2025 ABSTRACTS OF THE AsMA SCIENTIFIC SESSIONS

95th Annual Scientific Meeting **Hyatt Regency Hotel**
June 1–6, 2025 **Atlanta, GA**

The following are the sessions and abstracts with rooms and presentation times for all presentations accepted after blind peer-review—in workshop, panel, slide, or poster sessions—for the 2025 Annual Scientific Meeting of the Aerospace Medical Association. The numbered abstracts are keyed to both the daily schedule and the author index. The Session numbers are listed as S-1 through S-78 (including workshops). Session chairs are included in the index to participants. The order of some sessions may have changed, so some abstracts may be out of numerical order. Abstracts withdrawn are listed as **WITHDRAWN**. Presenters are underlined in the text.

SLIDES & PANELS: Each slide presentation is scheduled for 15 minutes (10-min talk and 5-min Q&A). We strive to keep slide presentation on time. Panel presentations have more flexibility and may not keep to a strict 15 minutes per presenter format. There will be a discussion period of 15 minutes at the end of each panel.

POSTERS: Posters will be presented digitally this year. Poster authors must be present for the full session in which their poster is scheduled.

EXHIBITS: Exhibits will be open Sunday evening during the Welcome Reception, and 9:30 a.m. to 4:30 p.m. Monday and Tuesday. Please wear your badge and visit every exhibit.

CONFLICT OF INTEREST: All meeting planners and presenters completed financial disclosure forms for this live educational activity. All potential conflicts of interest were resolved before planners and presenters were approved to participate in the educational activity. Any conflicts of interest that could not be resolved resulted in disqualification from any role involved in planning, management, presentation, or evaluation of the educational activity.

TEMPLATES: All Abstracts were submitted according to a certain category and type using provided templates. Not all abstracts submitted fit the mold for Original Research abstracts. We therefore have created an Education category with three additional types: Case Report, Program/Process, and Tutorial. The templates for these are provided for your information.

ORIGINAL RESEARCH TEMPLATE:

This type of abstract describes the results and significance of new research undertaken to address gaps in the current knowledge of aerospace medicine or human performance. It is typically an original analysis of a hypothesis involving data collection and analysis.

INTRODUCTION: *<This section includes the background, including a statement of the problem and why it is important, the status of the current research, and the hypothesis to be tested.>*
METHODS: *<This section includes a brief description of how the study was conducted, the number, type, and gender of the subjects, and how they were selected and grouped. It should also include the metrics collected, how they were measured, and how frequently they were recorded. The types of scales or questionnaires administered should be identified. Environmental condition and administered medications should be described. In addition, a summary of the statistical methods should be provided. A statement concerning ethics approval for studies using human or animal subjects is also required.>*
RESULTS: *<This section includes a summary of the data and metrics of operational and/or statistical significance.* ***"Results will be discussed" is not acceptable.****>*
DISCUSSION: *<This section interprets the meaning of the results in terms of their application to the operational/clinical/scientific community and suggests areas for future research.>*

EDUCATION: CASE STUDY: CLINICAL OR HUMAN PERFORMANCE TEMPLATE:

This type of abstract describes the analysis of an individual clinical or operational case that is not a research study but provides pertinent information directly applicable to aeromedical practices, safety, or human performance.

INTRODUCTION: *<This section concisely summarizes the case.>*
BACKGROUND: *<This section describes the importance of the case and provides supporting evidence in the form of a literature review.>*
CASE PRESENTATION: *<This section describes the event.>*
DISCUSSION: *<This section explains the applicability and relevance to civilian and military operations.>*

EDUCATION: PROGRAM/PROCESS REVIEW TEMPLATE:

This type of abstract can describe a new Service thrust, e.g., identifying capability gaps, or reviews of critical areas, e.g., safety. It may be a description of a program or process that is used to solve a problem or accomplish a task.

BACKGROUND: *<This section describes why this is important to AsMA attendees and why this needs to be addressed now.>*
OVERVIEW: *<This section concisely describes the effort and how it applies to current or future gaps.>*
DISCUSSION: *<This section describes (1) the operational or clinical significance, (2) how it will this advance aeromedicine/human performance, and (3) address whether it supports cross Service/International/Military – Civilian spheres.>*

EDUCATION: TUTORIAL TEMPLATE:

This type of abstract describes new tools, models, techniques, methodologies pertinent to civilian and military aerospace medicine and human performance.

