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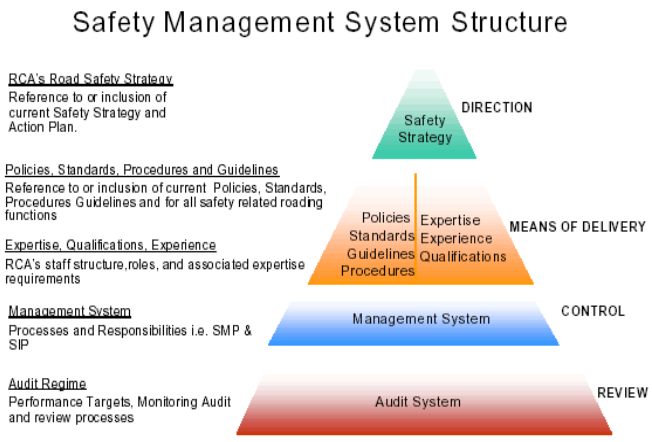
What Comes After Human Factors?



After 12 years of training, we can take what we have learned in human factors for aircraft maintenance technicians and managers workshops and put the information to use throughout the organization. To formalize and implement this information in our organization, we need to understand safety management systems (SMS). An SMS provides the organizational framework to support a sound safety culture. It is essentially a quality management approach to controlling risk. Development and implementation of an SMS program provides management a structured set of tools to meet their legal responsibilities while managing safety within their organization. All Canadian airlines have been operating with an SMS program since 2005. Approved maintenance organizations and other air carriers have until December 2007 to implement SMS programs.

The FAA has released AC 120-92 "Introduction to Safety Management Systems for Air Operators". This is a voluntary program, but the FAA encourages each aviation service to comply.

What Is a Safety Management System?

A safety management system (SMS) is an integrated set of management and work practices, beliefs, and procedures for monitoring, supporting, and improving the quality of safety aspects and human performance in an organization. SMS assists organizations in recognizing the potential for errors, and establishes robust defenses to prevent errors from causing injuries or accidents. Safety management systems focus on organizational safety rather than the conventional employee safety and health (ES&H) workplace concerns.

An effective SMS helps organizations become proactive in their approach to safety by actively identifying risks and hazards, and supporting the implementation of appropriate solutions. A key aspect of this new view of safety is the recognition of human limitations. History tells us that all human activity is prone to error. People have inherent capabilities and limitations for information processing, memory, and workload. Safety systems must recognize and account for these human characteristics.

A safety management system becomes part of the organizational and safety culture; the way people do their jobs and think about safety. Every employee in every department contributes to the safety awareness of the organization. A successful safety management system provides a process for managing risk and reducing human error. A strong companywide commitment is the key to successful safety management. It is only through the collective efforts of all members that an organization will successfully prevent human error and manage safety programs effectively. SMS provide the mechanisms for organizations to become more effective and efficient thereby have a positive financial impact on corporate profitability.

Benefits of Implementing SMS

Traditionally, safety has been, in many cases, all about avoiding costs. Many organizations have been bankrupted by the cost of a major accident. This makes a strong case for safety, but cost of occurrence/major accidents is only part of the story. Research shows that safety and efficiency are positively linked. Taken a step further, organizations with a strong safety culture can be profitable organizations. Recent operators who have integrated SMS into their business models report that the added emphasis on process management and continuous improvement benefits them financially as well.

A safety management system will provide an organization with the capacity to anticipate and address safety issues before they lead to an incident or accident. A safety management system also provides management with the ability to deal effectively with accidents and near misses so that valuable lessons are applied to improve safety and efficiency.

A Safety Culture

Safety is no longer the responsibility of just the dedicated safety professionals who in the past led the charge for safety improvements. By clearly placing responsibility for safety performance in the hands of all of the operating divisions, safety becomes everyone's business. Only then is it possible to create a true safety culture in an organization.

A safety culture exhibits a reporting culture. Information must be free flowing within the organization. The reporting system must encourage and accommodate both the proactive reporting of hazards and the reactive reporting of incidents and accidents. Every report must be treated systematically and transparently, and not generate disciplinary action or any other form of retribution against the reporter where no willful negligence was involved. Once members of the organization feel free to report hazards, incidents, and accidents, they will continue to do so if they see some concrete results from their reports. This means that those who report hazards, for example, must receive feedback on what is being done about the issues raised in their reports.

