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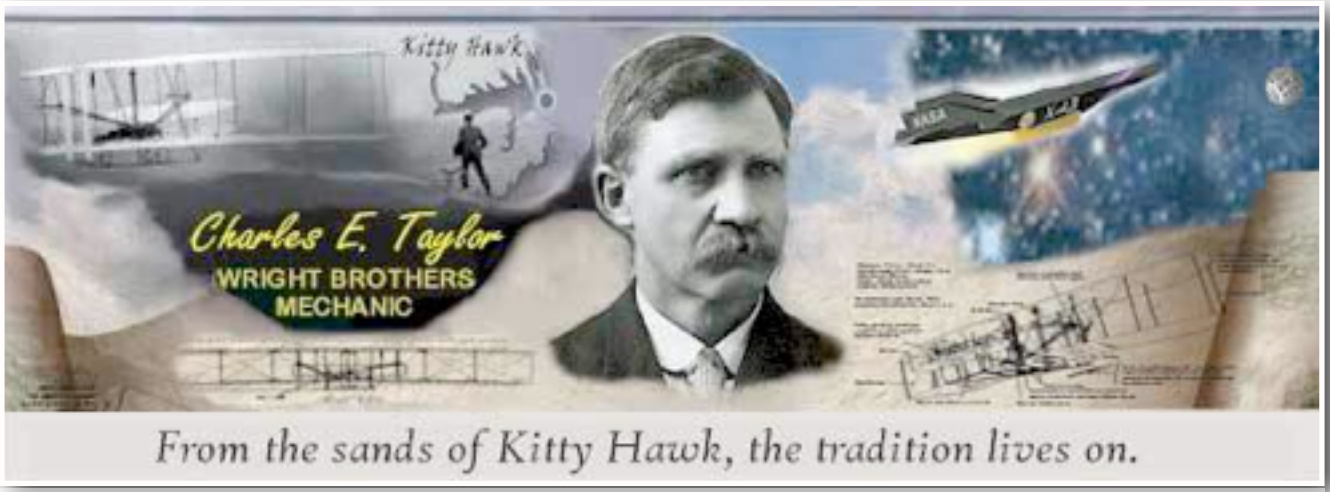

Hello all,
To subscribe send an email to: rhughes@humanfactorsedu.com
In this weeks edition of *Aviation Human Factors Industry News* you will read the following stories:

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Recommit to Addressing Your Human Error

Dr. Bill Johnson

There is a high safety payoff in reducing human error.

The start of a new year is a good time to renew your commitment to flight and personal safety. For an excellent 2019: Don't forget anything, don't make mistakes, don't hurt yourself or others, don't have communication errors, be safe, etc. That sounds like vague advice from a Ph.D., like me? There are at least two reasons that the advice, as stated, is not very useful. First, it is too broad to be useful. Second, the advice ignores that we are human and are inclined to make the errors stated above. So, in theory the advice is valid but how do you implement it? This article offers practical and familiar methods to help minimize human error.

Addressing Human Error

We all know that human error contributes to about 80 percent of the negative events in aviation. That includes pilots, dispatchers, air traffic controllers, cabin crew, and of course maintenance/engineering personnel. Maintenance gets the "attribution" (aka "blame") for an estimated 10-15 percent of major events. Then, 80 percent of the maintenance events are human error. There is a high safety payoff in reducing human error.

There are many reasons that the 80 percent figure has remained constant despite three+ decades of attention to the human factors topic. The continuing evolving reliability of new technology aircraft means they break less often and they require less maintenance, meaning that failed aircraft components are seldom the cause of a major event. Further, enlightened human factors-centered accident investigation methods/procedures are better at identifying human factors causes. In the past, human factors contributing factors may have been attributed to non-human factors causes.

Increased worker knowledge about human factors is evidenced by the nature of the reports submitted as part of the Aviation Safety Reporting System (ASRS) and to other voluntary reporting systems like the FAA Aviation Safety Action Program (ASAP). That does not mean that human factors errors are up. Instead, understanding and resultant remediation is up. Further, good safety management systems are recognizing the hazards/risk associated with human error.

