

Aviation Human Factors Industry News

Volume XIII. Issue 21, October 15, 2017



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

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:

★FAA Aviation MX Human Factors Quarterly - 3 new issues

★Train Crash Investigation Yields Bizarre Findings

★Channel W5 investigation: Startling number of pilots report routinely falling asleep in the skies

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★Delta Air Lines Approves All Spartan College Campuses to Train Aviation Maintenance Workers

★And Much More

FAA Aviation MX Human Factors Quarterly - 3 new issues



Aviation MX HUMAN FACTORS QUARTERLY

SEPTEMBER 2017
Vol 5, Issue 3

William B. Johnson

About the Author: Dr. William Johnson is the FAA Chief Scientific and Technical Advisor for Human Factors in Aircraft Maintenance Systems. His comments are based on nearly 30 years of combined experience as a pilot, mechanic, airline engineering and MRO consultant, professor, and FAA scientific executive.



William B. Johnson

About the Author: "Dr. Bill" Johnson has been associated with the FAA's Maintenance Human Factors Program since its inception in the late 80's. He has held a Pilot certificate for over 50 years and is approaching 50 years since receiving his A&P certificate. He is the FAA Chief Scientific and Technical Advisor for Human Factors in Aircraft Maintenance Systems.



Comparing Aircraft Maintenance for Patient Safety during Major Repair and Replacement*

Dr. Bill Johnson & Marc Szezan

Introduction

This article started when Dr. Bill Johnson (aka, Dr. Bill) was discussing his upcoming total hip replacement surgery (i.e. "major repair and replacement") with Marc Szezan, a former Lufthansa senior executive and now a Lecturer at the University of Oxford Said Business School. We talked about the surgery and realized that there might be similarities between performing "surgery" on Dr. Bill and on aging aircraft. Even more importantly, from Bill's point of view, there surely could be similarities in terms of what one would expect from a repair station and a hospital. So, we discussed the characteristics of an aviation maintenance service provider and a medical service provider that would be most desirable to complete respective services in an efficient, effective, and safe manner. Yes, even though the prospect of undergoing hip surgery was not all that pleasant, the discussion itself was fun. The successful surgery is now over and we look back on the pre-surgical considerations about patient safety during major repairs. Here is a short summary...

Human Factors in Aviation Maintenance

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Considering the Design and Delivery of HF Training

Dr. Bill Johnson

Summary

The author has delivered a great deal of human factors training within the US and worldwide. This article is motivated by observations he has made of the industry-developed maintenance human factors training.

"We are starting/refreshing our HF Training"

Nearly every week I receive an e-mail that starts with a statement that the sender is developing or modifying their maintenance HF training. Often the request is accompanied by an invitation for me or a colleague from the FAA Civil Aerospace Medical Institute or an FAA Airworthiness Inspector to come and speak to their maintenance workforce. Of course, we are flattered by the invitation to visit an organization, to see maintenance or the manufacturing force at work, and then to deliver a portion or all of the training. If only we had the time and other resources we would be delighted to accept such invitations. However, we are increasingly realizing that we offer a better alternative. That is our website (www.humanfactorsinfo.com or www.mxfatigue.com) in combination with the organizational experience, creativity,

A Phase Check of FAA Maintenance Human Factors

Dr. Bill Johnson

Summary

Like aircraft and other heavy equipment research and development programs need regular light and periodic heavy maintenance. In the research environment that is accomplished with quarterly and annual program reviews. Like an aircraft inspection our program reviews check for worn parts (ideas) and often identify new situations that present a hazard to our schedules and budgets. That sounds just like aircraft maintenance. This article will help readers look at some of the components and systems critical for an efficient and effective FAA maintenance human factors research program.

