

# Aviation Human Factors Industry News

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From the sands of Kitty Hawk, the tradition lives on.

Hello all,

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In this weeks edition of *Aviation Human Factors Industry News* you will read the following stories:

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While mistakes are a part of the learning process, after a certain level of proficiency is acquired, the constructive value of mistakes diminishes. In fact, much time and effort has been devoted to the study of human factors, training, system design, procedures, etc. in order to minimize the occurrence of errors among more experienced individuals.

This issue of *CALLBACK* looks at some errors encountered by people in various aviation professions who were at a level of proficiency where they “never again” wanted to repeat a particular error. But, to err is human. To continue learning from our own mistakes is a good thing and learning from the mistakes of others is even better. As Eleanor Roosevelt is reported to have said, “Learn from the mistakes of others. You can’t live long enough to make them all yourself.”

## Under Pressure

When [operational pressure and complacency](#) influenced a routine tire change, this CRJ Maintenance Technician cut corners that could have cut short a career.

- While I worked on a CRJ200 aircraft, two events stemmed from a #1 Main Landing Gear (MLG) tire change that I performed. I received a call from Maintenance Control to inspect damage of a #1 MLG tire. After receiving the limits via fax, I inspected the tire and found it to be beyond limits. Maintenance Control advised a new wheel assembly was going to be sent from another station along with the paperwork. When the wheel arrived, I skimmed through the paperwork and proceeded with the tire change. This is when [multiple factors](#) played into the mistakes I made.

**First:** I did not deflate the old tire fully and it was later shipped out by a co-worker.  
**Second:** I failed to install a spacer on the new wheel which was not removed from the unserviceable assembly.

I clearly **rushed** through the Maintenance Manual due to complacency and to get the plane out on time after Maintenance Control stated that the pilots had an hour before they timed out. At the time I thought a tire is a tire, they're all the same. I looked for the key points like torques and safety wiring which ultimately led to my mistakes. **It was dark**, which added to my missing the spacer and I did **not have the proper tool** on hand to deflate the tire, which led me to only partially deflating it. I know what I did was wrong and I definitely learned from it. I will **never again** jeopardize my licenses and career like this.

## From Complacency to Crisis

A low stress environment can lead to complacency and increase one's susceptibility to committing errors. For this Air Traffic Controller, a routine departure vector culminated in a traffic alert in which technology likely prevented a midair.

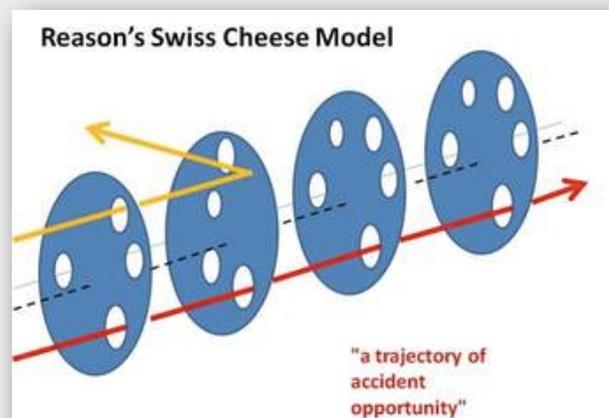
- An M20 was enroute at 9,000 feet, west to east. A CRJ200 was a departure off Runway 11. Traffic was slow and I was only controlling four planes. I established radar contact with the CRJ200 on departure and put him on course. The CRJ200 was climbing out of about 4,000 feet when I switched him to Center. At the time, the conflict with the 9,000 foot overflight M20 was about 15 to 20 miles away and **I did not see it**. I saw the conflict when the aircraft were about six to seven miles apart and opposite direction to each other. I called to the aircraft I was talking to (the M20) and told him to turn right heading 180 immediately and then gave him the traffic call. I did not wait for the response and called Center and said to turn the CRJ200 north. Both aircraft were on east/west lines opposite direction to each other. The CRJ200 was heading 270; the M20 heading 090. I again called the M20 to turn right heading 180 immediately with no response. I made the call again, no response. Then the M20 called and said, "Are you calling me?" and **I realized I had been using the wrong callsign**. The callsign had a "W" and I had been calling "M." The aircraft passed clear thanks to TCAS and a RA alert.

