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Aircraft-Assisted Pilot Suicides in the United States, 2003-2012

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16. Abstract

Aircraft-assisted suicides are tragic, intentional events that are hard to predict and difficult to prevent. Factors involved in aircraft-assisted suicides may be depression, social relationships, and financial difficulties, just to name a few problems. Suicide attempts using an aircraft almost always result in pilot fatality; they also have the unfortunate potential to cause collateral damage to property and life.

Our laboratory has been interested in epidemiological and toxicological findings from aircraft-assisted pilot suicides. Accident information and case histories were obtained from the National Transportation Safety Board (NTSB) and the Federal Aviation Administration, while toxicological information was obtained from the Civil Aerospace Medical Institute's Bioaeronautical Sciences Research Laboratory.

This paper is a 10-year review (2003-2012) of aircraft-assisted pilot suicides and is a follow up to our previous 1993-2002 review. From 2003-2012, there were 2,758 fatal aviation accidents; the NTSB determined that 8 were aircraft-assisted suicides (all involving the intentional crashing of an aircraft). This number is half of what we found in our previous 10-year review.

All pilots involved in these aircraft-assisted suicides were male, with a median age of 46 years (range 21-68, mean 42 ± 16 years). The pilot was the sole occupant in 7 of the 8 aircraft that were intentionally crashed. Four of the 8 pilots were positive for ethanol, and 2 of the 8 were positive for Selective Serotonin Reuptake Inhibitor (SSRI) antidepressants.

Based on the limited accidents conclusively attributed to suicide, death by the intentional crashing of an aircraft is an infrequent and uncommon event and has declined compared to the previous 20 years.

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INTRODUCTION

Flying continues to be the safest mode of transportation in the United States. This can be attributed to safety oversight, aircraft maintenance, and the aviation medicine certification processes. Pilots have a special relationship with flight, and the aircraft is often felt as a simple extension of the pilot. With such a relationship, the mental well-being of a pilot is paramount to his/her flight safety. During times of excessive stress, pilots predisposed to self-destructive behaviors may display these behaviors during flight.

Aircraft-assisted suicides are tragic, intentional events that are hard to predict and difficult to prevent. Factors involved in aircraft-assisted suicide may be depression, social relationships, and financial difficulties, just to name a few. Suicide attempts almost always result in pilot fatality; they also have the unfortunate potential to cause collateral damage to property and life.

Our laboratory has long been interested in epidemiological and toxicological findings from aircraft-assisted pilot suicides. This study is a 10-year review (2003-2012) of aircraft-assisted pilot suicides and is a follow up to our previous (1993-2002) aircraft-assisted pilot suicide review (1).

METHODS

Information pertaining to case history, accident information, and probable cause(s) of aviation accidents were available either through the National Transportation Safety Board (NTSB) or the Federal Aviation Administration (FAA). The NTSB's database can be accessed online at www.ntsb.gov/aviationquery/index.aspx. Our laboratory gathered medical and toxicological information on all civil aviation fatalities that were determined by the NTSB to result from aircraft-assisted pilot suicide. Other information related to the accident and the airmen's medical certification were obtained from the Document Imaging and Workflow System (DIWS) of the FAA's Civil Aerospace Medical Institute (CAMI), which records aeromedical information and flight experience, as reported by the pilot to the aviation medical examiner (AME) at the time of the medical examination, which is part of the medical certification process (2, 3). Postmortem specimens collected from pilots involved in civil aviation accidents are analyzed at the CAMI Forensic Toxicology Research Laboratory (4, 5). Toxicological information for each suicide case was obtained from CAMI's ToxFlo toxicology database (6).

CASE HISTORIES

A summary of events surrounding each aircraft-assisted suicide is presented below. No evidence of aircraft mechanical problems was found in any of the accidents.

Case 1

A 26-year-old pilot rented a Cessna 172P, requested permission, and was cleared to taxi and takeoff. Following this communication, the pilot did not acknowledge any further air traffic controller communication. Shortly after takeoff, the pilot made approximately four 360-degree turns to the left. The airplane then descended and impacted a wooded area (at approximately 1751 hrs – daylight, 30 minutes before sunset). The dispatcher at the rental company said that the victim did not appear to display any abnormal behavior prior to the accident. Toxicological examination found no drugs in the pilot's system. The District Medical Examiner ruled the manner of death as a suicide. Otherwise, there was no supporting information concerning the suicide.