Senior Management Commitment

No safety management system will function effectively unless there is management buy-in and leadership. Accountable executives have the power to implement cultural change from "the top down". No amount of enthusiasm or planning by staff will have any effect if management is lukewarm toward, or is seen to be unsupportive of, SMS implementation. The staff needs to know that they can count on company management to support their safety initiatives. Company management must be seen by their behavior and actions to be actively supporting the implementation and continuation of the SMS.

Attitudes and actions of top-level management influence the attitudes and actions of staff. As hazards begin to be identified, senior management must be prepared to commit resources to find solutions promptly. If they are merely swept under the carpet because the fix is too time-consuming or costs money, the program will lose credibility and the hazards will remain. Management indifference of avoidance of solutions will doom what would otherwise be successful SMS programs. Safety Management System Requirements

What needs to be included in an effective safety management system? Clear authorities, responsibilities and accountabilities for safety, at all levels within the organization. This includes the following:

1. **Senior management commitment to safety as a core value**
2. **Safety policy**
3. **Discipline policy**
4. **Hazard identification and safety risk management**

5. **Establishing accident, incident, hazard reporting and investigation programs**
6. **Safety orientation and recurrent training**
7. **Maintain open and constant communication**

Implementing a safety management system in an organization requires a lot of work. It is not something that is implemented over a weekend. The culture change and necessary process improvements will outweigh any initial costs and efforts. In our competitive environment it will be only those who keep sharpening the saw that will truly succeed.

Safety and Health Management Systems eTools

1. **Safety and Health Payoffs**
   What return on investment can S&H programs provide?
   - **Improved employee morale**
   - **Decreased lost time**
   - **Fewer workplace injuries and illnesses**
   - **Lower insurance costs**
   - **Safety culture adoption**
2. **Management System + S&H Integration**
   How can safety and health become a part of the way our business runs?
   - **Combine performance standards with S&H standards**
   - **Talk the talk and walk the walk**
   - **Top down support**
   - **Bottom up implementation**
3. **Doing a Safety and Health Checkup**
   What indicators tell me if I'm getting weaker or stronger?
   - **Statistical reports**
   - **Opinion surveys**
   - **Risk analysis**
   - **Periodic inspections**
   - **Process improvement initiatives**
4. **Creating change**
   What practices are best for assuring lasting success?
   - **Obtain management buy-in**
   - **Build trust**
   - **Conduct self-assessments**
   - **Develop a site safety vision**
   - **Develop a system of accountability and measures**
   - **Implement recognition and rewards**
   - **Provide awareness training**
   - **Implement process changes**
   - **Continually measure, communicate results and celebrate successes**

— Occupational Safety & Health Administration

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US Air Force - marked decrease in mishaps, fatalities in '06

Despite embarrassing crash landings blamed on complacent aircrews, the Air Force in fiscal 2006 had the fewest number of major aircraft accidents and flight fatalities in the service's 59 years, according to service officials.

During 2006, the Air Force had 19 Class-A aircraft accidents. Any accident that results in a death or $1 million or more in damages is classified as a Class-A mishap. By comparison, the service had 32 Class-A aviation accidents in 2005.

Eight planes were destroyed in the accidents compared to 11 the year before. One of the totaled aircraft was a C-5B Galaxy that crashed into a grassy field at Dover Air Force Base, Del., on April 3. Even though the transport broke into three pieces, all 17 of the crew members and passengers survived. An Air Force investigation faulted the plane's three pilots and two flight engineers for failing to follow standard procedures for landing a plane with one of the four engines shut down.

One airman died in an Air Force flight mishap in 2006 compared to 14 in 2005, the report said.

The airman, Staff Sgt. Rom Walters of the Reserve's 944th Fighter Wing, Luke Air Force Base, Ariz., apparently passed out and suffocated on May 26 while taking an "incentive flight" in the back seat of an F-16 Fighting Falcon. At the time, Walters and the wing had deployed to a training exercise in South Florida. Walters was hospitalized and died the next day.

The report didn't include the deaths of two airmen on Feb. 17 who died as a result of the mid-air collision of two Marine Corps helicopters off the coast of Djibouti, Africa.

Brazil: U.S. Pilots Followed Flight Plan

SAO PAULO, Brazil (AP) -- Two American pilots followed their flight plan for at least part of the way before their plane collided with a passenger jet, the apparent cause of a deadly crash, the defense minister said Tuesday.

Waldir Pires' remarks appear to conflict with earlier reports saying that a complete failure to follow the flight plan could be one of the causes of the Sept. 29 accident that killed all 154 people aboard Gol Airlines flight 1907. The jet crashed over the dense Amazon jungle.

