IN HIS SON'S MEMORY John James, Ph.D., dedicated his life to studying hospital safety after his son died from a medical error in 2002.

Survive your stay at the hospital

Medical errors are linked to 440,000 deaths each year

TWELVE YEARS AGO, John James' 19-year-old son died after cardiologists at two Texas hospitals made a series of mistakes. James says they failed to properly diagnose and treat the cause of an abnormal heartbeat. At the time he was the chief toxicologist for NASA in Houston, responsible for overseeing the air astronauts breathe in space. Now retired, he has responded to the tragedy by dedicating his life—and his son's memory—to improving hospital safety.

He founded Patient Safety America, an organization that educates people about risks they may face in hospitals. He became active in Consumer Reports' own Safe Patient Project, which works with people across the country who have been harmed by medical care. And last year he wrote a comprehensive analysis on the number of people who die at least in part because of medical errors in hospitals.

His conclusion—published in the Journal of Patient Safety, a peer-reviewed medical journal—was sobering. He estimated that 440,000 people each year die after suffering a medical error in the hospital. Some patients, for example, might have gotten the wrong drugs or developed infections because doctors or nurses failed to wash their hands. Others may have failed to get needed tests or treatments.

"Four-hundred-forty-thousand is a frightening figure," James says. It's more than 1,000 deaths per day, for example, or more than half of the deaths that occur in U.S. hospitals each year. "And it makes patient harm in hospitals the nation's third lead-

Our Ratings of 2,591 hospitals can help you find a safe one.

ing cause of death, trailing only heart disease and cancer," James says.

Too many deaths

James, like other researchers who have studied hospital safety, is quick to emphasize that his analysis is inexact. Establishing firm numbers is hard, in part because much of what happens in hospitals goes unrecorded, and because untangling how much any hospital death stems from an underlying health problem and how much stems from medical error is messy, complicated, and sometimes controversial.

But his figures are in line with other research. Fifteen years ago the Institute of Medicine stated that up to 98,000 hospital patients per year die from medical errors. Almost four years ago the Department of Health and Human Services estimated that 180,000 people each year die in part because of their hospital care—but that was limited to Medicare patients. James'

PHOTO: JILL HUNTER

analysis—which was based on the results of four key hospital safety studies, all published between 2008 and 2011—pushed further by, for example, estimating the number of deaths caused by errors that go unrecorded or that stem from missed diagnoses.

"The truth is that whether it's 100,000 or 200,000 or 400,000 deaths a year is almost immaterial," says James. "What matters is that too many people are dying in hospitals because of medical mistakes, not enough is being done to stop it, and patients need more information."

Our hospital safety score helps fill that gap. It includes information for a record 2,591 hospitals in all 50 states plus the District of Columbia, combining five measures of patient safety into a 1 to 100 score. (See "Safety Score: Where to Find High- and Low-Scoring Hospitals," on the next page, for more.) And our score includes new information on hospital mortality rates. As in James' analysis, the results are sobering.

What we found

Our analysis uses two measures of hospital mortality, both using information from the Centers for Medicare & Medicaid Services—the most recent, reliable, and comprehensive data publicly available—on patients 65 and older. The first focuses on hospital patients admitted with medical conditions, such as heart problems; the second, on surgery patients.

Medical patients. This is based on the chance that a patient who has had a heart attack or been diagnosed with heart failure or pneumonia will die within 30 days of entering the hospital. Only 35 hospitals nationwide earned a top rating in the measure. By comparison, 66 hospitals got our lowest rating.

"The differences between high-scoring hospitals and low-scoring ones can be a matter of life and death," says John Santa, M.D., medical director of Consumer Reports Health. For example, pneumonia patients at Cedars-Sinai Medical Center in Los Angeles, which earned a top rating in this measure, had a 7 percent chance of dying within 30 days. That compares with a 22 percent chance of death for similar patients at Delano Regional Medical Center, 2 hours north in Delano, Calif. Overall, pneumonia patients in top-scoring hospitals are at least 40 percent less likely to die within 30 days of admission than similar patients in low-scoring hospitals.

Surgical patients. This looks at surgery patients who had serious but treatable

complications—such as blood clots in the legs or lungs, or cardiac arrest—and died in the hospital. More hospitals did well in this measure, with 173 earning a top rating. By comparison, 228 hospitals got our lowest rating. And again, the differences between high- and low-scoring hospitals are dramatic: For every 1,000 patients who develop serious complications in a top hospital, 87 or fewer die; in a low-rated hospital, more than 132 die. Patients in top-rated hospitals are at least 34 percent less likely to die than similar patients in low-rated hospitals.

Staying alive

Why do some hospitals do a better job than others at keeping patients alive? "Likely because they do a lot of things—some little, some big—well," Santa says. "That includes everything from making sure staff communicates clearly with patients about medications, which can help prevent drug errors, to doing all they can to prevent hospital-acquired infections."

