Trends in Adult Mortality around the Developing World

In Sub-Saharan Africa mortality rates in countries with the highest HIV prevalence exceed those in countries that had civil war

In a new paper de Walque and Filmer combine data from 84 Demographic and Health Surveys from 46 developing countries to analyze trends and socioeconomic differences in adult mortality. They calculate mortality based on the sibling mortality reports collected from female respondents ages 15–49. The analysis yields five main findings.

First, adult mortality is different from child mortality. While under-five mortality shows a definite improving trend over time, adult mortality does not. Moreover, the cross-sectional association between under-five mortality and national income is quite a bit stronger than that for adult mortality. In addition, while under-five mortality has fallen over time conditional on national income, this is not the case for adult mortality. Indeed, in Sub-Saharan Africa the trend is the opposite, with adult mortality rising at any given level of income.

Second, adult mortality has increased dramatically in Sub-Saharan African countries, especially in those most affected by the HIV/AIDS pandemic (figure 1). Mortality rates in the most affected countries of southern Africa (for example, Namibia, Swaziland, Zambia, and Zimbabwe) exceed those in countries that experienced episodes of civil war. Excess mortality during episodes of genocide is readily apparent in the data—with aggregate adult mortality rates approaching 15 percent (that is, among those alive at the beginning of a five-year period before the genocide, the probability of death was 15 percent over that five-year period). But mortality rates decline at the end of these extreme mortality events. In contrast, adult mortality in countries with high HIV prevalence shows no sign of slowing over the period ending in 2004.

Third, even in Sub-Saharan countries where HIV prevalence is less high, mortality rates appear to be at best stagnating and in several cases even increasing. It is unclear whether this is simply because even low HIV rates are translating into higher mortality in these countries or because of some other underlying cause.

Fourth, the main socioeconomic dimension along which mortality appears to differ in the aggregate is gender. In Sub-Saharan Africa adult mortality rates have risen substantially higher for men than for women—especially in countries with high HIV prevalence. On the whole, the data do not show large gaps between urban and rural residence or by school attainment. To the extent that there are some differences, the data suggest that urban women and more educated women had smaller increases in mortality. Among the groups studied, urban women and educated women also have the lowest overall mortality rate both in countries with high HIV prevalence and in those with low HIV prevalence.

Men with less than primary education had the largest increase in mortality. In countries with high HIV prevalence these men have mortality rates that are substantially higher than those for men with more education and for women. One age group for which the higher mortality among men does not hold is among those ages 15–24, especially those with less education. Women ages 15–24 with less than primary education have higher mortality rates than all other groups of the same age. This is consistent with the age profile of HIV/AIDS, but also with findings by others that younger, more educated women appear to be engaging in more protective behaviors as knowledge about HIV and AIDS is disseminated.

Finally, and perhaps unsurprisingly, countries that have experienced conflict or episodes of internationally recognized genocide display heterogeneous patterns in time trends and socioeconomic patterns in mortality. The experience in several countries suggests that male mortality is typically more responsive to these events—and in several cases it is urban or more educated males for whom mortality increases the most. At the same time, it is important to recognize that increases in mortality during these episodes of conflict are not restricted to men. In all cases women’s mortality is affected as well.

This research suggests that analysis of population health in developing countries should give more central consideration to adult mortality. Other indicators, such as child mortality, are poor measures of the dimensions of health captured by direct measurement of adult mortality. While the analysis of the data created for the study shows considerable heterogeneity in mortality patterns across countries, these publicly available data will allow other analysis to investigate country-specific patterns in more depth, supporting the design of tailored policies and programs that are better informed.

Figure 1. Predicted Male Adult Mortality by Period and Location

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[Diagram showing predicted male adult mortality by period and location, with bars indicating mortality rates for different periods (1980–84, 2000–04) and locations (Rural Sub-Saharan Africa, Urban Sub-Saharan Africa, Rural Countries in other regions, Urban Countries in other regions).]