



Report AV2023038
July 12, 2023

FAA Conducts Comprehensive Evaluations of Pilots With Mental Health Challenges, but Opportunities Exist to Further Mitigate Safety Risks



FAA Conducts Comprehensive Evaluations of Pilots With Mental Health Challenges, but Opportunities Exist to Further Mitigate Safety Risks

Requested by Senator Dianne Feinstein

Federal Aviation Administration | AV2023038 | July 12, 2023

What We Looked At

On March 24, 2015, Germanwings Flight 9525 crashed in the Alps, killing all 150 people on board. The crash was due to deliberate actions by the copilot. According to the final accident report, the copilot started to suffer from severe depression in 2008. In July 2009, and each year thereafter, the aeromedical center continued to renew the copilot's medical certificate. On March 10, 2015, a private physician recommended the copilot receive psychiatric hospital treatment due to a possible psychosis, but no aviation authority was informed. Concerned with issues regarding the impact of pilot mental health on passenger safety, Senator Dianne Feinstein requested that we review procedures and methods the Federal Aviation Administration (FAA) employs to evaluate the psychological health of airline pilots. Our objectives were to assess FAA's procedures for (1) evaluating the psychological health of airline pilots and (2) mitigating potential threats to aviation safety from pilots with psychological health issues.

What We Found

FAA has comprehensive procedures to evaluate pilots' psychological health, which include a framework of policies, guidelines, and collaboration with airlines. FAA's adherence to the procedures resulted in an extensive and structured process to evaluate pilots' psychological health—a key component to help mitigate potential safety risks. However, FAA's ability to mitigate safety risks is limited by pilots' reluctance to disclose mental health conditions. According to FAA and aviation industry organization officials, primary factors that discourage pilots from reporting their mental health conditions are the stigma associated with mental health, potential impact on their careers, and fear of financial hardship. Addressing these barriers is critical for FAA to mitigate potential aviation safety risks.

Our Recommendations

FAA concurred with our two recommendations to address FAA's need to encourage pilots with mental health issues to disclose and seek treatment for their conditions. We consider the recommendations resolved but open pending completion of planned actions.

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Memorandum

Date: July 12, 2023

Subject: ACTION: FAA Conducts Comprehensive Evaluations of Pilots With Mental Health Challenges, but Opportunities Exist to Further Mitigate Safety Risks | Report No. AV2023038

From: Nelda Z. Smith
Assistant Inspector General for Aviation Audits 

To: Federal Aviation Administrator

On March 24, 2015, Germanwings Flight 9525 crashed in the Alps, killing all 150 people on board. The crash was due to deliberate actions by the copilot. According to the final accident report,¹ the copilot started to suffer from severe depression in 2008. In April 2009, the aeromedical center² did not revalidate the copilot's medical certificate because of the depression diagnosis and medication used to treat it. In July 2009, the aeromedical center renewed the certificate and endorsed it with a special conditions and restrictions waiver. Each year thereafter, the medical center continued to renew the certificate. On March 10, 2015, a private physician recommended the copilot receive psychiatric hospital treatment due to a possible psychosis, but no aviation authority was informed.

Concerned with issues regarding the impact of pilot mental health on passenger safety, Senator Dianne Feinstein requested that we review procedures and methods the Federal Aviation Administration (FAA) employs to evaluate the psychological health of airline pilots.³ Accordingly, our objectives were to assess FAA's procedures for (1) evaluating the psychological health of airline pilots and (2) mitigating potential threats to aviation safety from pilots with psychological health issues.

We conducted this audit in accordance with generally accepted Government auditing standards. Exhibit A details our scope and methodology. Exhibit B lists

¹ Bureau d'Enquêtes et d'Analyses, *Final Report: Accident on 24 March 2015 at Prads-Haute-Bléone (Alpes-de-Haute-Provence, France) to the Airbus A320-211 registered D-AIPX operated by Germanwings*, March 2016.

² The authority in charge of civil aviation oversight in Germany allows certain aeromedical centers to issue medical certificates.

³ On April 20, 2015, Senator Dianne Feinstein requested this audit.

the organizations we visited or contacted, and exhibit C lists the acronyms used in this report.

We appreciate the courtesies and cooperation of Department of Transportation (DOT) representatives during this audit. If you have any questions concerning this report, please contact me or Marshall Jackson, Program Director.

cc: The Secretary
 DOT Audit Liaison, M-1
 FAA Audit Liaison, AAE-100

Background

FAA's Office of Aerospace Medicine (AAM) is responsible for a broad range of medical programs and services for the domestic and international aviation communities. As part of these responsibilities, AAM manages two key programs related to pilot mental health. The first is the pilot medical certification program that issues medical certificates as evidence of a pilot's fitness. The medical certification process contributes to keeping pilots, air travelers, and the general public safe. During this process, Aviation Medical Examiners (AMEs)—physicians that evaluate pilot medical history—and AAM personnel issue or deny pilots' applications for medical certificates in accordance with statutes, regulations, and guidelines. AAM's Medical Certification Division (AAM-300) reviews all applications AMEs defer or deny. This office may refer applicants with a significant medical history, such as substance abuse or use of Selective Serotonin Reuptake Inhibitor (SSRI) antidepressants,⁴ to the Medical Specialties Division (AAM-200) to determine applicants' qualifications on behalf of the Federal Air Surgeon.⁵ AAM-200 also maintains and updates guidelines for evaluating pilot qualifications for obtaining a medical certificate.

