

Hospital safety culture critical in improving surgical results

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To achieve better results for surgical patients, hospitals tend to focus on technical issues like surgeons' skills and operating room equipment. However, a non-technical factor, the so-called 'safety culture,' may be equally important in delivering high-quality patient care, a team of investigators report in a study published online in the *Journal of the American College of Surgeons* in advance of print publication.

"The non-technical skills of care coordination, teamwork and ownership over the delivery of care are measured as safety culture," said lead study author Martin Makary, MD, MPH, FACS, professor of surgery and [health policy](#) & management at Johns Hopkins University School of Medicine, Baltimore. "Anybody who cares for patients knows that a hospital's culture contributes to a patient's outcome, and this study affirmed that observation."

Dr. Makary defined safety culture as "the organizational characteristics of delivering great care" and the attitude of "how we do things around here." He added, "It's a compilation of burnout, perceptions of management, the connectedness of care and staff's willingness to speak up when they have a concern."

The study results, first presented last year at the annual meeting of the American Medical Research Symposium in Dallas, measured 12 different safety culture factors that influenced rates of a specific complication, surgical site infection (SSI) after colon procedures, at seven Minnesota hospitals. The hospitals' average size was 168 beds. SSI

rates after surgery at the hospitals ranged from 0-30 percent, with an average rate of 11.3 percent, and surgical unit safety culture scores ranged from 16-92 on a percent-positive scale.

The study is one of the first to evaluate the impact of an organization's teamwork and safety culture on patient outcomes. Researchers used a cross-sectional sample from the Minnesota Hospital Association to combine safety culture survey data with SSIs after colon operations during 2013. The hospitals were surveyed using the Hospital Survey on Patient Safety Culture, a staff survey the Agency for Healthcare Research and Quality released in 2004 to help hospitals assess the culture of safety in their institutions.

Of the 12 safety culture factors measured, 10 were found to influence the rates of SSI after colon operations: overall perceptions of patient safety; teamwork across units; organizational learning; feedback and communication about error; management support for patient safety; teamwork within units; communication openness; supervisor/manager expectations of actions promoting safety; non-punitive response to error; and frequency of events reported. The two safety factors not associated with infection rates were handoffs and transitions—the transfer of care of a patient from one care team to another, such as from the recovery room to the hospital floor, or from one nursing shift to the next—and staffing.

Feedback and communication after errors (the learning hospital response) had the widest variation among surveyed hospitals, ranging from 21-79 percent positive, while the smallest variation was in scores for teamwork across units with a range from 24-49 percent positive.

The study illustrated the significance of three characteristics of good safety culture, Dr. Makary said: an ability and willingness to learn from past mistakes; a high degree of interest in adopting best practices; and an

ability to collaborate to benchmark performance.

"The study supports what many [surgeons](#) have known for a long time, and that is that the [organizational culture](#) matters," Dr. Makary said.

"While we have traditionally only studied the incremental patient benefits of different medications and surgical interventions, it turns out that organizational culture has a big impact on patient outcomes."

One notable study limitation was that the researchers only investigated one type of surgical outcome. "There are hundreds of outcome variables that can be measured with a safety culture," Dr. Makary said.

The study findings can help shape future research into evaluating the role of organizational culture more deeply, Dr. Makary concluded.

"Variation in organizational culture may be an important factor in understanding the broader endemic issue of variation in medical quality."

More information: Association of Safety Culture with Surgical Site Infection Outcomes. *Journal of the American College of Surgeons*, 2015.

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