INTRODUCTION: *<This section summarizes what will be covered, e.g., list of topics or syllabus.>*
TOPIC: *<Description of new technology, procedure, methodology.>*
APPLICATION: *<This section details how the new material will be implemented and how broadly it applies to aerospace medicine and human performance.>*
RESOURCES: *<This is an optional section to provide citations where additional information can be found.>*

SUNDAY, JUNE 01, 2025

Sunday, 06/01/2025 ***8:00 AM***
Learning Center

[S-1] WORKSHOP: 4TH ANNUAL AVIATION MENTAL HEALTH WORKSHOP - PROGRESS, CHALLENGES, INNOVATION & EVIDENCE – ARE OUR MINDS & SYSTEMS GETTING BETTER? - MORNING SESSSION

Chair: Quay Snyder
Co-Chair: William Hoffman

WORKSHOP OVERVIEW: BACKGROUND: *Mental health is an increasingly visible part of the global aviation system. Efforts are underway globally to optimize the mental health of personnel and the safety of the aerospace system. That said, many open questions remain as to building mental health and wellness in the aviation system of the future.* ***OVERVIEW:*** *This interactive workshop will bring global aviation mental health professionals, operators and regulators to discuss current initiatives, progress, challenges and research efforts to integrate mental wellness support into aviation safety management systems and autonomous programs. The workshop is an initiative of the AsMA Mental Health Working Group. Beginning with a summary of the current state of mental health programs and research in aviation mental health, the program will then highlight current efforts in building mental health awareness and support in all areas of aviation from initial training to career professionals in aviation and air traffic control. Representatives from regional areas around the globe will discussion implantation of peer support programs previously missing structured aviation mental health support systems. Regulators will discuss their initiatives and preliminary data from new policy and regulatory changes. A choice of two breakout session will allow participants to engage in roundtable discussions with colleagues and experts in their area of interest. One breakout will have an operational focus on setting up and revising peer support programs. The second breakout session will focus on the regulatory design concepts and incorporating mental health into aviation Safety management Systems. The workshop will conclude with a summary of research and program development initiatives in the coming years.* ***DISCUSSION:*** *Attendees will have the opportunity to exchange ideas and procedures for advancing mental health support programs for aviation professionals as well as designing systems that reduce barriers to healthcare seeking and positively influence the regulatory design and implementation of research to support a mental health safety management system.*

[1] MENTAL HEALTH AND ITS IMPACT ON AVIATION SAFETY

Johann Magnusson
European Association of Aviation Psychology, Reykjavík, Iceland

(Education - Program / Process Review)

BACKGROUND: While aviation personnel, aeromedical examiners and aviation psychologists all agree that mental health impacts safety there is less consensus on how and to what extent. Having an incomplete view of the different ways mental health can affect safety often leads to an overemphasis on rare, catastrophic events (e.g. the Germanwings accident) rather than the more common slips and mistakes that can occur from poor mental health. **OVERVIEW:** A frequent refrain in aviation medicine is that mental health affects performance and safety, but it becomes more complicated when asked how and to what extent. One reason for that is that aviation is a robust system with multiple safeguards, and therefore very difficult to see the direct linkage between mental health, performance and safety. By looking into research in other fields (e.g. cognitive psychology, psychometrics) we can estimate the type and degree of effects and show how it probably impacts aviation in a more frequent manner. Similarly, research on aviators with specific mental health concerns can be used to better estimate some of the effects that can occur. **DISCUSSION:** Participants will be asked to add specific instances where mental health concerns may have a link to safety performance. Similarly, cases of at-risk behavior, where individuals or workforce, have adapted to compensate for particularly common types of poor mental health concerns will be discussed (e.g. covering for co-workers).

Learning Objectives

1. Understand how mental health can affect performance and safety.
2. Be able to distinguish between performance detriments and compromised decision making.
3. Be aware of the different diagnosable mental health conditions that can have a significant effect on safety measures.

[2] MENTAL HEALTH IN SPACE TOURISM

Duncan Hughes
Chief Medical Officer, Virgin Galactic, Las Cruces, NM, United States

(Education - Program / Process Review)

BACKGROUND: Over the past several years, the explosion of space tourism opportunities has generated significant efforts to define appropriate medical screening of spaceflight participants (SFPs). A paradigm shift from the days of government program absolute exclusion criteria to a commercial 'space for all' approach is underway whereby the decision algorithm is centered on risk mitigation and identification of ways to 'safely get to yes'. But, what about mental health? How is this being screened for in commercial space tourism? Are there exclusion criteria? Are there post flight mental health impacts of layperson spaceflight experiences? If so, are they all positive? **OVERVIEW:** From 2023-2024, Virgin Galactic flew 8 suborbital spaceflights carrying a mixture of employee mission specialists, researchers, and private SFPs to space. These 32 SFPs represent some of the first non-analog data regarding the space tourism suborbital flight experience. The Virgin Galactic approach to mental health screening is reviewed. Observations and lessons learned regarding mental health screening, interpersonal dynamics, observed behaviors, and outcomes are summarized. Additionally, the approach to pre-existing mental health diagnoses, observed interactions, and anticipatory counseling are addressed. **DISCUSSION:** There is no definitive evidence base or consensus regarding how best to screen space tourism participants for mental health issues. Is it really up to each independent service operator to determine how this is best accomplished? Though still few in number, lessons learned from the initial commercial service flights of Virgin Galactic provide important lessons learned in this arena. These lessons provide a window into important considerations for next steps and highlight important research opportunities. The 'overview effect' is amazing; but, is it the only possible response to the spaceflight tourism experience? What is being done to surveil and capture other outcomes?

Learning Objectives

1. Participants will be able to describe the importance of screening for mental health in space tourism participants.
2. Attendees will be able to understand how Virgin Galactic is conducting mental health screening and surveilling for the potential impacts of the space tourism experience.
3. Participants will be able to describe how lessons learned in initial commercial Virgin Galactic flights have resulted in iterative changes to the medical team's approach to screening.