Check the Records/Logbooks

If we look at the age of the FAA Maintenance Human Factors program it would classify as an aging aircraft. It started in 1988, making it just about 30 years old. However, the program is not "ready for the scrapyard." The FAA Safety Act of 1988 and the robust funding that flowed from Congress coincided with the front-page picture of the convertible Aloha 737. That event drew immediate attention to aging aircraft, aircraft

Newsletters

Aviation MX Human Factors Newsletters

The Aviation MX Human Factors Newsletter is written by maintenance human factors professionals dedicated to identifying and optimizing the factors that affect human performance in maintenance and inspection.

2017

- [September](#) (PDF), Volume 5, Issue 3
- [June](#) (PDF), Volume 5, Issue 2
- [March](#) (PDF), Volume 5, Issue 1

https://www.faa.gov/about/initiatives/maintenance_hf/fatigue/publications/

Train Crash Investigation Yields Bizarre Findings

Federal investigators have revealed some **disturbing details** in connection with the operator of a California commuter train who ignored a red light, resulting in a head-on collision with a freight train that killed 25 people and injured 135 others.



Among the findings shared at a recent National Transportation Safety Board (NTSB) hearing into the Sept. 25, 2008 crash in Chatsworth, CA, was a text message in which Metrolink train engineer Robert Sanchez had promised a teenager that **he could operate a train** that evening. Investigator Wayne Workman told the hearing that Sanchez's text message to the teenager read: "I'm going to do all the radio talking. You're going to run the locomotive and I'm going to tell you how to do it."

Workman told the hearing that Sanchez had sent or received dozens of text messages while on shift on the day of the crash, including one he sent **22 seconds before** the trains collided. Sanchez was among those killed in the collision.

The NTSB also heard that earlier text messages sent by Sanchez revealed that other **unauthorized persons had been allowed to sit** in the locomotive's cab three days before the collision. One of those persons had sat at the controls while the train was in motion.

Channel W5 investigation: Startling number of pilots report routinely falling asleep in the skies

Anyone who has worked overnight shifts in their lives knows the feeling. The disorientation that hits without warning, the nausea, and [the battle to stay awake](#) when your body rhythm is telling you to sleep.

Now imagine flying a passenger jet feeling that way.

It's a part of every pilot's life, but Canadian regulations haven't caught up with [how much science](#) is learning about the impact of sleep deprivation on performance.



The rules on how long pilots can work in a day, and how many days in a row across time zones, were last overhauled in the 1970s when studying sleep was in its infancy.

There were tweaks in the 1990s, and collective bargaining agreements have set limits at the larger airlines, but the current industry regulations [make little mention of fatigue](#).

Transport Canada has proposed overhauling flight time rules several times in the past couple of years, but they have triggered intense lobbying by the pilots' unions and industry and had trouble making it into law. The current proposals are open for commentary until September 30th, and then the Treasury Board will decide whether to make changes, or proceed at all.

Pilots' unions say the new rules are an improvement because they provide structure to their work for the first time. They also, however, say they don't reach the standards set by the International Civil Aviation Authority or even the United States.

For example, a flight departing Toronto for Rome requires two pilots under the new and existing regulations. Under American regulations, a third would need to be on board from New York to Rome in case the captain or co-pilot suffers from fatigue and needs to nap.

What many passengers may not realize is that Canadian pilots are permitted to sleep on the job under a system called "[controlled rest](#)." It's up to the pilot to self-assess whether they need to nap, and they're permitted up to 40 minutes on a flight.

A survey of 1,900 Canadian pilots was obtained by W5, and it provides data showing a startling number of pilots are napping in the skies. The controlled rest rules were implemented as a safety measure for occasional use. The survey suggests sleeping in the pilot's seat [has now become a routine part of the job](#), with one in five pilots reporting falling asleep [involuntarily](#).

It's difficult to know how big a danger this is to the traveling public. Because Transport Canada regulations haven't focused on fatigue, crash investigators typically look for it as a contributing factor – [not the main one](#).

