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Editorial

Strengthening Mortality Surveillance in South and Southeast Asia: The Promise of Verbal Autopsy and Emerging Technologies

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Accurate information on causes of death remains a cornerstone of effective public health planning, yet it is still lacking across much of low- and middle-income countries (LMICs). In South and Southeast Asia, where a substantial proportion of the population resides in rural areas, mortality surveillance is hindered by incomplete civil registration and vital statistics systems. Only a fraction of deaths are medically certified, and many occur outside formal health-care settings, leaving critical gaps in understanding disease burden and shaping policy responses. The study by Htun et al. (2025) provides important insights into this challenge through a large population-based analysis using electronic verbal autopsy in rural Southeast Asia.(1) Covering over 3,400 deaths, the study demonstrates that most deaths—between 64% and 86%—occurred at home, often without medical attention or certification. Notably, non-communicable diseases (NCDs) emerged as the leading causes of death, accounting for 54% to 70% across study sites, with cardiovascular, cerebrovascular, cancer, and digestive diseases predominating. At the same time, communicable diseases such as respiratory infections, diarrhoeal illnesses, and tuberculosis, alongside injuries and accidents, continue to contribute significantly to mortality. This coexistence highlights a persistent dual burden of disease that demands integrated and context-specific health strategies.(1)

Beyond identifying causes of death, the study underscores the importance of measuring premature mortality through years of life lost (YLLs), with NCDs contributing the majority of YLLs across all countries studied. Equally concerning is the limited access to health care prior to death for many individuals, suggesting systemic barriers that extend beyond data limitations and into the realm of service delivery and health equity. Strengthening both mortality data systems and access to care is therefore essential. Verbal autopsy has emerged as a pragmatic and scalable approach to addressing gaps in mortality data, particularly in settings where medical certification is not feasible. As highlighted by Onyango and Awuonda (2024), verbal autopsy methods have proven effective in generating population-level estimates of causes of death and monitoring trends over time.(2) Evidence from demographic surveillance systems in Africa demonstrates how such data can inform national health priorities, guide resource allocation, and evaluate programme impact.

However, while verbal autopsy is cost-effective and feasible, it is not without limitations, particularly in accurately identifying specific causes of death compared with gold-standard postmortem examinations.[2]

Recent technological advancements offer opportunities to enhance the accuracy and efficiency of verbal autopsy. Wen et al. (2025) show that large language models, including GPT-5, can outperform traditional algorithmic methods and even approach physician coding in assigning causes of death.[3] These models demonstrated strong performance across age groups and causes, achieving high accuracy at the population level. Integrating such artificial intelligence tools with existing verbal autopsy systems could significantly improve the quality and timeliness of mortality data, particularly in resource-constrained settings.[3] These findings point to a critical opportunity for strengthening mortality surveillance in rural South and Southeast Asia. Expanding the use of electronic verbal autopsy, integrating advanced analytical tools, and improving death registration systems should be prioritised. At the same time, addressing barriers to health-care access remains fundamental to reducing preventable deaths. Bridging these gaps will not only improve data quality but also enable more responsive and equitable health systems capable of tackling the region's evolving burden of disease.

Competing Interests

The authors declare no conflict of interest.

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