[3] PROGRESS FOR CABIN CREW MENTAL HEALTH

Heather Healy
Association of Flight Attendants Employee Assistance, Washington, DC, United States

(Education - Program / Process Review)

BACKGROUND: Cabin crew are an essential component of commercial aviation safety operations. In addition to stressors experienced by all individuals, cabin crew are faced unique occupational stressors both while on duty in the aircraft and additional occupation related factors that complicate seeking and obtaining mental health care. **OVERVIEW:** This presentation will highlight recent survey findings of health care avoidance by North American based Cabin Crew. Key considerations that may improve mental health care engagement and satisfaction when designing peer support and intervention programs for Cabin Crew globally will be discussed. **DISCUSSION:** The importance of membership data and survey findings to enhance peer and mental health care utilization will be emphasized.

Learning Objectives

1. Participants will understanding the diverse need and characteristics of Cabin Crew.
2. Participants will recognize a range of factors that may be linked to peer and mental health utilization.
3. Participants will understand the value of utilizing member surveys and feedback for program refinements.

[4] MENTAL WELLNESS CHALLENGES FOR BUSINESS AVIATION

Mark Larsen, Lailla Stein
National Business Aviation Association, Washington, DC, United States

(Education - Program / Process Review)

BACKGROUND: Business aviation organizations often face unique challenges from those of larger airlines when supporting the mental health of their aviation professionals. As a significant segment of operations in the national airspace system, access to mental health support should similarly be available to this industry segment. **OVERVIEW:** Business aviation organizations come in all types and sizes. Most business aviation organizations have one aircraft, and only 1-3 pilots, often depending on the number of pilots legally required for flight and the total annual hours expected to be flown. Larger Part 91 flight departments may have roughly 50 employees, though these organizations often feel resource-constrained for the multiple aircraft they fly. Only a few large business aviation charter management and fractional ownership programs employ numbers of people akin to the airlines with internal peer support programs that are viable. One constant among business aviation organizations is that their pilots, maintainers, flight attendants, schedulers/dispatchers, and managers can all benefit from access to peer support, just as these employee groups within airlines benefit from their own peer support programs. Aggregating the resources of business aviation organizations to provide peer support could be one way to provide this critical mental wellness tool to more business aviation organizations than possible with internal programs. **DISCUSSION:** Business aviation organizations can benefit from peer support programs and it is up to the industry to innovate existing peer support models to normalize mental wellness in aviation, remove barriers to seeking help, and provide for enhanced mental health within the business aviation sector.

Learning Objectives

1. Attendees will learn about organizational differences between common business aviation operations and scheduled airline operators, relative to peer support programs.
2. Attendees will learn about possible ways that business aviation organizations could viably implement peer support programs to support mental wellness among their employees.
3. Attendees will learn about regulatory differences between United States business aviation operators and operators from other countries.

[5] THE NEXT GENERATION IN AVIATION MENTAL HEALTH

Sky Overbo, Zoe Thompson
University of North Dakota, Grand Forks, ND, United States

(Education - Program / Process Review)

BACKGROUND: With a new generation beginning to enter the airspace, understanding the changing perspectives surrounding mental health is vital for aviation medicine, mental health care, and safety. Acknowledging and working with different communication styles, reducing stigma, understanding unique stressors, and encouraging discourse surrounding mental health among the generations can help improve the safety of aviation. Overall, addressing these differences fosters a supportive and responsive environment in the aviation industry. **OVERVIEW:** Aviation is an industry of culture and regulations ensuring safety in the skies with mental health playing a large role in safety. As the workforce continues to change, generational differences surrounding mental health, stigma, and communication methods have not been addressed. These differences, if not addressed, could lead to a decrease in safety and the health of aviation professionals by isolating both the new and old generations. **DISCUSSION:** Medicine, psychology, and aerospace science are all fields that are constantly changing as new research is disseminated. As legislative and regulatory bodies begin acknowledging the importance of mental health, changes in how psychological well-being is promoted and achieved must follow. This presentation not only explores generational differences in mental health perceptions and communication, but also provides more information on practices that have been productive in improving the culture of mental health in aviation.

Learning Objectives

1. Attendees will understand the unique challenges facing aspiring aviator professionals in both disclosing previous and seeking ongoing mental healthcare and the impact on future career opportunities.
2. Attendees will be familiar with evolving communication preferences regarding health care in younger generations.
3. Attendees will be familiar with sources of health care information used by aspirating aviation professionals.