The cargo industry in Canada believes the concern is exaggerated, and is arguing it should be exempt from the proposed new fatigue regulations. The CEO of Cargojet tells W5 the new rules could put his company out of business because it would require them to hire many more pilots. Ajay Virmani says 80 per cent of Cargojet flights are at night, so his pilots aren't shifting around as often as passenger jet pilots do and the regulations will be too restrictive.

As you'll see in our W5 investigation, there has been one confirmed incident involving an Air Canada jet over the Atlantic where a pilot's controlled rest almost led to a midair collision. And we also learn the National Transportation Safety Board in the U.S. has reminded airlines to pay close attention to [pilot fatigue](#) among other issues in relation to its investigation of how an Air Canada jet narrowly missed four jets on the taxiway at San Francisco's airport this past summer.

It's timely to be asking whether more attention needs to be paid to how alert Canadian pilots are when their airliner is in the sky.

DOCUMENTS:

- [TSB findings on the Air Canada Zurich flight incident](#)
- [The FAA advisory to pilots](#) following an Air Canada near-miss at San Francisco airport
- [Proposed new Canadian fatigue regulations](#)

AIN The Human Factor Podcast: Engine Fire Forces Water Landing, Part 1

After Dennis Murphy dropped five charter passengers in Havana, Cuba, on February 20, 2003, one of the engines on his Cessna 402B developed a catastrophic engine fire over the Straits of Florida, forcing him to make an water landing. In the first part of AIN's *The Human Factor*, Murphy recounts how the emergency developed and then delves into the issue of the extreme fear that he faced and how best to prepare for when the unexpected occurs.



[Listen here](#)

AIN's The Human Factor, Episode 05: Engine Fire Forces Water Landing, Part 2

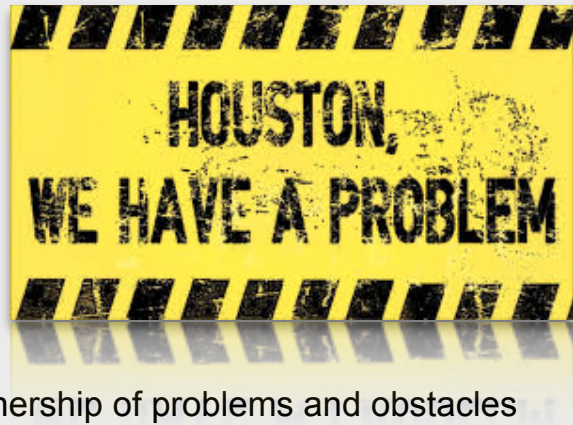
After Dennis Murphy delivered five charter passengers to Havana, Cuba, on February 20, 2003, during the return trip one of the engines on his Cessna burst into flames while he was flying over the ocean, far from land over the Straits of Florida, forcing him to make an emergency water landing. In this second part of his recounting of the harrowing flight in AIN's *The Human Factor* podcast, we return to the tale as Dennis Murphy ditches his airplane in the ocean and follow along with what happens next.

[Listen here.](#)

"Houston, We Have a Problem:" 3 Steps Toward Achieving Accountability

Imagine if the engineers who were responsible for Apollo 13 just stood around waiting for someone else to do something when they heard those immortal words, "Houston, we have a problem"? No way! Everyone was scrambling to find a way to bring our astronauts home safely. It was not someone else's problem. **It was everyone's problem** and they all took ownership of

finding a solution. Imagine if everyone took ownership of problems and obstacles that occur each and every day in aviation workplaces! How do we create an environment where team members collectively step up to achieve results and engage others in doing the same?



