What Can Be Done About Pilot Depression, Suicide, and Other Flight Crew Mental Health Issues?

Scott Brooksby and Brian J. Alexander – November 9, 2017

Mental health problems are nearing epidemic levels in the developed world. According to the Centers for Disease Control (CDC), suicide is the tenth leading cause of death and claims over 43,000 lives per year. Not surprisingly, if it is an issue in the mainstream, you can bet it is a problem in the cockpit. It is true that pilot mental fitness—and its connection to human factors analysis—has always been a critical aspect of aviation safety, but recent events suggest it is becoming even more important to examine ways to identify mental health problems that may affect pilot performance and safety in the cockpit. As Jet Blue founder and former chief executive officer David Neeleman suggested, “nobody ever thought about having to protect the passengers from the pilots.”

In truth, most pilots would readily acknowledge that while the use of medications to help mitigate the effects of mental illnesses has been a hot button issue in aviation for some time, actual evaluation of mental and emotional fitness in connection with medical certification and continuing monitoring for symptoms has not been a priority for the Federal Aviation Administration (FAA) or flight surgeons. In addition, the reliance on self-reporting by pilots as part of the medical certification process, as well as the confidentiality that protects doctors from disclosure, has created a dangerous dynamic in the cockpit that can make it difficult for aviation authorities and commercial carriers to vet and identify these dangers before it is too late. Add to these factors, the compelling incentive for pilots to hide mental health issues for fear of losing their jobs and you have little chance of ever identifying the problem, let alone getting pilots the help they need. In the end, aviation safety advocates must consider whether it is realistic to think that merely asking a pilot during a flight physical how he or she feels or how is the family or whether any issues are
troubling you, etc., will trigger a response that will reveal a mental deficiency.

Notably, in the wake of the tragic circumstances surrounding Germanwings 9525 and MH370, the FAA chartered the Pilot Mental Fitness Aviation Rulemaking Committee (ARC), which released its report in November 2015. The ARC put forth several recommendations, but overall there was a reluctance to incorporate a more aggressive psychological evaluation into the medical certification process, owing to the fact that sudden onset of dangerous psychosis is relatively rare and impossible to predict.

This article examines the circumstances in Germanwings 9525 and other notable events that evidence an uptick in incidents related to pilot mental fitness in the last two decades and underscores the need for the aviation sector to do more in vetting and monitoring pilots' mental health. The issues are complicated and may best be viewed from the different perspectives of four distinct groups: the flying public, the airlines, the regulators, and pilots.

**Timeline of the Germanwings 9525 Crash**
- On March 24, 2015, the A320 aircraft was on a scheduled flight en route from Barcelona to Dusseldorf, with 144 passengers and a crew of 6. The 27-year-old copilot, Andreas Lubitz, locked the pilot out of the cockpit and programmed the aircraft to accelerate and descend into mountainous terrain, killing all on board.
- Lubitz had been flying for Germanwings since June 2014.
- Lubitz's first-class medical certificate was issued in April 2008.
- Lubitz began classroom training at the Lufthansa Training School in September 2008.
- Lubitz suspended his academic studies in early November 2008 for medical reasons. Shortly thereafter, he began nine months of intense psychotherapy for severe depression. His treatment included two antidepressant medications, Cipralex and mirtazapine.
- In April 2009, his class 1 medical certificate was not revalidated due to severe depression and related medications.
- In mid-July 2009, his request for revalidation of his medical certificate was again refused by the Lufthansa Aeromedical Center.
- On July 28, 2009, Lubitz was issued a medical certificate. Notably, the medical certificate contained a waiver due to a prior major depressive episode without psychotic symptoms that lasted from August 2008 to July 2009. The waiver provided that the medical certificate would be revoked if there was a relapse into depression.
- Lubitz submitted an FAA medical certificate application form falsely indicating he had not had any history of mental disorders of any sort, including depression and anxiety.
- The FAA deferred Lubitz's application, subject to providing additional medical records and other information.
- Lubitz provided two inconsistent letters from his treating psychiatrist to the FAA, and his application for student pilot license and medical certificate was granted.
- Lubitz's FAA medical certificate came with a warning that, due to his history of depression, he is prohibited from operating an aircraft if any new symptoms or adverse changes occur or if medication or treatment is required at any time.
- Lubitz entered the Airline Training Center Arizona, Inc. (ATCA) for flight training and presented his medical and license documentation from Germany and the FAA as required.
- ATCA allegedly did not inquire into Lubitz's medical history or the meaning of the notation on Lubitz's license. Nor did ATCA ask if he had ever had his license or medical certificate deferred, denied, suspended, or revoked.
- ATCA was nonetheless aware there was a one-year delay in Lubitz's training.
- According to recently released federal Bureau of Investigation interviews of ATCA personnel, Lubitz was described as "struggling with training" and "not an ace pilot." He also failed a check ride for loss of situational awareness.
- In December 2014, Lubitz experienced symptoms consistent with the onset of a psychotic depressive episode.
- Lubitz then consulted with several doctors, including a psychiatrist, who prescribed an antidepressant.
- Allegedly, none of the doctors notified the authorities or Germanwings.
- Lubitz waited until he was alone in a cockpit at cruise altitude, and then he changed the selected altitude from 38,000 feet to 100 feet, leading to a steady descent into terrain.
- He also increased and decreased the airspeed inputs multiple times.
- Lubitz ignored the pilot in command pounding on the cockpit door and calls from civilian and military air traffic controllers and from other aircraft, and he kept the cockpit door locked.
- Lubitz had practiced similar inputs on a flight earlier that day.