Case 2

A 45-year-old pilot departed the airport in a Piper PA-28-235. Shortly after takeoff, witnesses observed the plane fly straight into the ground (at approximately 0739 hrs – daylight, 1.5 hours after sunrise). The pilot had a long history of depression. He had been hospitalized twice for psychiatric problems. Three days prior to the accident he was hospitalized due to a suicide attempt. The day before the accident, he was released from the hospital. The pilot did not report any of the past psychiatric issues to the FAA. Toxicological examination revealed the presence of antidepressants (citalopram and fluoxetine), diphenhydramine (a sedating antihistamine), and ethanol.

Case 3

A 69-year-old pilot with an intermittent history of drinking and threatening suicide by aircraft, was seen consuming alcoholic beverages at a restaurant at lunch that day. Later that evening, he took his Beechcraft A36 out for a flight and collided with the side of a mountain (at approximately 1958 hrs – dusk, 20 min after sunset). Witnesses reported that the accident plane was circling a mountain and then flew directly towards the mountain. Radar indicated five counterclockwise circles, followed by a rapid descent into the mountain on the sixth circle. Toxicological examination identified ethanol in the brain and muscle.

Case 4

A 21-year-old pilot was celebrating his 21st birthday at the home of close acquaintances of the pilot. During his birthday party, he became aware that the couple's daughter did not want to pursue a relationship with him. Upset, he departed the party for the neighboring town, where he lived and was employed as a helicopter flight instructor. While his place of employment was closed, he procured a helicopter (Robinson R44) and flew back to the town where his birthday party was underway. He called his friends and said he was going to commit suicide. The helicopter crashed into an open field (at approximately 0015

hrs – dark). A suicide note was found in the pilot's apartment. Toxicological examination identified diphenhydramine and high levels of ethanol in the blood, vitreous, muscle, and brain.

Case 5

A 47-year-old student pilot was involved in a custody dispute over a minor child following a recent divorce. The student pilot and minor child departed the airport in a Cessna 150. After approximately 1.5 hrs of flight, the aircraft appeared to be returning to the airport. According to witnesses, just prior to the airport, the airplane entered a steep dive into the ground (at approximately 1035 hrs – daylight). The aircraft crashed into the pilot's ex-mother-in-law's house, killing both the student pilot and the minor passenger. Toxicology revealed no drugs in the pilot's system. According to FAA regulation 14 CFR Part 61.89 (7), a student pilot is prohibited from acting as pilot-in-command of an aircraft carrying passengers. The event was handled by the State Police as a murder/suicide homicide investigation.

Case 6

A 25-year-old pilot was distraught over the recent breakup with his girlfriend. Early one morning the pilot, sounding inebriated, told her that he was going to commit suicide in his aircraft. Shortly thereafter, the pilot took a Cessna P206 from his place of employment, where he worked as a pilot. Following an extended flight (approximately 5 hrs), the pilot crashed the aircraft (at approximately 1022 hrs – daylight). Visual meteorological conditions prevailed at the time of the accident. Toxicology testing revealed citalopram, clonazepam metabolite (antianxiety medication), and ethanol in his system.

Case 7

A 53-year-old pilot was experiencing business and personal issues with the Internal Revenue Service (IRS) and other government agencies. Angry at the IRS, the pilot intentionally flew a Piper PA-28-236 into an office building (at approximately 1022 hrs – daylight), killing himself, an employee in the building, and injuring 13 other employees. A suicide note was published on the Internet. Toxicology testing revealed no drugs in the pilot's system.

Case 8

A 48-year-old pilot had been experiencing difficulties in his personal life and had expressed suicidal thoughts. The pilot ditched a Cessna 172B, which was substantially damaged following impact with the Atlantic Ocean (at approximately 0430 hrs – night). A suicide note was found inside the pilot's automobile, which was parked in the aircraft's hangar. While part of the aircraft was recovered, the pilot's remains were not found.

RESULTS AND DISCUSSION

The NTSB is responsible for investigating civil aviation accidents and for determining the probable cause(s). It may be difficult to differentiate between a suicidal and an unintentional aviation accident when considering that the circumstances surrounding such accidents can be virtually indistinguishable. In order for the NTSB to assign suicide as the probable cause of an aviation accident, it must have significant supporting evidence, such as a suicide note, a witness, or suicidal ideation. With this in mind, aircraft-assisted suicides are most likely under-reported and under-recognized; however, Bills et al. has found that aviation crashes caused by suicide differ from unintentional aviation accidents in pilot characteristics, crash circumstances, and outcomes (8). For the purpose of this study, we examined only aviation fatalities that the NTSB reported as suicide.

