

**CONCLUSIONS:** Patients described multiple barriers to making informed, shared decisions about treatment, especially when involving a surgical option. Our study reveals a need for more comprehensive physician-patient communication about the range of medical and surgical treatment options, as well as an understanding of patient preferences on their decision-making role.

### Social Determinants of Health Identify Communities at Risk for Mass Shooting Events

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**INTRODUCTION:** Mass shooting events (MSEs) have become highly politicized, complicating study and policy development. We sought to identify social determinants of health that put communities at risk for MSEs.

**METHODS:** A data set was created using the Federal Bureau of Investigation Uniform Crime Report, American Community Survey, state gun laws, the Behavior Risk Factor Surveillance System, and 10 other sources. Mass shooting events were defined as those events where 4 or more persons were killed. Mass shooting events were paired with 180 measures of social determinants of health for the county in which the shooting occurred. Pearson's and Spearman's correlation coefficients, *t*-tests, and chi-square tests were used to analyze the data set.

**RESULTS:** A total of 93,380 instances of gun violence nationwide were identified from 2005 to 2018; 155 of these were identified as mass shootings. Communities in states with the strictest gun laws had a 1.513 greater risk ( $p = 0.031$ ) of mass shootings. Communities without mass shootings averaged 2.139 times as many mental health professionals per capita ( $p < 0.001$ ). Individuals in communities with MSEs were less social (2.67 fewer associations per person;  $p < 0.001$ ) and demonstrated less leisure-time physical activity, despite a 32.4% greater access ( $p < 0.001$ ). Communities with MSEs were, on average, 30.7% less rural ( $p < 0.001$ ), 3.38 years younger ( $p < 0.001$ ), had a 3.07% higher incidence of overcrowding or lack of utilities ( $p < 0.001$ ), and had a higher ratio of income inequality ( $p = 0.001$ ).

**CONCLUSIONS:** Communities at risk for mass shootings are identifiable. Communities seeking to safeguard citizens should focus on access to mental health professionals, promoting socialization and public space use, and addressing socioeconomic inequality.

### Structured Review of Surgical Innovations Decreases Time to Implementation and Avoids Patient Complications

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**INTRODUCTION:** Historically, introduction of surgical innovation was associated with substantial early morbidity (ie the learning curve). Increased monitoring has led to improvements, but implementation is often prolonged. The purpose of this project was to determine the impact of a structured review process for surgical innovations on implementation time and patient complications.

**METHODS:** A Continuous Quality Improvement team (CQIT) composed of surgical quality officers and perioperative nurses was created to review new surgical devices and procedures. CQIT evaluation was added to an established evaluation process including value analysis team (VAT) assessment. The CQIT provided recommendations to the VAT using a structured decision algorithm. Recommendations included deny, accept with IRB protocol, accept with quality-improvement protocol, or accept into practice.

**RESULTS:** A total of 46 devices and 5 novel procedures were reviewed by the CQIT. Compared with 34 products evaluated before CQIT establishment, total device evaluation time decreased from 124 to 51 days ( $p = 0.007$ ). For products requiring intraoperative trial after VAT evaluation, the time between product proposal and trial decreased from 260 to 99 days ( $p = 0.014$ ) with no early device-associated morbidities. Additionally, 5 novel procedures approved by the CQIT were implemented without complications. Conversely, 2 devices undergoing VAT approval without CQI review resulted in patient morbidity and mortality.

**CONCLUSIONS:** This analysis suggests that structured review of surgical innovations improves the time to implementation and can substantially reduce the learning curve associated with the introduction of novel devices and procedures. Given the rapid advances being made in surgical technology, widespread adoption of similar review protocols should be considered. (Support: NIH T32CA009599.)

### Surgeon Emotional Intelligence Is Strongly Correlated with Patient Satisfaction

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**INTRODUCTION:** Quality physician-patient communication and the overall patient experience have a vital impact on health care outcomes. In addition, patient satisfaction (PS) data are publicly reported and tied with hospital and physician reimbursements. Emotional intelligence (EI) captures an individual's ability to perceive and interpret emotions and effectively navigate interpersonal relationships. This study seeks to understand the relationship between physician EI and quality of physician-patient encounters as measured by PS scores.

**METHODS:** Surgeon EI was measured using the Trait Emotional Intelligence Questionnaire (TEIQue)-Short Form and paired with