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SAFETYWIRE



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Medical Factors in Aviation Mishaps

(By Dr. Susan Northrup, FAA Federal Air Surgeon: Nov.8,2022 FAA Safety Briefing)



Analyst Note: This article is geared toward general aviation; however, the message within applies to all of us. We all know someone who has powered through a cold to avoid the un-paid day in a hotel. This should help bring focus to that hazard.

FAA > Safety BRIEFING

The FAA Safety Policy Voice of Non-commercial General Aviation

Fortunately, medical issues are not the cause of most aviation accidents. Nonetheless, even one is a tragedy. In this article, I will review some of the more common medical issues that have either caused or contributed to a fatal aviation accident.

You might be surprised to know that, by law, an autopsy is performed on occupants of all fatal civil aviation accidents, including passengers. This is usually accomplished by the local coroner's office with assistance from the National Transportation Safety Board (NTSB) and Civil Aviation Medical Institute (CAMI). The latter is part of the FAA's Office of Aerospace Medicine (OAM) and performs the toxicological evaluation of the remains, when feasible. You might wonder, though, why autopsies are required and what has been found.

Several years ago, the OAM sponsored a study looking at fatal mishaps to evaluate for contributory medical issues ([see the technical report](#)). The author reviewed data from both the NTSB and FAA for a 36 month period beginning in April 2013. In the report, he laid out the three primary reasons for a post-mortem evaluation: 1) to help determine the probable cause of the accident; 2) to help reconstruct the accident; and 3) for injury analysis in order to better protect aircraft occupants in future accidents.

The author then looked at the records of 601 pilots involved in a fatal accident between April 2013 and March 2016. Over 40% had incidental medical findings (IMFs), which are medical conditions not previously known by the FAA, but discovered on autopsy. The NTSB determined that for this group of pilots, the most common medical issues, that were either causal or contributory, were use of a sedating medication, followed by alcohol or illicit drug use, cardiovascular disease, neuropsychiatric problems, and strokes.



A separate study showed that, of the impairing over-the-counter medications, diphenhydramine remains the most frequent culprit, found in almost 6% of the pilots who were involved in a fatal accident and for whom toxicology was available. Yet another study found that 15% of pilots in fatal accidents had controlled drugs and over 25% had potentially impairing drugs in their system; often these are taken for a medical condition that is itself impairing.

So what does this mean to you? First, the good news: the general aviation accident rate has steadily decreased over the past decade and the trend remains favorable. However, as a group, we pilots continue to make the same mistakes that lead to accidents. There is simply no good reason to fly after taking a sedating medication, alcohol, or an illicit drug. The attendant cognitive impairment will affect the planning process, go/no-go decision, and en route decisions. The ability to successfully handle an emergency is compromised. These problems are rare in airline and military pilots; both groups have strong safety cultures; we general aviation pilots should strive to emulate this.

What about cardiac disease, which is the most common cause of death in the adult population? With the right lifestyle changes and the proper medical management of risk factors, you can reduce the likelihood of medical incapacitation and extend the years that you are able to enjoy piloting an aircraft. These steps also make it easier to maintain medical certification and is safer for all whether flying under a medical certificate, BasicMed, sport pilot, glider, or ultralight.

This article was originally published in the November/December 2022 issue of FAA Safety Briefing magazine.

https://www.faa.gov/safety_briefing



Dr. Susan Northrup, FAA Federal Air Surgeon

Dr. Susan Northrup received a bachelor's degree in chemistry, a medical degree from The Ohio State University, and a master's degree in public health from the University of Texas. She is double board-certified by the American Board of Preventive Medicine in Aerospace Medicine and Occupational Medicine. She is a retired U.S. Air Force colonel and a former regional medical director for Delta Air Lines. She is also an active private pilot.

Viewpoint: Five Tactics To Help In Recruiting Women Into Aviation

(By: Rene Banglesdorf , Aviation Week Network, December 12,2022)



As labor shortages beleaguer the aviation industry, forward-thinking leaders tend to dig a little deeper to find solutions that will give their companies a competitive edge for both hiring and retention. One area that has long been a conundrum—and a recent focus—is the lack of women in aviation.