Specific Action to Target Human Error

Below I offer five action categories to address common specific human factors challenges. Working to reduce our human error does not have to be overly complicated. You do not need more information to do the right thing. It is a matter of individual and organizational commitment. If you want additional information, the short suggestions are supplemented by guidance from the optional included websites. Most of the website links are brief articles offering "how-to" advice.

1. Fitness for Duty Actions:

Let's start with this familiar topic. Physical and mental readiness is a primary target of opportunity. That begins with proper sleep. Specific actions to ensure fitness for duty are:

Sleep for seven to nine hours per 24-hour period. Proper naps count.

Minimize excessive food and alcohol prior to sleep.

Shift workers should try to sleep before rather than after work. Naps may help.

Find a sleep routine that works for you.

Beware of night shifts, duty time over 12 hours, and extended days of work without a day off.

For long-term sleep issues see a medical professional specializing in sleep disorders.

Weblinks are:
www.mxfatigue.com

www.youtube.com/watch?v=FNsXpG4J8AQ (FAA video for fatigue awareness training)

www.faa.gov/documentLibrary/media/Advisory_Circular/AC%20120-100.pdf;

www.faa.gov/data_research/research/med_humanfacs/oamtechreports/2010s/media/201119.pdf

1. **Procedural Errors:**

The best way to avoid error is to combine fitness for duty with strict procedural compliance. Procedural noncompliance is the No. 1 cause of FAA administrative action. Specific actions to reduce procedural error are:

Commit to 100 percent procedural compliance for everyone.

Act to fix every inadequate procedure.

Do not let time pressure or distractions interfere with using the procedures and checklists.

Recognize that familiar as well as unfamiliar tasks require checklists and documentation.

Set a good example to work colleagues and always follow appropriate procedures.

Weblinks are:
www.followprocedures.com (FAA training launched in late 2018)

www.aviationpros.com/article/12434426/follow-procedures-training-launched-now-your-work-begins (Johnson article, *AMT*, Nov/Dec 2018)

www.faa.gov/about/initiatives/maintenance_hf/library/documents/media/roi/tech_pubs_workshop_report_final_9-12.pdf

1. **Forgetfulness**

How often do you forget to do something that leads to an unintended consequence? For me, I would say “too often.” Forgetfulness is a generic issue that affects all life functions including aircraft maintenance. The solution to forgetfulness is related to Fitness for Duty and Procedural Errors. Specific ways to avoid forgetting during maintenance work are:

Be mentally fit for duty. “Keep your eye on the ball.”

Strive to manage time. Rushing at the end leads to forgetting.

Always follow checklists and other procedures. (There is no regulation on forgetting but there is one on following procedures: 14 CFR Part 43, Section 43.13-1 B.

Do not rely on memory!

When distracted or interrupted go back a few steps.

Organize your tasks, tools, and environment, aka housekeeping. Recognize the threat when you are doing multiple tasks on multiple aircraft.

Weblinks are:
https://www.bustle.com/articles/136946-how-to-stop-forgetting-things-for-good-with-7-helpful-tips

https://ryanbattles.com/post/the-art-of-remembering-small-tasks

1. **Failure to Communicate:**

Miscommunication often leads to negative events, including disagreements/ arguments. Miscommunication can happen at shift change or even while working a specific task. Communication is critical for every aspect of life and work. Good teamwork goes together with effective communication. Many publications offer advice on good communication practices. However, the rush and loud environments of some aviation maintenance makes effective communication an extraordinary challenge. Specifics actions for effective maintenance teamwork and communication are:

Discuss the entire task, in person if possible, before the work begins.

Assign and clarify responsibilities with individual and team expectations.

Identify the team leader (If everyone is in charge then no one is in charge).

Remember that communication requires clear, correct, and concise transmission, reception, and feedback.

Reserve time for questions and clarification.

Recognize the environmental and mental challenges in many maintenance work scenarios.