That's what they've done at Sanford Medical Center, at the University of South Dakota in Sioux Falls. It earned the highest safety score of any teaching hospital in the country and also got a top rating in avoiding death in surgical patients. The hospital instituted strict protocols for hand washing, says Mike Wilde, M.D., chief medical officer at Sanford, as well as for inserting and removing urinary catheters

and central-line catheters, which provide drugs, fluids, and nutrition to patients. Those are two of the most common and deadly causes of infections in hospitals.

Accountability is also key. "It's easy to blame a provider, but a lot of times it can be the systems in place," Wilde says. So the staff now examines whether errors stem from a poorly functioning device or a failure to follow a safety protocol.

When a patient does die from a preventable error, there should be a thorough examination of why and steps taken to prevent similar errors in the future. "I want to know if someone dies on my watch or after they have left my watch, why they died, and how the death might have been prevented," says Don Goldmann, M.D., chief medical and scientific officer of the nonprofit Institute for Healthcare Improvement.
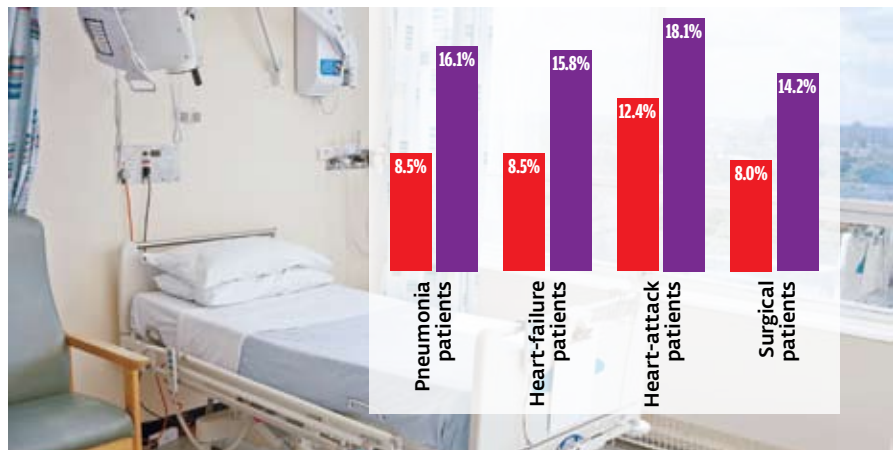
That kind of soul searching can yield better care. In 2006, the University of Pennsylvania Health System established a Mortality Review Committee. One program they came up with focused on detecting sepsis, a bloodstream infection, and starting timely and appropriate antibiotic treatment. Survival rates of hospital patients with severe sepsis rose from 40 percent to 56 percent. And survival rates from septic shock, which occurs when the infection causes blood pressure to plummet, rose from 42 percent to 54 percent.

⯈ **BY THE NUMBERS**

The hospital you choose really matters

Death rates are much higher in some than in others.

■ High-rated hospital
■ Low-rated hospital

	High-rated	Low-rated
Pneumonia patients	8.5%	16.1%
Heart-failure patients	8.5%	15.8%
Heart-attack patients	12.4%	18.1%
Surgical patients	8.0%	14.2%

Compares the average death rates for high-rated and low-rated hospitals, for patients admitted with heart attack, heart failure, or pneumonia, and for surgery patients with serious, treatable complications. Data come from the Centers for Medicare & Medicaid Services for patients 65 and older.

What you can do

"Informed, active patients and family members are the best defense against hospital errors," James says. Lisa McGiffert, head of the Consumer Reports Safe Patient Project, agrees. Here are three of the most important steps she says patients should take to stay safe in the hospital:

• Have a friend or family member with you to be your advocate when you are unable to speak up for yourself.

• Before a planned hospitalization, do your homework. Learn as much as you can about what to expect while at the hospital, and ask about your treatments, especially medications or tests.

• If something goes wrong, keep a journal documenting what is happening.

**For more information, go to:**
• *SafePatientProject.org* to see what you can do to reduce the risk of patient harm in the U.S. health care system.

• *ConsumerReports.org/shareyourhospitalstory* to tell us about problems you may have experienced in the hospital.

• *ConsumerReports.org/hospitalratings* to see our complete hospital Ratings.

Safety score: Where to find high- and low-scoring hospitals

Damariscotta, Maine, population 2,218, and Cleveland, Ohio, may seem like unlikely spots to find two of our top-scoring hospitals. But both are home to hospitals ranking in the top of our updated safety score: Miles Memorial Hospital (now Lincoln Health), with a 78 on our 100-point scale, and Lutheran Hospital, part of the Cleveland Clinic, with a 75.

