS, the FAA supports those programs being brought into an enterprise architecture if you will. We allow non-regulated or not FAA regulated folks within companies routinely and participate in those programs, particularly the SMS. And some of the requirements under SMS for, a you know, anonymous employee reporting system which many times met within the air carrier by the ASAP program itself. One of the things that I guess, you know, I'm struggling when I think about an ASAP program or other voluntary programs, that the FAA has a place is those are very, very strong data collection tools, but they also provide a bit of regulatory protection, whether it's for the company or for the airmen depending on their reporting through an ASAP or VDRP program. And so, what I think about the patient and the provider perspective, who is the enforcement authority because I think that needs to be part of the conversation about if you want these types of voluntary reporting programs without the protections, that those programs provide to the reporter, they're not, our experience is that they're not successful. So. It's a little bit of a, to in my mind, and I hope I'm articulating well. A little bit of a concern about our existing framework from the FAA does allow SMS and ASAP and other programs to the enterprise solutions, but they're not providing need nor does the FAA have the authority to provide that protection to the reporting person. So, I'm just wondering how that part of that voluntary program lends or is intended to aligned to this recommendation. Okay.

-That's a really good question. Kolby, Keith. Thank you. Also, the Subcommittee members might be able to answer that. I have also a view from the hospital side too, so, but I'll let, the Committee Chairs bring that forward.

-Yeah, I turn that over to Emily, Krista, actually.

-I think I can maybe touch on some of the concerns, and actually health care, you know, as you probably well know, does this a little bit differently than aviation. But the health care protections are found in the patient safety and quality improvement at the PSQA. Where when healthcare systems can get together and discuss their patient safety events, the serious safety events, the standard patient safety events, the near misses, all of those things and can assemble that data, in a protected environment. That's actually AHRQ lists Patient Safety Organizations, so PSOs, which actually this particular Patient Safety Structure Measure does encourage health care companies or health organizations to participate in those and that's the avenue where when we can discuss these in the round and you do have a protected, non-discoverable place to discuss those and work on improvements without that fear of the health care risk management side. Does that is that kind of touching your concern there?



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- Great, but I hear, I, what I'm hear is focused on hospital or the provider. What's the?
 - Hospitals are most of the participants in PSOs, but they're open to anybody. Well, just about everybody.
 - The protection for the paramedic, I'm not.
 - Yes, yes, the PSQA would protect pre-hospital clinicians as well.
 - That protects them and encourage it is their voluntary reporting.
 - Yes. Yes, that's correct, sir.
 - Okay, that's where my gap was.
 - Yep. Yeah, we do. We do have policy protections already in place.
 - I guess maybe the last questions you said policy protections. Are they regulatory protections as well?
 - Yes, yes, this was an Act, I think, passed into law probably and correct me if I'm wrong, you guys, probably ten or fifteen years ago, maybe closer to twenty.
 - Thank you.
 - Sure.
 - Right, great. Thanks. Thanks for the clarification. That was a really good question.
- And, and good. So, okay. Any further discussion from that?
- So, we're coming up with fifteen minutes before we break. I'd like to be able to, if there's no further discussion, I'd like to be able to bring this, to a vote.
- And so, what we would be voting on here is 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.
- So again, how we vote is send your yes, no, or abstain or conflict of interest declaration to Ali. She will tally those votes, and then I will do the roll call.
- Okay, I think we're just missing. Oh, never mind. I think we have everyone's vote. Jeff, I'll just note that Commissioner Arnold had to drop. She did send me her vote via private chat. So, we



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can, verbally confirm her vote later in the day, but I'll include her vote in the final tally. [Vote confirmed later in the meeting]

-Okay, thank you. Alright, so I'm just going to go, start down the line here, Jason Clark.

Committee Member	Response
Commissioner Arnold	N/A
Jason Clark	Yes
Ben Clayton	Yes
Colonel Coffee	Yes
Eileen Frazier	Yes
Dr. Gamber	Yes
Dr. Hinkley	Yes
Jim Houser	Yes
Tom Judge	Yes
Paul Julander	Yes
Dr. Pritzker	Yes
Jason Quisling	Yes
Robert Reckert	Yes
Jeff Richey	Yes

Alright, so that recommendation passes. For that so I'm going to hand it over to David because we were just a little bit ahead of schedule, but we've been at it for a couple of hours here so I'm just going to hand it over to David.

-Yeah, thank you, Jeff. My most important announcement of the day is we are breaking for lunch, and we'll be back at one o'clock. Thank you all so much for your participation this morning.

Lunch Break

-Good afternoon, everyone. I hope you had a nice break. This David Wright again and I would like to go ahead and, call the meeting back to order and turn it over to our chair Jeff.

-Alright, thank you as I was trying to be able to toggle with my video screen and everything.



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Yeah, welcome back everyone. Hope you had a very good lunch. So, moving on, to our next, to our next section, I'd like to be able to remind everyone before we begin, we want to note that all questions entered in the Q&A box will be answered following this meeting and added to the summary report that we posted on the Centers for Medicare and Medicaid Services' AAQPS Committee website. So, next I'd like to hand it back over to Keith and Kolby for the next recommendation discussion.

-Yeah, thank you. Hope everyone had a great lunch. We're going to talk about Recommendation #CS-3a and b, and it revolves around improving access to patient clinical data. Next slide, please.

So, this recommendation is around improving access to patient clinical data after transport. We all understand the value of understanding what happened not only during the flight, but immediately after the flight. And that information is critical to identifying opportunities for clinical improvement. It can also have a meaningful impact on crew well-being just to know how the patient they cared for is doing in the short term and the long term.

However, getting this data from hospitals after drop-off can be difficult due to concerns around HIPAA, confusion around what data is needed and even just the technical infrastructure for exchange of that information.

The Committee came up with two recommendations in that area. The first is for HHS to clarify how HIPAA applies to this use case so that hospitals can feel more comfortable in what they legally can or cannot share related to data exchange and patient information. And second is for Congress to provide dedicated funding to state and federal health information exchange efforts specifically to support this use case and we've seen that recommendation in other areas of healthcare.

Before we discuss our rationale of this recommendation any further, I'd like to turn it over to my colleague and one of the subcommittee members, Emily, to share some background information, and we'll move on to the next slide.

-Great. Thanks, everyone. So, clinical outcomes data is a cornerstone of patient safety and health care quality across the country. Did what we were doing work and did the patient have any unintended consequences as a result of our care?

For most systems, there's no bi-directional flow of health care data between air medical transport, emergency medical systems, and air ambulance and health systems.

There's no standard process, there's no standard data set, and there's no generally understood consensus that such data should be provided to us.



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Because seeking follow-up information is difficult and because there's no HIE standard around this, the methods are typically informal when we try to seek outcomes data informal channels like curbsiding the ER position and asking, "hey how the patient do that we brought in last week?" Or on social media posts in small towns, I saw on Facebook that the child we brought in last week had surgery and was discharged. At best, these methods provide anecdotal information, but there's no sense-making with this little-known benchmarking. And at worst, programs and health systems are handling PHI with fragmented workarounds. It's not optimal.

There are occasional formal feedback avenues. But since they aren't standardized, you'll have one program with a trauma program manager that provides a follow-up letter. PSO involvement can provide aggregate data sets to which one can compare one's program, but most programs aren't affiliated with one.

Claims data is available if you have the scope and ability to partner with an insurer, but this isn't typical for most agencies. And additionally, claims data is very limited to the extent that it can point to air medical care as the driving determinant for patient outcomes after admission and hospitalization.

So ultimately what we're asking for with this is that we want to provide the same clinical standards and protections that other provider types have to share data with one another so that we can study our medical outcomes and improve our clinical care.

Unless there are any questions, I'll hand it back to Keith for the next slide. Alright, thank you.

-Thank you, Emily. So, returning to our recommendations, we have listed here two recommendations for improving access to patient clinical data after drop-off. One is related to HIPAA. Another is related to technical and process infrastructure for data exchange. The committee can choose to adopt both, one or neither.

Before opening it up for discussion, I want to note that as part of our subcommittee discussions, we determined that there's not much data to be able to quantify the scope of this problem, or how much patient safety could be improved by making this data more accessible for quality improvement activities.

One recommendation we considered but ultimately did not adopt was whether it was necessary to establish a specific work group to study these issues. We felt that addressing these two key barriers would involve more immediate steps likely to have a more positive impact.

At this point, I'd like to open this up for discussion.

-Jason.



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-Yeah, thanks. I'll just say to the media, I think this is an area that may not always get a lot of press and headlines, but it is critical for us to be able to make smart decisions and understand if we're doing the right things for the patients in the end. So, I really appreciate you putting it on here as an item to note and support.

-Dr. Pritzker.

-Maybe more of a process question as far as patient confidentiality. Will the patients be required to sign a consent for the hospital to be able to release their PHI to the air ambulance after the transport?

-That part was not discussed in the subcommittee. I think that might be a question for CMS.

-And I just wouldn't want to run into problems with patient confidentiality.

-This is David. HIPAA is covered under the Office for Civil Rights. I'm not an expert on it, but I will tell you that my understanding is that the information can be exchanged among providers who have the same HIPAA prohibitions. But I could be wrong about that. But we can certainly, in the intervening time at the next meeting, try to get someone from OCR to provide more clarity on that.

-Okay.

-Thanks for the presentation. One thing piqued my interest. You've talked about the challenge of not having a lot of patients receiving this information. I just want to make sure I got that. It's about the last comment you made after the presentation. Can you refresh me on what you said? It's like there's either not enough data or there's no value that we've seen in patients having access to this afterwards.

-So, there's not enough existing data to understand the scope or the scale of this problem. Some hospital-based air medical programs are really successful in getting patient data exchanged, and for other programs, we know it's been a struggle to provide follow-up activity. We talked in the subcommittee about the infrastructure that exists within our trauma systems, where there's somewhat mandatory data exchange state by state under trauma system foundations and things of that nature and that potentially being a model for what air medical programs could receive as far as follow up patient data. There's not a great foundation to understand the scale and the scope of what programs are able to get now and what they can't.

-And then this sort of goes back to the comment that I made. Because I think that when we look at the transparency that can happen when we put this into action, where patients have access to that kind of data, it really goes back to the piece of me saying the patients are that third set



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of eyes or that other part of data set that needs to go into all parts of medicine. And so, I was interested in that, but I appreciate the common stuff.

-We talked a lot about working groups that may be necessary in the subcommittee to enact some of these things, but earlier this morning we talked about some of these things that are going to require rulemaking and they're going to have to pull together groups in the industry to do that.

We thought this was more of an immediate need and that implementing these recommendations would potentially cut down on some key barriers that exist.

-Yeah, but again, I just say we always maintain the focus of using and of the importance of patients having access to that data. I think that's really one thing that can get lost in the white noise as we're trying to do these really big, tough things and that we focus on it and just leave out that perspective of why it's important for the patients because we're talking about compliance. We're talking about safety. We're talking about this idea that as patients or caregivers of patients you're going to be able to see things that are not readily seen when you're in the clinical setting. I have this history that I can now bring to bear because I have access to the information in the data.

But now I appreciate the comments.

-And then, one thing just a side note to what Dr. Pritzker had said, is the intent—and please from the committee, Keith, maybe you can help me with this or Emily too—of this recommendation to clarify the role in the getting the signature for permission under the HIPAA rules.

-Correct, Keith.

-Yeah, correct. That would be part of this. What we need would be breaking down a barrier or a concern that hospitals may have with sharing that information. So, putting clarity around what they can share or what authorizations they need to share that information would be part of this.

Yeah, so paperwork signage, some sort of overarching thing when they come in, those type of things. Does that help? Dr. Pitzer.

-Yes, thank you.

-Okay. Okay, thank you. Tom.

