Approaches to Analysing and Understanding Verbal Autopsy Findings

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The basic question:

How to move from VA interview data to sensible interpretations of cause of death?

Recent paper exploring Agincourt's VA archives

Moving from Data on Deaths to Public Health Policy in Agincourt, South Africa: Approaches to Analysing and Understanding Verbal Autopsy Findings

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Abstract

Background: Cause of death data are an essential source for public health planning, but their availability and quality are lacking in many parts of the world. Interviewing family and friends after a death has occurred (a procedure known as verbal autopsy) provides a source of data where deaths otherwise go unregistered; but sound methods for interpreting and analysing the ensuing data are essential. Two main approaches are commonly used: either physicians review individual interview material to arrive at probable cause of death, or probabilistic models process the data into likely cause(s). Here we compare and contrast these approaches as applied to a series of 6,153 deaths which occurred in a rural South African population from 1992 to 2005. We do not attempt to validate either approach in absolute terms.

(freely available for download from www.plosmedicine.org)

Main messages:

• There were no differences in aggregated causes of death between physician-interpreted and InterVA-interpreted data, in terms of conclusions that would lead to different public health policies

• Essential to allow the possibility of more than one cause of death per case

• Need to think seriously about capturing uncertainties in assigning cause of death at the individual level, and carry those uncertainties forward into aggregated analyses

Recent paper exploring VAs from SA, Et, Vn, Id

Mortality measurement in transition: proof of principle for standardised multi-country comparisons

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Summary   OBJECTIVE To demonstrate the viability and value of comparing cause-specific mortality across four socioeconomically and culturally diverse settings using a completely standardised approach to VA interpretation.

Ethiopia
South Africa
Vietnam
Indonesia

Ethiopia: Indet, Maternal/infant/nutritional, External, NCD, Chronic infectious, Acute infectious
South Africa: Indet, External, NCD, Chronic infectious, Acute infectious
Vietnam: Indet, Maternal/infant/nutritional, External, NCD, Acute infectious
Indonesia: Indet, External, NCD, Chronic infectious, Acute infectious

Main messages:

• Clear and sensible differences in cause of death patterns

• Huge advantage of having a standard model to apply across different contexts – the differences can't be due to different local interpretation

• Also applies to analyses over time e.g. tracking development of HIV/AIDS-related deaths