According to investigators, the plane's flight plan shows the Embraer Legacy 600 executive jet was to fly at 37,000 feet from the southern city of Sao Jose dos Campos until it changed course over the nation's central capital, Brasilia.

At that point, the plane turned northwest and should have dropped to 36,000 feet, they said. After flying another 310 miles, the flight plan said the plane should have risen to 38,000 feet.

Investigators said the Legacy was flying at 37,000 feet at the time of the crash, well after turning northwest from Brasilia. The altitude of 37,000 feet was reserved for planes going in the opposite direction.

**"Information from the radar shows that after flying at an altitude of 37,000 feet, the plane (The Legacy) dropped 36,000 feet as it approached Brasilia,"
Pires told reporters. "The flight plan was therefore being followed that time."**

He didn't say what happened after the Legacy went to 36,000 feet.

It was the first time since the accident that a Brazilian official acknowledged that Brazilian radar had tracked the Legacy's altitude.

Controllers previously said they were unable to track the plane's altitude because its transponder stopped transmitting shortly before the crash.

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Engine failures: Indian Airlines under fire

(New Delhi): National carrier Indian Airlines seems to be neck deep in a crisis.

Reports available exclusively with NDTV indicate that engines of the aircraft have been failing during take offs as well as landings.

There have been a series of failures in the past year, a fact that has remained concealed from the public eye.

Even during ground inspections, the V-2500 1A engines fitted onto A-320 aircrafts have failed.

An aircraft has two engines, and so when one fails, the other compensates. But an in flight shut down (IFSD) is an extreme emergency and a serious threat to passenger safety. And it's happened on Indian Airlines flights on:
Dec 3, 2005, when an engine failed on the Calicut-bound IC-495

On November 16, 2005, when an engine failed on the IC-563, bound for Ahmedabad

On October 8, 2005, another IFSD on the Pune-bound IC-850

In August 2005, there were two IFSDs on IC-939 and IC-909

On July 29, 2005, one of the engines failed on the IC-976, VT ESB, bound for Sharjah.

"Last year there was a DGCA enquiry on this. There were two or three. In flight shut down is a very serious issue. Conclusions of the DGCA and engineering department were that engines needed some refurbishment at a proper time," said Vishwapati Trivedi, CMD, Indian Airlines.

Passenger safety

NDTV's investigation revealed that in the last seven-eight months there have been more than 50 serious 'incidents' including engine failures.

Though not figuring in IFSD, these were extreme emergencies. There were serious problems like temperature shooting up, landing gear getting stuck etc. In at least one case there was emergency evacuation as crew reported fire in one of the engines.

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There are more examples of how passenger safety on Indian Airlines flights have been under threat:

On Feburary 28, 2006, the Delhi/Jaipur flight IC-895 began its descent when engine number two failed and crew reported a fire in the engine.

On June 9, 2006, the Dubai-bound IC-951 took off, but one engine failed as it climbed.

On August 5, 2006, the Sharjah-bound IC-976 had to abandon take-off, because the exhaust gas temperature or EGT shot up in both engines.

On September 12, 2006, in the Delhi-bound IC-878, the EGT of engine 1 and 2 went far higher than permissible. The engine was sent for major repairs. But the airline continues to argue that these incidents are not as serious.

"Extreme emergencies could have been one or two. We don't compromise the passenger safety. High EGT doesn't mean failure. There are engine issues. There are one or two incidents every day. We have a huge network," said Vishwapti Trivedi, CMD, Indian Airlines.

"If there is a temperature rise we take it off. You can't call it failing, you can call it defect. But that is happening to all mechanical things. You can say the engines need servicing or you can call it a failing," he added.

Failed tests

But that's not the end of Indian Airlines' problems. Four engines sent abroad for overhauling failed during tests once they came back. Each over hauling costs around Rs 16 crore.

Aviation sources say, engines have a normal life of 250,000 cycles or roughly 250,000 hours of running time. But engines have been failing after just 4000 cycles.

NDTV has confidential documents, reflecting just how serious the crisis is. In a letter to Rob Rosato, Fleet Director, M/s International Aero Engines, P Pradhan, Executive Director, Indian Airlines, wrote:

"Two HPC modules were outsourced to M/s IHI for complete refurbishment. On return these modules were used on ESN V0 281 and VO238. Both engines failed due to third stage blade clapper mismatch observed during post test boroscope inspection. Such a failure has concerned us."

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The letter was written on June 6, 2006. The next day, two more engines failed tests, forcing another letter.