This near midair was completely my fault. I was complacent and focused on the departure aircraft. I gave him the same thing we always give them. The **slowness of the position and routine of the departure lulled me into a false sense of awareness**. I have [many] years of ATC experience and this goes to show you can never let your guard down. If TCAS had not been on the aircraft, the outcome could have been catastrophic. I have learned from this error and will be forever diligent. **Never again!**

## **Feds blame pilot error, lack of oversight in Marine's death**

Federal investigators blame the Marine Corps, the Air Force and the pilot and operator of a privately-owned military jet for the death of a Marine killed last year when the jet crashed into his truck in Arizona. The National Transportation Safety Board report said the pilot of the BAE Systems Hawk jet **took off too early**, noting that he lifted off while traveling more than 10 mph below normal takeoff speed on March 11, 2015. The British-built jet flying on a mission for the Air Force wobbled, veered off the left side of the Marine Corps Air Station-Yuma runway and eventually hit a pickup occupied by Lance Cpl. Anthony T. DuBeau. The 23-year-old from Kenosha, Wisconsin, was providing safety oversight for a construction crew working alongside the runway.

The pilot, an active-duty Air National Guard A-10 pilot flying as a contractor for Quincy, Illinois-based Air USA, Inc., told investigators the aircraft's nose "became light" as he approached takeoff speed.



The NTSB concluded the pilot set the aircraft trim to a setting that made its nose lift off early and that it's likely he "instinctively" pulled back on the control stick to initiate takeoff when he felt the plane rising. The plane lost lift because of its slow speed and veered off the runway.

That setting was developed by Air USA to make the plane act more like American fighter jets such as the F-16. But the Hawk manual specifically says such trim settings shouldn't be made, according to the report. The agency also noted that bomb dispensers mounted on the jet's wings likely made the aircraft more likely to stall.

Calls to Air USA seeking comment on Tuesday and Wednesday were not returned.

The plane was on a mission to train Air Force ground spotters who direct attack aircraft. The pilot and a passenger were unhurt, but the plane was heavily damaged.

The NTSB blamed the Air Force for failing to oversee operations of its contractors, saying that it did not follow a Defense Department directive that all contractor aircraft must be assessed and an ongoing oversight program put in place. Instead, the Air Force chose to rely on certification and ongoing oversight by the Federal Aviation Administration.

"However, because the airplane's missions were flown under the umbrella of "public aircraft," the FAA was not providing, nor was it required to provide, any oversight beyond issuance of the airplane's initial airworthiness certificate," the report said. "As such, the operator was effectively operating without oversight at the time of the accident."

An Air Force spokesman said the report was being reviewed.

The lack of oversight probably allowed Air USA to keep using a takeoff procedure not approved by the manufacturer and allowed the inadequately reviewed bomb racks to be used, the NTSB said.

The Marine's death would have been avoided if the Marine Corps had not allowed construction crews to work alongside a runway in use, according to the NTSB. Such actions would not have been allowed at a civilian airport, the NTSB added.

The Marine Corps noted in a statement that the Yuma base is a shared civilian-military facility and its operations were in full compliance with defense department policies. The base is reviewing its practices now that the NTSB report has been released, said base spokesman Capt. Jose M. Negrete in a statement.

"It's a **classic example of a sequence of events** leading to the crash, any one of which by **itself is relatively innocuous**," said Bill Waldock, a professor of safety science at Embry-Riddle Aeronautical University's Prescott, Arizona campus.

**"But when you add them together, then it culminates in the accident."**

The immediate events which caused the accident were the 3-degree up pitch setting, and the pilot's error in lifting off while going too slow, Waldock said.