[6] WITHDRAWN

[7] IMPLEMENTATION OF PEER SUPPOORT IN THE MID-EAST: INSIGHTS FROM QATAR AIRWAYS

Stuart Mitchell
Qatar Airways, Doha, Qatar

(Education - Program / Process Review)

INTRODUCTION: In the high-pressure environment of aviation, protection of good mental health is not only critical for pilot's overall well-being but also essential for the flight safety and performance. Recognizing the unique challenges faced by pilots, and the emerging regulations and guidance from around the world, Qatar Airways has prioritized evolving a supportive culture through a tailored Pilot Peer Support Program (PPSP) with the aim of promoting psychological safety and trust in a particularly diverse workforce. **OVERVIEW:** The presentation will provide practice-based reflections on the lessons learnt from the special challenges that were faced in developing a compliant programme that was mindful of the local/regional challenges and offer insights for airlines looking to adopt similar support programs, emphasizing the importance of regional awareness and cultural adaptability in global aviation mental health initiatives. The challenges faced and the insights learnt from the successful implementation of the PPSP at Qatar Airways, will be discussed, with emphasized focus on cultural, regional, and operational considerations. Some of the key factors addressed in the presentation include the integration of mental health support into a dynamic and diverse work culture, where pilots from varied backgrounds must handle not only the

challenges of flying but also individual, cultural and language differences. **CONCLUSIONS:** We will in particular discuss insights on the role of cultural distinctions in the Gulf region, where stigma surrounding mental health poses an additional barrier to healthcare seeking behaviors. Through the implementation of the PPSP and plans for future expansion to other employee groups, Qatar Airways demonstrates a commitment to building a culture of mental health support and prevention across its diverse workforce.

Learning Objectives

1. The audience will learn about the challenges in addressing mental health issues in a culturally diverse work force.
2. Participants will learn strategies to destigmatize mental health care seeking in cultures traditionally averse to acknowledging disturbances in mental wellness.
3. Participants will understand the safety and operational implications of ignoring mental health challenges in multicultural international airline operations.

[8] MENTAL HEALTH IN SOUTH AMERICAN AVIATION: CHALLENGES AND INITIATIVES

José Aguiar[1], Erica Ermel[2], Audrey Savini[1], Helton Dourado[1], Lia Ribeiro[1], Maria Bertolino[3], Vania Melhado[1]
[1]*Azul Linhas Aéreas, São Paulo, Brazil;* [2]*Latam Airlines, São Paulo, Brazil;* [3]*Latam Airlines, Santiago, Chile*

(Education - Program / Process Review)

BACKGROUND: Mental health in aviation is a critical issue, given its direct impact on personnel safety, performance, and well-being. South America, with its 12 culturally diverse countries and one overseas territory, and distinct civil aviation authorities, lacks a unified regional approach to mental health. Although all countries are ICAO (International Civil Aviation Organization) signatories, the absence of harmonized regional guidelines hinders the development of effective prevention and treatment strategies. The post-pandemic environment, marked by increased operational demands and persistent stigma surrounding mental health, exacerbates these challenges and calls for immediate action. **OVERVIEW:** Current efforts to address mental health in South American aviation focus on two primary areas: general mental health disorders and the misuse of psychoactive substances. Brazil has established comprehensive regulations addressing the misuse of psychoactive substances, which include, but are not limited to, mandatory toxicological testing for safety-critical roles. These programs encompass broader preventive measures aimed at managing substance use within the aviation sector. However, structured mental health promotion and comprehensive psychological support remain largely absent. To fill these gaps, airlines such as Azul and Latam have independently developed programs, including peer support networks and psychiatric services, representing pioneering efforts in supporting the broader mental health needs of aviation personnel. **DISCUSSION:** These initiatives have significant operational implications, as they directly contribute to the safety and performance of flight crews. They offer early support mechanisms that help prevent mental illness and reduce the risk of accidents. Economic instability and post-pandemic labor shortages in the aviation sector further intensify the pressures on personnel, making such programs even more essential. Additionally, the initiatives developed by South American airlines, such as Azul and Latam, which have been carried out for over 10 years, could serve as models for other regions. promoting a more resilient and mentally healthy global aviation workforce and inspiring the adoption of international standards for mental health care in aviation.

Learning Objectives

1. Understand the unique mental health challenges faced by South American aviation, including the lack of harmonized regional guidelines and the impact of post-pandemic operational demands and stigma.
2. Evaluate the role of peer support networks and psychiatric services, as implemented by airlines such as Azul and Latam, in promoting mental health and operational safety in aviation.

[9] CURRENT STATUS OF PEER SUPPORT PROGRAMS AND THE AIR TRAFFIC CONTROL WORKFORCE

Andrew LeBovidge
International Federation of Air Traffic Control Organizations (IFATCA), Washington, DC, United States

(Education - Program / Process Review)

BACKGROUND: Peer Support Programs are gaining traction in the aviation community as an effective method to address the mental wellbeing individuals performing critical safety work. Air Traffic Control Specialists (ATCOs) represent a significant body of that universe and work has just begun to initiative such programs in this community. Critical Incident Stress Management (CISM) programs are only in use by ATCOs in a limited number of countries, and other Peer Support Programs to address generalized mental health issues are only now being considered or implemented for ATCOs. **OVERVIEW:** Participants will learn how Peer Support Programs of all types have been historically used in the international ATCO community and what recent progress that has been made to broaden and deepen the use of such programs in the ATCO sphere. ATCO have a unique position in the industry – as there are various models of Air Navigation Service Providers (ANSPs) which can create a complex web of employment and regulatory barriers to mental health matters. Additionally, the nature of the ATCO 24/7/365 work combined with the global shortage of ATCO creates an environment which is conducive to stress, anxiety, and other mental health conditions. **DISCUSSION:** The participants will discuss the techniques being employed to address the barriers for ATCOs to report mental health matters and hurdles that remain to confront the dearth of mental health support in the ATCO community. The participants will also gain exposure to an oft underrepresented constituency in the aviation industry – the unsung and unseen personnel who bear the burden of ensuring the safety of the airspace while having to preserve their own wellbeing.