"We have come across yet another case - failure of three IHI refurbished HPCs in a row due to third stage clapper mismatch has paralysed our recovery programme. In the meantime another engine has also failed," it said.

When NDTV wrote to International Aero Engines, there was no response. Aviation experts say, such incidents reflect poorly on an airline.

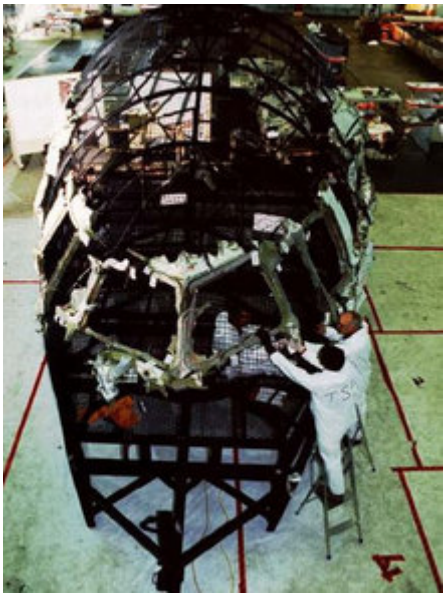
"Inflight shut down is a very very serious thing. Normally it shouldn't happen. It reflects very poorly of airlines, it speaks of the state of engines. If this happens, DGCA orders enquiry into this, but it is not that this doesn't happen. After all, this is a machine," said Kapil Kaul, Aviation expert, Center for Asia Pacific Aviation.

With engines failing and frequent shut downs, passenger safety is at a greater risk and Indian Airlines has a lot to explain.

Also if the outsourced engines are failing at short intervals, someone has to be held accountable.

In-Flight Fires an Unresolved Safety Threat

Smoke Causes Planes to Be Diverted on a Daily Basis, Data Show



The regional jet with 30 passengers aboard was cruising at 37,000 feet over Missouri when the pilots smelled something burning. A warning light came on. Then smoke billowed into the cockpit from vents below the co-pilot's window.

The pilots donned oxygen masks, and the co-pilot began fighting a small blaze with a hand-held fire extinguisher.

As the pilot dodged thunderstorms in an emergency descent, the smoke thickened. By the time the Embraer ERJ-145 neared the ground, the pilots could barely see out the windows.

The plane, operated by Trans States Airlines for American Airlines, landed safely April 29 at Springfield-Branson National Airport. The co-pilot suffered minor burns to her wrist, and one passenger was taken to the hospital with an injury from the evacuation, according to Federal Aviation Administration reports and interviews with those familiar with the incident.

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The emergency landing was dramatic -- and not unusual -- according to a review of statistics compiled by the FAA. On average, nearly one flight a day in the United States is diverted because of smoke in the cabin or cockpit, the statistics show.

In recent years, major crashes and deaths have declined sharply as authorities and manufacturers have worked to reduce many aviation risks by making changes in airline safety. But the Missouri incident and a flurry of recent diversions have renewed concern over a major safety issue -- in-flight smoke and fire.

Smoke diversions represent only a small portion of commercial flights -- there are about 30,000 departures a day in the United States. Nevertheless, smoke has

resulted in the crashes of three airliners in the past decade in North America, killing more than 560 people.

Worldwide, in-flight fires have been the fourth leading cause of commercial aviation fatalities in recent decades, experts say. In 2000, there were 5.3 diversions for smoke per 100,000 flights in the United States. That number dropped to 2.3 in 2003. It rose steadily to 320 diversions in 2005, a rate of 3.2 per 100,000 flights. The number increased to 181 diversions in the first six months of this year, a rate of about 3.8 diversions per 100,000 flights, according to FAA statistics analyzed by The Washington Post.

Regulators, airlines and pilots groups have scrambled in recent years to eliminate some of the smoke-related risks, but some outside experts say more can be done. "One of the most horrific things you can face is an in-flight fire," said Dave Thomas, former head of accident investigation for the FAA. "You are in an aluminum cylinder by yourself, and you have nowhere to go."

The FAA is concerned that planes are getting older and are loaded with more wiring -- the source of the majority of the smoke and fires -- as aircraft offer expanded on-board high-tech equipment and in-flight entertainment systems. Last year, the agency proposed new rules to stiffen requirements on the maintenance, installation and care of wiring. It has also worked to reduce the amount of flammable materials on board.