The financial, legal and medical industries have made great strides in the last few decades in increasing the number of women in their ranks. In the same period, aviation’s growth trajectory has remained largely unchanged.

Multiple factors, many of which are unintentional, have created a culture that feels exclusionary to any number of underrepresented groups, women included, according to the 2022 FAA Women in Aviation Advisory Board Report. These range from a lack of attention to talent pipeline and career development to job postings written in such a way to deter applicants.

The report indicated there are both long-term and short-term interventions to begin to shift direction in hiring and retaining more women, although long-term success depends upon some clear intention-setting industry wide.

Here are a few tips and tactics that work:

1. Leadership That Broadens Talent Search Must Come From The Top

Aviation safety and innovation demand that we hire the very best candidate for each position, but studies (and our own practical experience) have shown that including some diversity of thought, backgrounds or education fosters greater problem solving. In order to hire more diverse thinkers, we need to ensure that we are broadening our search criteria and our selection of interviewees. While some change comes from internal referrals or human resources efforts, opening the doors of an organization a little wider depends upon leadership initiatives and accountability.

In 2019, Dr. Alan Stolzer, the dean of Embry Riddle Aeronautical University College in Daytona Beach, Florida, created a director of diversity initiatives position to attract a broader pool of talent into the university. Since implementing diversity initiatives in the College of Aviation, 35% of the 2017-2022 faculty hires are female. In addition, the university enjoyed a 4.6% increase in female undergraduate student enrollment from 2019-2022, according to ERAU Professor Michele Halleran, who serves as the aforementioned Director of Diversity Initiatives.

In addition to recruitment strategies, Halleran has invested significant energy into mentoring programs that help women navigate college and beyond—and subsequently stay in the industry.

2. Meet Candidates Where They Are

Thousands of women show up each year at the Women in Aviation International (WAI) conference, and the airlines collectively conduct thousands of interviews and extend hundreds of job offers. Other organizations like the 99s, Association for Women in Aviation Maintenance (AWAM) and the International Aviation Women's Association (IAWA) have primarily female participation, and a number of ethnic-centric organizations provide support for other underrepresented groups. Potential employers can find women or other diverse candidates in informal social media groups or volunteering at their local airports as well.



3. Target Programs To Elementary Students

Children are dreamers, and there's no time too young to introduce them to aviation. Studies have shown that children, especially girls and minorities, self-select out of science, technology, engineering, arts and mathematics (STEAM) fields by the time they reach middle school, according to National Aviation Hall of Fame (NAHF) President and CEO Amy Spowart. The lack of information about aviation careers available through school counselors makes awareness even worse. To address both of these, the NAHF, in partnership with PBS, has created a STEAM-based multidisciplinary program for students in Pre-K thru 6th grade. Discovering Flight with the NAHF rolled out this year. By mid-2023, 100,000 students in underrepresented schools will receive dedicated aviation and aerospace education.

WAI hosts the Girls in Aviation Day each Fall, introducing girls of all ages to aerodynamics, air traffic, general aviation aircraft and working aviation professionals.

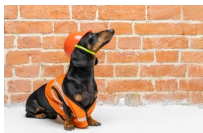
4. Adjust Job Descriptions For Gender Bias.

One well known observation about women is that they don't usually apply for jobs where they don't meet 100% of the qualifications. In contrast, men will often apply if they meet 60% or more of the stated requirements. Companies that add language to welcome hard-working, fast-learning applicants who don't meet all the requirements helps.

5. Highlight Women In Marketing Materials And Thought Leadership

Corporate Jet Investor is a well-regarded conference in the business aviation industry. Five years ago, CJI co-founder Alasdair Whyte organized an all-female panel of jet brokers. Since then, he has hosted dozens of female voices on his stages around the world. Women notice. They attend. They sponsor. They do this because they were invited.