Learning Objectives

1. Attendees will be familiar with current limited resources for mental health support among Air Traffic Service Provider (ATSP) organizations.
2. Attendees will be able to state unique mental health challenges to the ANSP organizations and the ATCO workforce.
3. Attendees will be familiar with the role of mental health support in the ATCO workforce as a critical element of aviation safety.

[10] SAFE HAVEN – INITIAL IMPRESSION

Kate Manderson[1], Tim Sprott[2]
[1]*Civil Aviation Safety Authority - Australia, Nowra, Australia;* [2]*Civil Aviation Authority New Zealand, Auckland, New Zealand*

(Education - Program / Process Review)

BACKGROUND: This session will provide attendees with an update on the Safe Haven program being delivered by the National Aviation Authorities of Australia and New Zealand. Safe Haven allows pilots and air traffic control officers to work directly with their trusted peers and aviation medical examiners on assessment of whether their mental health or medical condition poses a hazard to safe air navigation. The intent is to reduce or remove the barriers to help-seeking and disclosure, resulting in a healthier and safer aviation system. **OVERVIEW:** Representatives of the medical sections of the Civil Aviation Safety Authority of Australia and the Civil Aviation Authority of New Zealand will provide an overview of the program framework and governance processes for Safe Haven. Particular attention will be given to the medical and mental health conditions that are eligible for inclusion, including a discussion of the risk assessment processes used to confirm safety and suitability. There will also be a discussion on the content and provision of training for Medical

Examiner-Safe Haven (MESH) and Peer Support Providers (PSPs) which further provide assurance to CASA and CAA NZ that the Safe Haven program is being implemented safely and effectively by competent providers. The presenters will briefly review the challenges and strategies to implementation to date, and next steps for review and improvement. **DISCUSSION:** the session will raise awareness of opportunities for NAAs to consider a new, risk-based approach to assessment and certification of pilots and ATCOs with mental health and other medical issues. By sharing the experiences to date, the presenters hope to enable other NAAs to begin to consider their own strategies to increase the level of trust within their medical certification system.

Learning Objectives

1. Participants will understand the principles of aviation safety and risk assessment to medical and mental health conditions.
2. Participants will be able to identify required skills and knowledge for aviation medical examiners and peer support provides to perform mental health risk assessments.
3. Participants will be able to explore opportunities to incorporate specialized training and risk assessment tools for safe certification of people with mental health issues.

[11] SAFE HAVEN – REGULATORY DESIGN AND SAFETY MANAGEMENT SYSTEMS

David Powell[1], Kate Maderson[2], Tim Sprott[3], Laurie Shaw[4], Wiliam Hoffman[5]

[1]*Safe Haven Trust, Auckland, New Zealand;* [2]*Civil Aviation Safety Authority, Australia, Canberra, Australia;* [3]*Civil Aviation Authority, New Zealand;* [4]*Airservices, Australia, Brisbane, Australia;* [5]*59th Medical Wing, U.S. Air Force, San Antonio, TX, United States*

(Education - Program / Process Review)

BACKGROUND: This break-out session is part of the 4th Annual Aviation Mental Health Workshop discussing current progress and efforts to integrate mental wellness support into aviation programs. This break-out focuses on Regulatory Design and Safety Management Systems associated with Safe Haven initiatives. **OVERVIEW:** Safe Haven is an initiative proposed in a paper to the 2022 assembly of the International Civil Aviation Authority (ICAO). This is a high trust model aimed specifically at addressing the known reluctance of pilots to report medical problems, and the even greater problem of healthcare avoidance by aviators. In essence Safe Haven involves a National Aviation Authority (regulator) selecting, training, and empowering some of its Aviation Medical Examiners to deal with a wide range of problems in certificate holders (pilots and air traffic controllers) without the usual obligation for the details of those problems to be notified to the regulator. Safe Haven is a medically based program which is separate from peer support groups but sits alongside them with similar aims. There are historical examples of such an approach being successful in military and airline settings. There are also requirements for an appropriate regulatory foundation, safety management, escalation pathways and "guard rails", professional supervision of medical examiners, a degree of independence from the regulator, and audit of performance. Two countries have commenced implementing a Safe Haven system. The breakout session will be convened by facilitators involved in designing such a system and will brainstorm the challenges and requirements. **DISCUSSION:** At the end of the break-out, participants will reconvene to discuss ideas and systems for advancing mental health support for aviation professionals, reducing barriers to healthcare seeking and supporting a mental health safety management system.

Learning Objectives

1. Participants will be able to identify the aims and key features of a Safe Haven program for aviators.
2. Participants will be able to identify the regulatory barriers and foundation for such a program.
3. Participants will understand how Safe Haven can integrate with a safety management system.