-Thank you. Again, it's an important issue. I think if we look holistically like we just did, you the subcommittee unanimously agreed to this idea of the PSSM safety measures. And I think this is



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a way that you follow this where this is a pretty unique subset of patients that are seen by air critical care transport. That's not the average standard patient. These are among the most vulnerable and fragile patients with complex medical conditions and continuity of care, and quality improvement is really imperative. I think we have an information exchange in Maine that includes ambulances and hospitals. So, there are ways to do this. I think there's ways to do this legally that aren't very complicated.

I do think it takes investment, but I think the committee has identified an important thing. Because while we would look at the HIPAA language and say it very clearly states in the law that this information for quality purposes should be exchanged, we've certainly seen hospitals say "we don't know if we can do it and we're not too certain because HIPAA violations are such big consequence so we're not going to do it."

So, getting clarity around this, I think is important and I would support the work that the subcommittee has come up with here.

-Alright, thank you, Tom. Robert.

-Hey, good afternoon. I'm going to acknowledge that upfront that I do not understand from the flight safety side. But I think there are some strong lessons that some of the folks on the flight safety side would understand. I'd be curious about their opinions as well.

But when I was listening to the presentation and thinking about the previous slides on just culture, continuous improvement, safety management, data exchange, and the protection of that data are critical keys to making those other systems work as well. And when I think about what Tom just shared and others about HIPAA violations, I think one of those keys to having data protection in place is having a regulatory or statutory authority in place that protects that data as well. When you think about some of the examples we discussed earlier or that you brought up earlier around the FAA's efforts with ASAP programs and other types of voluntary programs, there are very specific statutory and regulatory protections of that data that's in place. A lot of that is keyed upon the de-identification of that data, and I think one of the challenges as I think about this recommendation is: what is the data being used for?

If we can de-identify data and use that deidentified data to look at trends in sharing data across this industry to be proactive about addressing safety issues as a very different use of data and what I think I'm hearing, which is the clinical piece of "did we diagnose the patient correctly that we applied the right protocols? Do we improve the protocols?", and that overarching safety management type structure, I think just looking where there's been success in other areas of industry would be helpful in refining this recommendation. Okay.



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-Thanks, Robert. Any further discussion?

-Jeff, one thing I'll say is we recognized in the subcommittee we didn't want anything created that would be burdensome on hospital. So, we discussed a process that standardized what hospitals would exchange. I heard a lot from the committee members here about clarity. That was one of the goals with this recommendation—to standardize the information that hospitals would exchange with air medical providers.

-Okay. I think if I think we're ready for voting. So, again, I will remind everyone. Here's the process again. Everyone queue up Ali as the person that you should vote for, vote, and send your vote to Ali. For these recommendations you can see the voting option. The recommendation #CS-3a is 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.

And then #CS-3b is 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.

So here the voting is a little bit different. Committee members should vote for one (A or B), both (A and B) or neither or abstain. And again, if you do have a conflict of interest, please state that. So please send your vote to Ali. Is there any discussion before I say go ahead and vote on this? Is that clear to everyone?

Okay, so we will just continue. Please send your votes and then I will call roll.

-Hey Jeff, I believe we have everyone's vote so you can go ahead and do a roll call.

Committee Member	Response
Commissioner Arnold	Abstain on both
Jason Clark	Yes, on both recommendations
Ben Clayton	Yes, on both recommendations
Colonel Coffee	Yes, on both recommendations
Eileen Frazier	Yes, on both recommendations



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Dr. Gamber	Yes, on both recommendations
Dr. Hinkley	Yes, on both recommendations
Jim Houser	Yes, on both recommendations
Tom Judge	Yes, on both recommendations
Paul Julander	Yes, on both recommendations
Dr. Pritzker	Yes, on both recommendations
Jason Quisling	Yes, on both recommendations
Robert Reckert	Yes to A, abstain on B
Jeff Richey	Yes, on both recommendations

-Colonel Coffee.

-Oh, Jeff, my bad. Colonel Coffee had to step away, but he did send me his recommendation, which was yes, but we can verbally confirm that from him when we recap later.

-Okay, thanks, Ali. Eileen Frazer.

-Okay, Jeff Richey, yes to both. Okay, next slide then. Thank you, recommendation CS-3a and 3b have both passed. [For CS-3a, we have 13 yes votes and 1 abstain. For CS-3b, we have 12 yes votes and 2 abstains.] So yes, we can move to the next section.

Okay, so, so I'm going to go ahead and just do just a quick recap. We're about ready to pivot. I'm going to hand it over to David here. We are right on time, which is great. I believe just the recap of the recommendations is that we have voted for Recommendation #CS-3a, which was there.

We have decided on Recommendation #CS-3b, and maybe we could just go back up to the slides so that I could say to everyone from a recap standpoint, and I don't do it from memory here. Sorry.

-We actually have a recap slide.

-Oh, we do. Okay. Thanks, Ali.

-Sorry about that. Yeah.

-I'm good with trying do it all from memory too.

Are you going to go to that recap slide?



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Okay, so here, thank you very much. Okay, we have recommended to adopt Recommendation #CS-1a, which is the 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.

I will just say on Recommendation #CS-1b we are gathering more information, which we can touch base towards the end of the session. It more likely is going to be discussed in July at our next meeting.

Recommendation #CS-2 is 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. That was a unanimous vote so that has passed.

The next recommendation is Recommendation #CS-3a. That is 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.

That was also passed through there and then the same thing happened with 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.

So, that was also there.

So, that's where we're at right now with those recommendations. I want to thank everyone for the voting and the participation. To the clinical subcommittee, it's just amazing the work you've already been able to do. So, thank you.

Next slide. So, this is going to be our next piece, and I think we've highlighted this. Thank you to the MITRE team for making this easy for me. So, Recommendation #CS-1b is what we have done and you can read that.

A future discussion topic is waiver exemption options for how these can be applied to balance maintaining access in frontier communities while applying a consistent minimum standard nationally. The second one is how to ensure clear division of responsibilities between HHS and FAA to ensure HHS is not regulating flight safety and ensuring there is sufficient collaboration to



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avoid unintended impacts of clinical standards on flight safety, and then also interactions with ADA.

I will also add to this discussion that if any of the members would like to put forward language modification to this recommendation, to be able to help us, we would appreciate that for the next discussion.

And then next we were going to discuss for the July 10th meeting the AAPB recommendations relevant to the AAQPS.

So those are two things that we will be discussing in the July 10th meeting. Are there any questions on that process? Does that sound good to the committee?

-Yes. Sorry. Just a question for the clinical standards committee. Are there other recommendations that you guys are also considering or working on besides what we've discussed this morning?

-No, we pushed forward the three recommendations and then there's a lot of discussion around the AAPB recommendations. Again, that's going to be deferred to July.

-Roger, and Kolby had said, this morning as I recall, that we would be discussing tiers or leveling later. Is that correct?

-We did discuss tiering, as in the subcommittee. We felt some of the tiering standards that we looked at were going to be difficult to execute or operationalize. So, there was discussion around that, but there was not a recommendation pushed forward from the clinical standards subcommittee to adopt the tiering approach.

-There are pieces that will come out in that AAPB recommendations that are relevant to the AAQPS, so it will be really on the table, but there wasn't a lot of discussion around structuring the tiers at a granular level.

-So, we do have a little bit of time before we're supposed to transition into our next phase, which will be the flight safety piece. With the two topics and the AAPB recommendations, is there anything relevant that the committee members would like to be able to share as we prepare for that discussion in July? I'm opening it up as a larger discussion.

Yes, Tom.

-Recommendation #CS-A is not exactly what the AAPB recommended, and I think if we were going to discuss that recommendation, I would think that we would want to have the language of the AAPB. I was on that committee, and there were some very specific pieces in that



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Recommendation #CS-A that I think are not in the subcommittee recommendation but are actually quite important.

-Okay, you're suggesting making sure that the language aligns with what's that. You're making a recommendation about that as we prepare for the July 10th meeting.

-Right, we should consider that the Recommendation #CS-A should mirror the AAPB recommendation.

-Anything else from the group on that?

Dr. Hinckley.

-Not on the AAPB recommendations, but back to the question of tiering. I guess a question maybe for MITRE or CMS. Is it problematic if the NSA charged this committee to address, quote, qualifications of different clinical capability levels and if the committee chooses not to do that? Or are we sort of bound by law to do it even if it's difficult?

-I'll defer to MITRE. I think you're charged with exploring this. I don't know that you're charged if the committee can't come to a consensus on a path forward. Then I think that would be reflected in the minutes in the notes as well, but I'll defer in case I said something wrong too.

-Yeah, I think that's right, David. And I'll just note that I know Kolby said this as well. This will come up a little more during the AAPB discussion because as Keith said there was a lot of discussion around tiering and the subcommittee did not feel that that tiering was the most appropriate approach and that some of the AAPB recommendations had broached the most important pieces there. And I'll Keith, Emily, and Krista, if still on, go into any more detail about the discussions around tiering that came up. You're welcome to do that.

-I can start by saying that when we discussed tiering, it fall into establishing minimum standards.

-It would deserve further study on those minimum standards and what they would look like. And that might not have been part of the scope of the subcommittee, as far as how they would look in policy and act.

-I would add that between what we presented so far and what is coming up in the AAPB section, we felt that the solutions presented met much of the intent of the tiering, including enhanced reimbursement for specialty services and such. And so once we get into that I think then it would be appropriate to revisit the conversation, but we've only got part of the information presented so far.

-Okay, thanks. Dr. Pritzker, do you have a question or a comment?



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-But just a comment that I encourage us to be as granular as possible when we're talking about the AAPB recommendations. It's quite an extensive document. Be as specific as possible when we make those final recommendations.

-Okay, I think that again, that's a really good comment and then it also just makes me feel like having it really being the focal point for our next meeting in July means we're going to need to dedicate a lot more time to that.

Any other comments? Anything else that we're?

Okay, all right. Well, we are ahead of schedule, which is great.

Go ahead, David.

-Thanks, and I think it's good since we are going to be moving on to the flight safety recommendations. We can give everybody a 10-minute break and reset. Get ready for that discussion. So, we will join back at 1:46pm ET.

Thank you.

Break

Welcome back everyone. Thank you again for your timeliness and for your participation all day today, and as previewed we are going to now be moving on to the next section to hear from the flight safety subcommittee. Thanks.

-Okay, thanks David. I'm just going to do two housekeeping things before we move on to flight safety.

First is, if you're on, Commissioner Arnold.

-I am.

-Can you give me your verbal vote for Recommendation #CS-2 please?

-I think it was a yes. That was the one about a shared culture.

-That's correct. Okay, thank you. And then the last piece, I'd like to have the MITRE team put up the AAPB slide.

I just want to point this out to everyone. This is in the deck that you received, and I would like everyone, as we discuss this on July 10, to be very familiar with this so that we can have a very, very good discussion around this recommendation from the clinical subcommittee.



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So, I'm just pointing out that it's in your deck for you to be able to read and to be prepared to discuss when we move to the July 10th meeting. Okay?

Yes, Commissioner.

-There are different levers depending on the payer, which I think folks know, but this is not quite acknowledging that so I think it'd be helpful when we have the discussion to be able to speak to that a little bit and whoever is going to be leading that discussion, that would be my request—to have a little bit of discussion about how this fits in with the payer landscape because there are different regulations on the payer side depending on who the payer is.

-Okay. Good call out. We'll make sure we come prepared to answer those questions.

-Great. Thank you very much.

-Even if things pop up and you want to just send an email to say this is something you're thinking about, that will also help us too as we prepare for the discussion.

-Yep, absolutely.

-Okay, all right, now we're going to move into flight safety.

-So as a reminder, I want to note that all questions entered in the Q&A box will be answered following this meeting and added to the summary report that will be posted on the CMS AAQPS committee website that is also entered into the chat.

So now I'd like to turn it over to Jason Quisling, the flight safety subcommittee chair, Jason, who has been flying commercially for more than 30 years in both fixed wing and rotorcraft. For the last two decades, he has been working in the helicopter air ambulance field, and he currently serves as the senior vice president of flight operations, maintenance and air communications for Air Methods, LLC, overseeing a fleet of 400 aircraft, 600 maintenance technicians, and 1,200 pilots. I'll turn it over to you and, Jason, the slide deck is yours, sir.

