Civilian Concealed Carry Legislation and Unintentional Firearm Mortality in the US: 1986-2015

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INTRODUCTION: Unintentional firearm injuries are a source of considerable mortality. Shifting public opinion, changing legislation, and mixed study results about civilian concealed carry of firearms has subsequently made policy recommendations difficult. We investigated whether changes in state-level concealed carry legislation impacted rates of unintentional firearm mortality.

METHODS: Individual rates of unintentional firearm mortality were collected from 1986 to 2015 (CDC). State-level concealed carry legislation was evaluated each study year on a scale (no carry, may issue, shall issue, and unrestricted carry). Data were analyzed using general multiple linear regression models with the log event rate, and an autoregressive correlation structure was assumed with generalized estimating equation estimates for SEs.

RESULTS: During the study period, all states adopted a form of concealed carry legislation, with a trend toward less-restrictive legislation. Nationwide, there were 28,164 unintentional firearm deaths and overall rates decreased (4% per year). After adjusting for state, year, poverty, and unemployment status, no significant association was demonstrated between shifts from restrictive toward unrestricted carry on unintentional firearm mortality rates (-5.5%, SE 6.2%; $p = 0.36$), as well as when legislation was considered as a scale (-4.1% per level of liberalization, SE = 4.1%; $p = 0.32$).

CONCLUSIONS: During the past 30 years, liberalization of state-level firearm concealed carry legislation did not demonstrate an association with unintentional firearm mortality. Other factors are likely responsible for decreasing unintentional firearm deaths. Continuing efforts to reduce unintentional firearm injuries/deaths would benefit from identification of additional public health interventions including those outlined by the American College of Surgeons Firearm Strategy Team work group.

Comparison of Reoperation Incidence and Severity Within 6 Months after Bariatric Surgery

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INTRODUCTION: Reoperation occurrence has been proposed to better evaluate quality of bariatric surgery, but is traditionally assessed during the first postoperative month without considering related severity. We aimed to compare reoperation incidence between common bariatric procedures by severity level and within 6 months postoperatively.

METHODS: We selected all patients who underwent bariatric surgery in French hospitals between 2013 and 2015. Propensity score was used to match inside every hospital, patients who underwent sleeve to those who underwent bypass (cohort A) or banding (cohort B). Reoperations incidence and severity were compared in both cohorts using Fine and Gray's competing risk model at different postoperative intervals.

RESULTS: In cohort A, we considered 34,252 patients operated in 304 hospitals. Reoperation risks were lower after sleeve than after bypass during the week after operation (hazard ratio [HR] 0.64; 95% CI 0.56 to 0.73) and after 2 months postoperatively (HR 0.64; 95% CI 0.53 to 0.77). Results were similar for moderate-risk reoperation and no difference was found for low-risk reoperation. In cohort B, we considered 25,206 patients operated in 378 hospitals. Reoperation risks were higher after sleeve than after banding the first week after operation (HR 1.58; 95% CI 1.29 to 1.94) and it was lower after 2 months postoperatively (HR 0.08; 95% CI 0.07 to 0.09). Results were similar for low-risk and moderate-risk reoperation. High-risk reoperations were very rare (<0.02%) in both groups.

CONCLUSIONS: These data support the need for extending the postoperative duration up to 6 months to evaluate reoperation rates after an initial bariatric surgery. Sleeve is the procedure associated with the least reoperations after 2 months postoperatively, including for moderate-risk reoperations.

Comprehensive Analysis of Breast Cancer Survival Outcomes in a Public Safety-Net Hospital Compared with an Adjacent Academic Cancer Center

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INTRODUCTION: Studies consistently show worse breast cancer survival for low-income, uninsured, and racial/ethnic minorities, but little is understood about whether these disparities can be overcome with multidisciplinary care. Our aim was to examine the impact of population and clinical differences on overall survival (OS) in breast cancer patients presenting to a public safety-net hospital (SNH) compared with an adjacent academic cancer center (ACC).

METHODS: Patients presenting to our SNH or ACC with stage I to IV breast cancer from 2005 to 2017 were identified from the local tumor registry. Both hospitals have similar staff and a multidisciplinary treatment approach. Kaplan-Meier survival analysis was used to identify factors associated with 5-year OS. Factors with a $p < 0.1$ were included in the Cox proportional hazards model.