In today's complex work environment, it is very easy to feel that we have no control over situations. **So we blame it on** the economy, the government, the boss, the front line, the tools or the computer, etc. Some of the common symptoms that an individual or organization is not accountable for their results:

- Blaming others and pointing fingers
- Blaming policies or work equipment
- Discussions of problems focus more on what *cannot* be done rather than on what *can* be done
- Feeling that you have been treated unfairly and thinking you cannot do anything about it
- Spending a lot of time talking about things that cannot be changed
- Citing confusion as a reason for not taking action
- Saying things like: "It's not my job;" "There's nothing I can do about it;" "All we can do is wait and see;" or "Just tell me what you want me to do"

- Spending valuable time crafting a compelling story detailing why you were not at fault

It is very easy to see and feel the above symptoms within our environments, but it is not as easy to find ways to overcome these symptoms. Here are three steps toward building a more accountable team:

Step 1: Set, Manage, and Share Expectations

In a dynamic and constantly moving and shifting "service world," the key focus for accountability must be complete "service delivery" by setting, managing, and sharing expectations (with both internal and external customers). Without completely understanding, defining, and communicating expectations, it will be difficult to maintain reasonable, credible, and fair accountability standards. Accountability requires definition by leadership. It is not easy and it needs constant vigilance and nurturing. [Assumptions are accountability's worst enemy](#). It is essential for leaders to clearly communicate goals and objectives over and over. The result will be improved accountability. Please do not fall prey to the idea that only the people at the top with big titles are leaders. [Anyone](#) can be a leader in his/her workplace environment.

Step 2: Drive Service & Safety Accountability Through Peer Pressure

Those teams and organizations that are most successful have a [service and safety culture](#) driven by the entire organization, not just management. Accountability is not just the responsibility of leadership/management. Focus on the expectation that *all* are responsible for safety, service, and the organization/team's success. Potential problems should be identified and dealt with quickly by questioning one another's approach without hesitation. Everyone is on the same page understanding that no one [will accept an individual](#) who is not carrying his/her weight.

Trust and respect is required among all team members for this step to be successful. If there is trust and respect, then team members will not be easily offended. Everyone understands that it is not personal, but an effort to hold the culture to the highest standard (for the good of all).

Remember that [positive peer pressure](#) is almost always more powerful than negative feedback from leaders.

Step 3: Do Not Tolerate Bad Attitudes

Having a bad attitude is the art of looking for trouble and finding it everywhere. Once a bad attitude is tolerated, [it can begin to infect a culture](#). It is then difficult to keep it from spreading. Attitude makes the difference between a good team member and a bad team member. It can create resentment among team members who have different standards of performance.

Once again, leadership/management cannot be the only ones weeding out those with a bad attitude. It is important to hire for attitude. However, there are some “bad ‘tudes” that can interview well and slip through the hiring process. There are also team members that can develop bad attitudes after years on the job. In successful service and safety oriented organizational cultures, each team member is held to the same high standards [\(by everyone on the team\)](#).

One of the elements that can have the biggest impact on accountability, is the willingness of everyone — team members and leadership — to look into a mirror and answer the questions, “[Am I accepting mediocrity from myself?](#)” “Am I accepting mediocrity from my team mates?”

The next time you hear “(Houston ... insert your name here) we have a problem,” try not to get defensive and think “it wasn’t me!” or “it’s not my problem!” But instead ask yourself what you can do to help find the solution.

Delta Air Lines Approves All Spartan College Campuses to Train Aviation Maintenance Workers

Spartan College of Aeronautics and Technology has entered into a formal partnership with Delta Air Lines to [establish a pipeline](#) of trained aviation maintenance technicians (AMT) certified by the Federal Aviation Administration.

As part of a nationwide search for training programs in multiple markets, Delta performed lengthy onsite evaluations of more than 80 colleges or programs and ultimately approved [45 for partnership – including all four of Spartan College’s campuses.](#)

Headquartered in Dallas, Spartan College is the only Delta approved partner in greater Los Angeles, Denver, and Tulsa, Okla. Delta found that each of Spartan College’s campuses offering AMT or Airframe and Powerplant programs met its high standards of operation. Spartan graduates could be eligible for hire by Delta, or one of its subsidiary companies upon completion of training and degree.