Still, in a two-day period late last month, authorities reported several incidents. A Delta Airlines flight was evacuated at Boston's Logan International Airport when the pilot smelled smoke after landing. Another Delta flight from Paris to Atlanta was diverted to Knoxville, Tenn., after passengers reported smelling smoke. And a Chicago-bound American Airlines flight was diverted to a New Hampshire airport after passengers reported a burning smell.

Stephen Syta, a passenger on the American Airlines flight, said the flight crew didn't explain why the aircraft was diverted until after it landed.

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"You see the fire trucks [on the runway] and you realize something is wrong with your plane," said Syta, 50. "I guess frightened isn't a good enough word to describe it. Terror. It was terror."

The U.S. aviation world has experienced a particularly safe period in recent years. Only one major commercial jet crash has occurred since late 2001, when 49 people were killed in August after pilots tried to take off on a runway that was too short.

The good safety record is because of the elimination of the most glaring aviation risks, experts say. One of the biggest advances: an on-board computer system that warns pilots when they're approaching mountains, the ground or other terrain -- once a leading cause of aviation fatalities.

"One of the challenges in the safety community is that all of the obvious stuff has been done," said John Hickey, director of the FAA's aircraft certifications services. "We are in a period now where accidents are so few and far between that they aren't really linked to each other. They are pretty random. And it is more difficult to decide where to invest our safety dollars."

Hickey and safety consultants said the FAA and the aviation industry have made strides in reducing the risk of in-flight fires. In the 1980s, regulators pushed to ensure that aircraft had better smoke detectors and extinguishers in lavatories, and forced airlines to use less-flammable material in aircraft cabins.

Next, they turned to improving aircraft wiring and stripping out flammable insulation and other material that could burn. Airlines have begun to concentrate on removing debris, such as lint and dirt, that builds up in hidden places and could sustain a blaze. Smoke detectors and automated fire extinguishers were installed in cargo holds.

Those efforts followed the crashes in 1996 of a ValuJet plane in the Florida Everglades and of TWA 800, a Boeing 747 that exploded in mid-flight after a spark apparently set off vapors in a center fuel tank. Two years later, a Swissair jet crashed off the coast of Nova Scotia after insulation near the cockpit was ignited by short-circuited wires, investigators say.

Researchers are studying ways to allow flight attendants to reach such inaccessible areas as behind aircraft walls to discharge fire extinguishers, after several incidents in which crews couldn't get to small blazes.

To streamline procedures for pilots -- who are often caught off guard by smoke incidents and must react quickly -- Boeing Co. plans soon to issue new simplified fire checklists for all of its planes. Studies suggest that pilots may have no more than 15 to 20 minutes to get a burning aircraft on the ground before a fire leads to catastrophe.

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Pilots groups have been pushing for such checklists, which are expected to begin with a warning: "A Diversion May Be Required," said H.G. "Boomer" Bombardi, a pilot who has worked on fire safety for the Air Line Pilots Association.

John Cox, a former investigator with ALPA who recently wrote a lengthy report on smoke and in-flight fires, pointed to several recent incidents as examples of why regulators need to study the issue further.

On a flight to Cincinnati in December, fire broke out in avionics equipment below the pilot's seat on a Comair regional jet, causing the loss of all electronic flight displays. A week later, a similar fire occurred on a Atlantic Southeast Airlines regional jet, creating confusion for the pilots as they struggled with "cascading" failures of equipment and audible warnings, a government report shows.

Those fires and five others on the Bombardier regional jets were caused by moisture that seeped into the equipment, according to the National Transportation Safety Board.

Investigators found that two of the fires threatened the pilot's oxygen supply line. If the oxygen was ignited, the fire could have developed into a more hazardous situation," said Bob Swaim, an NTSB investigator who looked into the incident.

Pilots groups want manufacturers to develop and install sensors throughout aircraft to help pilots find the source of smoke.

And they would like the FAA to better fund efforts of its own scientists. FAA chemist Richard Lyon and his bosses say he has developed a super fire-resistant plastic. But the scientist has faced problems in getting chemical companies, aircraft manufacturers or the FAA to fund full-scale tests.

The last fatal crash blamed on an in-flight fire in North America was the Swissair accident in 1998. As a result, pilots are now trained to land a plane if they cannot quickly locate the source of smoke -- a reaction that the FAA's Hickey and others think contributes to the level of diversions.

"We are very pleased with that safety culture," Hickey said, adding, however, that the number of diversions is "a concern for me and a concern for the community."