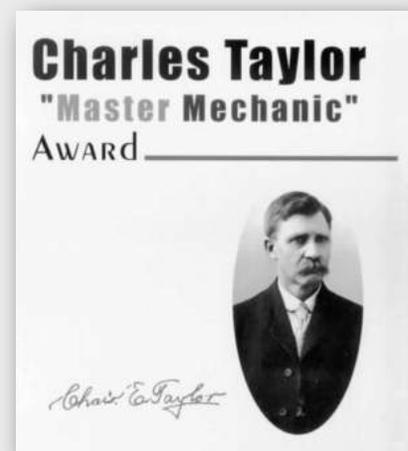
"We bring in operations, we bring in the airport, we bring in the aircraft procedures that are being used by the operator, and it ultimately comes down to **the pilot**," he said. "Usually when I describe the set of errors, **I call it human error, not pilot error**. There's a tendency to call everything pilot error, and usually the pilot's got a lot of help causing the accident, as it was in this case."

## **AMT Day 2016 - Making Charles Proud**

Charles Taylor, the Wright Brothers' mechanic and father of aviation maintenance, was born on May 24, 1868. Today - 148 years later - we honor his legacy with every safe arrival.

On behalf of ARSA, I'd like to celebrate this year's Aviation Maintenance Technician Day by thanking the men and women who work tirelessly on maintenance lines and in component shops in service of the flying public. Just as Orville and Wilbur couldn't have flown without their mechanic, **we can't fly without you**.

To help make that point I encourage you to take a moment to watch ARSA's seven-minute documentary on the maintenance industry.



Shot on location at member facilities, the film provides a glimpse of the vital work being done at repair stations around the world:

Of course, I also invite you to make the most of this day by ensuring you're taking advantage of ARSA's work for you. Are you fully enjoying all of the association's member benefits? Visit [arsa.org/membership](http://arsa.org/membership) to find out. Thank you for helping to keep the world safely in flight. Working together, I know we'll continue to make Charles proud.

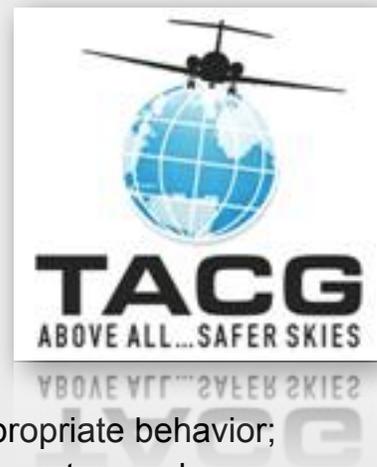
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## **When National Culture Supersedes Safety Culture**

As a global aviation safety consultant for a few decades now, it's fair to say that I have been exposed to many different cultures. When I speak of culture, I am focusing specifically on two types; [the national culture and the organizational safety culture](#). Often there is a relationship between both— national culture has a direct effect on the organizational safety culture. As an example, a high Power Distance (PD) national culture (more accepting of an unequal power relationship) may see manifestations of excessive deference in everyday flight operations. In the context of national culture, this is appropriate behavior; however, within flight operations, the inability or unwillingness to speak up, or voice a concern to a superordinate (i.e., Captain, Maintenance Crew Chief, etc.) can have (and has had) serious safety implications.



So how can an aviation organization separate its national culture from its organizational safety culture? [Or can it?](#) In some cultures (i.e., low PD cultures), where the disparity is minimal, it's easier to have a flatter hierarchy, more open and transparent communication, and a collaborative working environment. But what about high PD cultures? These cultures tend to have a more rigid hierarchy, are more suppressive with communication, and favor a more autonomous working environment.

The simple solution to negating the effect of national culture is to ask employees to "[check their national culture at the door](#)" and adapt to the organizational safety culture during their shift. This might not be an easy task, however, in light of the fact that safety culture principles may be in sharp contrast to their national culture. As an example, a few years back, a Crew Resource Management (CRM) course was conducted at an airline located in Asia (high PD culture). In the class, all of the pilots learned about, and tested well, on CRM principles such as teamwork, delegation, assertiveness, speaking up, etc. Yet, once in the cockpit they [defaulted](#) to their instinctive, national cultural behavior patterns (particularly excessive deference and lack of assertiveness).

There are no simple solutions. However, the potential clash of national and organizational safety cultures is an issue that merits attention in all types of aviation organizations. As a pilot and an Industrial/Organizational psychologist, I find this to be an interesting area of research exploration.