It is uncertain wherefrom the term "suicide" originated; most records have attributed it to Sir Thomas Brown, who coined it in 1643, probably from the Latin *sui* – of oneself and *caedere* – to kill, as presented in the authorized publication of his work, Religio Medici (9, 10). There are numerous definitions of suicide, ranging from "the act of killing one's self" to the one latest proposed as "an act with fatal outcome, which the deceased, knowing or expecting a potentially fatal outcome, has initiated and carried out with the purpose of bringing about wanted changes" (11). The World Health Organization defines a suicidal act "as the injury with varying degrees of lethal intent and suicide may be defined as a suicidal act with fatal outcome" (10, 11). Durkheim, one of the best known early researchers on suicide, defined suicide as "death resulting directly or indirectly from a positive or negative act of the victim himself, which he knows will produce this result" circa 1897 (12). Lately, suicide has also been referred to as *intentional self-harm* and *self-directed violence*.

In 2010, there were 38,364 suicides in the United States, accounting for 1.6% of all deaths (13). This number exceeded deaths from motor vehicles: 33,687 in 2010. From 2003-2012, there were 2,758 fatal aviation accidents, eight of which were reported by the NTSB as being suicide as the probable cause. Therefore, aviation accidents resulting from intentional pilot crashing are not common and account for 0.29% of all fatal aviation aircraft accidents. The suicide rate by aircraft is much lower than the overall suicide rate in the US. Ungs reported that aircraft-assisted suicide in the United States over the years 1979-1989 was 0.17% (10 out of 5,929) of all fatal general aviation accidents (14). Our previous study of aircraft-assisted suicides from 1993 – 2002 found that 0.44% (16 out of 3,648) of all fatal aviation accidents were conclusively attributed to suicide. The rate of aircraft-assisted suicides, compared to all fatal aviation accidents of 0.29% (for 2003-2012), is higher than the one found in Ungs' study (14), but lower than our previous 10-year study. With the suicide numbers being so low compared to the total number of fatal aviation accidents, just a few accidents determined not to be "conclusive" as suicide can make a large difference in the final percentage attributed to suicide. For example, five other aircraft accidents occurred during the

2003-2012 period were identified where the NTSB investigation process considered suicide as a potential cause of the accident, but the evidence was insufficient to assign it as such.

An interesting finding is the total number of aviation accidents have substantially decreased from 5,929 (11-year period:1979-1989) to 3,648 (10 years: 1993-2002) to 2,758 (10 years: 2003-2012); a decrease of 38% between the first and second study and a decrease of 24% between the second and current study. The frequency of suicide by year from 2003 - 2012 is presented in Table 1. Three of the eight (38%) aircraft-assisted suicides occurred in 2003, while no cases were identified in 2004, 2005, 2008, 2009, or 2011.

All suicide flights in this study were operated as general aviation, 14 CFR Part 91. All aircraft used in these suicides were predominantly single-engine, fixed-landing gear aircraft, and consisted of four Cessna, two Piper, one Beechcraft, and one Robinson helicopter. All of the pilots involved in these aircraft-assisted suicides were male, with a median age of 46 years (range 21-68, mean 42 ± 16 years). The pilot was the sole occupant in all but one of the aircraft. The findings of this study are similar to those found by Ungs (14) and our previous study (1). Ungs reported that all of the aviation-assisted suicides were operated under general aviation flight rules, and that all the suicide victims were male, with a median age of 36 (range 29-87). Lewis et al. also found that all of the aviation-assisted suicide flights were operated under general aviation flight rules, and all the suicide victims were male, with a median age of 40 years (range 15-67).

Five of the eight suicides occurred in the daylight hours (0739, 1022 (x2), 1035, and 1751 hrs) and three at night (0015, 0430, and 1958 hrs). The most frequent days for suicide were Monday or Tuesday (n=5). There did not appear to be a seasonal preference for the suicides, and the weather was unremarkable; visual meteorological conditions prevailed on all flights.

Six of the 8 airmen (75%) had thought of suicide, talked about suicide, attempted suicide before, and/or left a suicide note. Specifically, 5 had expressed recent thoughts of suicide (63%), 4 (50%) left a suicide note, and 1 had previously attempted suicide (13%). Also, 7 of the 8 victims (88%) had experienced domestic problems (88%), criminal issues (13%), and/or depression (25%) prior to their suicide. Table 2 summarizes these results.