-Alright, thank you, Jeff. So, just I think to start out with the review, if we go to the next slide, we'll take a look at the mandate for the flight safety subcommittee. We were really focused on improving service reliability during poor weather, night conditions or other adverse conditions as well as looking at the differences between air ambulance vehicle types, services, technologies and other flight capability standards and the impact of those differences specifically on patient safety. So, all of the recommendations we're going to go through really come back to those two points and try to make sure we're leveraging that with anything that we propose here.



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If we could move to the next slide.... Talking a little bit around the patient, patient safety and quality in the air ambulance world, some of the things that we had to consider- the increase in demand for these services- I think roughly around 1 in 4,000 Americans will need the services of an area ambulance to reach higher level care, and so they're vital for rapid patient transport during emergencies and helping us access those enhanced capabilities and our health care system around the country.

There are certainly concerns when we're dealing with weather, poor visibility, low ceilings, other types of adverse weather, and the potential risks that those pose to the patient as well as the crews that are operating inside those aircraft. And so we talk a little bit about the need for improved infrastructure and technology to support that. We also took a look at crash survivability. There have been a lot of advancements in aircraft and other systems that help protect the occupants of the aircraft: energy absorbing seats, stronger airframes, and fire-resistant fuel systems. These were things that, we discussed at length and talked to several outside experts to try and gather information about how to incorporate that.

We took a look at technology and various advances. There are places where we have the ability to access new types of technology. Some of these are learning systems like TAWS, or terrain awareness and warning systems. Some of them assist the pilot in operating the aircraft, such as autopilot systems. And some of them are related to navigation situational awareness such as the use of GPS and other types of technology inside the aircraft.

We had a strong leaning towards performance-based standards in trying to define those standards so that we wouldn't limit the recommendations or limit some of the ideas to current or present state but also, try and encourage innovation and be able to adopt additional safety enhancements as they're developed in the future. And then we're very cognizant of the spotlight that air ambulance transport sits in and making sure that we considered both how the public engages with us as well as the regulation side and policy makers. Finding the right balance, I think, between investment and infrastructure technology and combining that with regulations were necessary to ensure we could drive safety for the patient and the crew members onboard.

We can move to our next slide. I'll just give you an overview of what the subcommittee has been doing in the background. Initially we met to have a significant review of the statutory areas that we were going to be covering and understand the scope of what we needed to do. In January, we spent a great deal of time talking through weather reporting infrastructure requirements and the technology that was available. Then we started to form our problem statements and expanded our sense of where we needed additional expert information in order



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to be able to make informed decisions on the recommendations. We looked at funding priorities, weather systems, and sensors, both high-tech and maybe easier access or lower cost availability on all those things. We talked about helipad certification, infrastructure, and the systems that will record that data and make it available to pilots and everybody for use. And we also looked at how these things either enhanced capabilities or improve reliability and patient safety and had several subject matter experts weigh in on their various specific areas to provide us additional context and detail there. And then in April, we worked to finalize the recommendations, focusing on weather reporting infrastructure, low altitude instrument flight rules, and single pilot safety. We had a couple additional recommendations focused on technology and occupant protection as well.

As we go to the next slide, we'll see some of the people that provided expert testimony for us. Special thanks to the NTSB and Chichoon Shin, Austin Croft with the Aviation Weather Center, Cliff Johnson, from the FAA Technical Center for Advanced Aerospace, Rex Alexander with Five-Alpha around infrastructure and heliport design, and Cohl Pope with the FAA and specifically their weather reporting systems and weather camera system that they have in place today.

So, all of that work has led us to essentially six recommendations, and if we could go to the next slide....

I'll give everyone on the committee a quick overview of the areas that we're going to dive into. The first recommendation we'll talk about will be related to enhancing weather reporting and infrastructure in non-terminal areas, and I'll pause for a second. My apologies. There are so many acronyms. I could probably complete a full page of paragraphs here without actually speaking in English. I will do my best to make sure that these aren't confusing, but please if there's anything where there is a question, please don't hesitate to interrupt me and ask. For the committee, we created an Appendix document that has a definition for all these terms in case there are questions.

On the second recommendation, we're focused around helipad data and how that relates to infrastructure and safety standards.

For our third recommendation, we will be talking about the low-altitude instrument flight rules airspace and infrastructure. So, this is the ability for aircraft to operate, in low visibility, flying in the clouds, and those types of things but looking at how that is impacted going in and out of hospitals versus airports.



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On the next slide, our recommendation number four was around safety technology and single pilot operations. So, this will have a strong focus on the equipment that's utilized by the pilot inside the aircraft, looking at workloads and how we have safer operations there.

Recommendation number five is more of a process-related recommendation and has to do with how new technologies (new equipment) are adopted and able to be certified in the aircraft today as well as things that may be developed in the future.

And then, finally we had a sixth recommendation around critical safety standards for air ambulance occupant protection. And this one, probably more than any, but all six do tie back to previous NTSB recommendations. As well as with recommendation number six, we'll be talking a little bit about the part 135 Aviation Rulemaking Advisory Committee that was formed around occupant protection and some of the recommendations they had.

So, we can move on. I think if we go two slides, we'll talk first about the first recommendation, which is enhancing weather reporting and infrastructure in non-terminal areas, and I think the first thing I need to do is just to explain some terminology. So, when we use the phrase non-terminal areas, we are talking about all the places that we have to fly and especially on the helicopter side of air ambulance, all the locations that we may take off or land from that are not designed for wide-ranging aviation operations. So, if we think of a typical large airport, you have runways, you have taxi ways, you have lighting, you have weather reporting, and you have quite often have visual observations or controllers. We create an environment that's meant for aircraft to take off and land and operate inside of. And when we talk about weather reporting, the sensors and the information that's provided there are generally considered to impact that location from its center out to about five miles and maybe a few 1,000 feet, so we get a snapshot of services in a particular area. In the air ambulance world, we frequently operate helicopters and sometimes even airplanes to many locations where we have to leave terminal areas and fly through these broader pieces of aerospace that don't necessarily have infrastructure support and availability of equipment to let us know what's happening there. If we think about that, especially in the helicopter realm, we're talking about all the parts of the United States that are 5,000 feet and below to the surface that are outside of these terminal areas and being able to get enough information for pilots to understand when it's safe for them to accept a flight, go transport a patient, and get enough information to make sure that we can make that decision safely. But then also, once we execute that decision, we can have a high probability that we don't encounter unforecast weather and have to turn around or report the flight, putting us into critical decision-making situations.



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So really what we're talking about here is how do we get more weather information accurately to the pilots so that they can make these decisions better and to increase the capability overall for the air medical transport missions to take place as weather does tend to interrupt somewhere in the neighborhood of 25% of all requests for a patient to be flown in an air medical aircraft. We're simply unable to do it because either the weather is preventing us from doing that or we don't have enough information to safely conduct that entire flight.

And I think the last piece here of note is that it's interesting that this recommendation, while it's focused directly on air ambulance operations, I think it focuses quite a bit heavily on the helicopter side of things because our infrastructure is so much different than the airplanes who get to use airport infrastructure that already exists for other commercial operations. However, adding these data points for these weather sensors into the national system creates better modeling for everybody, from other commercial pilots to your news forecast that's trying to give you the daily weather at your house, right? So, these are things that benefit everybody that lives inside areas where we add these weather reporting systems.

So, we'll move to the next slide and there are a couple of points before we get into discussion specifically here. We're talking about asking Congress to allocate funding to expand weather services in non-terminal areas and invest in research and development of new and innovative weather reporting and forecasting technologies through targeted grants and initiatives. We're asking Congress to direct the FAA to expand access to FAA approved sources of real time weather data and advanced predictive capabilities, prioritizing those non-terminal areas that don't have this infrastructure already. And specifically, we would want to prioritize deploying new technologies such as VWAS or visual weather observation and the use of weather cameras to enable real time monitoring across the US and increasing access to terminal Doppler weather radar systems. This is, in layman's terms, this would be much higher definition weather radar returns that would be shared with pilots for decision making and enhancing surface detection capabilities in improving forecasting, accuracy, and advancing predictive analysis tools and then integrating the approved weather services into the National Airspace Data Interchange, also referred to as the NADIN, and this is kind of the clearinghouse where aspect one is getting more weather information, more sensors, places that convey that weather information to pilots, but then the second part of this is making sure that as many of those are considered approved weather sources and make it into the products that exist and that the FAA accepts for pilots to make their decisions. So, graphical forecasts for aviation, specifically in that low altitude area.

A lot of benefits on the safety side here in having real time localized weather data and being able to make much more confident decisions about when we can safely accept a flight, continue that flight and make sure that we'll be able to land safely, whether it's in visual conditions or



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whether we have an aircraft capable of instrument flight and flying in lower visibility or sometimes mildly adverse weather conditions, safely.

As I mentioned, air ambulance transport impacts thousands of Americans, hundreds of thousands of Americans every year, and having the ability to get to rural areas is critically important for overall pre-hospital care and the support that many of the people in the country expect to be able to access.

As we have seen lately with reduction in ground transport availability in many remote areas, even in some areas that are borderline transitioning to urban areas, we have smaller hospitals that have shut down and that makes distances to advanced healthcare farther and farther apart. Aviation is one way that we can help fill in those gaps and make sure that we can get everybody the care that they need. And then as I mentioned, the investment in these weather reporting capabilities has a benefit outside of just the air ambulance community. This would help all people that use the aviation system in our national airspace.

Some of the challenges of course are adequate funding and being able to get this out to as many places in the country as possible. We have a very diverse country that we operate in, and so it can be a little bit difficult at times to even place weather sensors or cameras or things that will help us in some of the areas, but we feel there's a lot of good that can happen in between some of those challenges.

So, I think I'll pause there, and Jeff, hand it back over to you for a larger discussion.

-Okay, great. Thanks, Jason, for the overview. So, let's go to the next slide for the recommendation from the flight safety subcommittee.

So, the subcommittee recommends enhanced weather reporting and infrastructure in non-terminal areas. 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; and integrating approved weather services into the National Airspace Data Interchange (NADIN) for Graphical Forecasts for Aviation – Low Altitude (GFA-LA).



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So, let's just open it up for discussion and we can go from there. Mr. Judge.

-One piece, and I don't know why we didn't catch this, in the last bullet on the integrating approved weather services, I think the word is "approved weather sources", not "services." So, I'm not sure why we didn't catch that before. It's a weather source into the NADIN.

-Thanks. Thanks, Tom. It's a great catch.

-We can update that into the records. Okay, thank you.

-And if I may, just to bring a little bit of relativity into this discussion, in 2024 the helicopter air ambulance side flew 370,000 patients. That is public information that you can now get off the AFS 200 website under the resource tab. That is 514,723 flight hours, but that's just a piece of the pie that's out there right now. If you look at the scene accept, scene decline, or the inter-facility transfers, there's a lot of declines on there because of what Jason alluded to about not having weather in those areas. Many of those declines are because we didn't have weather in those areas for the pilot to safely make a decision or they got into weather and had to turn around and go back. So, if we can improve that technology across those areas, some of those declines could be successes in the patient safety of moving them from a small clinic somewhere to a level one or level two 2 trauma center.

-Thank you, Nolan.

Any other discussion?

-So, more comment than discussion. It really goes to, with Dr. Crawford mentioned, when I think about sometimes you get a little bit jaded in the sense that in the military we have different capabilities and capacities that sometimes are not in other areas, and so this is one of those fundamental things that absolutely should be supported because we're talking about making care safer. It means it has to be accessible. And this is the way to make it safe for pilots and the patients that are onboard. So, this is fantastic.

-Yes. Alright, any other comments or discussion?

Okay. Alright, you heard this from me before, so what we'll do is queue up Ali in your chat box and you should send her your vote of yes, no, or abstain for the recommendation and then please note if you believe you have a conflict of interest in this Send that to her and then I will do a roll call once we have finished the voting.