The Aviation Medical Examiner designee program is the second key program related to pilot mental health. In this program, FAA selects, trains, and oversees physicians delegated to conduct applicants' medical examinations and issue, defer, or deny medical certificates based on FAA's medical standards. These medical standards include mental health standards. Specifically, applicants must have no established medical history or clinical diagnosis of the following mental health issues: personality disorder that has repeatedly exhibited itself by overt acts, psychosis, bipolar disorder, or substance dependence without sustained recovery and abstinence of at least 2 years. Further, applicants must have no instances of substance abuse in the 2 years before applying for a medical certificate and no other personality disorders, neurosis, or mental conditions that affect their ability to safely perform their duties.⁶

Individuals applying for a medical certificate from FAA must follow a multiple-step process (see figure 1). The process begins with an online application, which includes the applicant submitting their medical history. Applicants must disclose if they have ever been diagnosed with, had, or presently have any of the following medical conditions: mental disorders of any sort, substance dependence or a failed drug test, substance abuse or use of an illegal substance

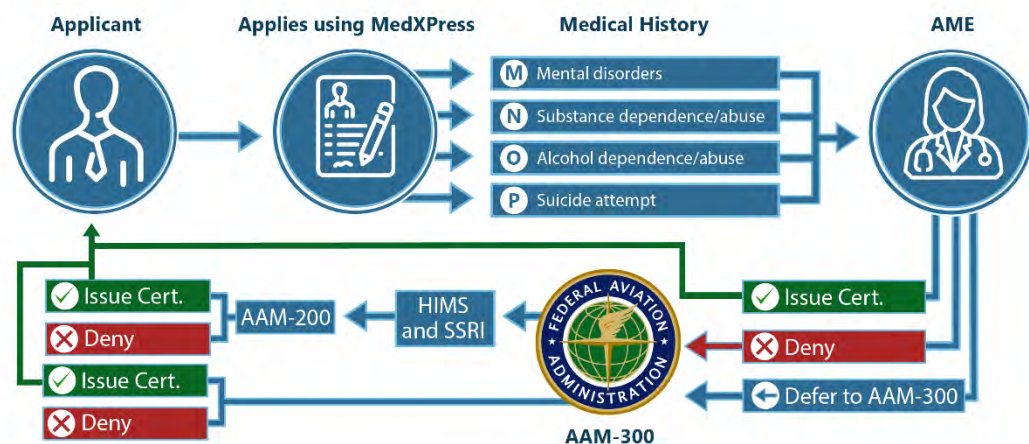
⁴ Selective Serotonin Reuptake Inhibitor is a class of drugs used to treat depression and numerous other psychiatric disorders by slowing nerve cells' process for reusing serotonin and allowing increased serotonin to stimulate nerves.

⁵ The Federal Air Surgeon leads the Office of Aerospace Medicine.

⁶ 14 Code of Federal Regulations (C.F.R.) § 67.107.

in the last 2 years, alcohol dependence or abuse, or suicide attempt.⁷ Also, all applicants are required to have an AME conduct a physical examination. Next, the AME issues a medical certificate to applicants that meet the medical standards, denies the medical certificate,⁸ or defers the applicant to FAA for further evaluation. Applicants must provide hard copies of the clinical information FAA requests and documents related to any conditions the applicants disclose. FAA reviews the applications AMEs denied or deferred and evaluates the applicants' medical conditions using medical records and other clinical information. Then FAA issues a medical certificate or denies the application. The length of time the medical certification process takes varies on a case-by-case-basis.

Figure 1. Medical Certification Process for Pilots Disclosing Certain Mental Health Diagnoses



Source: OIG analysis of FAA information

Applicants who are not issued a medical certificate by an AME may still be eligible for special issuance of a medical certificate.⁹ To receive a special issuance, applicants must prove to FAA that they can perform the duties associated with the medical certificate without endangering public safety. FAA requires strict monitoring and evaluation protocols for pilots to maintain eligibility for a special issuance. For example, pilots with a history of alcoholism and drug dependence—who fly for airlines, commuter airlines, corporations, and other aviation

⁷ FAA, *Form 8500-8—Application for Airman Medical Certificate or Airman Medical & Student Pilot Certificate*, September 2008.

⁸ Any person who is denied a medical certificate by an AME may apply, within 30 days of the denial, to the Federal Air Surgeon for reconsideration of the denial—per 14 C.F.R. § 67.409(a).

⁹ Special issuance refers to a time-limited medical certificate issued to pilots with a significant medical condition that requires periodic medical evaluation to determine their continued medical certificate eligibility. This may also require that the pilot provide additional medical information or take additional practical flight tests.

companies—may qualify for a special issuance under the Human Intervention Motivation Study (HIMS) monitoring program. HIMS is a four-phase, multi-year occupational substance abuse treatment program dedicated to helping pilots who achieve adequate recovery to safely return to flying aircraft. The program was created in 1974 through a coordinated effort between FAA, pilot unions, airline management, and medical professionals. In April 2010, FAA enacted an SSRI policy providing a potential path for pilots, being treated for depression or anxiety with one of four FAA-approved SSRI medications,¹⁰ to receive a special issuance of a medical certificate. FAA requires pilots in the HIMS program or that take SSRI medications to undergo psychiatric and psychological evaluations. Pilots in the HIMS program must also submit to random drug tests and participate in peer support programs.

