

Topic: Reproductive Health
Session 303: HIV/AIDS

HIV/AIDS-induced demographic behaviour change in Malawi and its long-term outcomes. An application of a dynamic multistate model.

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Abstract

How will the flowing demographic transition in SSAF eventually be affected by the HIV/AIDS drift is still uncertain due to the difficulty to forecast the spread of knowledge about HIV, and related sexual behaviour change, which currently remains the major measure of HIV control in those areas. An issue not taken into account by official projections is the impact that AIDS is having on fertility determinants. The Malawian case documents that the diffusion of information on AIDS is significantly impacting on marriage and separation patterns (Reniers, 2005). Similarly divorce is increasingly viewed as a strategy for prevention of infection (Smith, Watkins, 2004). These phenomena are however complexly interrelated with the underlying socio-cultural systems. In the Malawian society there is indeed a geographic heterogeneity in socio-cultural traits. This heterogeneity is playing a key role in shaping the patterns of information spread, and thus of changing sexual behaviour. This is well documented by data gathered from MDICP National surveys in three rural districts (Rumphu, Balaka, and Mchinji), which respectively correspond to three different family systems, the patrilinear one, the matrilinear one, and a less rigid one (<http://www.malawi.pop.upenn>). These data for instance show a clear relation between the geographic variability in AIDS prevalence and divorce rates (Reniers, 2005).

The present paper collates available data from various sources to parameterise a multistate stable population model reflecting the major features of the current Malawi population, i.e. iterative marriage, polygyny, and AIDS-related heterogeneity in age specific marriage and divorce rates. The model is then used to project the long term effects of AIDS-related changes in marriage and divorce rates on Malawian population growth and distribution. The results show quite broad differences among the various scenarios, which are suggestive, even without including epidemic variables, of large space for epidemic control simply removing socio-cultural obstacles to information spread.