[Dr. Robert Baron](#) is the President and Chief Consultant of [The Aviation Consulting Group](#). He performs extensive work in his core specializations of Human Factors (HF), Safety Management Systems (SMS), Crew Resource Management (CRM), and Line Operations Safety Audit (LOSA). He consults with, and provides training to, hundreds of aviation organizations on a worldwide basis.

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## DGCA Questions Working Hours in Jet-Air India Incident

The aviation regulator has asked Jet Airways Ltd to look into the [duty timings](#) of its bus drivers ferrying crew and passengers after one of its buses slammed into a stationary Air India aircraft.

The Air India ATR aircraft at the Kolkata airport used for regional services was damaged [beyond repair](#) in the incident in December.

"The driver was rostered for continuous night duties for several successive nights and subsequent morning shifts a couple of times," Sanit Kumar, deputy director of air safety in Directorate General of Civil Aviation (DGCA) said in his accident investigation report on Monday. While the driver wasn't drunk, Kumar said he fell asleep while ferrying two Jet Airways crew members to an aircraft.

"While he was driving close to Bay no. 32, during negotiating a turn, [he dozed off](#), lost control on the wheel and deviated from vehicular lane. Before he could realize he had impacted the aircraft parked in Bay 32," Kumar noted in the report.

DGCA has asked the aerodrome operator to include this incident as a case study and brief applicants seeking airside driving permits going forward.

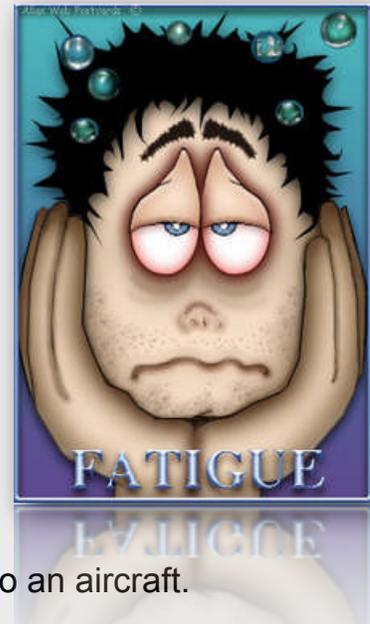
The Air India aircraft ATR 42-320 registered as VT-ABO and leased from Ireland-based ABRIC Leasing Ltd has been written off by the airline. Air India has sought compensation from Jet Airways. Insurance companies are looking into the matter.

An industry official said there was an even bigger danger lurking: pilot fatigue.

"It's strange that DGCA [is alive to the contribution](#) driver fatigue has on 'safety of ground operations' but is totally ignoring the contribution pilot fatigue has to the 'safety of aircraft operations'," said Shakti Lumba, former vice-president of operations at IndiGo.

"Will it take an aircraft accident for the DGCA to wake up & revise the FDTL (flight duty time limitations) of aircrew and ensure compliance by operators?"

The present FDTL addresses the commercial requirements of air operators more than it does pilot fatigue, he said.

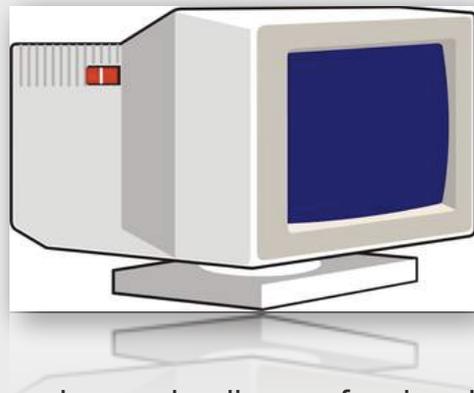


"The FDTL should address both transient and cumulative pilot fatigue and sleep deprivation so detrimental to flight safety, [which it isn't.](#)"

FDTL are guidelines governing the aspects such as the maximum daily flight duty period including flying hours limitations, rest period, staff-on-duty travel and number of landings allowed per pilot as well as the crew.