In addition, as a result of the Germanwings accident, FAA chartered the Pilot Fitness Aviation Rulemaking Committee (ARC) in May 2015. The committee provided a forum for the U.S. aviation community to discuss awareness, reporting, and evaluation of pilots' mental health and make recommendations to address gaps it identified. The ARC consisted of aerospace medicine, psychiatric, and psychological experts from FAA and the medical community; U.S. aviation industry trade associations; pilot representative organizations; and international aviation associations. The committee developed a report with eight recommendations for FAA and the air carrier community to help address pilot mental fitness issues through education, outreach, and training initiatives. According to FAA, it has taken action on two of the committee's recommendations and coordinated with the air carrier community on other recommendations (see exhibit D).

Results in Brief

FAA has comprehensive procedures to evaluate airline pilots' psychological health.

FAA's procedures to evaluate pilots' psychological health include a framework of policies, guidelines, and collaboration with airlines. For example, FAA's *Guide for Aviation Medical Examiners* (AME Guide) provides guidance for AMEs and FAA personnel to follow when evaluating applicants' medical certification eligibility. The AME Guide contains detailed requirements for many types of mental health conditions applicants disclose, such as obtaining a detailed description and

¹⁰ FAA has approved Prozac (fluoxetine), Zoloft (sertraline), Celexa (citalopram), and Lexapro (escitalopram) per *Special Issuance of Airman Medical Certificates to Applicants Being Treated With Certain Antidepressant Medications*, Federal Register, Volume 75, No. 64, April 5, 2010.

history of the disclosed conditions, gathering medical records, assisting the applicant with obtaining psychiatric or psychological examinations, and determining if the applicant should be deferred to FAA for further evaluation. Additionally, FAA's guidelines can assist its personnel with evaluating applicants' medical conditions, including which mental health conditions disqualify an applicant, what types of medications are unacceptable, and when to refer cases to FAA's Chief Psychiatrist. In our review of 69 randomly selected medical certificate applicants for first- or second-class medical certificates, FAA followed Agency policies, guidelines, and Federal requirements for evaluating medical certificate applicants. Overall, FAA's adherence to detailed procedures resulted in an extensive and structured process to evaluate pilots' psychological health—a key component to help mitigate potential safety risks.

FAA's ability to mitigate safety risks is limited by pilots' reluctance to disclose mental health conditions.

FAA relies on applicants to self-disclose mental health disorders, but FAA's ability to mitigate safety risks is limited by pilots' reluctance to comply with self-disclosure requirements. According to FAA and aviation industry organization officials, primary factors that discourage pilots from reporting their mental health conditions are the stigma associated with mental health, potential impact on their careers, and fear of financial hardship. Highlighting the importance of these factors, the pilot's fear of financial hardship and the impact of reporting a mental health condition on the pilot's career were also listed as potential contributing factors in the Germanwings accident report. Additionally, according to an aerospace medical expert, the amount of time it takes to complete the medical certification process may also discourage pilots from disclosing mental health conditions. FAA is taking steps to improve the certification process by upgrading its database systems to allow AMEs to electronically submit required documents on behalf of pilots. The Agency expects to complete the database upgrades in 2023. Also, the ARC report stated the best way to minimize risks associated with pilot mental health is to create an environment that encourages and supports pilot self-disclosure and recognize it's important that pilots receive timely, accessible, and accurate support information. As a point of comparison, various organizations we spoke with regard the HIMS program, which is dedicated to pilots with substance dependence issues, as a successful program focused on the wellbeing of the pilot and reducing stigma. Accordingly, others from the aviation community expressed the desire for FAA to establish a comparable program dedicated to pilots with mental health conditions. In summary, addressing barriers that discourage pilots from disclosing mental health issues is critical to helping FAA mitigate potential aviation safety risks.

We are making two recommendations to enhance FAA's ability to mitigate potential aviation safety risks.

FAA Has Comprehensive Procedures To Evaluate Airline Pilots' Psychological Health

FAA's procedures to evaluate pilots' psychological health consist of a framework of policies and guidelines, as well as collaboration with airlines. FAA's AME Guide provides the guidelines for AME evaluations. AMEs are a key part of the process, as they conduct medical examinations of all medical certificate applicants and have the authority to issue medical certificates. The AME Guide contains detailed requirements for many types of mental health conditions applicants disclose. This includes how AMEs obtain a detailed description and history of applicant conditions, gather medical records, assist applicants with obtaining psychiatric or psychological examinations, and determine if the applicant should be deferred to FAA for further evaluation. FAA personnel also use the AME Guide when they evaluate deferred applications. In addition, the Agency requires pilots approved to take SSRI medications to follow strict protocols, which include AMEs obtaining pilots' psychiatric and psychological evaluations at specified time intervals.

FAA also has guidelines to assist Agency personnel with evaluating applicants' medical conditions. For example, it identifies which mental health conditions disqualify an applicant, what types of medical records and reports are needed to evaluate specific conditions, what types of medications are unacceptable, and when a case is complex enough for referral to FAA's Chief Psychiatrist. The Chief Psychiatrist said that reviewing complex cases includes reading case notes; looking at clinical documents, such as psychiatric evaluations and other documents related to the applicant's medical condition; and consulting with other psychiatrists. The Chief Psychiatrist also considers mental health risk factors that could trigger depression, including personal issues and post-traumatic stress disorder.

