Counting deaths, accounting for lives
Novel applications of standardised verbal autopsy methods for augmented health systems

Akademisk avhandling

Som för avläggande av medicine doktorsexamen vid Sahlgrenska akademin, Göteborgs universitet kommer att offentligen försvaras i Arvid Carlsson, Medicinaregatan 3, den 15 Mars, klockan 13:00.

av Laith Hussain-Alkhateeb

Fakultetsopponent:
Professor Frank Tanser

The School of Nursing and Public Health, University of KwaZulu-Natal, South Africa

Avhandlingen baseras på följande delarbeten

I.   Hussain-Alkhateeb L, Fottrell E, Petzold M, Kahn K and Byass P. Local perceptions of causes of death in rural South Africa: a comparison of perceived and verbal autopsy causes of death. Global Health Action. 2015; 8: 28302.

II.   Hussain-Alkhateeb L, Petzold M, Tollman S, Kahn K and Byass P. Effects of recall time on cause-of-death findings using verbal autopsy: empirical evidence from rural South Africa. Emerg Themes Epidemiology. 2016;13:10

III. Hussain-Alkhateeb L, D' Ambruoso L, Tollman S, Kahn K, Van Der Merwe M, Twine R, Schiöler L, Petzold M and Byass P. Enhancing mortality data: adding Circumstances Of Mortality CATegories (COMCAT) to deaths investigated by verbal autopsy. Lancet Global Health. (Submitted)

IV.   Byass P, Hussain-Alkhateeb L, D'Ambruoso L, Tollman S, Kahn K, Schiöler L and Petzold M. An integrated approach to processing WHO-2016 verbal autopsy data: the InterVA-5 model. (Manuscript)

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Novel applications of standardised verbal autopsy methods for augmented health systems

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Abstract

Half of the world's deaths and their causes are never recorded by virtue of the under-resourced civil registration and vital statistics (CRVS) systems which limits capacity of health systems to respond to population needs. Verbal autopsy (VA) has emerged as a pragmatic approach for determining causes of death using standard interviews including signs, symptoms and circumstances of death, conducted with the bereaved family. With aims to investigate relevant challenges of VA methods and further proposes integrated novel approach to advance the VA applications, this work maintained close collaboration with communities in the Agincourt Health and socio-Demographic Surveillance System (HDSS) in rural South Africa using over 20-years of VA records.

Agreement between VA and respondent-reported causes of death was used to assess local perception of causes of death whereas recall period, from death to VA interview, was adopted to explore the impact of operational and cultural practices within HDSSs on the overall VA assessment. This thesis also examined the latest InterVA-5 model with integrated novel system to incorporate relevant Circumstances Of Mortality CATegories (COMCAT) to the existing VA medical processing of causes of death. Communities in South Africa provided a much less consistent and complete picture of causes of death and, recall period of up to one year did not have any consequential effects on the VA assessment. The demonstration of COMCAT using the integrated InterVA-5 model gave plausible and potentially useful findings, consistent with what might be expected in that population shedding the light on the compatibility of InterVA-5 model which handled VA data from various standards reasonably well. VA is the most expedient method to use in resource-poor settings for tracking patterns of causes of death over time and space. The automated InterVA-5 integrated with the COMCAT can serve as a standardised and comprehensive tool for monitoring universal health coverage.

Keywords: Verbal autopsy, cause of death, vital registration, health system, demographic surveillance, World Health Organization.