RESULTS: A total of 6,344 patients were identified (44.1% at SNH). The SNH patients were more likely to be younger, African American, Hispanic, not married, have Medicaid or no insurance, and belong to the lowest income quartile. The SNH patients presented with more stage III/IV disease (SNH 33.1% vs ACC 21.3%; $p < 0.0001$). Unadjusted OS at the SNH was 80.8% and 90.2% at the ACC ($p < 0.0001$), with the most pronounced OS difference between facilities in stage IV patients (Figure). When controlling for patient and disease characteristics, the OS difference between SNH and ACC was statistically significant (hazard ratio 1.48; $p = 0.001$); however, when treatments received were accounted for there was no OS difference between facilities (hazard ratio 1.12; $p = 0.301$).

CONCLUSIONS: This study suggests, despite population disparities, when early-stage breast cancer patients complete multidisciplinary treatment at an SNH they can achieve similar OS to patients treated at an ACC.

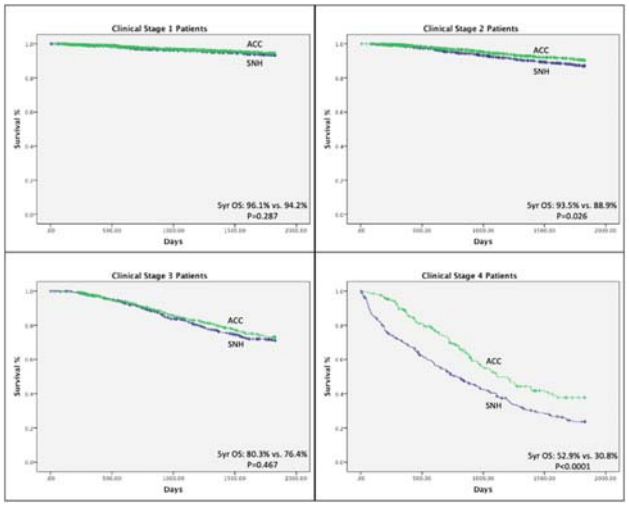

Figure. 5-year OS in Stages I-IV breast cancer at ACC vs SNH.

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Cost of Reconstruction: A Qualitative Study of Women after Breast Cancer

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INTRODUCTION: Post-mastectomy breast reconstruction improves quality of life. However, our knowledge of the financial burden, including expected cost, missed work, and lost productivity is limited. We sought to compare differences in patient-reported costs between women who did and did not undergo reconstruction after mastectomy.

METHODS: Volunteers completed an 88-question electronic-based survey. Women within 10 years of a stage I to III breast cancer diagnosis who underwent mastectomy ± reconstruction were included. Descriptive statistics were used. Free text responses were coded by 2 independent reviewers and analyzed for concepts related to care burden, out-of-pocket costs, and treatment-related sacrifice.

RESULTS: A total of 243 women met the inclusion criteria: 154 (63.4%) underwent reconstruction, 89 (36.6%) did not. The reconstructed population more commonly had private insurance (82.5% vs 62.5%; $p = 0.015$) and a median household income >$74,000 (70.8% vs 53.9%; $p = 0.043$). Median patient-reported out-of-pocket costs among reconstructed women were $2,000 higher than the unreconstructed population. However, there was no difference in preoperative cost consideration, incurred debt, or overall burden between the 2 groups. Overall, 183 (75%) of women completed the free-response section about their breast cancer experience. Of those 108 (59%) underwent reconstruction. Notably, themes more commonly reported in the reconstructed group were related to indirect financial burden, including navigating insurance, lost work opportunities, and travel for treatment.

CONCLUSIONS: Although breast reconstruction was not associated with a greater risk of financial hardship, the indirect costs and cancer-related healthcare use were higher in this relatively advantaged population. Including information about the potential burden of reconstructive care in preoperative discussions is warranted.

Defining the Influence of Inaccurately Reported Ethnicity on Adjusted Outcomes Models in Trauma Research

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INTRODUCTION: Racial and ethnic disparities are associated with disparate outcomes after trauma. This study aims to characterize the accuracy of reported patient ethnicity and determine the effect of inaccurately reported ethnicity within adjusted outcomes models.

METHODS: Patients admitted to a Level I trauma center during a 6-month period were interviewed to obtain self-identified or family-reported race, ethnicity, and primary language, which was then compared with data submitted to the National Trauma Data Bank. Multivariable regression was used to model the independent effect of incorrect ethnicity on length of stay and complication rate after adjusting for patient demographics, insurance status, injury severity, primary language and Glasgow Coma Scale score.