In conjunction with its policies and procedures, FAA collaborates with airline personnel to monitor and evaluate pilots in the HIMS program. In particular, pilots in the program are required to receive psychiatric and psychological evaluations. FAA personnel or a HIMS AME reviews these reports as part of the recertification process to determine if the pilot remains eligible for a medical certificate. Additionally, pilots in the early phases of the HIMS program must submit to, at a minimum, 14 random and unannounced drug tests every 12 months. They must also provide FAA with monthly assessment reports, from a peer pilot and chief pilot, which attest to the pilot's abstinence from drugs and alcohol.

In our review of 69 randomly selected applicants for first- or second-class medical certificates,¹¹ we found FAA conducted evaluations in accordance with Agency policies, guidelines, and Federal requirements. We obtained relevant, redacted FAA medical records for each applicant from the Agency's database system.¹² The information included descriptions of applicants' medical history, including diagnoses, medications taken, and results of psychological and psychiatric examinations. The records also included the Agency's justification for issuing or denying an applicant's medical certificate. FAA denied medical certificates for various reasons, including an applicant's use of unapproved medications, disqualifying medical conditions, and failure to provide requested information. For 29 applicants in our sample, AMEs deferred the associated applications to FAA for further review. Initially, FAA denied 20 of the applicants' medical certificates. However, the Agency later issued three certificates to applicants that took corrective actions (see table).

Table. FAA Denials of Sampled Medical Certificates

| Reason for Medical Certificate Denial | Applicants Denied |
|--|-------------------|
| Failure to provide requested information ^a | 9 |
| Substance dependence ^b | 4 |
| Depression, mood disorder, and disqualifying medication | 1 |
| Major depressive disorder, general anxiety disorder, and suicidal ideation | 1 |
| Depression, anxiety disorder | 1 |
| General anxiety with disqualifying medication | 1 |
| Depression and anxiety with disqualifying medication ^c | 1 |
| Disqualifying medication | 1 |
| Polysubstance dependence, post-traumatic stress disorder, depression | 1 |
| Total | 20 |

^a FAA issued a medical certificate after an applicant provided all requested information.

^b FAA issued a medical certificate after an applicant engaged in the HIMS program and received favorable reports.

^c FAA issued a medical certificate after an applicant discontinued disqualifying medication and found appropriate ways to manage stressors.

Source: OIG analysis of FAA information

We also reviewed psychiatrists' and HIMS AMEs' reports and evaluations for pilots and verified the information was accurately reflected in FAA's database. Additionally, these reports contained mental status evaluations and confirmation the pilots were complying with random drug testing requirements.

¹¹ Pilots need a first- or a second-class medical certificate as evidence they meet the applicable medical standards in 14 C.F.R. § 67 to operate a passenger aircraft.

¹² Personally Identifiable Information was redacted from all documentation FAA provided.

Overall, we found FAA's procedures for evaluating airline pilots' psychological health were comprehensive. For example, FAA withdrew the authorization for a pilot's special issuance of a medical certificate due to substance dependence.¹³ As a result, a HIMS psychiatrist recommended the pilot complete an inpatient treatment program. Although nearly 2 years later the pilot reported having abstained from alcohol use, FAA's physician would not consider issuing a medical certificate until the pilot had successfully completed a treatment program. FAA's physician also suggested a preferred type of treatment program for the pilot that would result in a better long-term prognosis and decreased risk of relapse. Eventually, the pilot completed a treatment program and received favorable evaluations and reports from medical and airline personnel. However, because the HIMS psychiatrist's evaluation concluded the pilot was not in satisfactory recovery, FAA's physician recommended FAA deny the pilot's application for a special issuance, pending continued progress with recovery and an updated favorable evaluation from the HIMS psychiatrist. Upon receiving favorable reports from the HIMS psychiatrist, as well as the HIMS AME and chief pilot, the Agency granted a special issuance of a medical certificate. When it approved this special issuance, FAA required the pilot to comply with a number of conditions, including random, unannounced drug and alcohol testing; evaluations by a HIMS AME every 3 months and a HIMS psychiatrist every 12 months; weekly attendance at group aftercare; and twice-weekly meetings with a peer support group. Furthermore, the pilot had to provide reports from a peer pilot and the airline's chief pilot or flight operations supervisor to the HIMS AME that attested to the pilot's abstinence from alcohol, competence, crew interaction, and mood.

FAA's adherence to detailed procedures provides it with an extensive and structured process to evaluate pilots' psychological health—a key component for helping mitigate potential safety risks.

¹³ The pilot previously held a special issuance of a medical certificate for alcohol abuse; subsequently, the HIMS psychiatrist diagnosed the pilot with substance dependence.

FAA's Ability To Mitigate Safety Risks Is Limited by Pilots' Reluctance To Disclose Mental Health Conditions

FAA relies on applicants to self-disclose mental health conditions¹⁴ but FAA's ability to mitigate safety risks is limited by pilots' reluctance to comply with self-disclosure requirements. While FAA lacks substantial data regarding unreported mental health conditions, a 2016 study asked airline pilots to take a survey that included a questionnaire used to clinically assess depression. The study concluded that 12.6 percent of respondents were managing depression and 4.1 percent reported having suicidal thoughts without treatment because they feared negative impacts on their career.¹⁵ Further, in a 2019 study on pilots avoiding seeking health care,¹⁶ 38.8 percent of pilots feared losing their medical certificate and reported withholding information from their physician.