## **Free Online Human Factors Mx Course Available**

The Aviation Institute of Maintenance (AIM) has launched a free online course in aviation safety. Understanding that 80 percent of all aviation-related incidents and injury occur because of human error, oversight, fatigue and other human-related factors, AIM intends to combat such incidents by offering widespread instruction and guidance on minimizing risk. In addition to the free Human Factors course, AIM has also made available an advanced online professional certification course, "[Minimizing the Risk of Incident and Injury Due to Human Factors.](#)"



This certification course provides an in-depth understanding of the "dirty dozen," the 12 most common human-related risk factors for aviation incidents. This course draws from the material in the introductory curriculum and allows the trainee to apply knowledge and experience to scenario-based situations to become more aware of why accidents happen and how to avoid them. The instructor-led certification process carries a cost of \$49 and awards graduates a certificate from the Aviation Institute of Maintenance.

<http://www.aviationmaintenance.edu/programs/online-hub/human-factors/humanfactors.html>

## Breaking the Norm

We must accept the fact that instructional flights necessarily **carry more risk** than normal local or cross country flying. We practice emergency procedures, do more takeoffs and landings, and fly the airplane much closer to the edges of the performance envelope. In theory, the presence of the instructor mitigates most of the additional risk because of the CFI's additional training and experience. That is the generally accepted belief but it only proves to be valid if the instructor is **qualified and fit for duty**.

We see far too many accidents, many of them serious or fatal, in which flight instruction was being conducted. There appears to be an increase in instructional accidents involving an instructor who **was not medically or psychologically fit for duty**. It has been the accepted norm to believe that the CFI is infallible, always choosing safety over convenience. But instructors are human beings first and therefore subject to all the same failings as other humans. Sometimes the CFI will choose to fly when it is not a good idea. Going against the norm, let me say that CFIs do not always make the correct decisions. I hope that isn't a news flash to anyone, but it must be said. **So it is time to break the norm** and take a hard look at the CFI in regard to fitness for duty.

Pilots or students should be empowered to ask the CFI specific questions regarding their fitness for flight. It is not the norm to do so, but given recent instructional accident trends it probably should be. If an instructor takes exception to the questions, **it is time for a different instructor**. "Are you presently taking any medications?" "Have you used any drugs or alcohol recently?" "Are you experiencing any illness, stress, or fatigue that might have an effect on your ability or judgement?" Most people will not lie but some might try to put a favorable spin on the answer. "I took some meds for my allergies but I'm OK." Or simply, "I'm fine." are not acceptable answers. The CFI is offering a service, the quality of which can literally make the difference between life and death. The person receiving instruction **has a right and a duty** to determine the instructor's fitness for flight.

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## IndiGo Pilots Sacked for Mistaking Road for Runway

Plane almost landed on road adjacent to Jaipur airport

It's yet another embarrassing incident that calls aviation safety in India to question. Two pilots of IndiGo, the country's leading budget airline, **were dismissed** from duty this weekend for trying to land on a road, thinking it was the runway.



In the incident Feb. 27, the aircraft, an Airbus A320, was barely a few hundred feet from landing on a road which runs parallel to Jaipur airport in the western state of Rajasthan. The maneuver set off a **“too-low terrain warning”** that prompted the pilots to get into action, IndiGo said in a statement Sunday.

The pilots were alerted by the enhanced ground proximity warning system, or EGPWS, an audio warning system in the cockpit.

The captain-in-command “immediately took a precautionary measure and carried a go-around” with the aircraft subsequently landing safely on the runway, the airline said.

The airline's flight-safety department suspended both pilots from duty following a two-month investigation. The incident has also been reported to the Directorate General of Civil Aviation, the country's aviation regulator, IndiGo said.

The near-miss is one of the **several dangerous or embarrassing mishaps** reported in recent months, putting India's safety score under the spotlight.

In March an IndiGo airlines plane with 100 passengers on board came to a screeching halt at an airport in Hyderabad, after the pilot was alerted to an incoming flight on the same runway.

## FAA Posts Third Video In Airport Safety Series

### **Focuses On National Efforts To Reduce Runway Incursions**

The FAA has posted video designed to further enhance airport safety. It is the third installment in a series of instructional videos being produced by the agency.

The video outlines the success of previous initiatives to enhance airport safety and the national efforts underway to further [reduce the risk of runway incursions](#) at U.S. airports. The video also discusses the FAA's collaborative partnerships with the aviation community to improve runway safety at airports.

