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Are Medical Mistakes the Leading Cause of Death in the US?

Analysis by Dr. Joseph Mercola Fact Checked June 17, 2022

STORY AT-A-GLANCE

- According to a 2011 Health Grades report, the incidence rate of medical harm occurring in the U.S. is estimated to be over 40,000 harmful and/or lethal errors daily
- In 2014 10.5% of American doctors admitted they'd made a major medical mistake in the last three months
- In 2016, Dr. Marty Makary published a report showing an estimated 250,000 Americans die from medical mistakes each year — about 1 in 10 patients — making it the third leading cause of death, right after cancer and heart disease
- The World Health Organization's Surgical Safety Checklist, developed by Makary, has been proven to reduce adverse event rates and save lives
- In 2019, RaDonda Vaught, a registered nurse, was indicted for reckless homicide for administering the wrong drug to an elderly patient who died. She was found guilty and in May 2022, was sentenced to three years probation. It's the first time a medical professional has been charged over a medical mistake that did not involve fraud or intentional malice. Many now worry this may prevent openness and transparency about unintentional medical mistakes

In July of 2000 I was still receiving a print subscription to JAMA (Journal of the American Medical Association) and I was shocked that they actually published an article[1] from Barbara Starfield, who had an MPH (master of public health) from Johns Hopkins.

Why was I shocked? Because I looked at the data in the article (see below) that physician mistakes were the third leading cause of death in the United States. My article on it went viral and that meme became very popular in 2000, but I was rarely acknowledged as the person who was responsible for it.

Deaths Per Year (From 2000)

- 12,000 — unnecessary surgery
- 7,000 — medication errors in hospitals
- 20,000 — other errors in hospitals
- 80,000 — infections in hospitals
- 106,000 — non-error, negative effects of drugs

These total to 225,000 deaths per year from physician or health care mistakes and are only surpassed by heart disease and cancer.

Starfield's Ironic Tragedy — A Victim to What She Chronicled

Ironically, Starfield became a statistic to her own research. She died suddenly in June 2011, a death her husband attributed to the adverse effects of the blood thinner Plavix taken in combination with aspirin. However, her death certificate makes no mention of this possibility. In the August 2012 issue of Archives for Internal Medicine[2] her husband, Dr. Neil A. Holtzman, writes, in part:

> *"Writing in sorrow and anger, I express up front my potential conflict of interest in interpreting the facts surrounding the death of my wife, Dr. Barbara Starfield ... Because she died while swimming alone, an autopsy was required. The immediate cause of death was 'pool drowning,' but the underlying condition, 'cerebral hemorrhage,' stunned me ...*

Barbara started taking low-dose aspirin after coronary insufficiency had been diagnosed three years before her death, and clopidogrel bisulfate (Plavix) after her right main coronary artery had been stented six months after the diagnosis.

She reported to the cardiologist that she bruised more easily while taking clopidogrel and bled longer following minor cuts. She had no personal or family history of bleeding tendency or hypertension.

The autopsy findings and the official lack of feedback prompted me to call attention to deficiencies in medical care and clinical research in the United States reified by Barbara's death and how the deficiencies can be rectified. Ironically, Barbara had written about all of them."

2022 Updated Medical Mistakes Stats

The video above features an interview between Dr. Peter Attia and Dr. Marty Makary, a professor of surgery at Johns Hopkins, in which they discuss the prevalence of medical mistakes in conventional medicine and advancements in in patient safety.

Makary is also a public health researcher, a member of the National Academy of Medicine, the editor-in-chief of MedPage Today (the second-largest trade publication in medicine), and the author of two best-selling books.

As a busy surgeon, Makary has worked in many of the best hospitals in the country and can testify to the power of modern medicine. But he's also witnessed a medical culture that leaves surgical sponges inside patients, amputates the wrong limb, overdoses patients because of sloppy handwriting or enters prescriptions into the wrong patient chart.

Medical Mistakes Are Commonplace

According to a 2011 Health Grades report,[3] the incidence rate of medical harm occurring in the U.S. was estimated to be over 40,000 harmful and/or lethal errors daily. Makary

cites a 2014 Mayo Clinic survey of 6,500 American doctors, 10.5% of whom admitted they'd made a major medical mistake in the last three months.

He also cites a 2015 study by researchers at Massachusetts General Hospital that showed about half of all operations involved some kind of medication error. That study and corresponding press release have since been removed and are no longer available online, Makary says. Possibly because the hospital was embarrassed by the results.

