



ISC 2013 ABSTRACTS

Abstract S4B.3

Linking demographic surveillance mortality data with national vital registration system data-lessons learned from Agincourt, South Africa

Chodziwadziwa Whiteson Kabudula¹, Jane' Joubert^{2,4}, Maletela Tuoane-Nkhasi³, Kathleen Kahn¹, Debbie Bradshaw⁴ 1. *MRC/Wits Rural Public Health and Health Transitions Research Unit (Agincourt), School of Public Health, University of the Witwatersrand, South Africa* 2. *School of Population Health, University of Queensland, Herston, QLD, Australia* 3. *Statistics South Africa, South Africa* 4. *Burden of Disease Research Unit, South African Medical Research Council, Tygerberg, South Africa*

Lack of comprehensive vital registration (VR) systems from which to generate reliable statistics on population and health dynamics in many developing countries stimulated the development of alternatives like health and demographic surveillance systems (HDSSs). There have been efforts in recent years to improve VR systems in developing countries, including South Africa. One way by which the success of these efforts can be assessed is by comparing the vital events registered by national VR systems with those registered by HDSSs. The comparison requires linking HDSS data with national VR systems data. We assessed the feasibility of linking HDSS data with national VR systems data in South Africa using mortality data from Agincourt HDSS.

We used deterministic and probabilistic record linkage approaches to link 3726 deaths that occurred between 2006 and 2009. Variables used for linkage included national identification number, surname, sex, date of birth, date of death, village of birth or residence or death, and place of death. The correct linkage rate was assessed using a subset of deaths that had national identification number available in both data sources.

In total, 2,264 (60.76%) death records could be linked of which 1969 (86.97%) were linked using probabilistic approaches. In a subset of 708 deaths that were linked by means of national identification number, the probabilistic approaches yielded 90.25% linkage rate and 100% correct linkage rate. The study has shown that mortality data linkage is possible between routine civil registration and demographic surveillance in South Africa. It helped us identify data items and characteristics that could be improved towards more optimal future matching possibilities. Our findings also suggest that, at least in South Africa, calibration methods and models can be developed for the national VR system based on HDSS data.