Weblinks are:
www.right.com/wps/wcm/connect/right-us-en/home/thoughtwire/categories/career-work/10-Ways-to-Improve-Your-Communication-Skills

www.thejobnetwork.com/10-steps-to-improve-your-workplace-communication-skills/

www.humanfactorsinfo.com (FAA Website with Human Factors Training Modules)

1. Support Your Organizational Safety Culture

For some, the word "safety culture" is like "motherhood and apple pie" to Americans. However, "safety culture" must be more than the right buzzword to describe the aviation industry or your company. A good safety culture is one that has a shared goal and values in the highest level of safety. Every worker in the organization should recognize and be able to verbalize their daily contributions to safety. Ideally, each worker should take professional and personal pride in their role regarding safety. We know how to do our jobs correctly to achieve safe work and safe flight. We must commit and strive to do that 100 percent of time!

Safety management systems (SMS) are a means to identify and mitigate safety hazards. A good safety culture reinforces the effectiveness of the SMS. The safety culture is less tangible than the SMS documents and meetings. What can you do to foster the safety culture? Specific actions that you can take to foster the safety culture are:

Be a champion to promote sections 1-4 above.

Take pride and satisfaction in your dedication to working safely and delivering a safe work product.

Speak up and communicate effectively when you see an opportunity for safety improvement.

Use voluntary reporting systems for both good and bad news.

Strive to cooperate in the safety management system activities.

Know that every employee owns a piece of the safety culture.

Weblinks are:
https://osg.ca/six-tips-to-help-you-build-a-positive-safety-culture-in-your-workplace/

www.aviationpros/article/12302375/got-safety-culture (Johnson article, *AMT*, March 2017)) www.aviationpros.com/article/12424395/increasing-the-human-factors-in-maintenance-safety-management (Johnson article, *AMT*, Nov/Dec 2018)

You Can Address Your Human Error

This action-oriented article has made the case that we have significant control over our propensity toward certain types of errors. We can move forward to not forget, not make mistakes, not get hurt, not have communication errors and to be safe. We already know a lot about these human errors. So, that vague "Dr. Bill" advice was OK?

Episode 17: Emergency Response | AIN's Tales from the Flight Deck Podcast

Quick turn requested

When an aircraft emergency situation strikes, as a pilot, how prepared will you be to deal with it? For both an experienced aviator with thousands of hours of stick time and a novice on the first solo flight, proper training, a level head, and the ability to focus on the task can carry the day.

Topics the episode will cover:

- The importance of emergency training
- The ability to focus on the task at hand
- Understanding when to declare an emergency

https://connect.ainonline.com/e2t/c/*W8DqDcD6tvGt5V9K6N93SKrzC0/*W4K1KfL2m8s4NW3-vhFh1ccwRR0/5/f18dQhb0S3__2RMZ9TV11YGt4V2TtgW4MB_jc7dC7-WW5BHYpS6yxM6FW3Ry6Hy6bVXPlW1Lvf546xn_DhW2HqP0T8_HgxxW4qzGq444FjbRW8PyGYS97mtBJN3tqf1ZjPy8VW4pLPpP4qvf83W7z9skX5Lg7SgVNlbMq3SDGDSW4kHH9p99NKNgW1Jrmzc6dLMpgW6MNRDJ4f0HLYW7jGH1v1yFqztN2dXLcQKx9Y3N83rB4BYwStYN4sNvk3Mt-BtW4Vsb2-4L5xkTW5wmcdM1yrWMJW5qFqGP2KbJ92W11BjTx2SVzlZW3Wj7Nq3JL3y1W8LqWjN1_dj7PW4wkKcC3278gJW7vCPpk1LFV4qW5Bw4Rw6lGS0-W2yB4Rb89BLpbW4SR2TW4x6wnPW3qPSrP1jnjwCW5t4LbL1CCNG4W93BsNz5Xv9F1W8LHLrr87sXP6W2GNY7T8JRWN9W2jWrcp6XbMZhVysf6g6FxkkFVp2Lj-3_yq7nW221sTQ13G6Q3W9fYf3K7PGLgPW550qlK4cNgjdW2bn7GF54N6YDVrfvVy26XFxtW3YSNhY5CRf-JW4BXbDh23NV09W7RrJs575m1RTVG_x6G7HnFX9W67bxmp2khxQ3W2kgSsS3qN36yW8wgj0L4G3CBdW26Qnw-4G3qbQW71LMFl4bPcnhf4V4tDL11

The Psychology of an Unstable Approach

Aviation safety and human factors practitioners around the globe are perplexed by one question: why don't pilots go around from an unstable approach? As with most complex issues, there are no easy answers.