-Okay, I believe all the votes are in, so you can go ahead, Jeff.

-Okay, thank you. Alright, starting at the top, Commissioner Arnold.

Committee Member	Response
Commissioner Arnold	Abstain
Jason Clark.	Yes
Ben Clayton	Yes
Colonel Coffee	Yes
Eileen Frazier	Yes
Dr. Gamber	Yes
Dr. Hinkley	Yes
Jim Houser	Yes
Tom Judge	Yes
Paul Julander	Yes
Dr. Pritzker	Yes
Jason Quisling	Yes
Robert Reckert	Abstain
Jeff Richey	Yes

-Okay, so that recommendation is passed. Let's go ahead. Jason, do you want to move on to the next one then?

-Sounds great, Jeff. So, our recommendation number two is around modernizing helipad data infrastructure and safety standards. The problem statement is we have a hospital, helipad safety and data gaps. Many hospital helipads critical for ambulance operations are not listed in the FAA's Airport Data and Information Portal (also referred to as ADIP). That leaves over a third of the known areas that are designated helipads left unaccounted for in terms of data integrity. This lack of comprehensive data combined with voluntary heliport design standards and inconsistent oversight results and safety risks such as airspace conflicts, sub-standard facilities and inadequate disaster management capabilities. Additionally, the absence of standardized markings and unclear weight and size limitations further complicate safe operations.

So, what we're talking about here is there are around 6,000 helipad and heliport type facilities and areas meant for vertical operation today that are used in air ambulance transport. And in these locations we've tried to prepare that particular area to have safe operations, good visibility around hazards or obstacles, good visibility for the markings and what pilot should and shouldn't do in those particular landing areas, we have yet to find a way to have a consistent



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consolidated database that has all of that information and shows it accurately. This creates logistical and safety problems for pilots, for operators, for the regulator, like the FAA, for municipalities that might actually fund and maintain some of these locations, or for private industry, such as healthcare, that have created these access points on their campuses.

So, we're talking about driving a way that we can ensure that that data is brought up to a hundred percent accuracy and then is in a consolidated database that everybody understands how to access and use and can provide better information for day to day operations as well as assist in those times where we utilize vertical flight for disaster response (hurricanes, wildfire, earthquakes). There's not a part of the country where we don't see ambulance playing a role during times of disaster and helping to move people safely to healthcare.

We can go to the next slide.

We have a little more specific to the recommendation and what we would like to do to address or kind of clean up the data here. We believe that this has an operational benefit and it also helps to reduce delays in transport or, some of the things that we might not think about, a patient being transported in aircraft, a pilot flying to a hospital they've never been to before and reaching a hospital and then finding out that the information they had on the landing zone at that hospital differs from the information that was provided to them and maybe even having to abort and fly to a nearby airport or some other place to land. These little things can add up to delays for patient care and ultimately, reduce the effectiveness of what we can provide.

The other things that we're considering here are some of the airspace de-confliction efforts and that is strongly based in having sound logistics and data on the front side for planning so there's always de-confliction that takes place in busy hospitals between air ambulance aircraft, but there is a wide-ranging group in the public that operates in the low altitude airspace and in urban areas and around hospitals and around disaster zones. We see recreational and commercial UAV or drone type operations taking place.

There are tools that have been provided by industry and the FAA, for example, has the know before you fly app, which is intended for people who operate unmanned area vehicles, whether they're small recreational devices or whether they're large commercial devices. That app is intended to provide them with awareness of where helicopter operations may be taking place (hospitals, other types of operations) and allow them to have a reference point compared to temporary flight restrictions and these operations to know that they can operate their UAV safely in that area. The app is only as good as the information that goes into it so this is where updating the database, the ADIP, with accurate information and keeping that accurate and reliable allows these follow-on apps and integrations to provide consistently good and accurate



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information to these other operators so that they can do their best to continue safe operations with multiple things happening. Having accurate data will also streamline processes. It makes decisions and planning much quicker as well as more accurate, and the awareness around these facilities helps when we're looking at larger planning. Whether it's municipalities and cities determining how their transportation system is going to function, whether it's an individual hospital trying to determine how they can move patients in and out of that hospital, this becomes very important to making smart decisions and being effective to move what can at times be very high volumes of different size aircraft in and out safely to allow these patients the access they need.

So, in our complete recommendation here, we're talking about asking Congress to authorize funding and establish initiatives to modernize and digitize the Aeronautical Data Information Portal in collaboration with the FAA and industry stakeholders. This effort should ensure accurate comprehensive data on heliports, helipads, and landing zones. It would include critical information such as weight limits, markings and instrument flight rules compatibility and it would prioritize integrating and updating helipad and heliport data into commercially available pilot navigation tools. These are the tools that are used for preflight planning, making decisions in flight when we have to divert somewhere, establishing competitive grants to upgrade sub-standard helipads and heliports to meet FAA design standards including maintenance of these hospital helipads and the data inside of ADIP, or that database, as a condition of participation to be evaluated in conjunction with hospital accreditation organizations. Adding IFR compatible infrastructure to improve safety and reliability, especially in rural or underserved areas, non-terminal areas without that infrastructure today, and incorporating locations with medical services into the US Notices to Airmen System or NOTAM system. This is the mass notification tool for the FAA to be able to alert pilots to locations that are not at 100% capability. They may be closed, or they may have partial operation limitations where there may be a hazard the pilots have to be aware of so having accurate helipad information inside ADIP allows this NOTAM system to be fully functional and to ensure that pilots get that timely information and can have safe operations and make smart decisions.

So, I will pause there, Jeff, and allow you to open to other discussion.

-Thanks, Jason. Alrighty. So, I'm just going to open it up for discussion and comments on this recommendation. Dr. Hinckley.

-Thanks, Jeff. Thanks, Jason. For the fourth bullet point about adding IFR compatible infrastructure, I'm a non-aviator and pretty familiar with IFR, but where the rubber meets the



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road, what exactly do we mean by recommending Congress authorize funding to add IFR compatible infrastructure?

-No, that's a great question. In our discussions, and this will also bleed over into recommendation number 3 here we'll be talking about the low altitude infrastructure specifically. In this case, we were referring to the fact that if we don't have accurate information about the takeoff and landing areas it makes it very hard to create a low altitude network where we have airways and approach and departure procedures that can create that highway in the sky, if you will, that allows air ambulances to transition in and out of the IFR infrastructure when conducting these flights, so this area is primarily focused on ensuring that we have clean data going into the system so that, in the next recommendation when we talk about actually increasing that infrastructure, we will be able to do it consistently reliably and safely.

-Thank you.

-Robert, I saw you had your hand up.

-No, Jason, nailed it.

-Okay, perfect.

Any other comments or discussion from group? I also appreciate Dr. Hinckley representing the clinicians that are out there and so, please to all the other colleagues that are clinicians, please also speak up too because I was trying to be able to think about this with Jason, what's more complicated: medical terminology or aviation terminology with acronyms?

So, that being said, Tom.

-Yeah, thanks and I think that as Jason has pointed out a lot of these are part of a series of recommendations that really need to be thought of holistically and they sort of fall together and it's where does one stop and the other next one start? But I think that there are places where you know the FAA, and Nolan can comment on this, is developing new standards on what is an IFR helipad and what are those visual to IFR segments. And so, there is investment that needs to be done both on the regulatory side and then with that there can be investment on the hospital side.

The other thing I think it's important to point out that initially the experts looked at a lot of data. There's a big study that was done on helipad safety and at the end of every NTSB report, basically if something went wrong, we blame the pilot.



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And we look at a lot of the helipads that are not built to anywhere near the recommended design standards because there isn't a requirement that they be so and there's probably about over the years 185 events (crash) at hospital helipads that are really tied to the bad design or things that had grown up around the helipad that no one was really paying attention to.

So, I think that this series of recommendations should go forward, and I totally appreciate Jeff's comments. A lot of these were technical aviation, but they're important safety pieces.

-Okay, thank you, Tom. Anybody else?

So, let's go ahead and go to the recommendations slide please.

Okay. So, here's the recommendation. This is modernize helipad data, infrastructure, and safety standards. 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 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); and incorporating locations with medical services into the United States Notices to Airmen (NOTAM) system.

So, again, this will be the same way. The committee members should bring up Ali into your chat field and you should vote yes, no or abstain for Recommendation #FS-2 and then again if you have a conflict of interest, please state that. I will go ahead and just turn it over to the voting and to Ali right now and we'll tally the votes.

-Okay. I believe we have everyone. We might be missing one person. Oh, I missed it. Okay, we're ready to go. Go ahead, Jeff. You can do the roll call.

-Okay, perfect. I'll do the roll call.

Thanks for the clarification on the language. It looks like it's already incorporated.

That's me probably dating myself on that. So, all right, let's go ahead and we'll do the roll call.

So, Commissioner Arnold.

Committee Member	Response
Commissioner Arnold	Abstain
Jason Clark	Yes
Ben Clayton	Yes
Colonel Coffee	Abstain; Conflict of Interest
Eileen Frazier	Yes
Dr. Gamber	Yes
Dr. Hinkley	Yes
Jim Houser	Yes
Tom Judge	Yes
Paul Julander	Yes
Dr. Pritzker	Yes
Jason Quisling	Yes
Robert Reckert	Abstain; Conflict of interest
Jeff Richey	Yes

-Okay, it looks like it's 11 yes to 3 abstain, which is great. This one has been adopted and has passed. So, great. So, we're going to move again. Oh yes, Ali.

-Yes. Sorry, before we move on, I just want to note I think Colonel Coffee noted he had a conflict of interest. Robert you also mentioned you had a conflict of interest. Could you just say that aloud for the record?

-Abstain.

-Abstain. Conflict. Okay, thank you.

-Okay, thanks, Ali. And also, reminder, I probably should have said this. Make sure that you're speaking loudly so that everyone can pick this up from the notes as we're moving forward. Okay. All right, so we're going to move on to the next one.

This is our third one and I am going to say since we're ahead of schedule right now, I am going to give everyone a break after we discuss this next one, Jason. Okay, everyone could have 5 to 10 minutes.



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-Sounds great, Jeff. So, we're going to move into recommendation number three. This is around improving low altitude instrument flight rules infrastructure. There is a little bit of crossover here in that we're talking about low altitude instrument infrastructure again. This starts to get more into the operational sense of that. Previously, we were focused on data and entry in terms of departure and destination points and how that plays into systems. In this case, we're talking specifically about some of the challenges and the significant limitations that we face in air ambulance operations, particularly on the vertical flight in the helicopter side where we are conducting those operations below 5,000 feet. We're conducting them to thousands of locations around the country that are not necessarily built to be large infrastructure complexes like you think about when you go to your major airports to go on vacation. But we have many hospital facilities today where operators have developed special GPS copter approaches. The FAA has, in some locations, developed special copter GPS approaches that allow us to fly on instruments or in the instrument system when the weather and the visibility are much lower into and out of health care facilities or other locations where we can access pre-hospital ground providers to move those patients from one location to the next.

When we don't have access to these locations and the weather drops below visual flight rules, then we face the challenge of having to say no to people calling us for help and not being able to fly patients that need air transport to healthcare locations and we have to move those patients, usually by ground, which increases time and may also decrease the ability to bring advanced care to the patient at times.

So, the complexity of accessing the IFR system is really the focus here as well as our ability to connect that to the locations we need to land, and the absence of standardization in helipad design can exacerbate these challenges and create additional safety issues.

All of this prevents us from being able to guarantee reliable and timely emergency medical services or transport. Rapid growth of low altitude aviation includes other newer things that are happening like unmanned aircraft systems or UAS. This would be everything from recreational drones to commercial drone operations to vehicles carrying people when we talk about advanced air mobility and some of the new aircraft that are being developed. This all results in increasing airspace congestion near hospitals and airports and that potentially creates delays in our ability to conduct these critical lifesaving missions.