René Banglesdorf is the founder and CEO of The Aviation Collective. She helps aviation companies hire and retain the best talent through executive coaching and workplace culture consulting. Banglesdorf served on the U.S. Congress-chartered and FAA-appointed Women in Aviation Advisory Board, is a 20-year aviation professional and holds a private pilot license. LinkedIn



Analyst note: My experience has been that there is not a shortage of women wanting to learn. There is a shortage of women who feel that they are welcomed into this industry as anything more than a diversity quota. Mainly because we all feel the need to treat them as such, it's abhorrent and quite frankly unnecessary. I don't know the number, but I would hazard a guess that there are even more women who enter this industry and subsequently leave because of the way they are treated even after achieving all the accolades they can muster. It is time for that mentality to disappear. The days of wood paneled pilot lounges, tinged with the smell of castor oil, tanned leather and Turkish tobacco are gone. We wear suits and call ourselves professionals. As an industry its about time we put action where our words are and started acting like professionals. Are you qualified? End of discussion.

SAFETY MANAGER'S CORNER

See and Be Seen—Your Safety Committee

A basic tenant of a robust Safety Management System is an active and mature Safety Committee. From the standpoint of the Four Components of SMS, here is how your Safety Committee can serve your organization:

- 1. Safety Policy.** People who have input into Safety Policy are more likely to understand, follow and support that policy. The Safety Committee is an excellent resource for managers to tap into for policy vetting and suggestions.
- 2. Safety Risk Management.** When the Safety Manager receives hazard and incident reports, he/she will be best served by engaging the Safety Committee to utilize the risk management process: (1) Identify, (2) Assess (Severity x Probability), (3) Mitigate/Eliminate, (4) Implement and (5) Follow-up. Risk Management is the heart of an SMS so every time the Committee goes through the risk management process to address an issue, the more your organization learns it, lives it, and applies it.
- 3. Safety Assurance.** The last step of the Risk Management process is to “Follow-up”, which is essentially an assurance check. Are the corrective actions identified from previous Committee meetings being properly implemented and are they working?
- 4. Safety Promotion.** The Safety Committee should brainstorm safety awards, newsletters/communications, and safety-training content. Additionally the Committee members can read the minutes from last Committee meeting to their work center to ensure visibility and to capture concerns and ideas.

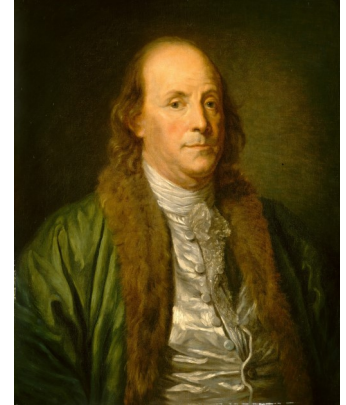


Given that the Safety Committee can perform activities that contribute to all Four Components of an SMS, it is essential that the leadership of the organization be active in promoting and supporting it. Talk about the Committee at daily meetings and at any other group event. Recognize individual participation in the committee through performance evaluations and awards. Post the agenda for the next Committee meeting several days in advance. The more visible and respected the Safety Committee is, the more its benefits will perpetuate throughout the organization. Your Safety Committee should “See and Be Seen”.

Quote of the Month

“Tell me and I forget. Teach me and I remember. Involve me and I learn.”