The FAA launched the safety information video series last year to provide the airport community with information to help them continue to operate the nation's airports safely and efficiently.

#### **Previous videos include:**

- 2015 Wildlife Hazard Management and Strike Reporting Update. Wildlife strikes continue to capture media attention. While impacted pilots and airports are reporting strikes, they might not know the critical role their reports play in understanding wildlife issues and developing wildlife policies. This video shows viewers what happens when a strike is reported, from the initial report entry to how the data is analyzed and then used on a national, regional, and airport level. Released June 2015.
- Winter Operations Update. This video launches a nationwide pre-season campaign for winter operations safety. It reminds airports to review their Snow and Ice Control Plans and offers best practices for snow and ice control. Released October 2014.



**FMI:** [www.faa.gov/airports/safety-video-series](http://www.faa.gov/airports/safety-video-series)

## Air New Zealand trialling robots to check for aircraft damage

Invert Robotics climbing robots can detect damage to an aircraft fuselage **not immediately apparent visually.**



Air New Zealand is trialling tiny robots fitted with cameras to inspect aircraft for damage. The technology is created by Christchurch robotics company Invert Robotics and was originally designed for use in the dairy industry to detect damage inside milk tanks. The remote controlled robots have the ability to climb walls and stream high resolution footage in real time.

Air New Zealand chief operations officer Bruce Parton said the airline first started exploring the use of robotics after recognizing the shape of a milk tank closely resembled an aircraft fuselage.

"Currently to inspect the top of the fuselage, as we do following incidents such as lightning strikes, engineers need to work at heights of up to eight meters," Parton said. "Using technology that can identify defects not immediately visible to the human eye and do so from the ground has the potential **to make aircraft maintenance safer and more reliable.**"

Exploring robotic technology supports the airline's innovation strategy. Invert Robotics chief executive James Robertson said it was hugely exciting to be collaborating with Air NZ.

"While initially designed as a dairy solution our patented robot has proven versatile lending itself well to aircraft deployment," Robertson said.

He hoped the technology would be rolled out across the global aviation industry.

## Air turbulence could increase as Earth warms

The latest research suggests that climate change will increase air turbulence. But it's impossible to say what role, if any, global warming has played in a spate of recent turbulence incidents that resulted in injuries on commercial flights.

"I wouldn't draw anything from it," said Paul Williams, an atmospheric scientist at the University of Reading in England who has

studied the connection between atmospheric carbon dioxide levels and air turbulence. "Certainly there needs to be some [scientific] work done."

In the past five weeks, news reports and social media sites have been filled with stories and videos of screaming passengers being violently rocked by turbulence. "All of a sudden, out of nowhere — out of nowhere! — I thought this was the end," passenger Gisela Arrow told WPLG in Miami after an Allegiant Air flight encountered heavy turbulence en route from Punta Cana, Dominican Republic, to Pittsburgh.

Despite this recent spate of incidents, FAA data shows that in recent years turbulence-related injuries [have dropped over U.S. skies](#). Just 65 people sustained what the National Transportation Safety Board (NTSB) defines as a "serious injury" due to in-flight turbulence from 2013 to 2015, compared with 230 between 2008 and 2010.

But because airlines are only required to report serious injuries, such data is limited in scope. An older but more thorough FAA data set shows that turbulence-related accidents and injuries roughly doubled between 1982 and 2003 on a per-departure basis.

Though the report stated that higher passenger loads could account for the difference, Williams said he thinks climate change played a role, as well.

"I think it's because the atmosphere has gotten more turbulent; that's part of the explanation," he said.



Williams' views are based on his 2013 peer-reviewed study that was published in the journal *Nature Climate Change*. In conducting the study, he and co-author Manoj Joshi zeroed in on what is known as [clear-air turbulence](#), which is the type of turbulence that causes most major incidents for commercial airliners.

Unlike turbulence caused by clouds and storm systems, which is easily visible, clear-air turbulence can't be seen by pilots through the cockpit window and cannot be detected by radar. It typically occurs at altitudes above the clouds, where jetliners like to fly, and it's often caused by sudden changes in atmospheric pressure or by the convergence of counter-moving jet streams. Because it is invisible, incidents of clear-air turbulence often occur while the seat belt signs are off, increasing the chances that a passenger or crew member will get injured.