All eight airmen were medically certified for flight operations sometime in their flying career (range 4 months – 31 years, mean = 12 years), as measured by the length of time between their first medical certification to the date of the incident. All of the airmen had current medical certification and, therefore, were operating within the FAA's aeromedical certification regulations at the time of the accident. The time elapsed from their last aviation medical examiner (AME) exam to the date of the accident ranged from 3 to 15 months, with a mean of 7 months. One airman was carrying a passenger in violation of the rules governing his student pilot certificate. Each airman reported to be and appeared to be in good general health as of their last medical certification. Three of the eight airmen were granted "clear" (unrestricted) certification. The other five "limited" certifications were due to the requirement of corrective lenses.

At the time of their flight certification medical examination, five of the airmen were overweight, with a body mass index (BMI) above 25 and an average of 27 ± 4, ranging from 22 to 35. Their average weight was 185 ± 35 lb, ranging from 144 to 257 lb; their height was 69 ± 3 inches, ranging from 64

Table 1. Comparison of aviation-assisted suicides versus total fatal aviation accidents per year (2003-2012).

YEAR	Aviation-Assisted Suicides	Fatal General Aviation Accidents*
2003	3	343
2004	0	304
2005	0	291
2006	1	276
2007	2	264
2008	0	258
2009	0	251
2010	1	260
2011	0	258
2012	1	253
TOTAL	8	2,758

*Data obtained from ToxFlo toxicology database.

Table 2. Suicide pilot's state of mind prior to the accident.

Case #	Domestic Stress/Difficulties	Criminal Stress/Trouble	Depression	Prior Talk/ Thoughts of Suicide	Prior Attempt at Suicide	Left Suicide Message	NTSB Event	Summary of Events Leading to Suicide
1	-	-	-	-	-	-	Inflight collision with object (trees) – Descent	Undetermined
2	Y	-	Y	Y	Y	-	Inflight collision with terrain - Descent	History of depression with hospitalizations; shortly before the event, he was in hospital for attempted suicide
3	Y	-	-	Y	-		Inflight collision with terrain – Descent; Impairment (alcohol)	History of drinking and suicide threats; Alcohol consumption prior to accident
4	Y	-	-	Y	-	Y	Inflight collision with terrain – Descent; Stolen aircraft; Impairment (alcohol)	Distraught over relationship with friend; Alcohol consumption prior to accident; beer recovered at accident site
5	Y	-	-	-	-	-	Inflight collision with terrain (house)- Maneuvering	Bitter child custody dispute
6	Y	-	Y	Y	-	Y	Inflight collision with terrain – Maneuvering; Impairment (alcohol)	Distraught over breakup with girlfriend; Alcohol and medication consumption prior to accident
7	Y	Y	-	-	-	Y	Collision with terrain (building) non-CFIT	Personal and business trouble with government agencies
8	Y	-	-	Y	-	Y	CFIT - Maneuvering	Difficulties in personal life; joked about suicide
Total	**7**	**1**	**2**	**5**	**1**	**4**		

CFIT- Controlled Flight Into Terrain

to 72 inches. One airman had reported having "problems with hay fever/allergies." Two other airmen had reported high blood pressure treated with medications. Two airmen had reported orthopedic issues that had resolved. All airmen had presented with normal blood pressure and heart rate at the time of their last medical examination by the AME prior to the NTSB event.

None of the airmen had reported *"Mental disorder of any sort, depression, anxiety, etc."* or prior *"Suicide attempt."* None had reported the use of any anti-depressant medications, though toxicology testing identified selective serotonin reuptake inhibitor (SSRI) antidepressant medications in the tissues of two of the airmen.

Two of the airmen were private pilots. Five airmen were commercial pilots. One was a student pilot. Flight experience, i.e., total flight hours and flight hours in the last 90 days, is presented in Table 3.

Table 3. Flight experience and aeromedical history of suicide pilots.