https://www.americanbar.org/groups/litigation/committees/mass-torts/articles/2017/winte... 11/20/2017
The official investigation by the French authorities concluded that the crash was intentional.

The Germanwings 9525 Investigation, Recommendations, and Litigation

The crash in the French Alps was investigated by French authorities, the Bureau d’Enquêtes et d’Analyses (BEA), with assistance from its German counterpart, the Federal Bureau of Aircraft Accident Investigation (BFU). The BEA released its preliminary report on May 6, 2015, and its final report on March 13, 2016.

As a result of the crash and its aftermath, aviation authorities around the globe have changed the rules and now require that at least two flight crew members, including one pilot, occupy the flight deck at all times during a flight. On the medical front, the aviation authorities recommended that changes be made to the circumstances that would require doctors to warn aviation authorities when a commercial pilot’s mental health poses a potential risk to the flying public. Among other things, the aviation authorities recommended more vigorous monitoring of pilots especially if they have had any prior incidence of mental health problems. Last, they called for examination of a more liberal use of medications during flight to control dangerous behavior so long as it is closely monitored by medical professionals.

Late last year, in Germany, the aviation authorities there improved the pilot vetting process by including drug and alcohol screening and comprehensive mental health assessment as part of the medical certification process. In addition, they too are making changes to enhance the monitoring of pilots who have a history of mental illness. The looming question for aviation safety advocates is whether such changes are enough to prevent such incidents from occurring in the future.

In early 2016, attorneys representing primarily German families who had lost loved ones filed a lawsuit in federal court in Arizona against the Airline Training Center Arizona, Inc. (ATCA), a wholly owned subsidiary of the Lufthansa Airline Group, alleging that ATCA was negligent in allowing Lubitz to become an airline pilot in light of his mental health history and, further, that ATCA failed to properly screen and monitor him in connection with his training and evaluation to become a commercial airline pilot. The plaintiffs also contended that ATCA had a duty to examine Lubitz’s German and FAA medical certificates to ensure he did not have a medical condition that would disqualify him or otherwise render him unsuitable to be a commercial airline pilot.

In response, ATCA filed motions to dismiss, arguing ATCA did not have a duty under the circumstances and that any act or omission by ATCA was not a proximate cause of the crash that occurred years later in France. In the alternative, ATCA moved to dismiss on forum non conveniens grounds in favor of Germany.
In denying the defendant's motion to dismiss, the court held that "even if ATCA did not have specific knowledge of Lubitz's mental health history before he arrived in Phoenix and began the program, Plaintiffs' allegations support a reasonable inference that ATCA, upon inquiry into the restriction, could have, and should have, known about Lubitz's history." See Oto v. Airline Training Center Arizona, Inc., 247 F. Supp. 3d 1098 (D. Ariz. Mar. 27, 2017).

As to the defendant's argument that it owed no duty to the Germanwings' passengers, the court held that

Section 324 provides a reasonable basis for Plaintiffs to allege a duty in this case. If indeed ATCA knew, or could have reasonably known, of Lubitz's potentially disqualifying mental health conditions, it is not unreasonable to conclude that ATCA had a duty to make an inquiry about Lubitz's condition to determine if he was suitable to continue in the ATCA portion of the flight training program and beyond.