Clearly, a go-around from an unstable approach is recognized as proven risk mitigation to reduce the number approach and landing incidents and accidents, but the compliance rate from pilots is close to nil.

Currently, there are two schools of thought on this topic—academic and practical. Academics suggest that, during an unstable approach, pilots are vulnerable to a confluence of psychological and psychosocial forces far too great for the mind to overcome. Meanwhile, those with a more practical view might argue that "out on the line" there is a fine line between complacency and complicity when it comes to non-compliance.

I think it's a combination of the two—a mental "mashup"—where elements of each theory hold some merit. Regardless, this is some heady stuff.

Over the past decade, there has been a significant amount of research on the topic of unstable approaches and go-arounds.

According to a Flight Safety Foundation (FSF) study that looked at nearly two decades of data, unstable approaches occur on 3.5 to 4 percent of all flights, but only 3 percent of these go around. In other words, flight crews fail to go around in 97 percent of all unstable approaches.

From this study, FSF and the Presage Group focused on situational awareness as the basis for pilots to effectively perform the "cognitive calculus" required to fly a stable approach, recognize an unstable approach, and assess when a go-around is required. This foundation is built on the FSF/Presage Group's dynamic situational awareness model (DSAM) and its nine constructs.

As described, "The pilots' very first psychological or cognitive act is being aware of their environment, in all of its facets, and it is this awareness that shapes and molds subsequent perceptions of operational risks and threats, and of the manageability of those risks and threats. These perceptions and judgments, in turn, inform decision making around risk appetite and compliance."

In the FSF/Presage Group's DSAM, each of the nine constructs is unique and interrelated. Using the analogy of the dimmer on a light switch, if one of the constructs is affected, then all of the others are also affected. As this theory progresses, a pilot or crew flying an unstable approach and continuing to land, without performing a go-around, has their situational awareness "dimmed." But those who execute a go-around from an unstable approach is considered "bright" in terms of situational awareness.

One finding of the FSF/Presage Group study related to operational complexity and the decision making involved with unstable approaches. In general, this study made a direct correlation with improved flight crew performance with an increase in operational complexity (i.e. environment and approach type) and vice versa.

Case in point, this study identified an increase in unstable approaches and a decrease in go-arounds in visual meteorological conditions.

The study concluded, “The fact that these environmental factors are less associated with unstable approaches is consistent with the notion of the psychological seduction of fair-weather flying.

“Pristine flight conditions invite a greater tolerance for the belief that the absence of complex environmental factors equates with little or no risk to be managed, and suggest to the unstable approach pilot that on one hand, there is a low probability of the aircraft becoming unstable, and on the other hand, should it become unstable, the environmental conditions nonetheless lend themselves to ‘managing’ the instability correctly and landing uneventfully. The processes that lead to these seductive assumptions, however, require the active numbing or passive tuning out of the nine constructs.”

“Failure To Switch Tasks and Cognitive Lockup” is a fantastic study on the failure to go around from unstable approaches that highlights cognitive lockup, task switching, and the framing effect. This study further delves into the frailties of the human mind as it relates to the ability to switch from one task to the next and prioritizing one over another.

A great example of task switching and the framing effect is the go/no-go decision during a takeoff in a multi-engine aircraft. In this case, the go/no-go decision is framed with a positive outcome if there is a malfunction at a low speed or before V1—the takeoff decision speed. Flight crews, depending on the speed and malfunction, are able to use “cognitive calculus” to determine whether or not to reject a takeoff or continue.

Unlike the takeoff decision, it is much more difficult to switch tasks during the approach and landing phase of flight. One of the greatest influences is that as flight nears completion, the internal pressure to complete that task increases. In other words, 95 percent of the flight might be complete, and another trip around the traffic pattern or diverting to an alternate is a barrier to completing the task or is framed as a negative.

For the professional pilot, training profiles in the simulator are designed to help a crew avoid cognitive lockup by encouraging crews to be more resilient by prioritizing and switching between competing tasks.

