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Estimating global injuries morbidity and mortality: methods and data used in the Global Burden of Disease 2017 study

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ABSTRACT

Background While there is a long history of measuring death and disability from injuries, modern research methods must account for the wide spectrum of disability that can occur in an injury, and must provide estimates with sufficient demographic, geographical and temporal detail to be useful for policy makers. The Global Burden of Disease (GBD) 2017 study used methods to provide highly detailed estimates of global injury burden that meet these criteria.

Methods In this study, we report and discuss the methods used in GBD 2017 for injury morbidity and mortality burden estimation. In summary, these methods included estimating cause-specific mortality for every cause of injury, and then estimating incidence for every cause of injury. Non-fatal disability for each cause is then calculated based on the probabilities of suffering from different types of bodily injury experienced.

Results GBD 2017 produced morbidity and mortality estimates for 38 causes of injury. Estimates were produced in terms of incidence, prevalence, years lived with disability, cause-specific mortality, years of life lost and disability-adjusted life-years for a 28-year period for 22 age groups, 195 countries and both sexes.

Conclusions GBD 2017 demonstrated a complex and sophisticated series of analytical steps using the largest known database of morbidity and mortality data on injuries. GBD 2017 results should be used to help inform injury prevention policy making and resource allocation. We also identify important avenues for improving injury burden estimation in the future.