So, expanding the low altitude IFR infrastructure, whether that is departures or approach procedures or the ability to fly instrument navigation or airways at a lower altitude and stay out of conditions like icing for larger parts of the year, all of these things lead to not only enhancing safety, but improving the capability of helicopter air ambulance operations and ensuring that



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we can move patients that need help even in lower visibility weather conditions and do that safely.

Modernizing helipad capabilities and establishing traffic management frameworks- all of this relates to, from today forward, how do we have safe integration of all the people and all the equipment needed to operate the international airspace system. And these investments, as we talked about, with weather especially, have a priority focus around places that have the least amount of access, so rural and remote locations, non-terminal areas, being able to make sure we can support at times some very basic pre-hospital care systems with more advanced air ambulance transport.

We can go to the next slide.

So, an overview of the recommendation here, before we get into discussion. We're talking about Congress directing the FAA to develop low altitude IFR routes and enhance air traffic control capabilities to support those routes. Congress should increase helicopter air ambulance 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 or uncrewed. Infrastructure needs include adding additional Automatic Dependent Surveillance–Broadcast, also known as ADS-B transmitters, radar systems, controller–pilot data link communications, sometimes referred to as CPDLC, and communication equipment by 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 the risks associated with the growth of unmanned aircraft systems or UAS and advanced air mobility operations sometimes also referred to as AAM.

Just to note for any of those that are not directly in the aviation realm, ADS-B is the current preferred system in the national airspace for tracking aircraft. It samples the position of the aircraft, I believe about once a second versus terminal radar, which is about once every 6 seconds or maybe sometimes even a little bit longer. It's easier to deploy, so we can get greater overall coverage. But adding this at a low altitude in places where we have mountainous terrain, wide spaces between terminal areas, these are places where we still don't have necessarily a hundred percent coverage of this system today. And so, incorporating that into the infrastructure piece here is key in terms of traffic management. It's also key in terms of safety and being able to see other aircraft that are operating in the national air space close to the aircraft that are conducting the IFR operations.



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So, I will pause there without hopefully diving into too many more technical terms, and I will hand it over to you, Jeff.

-Alright, thanks Jason. Okay, let's go to the discussion. Ben.

-Yeah, I just want to add onto the low altitude thing, one of the things discussed is that there are areas where multiple operators are currently conducting these types of operations but currently on separate procedures because they've independently developed those, and so by having the FAA involved, it will simplify things for air traffic control. It will make pilots from varying different organizations familiar with when somebody's on the radio and they report where they are. They would know what that means because it's not a proprietary type of approach. So that's an added safety function here.

-Thank you. Krista.

-This is out of my lane so forgive my ignorance on the question, but is there a specific pilot training component for low altitude IFR and should that be included as a piece of this?

-It's a great question, Krista. In this case, there's a pilot training component that's already required for IFR operations, as well as any of these special procedures that have been mentioned. And that would cover any additional infrastructure build out that was here. This wouldn't necessarily be doing something different. It would be enhancing or creating a more robust low altitude network that those same pilots can use.

-Thanks, Jason.

-Dr. Hinckley.

-Thanks. Sorry I can't help myself. I'm trying to learn more about this. So, Ben used the words proprietary and approach, and I've never understood the nature of this, but I believe that hospital IFR approaches are proprietary to whoever develops them, which from a patient centered standpoint has never made sense to me. For the non-aviators, could one of you explain how that works, and is there anything that we can recommend that could make that situation better?

- I'll use Jeff and I for example. We both operate into Seattle, and we both have approaches that we've developed over time that you pay a company, and then you have to pay the company an annual maintenance fee to keep those approaches up to date. And they don't necessarily share across the system well and so that's where that kind of comes in. I know Tom has had really good success in getting a system, and so he's probably the smartest person in the room on this



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up in Maine and getting all those things developed. But for the rest of us, we've had to develop these with private companies on our own. So, Tom, you probably have the best knowledge here.

-Yeah, traditionally as you said third party developers have done this on a proprietary basis. Actually in the Northeast, while there's been multiple parties that have worked with the various operators and provider organizations to develop those, in the Northeast, we all share those. If Dartmouth develops their procedures for a LifeFlight of Maine pilot to use those procedures, they have to go through the approved training program for the operator at Dartmouth. So, we all work with each other to do that. I think that as we get into routes, the idea that more of this should be publicly overseen and that's why it was so important for us to put the Congress to direct the FAA to do this because we're not just talking about the airspace that exists today, we're talking about the air space, that as we begin to have many other new entrants into low altitudes, we have to keep that airspace organized, and it has to be manageable for the FAA. That's going to take some investment, but it's also going to take some direction to make sure that the FAA has both the resources and the mandates to manage all of this.

-And then I will add to Ben's comment, and it's actually just expanding off of that. In the jet side for our operations up in southeast Alaska, we participate in a subscription program where we have lower IFR routes into some of these cities or towns in southeast Alaska for jet operations. So that exists up in Alaska, but it's a subscription as opposed to a proprietary piece, which is what Ben and I have and then what Tom is describing that he has in Maine.

Robert?

-I think Nolan probably raised his hand, to help maybe explain some of the technical side of that approval process if folks still have questions. I had a more general comment about how to think about this recommendation.

-Okay, Nolan.

-Okay, going back on the question, I think it was Krista who asked originally, or I forgot exactly who it was, but you got the public and you've got proprietary public. Think of that as going into the helicopter approaches at JRB or JFK or LaGuardia. Those are public procedures. Anybody can go into them without any type of special training. The proprietary training comes with what's called an 82 67 B that is an agreement between the FAA and the operator on what the aircraft must have and what the pilot training must be. All that fits into that packet for that individual procedure. And helicopters kicked off into the IFR world big time starting back in about 1999 timeframe. Up to about 2007 we were running about 2 to 300 helicopter procedures across this country. We're now in excess of 2,000, of which most are non-FAA service providers. There are



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two primary ones out there today, but also the FAA does build helicopter procedures today. There is a little bit of a difference in the type of procedures that the FAA builds. As of today, they're only building what we call proceed VFR, which is basically a procedure that allows a cloud busting type procedure. The other side of it is the non-FAA service providers are building what's called a proceed VFR or a proceed visually. The proceed visually typically gets you more into an LPV or a more precise type of procedure with lower minimums. What does that mean to pilot safety and patient safety? It gives you lower minimum capability when you're trying to get into some of these facilities that currently the FAA does not provide in the proceed visually arena.

-Thanks, Nolan. Robert, anything to add?

-I would offer for us to also think about this. And I think we talked about this, Jason. This isn't just about current technology and current state. This is about the future and quite honestly, there's a tremendous investment that the FAA makes in the high altitude IFR infrastructure with advanced RMP approaches, all types of other technology that gets funneled and focused on the part 121 industry. So, when we think about this recommendation, I think for me at the core of it is about prioritizing the low altitude IFR infrastructure where this industry operates, where traditionally funding and other investments have been in other segments of industry, right? So, it's not just about: what is it today. It's about those advancements in technology, the funding and bringing the technology in the low altitude IFR environment up on par, with the part 121 industry and environment. There are many things from an IFR operation old perspective that are available in that segment of industry that's not available to this segment of industry because it's never been invested in. It's not that the technology isn't there. So, I just caution as folks think about recommendations, this is also about how we can look forward, whether it's integrating with UAS, integrating with AAM, but really having the infrastructure in the low altitude environment that supports IFR operations because the data proves that IFR operations are safer.

-Nolan.

-I have two examples I would like to share off of what Rob just said there. CPDLC is a type of service has been offered in the 121 world or the airline world for a lot of years. It would be beneficial not only to the helicopter air ambulance world to be able to have that capability sitting on a heliport somewhere when they can't get a radio transmission out or whatever they could use CPDLC to get their clearances to get off the pad in a quicker manner to be able to service the patient better. It's also going to help other portions of the helicopter industry, for example, your oil and gas community going deep water 200 miles off the coast and stuff like that. So this is not only a benefit to the air ambulance world, but it would also be a benefit to



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aviation as a whole as we move forward. One of the other ones that we talk about and, Tom can speak about his area up in the northeast, the FAA has got a program going on up there right now with low level, what we call ZK routes, special routes for helicopters, but in that aspect, we're able to keep these smaller Part 27 aircraft out of the icing where a typical in route altitude would be 37 or 3,800 feet. In some cases, we're down to 18 or 1,900 feet keeping the aircraft below the icing and things of that condition. If we could increase that infrastructure, again, not only would it keep the crew safe, but it would also allow us to transport patients more often and have less of those declines that I talked about earlier in the presentation.

-Grace.

-On a couple of these we've had sort of general statements about cost burden for hospitals. Did the subcommittees have any thoughts on – I doubt there's a return on investment or cost to safety type of analysis – how expensive is? I'm trying to quantify that, and you know what we're getting out of the requirement, and I don't know if you had those types of conversations.

-Yeah, I think maybe if it helps to provide some context. So today, the bulk of the procedures and the bulk of the low altitude airway infrastructure that exists are all things that have been invested and created by either operators or healthcare systems.

It runs give or take around \$30,000 per instrument approach and departure procedure, into or out of a hospital. Creating a low altitude airway depending on the size of it could run between \$30,000 and over \$100,000. Operators today have probably a few 100 procedures that they've created that they supplement by strategically thinking about those procedures in comparison to where we have conventional airports that have instrument procedures, as well as places where the FAA has created helicopter instrument approach and departure procedures publicly. Trying to consolidate that network is where we start to see the largest return on investment because now we can start to move in larger parts of the country and particularly in urban areas where you have density of hospitals.

The ability to go in and out of all the facilities. Their return will vary depending on the number of patient transports you're trying to do in a particular region. But certainly, it doesn't take very many patients to start moving in the direction of a return on that investment. And that's before some of the things that Nolan talked about where you have overlap of usability in other industries that serve the public. That's something that I don't think we have fully evaluated what that impact is.

Tom, you've had a lot of direct work in kind of building out a network inside of a state. I don't know if there's anything you'd add there.



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- In Maine, we've done this as a public private partnership. So, we've got the FAA; we have the Department of Transportation; we have publicly supported bonds; we have the operator, you know, us; and, we have the hospitals that people have put into this. Yes, you can probably measure some of this on an economic return on investment. We define safety as a combination of reliability and trust. People don't have a choice when they come with us, so, they've got to trust that everything is being done to keep them safe and that, in turn, a highly reliable system makes this happen as much as you can for every patient. In our case, yes, it's procedures to islands, it's hospitals, it's airports, it's time, weather cameras, tying this all together, and then with the FAA, building a complete low-level performance-based navigation, very precision route system that replicates essentially our major highway system so that we can link hospitals, airports, communities all together in a singular way. And when you put that all in place, that impacts hundreds and hundreds of patients a year while making the entire system much safer. I think the other part that the committee spent [time on] and Rob talked about this a little bit ago, is that this is re-conceptualizing that the public investment in the commercial airlines and terminal and major airports, has been a huge public investment and we've really never made that public and now there's lots more entrants coming into it. Part of this is really helping Congress to understand that this is a public good, it's an essential service, it's an economic public good that you make investments in if you want to have access to healthcare for people. That's why you do this. And I think there's a layered approach to this. But in the state of Maine, we're about to go back into a fourth bond issue with the legislature and this is a public investment in how healthcare gets accessed in a rural state.

- Okay, thanks, Tom. Thanks, everyone.

- Sorry can I just get one?

- Yeah.

- Is this directing a public investment in the actual ways or is the cost falling on the hospitals in this case or provider structure that has the flight way, the place to land? So we're directing there to be a system and then the cost gets born at the hospital-level? Is that an accurate way to describe it?

- We are making recommendations to Congress, so that is about public funding. So, this is congressional public funding. I think the implementation of that will take a combination of hospitals, aviation providers, medical organizations, and it may incorporate states. In our case, the state has become very involved in that through the legislature and they've invested publicly because they see that this is an investment in healthcare. Whether that's not mandating that



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every state do this, nor every hospital do this, nor every aviation operator do this, it's providing the infrastructure to allow them to do this.