Sunday, 06/01/2025 ***12:00 PM***
Learning Center

[S-2] WORKSHOP: 4TH ANNUAL AVIATION MENTAL HEALTH WORKSHOP - PROGRESS, CHALLENGES, INNOVATION & EVIDENCE – ARE OUR MINDS & SYSTEMS GETTING BETTER? -AFTERNOON SESSSION

Chair: Quay Snyder
Co-Chair: Williiam Hoffman

Workshop Overview: BACKGROUND: *Mental health is an increasingly visible part of the global aviation system. Efforts are underway globally to optimize the mental health of personnel and the safety of the aerospace system. That said, many open questions remain as to building mental health and wellness in the aviation system of the future.* ***OVERVIEW:*** *This interactive workshop will bring global aviation mental health professionals, operators and regulators to discuss current initiatives, progress, challenges and research efforts to integrate mental wellness support into aviation safety management systems and autonomous programs. The workshop is an initiative of the AsMA Mental Health Working Group. Beginning with a summary of the current state of mental health programs and research in aviation mental health, the program will then highlight current efforts in building mental health awareness and support in all areas of aviation from initial training to career professionals in aviation and air traffic control. Representatives from regional areas around the globe will discussion implantation of peer support programs previously missing structured aviation mental health support systems. Regulators will discuss their initiatives and preliminary data from new policy and regulatory changes. A choice of two breakout session will allow participants to engage in roundtable discussions with colleagues and experts in their area of interest. One breakout will have an operational focus on setting up and revising peer support programs. The second breakout session will focus on the regulatory design concepts and incorporating mental health into aviation Safety management Systems. The workshop will conclude with a summary of research and program development initiatives in the coming years.* ***DISCUSSION:*** *Attendees will have the opportunity to exchange ideas and procedures for advancing mental health support programs for aviation professionals as well as designing systems that reduce barriers to healthcare seeking and positively influence the regulatory design and implementation of research to support a mental health safety management system.*

[12] IPAAC INITIATIVES - NEW HORIZONS

Dave Fielding

International Peer Aviation Assistance Coalition, Auckland, New Zealand

(Education - Program / Process Review)

BACKGROUND: Accidents such as the 2015 Germanwings crash or the 2022 China Eastern 737 (due to pilot murder suicide), and non-fatal incidents such as Jet Blue (2012) and Horizon Air (2023) which were due to mental breakdown by pilots in the cockpit, represent the 'tip of the iceberg' – the high-profile result of degraded mental health in pilots. But what about deteriorating mental health on a lesser scale which lies hidden beneath the waterline? The Heinrich Triangle theory posits the relationship between accident, incident and near miss / far miss / systemic issues. Focusing on the systemic reasons underlying accidents using this model has improved technical flight safety dramatically in the past 30+ years through data assessment and threat management. Can these techniques be applied in the same way to mental wellbeing and performance in pilots? **OVERVIEW:** Data gathering from aircraft systems is much easier than gathering data from the human mind, but it is possible. Peer-reviewed research into pilot mental health issues is already identifying trends and barriers that result in pilots not seeking help for these issues, thus potentially compromising flight safety. Peer

Support Programmes are beginning to gather usage data in systematic ways which are highlighting specific wellbeing issues that are affecting pilot performance. Finally, discussions have started with the Air Accident Investigation bodies to try and identify accidents or incidents which have a significant causal factor of distractions as a result of mental health issues. **DISCUSSION:** Data from these differing sources need to be combined into one process which integrates into an operator's Safety Management System. This presentation explores how identifying specific mental health issues amongst pilots can result in: 1. A greater understanding of how undisclosed, untreated and unmonitored mental health issues amongst pilots can represent a significant threat to flight safety 2. The role of PSPs being expanded to raise awareness of the potential impact of these issues as part of a pilot's professional toolkit. 3. The creation of a Mental Wellbeing (MW) competency, similar to other ICAO pilot competencies 4. The training of this competency, and its associated performance indicators, amongst the pilot workforce

Learning Objectives

1. The audience will understand through demonstration that although accidents and deaths by pilot murder suicide are extremely rare, incidents and near/far misses due to mental health issues in pilots are not.
2. Participants will understand that greater data gathering and analysis is required in order to be able to identify early those mental wellbeing and performance issues which have the potential to impact on flight safety if undisclosed, untreated and unmonitored.
3. Participants will learn how this knowledge of mental health support statistical analysis will allow training to be developed which will increase pilot resilience and awareness of the impact of mental wellbeing and performance issues.

