

South Africa's vital statistics are currently not suitable for monitoring progress towards injury and violence Sustainable Development Goals

Two of the most important targets to achieving the United Nation's Sustainable Development Goals (SDGs) for reducing violence and other injuries are Target 3.6: to 'halve the number of global deaths and injuries from road traffic accidents' by 2020; and Target 16.1: the significant reduction of 'all forms of violence and related death rates everywhere'.^[1] Police statistics on homicide, and transport deaths from the Road Traffic Management Corporation, are considered to be under-reported^[2] and are not a reliable source for monitoring SDGs.

In South Africa (SA), vital statistics data are the only routine source that captures unnatural and natural deaths through death registration. Since the early 1990s, focused initiatives have identified and addressed deficiencies in the completeness of death registration^[3-5] and recent estimates indicate that completeness for persons aged ≥ 2 years is $>90\%$.^[6] However, there are still concerns about the quality of data relating to the cause of death, i.e. under-reporting of HIV/AIDS deaths owing to misclassification to other causes,^[7-10] a large proportion of deaths with ill-defined causes,^[11] and the validity of single-cause data.^[12]

The misclassification of injury deaths is another major limitation.^[2,13] The Inquest Act of 1959^[14] precludes forensic pathologists from reporting the manner of death, i.e. whether it is due to homicide, suicide, transport or other unintentional injuries, on the basis that it may prejudice the findings of the inquest. In many cases, only the nature of injury, e.g. penetrating wound, and whether the death is natural or unnatural, is reported on the death notification form. As the *International Statistical Classification of Diseases and Related Health Problems 10th Revision (ICD-10)*^[15] coding convention demands that injury deaths with unknown intent default to unintentional, the reported gunshot injuries without stated intent are all coded to unintentional gunshot injuries.^[16] Strict application of the ICD-10 coding rules has resulted in 89 - 99% of gunshot deaths being reported as unintentional from 2007 onward.^[17] Homicides are therefore grossly under-represented in official vital statistics.

The misclassification of injury deaths was clearly demonstrated in a nationally representative study of injury deaths presenting

to state forensic mortuaries in 2009.^[18] Statistics SA (Stats SA) classified nearly two-thirds (63.9%) of injury deaths as being due to 'other external causes of accidental injury' (Fig. 1), with 10.3% due to homicide and 11.5% caused by transport injuries.^[16] In contrast, the mortuary study demonstrated that homicide accounted for 36.2% of all unnatural deaths and transport for 33.8%. Moreover, the total number of injury deaths estimated from our study ($N=52\ 493$) is higher than the number reported by Stats SA ($N=49\ 456$), possibly because a number of deaths are registered before the completion of the investigation (to enable burial). Cases that are reported to be under investigation at the time of registration are coded to natural causes. Once the inquest into an unnatural death is complete, the civil registration system does not provide a mechanism for Stats SA to update the manner of death.

In the 2014 Stats SA cause-of-death data, despite a slight decrease in other unintentional injury deaths to 58.1%,^[19] the problem of misclassification of homicide and transport deaths to other unintentional injuries remains. Vital statistics cause-of-death data for injuries in SA are inaccurate and misleading and cannot be used to monitor progress on achieving the SDGs by 2030. The absence of information on the manner of injury death in the official statistics needs to be addressed urgently. A review and possible amendment of the Inquest Act would possibly take years. We strongly recommend that the death notification form (DHA-1663) be amended in line with the updated World Health Organization's recommendation,^[15] to include a stand-alone field for information about the manner of injury death for unnatural causes. We suggest that forensic pathologists record the alleged manner of death when they are uncertain, which can include a proviso stating that such information is for statistical purposes only. This matter is currently being discussed with stakeholders, including the National Forensic Pathology Committee, legal advisers to the departments of Home Affairs and Health, and Stats SA - holding a promise for injury data to conform to international standards, which will go a long way towards monitoring violence and injury indicators for the SDGs.

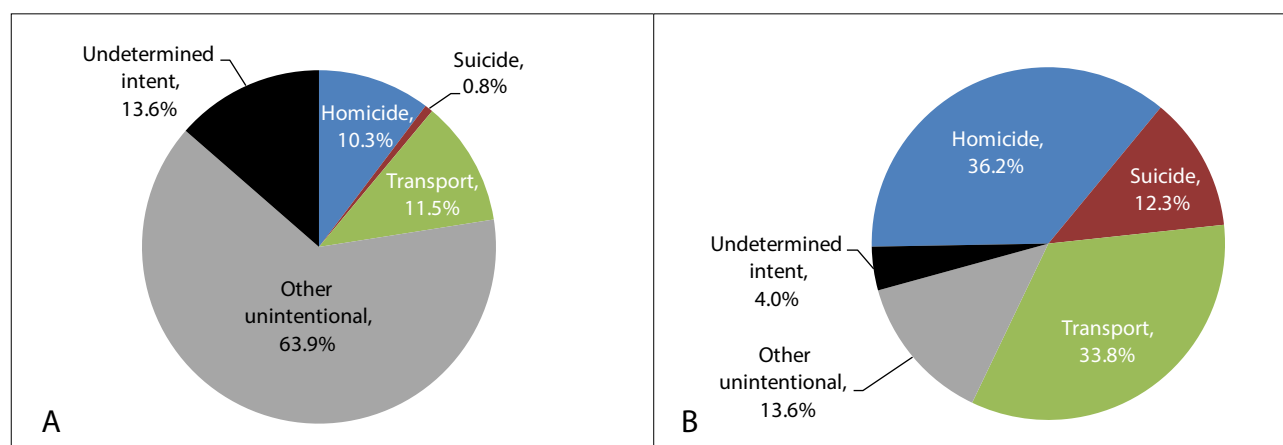


Fig. 1. Manner of injury death. (A) Stats SA, 2009 ($N=49\ 456$);^[16] and (B) IMS, 2009 ($N=52\ 493$).^[18] Stats SA categories are grouped according to IMS. (Stats SA = Statistics SA; IMS = Injury Mortality Survey.)

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