

Spine Surgeons SOLVE THE Health Care Value Equation

By Diana DeCouteau

Why do some patients who undergo spinal surgery experience no complications, get discharged the same day, go straight home, and report a swift improvement in quality of life—while others meet none of these targets?

That's a question Erica Bisson, MD, MPH, associate professor in neurosurgery and orthopedics, would like to answer. With deeper insight, she could shift more patients toward desirable outcomes while keeping a rein on surgical costs. In fact, that's the definition of value in health care: **Value = Outcome/Cost**

"Value depends on both the quality of care as the patient sees it and the cost of care that the hospital provides," says Dr. Bisson. "Improving the health care system requires us to quantify and manage value, because we can't improve what we can't measure. Many physicians have outcome information, but University of Utah Health Care (UUHC) is unique in having complete and accurate cost data too through our Value Driven Outcomes program."

For the numerator—the outcome—UUHC joined the Quality Outcomes Database (QOD) in 2012. This clinical registry provides an infrastructure for physicians and hospitals to report and analyze the quality of surgical care. At the end of July 2016, the lumbar and cervical spine registries included 37,000 patients across the country.

QOD lets physicians look at clinical outcomes in real time and compare the effectiveness of different procedures for treating the same disease. "There's not just one right operation for some disease processes, so we can see trends in how physicians are treating," Dr. Bisson says.

"We can look at outcome metrics, such as length of stay, wound infections, and surgical complications on the hospital level," she adds. "QOD also lets us gather patient-reported outcome information. It can be extremely affirming for them to see what level of pain or disability they were suffering initially and how that improves after surgery."

Dr. Bisson can also analyze data for all patients suffering from specific diseases. For example, by looking back at three years of

data for all patients who have lumbar stenosis, a compression of the spinal nerves, she can see how well her treatments worked and compare that with national benchmarks. In addition, QOD is now creating a predictive calculator for lumbar spine surgery, which will help physicians estimate the risk of procedures if certain factors are present—such as high blood pressure or diabetes.

"QOD ENCOMPASSES BOTH ORTHOPEDIC AND NEUROSURGERY, BOTH PRIVATE PRACTICE AND ACADEMIC HOSPITALS LIKE OURS, SO WE'RE SEEING WHAT'S HAPPENING IN THE REAL WORLD"

ERICA BISSON, MD, MPH

But that's only half the equation—it's also critical to know the costs. That's where the UUHC Value Driven Outcomes (VDO) tool comes into play. VDO breaks down health procedure costs to the level of each gauze pad and minute of staff time, providing the data needed to optimize care delivery.

The goal of VDO is to create pathways of perfect care. For example, one perfect-care metric is to have patients walking on the day of spine surgery. Formerly physical therapists left for the day before all surgeries were completed, meaning some patients would not get out of bed until the day after surgery. By adjusting shifts, UUHC was able to achieve the desired care level and reduce patient length of stay and cost.

"By looking at metrics, we can evaluate where patient care is and implement small changes to improve it," explains Dr. Bisson. "Then we measure outcomes, reevaluate, and fine-tune further in a continuous cycle of improvement. Our residents and fellows work with us to determine how to improve care, so they internalize that intellectual exercise as part of being a neurosurgeon."

"We're incredibly passionate about seeing where there are possibilities for improvement and then acting to achieve better value," she adds. "That benefits everyone from students to physicians to the hospital, and especially our patients."