Case No.	Age (yr)‡	Effective Class* Class issued *Limitations*	Pilot License	Airplane Ratings	Total Flight Time (h)	Flight Time, Last 90 days (h)	Medical History Height (in)/Weight (lb) BMI
1	26.63	Class 1 Class 1 *None (Clear)*	Commercial, Private	Airplane Single-Engine Land and Helicopter. Instrument: Airplane and Helicopter	536	-	Unremarkable 71/173 24
2	44.80	Class 3 Class 3 *MWCL†*	Private	Airplane Single-Engine Land. Instrument: Airplane	658	7	Allergies 72/257 35
3	68.43	Class 3 Class 2 *MWCL*	Commercial	Airplane Single-Engine Land. Instrument: Airplane	< 6,000	-	Hypertension 67/169 27
4	20.72	Class 1 Class 1 *None (Clear)*	Commercial, Flight Instructor	Helicopter. Instrument: Helicopter	1,369	260	None 64/144 24
5	46.47	Class 3 Class 3 *MWCL*	Student	None	16	6	Resolved orthopedic issues 71/209 29
6	25.36	Class 1 Class 1 *None (Clear)*	Commercial	Airplane Multi-Engine and Single-Engine Land. Instrument: Airplane	441	-	Resolved orthopedic issues 72/162 22
7	52.73	Class 3 Class 3 *MWCL*	Private	Airplane Multi-Engine and Single-Engine Land. Instrument: Airplane	2,000	-	Hypertension 66/169 27
8	48.06	Class 3 Class 3 *MWCL*	Commercial, Flight Instructor	Airplane Multi-Engine Land, Single-Engine Land, and Single-Engine Sea; Helicopter. Instrument: Airplane and Helicopter	1,039	-	None 72/196 27

^ Date of accident

* Effective Class: Indicates the class of medical certificate once and if the original issued by the FAA lapses.

† MWCL = Must Wear Corrective Lenses

‡ Age at the time of the NTSB event

BMI= Body Mass Index; anthropometry at the time of the last FAA medical exam

Four of the eight airmen were positive for disqualifying substances. Positive toxicological findings included four ethanol positives, one positive for benzodiazepines, and two positive for antidepressants. Only one of these airmen had been identified as having a problem with one of these substances (ethanol) during the medical certification process. Two airmen undergoing depression therapy had not reported it to their AME. Table 4 describes these results. All but one of the four ethanol-positive values were above the FAA cutoff of 40 mg/dL. In fact, two pilots tested positive for significantly impairing levels of ethanol, 290 mg/dL blood and 270 mg/dL blood. The benzodiazepine identified in one case was 7-amino-clonazepam, the main metabolite of clonazepam. Two victims had antidepressants – both had citalopram and metabolite, and one had fluoxetine and metabolite. Additionally, two were positive for diphenhydramine, a sedating H-1 antihistamine. Diphenhydramine is the active drug in Benadryl. Each of the compounds found in these four aviation accident victims have the potential to impair both judgment

Table 4. Medications and postmortem toxicology findings.

Case # [T1/T2]	Self Report†	Discovered‡	Toxicological Analysis/ Disqualifying Substance Present	Substance Amount
1 [11, 2]	None	None	None	N/A
2 [3, 18]	None	Fluoxetine Escitalopram Zolpidem (sedative – 3 days earlier)	Fluoxetine and metabolite Citalopram and metabolite Diphenhydramine Ethanol	Detected, liver and kidney Detected, liver and kidney Detected, liver 23 mg/dL, brain 14 mg/dL, muscle
3 [16, 31]	Pravastatin *(cholesterol)* Candesartan Cilexetil *(blood pressure)*	None	Ethanol	79 mg/hg, brain 101 mg/hg, muscle
4 [6, 3]	None	None	Ethanol Diphenhydramine	290 mg/dL, blood 192 mg/dL, vitreous 230 mg/hg, brain 175 mg/hg, muscle Detected, blood and liver
5 [4, 0.3]	None	None	None	N/A
6 [4, 7]	None	None	Ethanol Citalopram and metabolite 7-Amino-Clonazepam	270 mg/dL, blood 315 mg/dL, urine 227 mg/hg, brain 250 mg/hg, muscle Detected, blood and urine 87 ng/mL, blood; 78 ng/mL, urine
7 [9, 14]	Olmesartan *(blood pressure)* Pravastatin	None	None	N/A
8 [5, 21]	None	N/A	N/A	N/A

† Reported by the pilot during the FAA medical certification process (AME exam). T1 indicates the time elapsed in months from the pilot's last FAA medical exam to his suicide (NTSB event). T2 indicates the time elapsed in years since the pilot's first FAA medical exam to the NTSB event.

‡ Discovered through other avenues during the NTSB investigation (family interviews, hospital records, etc.)

and physical ability. These substances are disqualifying and may have contributed to the events that led to these fatal accidents.