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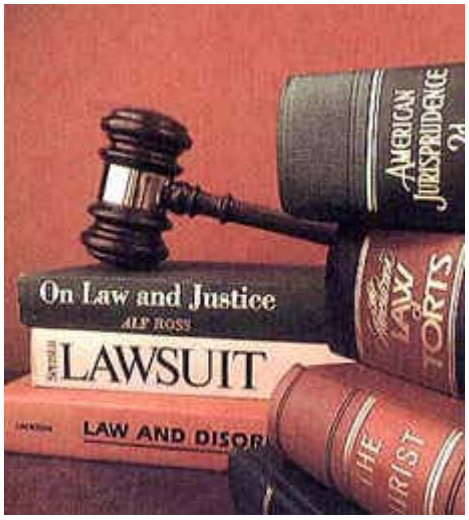
Comair files claim seeking distribution of blame, financial burden in Lexington crash



Comair announced Friday that it has filed suit against the US government, FAA and airport

authorities as part of an effort to ensure that compensation owed to victims' families as a result of the CRJ200 accident that killed 49 people at Lexington Blue Grass Airport in August is "shared fairly and reasonably among all parties who share responsibility," according to Comair President Don Bornhorst.

"Separate and apart from the NTSB's investigation and ultimate findings, we want to ensure prompt compensation for the families and victims, and resolve the appropriate apportionment of financial costs. This must be accomplished through the legal process," Bornhorst added.

The first lawsuit on behalf of a victim against the Regional carrier was filed Sept. 1, five days after the CRJ200 attempted to take off from LEX's shorter general aviation runway before bursting through a perimeter fence and catching fire. Only the first officer survived.

Comair's filing consisted of an administrative claim against the government "based on the actions of the FAA" and a separate lawsuit in US District Court in Kentucky against the government, the Lexington Airport Board and other officials seeking "declaratory judgment" that the defendants share responsibility for the crash and that Comair or its insurer can seek contributions from the airport and the government when settling compensation claims.

NTSB's investigation into the accident is ongoing, but it already has been established that there was only one air traffic controller on duty rather than the required two and that the controller was completing the second of two 8-hr. shifts over a 24-hr. period. Questions also have been raised about the accuracy of the airport data provided to Comair pilots.

The carrier's effort to focus attention on the breakdown in ATC protocol met with some resistance last week in Washington, where Flight Safety Foundation President and CEO Bill Voss said the lack of two controllers should not be overstated as a possible cause. He maintained that the investigation should be focused primarily on the pilots and the aircraft's systems.

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"Sometimes the simple solutions aren't as simple as you think," Voss said. "More eyes in the tower isn't a guarantee...The error was primarily in the cockpit. Look underneath that--why didn't the pilots or the airplane's system recognize they were on the wrong runway? Focusing on the backside seems a bit disingenuous to me. That the pilots and the plane's system didn't recognize which runway they were on is a very basic problem."

Corporate Jets Face an Image Problem

Last month, a corporate jet flying from Brazil to New York collided with a Boeing 737 in midair above the Amazon jungle. The 737 airliner crashed, killing all 155 people aboard.

The seven people on board the smaller plane survived.

Two weeks ago, a Gulfstream corporate jet strayed onto an active runway at Los Angeles International Airport, causing a SkyWest regional jet taking off with 39 people to slam on its brakes while traveling 115 mph.

**Despite these and other high-profile incidents involving corporate jets, aviation safety experts say their use is just as safe as flying on a commercial plane. "It's always hard to generalize about aviation safety,"
said James K. Coyne, president of the National Air Transportation Assn., an aviation business trade group based in Alexandria, Va. But corporate jets are "safer than scheduled airlines."**

For most travelers, the safety of a corporate jet isn't as much a factor as price. Corporate jets are still reserved for the well-heeled. Even chartering a jet for one flight costs thousands of dollars an hour.

Even so, the number of corporate jets in the air has steadily increased since the Sept. 11, 2001, terrorist attacks, a direct response from business travelers to the increased hassle of flying commercially.

Since 2002, the size of the U.S. business jet fleet has increased by about 10%, according to Boca Raton, Fla.-based Robert E. Breiling Associates Inc., which has been compiling and analyzing business jet accident data since the 1960s.

The number of business jets now flying is slightly more than 10,000, up from 9,439 in 2002.

Demand for new corporate jets is at its highest level ever, according to the 2005 Honeywell Aerospace Business Aviation Outlook. It projects that 9,900 new corporate jets will be delivered by 2015.