According to FAA and aviation industry organization officials, primary factors that discourage pilots from reporting their mental health conditions are the stigma associated with mental health, potential impact on their careers, and fear of financial hardship. Highlighting the importance of these factors, the pilot's fear of financial hardship and the impact of reporting a mental health condition on the pilot's career were also listed as potential contributing factors in the Germanwings accident report.

According to an aerospace medical expert, the amount of time it takes to complete the medical certification process may discourage pilots from disclosing mental health conditions. The expert gave the example of pilots experiencing financial hardship if FAA's approval process extends beyond the pilot's prescribed disability benefit period. The total length of an applicant's FAA medical certification process is dependent on various factors, including but not limited to the nature of the applicant's mental health condition, documentation requested by FAA, evaluation of the applicant's mental health condition by medical

¹⁴ Pilots are required to ground themselves if they have a medical condition that prevents them from meeting medical certification requirements. Applicants are given notice in the application that they can be fined up to \$250,000, imprisoned not more than 5 years, or both if they knowingly and willingly falsify, conceal, or cover up a material fact or make false, fictitious, or fraudulent statements.

¹⁵ Environmental Health, *Airplane pilot mental health and suicidal thoughts: a cross-sectional descriptive study via anonymous web-based survey*, 2016. The survey included the Patient Health Questionnaire, which is used in clinical studies to assess depression. Of the 3,485 pilots surveyed, 1,848 responded to the Patient Health Questionnaire.

¹⁶ Journal of Occupational and Environmental Medicine, *Pilots' Healthcare Seeking Anxiety When Experiencing Chest Pain*, 2019.

professionals, and time it takes for the applicant to provide information. Furthermore, applicants may be required to submit documents from multiple sources, including a treating physician, board-certified psychiatrist, neuropsychologist, HIMS AME, and chief pilot, before FAA will begin evaluating whether pilots are eligible for a medical certificate. Specifically, before pilots beginning to take SSRI medications can submit their application for a medical certificate, they must remain on a stable dosage for at least 6 months with no side effects that could impact their ability to safely operate an aircraft.

Adding to the length of the certification process, FAA currently sends correspondence and requires applicants to provide all documentation by mail. After receiving documents, it may also take FAA an additional 10 days to scan them into its database system. Our review of 69 medical certificate applicants showed AMEs issued the majority of medical certificates for applicants that had previously been through the special issuance process on the day of their medical examination.¹⁷ In contrast, for applicants AMEs deferred to FAA for further review, it took the Agency an average of about 138 days—ranging from zero days¹⁸ to 459 days—to issue a medical certificate or deny the application.

To its credit, FAA is working on medical certification process improvements that could mitigate safety risks from pilots who are reluctant to disclose mental health conditions due to the length of the certification process. For example, in October 2023, FAA plans to complete an enhancement to its database system that allows AMEs to electronically transmit clinical documents from applicants and their treating clinicians. Moreover, according to FAA, it has taken action to address recommendations from the ARC report, which were to enhance AME training and disseminate information on pilot support programs. FAA's upgrades to its database systems and actions taken to address recommendations from the ARC report may help the Agency mitigate potential safety risks.

Although FAA is making improvements to remove barriers that discourage pilots from disclosing their mental health conditions, there are various opportunities for the Agency to further mitigate safety risks. The ARC stated in its report that the best way to minimize risks from pilot mental health is to create an environment that encourages and supports pilot self-disclosure. Also, the report noted it is important that pilots receive timely, accessible, and accurate support information. Furthermore, the aviation and medical communities also regard peer support as a valuable resource for pilots. For instance, a former FAA Federal Air Surgeon, FAA Chief Psychiatrist, aviation industry clinical leaders, a professional pilot, and forensic psychiatrists discussed pilot support programs and concluded that peer

¹⁷ AMEs may recertify an applicant who has a medical condition that is disqualifying under 14 C.F.R. § 67.401 under the provisions of a special issuance previously granted by an FAA physician.

¹⁸ Calculation is from the date of the applicant's medical exam to date of FAA's decision. Therefore, zero days indicates the date of exam and date of FAA's decision are the same.

support, with cooperation from companies and regulators, can increase the likelihood of treatment and improve safety.¹⁹

In addition, the various organizations we spoke with regard the HIMS program as successful at helping pilots with substance dependence issues. For instance, air carrier and union representatives said the HIMS program is focused on the wellbeing of the pilot and has reduced stigma; and representatives from pilot unions, air carriers, and the aerospace medical community expressed a desire for FAA to establish a program that is dedicated to pilots with mental health conditions, as the HIMS program is dedicated to pilots with substance dependence issues. Pilots in the HIMS program have more frequent evaluation and monitoring points, depending on what phase of the program the pilot is in, compared to pilots being treated with an SSRI medication. For example, a pilot in our sample was in the HIMS program and had to submit monthly reports from a chief pilot attesting to the pilot's competence, crew interaction, and mood, as well as a peer pilot attesting to abstinence from alcohol. The pilot had to submit quarterly reports from an aftercare counselor and be evaluated every 6 months by a HIMS AME and every 12 months by a HIMS psychiatrist. In contrast, a pilot in our sample being treated with an SSRI medication had fewer monitoring and evaluation points. The pilot had to submit a report to the AME from a chief pilot every 3 months attesting to competence, crew interaction, and mood, as well as be evaluated by a HIMS AME and treating psychiatrist every 6 months and a clinical neuropsychologist every 12 months.

In summary, addressing barriers that discourage pilots from disclosing mental health issues is critical for FAA to mitigate potential aviation safety risks.