In 2016, Makary and his research team published a report showing an estimated 250,000 Americans die from medical mistakes each year[4] — about 1 in 10 patients — which (at that time) made it the third leading cause of death, right after cancer and heart disease.

According to Makary, that number may be higher, because the Centers for Disease Control and Prevention does not collect vital statistics on medical errors. A death cannot be recorded as a medical error as there's no code for it.

Of course, since they didn't do autopsies on every death, that number could also be lower, so the final estimate they came up with was between 125,000 and 350,000 deaths per year.

Another widely-cited study[5] published in 2013 had estimated the annual death toll for medical mistakes in the U.S. at 400,000 a year,[6] Makary says. But whatever the true number, and whether it's the third cause of death or the ninth, medical mistakes are clearly a serious and too-frequent problem.

An estimated 30% of all medical procedures, tests and medications may also be completely unnecessary,[7] and each of these unnecessary interventions opens the door for a medical mistake that didn't need to happen.

Many doctors have long been concerned about the frequency of medical mistakes, unnecessary testing and overtreatment, but the culture was such that it dissuaded open discussion and transparency.

It's really only in the past decade or so that doctors and hospital administrators have started being more honest about these problems. Now, a case (discussed below) in which a nurse was charged and found guilty of negligent homicide after accidentally administering the wrong medication threatens to undo much of that progress.

Milestones in Patient Safety

In medical jargon, a "near miss" refers to a medical mistake that could have resulted in patient harm, but didn't, and "preventable adverse event" refers to a medical mistake that does result in harm to the patient.

A "never event" is one that should never happen, regardless of circumstance. One example of a "never event" would be leaving a surgical instrument or sponge inside the patient.

In 2008, Medicare decided it would no longer pay for "never events," in an effort to deincentivize sloppiness. Shortly thereafter, private insurance companies followed suit. The following year, in 2009, the World Health Organization organized a committee to address patient safety, as, worldwide, it was becoming apparent that many patients were dying from the care and not just from disease.

At the time, Makary had just published a surgery checklist for Johns Hopkins, and the WHO invited him to present it to the newly formed committee on patient safety. This checklist eventually became known as the WHO Surgical Safety Checklist.[8] To this day, it hangs on operating room walls across the world.

Later investigations have revealed this pre-op checklist does in fact reduce adverse event rates and save lives. If a loved one is in the hospital, print it out, bring it with you and confirm that each of the 19 items has been done.

This can help you protect your family member or friend from preventable errors in care. It's available in several languages, including Arabic, Chinese, English, French, Russian, Spanish, Portuguese, Farsi, German, Italian, Norwegian and Swedish.

Opioid Overdose Is a Leading Death Among Young Adults

As of 2017, opioid overdoses have been the leading cause of death among Americans under the age of 50.[9] The most common drugs involved in prescription opioid overdose deaths are methadone, oxycodone (such as OxyContin®) and hydrocodone (such as Vicodin®).[10]

Lawsuits that have made their way through the judicial system in recent years have shown opioid makers such as Purdue Pharma, owned by the Sackler family, knew they were lying when they claimed opioids — which are chemically very similar to heroin — have an exceptionally low addiction rate when taken by people with pain.

As a result of their lies, doctors handed out opioids for pain as if they were candy. Even Makary admits to being fooled by the fraudulent PR. "That is a form of medical mistake," he says, adding "I'm guilty of it myself. I gave opioids out like candy, and I feel terrible about it."

In recent years, the medical industry has cracked down on prescription opioids, making them harder to obtain, but many patients still struggle with addiction, and fentanyl-laced products obtained illegally are still causing many unnecessary deaths.

The RaDonda Vaught Case

In this interview, Makary also reviews the RaDonda Vaught case which, as mentioned earlier might reverse much of the progress achieved with regard to openness and transparency about medical mistakes.

Vaught was hired as a nurse at Vanderbilt hospital in 2015. Two years later, on Christmas eve in 2017, she was taking care of a patient named Charlene Murphy, a 75-year-old woman admitted for a subdural hematoma (a brain bleed). Murphy made a rapid recovery and after two days she was ready to go home.

The doctor ordered one last scan while she was in the hospital, so Vaught brought her to the scanner and ordered Versed (midazolam), a sedative commonly used to help the

patient lay still. The hospital had installed an automated drug dispensary system, the alerts of which often had to be overridden due to poor coordination between the electronic health records and the pharmacy.