POPULATION HEALTH M

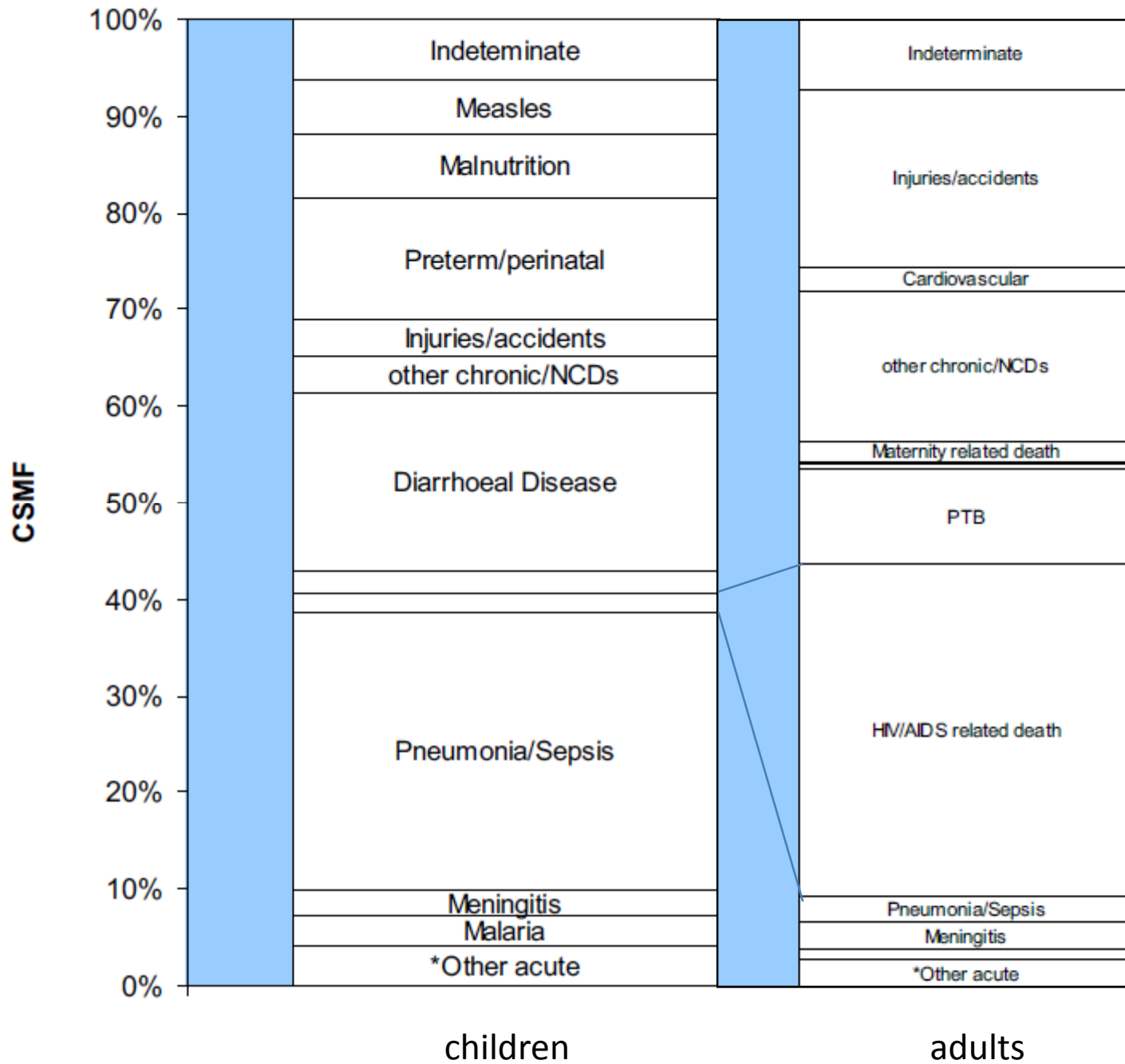---

RESEARCH

Open A

Verbal autopsy interpretation: a comparative analysis of the InterVA model versus physician review in determining causes of death in the Nairobi DSS

Samuel O Oti* and Catherine Kyobutungi

Abstract

Background: Developing countries generally lack complete vital registration systems that can produce cause of information for health planning in their populations. As an alternative, verbal autopsy (VA) - the process of interv family members or caregivers on the circumstances leading to death - is often used by Demographic Surveillan Systems to generate cause of death data. Physician review (PR) is the most common method of interpreting VA, this method is a time- and resource-intensive process and is liable to produce inconsistent results. The aim of th paper is to explore how a computer-based probabilistic model, InterVA, performs in comparison with PR in interp VA data in the Nairobi Urban Health and Demographic Surveillance System (NUHDSS).

Physician interpretation

CSMF (y-axis, 0% to 100%)

children
- Indeteminate
- Measles
- Malnutrition
- Preterm/perinatal
- Injuries/accidents
- other chronic/NCDs
- Diarrhoeal Disease
- Pneumonia/Sepsis
- Meningitis
- Malaria
- *Other acute

adults
- Indeterminate
- Injuries/accidents
- Cardiovascular
- other chronic/NCDs
- Maternity related death
- PTB
- HIV/AIDS related death
- Pneumonia/Sepsis
- Meningitis
- *Other acute

The way forward:

- Many sites have accumulated VA data

- These data are a unique international resource

- To maintain our international credibility, these data must be analysed and published very soon

- Cause of Death Group meeting on Wednesday at 1600 – need all sites with VA to be there!