

Spatial Differentials in Childhood Mortality in Mozambique

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The dramatic improvement in mortality over the last few decades has resulted in widespread extension of human longevity beyond past predicted levels in most developing countries. Global estimates confirm the expectation of the epidemiologic transition theory which suggests a shift in cause-of-death patterns from communicable diseases especially prevalent at infancy and childhood to problems resulting from non communicable conditions at the advanced ages (Heuveline et al. 2002; Murray and Lopez 1997; Wilmoth 2000). Mortality from non-communicable conditions has become increasingly predominant worldwide and recent evidence suggests that the incidence and prevalence of non-communicable diseases (NCD) in Africa is rising. For instance, Gwatkin et al. (1999) estimated that by 2020, NCD in Sub-Saharan Africa will account for almost 50% of the burden of disease (BOD). As a result, recent years have seen attempts to refocus health policies in Sub-Saharan Africa away from communicable towards non-communicable diseases.

However, available evidence from recent censuses and surveys points to a stagnation or reversal of mortality gains in many African countries. Infant and childhood mortality, which started declining in most African countries following World War II through the 1960s and 1970s began to show signs of stagnation or reversal by the late 1980s (Ahmad et al. 2000; Walker et al. 2002; Hill 1993; Rutstein 2000; Zuberi et al. 2003). This trend, obviously linked to the poor performance of most African economies is further compounded by the continued prominence of infectious diseases and the emergence of new infections like HIV/AIDS. The trend in stagnation or reversal does not seem to be uniform across countries or localities and population groups. Indeed wide disparities exist among and within groups even in the same country. As such global estimates have been accused of frequently masking the “unfinished health agenda” in many countries. This research uses a unique power tool of census data to investigate the within-country geographic disparities in child health.

Background

Almost three decades ago in Alma-Ata, African delegates along with their counterparts from other nations and representatives of key international organizations jointly endorsed the famous declaration that called attention to gross disparities in health and mortality around the world. The Alma-Ata Declaration stated that such disparities were *politically, socially and economically unacceptable* (WHO 1978) and committed all countries to the ambitious goal of achieving “health for all by the year 2000”. As the famous year 2000 approached, only partial success on the declaration had been recorded. By the 22nd anniversary of Alma-Ata in September 2000, the Millennium Declaration endorsed by 189 countries was adopted by the United Nations (UN 2000; 2005). The accompanying Millennium Development Goals (MDGs) are the current

priorities of all member countries and commits all governments to the realization of 8 major goals and 18 targets by the year 2015. Of particular interest to this study is goal 4 that focuses on reducing child mortality. Allied to this goal is target 5 that recommends a reduction by two-thirds between 1990 and 2015. Progress towards this goal is assessed by tracking under-five mortality rates (U5MR) and the coverage of children immunized against measles, the leading cause of death among vaccine-preventable diseases (UN 2005). The MDGs have tended to emphasize global level results for monitoring progress than the reduction in gross disparities. Undoubtedly, as Heuveline et al. (2002) rightly noted, global results are invaluable for enabling policy makers to better prepare for the emerging health needs of different populations. However, they may be an inappropriate guide for assessing progress in health achievement.

According to recent assessment (UN 2005) of the progress towards the target of reducing U5MR, progress has been uneven with Sub-Saharan African lagging behind. Mozambique features prominently among the 28 or so countries identified as still entertaining extremely high levels of child deaths. Mozambique in particular experienced prolonged periods of unusually severe hardships; almost two decades of civil strife compounded by natural disasters. From the struggle for independence to the immediate post-independence civil war, the population over the last four decades has been characterized by forced displacements under precarious conditions. Small scale studies have confirmed that during the civil war, health care facilities and schools were either destroyed or closed down, immunizations stopped in many areas (Garenne et al. 1997, Cliff and Noormohamed 1988). These combined with malnutrition, drought, famine and epidemic outbreaks had a major effect on childhood morbidity and mortality (Rutherford and Mahanjane 1985).

As a result, the country is one of the poorest in the world and until recently, there was little national data for an assessment of the demographic situation. As such, there is still considerable dearth of knowledge on the geographic differences and disparities in childhood mortality in Mozambique. In this paper, we use a unique power of census data to assess the magnitude of geographic disparities in child health and to highlight the implication for using global level results in monitoring MDG progress.

Purpose

The main question that this paper seeks to address is: what is the magnitude of geographic disparities in child health? More specifically, the levels of childhood mortality are estimated and the observed differences by province, district and place of residence (urban-rural) are examined. The central aim therefore is to localize childhood mortality to the lower level of geography and thereby, highlight the magnitude of inequalities that may exist. This question is of crucial importance because identifying high risk areas where children are subject to increased risk of dying would guide health planners and policy makers in the effective use of scarce resources by targeting intervention programs on such high risk communities. In effect, targeting high risk areas (or districts) could be a more feasible way of reaching the high risk populations and thereby achieving progress. Also, this is important in informing understanding on the

effectiveness of monitoring health progress at the global level. District level differentials in a number of socioeconomic and household environmental characteristics are considered in an attempt to explain the observed differences in mortality.

Data and Methods

The 1997 Mozambique census is used for this analysis. The Brass-type information on children ever born (CEB) and children dead or surviving (CD-CS) was included in the census and will be used to estimate and examine the spatial dimension of childhood mortality in the country. The lowest possible analytical unit corresponding to the local administrative geography of Mozambique consists of districts. Among the indicators of childhood mortality risk, the probability of dying before reaching exact age 5 (Q5) seems to be more stable and is widely recognized as a good indicator of development. To depict the implication for childhood mortality of membership in a particular residential group, we will estimate and map this by district. The standardized mortality index that combines child mortality experience of women can be computed and used.

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