[13] AFTER ME SAFE - IMPLEMENTATION CHALLENGES

Janis Vegers, Cristian Panait, Mateja Kotnik-Kerbev, Pedro Caetano, Virgilijus Valentukevicijus
EASA, Cologne, Germany

(Education - Program / Process Review)

BACKGROUND: The "Mental Health for Aviation Safety" (MESAFE) project, conducted over 24 months, aimed to provide evidence and formulate recommendations for enhancing mental health assessments during initial and recurrent aero-medical examinations of pilots and ATCOs. **OVERVIEW:** MESAFE provided evidence regarding the diagnostic tests, prevention and treatments strategies for mental health pathologies and impact on aviation safety of various mental health pathologies. The evidence was transposed into 44 recommendations to enhance aviation safety by preventing mental health problems as well as efficient screening and treatment of mental health pathologies. "It is better to prevent than to treat". Nevertheless, prevention is a concept that involves multiple layers starting from the individual and continuing with the employer, the aero-medical examiner and the regulator working symbiotically. Acknowledgement of mental illness and asking for support with mental wellbeing continues to be the starting point of any preventive work. And here denial, fear of consequences and stigma are major obstacles to overcome by the individual alone before getting to the point of asking for support. Several aviation regulators are taking a best-practice preventive approach with the use of support groups and peer programs to facilitate the management of risk factors, and to prevent their evolution into established mental illness. The screening and treatment of mental health pathologies requires customisation more than in the case of organic disorders. Regulating these aspects presents multiple challenges as it requires sufficient flexibility to be effective while at the same time a proper legal framework to ensure safety. Such regulatory changes require a change of mindset among all stakeholders and that, in turn, requires time, training and willingness to improve. **DISCUSSION:** Regulating the field of mental health for all categories of aeronautical personnel is a challenge in itself. However, we must strive to apply scientific methods in a multi-layered approach to the prevention, assessment and management of mental health issues. Proper assessment and mitigation of mental health issues can only be effective if all stakeholders involved are committed to their part of the puzzle.

Learning Objectives

1. Attendees will understand the multi-layered approach to mental health prevention and the roles of individuals, employers, and regulators in aviation safety.
2. Participants will be able to analyse the challenges of customizing mental health screening and treatment for aeronautical personnel.
3. Attendees will understand the importance of the preventive work including identification and early mitigation of risk factors in maintaining mental health and wellbeing for aviation personnel.

[14] FAA MENTAL HEALTH POLICY UPDATES

Susan Northrup
FAA, Washington, DC, United States

(Education - Program / Process Review)

BACKGROUND: The FAA has made many changes and updates in the past year. The Mental Health and Medical Clearance Aviation Rulemaking Committee accelerated the modifications and enhancements. **OVERVIEW:** This session will review the MH ARC process and recommendations as well as progress on those recommendations. Where possible, the outcomes will be discussed as the policies have been changed. **DISCUSSION:** Recent outreach efforts will also be discussed in the effort to reduce the barriers for seeking care. Finally, the three "Es" – Education, Early Intervention, and Evolution of Standards will be presented.

Learning Objectives

1. Attendees will gain awareness of recent FAA policy changes.
2. Attendees will understanding of the three "Es" of enhancing wellness.
3. Attendees will be familiar with future FAA efforts to enhance mental health in aviation.

[15] MENTAL HEALTH IN AVIATION RESEARCH: BUILDING AN EVIDENCED BASED APPROACH

William Hoffman
59th Medical Wing, U.S. Air Force, San Antonio, TX, United States

(Education - Program / Process Review)

BACKGROUND: Mental health in global aviation is changing at an accelerating rate, driven by novel approaches to new challenges. Stakeholders across aviation are hopeful to drive innovation though data, though questions remain about how to design studies, share data, and build research partnerships. **OVERVIEW:** This presentation will summarize high-impact research studies, programs, and efforts related to mental health global aviation aiming to inform follow-up discussions in the workshop related to mental health. A discussion about efforts to build multi-national research partnerships, fund research, and translating data into policy will follow. The presentation will conclude with a summary of efforts associated with the Aerospace Medical Association Mental Health Working Group including consensus research priorities. **DISCUSSION:** Efforts are underway to optimize mental health and wellness in aviation on a global scale. Quality research and credible data should be a key tool to inform efforts ahead. This session aims to be a high yield review of research related to mental health in global aviation aiming to support the workshop.

Learning Objectives

1. Participants will be able to list two research projects related to mental health in aviation and describe how they can inform future efforts.
2. Participants will be able to describe the objective of the AsMA Mental Health Research Priories effort how this project can support future research.

Sunday, 06/01/2025 ***8:00 AM***
Hanover A

[S-3] WORKSHOP: AEROSPACE MISHAP EPIDEMIOLOGY - THE SCIENCE OF THE DENOMINATOR

Chair: Peter Mapes

Workshop Overview: INTRODUCTION: *The learning objectives for the Workshop are as follows: Individuals completing this course will be able to:*

1. Understand the language of epidemiology and how it applied to aviation mishap analysis.
2. Identify inadequate statistical analyses.
3. Know about EPI INFO™ and have a rudimentary ability to employ it in the field.
4. Design adequate studies of rudimentary parametric and non-parametric data.
5. Understand the importance of adequate power.
6. Understand the importance of adequate denominator data.
7. Be able to look at displayed data and determine adequacy of analyses.
8. Understand modeling and regression at a fundamental level.
9. Understand the Bradford-Hill criteria for causality.