This same mindset needs to be promoted during the approach and landing phase by actively deciding whether to go around or land—a “land/no-land” decision.

Operators are encouraged to follow the recommendations of the FSF/Presage Group study to further promote situational awareness, optimize stable approach definitions, and minimize the subjectivity of unstable approach/go-around decision-making—for example, employ “active” stable/unstable callouts.

https://flyingamit.files.wordpress.com/2018/12/cognitive-lockup.pdf

Better pilot decision-making

From: Transport Canada

There’s a lot to consider before you fly. How’s the weather? Do you have a flight plan? Making good decisions starts before a flight and doesn’t end until you’re back on the ground.

With our partners Canadian Owners and Pilots Association and SmartPilot.ca, we put together these resources to help general aviation pilots make safe, informed decisions. “Take 5” minutes to read about flight safety, print a poster for your local flying club, or watch a safety video.

https://clicks.aweber.com/y/ct/?l=N85e_&m=3h8jPuctVw2m2A4&b=6aT9.e8dpJPrNSUbzm4_Yg

https://copanational.org/en/

http://smartpilot.ca/

Technical or human factors account for majority of corporate claims: AGCS

The vast majority of corporate insurance claims over the last five years have originated from technical or human factors, accounting for 87% of all claims by value, according to new research by Allianz Global Corporate & Specialty (AGCS).

The firm's latest Global Claims Review, which looked at data from 470,000 claims over 2013 to 2018, found that fires/explosions and aviation incidents represented the largest losses for re/insurers.

Fire and explosion incidents alone caused more than €14 billion worth of losses and were responsible for more than half of the 20 largest non-natural catastrophes events that AGCS analyzed, with average claims of almost €1.5 million.

Aviation collision and crash incidents (on the ground and in the air) were the second largest cause of loss, with increasing repair costs from composite material and higher value engines on aircraft contributing to costs.

Despite record-breaking natural catastrophe losses in recent years, storm was the only kind of catastrophe event to appear in the top ten causes of loss.

AGCS noted that fires/explosions, aviation incidents, faulty workmanship/ maintenance incidents and storms collectively accounted for more than 50% of all claims by total value, with over 75% of financial losses globally arising from 10 major causes of loss.

"The report highlights the increasingly high values at risk for businesses and their insurers alike," said Philipp Cremer, Global Head of Claims, AGCS. "In today's interconnected and globalized business environment, financial losses are increasing due to geographical concentration of values – often in risk-exposed areas – and from the knock-on effects of global supply chains and networks."

“Looking to the future, new technologies bring business benefits but also risks and claims,” he continued. “However, they also provide an opportunity to prevent and mitigate losses and improve the claims settlement process for our customers.”

Raymond Hogendoorn, Property and Engineering Claims Specialist at AGCS, also commented: “In general, property insurance claims are higher with inflation and greater concentration in value as a result of globalization and more integrated supply chains.

“As manufacturers have become more efficient, the values per square meter have risen exponentially. Fire and flood claims are much more expensive per square meter than a decade ago.”

The report also showed that costs associated with Business Interruption (BI) were adding significantly to the financial loss total from fire and explosion incidents, as well as many of the other major causes of loss.

Almost all large property insurance claims now include a major BI element, AGCS said, and the average BI property claim now totals over €3 million, which is around 39% higher than the corresponding average direct property loss (€2.2 million).

Additionally, AGCS found that defective products and faulty workmanship incidents, which account for 14% of all claims by value, are the top cause of liability losses for businesses.

It noted that around one third of all large corporate liability claims now involve litigation with third parties, compared with property insurance where less than 1% of claims do on average.

“We are not seeing a rise in the frequency of liability claims but the value of claims has been rising with higher awards and rising legal costs,” explained Peter Oenning, Liability Claims Specialist at AGCS.

“We are also seeing much larger claims in Latin America and Asia than in the past,” he added. “Once, nine out of 10 of our largest claims globally would have come from the US, now it is more like seven out of 10.”

EASA warns over exploding passenger doors

Europe's regulator has warned over the hazard of passenger doors on parked business jets exploding open following a string of serious incidents, including one in which the aircraft's captain was killed.