On this fateful day, Vaught typed "ve" into the system to pull up Versed, but by default, the system populated the search with "vecuronium," a potent paralyzing agent. Vaught didn't realize the mistake, and overrode the alert. Now, vecuronium is a powder, and most experienced nurses would know that Versed is a liquid.

Vaught, however, didn't catch the discrepancy and suspended the powder with saline as indicated and gave it to Murphy, who subsequently died inside the scanner.

> *"The nurse [Vaught] immediately feels horrible; says exactly what she did, recognized her mistake as the patient was deteriorating, and felt 'I may have caused this,'"* Makary says. *"[She] admitted [and] reported this whole thing; was 100% honest. I mean, [she] even said, subsequently, that her life will never be the same, that she feels that a piece of her has died."*

In 2019, Vaught was indicted for reckless homicide.[11,12] She was found guilty and in May 2022, was sentenced to three years probation with judicial diversion,[13] which means her criminal record can be expunged if she serves her probationary period with good behavior. Her nursing license was also revoked.

> **"In my opinion, we have had decades of progress in patient safety ... undone with a single group of assistant young district attorneys that decided to go after one individual ... ~ Dr. Marty Makary"**

Should Medical Mistakes Be Prosecuted?

Now, while Vaught immediately admitted her mistake, Vanderbilt hospital, for its part, appears to have been trying to cover it up.

> *"Vanderbilt had documentation where two neurologists listed the cause of death as the brain bleed. It was deemed, essentially, a natural cause of death. This was reported to the medical examiner,"* Makary says.

An investigation by the Tennessean revealed Vanderbilt did not report the death to state or federal officials as a preventable adverse event, as is required by law. Instead, they fired Vaught and immediately negotiated an out-of-court settlement with the family, which included a gag order.

So, it wasn't the family that brought charges against Vaught but rather a team of district attorneys in Davidson county. Vaught's case is the first of its kind, and has triggered emotional reactions across the country among doctors and nurses alike, as everyone knows how easily and frequently medical mistakes occur.

According to the Tennessean, "The case has put a spotlight on how nurses should be held accountable for medical mistakes." But should they? Never before has a medical professional been criminally charged for a medical mistake that didn't involve intentional fraud or malice. As noted by Makary:

> *"One of the principles of patient safety that we have been advocating throughout the entire 23 years of the patient safety movement in America has been the concept 'just culture' — a doctrine which says that honest mistakes should not be penalized ... That is a doctrine that has enabled people to speak up about this epidemic of medical mistakes in the United States ...*
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> *In my opinion, we have had decades of progress in patient safety, about 23 healthy years of significant improvements in the culture of safety and the way we approach safety, undone with a single group of assistant young district attorneys that decided to go after one individual at the exclusion of doing anything about a hospital that, unlike the nurse, did not admit to anything initially and broke the law.*
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> *There's a preliminary statistic that 1 in 5 nurses are quitting during the pandemic. Now, some of that is pandemic burnout, some of it's a number of*

[other] factors, but a lot of nurses are leaving the profession and there's this feeling that they don't feel valued, and this [case] has been a bit of a smack in their face.

So, hospitals around the country that are dealing with critical nursing staffing shortages are trying to pay attention to the concerns that nurses have about this case. I have talked to lawmakers at the state level in different states who are thinking about passing protections for nurses. It's delicate, but this is now a conversation that has surfaced."

US Is an Unmitigated Failure at Treating Chronic Illness

The U.S. has the most expensive health care in the world, spending more on health care than the next 10 biggest spenders combined (Japan, Germany, France, China, the U.K., Italy, Canada, Brazil, Spain and Australia). If the U.S. health care system were a country, it would be the sixth largest economy on the entire planet.

Despite that, the U.S. ranks last in health and mortality when compared with 17 other developed nations. We may have one of the best systems for treating acute surgical emergencies, but the American medical system is clearly an unmitigated failure when it comes to treating chronic illness.

The fact that properly prescribed and administered drugs kill well over 100,000 every year in the U.S. should really be food for some serious thought. For starters, drug safety needs to become a priority, not an afterthought.

Indeed, one of Starfield's points of contention was the lack of systematic recording and studying of adverse events, and her own death highlights this problem. It was the Plavix-aspirin combination that actually killed her, yet if it hadn't been for an autopsy and her husband insisting on an adverse event report, no one would ever have been the wiser about such a connection.