[Jet streams are expected to strengthen](#) due to climate change. But Williams sought to determine how that strengthening would affect turbulence. He focused his study on the North Atlantic corridor, which some 600 flights traverse each day. Through the use of climate model simulations, he looked at how the frequency and intensity of clear-air turbulence changes as atmospheric carbon dioxide is doubled from its pre-industrial baseline of an estimated 280 parts per million. At present, carbon dioxide levels have already increased from the baseline to 400 parts per million. Scientists project the doubled figure of 560 parts per million will be reached this century, perhaps even by the middle of the century. What Williams' models showed is that in a world with carbon dioxide levels of double the pre-industrial level, [the amount of air space that would contain significant clear-air turbulence increases by between 40% and 170%](#), with a cluster of results showing an increase of around 100%. In addition, the average strength of the turbulence would increase by 10% to 40%.

"It seems reasonable that if the volume of turbulence in the atmosphere is going to double, then the number of injuries is going to double as well, unless we can improve these forecasts," Williams said. If the amount of invisible air turbulence is on the rise, the ways to counter it would be through improved forecasts or the development of new detection techniques.

The latter of those is already underway. Between 2009 and 2014, a team of European scientists tested a system in which [ultraviolet lasers](#) are pointed in the direction a flight is headed. The lasers detect changes in air density, giving pilots a warning of turbulence.

The tests suggested that the laser-based system could detect moderate turbulence at a distance of up to 30 kilometers. However, author Herve Barny noted that conclusion is not definitive because they ran into only light turbulence during the test flights. Thus far, airlines have not begun using the technology.

Meanwhile, effective use of big data could provide a way to improve the turbulence forecasts that are issued every six hours by the World Area Forecast Centers in Washington and London. Airlines keep detailed records of turbulence incidents, Williams said, but as of yet there's no central archive in which scientists can access that information to build turbulence models.

He called such data a “treasure trove.”

## **Injury and Illness Rates among Flight Attendant Keep Soaring**

Flight attendants deal with a variety of stressful situations on the job. From demanding adults to airsick children, they must resolve conflicts and find creative solutions to keep passengers safe in the air and satisfied with their service.

Unfortunately, flight attendants still face a **much higher level of risk** than other workers. In an attempt to make working conditions safer, unions raised concern about the alarmingly high rates of recordable injuries and illnesses as early as 2000. At that time, injury rates among airline workers were above 10%, higher than industry rates for mining, construction, and agriculture. Despite years of work to reform the industry, **injury rates remain much higher for flight attendants than workers in other industries.**



## The Sky is a Dangerous Place to Work

While air transportation workers suffer an injury rate of 7.6%, other industries that may seem more dangerous are not. For example the recordable incidence rate for the following industries are lower than those for flight attendants:

- Forestry and logging
- Textile mills
- Wood product manufacturing
- Truck transportation.

It is a surprise that flight attendants face greater risks on the job than a truck driver or a logger operating heavy machinery, but that is the reality. In addition to irregular schedules and contact with thousands of people's germs each day, airline attendants face the [risk of turbulence](#) and falling luggage with every flight. It is not an incredible surprise then, that recordable incidents for air transportation workers run more than double the average for all private industry.

[http://ehstoday.com/news/ehs\\_imp\\_33243](http://ehstoday.com/news/ehs_imp_33243)

## Shift Workers Perform More Poorly Than Non-Shift Workers on Cognitive Test

Compared to non-shift workers, shift workers needed more time to complete a test that is frequently used by physicians to screen for cognitive impairment, finds a study from Uppsala University. [However](#), those who had quit shift work more than [5 years ago](#) completed the test just as quickly as the non-shift workers. The findings are published in the journal *Neurobiology of Aging*.



By utilizing data from about 7,000 individuals participating in the Swedish cohort study EpiHealth, researchers from Uppsala University and Malmö University sought to examine whether shift work history would be linked to performance. The test that was used is called the “Trail Making Test”, which consists of two parts. Part A requires participants to connect circles labeled with numbers 1-25 in an ascending order. In part B, participants must alternate between numbers and letters in an ascending order. Time to complete these tests has been shown to [increase with age](#).