Note: Previous attendees have noted that this is an excellent Board Review session. ***TOPIC:*** *The Workshop on Aerospace Epidemiology will educate attendees on how the mathematics of epidemiology are applied to aerospace safety and mishap prevention.* ***APPLICATION:*** *The mathematics of epidemiology can be broadly and effectively utilized to conduct meta-analyses of aerospace mishap data. The results of these analyses can be used to focus actions and requirements on data driven conclusions that are currently largely absent from the safety process. The mathematical principles to be covered are well accepted but rarely utilized to analyze aerospace mishap data.* ***RESOURCES:*** *The course will be accompanied by a customized text serving as a reference for the mathematical applications well established in the public domain. The course will also be accompanied by problems for attendees to work through under supervision so that practical experience in aerospace epidemiology can be obtained. Attendees need to bring an adequately charged laptop computer to the course with a copy of the applicable EPI INFO programming loaded from the Centers for Disease Control & Prevention web site.*

[16] AEROSPACE EPIDEMIOLOGY & STATISTICAL ANALYSIS

Peter Mapes
Retired, Oscoda, MI, United States

(Education - Program / Process Review)

TOPIC: The Workshop on Aerospace Epidemiology will educate attendees on how the mathematics of epidemiology are applied to aerospace safety and mishap prevention. **APPLICATION:** The mathematics of epidemiology can be broadly and effectively utilized to conduct meta-analyses of aerospace mishap data. The results of these analyses can be used to focus actions and requirements on data driven conclusions that are currently largely absent from the safety process. The mathematical principles to be covered are well accepted but rarely utilized to analyze aerospace mishap data. **RESOURCES:** The course will be accompanied by a customized text serving as a reference for the mathematical applications well established in the public domain. The course will also be accompanied by problems for attendees to work through under supervision so that practical experience in aerospace epidemiology can be obtained. Attendees need to bring an adequately charged laptop computer to the course with a copy of the applicable EPI INFO programming loaded from the Centers for Disease Control & Prevention web site.

Learning Objectives

1. Individuals completing this course will be able to: understand the language of epidemiology and how it applied to aviation mishap analysis; identify inadequate statistical analyses; and know about EPI INFO™ and have a rudimentary ability to employ it in the field.
2. Individuals in this course will be able to design adequate studies of rudimentary parametric and non-parametric data; understand the importance of adequate power; and understand the importance of adequate denominator data.
3. Attendees will be able to look at displayed data and determine adequacy of analyses; understand modeling and regression at a fundamental level; and understand the Bradford-Hill criteria for causality.

MONDAY, JUNE 02, 2025

Monday, 06/02/2025 ***2:00 PM***
Centennial Ballroom I

[S-4] PANEL: CARDIOVASCULAR SCREENING FOR AIRCREW

Chair: Norbert Guettler
Co-Chair: David Holdsworth

Panel Overview: *Cardiovascular anomalies, abnormalities or frank pathology are the most common causes of medical downgrading or occupational limitation of aircrew. Aircrew are typically asymptomatic and are generally younger than the cardiovascular medicine patient population. As such, cardiovascular screening lies outside the normal remit of clinic and hospital-based medicine. Failure to identify coronary artery disease, valvular heart disease and heart muscle disease in aircrew has potentially fatal consequences. This session reviews the most up to date evidence and data on cardiovascular screening of asymptomatic individuals. We explore the variety of approaches to cardiovascular screening in different national jurisdictions and contrast the use of cardiovascular investigations for asymptomatic aircrew with that among symptomatic patient groups.*

[17] SCREENING FOR CARDIAC ARRHYTHMIA IN MILITARY AIRCREW – DIFFERENCES AND SIMILARITIES IN SEVEN NATIONS

Norbert J. Guettler[1], David Holdsworth[2], Thomas Syburra[3], Olivier Manen[4], Lysette Broekhuizen[5], Denis Bron[6], Gary Gray[7], Eddie Davenport[8]
[1]*German Air Force Centre of Aerospace Medicine, Cologne, North Rhine-Westphalia, Germany;* [2]*Academic Centre of Military Medicine, Birmingham, United Kingdom;* [3]*Fliegerärztliches Institut der Luftwaffe, Dübendorf, Switzerland;* [4]*Percy Military Hospital, Clamart, France;* [5]*University Medical Center Utrecht and Central Military Hospital, Utrecht, Netherlands;* [6]*Aeromedical Centre, Swiss Air Force, Dübendorf, Switzerland;* [7]*Canadian Forces Environmental Medical Establishment, Toronto, Ontario, Canada;* [8]*USAFSAM, Dayton, OH, United States*

(Education - Tutorial / Review)

INTRODUCTION: Cardiac arrhythmia and conduction abnormalities are important causes of denial or loss of aircrew licenses. Screening is therefore crucial and is often performed in a stepwise approach. Abnormalities are age dependent and include atrial fibrillation and atrial flutter in older individuals, whereas channelopathies and ventricular pre-excitation are more often found in young applicants. Ventricular and supraventricular ectopy and tachycardias can be found in all age groups. Abnormal ECG findings in young and sportive individuals with high vagal tone may be acceptable without further evaluation. Due to the challenging working environment, screening for arrhythmia and conduction disturbances is of utmost