NSQIP geriatric surgery pilot study may help improve outcomes for older surgical patients

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Adding geriatric-specific risk factors to the blend of traditional risk factors could significantly improve the ability of surgeons to predict poor outcomes in older surgical patients, according to new study findings published online as an "article in press" on the *Journal of the American College of Surgeons* website ahead of print publication. The study's authors believe that surgical databases should be expanded to include information reflecting the unique needs of older adults in order to provide the best possible care for them.

"A successful outcome in surgery is not just that a patient didn't die or have a heart attack. To older adults, a successful outcome often has more to do with their cognition and their daily function, rather than the absence of a morbidity or mortality event 30 days after an operation," said lead study author, Julia Berian, MD, MS, a surgical resident at the University of Chicago Medical Center, who was an American College of Surgeons/American Geriatrics Society James C. Thompson Geriatrics Surgical Fellow at the time the research was conducted. "The problem is that geriatric-specific outcomes are not measured in traditional data registries."

To determine whether the factors that older adults identify as important to their quality of life actually make a difference in the ability of physicians to predict outcomes and to assess hospital performance, Dr. Berian and colleagues analyzed data from the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) Geriatric Surgery Pilot.

ACS NSQIP is the leading nationally validated, risk-adjusted, outcomes-based program to measure and improve the quality of surgical care in hospitals. Launched in 2014, the ACS NSQIP Geriatric Surgery Pilot began collecting risk factors and outcomes on patients 65 and older in four new categories—cognition, decision making, function, and mobility.

For this study, researchers looked at geriatric-specific risk factors (cognitive impairment, surrogate consent, living status at home, preoperative mobility aid use, history of falls, preoperative palliative care, and functional status) and evaluated whether these variables actually play a role in predicting traditional 30-day outcomes (serious morbidity and mortality) and geriatric-specific outcomes (postoperative delirium, new mobility aid use, functional decline, and pressure ulcers).

The study involved 36,399 older adults who underwent operations at 31 hospitals participating in the ACS NSQIP Geriatric Surgery Pilot. The data analysis revealed that 10 of 14 geriatric-specific variables do contribute in predicting morbidity and mortality outcomes among older patients undergoing both general vascular and orthopedic surgery.

For example, patients who required surrogate consent (an indicator of decision-making ability) were 50 percent more likely to experience serious morbidity or mortality in general vascular operations and 30 percent more likely in orthopedic procedures.

Further, the researchers found that the rates of adverse geriatric-specific outcomes for study patients were 12.1 percent for postoperative delirium; 42.9 percent for functional decline; 29.7 percent for new mobility aid; and 1.7 percent for new or worsened pressure ulcers. In looking further at postoperative delirium, the researchers found this condition was significantly associated with the geriatric-specific risk factors of preoperative cognitive impairment, use of a mobility aid, or

functional status.

"I think of this pilot study as really helping our current quality registries move beyond the current phase of measuring serious morbidity toward something that is more patient centered, and focused on quality of life," Dr. Berian said.

"It's gratifying to see our geriatric surgery pilot project accomplish a goal we set out to achieve—to determine if including geriatric-specific risk factors in existing ACS NSQIP models would add to our ability to more accurately predict surgical outcomes in older adults," said study coauthor Ronnie Rosenthal, MD, FACS, Co-Director, ACS NSQIP Geriatric Surgery Pilot program, and Co-Principal Investigator of the Coalition for Quality in Geriatric Surgery project.

The study findings are significant because the number of Americans age 65 and older is projected to nearly double from 48 million today to over 98 million by 2060, according to U.S. Census Bureau. Of this number, nearly 20 million will be age 85 or older. That's why there is a growing drive to improve the quality of surgical care in this population.

"ACS NSQIP was developed to provide risk-adjusted surgical outcomes data for adults. With this study, we have enhanced that goal and can soon begin to specifically include older adults in our work. These patients are more vulnerable for adverse outcomes so they are obviously a very important group of patients for us to target for surgical quality improvement. And now we have greater insight that we can apply when caring for them," said study coauthor Clifford Y. Ko, MD, MHS, FACS, who directs ACS NSQIP and is Co-Principal Investigator of the Coalition for Quality in Geriatric Surgery project.

"Other implications of our study beyond quality or data registry are that this information is incredibly important when it comes to the care of older adults. Over time, if we are able to produce more robust information about functional and cognitive outcomes, we may be able to help patients make more informed decisions that are better aligned with their goals while also delivering the best surgical care," Dr. Berian said. "But only by collecting information that is important to patients will we ever begin to know whether we are delivering high-quality surgical care."

More information: Julia R. Berian et al. Optimizing Surgical Quality Datasets to Care for Older Adults: Lessons from the American College of Surgeons NSQIP Geriatric Surgery Pilot, *Journal of the American College of Surgeons* (2017). DOI: 10.1016/j.jamcollsurg.2017.08.012

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