- Yeah, I would just add that it's rebalancing. How this occurs today. So currently, private industry, whether it's the hospitals, whether it's the operators that fly the aircraft, the vast majority of all funding for this is through private industry. We're bearing close to 100% of the cost. There are a few select locations where the FAA has been able to create procedures and add to that system but this is really looking at how the federal government invests in the national airspace and shifting a portion of that money to reflect investment in low altitude infrastructure. Instead of, as was mentioned today, it's primarily invested in high altitude, jet traffic that move commercial people, so this is trying to rebalance a little bit of that equation in order to get the capabilities and benefit on the patient side.

- Got it.

- Okay, thanks for [that]. This has been a really, really good discussion. Okay, so I think I'd like to be able to, if there's no further questions or comments, I'd like to be able to move to the vote. For this recommendation, the subcommittee recommends that to improve low- altitude IFR infrastructure 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. So, this is the point where you pull up in your chat Ali's name, and then this would be to vote yes or no or abstain for the recommendation FS-3 and again if you do have a conflict of interest please say so. Thanks and we'll go ahead and we'll vote.

- Hey, Jeff, I have received everyone's vote. You can go ahead and do the roll call. I'll just note that Dr. Gamber, I believe, had to step away. He had sent me his vote earlier so I'll include that in the final tally and we can just have him speak that out loud later in the meeting. [Vote confirmed later in the meeting]

- Okay, thanks, Ali. Okay. Commissioner Arnold.

Committee Member	Response
Commissioner Arnold	Yes
Jason Clark	Yes
Ben Clayton	Yes
Colonel Coffee	Abstain; Conflict of Interest
Eileen Frazier	Yes
Dr. Gamber	N/A
Dr. Hinkley	Yes
Jim Houser	Yes
Tom Judge	Yes
Paul Julander	Yes
Dr. Pritzker	Yes
Jason Quisling	Yes
Robert Reckert	Abstain; Conflict of interest
Jeff Richey	Yes

Okay, and Jeff Richey is a yes. Okay.

- Jeff, I'm having technical difficulties, can you hear me now?

- Yeah, now I can hear you. Jason.

- Yes, thank you.

- Okay, thank you, Jason. Okay. And it passes, the recommendation, 12 Yes, 2 Abstain. David, if you're on, I think we give ourselves a break because I think we're ahead of schedule. MITRE please tell me how much time can we have or tell David how much time we have for a break.

- If we can come back at 3:20, that would be great.

- That works. Thanks everybody. We'll see you at 3:20.

Break



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-Okay, everyone, we are in the home stretch. It's 3:20 and, Jeff, I am happy to turn it back over to you to bring us home.

- Alrighty, thanks David. Okay, Jason, you're back up for the next one.

- Thanks, Jeff. So, on the Flight Safety Subcommittee, our fourth recommendation here is around enhance safety and technology for single pilot operations. It starts with the problem statement around the significant safety challenges that are faced in the air ambulance operations due to high pilot workload in demanding conditions like adverse weather, low visibility, night flights, all of which can impact situational awareness and decision making. Additionally, the rapid growth of low altitude aviation, including other types of operators such as unmanned aircraft systems, advanced air mobility vehicles is increasing the airspace congestion and the pilot workload, near hospitals, airports, and other areas potentially interfering with critical lifesaving missions or causing delays. In this case, we have a couple of things that we looked at here that are potential solutions or ways to increase capability and add to safety. The 1st one starts with stability augmentation systems or auto flight control systems, sometimes referred to as SAS and AFCS. A more common lay person term would be an autopilot system. There are some nuances to what each of these systems do but they ultimately create stability in aircraft, that is inherently unstable. This allows the pilot to devote less time to having to actually control the aircraft and a little bit more mental time to be able to focus on decision making, navigation, dealing with weather, whatever the operational conditions are. And as a result, it improves situational awareness, reduces overall fatigue, and it can assist in good decision making. This is also something that I would like to highlight two things around. One is, in the US, predominantly air ambulance operations are performed in a single pilot configuration. In Europe and other parts of the world, there may be additional restrictions on operating in urban areas or the type of aircraft that they have to fly. And as such they may have more commonly a dual pilot operation. There are advantages to both types of models. One is not necessarily more inherently safe than the other. In the US, we have a wide range of aircraft that are used to provide air ambulance services and adding additional people to the aircraft, whether they're pilots or clinicians or patients for that matter, each one of those is a weight challenge to the ability for that aircraft to perform the exact requirements of the mission, whether that's in total range that the aircraft has to fly and being able to carry enough fuel to do that or whether that's the weight and performance capability of the aircraft to operate into or out of areas on a vertical type approach which requires a considerable amount of lift and power out of the aircraft to drive those weights vertically. The other place where we have a little bit of a pro con debate is also the reality of where the pilot population is today and the fact that having a dual pilot operation you need to have twice as many pilots to support. This is becoming more and more of a challenge as



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we've seen the number of people going into aviation as a career gradually decreasing compared to the demand for qualified people to fill these positions and, in air ambulance in particular, it's not only demand for the individual people, but also, finding people that have some of the highest qualifications in the industry to start those jobs. So this can create pressures around whether or not we have the workforce capable to support all the operations that a location might require. I would also highlight that, SAS, or stability systems, or auto flight systems like autopilots, this is a technology that the NTSB has also called out in the past as reducing pilot workload, improving safety margins in terms of if a pilot does fly in un-forecast weather having to recover safely, the options for basically electronic or digital version of another set of pilot hands on the aircraft allowing them to manage these situations in a wide range of scenarios much more safely. And then the other area, when we talk about technology here, and a focus around low visibility, changing weather, some challenging situations, we have technologies that we refer to as enhanced vision systems. In kind of a general term, enhanced visual systems specifically are defined by the FAA as a type of sensor that can provide better view of the outside world by using things such as millimeter wave radar or possibly other technology sensors to create that vision through impediments, whether they be fog or clouds or smoke or haze and allow the pilot to see. I would say in a broader sense. You know, today we incorporate the use of things like night vision goggles so that we have pilots that can see much more clearly much more naturally at night even in very dark conditions. And there are other technologies that are being developed currently. These are things that we want to continue to see innovation and development of those technologies because visibility is one of the greatest barriers to the ability for us to operate the aircraft safely. So the more options that we have to deal with reduced visibility, whether it's caused directly by weather or something else is very critical in terms of capability and maintaining safety. And the final piece here is more related to the human factor and training. And that is, a focus on technology such as, virtual reality training, simulator-based training, but ways to be able to access that simulator-based or high-fidelity training that are more cost effective and able to replicate more and more aircraft that are out there. One of the greatest challenges we have in that category today is that a full motion level D certified flight simulator, this is the kind of equipment that the airlines used to train their pilots, several helicopter operators use these today, but these are incredibly expensive devices to create. They're tens of millions of dollars to create one and then [the cost of] maintaining them and keeping them current and if you operate more than just a couple of types of aircraft, having representation for simulation throughout your fleet, these are things that are very challenging to an operator. But this is a training tool and something that we really want to have access to in the industry because we can do so many good things in preparing pilots around decision making, challenging conditions, and using some of the technology we're talking about trying to



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add to the aircraft, whether it's autopilot systems, vision systems or other things that may be developed in future. So we can move to the next slide here where it highlights, some of the things that I was just going through. I will pause there, and I think we can probably open up to discussion.

- Okay, any discussion about what Jason just went over? Krista.

- I think you cover the aeronautical decision making piece here, but is crew resource management something that would enhance the current training? I know that the specifications from the FAA are not terrifically specific.

- No, I think it's a great point, Krista. I think our focus, and happy if anybody on the committee wants to add additional context, was more around equipage of technologies into the aircraft and getting it kind of in the hands of the pilot, so to speak, versus taking what's in the aircraft or could be installed in the aircraft and focusing on that crew resource piece. Certainly, I don't think there's anybody on our committee that would disagree with the benefit of a highly effective team working together is always better than a single individual. I know we had discussions around that, even when it came to the single pilot and the dual pilot configurations. But, I don't think we really drove that focus on this particular recommendation.

- Yeah, and we did obviously talk to the training piece. [For example] the Kobe Bryant crash, where he had a perfectly wonderful aircraft that click a button and he would have been completely fine and didn't so we're going to really make sure that the pilot training piece was captured here.

- Any other comments or discussions? Sorry, I was on mute myself. Let's go ahead and let's move to the recommendation and voting slide, please. The subcommittee has made a recommendation to enhance safety and technology for single-pilot operations. 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.

We're at the part to be able to vote. Again, back to Ali in the chat, yes, no, or abstain for the recommendations and if you do have a conflict of interest please say so. I'm going to turn it over to the voting.

- I'm waiting on 2 additional votes. Let me make sure I still see them in the room. I know a couple people messaged me that they were going to be in and out and maybe having to step away. We should be okay. Jeff, you can go ahead with the roll call. A couple people I think are missing. A couple of people sent me their responses ahead of time. But again, I'll include them in the tally to you and hopefully at the end we can have them speak their vote aloud if they're back on at that point. [Vote confirmed later in the meeting]

- Okay, sounds good. Okay, all right.

Committee Member	Response
Commissioner Arnold	Yes
Jason Clark	Yes
Ben Clayton	Yes
Colonel Coffee	Abstain; Conflict of Interest
Eileen Frazier	Yes
Dr. Gamber	N/A
Dr. Hinkley	Abstain
Jim Houser	Yes
Tom Judge	Yes
Paul Julander	N/A
Dr. Pritzker	Yes
Jason Quisling	Yes
Robert Reckert	Abstain; Conflict of interest
Jeff Richey	Yes

- Jeff Richey is a yes. Okay, so that passes. Ali, you'll just have to help me to get the other votes. Jason back to you for the next one.

- Thank you. Recommendation number 5 is around streamline certification process and expedite approval pathways for air ambulance technologies and medical equipment. The problem statement here is that current certification requirements restrict the timely adoption of new technologies including advanced aircraft systems, medical equipment, safety technologies, and limit the ability to enhance patient care and improve operational efficiency in emergency



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medical services. You could go to the next slide. So what we're focused on is a comparison to the modern technology we use every day: computers, tablet devices, phones, it seems that you just get one out of the package and there's a new version that comes out with new features and things before we can figure out how to use the one that we have in our hand. Aviation is experiencing a similar conflict in terms of the process for certification of aircraft, of interiors, of equipment that we might install inside the aircraft is a fairly lengthy at times cumbersome or burdensome process. The amount of time and the complexity of getting through that certification process, although valuable from a safety standpoint, doesn't always match the ability to innovate inside of our field. In fact, I think some people would say it might stifle innovation because it is so time consuming and cost prohibitive at times to make what may seem like relatively minor changes. For example, if a private company develops a better, lighter system for a patient, it might have safety enhancements in it, it might be safer for the crew to use because it allows for more proper lifting techniques or prevents injuries to those teams or it just fits better in ground vehicles so that when you transition somebody from an aircraft to an ambulance they're properly secured and more likely to have a safe experience no matter what happens with any of the transport vehicles. These things can take years and cost tens of thousands of dollars, sometimes quite a bit more than that, to make changes. Whether it's specifically safety technology, whether it's equipment to allow us to do additional capability in these IFR instrument flights, or whether it's looking at how do we re-design the interior of the aircraft to make it safer for the occupants inside, we face this barrier of kind-of differing standards across certification offices in the country, a very complex certification system, and often cost prohibitive efforts to get a new piece of equipment in the aircraft. And that's at odds with not only technologies, but, we see in the medical field itself changes in IV pumps, devices that provide cardiac assistance or monitoring, all of these things. This is really about trying to get some alignment and find ways without reducing quality or safety, find ways to be able to bring products to market faster so that we can have them inside air ambulance transport vehicles just like we could ground transport vehicles. We can go to the next slide. The recommendation here around Congress should mandate that the FAA develop performance-based standards and establish standardized policies and procedures, across all offices, that's meant to be certification 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 Branch to improve communication with operators and manufacturers, expedite approvals, and provide regulatory guidance. The recommendation here is saying we need to find a more efficient way to do this without



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sacrificing the quality and safety of trying to bring new products into certification along the way. I will pause there and hand it over Jeff for discussion.