“An alliance between Spartan College and Delta means a student with aspirations to work for a major airline is now a step closer to realizing those career goals,” said Dr. Dan Peterson, CEO of Spartan Education Group. “Spartan welcomes the partnership with Delta, which will serve as a resource for continuous improvement of the airframe and powerplant programs. This partnership also ensures Delta is a highly-visible option for students as a possible future employer and is a direct return on investment for his or her training.”

According to The Boeing Company’s 2017-2036 long-term aviation and aerospace global outlook, [more than 648,000](#) new aviation technicians are needed by 2036.

“Spartan-trained students are a significant contributor to the aerospace workforce nationwide,” said Dr. Peterson. “As the competition grows for skilled, ready-to-work aviation technicians, Spartan’s commitment to continuous improvement and geographical expansion means we will be ready to meet the need.”

Dennis Manzo, campus president of Spartan College-LA, said serving as the exclusive Los Angeles area workforce partner with Delta means students at his two Spartan campuses have a direct connection to a top tier employer.

New text highlights application of psychology in design

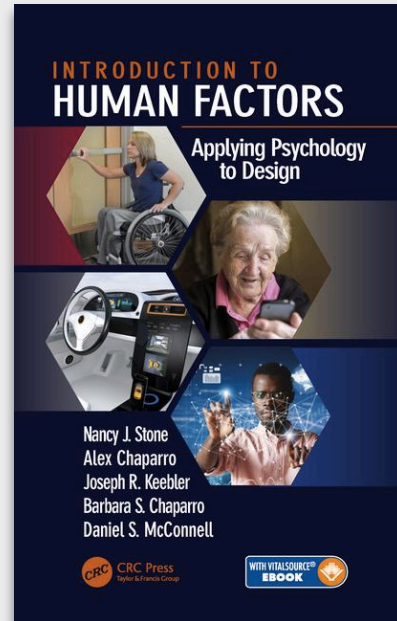
In order to design a user-friendly world, you **have to understand how humans** use, think about and react to things in their environment, says Dr. Nancy J. Stone, a Missouri University of Science and Technology psychological science professor who recently co-authored a new textbook focused on the field of **human factors**. *Introduction to Human Factors: Applying Psychology to Design*, published this fall by CRC Press, **uses everyday, real-world events to illustrate the concept of human factors**, an interdisciplinary field that focuses on the design of environments, equipment or tools to help individuals effectively use the environment and devices.

“For example, whether someone is attempting to navigate a college campus, to function effectively in an office or to use a cell phone, our knowledge of psychological science helps us understand how individuals perceive the environment, process information within the environment, and are likely to behave or perform,” Stone says. “The goal is to design these environments to increase efficiency and understanding for ease of use, and possibly increased safety. **Often, this also leads to a decrease in error.**”

Designed for undergraduate students, the textbook examines the field of human factors from the psychological perspective, and highlights the importance of considering human factors in designing more effective environments, tools and devices.

“More importantly, this book focuses on environments and devices beyond military and aviation settings, **which are traditional human factors areas of study**,” Stone says. Students will learn how human factors applies to their own lives and to special populations.

“With an understanding of the needs of special populations, students will be able to apply their learning to designs that benefit children, the elderly, or individuals with physical or mental limitations.”



Stone joined the Missouri S&T faculty in 2008. Her research interests include environmental design, group processes, team work, student learning, training, program evaluation and the interview process. She was instrumental in the creation of Missouri S&T's master's program in industrial-organizational psychology.

Stone holds a Ph.D. in experimental psychology with an emphasis in industrial and organizational psychology from Texas Tech University. She also holds a master of arts degree from Texas Tech and a bachelor of arts degree in experimental psychology from the University of California, San Diego.