Oto, No. 2:16-cv-01027-DJH, slip op. at 9.

The court added that "'[s]urely it is not beyond the scope of a flight training school's services to take reasonable steps to ensure a commercial airline pilot candidate is mentally qualified to continue in the program." Id. at 10.

As to forum non conveniens, the court granted ATCA's motion, finding that Germany was an adequate alternate forum and, further, that the private and public interest factors favored the German forum. However, the court imposed certain conditions on the dismissal "to ensure that Plaintiffs are not without forum to present their claims against Defendant." Id. at 16. Several of the conditions were typical, including the requirement that (1) the German court must accept jurisdiction over the case and the defendant; (2) ATCA must agree to accept service, agree to the jurisdiction of the German court, and make available in Germany, at its expense, all witnesses and evidence that it is required to produce; (3) ATCA must agree that it will satisfy any judgment imposed by the German court; and (4) ATCA must agree to waive any available statute of limitations defenses in Germany, provided that the plaintiffs file the case in Germany within 180 days of the court's order. Notably, the court also required ATCA to "comply with the discovery rules in the Federal Rules of Civil Procedure to the extent that German discovery rules are more restrictive and limit Plaintiffs' access to information that would otherwise be available under the Federal Rules of Civil Procedure." Id. Litigation has been commenced in Germany, and the U.S. court has extended the filing date to December 31, 2017.

If nothing else, the Germanwings tragedy highlights the failure of self-reporting alone as an effective way to vet and monitor pilots'
Keeping in mind the mantra that safety delayed is safety denied, the aviation community should continue to address more stringent screening by FAA aeromedical examiners in connection with all levels of licensing, especially for commercial pilot privileges. FAA aviation medical examiners (AMEs) should also receive more thorough training on recognizing the symptoms of potentially dangerous mental health problems. In addition, we should continue to increase the overall awareness of early indicators that an aviation professional is suffering from anxiety, depression, or other acute mental illness, and at the same time, we must reduce the stigma of self-reporting and continue to more vigorously integrate treatment (including the use of medications) all the while being mindful of serious privacy issues.

**The Mental Health Landscape**

It is not a secret that there is a mental health crisis in the United States. According to the CDC, a staggering 25 percent of the U.S. adult population has some form of mental illness. William C. Reeves, MD, et al., "Mental Health Surveillance among Adults in the United States," 60 *Morbidity & Mortality Wkly. Rep.* 1 (Sept. 2, 2011).

According to the CDC, suicide is the ninth leading cause of death, with more than 42,000 suicides in 2014. Nat'I Ctr. for Health Statistics, Leading Causes of Death. Alarmingly, suicide is the second leading cause of death for the 25–34 age group and the fourth leading cause of death for those 35–54. CDC, National Suicide Statistics.

An estimated 9.3 million adults in the United States reported having suicidal thoughts in 2013. Females are more likely to have suicidal thoughts than males, but males take their own lives at nearly four times the rate of females and account for 77.9 percent of all suicides. CDC, Suicide Facts at a Glance 2015.

All of the commercial aviation disasters attributed to pilot mental health issues have involved male pilots. There have been no commercial disasters attributed to mental health involving U.S. carriers. A 2006 study by the FAA notes that between 1993 and 2002, there were 3,648 fatal aviation accidents. The National Transportation Safety Board concluded that there were 16 aircraft-assisted suicides and one incident involving a flight student who intentionally exited a plane. All 16 incidents involved general aviation. The median age of the pilots in those incidents was 40 (ranging from 15 to 67). Robert D. Johnson et al., FAA, *Aeromedical Aspects of Findings from Aircraft-Assisted Suicides in the United States, 1993–2002* (Mar. 2006).

Another study examined statistics on aircraft-assisted suicide in the context of general aviation and concluded that there were 37 cases in which pilots either committed or attempted to commit suicide between 1983 and 2012; 38 percent of the pilots had psychiatric problems, 40 percent of the pilots in suicides or suicide

Pilot mental fitness did not emerge as an issue with the advent of Germanwings 9525. In 2007, the Air Line Pilots Association (ALPA) reported that 25 percent of the ALPA Aeromedical Office calls were related to mental health. Susan Burke, "When Your Mental State Cries Mayday," Air Line Pilot (Aug. 2007).