In a safety information bulletin (SIB) issued on 12 February, the European Aviation Safety Agency (EASA) identifies "an excessive differential pressure between the inside and the outside of the aircraft", as the root cause of the problem.

The agency says such events have resulted in injuries and even fatalities to people inside and outside the aircraft.

These include an incident at Kittila airport in Finland on 4 January 2018, when the captain of an Austrian-registered Gulfstream G150 (OE-GKA) died from injuries sustained when the passenger door blew open as he was attempting to release it.

The midsize jet was being prepared for its flight, with an attendant on board, the auxiliary power unit (APU) running and the cabin heat on. However, the doors and the air pressure outflow valve were closed.

Finnish investigators concluded that the cabin was "over-pressurised", and once the door-locking mechanism was released, it "blew open with excessive force, hitting the captain".

EASA says while closing the aircraft doors helps to reach and maintain the "desired" cabin temperature during the heating or cooling process, it can also result in an "undesired build-up" of a pressure differential between the cabin and the outside environment, particularly if the outflow valve is closed. This can happen during normal operation of the aircraft, maintenance, or training.

The safety agency recommends that aircraft owners and operators, maintenance personnel, ground handlers, airport operators, firefighting and other emergency workers are made aware of the risks described in the SIB.

Personnel must verify, if possible, that all relevant outflow valves are in the open position. A pressure build-up relief mechanism should also be operated before opening a fuselage door on a pressurized aircraft, EASA says.

Where flightcrew or maintenance personnel are unable to control the outflow valve or other "external valve" positions without the APU or engine, one cabin fuselage door must remain open, the safety agency mandates.

Q400 had oil check before in-flight cowl door loss

Canadian investigators have determined that a underwent engine oil checks before a departure from Toronto during which it lost a cowl door from its left-hand powerplant.

The door separated from the nacelle on take-off and struck the left wing's leading edge, damaging the de-icing boot.

Its crew was unaware of the event, says the Transportation Safety Board of Canada, which occurred on 25 January as the turboprop (C-GGMU) headed for Saint John.

No engine vibration indications or other cockpit alerts were issued and the door was only observed to be missing after the aircraft parked at the destination terminal.

The board says the door was found on runway 24R at Toronto.

It states that the carrier's maintenance personnel had undertaken a pre-flight inspection before the departure, and that this included an oil-quantity check "in the area of the missing cowl".

Jazz is probing the incident. Flight Fleets Analyzer lists the aircraft involved as a 2011 airframe, powered by Pratt & Whitney Canada PW150A engines.

Airline Crew Catches Aircraft Mix-Up Before Taking Off

Airline pilots often fly different aircraft multiple times a day. And when they do, they're trying to balance making an on-time departure, and guaranteeing that the aircraft is pre-flighted and completely ready to go. Here's a great example where a crew, with passengers already on board, caught a mix-up on the ground that would have caused major problems had they taken off.

Airline Crew: Boarding The Wrong Airplane

Upon arrival at the airport around 6am in the morning, we checked our company paperwork and airport departure boards to find the jet we'd be flying that morning.

Both the paperwork and electronic monitors showed Gate 2 as our departure gate. Being the first flight of the day, we got to the airplane quickly to accomplish all of the required first-flight checks. The First Officer was at the airplane before me and finishing his walkaround as I unpacked my bags in the cabin and cockpit.

Eager to get the first flight out early, the gate agents asked if they could start pre-boarding early, and no crew members had a problem with it. During the boarding process, I pulled out the aircraft maintenance book and began comparing the MELs and write-ups to items listed on our dispatch release. This was the first thing I did as my First Officer got the flight plan set up in the FMS. Something wasn't adding up. The MELs listed on our release didn't match any MELs in the airplane or logbook. I asked the First Officer if he was seeing the same problem and we quickly realized that the release did not match the tail number of our jet. While the logbook was correct for the tail number, it was the incorrect airplane for our flight.

Apparently the night before, ground crews had switched the placement of two identical jets with different tail numbers and put them into the wrong gates. That's why our gate information was correct, but it was the wrong airplane. I called dispatch and asked if we could switch the tail numbers between the two flights to avoid de-planing. Nope. One was scheduled for a maintenance check later in the day and needed to follow it's scheduling routing.