— Benjamin Franklin

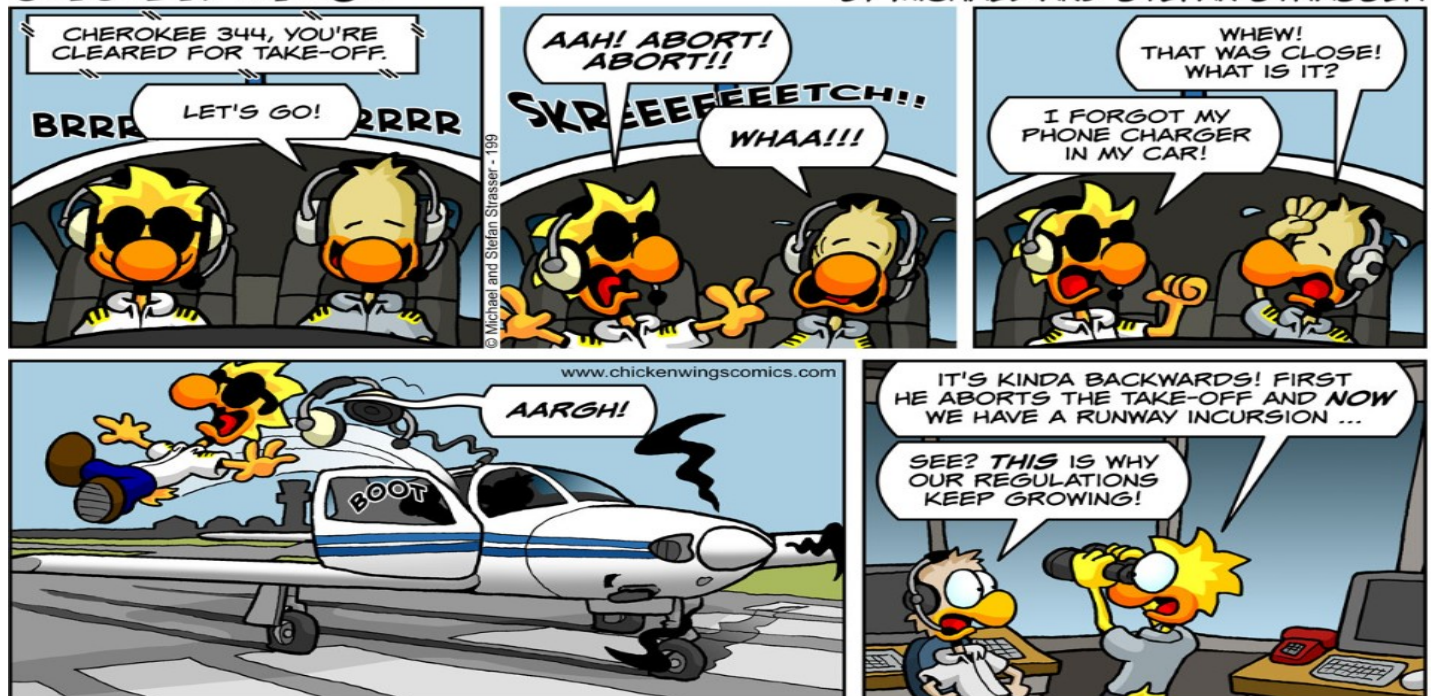


SMS requires participation. Too often we see the rank and file sit back and say “what do they do up there anyway”. Involve your operation. Get buy-in from your whole workforce. A company’s culture does not change with the actions of a single individual but, rather the efforts of the workforce as a whole to chart a new direction. Teach them why they matter to safety, involve them in the processes that make safety more than a byline, and you will be rewarded with a unified front to act as a bulwark against the unexpected.

On Short Final...

CHICKEN WINGS

BY MICHAEL AND STEFAN STRASSER



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UPCOMING COURSES

Feb 20 to Feb 24, 2023—PROS Course
Aviation Lead Auditor Training (ALAT)
Denver, CO

Mar 28 to Mar 30, 2023—PRISM Course
Safety Management System (SMS)
Denver, CO

May 15 to May 19, 2023—PROS Course
Aviation Lead Auditor Training (ALAT)
Denver, CO

Aug 21 to Aug 25, 2023—PROS Course
Aviation Lead Auditor Training (ALAT)
Denver, CO

Sept 26 to Sept 22, 2023—PRISM Course
Safety Management System (SMS)
Denver, CO

Oct 30 to Nov 3, 2023—PROS Course
Aviation Lead Auditor Training (ALAT)
Denver, CO

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