"We are a very small community, and our patients are our neighbors, friends, and family," says Cindy Coyne, R.N., director of quality and patient safety at Miles. "We work hard to take care of them." Though the setting is very different, the sentiment is similar at Lutheran Hospital. "Patient care is what we think about every day," says Brian Donley, M.D., president of Cleveland Clinic Regional Hospitals. "We empower every person in our system to take the steps necessary to make patient safety a priority." Other top hospitals are spread across the country, in suburbs, rural areas, and big cities. The message: Success can happen anywhere.

The flip side is that low-performing hospitals are also easy to find. The average score for hospitals is just 51, and 43 hospitals got a score below 30. "It is unacceptable that so many hospitals are doing so poorly," says John Santa, M.D., medical director of Consumer Reports Health, "especially since our Ratings show that some hospitals can do a good job at keeping patients safe."
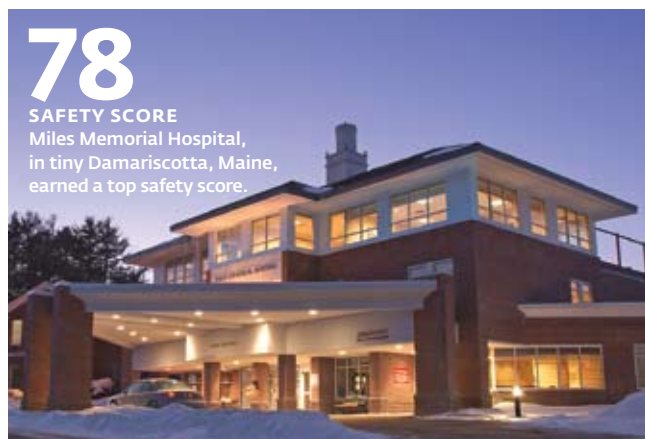
78
SAFETY SCORE
Miles Memorial Hospital, in tiny Damariscotta, Maine, earned a top safety score.

75
SAFETY SCORE
Lutheran Hospital, Cleveland, Ohio, was also a top-performer.

Ratings Hospitals

Top-scoring

Hospital name and location	Safety score
Miles Memorial Hospital Damariscotta, Maine	78
Oaklawn Hospital Marshall, Mich.	77
Aurora Medical Center of Oshkosh Oshkosh, Wis.	75
Lutheran Hospital Cleveland, Ohio	75
Palm Drive Hospital Sebastopol, Calif.	74
Marshalltown Medical & Surgical Center Marshalltown, Iowa	74
Hillside Hospital Pulaski, Tenn.	73
Margaret R. Pardee Memorial Hospital Hendersonville, N.C.	73
Spectrum Health United Hospital Greenville, Mich.	73
St. John Medical Center Westlake, Ohio	73
Sonoma Valley Hospital Sonoma, Calif.	73
UnityPoint Health - Trinity Regional Medical Center Fort Doge, Iowa	73
UnityPoint Health - Finley Hospital Dubuque, Iowa	73
Lovelace Westside Hospital Albuquerque, N.M.	73
Boulder Community Hospital Boulder, Col.	73

Bottom-scoring

Hospital name and location	Safety score
Bolivar Medical Center Cleveland, Miss.	11
Tulane Medical Center New Orleans, La.	19
Harris Hospital Newport, Ark.	20
Lake Cumberland Regional Hospital Somerset, Ky.	20
Delta Regional Medical Center Greenville, Miss.	21
Beckley ARH Hospital Beckley, W.V.	21
Faxton-St. Luke's Healthcare Utica, N.Y.	23
Poplar Bluff Regional Medical Center Poplar, Mo.	24
Kings County Hospital Center Brooklyn, N.Y.	24
Avoyelles Hospital Marksville, La.	25
Nyack Hospital Nyack, N.Y.	25
St. Petersburg General Hospital St. Petersburg, Fla.	25
Methodist Hospitals Gary, Ind.	25

Note: Hospitals are ordered by unrounded safety score. Hospital names are from the most recent American Hospital Association annual survey.

What's behind our hospital Safety Score

We combined five safety categories into a score between 1 and 100. Data are the most recent available from the Centers for Medicare & Medicaid Services. Mortality, readmission, and scanning apply to patients 65 or older; communication, to all adults; and infections, to all patients. **Mortality** represents the chance a patient who has had a heart attack, heart failure, or pneumonia will die within 30 days of admission, or the chance that a surgical patient with serious complications will die in the hospital. **Readmission** represents the chance that a patient is readmitted to a hospital within 30 days of initial discharge. **Scanning** reflects the percentage of chest and/or abdominal CT scans that are ordered twice for the same patient, once with contrast and once without. **Infections** reflects a hospital's success in avoiding infections from central-line and urinary catheters in intensive care units, and infections after certain surgeries. **Communication** indicates how well staff explain medications and discharge planning to patients.