

Applying lessons of airline safety to health-care practices: Capt. Chelsey 'Sully' Sullenberger

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Chesley "Sully" Sullenberger.

Capt. Chesley "Sully" Sullenberger III is the pilot who landed US Airways Flight 1549 in the Hudson River after a flock of geese struck and disabled the plane's engines. His quick thinking, years of training and courage on that fateful day in 2009 saved all 155 people on board. After retiring in 2010, he is now using his expertise to focus on the safety of a different set of people, patients.

In a [recent interview](#) for the medical school podcast "1:2:1," Paul Costello, the medical school's chief communications officer, spoke with Sullenberger about similarities between aviation and medicine and why health-care practitioners may be able to draw some valuable lessons from airline industry [safety practices](#). The text that follows is adapted

from that conversation. To listen to the complete interview, visit med.stanford.edu/121/.

Q: You and three co-authors wrote an article for *The Journal of Patient Safety* in March on "avoidable health-care harm," making comparisons with the aviation industry. Can you define the nature of the problem?

Sullenberger: The nature of the problem is systemic, huge and immediate. As we know from the Institute of Medicine reports and others, medical errors and health-care-associated conditions lead to 200,000 preventable deaths per year in this country alone. That's the equivalent of 20 large jet airliners crashing every week with no survivors.

If that were to happen in aviation, there would be a nationwide ground stop, a presidential commission, congressional hearings. The [National Transportation Safety Board](#) would investigate, search out root causes. No one would fly until we'd solved the fundamental issues.

I'm trying to bring to this discussion a sense of urgency. I can tell you from my own domain, [commercial aviation](#), we have worked very hard over the last four or five decades to make [it] ultimately an ultra-safe endeavor. In fact, the last passenger fatality on a large U.S. jet airliner was in November 2001, over a decade ago. Now, the regionals are not quite yet at the same level of safety, but as far as the major, large jet airlines, we have achieved an amazing accomplishment: Literally millions of flights, tens of millions of passengers, without a single passenger fatality in over a decade.

Q: What were the cultural problems in aviation that had to be overcome to confront the problem of

preventable errors?

Sullenberger: Fifty years ago, airline accident investigations were much simpler and less thorough. They were done much less from a system point of view, and hardly at all from a human factors point of view. The easiest thing for investigators, for officials to do, was to blame the dead pilots, and leave it at that.

We finally got beyond that in aviation, and now we have, through the NTSB, a formal lessons-learned process, an independent federal agency that investigates transportation accidents. It comes up with probable causes, with contributing factors. It makes recommendations to the rule makers and to the industry about how to prevent this from happening again. A part of what we have done is transformed the culture of the aviation from a blame-based system to a learning-based system.

Q: There were human elements to these preventable errors, right? How did aviation address that?

Sullenberger: We've changed the dynamic of the interpersonal actions in the cockpit, and with the cockpit crew members and other team members.

Forty years ago, captains could be gods with a little "g" and Cowboys with a capital "C." They often ruled their cockpits by whim, according to individual idiosyncrasies and preferences with insufficient consideration of best practices. In fact, the variability and the negative deviance was so great that the first officers with whom they flew, the co-pilots would often have to keep personal notebooks of the preferences of each captain. Woe to the first officer or the flight attendant who didn't remember these idiosyncratic preferences. If someone spoke up to a captain about an unsafe practice, they put their job on the line.

Thankfully, those days are long gone. We've achieved much better standardization. We've taught captains that they have to be creators and leaders of teams, that we can no longer be a collection of individuals. What many don't realize about aviation is that at a large airline, you're flying with people all of the time that you've never met before.

It's important that we make introductions, that we learn each other's names, that we set the tone, we create an environment of psychological safety. Where there are no stupid questions, where we have an obligation to speak up if we see something's not being addressed, where we create a shared sense of responsibility for the outcome. It's not about who's right, it's about what's right.

We in aviation have created this robust safety structure on which we build. Paradoxically, it's this predictability, this reliability, this regularization of our processes that becomes the firm basis upon which we can then innovate when we face the unexpected, when we face the crisis.

That's exactly what we did, my crew and I, on Flight 1549, resulting in this Hudson River landing. It was something that we'd never trained for, it was something we had never envisioned, and we had 208 seconds to solve this life-threatening problem that we had never seen before.

Q: How do you think we chart a path that leads to our drastically reducing the number of preventable medical deaths sooner rather than later?

Sullenberger: I think we need to do what we did in aviation. We need to have the public awareness and the political will to act. I think we're building that. I think we are making a difference. I think there are many who are doing important things right now and have been for a number of

years, but it's not in a systemic fashion. It's not in every hospital, in every city, in every state. We do have islands of excellence right now, but they are just that. They're islands of excellence in a sea of system failures. We need to make those islands bigger, and we need to have less water between them.

Q: Why did you choose patient safety as the issue on which you would use your star status? What moved you from aviation to patient safety?

Sullenberger: Well, I'm still doing aviation safety advocacy also, but it was just such an obvious analog with such obvious transfer. The need is so great. I'm a newcomer to this. I've only been doing it for a few years. There are people who have dedicated their whole lives to this concept. If I can help increase that awareness and build that political will in some way, I think it's my duty to do so.

One of the biggest surprises for all of us directly involved with the Hudson River flight three-and-a-half years ago, the crew and me, and especially my first officer Jeff Skiles and me, was that unlike almost every other news story, this story of this Hudson landing did not fade away at the end of the news cycle. Something about the way it happened, when it happened, the time in the world's history, people needed good news and a reason to be hopeful during the financial meltdown. It made it something that really touched a lot of people's lives and made them feel a certain way about us and about this event.

Once Jeff and I figured out that that was the case, we felt an intense obligation to do as much good as we could in every way we could for as long as we could with this, both in terms of [aviation](#) safety and in other ways that we cared about. This is just a logical follow-on.

Provided by Stanford University Medical Center

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