“Our results indicate that [shift work is linked to poorer performance](#) on a test that is frequently used to screen for cognitive impairment in humans,” says Christian Benedict, associate professor at the Department of Neuroscience at Uppsala University and corresponding author of the study, in a release.

“The poorer performance was only observed in current shift workers and those who worked shifts during the past 5 years. In contrast, no difference was observed between non-shift workers and those who had quit shift work more than 5 years ago. The latter could suggest that it [may take at least 5 years](#) for previous shift workers to recover brain functions that are relevant to the performance on this test,” says Benedict.

[http://www.neurobiologyofaging.org/article/S0197-4580\(16\)30069-0/abstract](http://www.neurobiologyofaging.org/article/S0197-4580(16)30069-0/abstract)

## **Even A Company Known For Overworking People Is Embracing Sleep**

As people become more mindful about their sleep health, companies, too, are starting to join the movement. [Nap rooms](#) are a common sight at Google, Zappos, Ben & Jerry’s and The Huffington Post, and a handful of tech and media executives have been vocal about the need for better rest and [work-life balance](#).

For the broader business world, though, the culture of stress and overwork has been slow to evolve. This might change as organizations like McKinsey, one of the most prestigious consulting firms in the world, join the conversation.

In a recent report, McKinsey highlighted ways in which companies can do a better job of encouraging wellness, from installing nap rooms to making sure workers take vacations. Aiming to squash the notion that sleep is a luxury, the firm is also spreading the report's message to its enormous network of clients.

"We still view sleep as something that interferes with work," said Els van der Helm, a sleep specialist at McKinsey who co-authored the report. Nap rooms, for example, "aren't always used very much, or [there's still a taboo in using them](#)," she told The Huffington Post. Even executives sometimes have trouble turning mindfulness into a reality. In its report, McKinsey found that 83 percent of business leaders said their companies weren't doing enough to emphasize sleep. Another 36 percent said their organizations didn't allow them to prioritize getting a good night's rest.



But it's surprising to see McKinsey promoting awareness of sleep and wellness in the first place. Consulting firms aren't exactly places you expect to find a lot of work-life balance: Employees might pull [100-hour workweeks](#) and travel constantly to meet with clients. Many burn out and quickly leave for more stable jobs.

McKinsey declined to share information on whether it has implemented sleep programs for its own employees.

There's a lingering perception that [savvy tech companies](#) are the only ones embracing sleep and wellness; but traditional organizations, too, are seeing a shift, fueled in part by employees who are paying increasing attention to their own health. To attract millennial workers, consulting firms are enhancing flexible work schedules and time off.

"Progressive companies are recognizing the importance of their employees' health to their productivity and resilience by emphasizing wellness, [healthy diets and nutrition, regular exercise and sleep patterns](#)," Bill George, a senior fellow at Harvard Business School, said in an email. "This is in direct contrast to demanding more and more hours ... from employees in the past decade."

Sleep awareness efforts are particularly attractive because so many people [are overworked or short on sleep](#). And it's not just millennials who are calling for more rest.

“I’ve been struck by how all these different age groups are struggling with sleep,” said van der Helm, who will leave McKinsey next month to begin her own consulting firm. “The younger group is intense [about] their work and social life, and the [older] group is busy with kids. Others have jet lag and travel a lot, and it’s harder to deal with that as you age.”

Like most workplace culture shifts, a focus on sleep [begins with senior leadership](#), experts say. It’s great when Netflix and Apple executives talk publicly about the importance of work-life balance, as long as that translates to support for employees as well. That means being clear about policies like vacation time and when not to hit “send” on an after-hours email.

“CEOs and top execs [have to set an example](#) and not send emails at 3 in the morning,” said Josh Bersin, who founded Bersin by Deloitte, a talent management research firm. “If you don’t have rules around this, it’s just insane.”

[http://www.huffingtonpost.com/entry/napping-at-work\\_us\\_56ddb65e4b000de4054a0c](http://www.huffingtonpost.com/entry/napping-at-work_us_56ddb65e4b000de4054a0c)

## **The flags of their fathers**



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