Conclusion

The Germanwings tragedy highlighted the importance of monitoring airline pilot psychological health. After the Germanwings accident, FAA took additional action to address the crucial topic of pilot mental fitness by forming an investigative committee and implementing the committee's applicable recommendations. To make further progress on this critical issue, it is imperative that FAA continues to address barriers that may discourage pilots from disclosing and seeking treatment for mental health issues. A continued focus on this issue from FAA and industry stakeholders could improve mental health outcomes for airline pilots and enhance FAA's ability to mitigate safety risks.

¹⁹ The Journal of the American Academy of Psychiatry and the Law, *Psychiatry and Fitness to Fly After Germanwings*, Volume 48, Number 1 (2020).

Recommendations

To address the Agency's need to encourage pilots with mental health issues to disclose and seek treatment for their conditions, we recommend the Federal Aviation Administrator:

1. Collaborate with airlines, airline pilot unions, and the aerospace medical community to conduct an assessment to identify ways to address barriers that discourage pilots from disclosing and seeking treatment for mental health conditions, based on the latest data and evidence.
2. Develop and implement policy and protocol revisions recommended in the assessment.

Agency Comments and OIG Response

We provided FAA with our draft report on May 18, 2023, and received its response on June 15, 2023, which is included as an appendix to this report. FAA concurred with our two recommendations and provided appropriate actions and completion dates. Accordingly, we consider both recommendations resolved but open pending completion of the planned actions.

Actions Required

We consider recommendations 1 and 2 resolved but open pending completion of planned actions.

Exhibit A. Scope and Methodology

This performance audit was conducted between December 2020 and May 2023. We conducted this audit in accordance with generally accepted Government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Our audit objectives were to assess FAA's procedures for (1) evaluating the psychological health of airline pilots and (2) mitigating potential threats to aviation safety from pilots with psychological health issues. This report is in response to a request from Senator Dianne Feinstein.

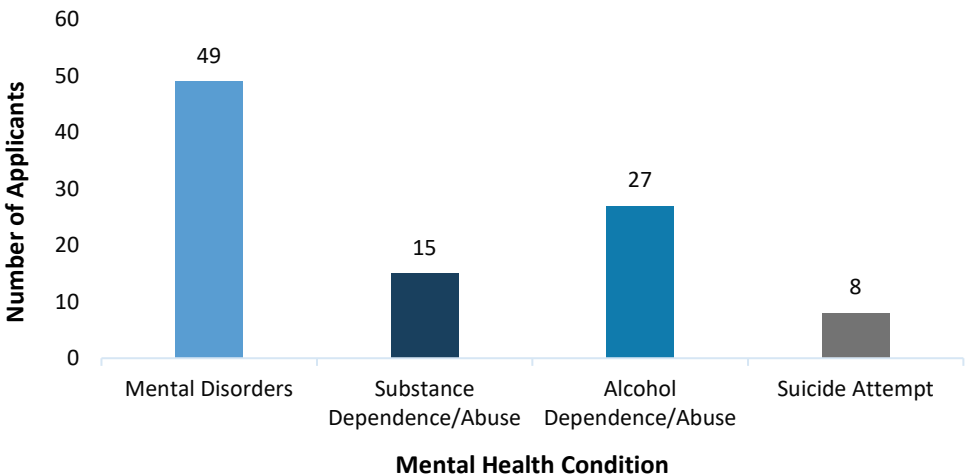
To accomplish our objectives and assess internal controls, we reviewed Federal law, regulations, and FAA policies and guidelines, as well as the Germanwings accident report. We also met with FAA officials and medical professionals involved in the medical certification process and interviewed pilot unions, airline representatives, and the National Transportation Safety Board to obtain their knowledge and perspective surrounding pilot mental health. Further, to assess FAA's procedures for evaluating the psychological health of pilots, we selected a sample of 69 medical certificate applicants. We obtained and reviewed the associated applications, correspondences, and case notes. We met with personnel from the Agency's Medical Specialties Division to understand each applicant's mental health history and status. We interviewed FAA's Chief Psychiatrist to understand the role and process for assessing applicants' mental health. With an AME and HIMS AME, we discussed the medical examination procedures they used with applicants. In addition, we obtained psychiatrists' reports to verify that case notes supported FAA's decision to issue a medical certificate.

We were unable to fully review FAA's Document Imaging and Workflow System, which is where it maintains the records for medical certificate applicants. The Agency did not grant us direct read-only access, in part, to protect the identities of the applicants. However, FAA extracted data from the system for us as needed, in a reliable and timely manner, and redacted Personally Identifiable Information from the documents.

We also used our review of the documents FAA provided to assess how the Agency's evaluation procedures helped mitigate potential threats to aviation safety. In addition, we reviewed the Germanwings accident report, specifically the analysis of the copilot's mental health history and causes of the accident. We reviewed the ARC report and recommendations and discussed pilot mental health with an aerospace medical expert.