Only a tiny fraction of all adverse drug reactions are ever reported to the FDA; according to some estimates, as few as 1%. In order to truly alert the FDA to a problem with a

product they've approved, they must be notified by as many people as possible who believe they have experienced a side effect.

By filing a report, you help make medicine safer for everyone. So, if you believe you've experienced a side effect from a drug, please report it. Simply go to the FDA Consumer Complaint Coordinator page, find the phone number listed for your state, and report your adverse reaction.

In all, preventable medical mistakes may account for one-sixth of all deaths that occur in the U.S. annually.[14] To put these numbers into even further perspective, medical mistakes in American hospitals kill four jumbo jets' worth of people each week.[15]

According to statistics published in a 2011 Health Grades report,[16] the incidence rate of medical harm occurring in the U.S. may be as high as 40,000 harmful and/or lethal errors DAILY. According to co-author John T. James, Ph.D.:[17]

> *"Perhaps it is time for a national patient bill of rights for hospitalized patients. All evidence points to the need for much more patient involvement in identifying harmful events and participating in rigorous follow-up investigations to identify root causes."*

Many Tests and Treatments Do More Harm Than Good

Overtesting and overtreatment are also part of the problem. Instead of dissuading patients from unnecessary or questionable interventions, the system rewards waste and incentivizes disease over health.

According to a report by the Institute of Medicine, an estimated 30% of all medical procedures, tests and medications may in fact be unnecessary, at a cost of at least $750 billion a year.[18] To learn which tests and interventions may do more harm than good, browse through the Choosing Wisely website.

It's also important to be aware that many novel medical treatments gain popularity over older standards of care due mostly to clever marketing, opposed to solid science. An

investigation by the Mayo Clinic published in 2013 proved this point. To determine the overall effectiveness of our medical care, researchers tracked the frequency of medical reversals over the past decade.

They found that reversals are common across all classes of medical practice, and a significant proportion of medical treatments offer no patient benefit at all.

In fact, they found 146 reversals of previously established practices,[19] treatments and procedures over the previous 10 years. The most telling data in the report show just how many common medical treatments are doing more harm than good. Of the studies that tested an existing standard of care, 40.2% reversed the practice, compared to only 38% reaffirming it.

The remaining 22% were inconclusive. This means that anywhere between 40 and 78% of the medical testing, treatments and procedures you receive are of NO benefit to you — or are actually harmful — as determined by clinical studies.

Safeguarding Your Care While Hospitalized

Knowing that medical errors can and do frequently occur, what can you do to ensure your safety, or the safety of a loved one, who has to go to the hospital? Makary offers the following suggestions:

> *"Every hospital has a patient relations department and if things just don't seem right, if you feel that you're not communicating effectively with your care team, if you feel care is not coordinated, if you have a concern or there was an error, you can call the patient relations department. They've got somebody on call 24/7. That's basically a standard thing in the hospitals now.*
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> *It's important to have an advocate with you anytime you get medical care or you've got a loved one in the hospital. It's amazing how it seems that the care is just overall much better, holistic, comprehensive and coordinated when there's a family member or loved one there, taking notes, asking questions ...*

Ask about the medication that's being given to you. You should know what it is and what it's for, and you should ask your doctor or whoever walks in the room if they've washed their hands ...

This is the sort of new dialogue that we are trying to promote to make the patient a participant in their care and not just a bystander. When you do it, what I've noticed the more educated they are, or their surrogate is, the better the care is. You are in the middle of a very complicated system of care when you're in the hospital. The more you can be aware of what's happening, the safer the care."

Once you're hospitalized, you're immediately at risk for medical errors, so one of the best safeguards is to have someone there with you. Dr. Andrew Saul has written an entire book[20] on the issue of safeguarding your health while hospitalized.

Frequently, you're going to be relatively debilitated, especially post-op when you're under the influence of anesthesia, and you won't have the opportunity to see the types of processes that are going on. This is particularly important for pediatric patients and the elderly.

It's important to have a personal advocate present to ask questions and take notes. For every medication given in the hospital, ask questions such as: "What is this medication? What is it for? What's the dose?" Most people, doctors and nurses included, are more apt to go through that extra step of due diligence to make sure they're getting it right if they know they'll be questioned about it.

If someone you know is scheduled for surgery, you can print out the WHO surgical safety checklist and implementation manual, which is part of the campaign "Safe Surgery Saves Lives." The checklist can be downloaded free of charge **here**. If a loved one is in the hospital, print it out and bring it with you, as this can help you protect your family member or friend from preventable errors in care.