

Surgical patients' mortality rates drop at ACS NSQIP hospitals in California

15 July 2013

A new study evaluating surgical outcomes at California hospitals enrolled in the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP®) found surgical patients at ACS NSQIP hospitals had significantly reduced mortality rates compared with non-ACS NSQIP hospitals. These findings were presented Sunday, July 14, 2013 at the ACS NSQIP National Conference, taking place July 13-16 in San Diego, Calif.

Researchers analyzed data from 1,184,895 patients at 227 hospitals from 1995 to 2009 to identify whether [surgical outcomes](#) improved over time in ACS NSQIP hospitals compared with non-ACS NSQIP hospitals. Outcome measures included in-hospital mortality, 30-day mortality, 30-day readmissions and one-year mortality rates on seven complex surgical procedures, including: abdominal aortic aneurysm repair, aortic [valve replacement](#), bariatric operations, [coronary artery bypass](#) grafting, esophagectomy, pancreatotomy, and percutaneous [coronary intervention](#).

For these procedures the investigators reported that ACS NSQIP hospitals had significantly lower 30-day mortality rates (OR 0.73[0.70-0.76] versus 0.81[0.78-0.83]) and one-year mortality rates (OR 0.84[0.81-0.87] versus 0.90[0.88-0.92]) than non-ACS NSQIP hospitals. The researchers also identified a decrease in 30-day readmission and in [hospital mortality rates](#), although the difference did not reach statistical significance.

There have been considerable improvements in outcomes of complex surgical procedures in California since 1995; however, during this time period, surgical outcomes and mortality rates at ACS NSQIP hospitals have improved faster than at non-ACS NSQIP hospitals, which may be attributed to increased active participation in ACS NSQIP.

"The magnitude of the decrease in mortality rates

at ACS NSQIP hospitals demonstrates a clear distinction between ACS NSQIP hospitals and non-ACS NSQIP hospitals in terms of [surgical quality improvement](#)," said David C. Chang, PhD, MPH, MBA, senior author and Director of Outcomes Research in the Department of Surgery at the University of California San Diego (UCSD) School of Medicine. Other investigators on the project include Ralitzia P. Parina, MPH, third year medical student at UCSD School of Medicine; Tazo S. Inui, MD, resident in general surgery at UCSD School of Medicine; and Mark A. Talamini, MD, FACS, former Chairman of Surgery at UCSD School of Medicine.

A model for outcomes-based quality improvement, ACS NSQIP collects clinical, risk-adjusted, 30-day outcomes data in a nationally benchmarked database. The program is currently used by approximately 500 hospitals across the U.S. An *Annals of Surgery* study determined that hospitals participating in ACS NSQIP prevented 250-500 complications, resulting in an average of 13-26 lives saved per hospital, per year*. At \$11,000 for an average cost of a complication, the combined potential savings of 4,500 hospitals could add up to \$13-26 billion each year, amounting to an estimated total savings of \$260 billion over a period of 10 years.

More information: *Hall, BL et al. "Does Surgical Quality Improve in the American College of Surgeons National Surgical Quality Improvement Program?" *Annals of Surgery*. 250 (3): 363-376; Sept. 2009.

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