- Right, thanks Jason. So, let's open it up for any discussion or comments on this. Ben.

- Yeah, for the group as an example, at the height of COVID, patients are using a lot of oxygen and we were not having enough in our fixed wing fleet so we decided that we would move forward with a supplemental type certificate to get liquid oxygen for these patients in a fixed wing. The aircraft that we had, went for this STC and waited for a year on the FAA to get approval. The aircraft sat there not being able to serve patients for a year before we could finally get approval just because of the lengthy amount of this process. That was one of the reasons we think this is so important for patient safety because that liquid oxygen was really necessary and we were unable to get it for a year.

- Thanks, Ben. And Robert, we see that there's a typo. We can correct that real time. Any other comments? Or discussion? If not, let's go ahead and we can just move to the recommendation and we can go to a vote. The subcommittee has recommended that we streamline certification and expedite approval pathways for air ambulance technologies and medical equipment. 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 Branch to improve communication with operators and manufacturers, expedite approvals, and provide regulatory guidance.

One thing I want to be able to make sure, Robert, not to put you on the spot, is that correct in the verbiage? Did we get everything right on that one?

- Say that again, please.

- Is everything stated correctly in that recommendation with the correct verbiage?

- Just like the flight standard service is the whole organization, aircraft certification service is a whole other organization, so just change that word and it's fine.

- Okay, thank you. Back to Ali in the chat, vote yes or no or abstain for the recommendation of FS- 5. And again, if you have a conflict of interest please note that with your voting and we'll go ahead and start that process. Thank you.



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- I'll just note someone sent me their vote, but they're named panelists so if you see that your name is not accurately reflected right now on your Zoom, if you could just update that, that would be great.

- Ali and Jeff Richie, that's Jim Houser. I'm trying to see how I can change it. I was kicked off of my Zoom session and I'm having trouble getting it updated.

- Okay, no worries. We can update that for you, Jim. Thanks for unmuting. All the votes are in, so Jeff you can go ahead and do the roll call.

- Okay, great. Commissioner Arnold.

Committee Member	Response
Commissioner Arnold	Yes
Jason Clark	Yes
Ben Clayton	Yes
Colonel Coffee	Yes
Eileen Frazier	Yes
Dr. Gamber	N/A
Dr. Hinkley	Yes
Jim Houser	Yes
Tom Judge	Yes
Paul Julander	Yes
Dr. Pritzker	Yes
Jason Quisling	Yes
Robert Reckert	Abstain; Conflict of interest
Jeff Richey	Yes

- And Jeff Richey, I'm a yes. That one has 13 yeses, so I'll make sure that we do a go back to Dr. Gamber. And so that one has passed. [Vote confirmed later in the meeting]

Jason number 6, this is the final one for today.



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-Thanks, Jeff. Our recommendation 6 is around mandate critical safety standards for air ambulance occupant protection. To give you a little background here, the problem statement, we're moving away from acronyms as much as possible. We only have one and that's going to be the aviation rulemaking advisory committee. There were recommendations from several years ago from an FAA part 135 Aviation Rulemaking Advisory Committee [ARAC] that were regarding air ambulance specifically and occupant protective technologies for crash worthy fuel systems. It also talked about crash resistant seating, crash resistant interiors, and these have not been widely adopted through voluntary means. This creates a gap and leaves passengers and crew vulnerable to preventable injuries and fatalities during accidents. Addressing this issue is essential to ensure the safety of occupants, align industry practices with proven safety standards, and reduce the human economic costs of rotor craft accidents. There is a large segment of air ambulance, the operators today, the aircraft that are in use, the interiors of the aircraft, that do comply with the recommendations of that former ARAC but, in part due to some of the certification challenges and other things, there's still a portion of the industry out there that are operating aircraft not necessarily, in compliance with what these recommendations are saying. And so, what we're trying to do here is make that a part of the future so that we can close that gap, and ensure that if we do have a mishap in the air ambulance community, the people that are inside of that aircraft are going to have the greatest chance of limited injury and certainly reduction in fatalities and those types of things. The specific recommendation here is that Congress should mandate the implementation of FAA Part 135 Aviation Rulemaking Advisory Committee, also known as the ARAC, recommendations on air ambulance occupant protective technologies, including crash worthy fuel systems, crash-resistant seating, and crash-resistant interiors. Legislative action is necessary to ensure industry-wide compliance with proven safety standards, protect passengers and crew from preventable injuries and fatalities, and reduce the human and economic impact of rotorcraft accidents. We have a good data set of information that verifies that the recommendations for crash-resistant fuel systems, crash-resistant technologies, energy attenuating seats, the use of helmets, Nomex flight suits. All of these things we have seen accidents where they've made a difference, and they have helped protect the people that were on board and help reduce or prevent injuries. There is a fair amount of data to show that these things when implemented do work and that's where this recommendation is saying it's time for us to work on the plan to close that gap. And this brings industry practices in line with what we know are established safety benchmarks. It will make us more consistent and ultimately this provides better quality and safety for the patient. I will pause there and, Jeff, I'll hand it over to you for any further discussion or questions.



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- Alright, thanks Jason. Any discussion or comments about this? If there's no comment or discussion about this, let's just go ahead and move it to the, oh, actually, Dr. Hinkley. Thank you.

- So just to clarify, we would be asking Congress to mandate...in other words, would there be any waivers for older models that cannot be retrofitted or no waivers?

- Yeah, and I might have to defer a little bit to my colleagues at the FAA in terms of the official procedure process here. I think what we've seen in general with the recommendations that came out, there were quite a bit of guidance that was published around how you go from an aircraft that was certified before this to where new aircraft are going to be certified with these devices and the potential for retrofit kits in between for some but not necessarily all aircraft, so I don't think it's a all or nothing type of scenario. There's a bridge to get to the future. But I don't know if Rob or Nolan would have any comments from a regulator perspective here.

- Hey, thanks Jason. I think the challenge here on this one is Congress can mandate either. Congress can mandate everything moving forward or Congress can mandate a retroactive look back. I am not sure off the top of my head what was specifically in the ARAC report to say one way or another. I'd have to go back.

- Does that answer your question, Dr. Hinkley?

- I appreciate the answer, but not exactly, because if we're recommending implementation of the ARAC recommendations, then, that would need to be clarified further.

- Tom?

- Thanks. I think this and along with the recommendation number 4, that we passed, are really important. The NTSB, back in 2009, said we ought to have autopilots on medical aircraft. Congress has now in the reauthorization in 2018 and 2024 has addressed the issue of crash-resistant fuel systems, etc., we've had an ARAC report. I think as Rob said it is going forward. But at some point, you need to draw a line and there may be some aircraft that become obsolete because they cannot be retrofitted. We have certainly worked with an OEM and they have looked at stuff and said, well, maybe we won't retrofit, we cannot see the business case to retrofit this one. But if there was a mandate, that would be a different business case to actually get that. But at some point, when we know there is something that improves occupant safety and especially passenger safety, I think we would be very remiss to not move forward and say at some point you have to mandate even going backwards. The legacy aircraft have got to be improved if we're going to have a standard that patients, who do not have a choice of carriage or carrier and get put in into aircraft, have at least some public assurances that everything that can practically and possibly be done for safety is being done.



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- I don't mean to jump in front of Eileen.

- Oh, that's alright.

- For Tom too. I think from my seat with the FAA and DoT, I think what's important to recognize in this recommendation is the Congress mandate. If anybody's familiar with the history around crash-resistant fuel cells in the FAA rulemaking process. Right or wrong, it doesn't matter, it's just what the process is. Because of the Administrative Procedures Act, the FAA has to account for more than just safety when it conducts rulemaking, so it conducts an economic analysis, it does all types of analyses that affect rulemaking. The interest of this committee is to direct the FAA to do something in this direction from safety and purely from a safety standpoint then the direction from Congress mandating that implementation is a positive one. I don't want to say it removes the other barriers, but it's a direction from Congress from a statutory standpoint that allows the FAA to move forward with something from a safety perspective that doesn't necessarily have all the other traditional rulemaking process. When Congress directs us to do something we have an obligation to do it versus trying to do something out of a recommendation to us from a economic, environmental, safety, all the other interests that have to be evaluated in the rulemaking process.

- Okay, thanks, Rob. Eileen.

- Yeah, are we specifically talking about rotor wing only? Or do we need to say somewhere [that] these are all applying to rotor wing? Or all they all applying to both? Maybe I've missed something. Are they applying to fixed wing too?

- Yeah, it should. The specific recommendation here is referring back to that rulemaking committee and their focus was on helicopter air ambulance in protective equipment, interiors, those types of things.

- We have talked about other aviation ones. Are they all specific to rotor wing or are they specific to both fixed wing and rotor wing? I think we need to make that clear.

- Sure. I'll defer to the MITRE team about the edits we can make to the text up here. I guess it comes back to though there is a specific rulemaking committee group that we're referencing and the recommendations that they put out were directly related to helicopter air ambulance.

- So, before I go on to you, Ben, is there a recommendation to put a clarifying piece that we can do now? If it's just a word or referring to rotor wing aircraft even though I know what you're saying, Jason, that this Aviation Rulemaking Advisory Committee was for part 135 rotary wing. Do we just need to be able to put that verbiage in there?



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- I'm not sure on the process piece here, but I think the addition of "rotorcraft" or "helicopter" in the very first sentence of the recommendation after "ARAC recommendations on..." it could say "rotorcraft or helicopter air ambulance" there and I think that would address what Eileen just talked about.
- And really, Jeff, the others that we talked about too, I'm not sure they apply to all or only rotorcraft. I think we need to be specific.
- Yeah, I think that's a good call out. We can do a recap to be able to see if that's very clear on things. I think a lot of the recommendations were based on rotary wing, low IFR routes, and single pilot SAS and things like that. We're the experts, right? These are all things that I think, oh, it's got to be a helicopter, right? But for anybody else that wants to read, we can do that at the post, just to make sure that it's very clear.
- Okay.
- Looking at what the team just put in, Jason or any of the other flight safety subcommittee members, does that make sense?
- I just put in the chat, I think this is the ROPWG, the rotorcraft protection working group. I put the link to that FAA document, which I believe is what we are referring to, but somebody double check me there.
- Yeah, correct. Yeah.
- You could put the FAA ROPWG Part 135 if you wanted.
- That might make it more specific because there's other ARACs that have occurred.
- Yeah. FAA ROWPG Part 135 Aviation Rule Committee. Yep. ROPWG.
- And I would make the recommendation where you have "rotorcraft" over by "air ambulance," to put what the FAA actually calls it, which would be "helicopter air ambulance" versus "rotorcraft" because all of our other documentation if you're talking... Yeah, exactly.
- And then you said, is it ROPWG or is it ROPG? Just confirming.
- It's "WG" working group.
- Okay, perfect.



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- Forgive me, I'm a bit confused. The link that Ben put in the chat is titled "Report to the ARAC". Whereas our recommendation on the screen looks like we're talking about recommendations from the ARAC.

- Yes, they are 2 groups with the same direction. So, there is a Rotorcraft Occupant Protection Work Group that has had several reports come out. The Advisory Rulemaking Committee was the group that took those recommendations and created regulations around many of the recommendations that came out.

- Well, to Dr. Hinkley's point then, is the document I just linked, did the ARAC strip out some of that? Cause it's a pretty extensive document. It's 189 pages. I don't remember the conversation, Jason, if we were talking about that whole or just the finalized recommendations from the ARAC.

- Yeah, I'm just looking at your document right now, but I think it probably has the whole lineage here of the ROPWG.

- Yeah.

- So I don't know if that's the accurate reference to what we have.

- You could put the ROPWG recommendations to the part 135 rule, but it does get very specific about the recommendations around crash-worthy fuel systems, resistance seating, and interiors. Krista, you were on that committee. I don't know if you want to add something to help.