<https://www.crcpress.com/Introduction-to-Human-Factors-Applying-Psychology-to-Design/Stone-Chaparro-Keebler-Chaparro-McConnell/p/book/9781138748293>

Being a Better Safety Communicator

Which box would your employees check for each statement: Excellent? Good? Needs Improvement?

How effectively do you communicate?

Communication is one of the most important methods of influence and critical to success in any organization. It is also one of the most difficult to consistently get right. Great orators over time have moved bodies to conquer armies and moved hearts and minds to bring people together during difficult times. Today, captured attention is harder to come by and has become significantly competitive.



Everyone has a message, and everyone feels theirs is more important than others'. In our work helping leaders to understand and strategically prioritize how to improve culture, with the vast majority of them, improving communication is a primary focus of resources.

While organizations must educate, train, and coach their leaders (formal and informal) in communication tactics and help them continuously identify opportunities for further improvement, it is up to the individual leaders to improve themselves. A communication self-evaluation can help. This is a tool used with clients during leadership development and communication improvement engagements.

As you review each item, put yourself in the position of those you are leading. Consider their perspective, and then rate yourself on how effective you would be rated by your employees, based on how your employees think and act. Take the time to give this serious consideration. Which box would they check for each statement: Excellent? Good? Needs Improvement?

Communication Self-Evaluation

1. There is an understanding within my team regarding how best to effectively communicate with me and each other.
2. I map out where we are going in safety.
3. The performance (behaviors) expected of me is clear to my employees.
4. I do at least as much listening as talking when conversing with my team.
5. My employees have a vision of what excellent safety looks like.
6. My employees correctly know what it takes to prevent injuries and enhance our culture.
7. I regularly communicate what I expect in safety.
8. I do not allow employees to make exceptions to safety requirements or strategy.
9. I don't accept excuses for not being safe.

10. I don't let up on safety when work demands increase.
11. I never criticize, nor am I ever sarcastic about safety.
12. My employees don't feel like they have to hide their regular work practices from me.
13. I have told all my employees why safety is personally important to me and why I take it seriously.
14. I regularly ask for safety improvement ideas and suggestions.
15. I encourage my employees to practice safety off the job.
16. I hold my employees accountable more for their performance (how they perform the work) than their results (what they get done).
17. I recognize and provide feedback for desired performance (what they do well) just as often as undesired performance (where improvement is needed).
18. I seek more to understand influences on risk than give safety advice when seeing concerning or unsafe behaviors.
19. When speaking with my employees, I pay attention to their body language and alter my messaging if necessary.
20. I invest in myself and seek out feedback and/or tools to improve my communication skills.

Once you have completed the self-assessment outlined above, develop your own improvement plan or seek out resources to help you in your efforts. Consider revisiting this assessment tool at least quarterly and continue questioning how effectively you communicate.

To receive a scoresheet to complete this self-evaluation, contact the author at info@proactsafety.com and mention Communication Self-Evaluation Scoresheet.

Here's Your Antidote to Current Events: Positive News About 10 Death Rates That Keep Going Down

While the media today might cause you to believe that we're surrounded by death and destruction, [these positive trends will convince you many things are improving](#).

With advancements in medicine, along with better safety practices, fewer and fewer people are dying of common diseases, accidents, and problematic lifestyles.

Don't believe us? Here is the list of declining death rates:

10) Breast Cancer

According to [new research](#) by the American Cancer Society, breast cancer deaths in the USA have dropped by almost 40% since 1989 – that roughly translates to about 322,600 averted breast cancer deaths. This trend is largely attributed to more consistent testing and efficient treatment.

CHECK OUT: [Fewer Babies Having Babies: U.S. Teen Birth Rate Cut in Half](#)

It's not just breast cancer, either – a steady decline over more than two decades has resulted in a [25% drop in the overall cancer death](#) rate in the United States. The drop equates to 2.1 million fewer cancer deaths between 1991 and 2014.