Everything told us we should've been pre-flighting an airplane at Gate 2, paperwork, departure boards, and gate agents. In the end, we were left wondering if we were truly responsible for this mistake. Was it ground crew from the night before? Was it the gate agents' fault? Should we have done a better job noticing the tail number change before boarding? ***Everyone seemed to play a role in this mixup and we only found the mistake once we checked the aircraft logbooks. If we hadn't noticed this mistake and took off with the wrong tail number and no verification of maintenance write-ups on our release, this would've been a major FAA violation.***

Nurse Arrested Fatal Error – An Aviation Safety-Inspired Investigation Should Follow

There's on thing every medical patient and every medical professional should demand now that a nurse in Tennessee has been criminally charged with accidentally killing a patient; a full and public investigation into the factors that led to this tragic mistake.

This could and should be the same as what happens following air accidents.Thirty-five-year-old Radonda Leanne Vaught gave a fatal dose of the paralyzing drug *vecuronium* rather than *versed*, an anti-anxiety medication to a 79-year old woman who was being prepared for a body scan. Because both drugs begin with the letters v e, Vaught selected the first drug offered by the computerized medication dispenser failing to realize it was not the one she was seeking.

The patient was unattended after the medication was administered and was found dead 30 minutes later according to newspaper accounts of the event, which occurred the day after Christmas in 2017.

Earlier this month, the Tennessee Bureau of Investigation announced the nurse's indictment. "Agents determined that the actions taken by Radonda Vaught were responsible for the abuse of Mrs. Murphey, and her ultimate death," the press release states.

For more than 20 years, aviation safety professionals have been working with medicine to share the safety systems that have been so successful in air transport. It is key to understand and incorporate the fact that people make mistakes. Any road that demonizes humans for being human will have little positive effect.

In an article in The Tennessee Star, journalist Chris Butler gets to the heart of the matter in an interview with medical malpractice attorney Randy Kinnard who suggests looking up the chain of events to the practices and procedures at Vanderbilt University Medical Center, where the accident happened.

“Is it a single act of negligence by the nurse, or is it a combination of a system failure at the hospital with the nurses’ negligence?” Kinnard asks in the interview. “Did the hospital make it easier for the nurse to make this mistake? Those are questions that would need answering with the proper investigation.”

Kinnard takes a section of a page from aviation, but its a start. Left unsaid is the larger question of whether medical professionals who unintentionally err, should be held criminally responsible. When it comes to aviation, most countries decline to prosecute and some offer opportunities for workers to fess up to their mistakes through anonymous reporting systems.

The fact is that many more people are killed each year from errors made within the medical system then the estimated number of deaths since the beginning of commercial aviation. One’s chances of dying in an air accident are infinitesimal while medical error is the 3rd leading cause of death in the United States.

This is no secret in either aviation or medicine but judging from the disproportionate amount of attention paid to aviation versus medical accidents, it seems the general public is still unaware of the unaddressed hazards lurking in health care.

James Reason the grandfather of human error research has been inspired to turn his attention to medicine along with others. While writing my book, I interviewed retired British Airways captain Guy Hirst and Capt. Peter Burkill, the hero pilot who saved the day when British Airways Flight 32 lost both engines on approach to Heathrow. These three are among many, many aviation professionals who know a thing or two about working in a high consequence industry and are eager to share their expertise.

Medicine could take on the issue of human error within its ranks with a greater degree of urgency but that cause isn't helped when the legal system criminalizes nurses who fail – without looking into the larger question of why.

https://amazon.com/The-Crash-Detectives-Investigating-Mysterious-ebook/dp/B01BD1SSBMhttps://christinenegroni.com/aviation-reveals-mystery-of-human/

Safety Risk Management

Can you identify common hazards in general aviation? Do you know how to reduce the risks posed by those hazards?

#FlySafe and learn more about risk management in aviation by downloading our fact sheet at: http://bit.ly/IntroRisk. You can also check out some videos on risk management here:https://youtu.be/fSJnS9ShMng and https://youtu.be/luiIOUZeCW0.