Verbal autopsy to assess child mortality in a humanitarian setting

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In 2010, less than 3% of the children who died were medically certified.[1] In low and middle income countries, most deaths do not occur in health facilities but rather in the community, contributing to an extraordinary gap in vital statistics.[2] This gap is likely to be more pronounced in humanitarian settings where children are prone to elevated mortality, particularly in contexts of forced displacement.[3]

Somalia, since the collapse of the central government in 1991, has had inadequate civil and vital registration systems. Therefore, information about population mortality is limited to sparse records within health facilities, or as part of periodic or ad-hoc small area population surveys. These surveys, most often undertaken as part of nutrition or food security assessments, provide information on the number of deaths but little information on the cause of death (except whether violence might have been a factor). Verbal autopsies are a standardised approach to assigning cause of death in settings where vital registration systems are weak or non-existent.[4] They are typically administered through the use of a standardised form with interpretation, initially done by physicians. However, analysis is increasingly undertaken through computer models.[5]

The study by Andrew Seal and colleagues[6] in *The Lancet Global Health* expanded the availability of mortality information in Somalia through use of a modified verbal autopsy strategy to provide insight on the causes of death among an internally displaced population within Somalia. They used this approach, as part of a larger nutrition and health surveillance system, to estimate the mortality rate of children age 6–59 months and evaluate the probable cause-specific mortality fraction. The study found an increased death rate among the study population. They also identified measles and malnutrition as accounting for the largest fraction of mortality, in line with previous studies in Somalia[7] and on Somali refugee populations.[8] The study, a collaboration between an aid agency and research institution, highlights the importance of such partnerships in addressing outstanding research gaps, particularly in humanitarian crises.[9]

The verbal autopsy approach, enacted over a period of 2 years, can potentially be used to provide information on the estimated 2·6 million internally displaced people in Somalia.[10] However, there are several key questions that require further study before verbal autopsy can be fully implemented. The study did not collect data on deaths in transit and deaths in children younger than 6 months, missing a crucial time period and cohort in which deaths are expected to be elevated. Additionally, the observed high population movement within camp settings makes it operationally challenging to accurately calculate population denominators, which restricts the applicability of such an approach more widely. Furthermore, this research was done in a small number of camps and required intensive surveillance efforts raising questions as to its sustainability and scalability. Given the availability of several computer coded verbal autopsy models with varying concordance with physician-certified verbal autopsies, standalone verbal autopsy results should be interpreted with caution.[2] However, verbal autopsies in conjunction with existing surveillance systems, as Seal and colleagues[6] have done, can provide valuable complementary information to guide rapid response. Moreover, use of social autopsy alongside verbal autopsies will expand understanding of the context in which these deaths are occurring and provide further avenues of response.[11]

Potential opportunities of scaling up such an approach include exploring the feasibility of integrating the modified verbal autopsy approach to large scale surveys such as the nationally representative Somali Demographic and Health Survey or to the seasonal assessments undertaken by the Food Security and Nutrition Analysis Unit of Somalia.

A robust understanding of causes of death is crucial for responding effectively and preventing excess mortality in the short term. Results from such studies could potentially be used to address gaps in packages of health services and to rapidly identify emerging health threats.[4] Ultimately, this effective response can be achieved through investing in the capacity of health systems to implement civil registration and vital statistics programmes. By ascertaining cause of death, the effect

of global health programmes can better be evaluated, which would guide resource allocation and strengthen fragile health systems.

We declare we have no competing interests.

*Abdihamid Warsame, Abdinasir Yusuf Osman
abdihamid.warsame@lshtm.ac.uk

Faculty of Epidemiology and Population Health, London School of Hygiene & Tropical Medicine, London WC1E 7HT, UK (AW); Pathobiology and Population Sciences, Royal Veterinary College, Hatfield AL9 7TA, UK (AYO)

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