The information gathered on the eight suicide victims during the medical certification process revealed that the airmen did not alert their AME or the FAA's Office of Aerospace Medicine of their depression or suicidal ideation. Meanwhile, risk factors such as previous history of psychiatric diagnosis (such as depression or comorbid health problems) are not sufficient to assess suicide risk; the pilot's *current* state (of mind and body) must be taken into account, so that warning signs are identified and in a timely manner (15, 16). This approach is not facilitated by the medical certification process, as the relationship between the applicant pilot and the AME, the latter a representative of the FAA, is regulatory in nature, where the aim of the medical examination is to ensure public safety (17, 18). The successful management of suicide risk of any particular pilot under an aeromedical setting is not viable, given these circumstances. Further, critical evaluation elements such as the pilot's sleep pattern, interests, mood, level of energy, concentration, and appetite may not be specifically addressed during an AME's examination, given that such examinations can range from every 6 months (for first-class pilots) to every 5 years (for third-class pilots). Indeed, a pilot seeking to be medically certified will typically present as a content and healthy individual, especially to the physician he/she believes whose job is to restrict flying activities if found otherwise. As a result, the pilot applicant is not likely to volunteer information or present behavior that would jeopardize his/her privilege to fly (19, 20). In contrast, the physician-patient relationship in clinical practice does not pose this "threat"; it foments a more personal relationship that is exercised more often, and it is inspired by a mutual interest in resolving existing health issues and/or implementing preventive measures to maintain wellness.

Still, to develop potential suicide mitigation/prevention strategies in aerospace medicine practice, it is necessary to understand and recognize the factors contributing to a person taking his/her own life. These factors include: (a) current ideation, intent, plan, access to means; (b) previous suicide attempt or attempts; (c) alcohol/substance abuse; (d) previous history of psychiatric diagnosis; (e) impulsivity and poor self-control; (f) hopelessness – presence, duration, severity; (g) recent losses – physical, financial, personal; (h) recent discharge from an inpatient unit; (i) family history of suicide; (j) history of abuse (physical, sexual, or emotional); (k) co-morbid health problems, especially a newly diagnosed problem or worsening symptoms; (l) age, gender, race (elderly or young adult, unmarried, white, male, living alone); and (m) same-sex sexual orientation. Positive factors that may mitigate suicide risk are: (a) positive social support; (b) spirituality; (c) sense of responsibility to family; (d) children in the home, pregnancy; (e) life satisfaction; (f) reality testing ability; (g) positive coping skills; (h) positive problem-solving skills; and (i) positive therapeutic relationship (16, 21).

A treatment for depression is the use of SSRIs. Their effects on cognitive and psychomotor performance have been examined by the aeromedical community relative to the safety of SSRI use during aerospace operations (22-27). On 4/15/2010, the FAA modified its medical certification policy on depression and began to issue certificates to airmen diagnosed with depression who were being treated with a single SSRI — fluoxetine (Prozac), sertraline (Zoloft), citalopram (Celexa), or escitalopram (Lexapro). The conditions for issuance of a medical certificate include that for a minimum of 12 continuous months prior, the applicant must have been clinically stable as well as on a stable dose of medication without any aeromedically significant side effects and/or an increase in symptoms (2, 28).

CONCLUSION

While pilot-assisted suicides do occur, they are uncommon, accounting for less than one-half of 1 percent of all fatal general aviation accidents. Aircraft-assisted pilot suicide is a tragic but rare occurrence in aircraft crash events. Suicides accounted for only eight events of the 2,758 fatal aviation accidents between 2003 and 2012. All of the suicides involved general aviation operations. Most of the suicide-pilots were experiencing significant stressors in their lives at the time of their demise. Toxicological data indicate that 50% (four of eight) of all aviation-assisted suicide-pilots involved at least one, if not more, disqualifying substances, and 38% (three of eight) had impairing levels of such substances in their system. No information provided during the medical certification process identified suicidal ideation or evidence of depression. The suicides presented here were likely precipitated by events occurring after the medical certification process had been conducted, reviewed, and completed.

Humankind has always faced the question on the meaning of life, if any. It seems appropriate to recall Camus' view on the subject (29): "There is but one truly serious philosophical problem, and that is suicide. Judging whether life is or is not worth living amounts to answering the fundamental question of philosophy. All the rest—whether or not the world has three dimensions, whether the mind has nine or twelve categories—comes afterwards. These are games; one must first answer [the question of suicide]. And if it is true, as Nietzsche claimed, that a philosopher, to deserve our respect, must preach by example, you can appreciate the importance of that reply, for it will precede the definitive act. These are facts the heart can feel; yet they call for careful study before they become clear to the intellect."

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