clear why some neighborhoods with high concentrations of racial and ethnic minority residents have high violent homicide incidence, while others do not experience violent homicide. The aim of this study is to identify the social and physical environmental conditions that contribute to increased violent homicide incidence in US neighborhoods, independent of racial and ethnic composition.

Methods/Approach Using the CDC's National Violent Death Reporting System (NVDRS), we conducted an ecological case-control study to compare environmental conditions in the 250 ZIP codes with the highest violent homicide death rate in 2017 (cases) to 250 ZIP codes that did not experience any violent homicide deaths in 2017 (controls). Cases were matched 1:1 to interstate controls based on demographic profiles. A multi-level logistic regression estimated the odds that ZIP codes have high incidence of violent homicide according to social and physical environmental conditions measured at both the ZIP code- and state-levels.

Results We found that local neighborhood socioeconomic demographics were associated with incidence of violent homicide death, independent of age, race/ethnicity, and sex. Associations were strongest for lower median household income and greater economic inequality at the ZIP code-level. ZIP-code characteristics explained associations between state-level characteristics and violent homicide occurrence.

Conclusions Living in higher-income and less densely populated ZIP codes was associated with decreased risks of violent homicide. Local ZIP code characteristics are stronger determinants of homicide incidence than state-level characteristics.

Significance Area-based interventions that would improve neighborhood social and economic conditions may reduce violent homicide incidence.

Occupational safety

0055 POTENTIAL FOR USING MOBILE APPS TO DELIVER SAFETY INTERVENTIONS TO COMMERCIAL FISHERMEN

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Statement of purpose Mobile technology is being used to develop innovative safety interventions for a variety of workplaces. We assessed the potential for using such technology to improve safety in commercial fishing, one of the most dangerous occupations in the United States. Technology adoption theories suggest that experienced mobile device users would be more likely to adopt a new app than inexperienced individuals. In this analysis we examined commercial fishermen's current use of mobile devices and safety-related apps during their usual fishing operations.

Methods/Approach Participants were commercial fishing vessel captains who owned an iOS or Android smartphone or tablet. As part of a study field-testing two novel mobile apps, we collected information about participants' prior mobile device use and app use during typical fishing operations, as well as their interest in such apps more generally.

Results Of the 52 participants who completed all stages of the study, 86.5% (n=45) reported ever having used a mobile device while out at sea, 59.6% (n=31) reported using apps to

help them with their commercial fishing work, and 25.0% (n=13) reported using safety-related apps either at work or on their own time.

Conclusion Among commercial fishing captains with a smartphone or tablet, a majority have used at least one mobile device during fishing operations. More than half already use mobile apps to help them with their fishing work, and one quarter already use some kind of safety-related mobile apps.

Significance Many commercial fishing captains use a smartphone or tablet while fishing at least some of the time, and a substantial proportion of them already use apps for fishing or safety purposes. These findings suggest that commercial fishing workers are experienced mobile device users who are open to using safety-related apps. Mobile apps are therefore a promising avenue for delivering safety interventions to this population.

Trauma Systems

0056 LAW ENFORCEMENT AND TRAUMA CARE IN THE EMERGENCY DEPARTMENT

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Statement of purpose Our purpose is to describe how United States' (US) trauma surgeons perceive law enforcement activities during acute trauma care and their impact on patient care.

Methods/Approach All trauma surgical care providers who are members of the American Association for the Surgery of Trauma, the preeminent trauma surgical professional society in the US were recruited via email for an anonymous online survey from September-October 2020. All data were analyzed descriptively.

Results Approximately 20% (231) of the society's membership completed the survey. The majority of respondents were affiliated with Level I trauma centers in urban settings, and witness law enforcement activities during trauma care at least weekly. These activities include questioning patients as suspects or witnesses to crimes, evidence collection, and surveillance of patients under arrest. Respondents' perceptions of the risks and benefits of law enforcement activities during emergency trauma care varied widely. On a continuum from very harmful to very helpful for patients, 36% perceived police presence during emergency trauma care as neither helpful nor harmful, 36% as helpful, and 28% as harmful. The majority (80%) felt that they had oversight over police access to patients in their care. To determine access to patients, respondents prioritized patients' physiologic stability and the safety of clinical staff. 79% did not know of any institutional policy at their place of employment to guide law enforcement activities during acute trauma care, and 73% endorsed the need for relevant policy.

Conclusions Law enforcement activities frequently intersect with the emergency care of trauma patients, and current institutional guidance is lacking.

Significance As law enforcement officers are asked to play increased roles in emergency medical care (in response to violence, motor vehicle crashes, and opioid overdose) there is a need to evaluate current practice and address relevant policy gaps.