A policy brief on improving road traffic injury data collection in Uganda: Linking mortuary, hospital, and traffic police road traffic injury databases

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Background:

In many low-income countries, data on traffic crashes, injuries, and deaths, are mostly derived from police reports and yet these do not provide the complete picture of the burden of road traffic injuries in these countries.

Similarly in Uganda, there is no comprehensive road traffic injury dataset that combines traffic police data, hospital data and mortuary data to estimate the true magnitude of road traffic injuries. In addition, data on economic costs and other indicators (such as motorcycle helmet and seat-belt usage rates and proportion of deaths related to alcohol) are absent or incomplete.

Augmenting all data sources is crucial to better define the burden of road traffic injury and deaths. Good data is needed to advocate for road safety, identify specific problems and risks, set targets, formulate appropriate strategies, set priority actions for quality improvement, monitor impact, and develop evidence-driven road safety policies. Correct data-led diagnosis and management of road traffic injury problems enables appropriate action and resource allocation.

In view of the above, we conducted a national survey to assess the quality of road traffic injury data and to explore what linkages, if any, exist between various road traffic injury data sources.

Technical Approach

We conducted a national survey to assess the quality of road traffic data. Using both random and purposive sampling, we selected 16 administrative Police regions and 31 health facilities, and the largest mortuaries in all the selected districts. The selection process ensured that all four major regions of the country (east, west, north, and central) and both rural and urban populations were represented.

We assessed the quality of the road traffic crash data contained in the records of Uganda traffic police, Health Management Information System (HMIS) and the mortuary using a tool adopted from the routine data quality assessment tool from Global Fund. The tool assessed the following dimensions of data quality: accuracy, completeness, and timeliness. In addition, we assessed if any linkages within the various data sources existed.

What did we find and why is it important?

The investigation revealed that both health facilities and traffic police departments had nation-wide data systems with clear data flow and reporting structures for transmission of data from lower to higher levels. However there were no links between the Police traffic crash reporting system, hospital traffic injury data, and mortuary traffic crash data. There were no systems to collect data on patients who do not make it to health facilities, and the information on those who do end up in mortuaries without passing through a hospital has no place in any regularly reported dataset. Traffic police data was collected in paper form while HMIS data was in electronic form.

In all the road traffic injury data sources at health facilities, traffic police, and mortuaries, standard forms were used for collection of patient information, however some of them lacked important variables. For instance, health facilities rarely reported the type of road user (pedestrian, driver, cyclist, etc), and all sources rarely reported the activity at time of injury. All these led to incomplete capture of road traffic injury data.

Efforts to link police and health facility data or to estimate the level of overlap (duplication or other multiple counting) were unsuccessful as there were no unique identifiers to use for the linkages. It was therefore very difficult to estimate the true burden of road traffic crashes.

Linking hospital and mortuary data to the Police traffic crash data is very important for estimating the true burden of road traffic injuries and deaths. If the true estimate of road traffic injuries cannot be ascertained through linked datasets, it will be difficult to know when and which road traffic interventions are having any effect.

Conclusions and recommendations

There are nation-wide traffic data systems at the health facilities, traffic police departments and mortuaries. However, it is not possible with current systems to link police, mortuary, and health facility data to estimate the level of overlap and so estimate the true burden of road traffic injuries.

We recommend:

- the use of a minimum dataset (containing age, sex and site of injury) by all the three sectors.
- the progressive incorporation of a personal identifier that links the same person across all data sets (e.g. a thumb print or National Identification Number). The first step in this will be digitizing police data.