Despite an apparent recognition among their own ranks that pilot mental fitness is an important issue, the pilot unions in most of the commercial crashes of the last three decades reacted skeptically to, or even disputed, at least initially, claims by investigators that the crashes were intentional.

A 2014 study examined aircraft-assisted suicides in the United States, the United Kingdom, Germany, and Finland between 1956 and 2012. The study concluded that in the United States, for the 20-year period from 1993 to 2012, the aircraft-assisted suicide rate was 0.33 percent. Alpo Vuorio et al., "Aircraft-Assisted Pilot Suicides: Lessons to Be Learned," 85 Aviation, Space & Envtl. Med. 841 (Aug. 1, 2014).

Despite the horrifying circumstances surrounding flights such as Germanwings 9525, mental health issues arise with statistical irregularity in commercial aviation, and investigators do not always agree on the role played by mental health. Linda Werfelman, "States of Mind: Shifting Aeromedical Requirements Could Lead to New Methods of Dealing with Mental Health," AeroSafety World, June 2015.

**Recent Regulatory Action**

In response to Germanwings 9525 and MH 370, the FAA chartered the ARC on May 11, 2015. FAA, Aviation Rulemaking Committee Charter (May 11, 2015).

The ARC released its report on November 18, 2015. The report generally concluded that the best strategy for minimizing the risk associated with pilot mental health is to create an environment that encourages and is supportive of voluntary self-disclosure. The report recognized, however, that even when symptoms are recognized, self-reporting of pilot mental fitness issues may be perceived as a high-risk situation, with financial and even career-ending implications. The report contained eight recommendations:

1. **Enhanced aviation medical examiner training.** The FAA should ensure all AMEs demonstrate knowledge in assessing basic mental health concerns and should enhance AME training on this topic.
2. **Psychological testing.** The ARC does not recommend mandating formal psychological testing during the pilot hiring process nor as part of routine FAA aviation medical examination beyond those which already exist.
3. **Pilot assistance programs.** Air carriers should develop effective pilot assistance programs.
4. **Air carrier education.** Air carrier operators should be encouraged to implement mental health education programs, improve awareness and recognition of mental health issues, reduce stigmas, and promote available resources to assist with resolving mental health problems.
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5. Informational material on pilot support programs. The FAA should assemble and disseminate information on benchmark pilot support programs to serve as a resource for air carriers to develop new programs or improve existing programs.

6. Medical professional reporting. The ARC recommends advocacy for a uniform national policy on mandatory reporting of medical issues that affect public safety.

7. Two persons on flight deck and flight deck access. The ARC recommends no changes to the guidance found in applicable FAA orders.

8. Aircraft design standards. The ARC believes existing aircraft and flight deck door design standards are adequate and that no changes are required by the FAA.

Pilot Fitness Aviation Rulemaking Committee Report (Nov. 18, 2015).

Many of the recommendations contained in the report tracked issues that the Aerospace Medical Association (AsMA) had been addressing just prior to the Germanwings crash. In fact, the AsMA’s coordinating chair had just discussed the issues at the 2014 European Society of Aerospace Medicine conference in Bucharest, Romania, in September 2014, a few months before the crash of Germanwings 9525. Philip J. Scarpa, AsMA, Mental Health Screening in Aviators—AsMA Recommendations (presented at the European Conference in Aerospace Medicine, September 5–7, 2014, Bucharest, Romania).

The International Air Transport Association (IATA) and the International Civil Aviation Organization (ICAO) have both expressed concern about the importance of stepped-up coordinated approaches to monitoring pilot mental health. IATA, Monitoring the Mental Health of Pilots (June 3, 2015).

The BEA investigation into Germanwings 9525 and the ARC report both conclude that pilot perceptions about the potentially career-ending consequences of self-reporting a mental fitness problem and the financial repercussions are serious impediments to effective self-reporting. The BEA report noted that in December 2014, emails created by Lubitz reflect a financial anxiety associated with his inability to obtain additional loss-of-license insurance because of the waiver in his medical certificate.

Conclusion

Pilot mental health will remain an increasingly important issue in the coming years, and it is one without a quick and easy solution. Therefore, if aviation advocates want to prevent tragedies like Germanwings 9525, it will require greater awareness, training, and more efficient vetting and monitoring to approach a level of zero tolerance.

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