Checklists and More: Systems Matter in Aviation, Can Save Lives in Health Care, Too

Lisa Aliferis Mar 5, 2013

High standards for aviation safety led to the grounding of the Boeing 787. A systems approach to patient safety is spreading to health care. (brownpau/Flickr)

Hippocrates may have told doctors to "First, do no harm" more than 2,000 years ago, but it's taken almost that long for modern medicine to "begin approaching the problem of medical mistakes as a system and create a concerted movement," says Dr. Robert Wachter, Associate Chairman of the Department of Medicine at UC San Francisco.

In a report published Tuesday intended to move American health care closer to a safer system, Wachter and his colleagues identified the top ten strategies that doctors and nurses should embrace to help protect patients from unintended harm.

The goal is to move doctors, hospitals and nurses toward a recognition that even the most dedicated doctors and nurses can make mistakes, so health care needs systems that help catch errors before patients are harmed.

Health care providers can read the complete list of strategies here, but for the casual reader, they include items such as:

- Hand washing
- Interventions to reduce bedsores
- Preoperative checklists and anesthesia checklists to prevent harm during and after operations

If you're thinking hand washing and check lists might sound a little basic, Wachter agrees. "It doesn’t sound like rocket science and it’s not. But if until 12 years ago, the view of a doctor,

including me, was the way we deliver safe care is ‘I am perfect. I never screw up,’ then you never thought that way. You never thought about the importance of a ... checklist because you just say, 'I have to be infallible and if I do blow it, I have to try harder. I have to be careful.'"

"My Chinese takeout restaurant has been reading back my order to them for the last 25 years. The idea that we just discovered this idea eight or 10 years ago in health care is in some ways laughable."

That "doctor infallibility" changed a dozen years ago when "To Err is Human," a major report from the Institute of Medicine detailed that medical mistakes were killing between 44,000 and 98,000 Americans every year -- the equivalent of a major plane crash every day.

"Think what we would be doing if a large plane crashed every day," Wachter said. "There would be no limit on what we would do to fix that. We would shut down airlines. We woulld change training and regulation."

Yes, aviation is a less complex field than medicine. For starters, authorities can ground planes, as we've seen lately with the Boeing 787 Dreamliner. Note that those planes were grounded after events that -- while alarming -- did not result in any passenger deaths. In general, hospitals have to stay open through bad weather, strikes, power failures, and the list goes on.

Instituting new systems is a process that can take years. Even for something as basic as hand washing, it takes time, effort and systems to help people remember. Wachter estimates that hand washing rates were 10-15 percent just a dozen years ago. Today, at UCSF, he says official audits show rates above 90 percent. He'd love to get to 100 percent, he says, but acknowledges the pressures on a nurse, for example, who might be in and out of patients' rooms all day and can easily forget to wash hands once or twice.

Wachter envisions a system that would beep if anyone crosses a line in a patient's room -- but hasn't pressed a button on a hand-wash machine.

"Of course other industries have thought about this forever which is why they had checklists and technologies," Wachter says. "My Chinese takeout restaurant has been reading back my order to them for the last 25 years. The idea that we just discovered this idea eight or 10 years ago in health care is in some ways laughable, but it reflects the fact that we never really thought about the role of systems."