Officials say there is room in the skies for more small planes. "There is plenty of capacity," said Steve Brown, a former top official at the Federal Aviation Administration. He is now senior vice president of operations for the Washington--based National Business Aviation Assn., a trade group.

A 2005 FAA regulation changed the way planes are separated while in flight and instantly doubled the nation's air capacity. About 20 airports around the country are building new runways and ramps to add ground capacity, Brown said.

In addition, there is plenty of room in the nation's many small airports. "There are some congested airports, but only a couple of dozen of the more than 5,000 public-use airports" in the U.S., Brown said.

The fastest-growing segment of the corporate jet market is fractional jets, which allow individuals or companies to buy a share of a jet or a set number of hours using a "jet card."

"Fractional jets have been flying for 10 years without an accident," said Coyne of the national transportation association.

An analysis of National Transportation Safety Board and FAA data on aircraft accident rates by Breiling found that flying on corporate jets has steadily become safer in the last 10 years.

Commercial airlines were about three times as likely to have had an accident in 2005 versus corporate jets based on hours flown. But although corporate jets had fewer accidents than commercial airlines, the odds of it being fatal were higher.

Even so, the industry recognizes that it has an image problem.

"If you went out and asked 100 people if they were afraid to fly in a big airplane, probably no more than 3 or 4% would say yes," Coyne said. "Whereas if you asked about a small plane, 10% or maybe more would say they'd be afraid."

Many pilots of corporate jets are former military or commercial pilots and are already well-trained, Coyne said. They continue to undergo training to keep up with FAA, employer and insurance requirements. The planes they are flying have the latest technology.

"Corporate airplanes typically have better technology on them than any other planes other than military," he said.

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The only way to counter the fear of flying in small planes is to eliminate accidents, he said. To do that, the industry is taking safety a step further than pilot training and technology and borrowing a page out of the commercial airline industry's playbook.

"The big step up in order of magnitude … is to train the whole company in safety," he said, from the president of the company to the guy who puts air in the planes' tires.

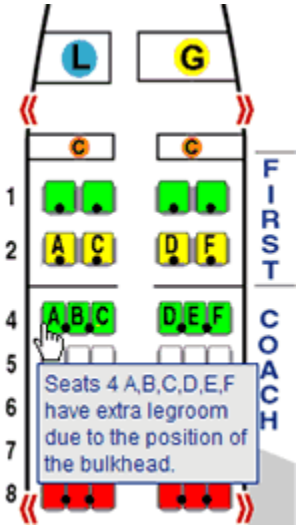
The airlines instituted the system decades ago, when people still thought it was risky to fly on commercial planes. Today there are still those who fear flying, but the majority of the public knows that flying on an airline is one of the safest forms of transportation.

Coyne hopes for the same attitude adjustment toward corporate jets.

"Clearly it is a much higher number concerned about safety in small planes," he said. "Whether that fear is unfounded or not is beside the point."

Plane's back row is no safer than any other seating area

The claim: You have to put up with the noise, the bathroom and the prospect of being the last passenger to exit the plane. But if you sit at the back of an airplane, are you safer?



The facts: Some people argue that the rear portion of a plane is the safest place to sit because airplanes tend to plunge nose first. Others say the wing section is safer, arguing that it is more structurally stable.

Whatever the reason, the claim that one section of a plane is safer than another is not supported by the facts, said Todd Curtis, an aviation safety expert who wrote Understanding Aviation Safety Data and keeps a database of mishaps at airsafe.com. Every crash has so many variables it's impossible to say one seat is safer than another.

The other problem is that most countries do not have agencies that investigate every crash. And even with details like seating maps, it's difficult to determine where passengers were sitting or standing at the precise time of impact.

But you can still improve your odds. Most accidents occur while planes are descending (about 60 percent), or when they are taking off and climbing (35 percent), so it is best to fly non-stop, which reduces exposure to these accident-prone stages of flight.

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Larger planes are also safer, partly because they are subject to stricter safety regulations, but also because they have more structure to absorb energy during an impact.

The bottom line: There is no evidence that flying in the back of a plane is any safer than sitting up front.

Studies Link Long Hours to Medical Errors (Sound Familiar?)

Fatigue caused by extensive work hours can impair residents' and interns' judgment, resulting in medical errors and patient harm.

Memphis, TN (PRWEB) October 10, 2006 -– Although residents and interns are working under rules to limit their work hours, research suggests many violate such limitations. According to a recent report published in The Journal of the American Medical Association, 80% of 4,000 interns studied said they violate mandatory standards of work hours. As a result, patients are at an increased risk of serious medical errors.