We developed our sample by obtaining data associated with 23,526 unique applications for applicants under age 65 at the time of exam who applied for first- or second-class medical certificates, completed medical exams in 2019 and 2020, and answered “yes” on Form 8500-8, question 18. Question 18 asked if the applicant had any of the following medical conditions: mental disorders of any sort (depression, anxiety, etc.); substance dependence or failed a drug test ever; substance abuse or use of illegal substance in the last 2 years; alcohol dependence or abuse; or suicide attempt (see figure 2). As an applicant could have more than 1 application, the 23,526 unique applications were summarized to 10,843 unique applicants based on their applicant ID. The applicants were stratified into 4 categories: (1) 6,852 applicants who stated only having mental disorders; (2) 2,309 applicants who stated having alcohol dependence or abuse; (3) 8 applicants who stated having mental disorders, substance dependence, alcohol dependence or abuse, and a suicide attempt; and (4) 1,674 applicants in all other categories. We then selected a statistical sample of applicants.²⁰

Figure 2. Distribution of Disclosed Medical Conditions in Our Medical Certificate Applicant Sample



Source: OIG analysis of FAA information

We conducted a reliability assessment of the data set from which we obtained our sample by observing FAA compile a second data set from the Document Imaging and Workflow System based on our requested parameters. We

²⁰ For the total sample size computations, we used an estimated noncompliance rate of 50 percent, a confidence level of 90 percent, and a precision no greater than +/- 10 percent, proportional to strata, with a census of strata 3. The final stratified simple random sample comprised a random sample of 38 applicants from strata 1, a random sample of 13 applicants from strata 2, a census of all 8 applicants in strata 3, and a random sample of 10 applicants from strata 4 (all others).

determined completeness and accuracy by comparing our original dataset with the second dataset. We found discrepancies in the number of records between the two datasets but determined them to be insignificant and concluded the computer-generated data we used for our sample were valid and sufficiently reliable.

Exhibit B. Organizations Visited or Contacted

Federal Aviation Administration

Office of Aerospace Medicine

Other Organizations

Aerospace Medical Association

Airlines for America

Airlines for America Operations Council

Air Line Pilots Association, International

Association of Flight Attendants

Coalition of Airline Pilots Associations

National Transportation Safety Board

Southwest Airlines

Exhibit C. List of Acronyms

| | |
|--------|---|
| AAM | Office of Aerospace Medicine |
| AMA | American Medical Association |
| AME | Aviation Medical Examiners |
| ARC | Pilot Fitness Aviation Rulemaking Committee |
| C.F.R. | Code of Federal Regulations |
| DOT | Department of Transportation |
| FAA | Federal Aviation Administration |
| HIMS | Human Intervention Motivation Study |
| OIG | Office of Inspector General |
| SSRI | Selective Serotonin Reuptake Inhibitor |

Exhibit D. Pilot Fitness Aviation Rulemaking Committee (ARC) Recommendations

| ARC Recommendations | ARC Rationale | FAA Reported Action |
|--|--|---|
| <p>1. Enhance AME Training:</p> <p>FAA should ensure all AMEs demonstrate knowledge in assessing basic mental health concerns and enhance AME training on this topic.</p> | <p>Most AMEs have limited psychiatric education and experience. It is desirable to expand general knowledge regarding mental status assessment and mental health.</p> | <ul style="list-style-type: none"> • One hour of mental health content added to AME Basic Seminar (50 percent increase). • Two new modules added to online training. • Requirement for HIMS AME refresher training implemented. • Checklists and certification aids for SSRI added to the AME Guide. |
| <p>2. Psychological Testing:</p> <p>The ARC does not recommend mandating formal psychological testing during the pilot hiring process nor as part of routine FAA aviation medical examinations beyond those which already exist.</p> | <p>The ARC found no convincing data to conclude that adding psychological testing to the hiring process or to the routine medical examinations enhance the ability to assess the mental fitness of the pilot workforce.</p> | <p>No action from FAA as ARC does not recommend mandating formal psychological testing during the hiring process.</p> |
| <p>3. Pilot Assistance Programs:</p> <p>Air carriers should develop effective pilot assistance programs.</p> | <p>An environment needs to be created where pilots feel comfortable disclosing mental health issues. The successful implementation of pilot support programs benefits from a joint collaboration between the air carrier to include senior management support, its pilot representative organization, and pilot peer volunteers. The trusting relationship with a fellow pilot in a peer-supported program may provide the best opportunity to identify and engage an individual requiring assistance. If a culture of mutual trust and cooperation is maintained, pilots are less likely to conceal a condition and more likely to report and seek help for mental health issues.</p> | <ul style="list-style-type: none"> • No action from FAA as recommendation is directed to air carrier operators. • AAM has supported airline efforts regarding pilot assistance programs by attending and presenting at annual program meetings. • Delta: Pilot Assistance Network (PAN). • American: Project Wingman. • Southwest: Project Lift. • United: Support Outreach Assistance Resources – Peer Support Program. • FEDEX: Pilot Assistance Team Hotline (PATH). • Air Line Pilots Association (ALPA): Peer Pilot Support Program. |
| <p>4. Air Carrier Education:</p> <p>Air carrier operators should be encouraged to implement mental health education programs for pilots and supervisors that improve awareness and recognition of mental health issues, reduce stigmas, and promote available resources to assist with resolving mental health problems.</p> | <p>Improved mental health literacy is associated with earlier reporting and improved treatment outcomes.</p> | <p>No action from FAA as the recommendation is directed to air carrier operators.</p> |

