



A comparison of road crash reporting in high-, middle-, and low-income countries: Global perspectives

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Abstract

Background – Quality decision making for road safety improvement is highly dependent on the quality of the associated data on which decisions are based. Although there are several forms of data and sources of information from which road safety improvements have been traditionally based, actual crash data remains the most widely utilized for understanding crash safety and developing effective countermeasures. Since crash data is the most common form of data from which road safety interventions are based upon, efforts to enhance the quality, accuracy, and amount of data recorded are necessary to the improved effectiveness of road safety interventions. Traditionally, road crash reports were used to provide information on road traffic crashes when civil and insurance claims arise, and to develop regional and national road safety performance statistics, while health-based crash data collected by hospital registries using a capture-recapture method were intended to be used for understanding road traffic injuries. However, police recorded road crash data have proven to be essential in providing a more comprehensive view of crash factors than their health-based counterpart, particularly those factors which are external and may only be observed at the scene of the crash such as, crash location, roadway characteristics, environmental factors, vehicular characteristics, and crash circumstances. Therefore, the quality and coverage (i.e., types of information collected) of crash data is directly attributable to what information is set out to be recorded on crash report forms. The variables and type of data (e.g., quantitative, and qualitative) recorded often vary from region to region. Consequently, there is significant effort being made to improve these data, and advanced data analysis methods are being developed to address some of these data limitations. The Global Plan for the Second Decade of Action for Road Safety adopted by the United Nations in 2021 recognizes the overall importance of improved quality, harmonization, and comparability of road safety data collection at the international, national, and regional levels.

Aim – Still, no study offering a comprehensive comparison among road crash reporting systems of High-income countries (HIC)s and Low- and middle-income (LMIC)s in the academic literature exists. This study aims to fill the existing gap. Therefore, the objective of this study is primarily to synthesize and compare road crash reports from various countries, internationally for the purpose of furthering on-going efforts to improve road crash reporting and subsequently the quality of road crash data in both HICs and LMICs. The HICs included in this study are



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comprised of 11 countries the LMICs included in this study are comprised of 13 countries. The study aims to compare the reportable variables present in the police road crash reports by assessing the level of data coverage and resolution among reportable variables between HICs and LMICs, on a global scale.

Anticipated Results – The study intends to draw attention to the disparities in road crash data collection between HICs and LMICs. It has been found that disparities exist in police crash reporting between crash location, crash severity, and crash classifications to name a few. Further, comparisons not only draw attention to the disparities that exist between HICs and LMICs, but also intra-HIC and intra-LMIC. For example, crash severities were observed to vary between HICs as different definitions are use per EU and US systems (i.e., CARE, MMUCC). Where as no unified definitions of injury severity among LMICs.

Conclusions – Based on the identified disparities which exist between the HICs and LMICs used for comparison in this study, prospects for improvement of police crash reporting may be made. The state of police crash reporting in HICs and LMICs is discussed and comparisons between variable resolution and reportable fields for police crash reporting are made based on the reports relevant to this study. HICs have employed systems for a minimum of standardized variables to be collected during crash reporting. Such systems have most notably increased uniformity between regional/state level crash reporting in many of these countries. Adopting similar systems in LMICs pose the potential to greatly improve reporting standards and comparability of crash data among these countries. It is anticipated that this study will contribute to the improvement of road safety research, interventions, bolstering road crash reporting methods, reduce RTI, and promote international collaboration between agencies.