- Sure, thanks, Tom. The Rotorcraft Occupant Protection Working Group was formed, as you mentioned Jason, to research these issues and then advise the ARAC. Then the recommendations that came out of the ARAC. There are a lot of different recommendations and so this might be something that needs to be studied a little bit further to be specific in which recommendations this committee wants to move forward. What came out of that working group, in terms of the legislation, had to do with newly manufactured aircraft being required to have crash-resistant fuel systems to the CFR. The problem that remained was all of the legacy aircraft. I know that the industry has done a lot of work retrofitting a lot of those aircraft, but the preference I think would be that all of those aircraft be retrofitted with crash-resistant fuel systems. And so maybe that's something that this group would want to look at moving forward. As far as the energy attenuating seats, there are a lot of circumstances where the seats in the front have better energy attenuation than the seats in the back, where the clinicians sit. I know that was something that was looked at in the recommendations too not necessarily making that a [inaudible] just because of structural limitations, but at least improving the energy



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attenuations of the seats that the clinicians sit in. So there's a lot to this report and the nice thing about the way that Dr. Shanahan facilitated the group is that we met the requirements of the tasking of the group and then he sort of allowed for some further brainstorming that went above and beyond the tasking, which might be interesting for this group to look at as well and that's contained at the end of this final report. One thing I will add is that the first task was a cost benefit analysis related to the crash resistant-fuel systems and energy attenuating seats and such. But at that time, we didn't have the cost data that came out later based on the crash in Frisco and the flight nurse that was burned over 90% and then survived. His lifetime medical costs are estimated to be in the tens of millions of dollars and so that's a new piece of information that should probably be integrated into the conversation in the cost benefit analysis if another one is undertaken. I don't know if that helps or makes things more muddy.

- Thanks, Krista. So, Eileen and everyone, is the language good? I just want to make sure that we're moving forward with something that we can vote on for the recommendation or does this need more work?

- I think we're okay with that one. I just think the whole category of air ambulance, we need to be specific about which air ambulances we're talking about because if the lay person or just somebody looks at this, they may think it applies to them and it doesn't. So I think we have to be specific.

- Okay. Tom.

- Yeah, I would go back to what Rob said before he had to leave. The important part of this is if the FAA does rulemaking they have to go through cost benefit analysis but if Congress mandates that they need to do it, and it's a different approach to things. And I think that that was what Rob was pointing out, and I think that's a very important piece. If we're going to move this forward it's going to take Congress saying to the FAA: get this done. Not through the traditional, necessarily, rulemaking processes, but get it done. I think to patients and to the crews that are in the aircraft, we need to get this done.

- Okay, Nolan.

- Also think it's important here to make sure that we're using the right verbiage. I'm not sure the way that's written right now [is the right verbiage]. You're taking one group's information that was submitted to the ARAC, but you're not really saying what the ARAC came out with. So, I either suggest that we take out that first portion or we verify that that's what came out of the ARAC because you're kind of saying two different things there.

- Okay, Jim.



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- Given all the discussion, Jeff, I hate to contemplate pushing this to July, but there's a decent amount of questions here that would make it difficult to vote with confidence.

- Yeah, that is kind of where I was thinking, that we just need to tweak the language in there to then put it forward again in July, if everyone's good with that? To be able to do that? I think we've got momentum around it, we just have to be able to make sure that it aligns with the language. And, I think Nolan, you've pointed out that we just want to make sure that we're talking in the same words. Does that sound good to everyone? And from the MITRE perspective, is this something that Jason and his [sub]committee can tweak?

- Yeah, I think the AAQPS committee members will have to weigh in on it. But, of course, the flight safety subcommittee is part of the AAQPS [Committee]. So, if you all want to figure out the language and then present that again to the AAQPS Committee members, that is perfectly fine.

- Okay, Krista.

- I think it's important to note that there's a second Rotorcraft Occupant Protection Working Group being stood up, presently, who, I understand, is specifically going to be looking at the crash-resistant fuel system issue and getting that more broadly implemented. It might be wise to coordinate with those organizers just to make sure we are not reinventing the wheel here.

- Okay, that's a good point. Alright, so what I'm hearing from those that have spoken up is that we will work on the language of this recommendation and we will then discuss it on July 10th and then put it to a vote at that point. But just tweak some things within the language to be able to make sure that it's there. Okay? Tom.

- Yeah, so there is a SAFO that the FAA issued on this and they noted that regulation wise, this would go forward. But they specifically did not address the legacy aircraft. I think the intent of this and why Congress is setting up another ARAC is because the legacy aircraft issue has not been addressed and that's the core issue here that needs to be forward. I think the SAFO language can inform this for July 10th but this could go on and on for another committee, but I do not think that this is going to get to where we need to get done.

- Yeah, I think on July 10th, we'll go ahead and we will make any sort of changes to align and then we can vote on from that side. I think that will be a better way to be able to do it. We have 3 items for July 10th, so we'll just do that. Going off of my script here, for the next steps here and then Eileen, do you still have another statement or any questions at all?



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- No, I think even looking at “improve low altitude IFR infrastructure” that could be applying to fixed wing too, so I just think looking at all of these in terms of the title “air ambulance” we need to be specific, that's all.

- Moving on to the next slide, I think is the just the recap, correct? Is that where we're at, Michelle? And Ali?

- Yes, it's correct.

- Okay, okay, so let's go ahead and do the recap and, so the 1st recommendation that we voted for was “enhance weather reporting and infrastructure in non-terminal areas.” We moved forward with that, which is great. The second one was “modernize helipad data, infrastructure, and safety standards.” That was also passed and moved forward. [The 3rd recommendation was] “improve low-altitude IFR infrastructure.” We have passed that. I do not know if Dr. Gamber is back on.

- Yeah, Jeff. I see, Dr. Gamber.

-I'm on and yes, I confirm. Yes. Thank you.

- Okay, great. You're welcome. And then the next one is FS-4: “enhance safety and technology for single-pilot operations.” That is also passed. We do need some verbal [confirmations], Paul Julander, if you're on.

- Jeff, I think Paul was going to be out for the remainder of the meeting. So I'll just reiterate that he did send me a “yes” for that recommendation and we will also confirm with him via email just to have that in writing that he was a “yes” for that.

- Okay, and then back to you, Dr. Gamber.

- Yep, I'm on and I confirm the yes.

- Okay, thank you. Okay, and then “streamline certification and expedite approval pathways for air ambulance technologies and medical equipment.” That also passed. And again, Mark, back to you.

- Yep, I'm on and confirm the yes.

- That's the recommendations. I think, from what Eileen has brought up, I want to know, since we passed these, is there anything that we need to do in the language there that's specific for those? I'm just asking the question about the proper order of this because we all voted for it,



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how do we have to tweak it? What do we do with this? I think in particular on the “low IFR route.”

- I mean, when we discuss as a subcommittee and somebody can correct me if I'm wrong, but like we were specifically thinking of rotors here because the infrastructure already exists for the fixed wing, but someone else can correct me there is I'm wrong.

- Yeah, I would agree.

- Is it as simple as adding something to the title like “HAA” or “rotorcraft”?

- If that applies to all of these, yeah, that would probably do it.

- I mean, recommendation number one, that's all aircraft so that would not be part of this.

- But I guess on number three, though, we were also looking at the long term future of drones and other things in the area, not just helicopters.

- Yeah.

- So I think it more broadly applies, it's all the low altitude IFR infrastructure. I don't think it really does much for fixed wing, but I think it applies more broadly than just helicopters.

- I think it's low altitude not upper altitude, so I'm not sure we need to change it.

- Yeah, but fixed wing's fly low altitude around here all the time.

- Jeff, in the interest of efficiency, is this something that maybe the flight subcommittee takes back and we look at a recommendation around, what could be placed in terms of verbiage inside the recommendation title, to help clarify that or bring something back to the broader committee with how we would resolve that?

- Yeah, I would defer to MITRE on this one to be able to see how to be able to change that since we voted on the recommendation. Since it's already been voted [on], can we just change the verbiage on it? Ali?

- Yeah, I don't think we should change the recommendation without running it by all the Committee members, but I think it would be okay if the flight safety subcommittee just kind of confirmed where that change might apply and then the all the remaining Committee members could confirm that their vote would still be as it stood with that change. I know it's a minor tweak, but I just want to make sure that no one feels uncomfortable with the recommendation given if the language changes.



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- Yeah, and alternatively, Ali, I think that, if the language changes in any one of these recommendations, we may have to do a revote just to ensure that everybody approved the language, and we move forward with the updated language.
- If I could jump in just for a second, it may make it a little bit better. As of today, the only low-level route structures based on the RNP 0.3 NAVSPEC is specific to rotorcraft aircraft. No fixed wings are allowed to fly that, as of today. The only caveat that I would put on that is we do have a carve out in the powered lift rule that allows power lift aircraft, if properly certified under 2117B meeting some of the same stability requirements as the helicopter, they would be able to fly that RNP 0.3. As of today, your king errors and stuff like that that would be flying your air ambulance missions are not authorized to use RNP 0.3. Again, that's what the FAA is using for low-level route structures, RNP 0.3 NAVSPEC.
- Okay, and I'm sorry to bring this up, I just think the "air ambulance" title on everything, maybe everyone reads each one individually as rotor wing only. I'm not an aviation person, but when I look at it I think why doesn't that apply to fixed wing too? Even if the FAA does not think so.
- Yeah, I would recommend that we let the subcommittee take a look at the language and come back with a recommendation in July. I think when we go through and we review some of the specific recommendation language, some of these may become pretty obvious that they already have helicopter air ambulance listed in the recommendation language.
- Right, right.
- But I think we should double check and make sure there aren't gaps there that we could fix by simply clarifying in the title.
- I'll also just note the title that's on these slides that really has nothing to do with the recommendation. The recommendation is what you voted on. The titles are just here because the recommendations are quite dense, so this was just for the sake of being able to put it on one slide. But if you look at the individual recommendations, most of them do seem to call out what this applies to, but Jason and the subcommittee can absolutely go through each of the recommendations and just make sure that's clear. And Eileen, if you have any issues with any of the specific recommendation language, not just the header, definitely please feel free to email and flag.
- I'll send some in because some of the titles are "Air Ambulance Operations." Even under single pilot it doesn't specify. So, I think we should be very clear before people start asking what are you talking about? Both. Or not.



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- Okay, I think we have a solid plan moving forward and if we have to revote in July, we can absolutely do that. Let's go back, I think that I just finished up. July 10th meeting... safety standards for occupant protection, that's on there. If the MITRE team could just add to that meeting as an agenda item, any language changes that we might have to revote on from that side. Thank you, Eileen, for the for that input, I appreciate it.

We did not have any public commenters for this, but if there's anybody that is in the public that would like to be able to add any comments, please refer to the chat. It is aaqps@cms.hhs.gov. And we will receive those emails if you do have any public comments.

So, and then I think that basically it's the last slide then. Before I turn it back over to David, I'm just want to thank everyone on the subcommittee. It was great for me to be able to attend all of the meetings and listen in. The work that everyone has done and the time that they have taken out of their day to be able to produce this is quite amazing. I am just really impressed with the leadership that we have amongst the air ambulance providers and clinicians that see our patients, from our insurance providers to everyone that has gotten into this, and I am just really impressed with it. Our next meeting is going to be on July 10th. There is a way to be able to register for that. That will be going out. I talked about any sort of written comment. So, I'm just going to turn it back over to David, and of course always open for feedback of how this went. I didn't see the reflection piece, but I would love to be able to hear any sort of comments on how we can improve it in the future.

- And Eileen, do you have a question still or is that a legacy hand? Just want to make sure.

Okay. Jeff, I'll just start and say thank you so much for chairing this in such a competent and inclusive way. Also, very efficient. Look forward to seeing everyone July 10th. Thank you so much for your active participation, all the work that went into this, and then the execution today. So, barring anything else, this meeting is now adjourned. Thank you all so much.