| ARC Recommendations | ARC Rationale | FAA Reported Action |
|--|---|---|
| <p>5. Informational Material on Pilot Support Programs:</p> <p>FAA should assemble and disseminate information on benchmark pilot support programs, which includes pilot assistance programs, to serve as a resource for air carriers to develop new or improve existing programs.</p> | <p>There is a need for more opportunities for sharing best practices among air carriers. Providing the basic description, function, and benefits of pilot support programs will encourage air carriers to implement some or all of these programs. Implementation of the full complement of these programs is considered a best practice.</p> | <ul style="list-style-type: none"> • Pilot Peer Support Program training manual developed by ALPA. FAA Headquarters psychiatrist reviewed and provided feedback to ALPA. • International Federation of Airline Pilots Associations published the Pilot Assistance Manual in 2018. |
| <p>6. Medical Professional Reporting:</p> <p>Encourage advocacy for a uniform national policy on mandatory reporting of medical issues that affect public safety.</p> | <p>In the United States, medical professional reporting responsibilities are unclear. Reporting requirements and guidelines vary by State and by licensing boards. The perceptions of adverse legal consequences of reporting appear to be greater than not reporting. AMEs are expected to report issues potentially affecting public safety, but among medical professionals at large, concerns exist about professional and legal liability for violating patient privacy.</p> | <ul style="list-style-type: none"> • No action from FAA as recommendation is directed to aerospace medical professional stakeholders. • AAM requested Aerospace Medical Association (AsMA) champion a resolution. • AsMA delegate brought proposal (Medical Reporting for Safety Sensitive Positions) to American Medical Association (AMA) House of Delegates. • Proposal was referred to subcommittee. • No resolution was passed. |
| <p>7. Two Persons on Flightdeck and Flightdeck Access:</p> <p>The ARC recommends no changes to the guidance found in FAA Order 8900.1, "Procedures for Opening, Closing, and Locking Flight Deck Doors" concerning two persons on the flightdeck and flightdeck access.</p> | <p>The ARC notes that mental health episodes have occurred even with two persons in the cockpit, and no single safety practice can address all possible hypothetical events, and other civil aviation authorities may have different procedures best suited to their regulated air carriers and operating environments.</p> | <p>No action from FAA as ARC recommends no changes to guidance found in FAA Order 8900.1.</p> |
| <p>8. Aircraft Design Standards:</p> <p>The ARC believes existing aircraft and flightdeck door design standards are adequate and no changes are required by FAA.</p> | <p>No additional design requirements or pending technologies have been identified that would reduce risk more than those systems currently in place.</p> | <p>No action from FAA as ARC recommends no changes required by the Agency.</p> |

Exhibit E. Major Contributors to This Report

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Appendix. Agency Comments



Federal Aviation Administration

Memorandum

Date: June 15, 2023

To: Nelda Z. Smith, Assistant Inspector General for Aviation Audits

From: Erika Vincent, Acting Director, Office of Audit and Evaluation, AAE-1

Subject: Federal Aviation Administration's (FAA) Response to Office of Inspector General (OIG) Draft Report: FAA Conducts Comprehensive Evaluations of Pilots with Mental Health Challenges, but Opportunities Exist to Further Mitigate Safety Risks

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VINCENT

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Date: 2023.06.15
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The FAA is committed to outreach and mental health education in the aviation community. The Agency has long recognized the importance of pilot mental health to the safety of the national air space. As early as 1974, it championed the Human Intervention Motivation Study (HIMS) program to allow a safe return to flying for pilots with substance addiction in recovery. In 2010, the Selective Serotonin Reuptake Inhibitor (SSRI) Program provided a path for pilots with a variety of mental health diagnoses adequately treated with specific antidepressants to safely return to the cockpit. The FAA has continued to re-evaluate and modify these programs as new data and treatments become available. These enhancements help to reduce the stigma associated with mental health, the potential impact on pilot careers, and the fear of financial hardship that may deter pilots from seeking help. The Federal Air Surgeon has made breaking down barriers to seeking mental health care and full disclosure a high priority.

The FAA notes that it is the complexity of mental health diagnoses, the vast array of mental health practitioners that may be involved in a pilot's treatment, and the ever-expanding treatments and therapies prescribed by mental health professionals that necessitate the agency's extensive evaluation procedures. Although OIG acknowledges the success of the FAA's HIMS program, the FAA has concerns about the report's comparison between the necessarily different HIMS and SSRI programs.

- The HIMS program monitors the effectiveness of treatment in pilots with specific diagnoses of substance dependence. In contrast, the SSRI program monitors the course of a variety of mental health diagnoses (e.g., depression, anxiety, panic disorder, obsessive-compulsive disorder, eating disorder, and others). Each of these diagnoses has a different disease course, different treatment options, and different outcomes—even though SSRI medications may be prescribed as part of the treatment plans for all of them at different

points.

- Structured or mandatory peer support group participation will not necessarily benefit individuals with all diagnoses that may be treated with SSRI medications.
- SSRI medications are treatments for conditions, not conditions themselves. The type of treatment prescribed by a medical professional should not be the basis for mandating an additional specific treatment protocol – e.g., peer support. Individuals behave and respond differently to treatment, and medical professionals are the appropriate arbiters of patient care. The FAA notes that expanding the SSRI program to include unnecessary treatment or monitoring protocols would likely further deter pilots from pursuing evaluation and care.

Upon review of the draft report, the FAA concurs with both recommendations 1 and 2 as written and plans to implement recommendation 1 by April 30, 2024. By September 30, 2024, the FAA will inform OIG of its timeline to implement recommendation 2 based on the outcomes of the completed assessment. We appreciate this opportunity to offer additional perspective on the OIG draft report. Please contact Erika Vincent at erika.vincent@faa.gov if you have any questions or require additional information about these comments.

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Office of Inspector General

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