9) Malaria

Thanks to the world's most effective malaria vaccine, global efforts in the last 15 years have led to a [62% reduction in malaria](#) deaths between 2000 and 2015. While there is still an excess of malaria cases in Africa, development of the vaccine is expected to stop infections throughout Ghana, Kenya, and Malawi in 2018.

8) Measles

In 2014, deaths from measles plunged by 78% since 2000 as global vaccination campaigns curbed outbreaks of the disease. According to the Centers For Disease Control and Prevention, measles was eliminated entirely from the United States in 2000 alone.

7) Child Deaths From Disease

An article from the Global Burden of Disease Child and Adolescent Health Collaboration says that mortality among children and adolescents [decreased worldwide](#) from nearly 14.2 million deaths in 1990 to just over 7.2 million deaths in 2015.

6) Child Deaths From Car Collisions

In 2014, a government report showed that the rate of American children dying in car accidents declined by 43% over the course of a decade. This is largely credited to enforcing seat belt use and proper safety procedures for children.

5) Maternal Deaths

In 2000, the Millennium Development Goals (MDGs) were established by the United Nations to drive maternal and child deaths down by 2015, and indeed the pace of improvement accelerated, resulting in [maternal deaths falling significantly](#) between 1990 and 2013.

The vast majority of countries saw accelerated reductions in maternal and child deaths – with child deaths declining by 3.5% per year since 2000 and maternal deaths by 2.7% per year since 2003.

4) Aviation

According to a report from the Aviation Safety Network, 2016 was the second safest year for aviation on record. Lead only by 2013 – which experienced only 265 deaths out of the 3 billion people who boarded planes – this most recent year ended with 325 deaths in total, which is about 1 in every 10,769,230 travelers.

RELATED: [4 U.S. States Show Decline in Obesity For First Time in 10 Years](#)

Over the course of the last decade, airlines have experienced fewer and fewer deaths per capita thanks to newly enforced safety procedures.

3) HIV/AIDS

Thanks to the tireless efforts devoted to education and treatment of the disease, a new report says that [HIV/AIDS is no longer the leading cause](#) of death in Africa.

The research published by the fact-checking organization Africa Check, which is based on numbers from the World Health Organization (WHO), shows a 24% decrease over five years in the number of deaths from AIDS/HIV. The data reflects a continuous downward trend in AIDS/HIV mortality, with 760,000 people dying from the virus and its complications in 2015, compared to 1 million in 2010 and 1.5 million in 2005.

2) Stroke

[Fewer Americans are having strokes](#) and those who do have a lower risk of dying from them finds a new study led by researchers at Johns Hopkins.

MORE: [4 U.S. States Show Decline in Obesity For First Time in 10 Years](#)

The study found a 24 percent overall decline in first-time strokes in each of the last two decades, especially among people 65 and older. A dramatic 20 percent overall drop in deaths after stroke was recorded each decade,

primarily among those younger than age 65. The results were similar across race and gender, a finding that researchers were heartened to discover since a previous study suggested African-American stroke rates were not improving.

1) Smoking-Related Deaths

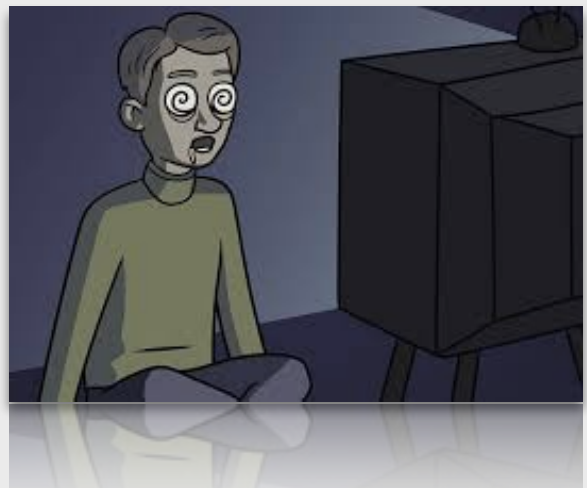
While it may not technically be a decline in actual deaths, smoking cigarettes is the leading cause of preventable diseases in the U.S.A. – and thankfully, more and more [American smokers are quitting](#) the harmful habit every year.