Additionally, a QSHC Online study found that 41% of residents reported fatigue as the cause of medical errors. The patients had serious adverse outcomes in 90% of the cases. In nearly 1/3 of the cases the patient died. Common mistakes included errors in diagnosis, prescribing, evaluation, and communication.

Long work hours pose a serious threat to patient safety. Fatigue slows reaction time, reduces attention to detail, and drains energy. Now more than ever, proper teamwork and communication skills are being recognized as a solution to prevent potential patient-harming errors.

"The impact of sleep deprivation on performance has been closely monitored in the aviation industry, but studies like these indicate that healthcare is afflicted with many of the same problems the commercial aviation once faced," says Captain Stephen Harden, former Top Gun instructor and President of LifeWings Partners LLC.

LifeWings is a Memphis-based organization that offers a proven approach to teamwork training. LifeWings uses a system based on aviation's "best safety practices" and molds those practices to the healthcare industry. Every year LifeWings trains over 8,000 high-performance medical team members.

One area of the training focuses on alertness management and fatigue countermeasures. "In this industry it's difficult to regulate the long hours

providers work. Our goal is to equip them with the skills necessary to manage fatigue," says Michael Osborn, VP of Operations at LifeWings. "After we conduct the teamwork training we implement customized safety tools that help mandate desired behaviors."

LifeWings' teamwork and safety tools' programs have been shown to be highly effective in reducing human error.

In fact, one client was able to improve their pre-procedure antibiotic administration, achieving an increase in compliance, from

68% to 96%, while also dramatically decreasing post-surgical infections.

After completing the LifeWings training, Dr. James A. Loveless Jr. of the Summit Medical Center in Hermitage, TN said, "This course should be taught at all levels of training (med school, internship, residency), and reinforced at the hospitals in which we practice."

On becoming a breast cancer survivor

Getting through treatment is only the beginning.

As the ranks of cancer survivors have swelled to more than 10 million, their health has attracted increasing attention from scientists and physicians. The impact of breast cancer is as individual as the women who survive it. It can be an arduous though temporary challenge or an experience so transformative that it divides existence into two parts — before and after.

A woman should work with her doctors to create a "survivorship plan" that includes addressing the long-term emotional effects of breast cancer. Typically, a woman marshals all her psychological defenses to get through treatment. When therapy is over, she can finally let her guard down but then may be flooded with intense and conflicting emotions, which may include the following:

Fear and anxiety. For women who have just completed chemotherapy or radiation — or five years of tamoxifen therapy — the end of active cancer treatment can be disconcerting. After months of regular medical care and attention, they often find themselves abruptly severed from the oncology team that's sustained them during treatment. Equally common, and more distressing, is the specter of recurrence, which can color every aspect of life.

Grief. **Breast cancer brings loss — be it as minor as the claim to perfect health or as monumental as the ability to have children. Grieving is a natural response to loss, and it may take months or years to complete.**

Erosion of self-image. The physical effects of treatment — loss of a breast, hair loss, weight gain, radiation burns, and surgical scars — are reminders of one's vulnerability. Breast cancer survivors may feel that they're less attractive and that

their vitality is diminished. The adjustments can be especially hard for young women who are thrown into menopause by chemotherapy.

Changes in intimate relationships. It goes without saying that a woman's sex life is affected by breast cancer. Illness is a notorious thief of libido. In addition, a survivor's partner may feel breast cancer's toll on body and body image as deeply as the survivor herself.

Effects on the family. Breast cancer is a family affair. Family members are likely to want to get the household back to normal after treatment ends, and they may not be patient with the partner or mother who needs more time to recover.

If you're a breast cancer survivor, these steps may help you develop a "survivorship plan" to maximize your physical and emotional health:

Work closely with your primary care doctor. It's important to make sure your clinician has your complete cancer history — including surgical reports, radiology records, and drug information.

Join a support group. Breast cancer survivorship may not be a sorority you ever intended to join, but its ranks are legion. It can be therapeutic to talk with someone who's walked in your shoes.

Stabilize your relationships. If cancer has put a strain on your relationships or unearthed problems that took root earlier, consider getting help from a mental health professional.

Treat yourself. Make a list of things that might give you pleasure — from a vase of fresh flowers to a visit to a day spa — and schedule them into your life.

Invest in the future. This can be something as small as planting an amaryllis bulb to bloom in a few months or as large as launching a new career. Planning for the future is one of the best ways to overcome the fear that it won't be there.

END