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Trauma Anesthesia Care: an Analysis of Motor Vehicle Crash Management, Risk Factors and Costs

Abstract

Jake Sunshine MD, MS is submitting the proposed application to prepare him for a career as an independent investigator studying trauma epidemiology, burden of disease associated with non-fatal traumatic injuries, and potential interventions in the perioperative period to mitigate this burden. Via mentorship and direct research experience, the FAER MRTG will enable Dr. Sunshine to collect foundational data establishing the health services impact of traumatic injuries on the specialty of anesthesiology, while acquiring specific expertise in modeling and econometric approaches to health services research. The specific aims are to: (1) measure the prevalence over time of 2 key risk factors that lead to significant morbidity and mortality from an important public health problem, motor vehicle crashes (MVCs); (2) measure the proportion of MVC trauma admissions that require management by anesthesiologists and (3) measure the attributable medical costs associated with injuries associated with MVCs. Aim 1 will utilize small-areas modeling utilizing national data from the Behavioral Risk Factor Surveillance System survey. Aim 2 will measure the incidence of exposure to operative anesthesia care following MVC utilizing clinical and administrative data from the Washington State Trauma Registry. Aim 3 will utilize linked data from the Medical Expenditure Panel Survey and National Health Interview Survey to measure the incremental costs associated with MVC injuries. The goal of this proposed research is to collect preliminary data on an important public health problem and measure the anesthesiology workforce implications and costs associated with it. Results from this work will serve as preliminary data for a subsequent NIH K23 award.