The Centers for Disease Control and Prevention released a report last year stating that the amount of American adult smokers dropped by 27.7% since 2005 – that's 8.5 million adults. This decline in smoking is credited to increased tobacco prices, comprehensive smoke-free laws, anti-tobacco mass media campaigns, and barrier-free access to tobacco cessation counseling and medications.

Additionally, the amount of [British smokers has fallen](#) to a new record low of 8 million – a decline of roughly 2 million smokers. More importantly, adolescent smoking dropped from 26% to 17%, which is the lowest it has ever been.

Binge Watching Impairs Sleep

Binge watching shows on Netflix and other video on-demand services may take a [significant toll on our sleep](#), reports *Time.com*. An international team of researchers had 423 young adults complete a survey assessing their sleep habits and how often they watched TV. More than 80 percent were binge watchers, meaning they had within the previous month viewed back-to-back shows, on any type of screen, in one sitting.

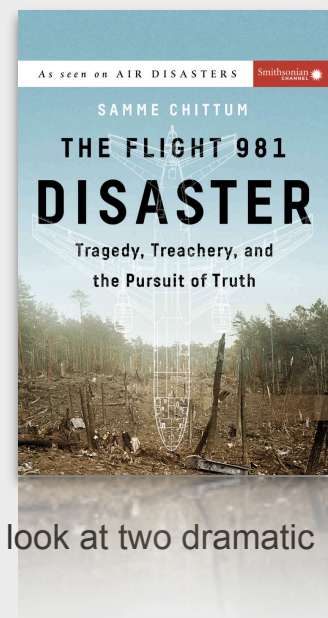


In most cases, these people **didn't set out to watch** three of four consecutive installments of a series-it just happened.

"The episode ends, a character may or may not have died, and we're hooked, says co-author Jan Van den Bulck, from the University of Michigan compared with the participants who didn't get sucked into a show, the binge watchers reported more **fatigue, more symptoms of insomnia and heightened alertness at bedtime**. Overall, they had a 98 percent higher risk for poor sleep than those who turned off the TV earlier. Van den Bulck suggests setting an episode limit before sitting down to watch a show, and doing meditation or relaxation exercises before bed.

Book: The Flight 981 Disaster: Tragedy, Treachery, and the Pursuit of Truth (Air Disasters)

On June 12, 1972, a powerful explosion rocked American Airlines Flight 96 a mere five minutes after its takeoff from Detroit. The explosion ripped a gaping hole in the bottom of the aircraft and jammed the hydraulic controls. Miraculously, despite the damage and ensuing chaos, **the pilots were able to land the plane safely**. Less than two years later, on March 3, 1974, a sudden, forceful blowout tore through Turk Yollari (THY) Flight 981 from Paris to London. THY Flight 981 was not as lucky as Flight 96; it crashed in a forest in France, and none of the 346 people onboard survived. What caused the mysterious explosions? How were they linked? **Could they have been prevented?** *The Flight 981 Disaster* addresses these questions and many more, offering a fascinating insiders' look at two dramatic aviation disasters.



https://www.amazon.com/Flight-981-Disaster-Treachery-Disasters/dp/158834603X/ref=zg_bsnr_11935_5?_encoding=UTF8&psc=1&refRID=BTT5Y8AT2YTQN6B702SK

TED Talks: Ideas Worth Spreading

Why do people succeed? Is it because they're smart? Or are they just lucky? Neither. Analyst Richard St. John condenses years of interviews into an unmissable 3-minute slideshow on the real secrets of success.



https://www.ted.com/talks/richard_st_john_s_8_secrets_of_success#t-194212