

Impact of Prime-Age Adult Mortality on Labor Supply

Evidence from Adolescents and Women in South Africa

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Introduction

The recent dramatic increase in prime-age adult mortality in many African countries is largely attributed to the AIDS epidemic. Excess mortality is concentrated among women between the ages of 25 and 39 and among men between the ages of 30 and 44. Households can respond to an increase in mortality among prime-age adults in many ways—they can utilize government grants and formal insurance; engage in some ex ante and ex post risk coping/mitigating strategies (e.g., borrowing or tapping on remittances) to buffer shocks; and/or develop foster-care arrangements or income diversification strategies (including labor supply). There are, however, problems with these approaches. If such strategies are imperfect in smoothing consumption, prime-age adult death can decrease child schooling investments and increase labor supply, at least in the short-run. Moreover, prime-age adult death also reduces the expected future earnings for the household. This, in turn, reduces investments in child schooling, given that the period over which capital is formed is long and the loan market is imperfect. Typically, the growth in the number of orphans in a society is taxing on both families and the society and an increase in mortality among prime-age adults, unlike mortality in other age groups, directly reduces the capability of households to secure income.

Motivated by recent increases in prime-age adult mortality in South Africa, we attempt to assess the impacts of such mortality on labor supply behavior in nonagricultural settings by examining the transition of adolescents from school to labor market and female labor supply decisions. We use recently available panel data from the KwaZulu-Natal Income Dynamics Study (KIDS) Waves 2 and 3, conducted in the Province of KwaZulu-Natal in 1998 and 2004.

The issue at hand in this paper is of increasing importance to contemporary Africa. The death of adults in their productive ages raises serious concerns about the pervasive impact of the epidemic on household behavior and on human capital development, particularly through education and labor supply decisions. Since the onset of the AIDS epidemic over two decades ago, mortality rates in many Sub-Saharan African countries have escalated dramatically. In South Africa, according to Statistics South Africa (2005), the numbers of annual recorded deaths in the 20 to 45 age group more than doubled between 1997 and 2002, from a little less than 90,000 to more than 190,000. Although explicit reports of AIDS as a cause of

death are comparatively low, AIDS death increases sharply when the underlying causes of the disease are taken into account: accounting, in this case, for nearly half of all deaths. Over 70% of the death among the 15–49 year olds can be attributed to AIDS, according to a demographic model that has been developed for South Africa.

From School to the Labor Market

The main focus of our study is on adolescents' transition from school to the labor market and on changes in the time allocation between household production and labor-market activities, potentially as a response to prime-age adult mortality and as part of a household's optimal risk-mitigation strategies. While we stress that responses to prime-age adult mortality are not only ex post but could also be ex ante, i.e., before the adult's death, adult mortality would have a series of effects. It has long-term implications for human capital formation if it causes an acceleration of adolescents' transition to the labor market; in turn, to the extent that prime-age adult mortality produces children (e.g., orphans) who cannot receive enough education and therefore participate in the labor market, AIDS creates inequalities in human capital (and earnings) between those affected and those unaffected.

On the shorter time horizon, the transition affects the unemployment rate among the young if, as a consequence of their exit, they are insufficiently educated. Another effect is with adult household members who survive the crisis also having to accommodate the mortality shocks by changing their time allocation. For example, household members need to look for earning opportunities in the labor market or move to household work to care for the ill. In the analysis that follows, we investigate these issues in detail, acknowledging the possibility that the behavioral response to adult mortality may differ by gender.

There are a number of recent studies that attempt to identify the impacts of prime-age adult mortality on child schooling and labor supply. Although we subsequently detail the main relevant findings of these studies, and noting that the studies vary greatly in the methodologies they employ, the point is that they demonstrate the importance of prime-age adult deaths in determining child school enrollment and attendance. In the literature, however, the impact on labor supply from members of a household is less visible than that on child schooling—in this study we address this gap. Also, whereas most of these studies share motivations similar to ours, they deal with agricultural settings. In

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contrast, our sample comes from semi-industrialized settings in South Africa, where the dominant income source for households is wage employment. These differences provide a distinct set of risk-coping and mitigating strategies from those that occur in other rural contexts in Sub-Saharan Africa. It also justifies our focus on labor supply and schooling decisions.

Results

Against a backdrop of rising prime-age adult mortality in KwaZulu Natal, several findings emerge from the analysis. We find, first, that deaths of prime-age working adults significantly increase both the male and female adolescent

labor supply, stopping adolescent schooling. Deaths of prime-age adults in the future decrease female school enrollment, suggesting that girls shift activity, possibly staying at home to take care of the sick or of the household more generally. Second, since the enrollment of male adolescents is decreased prior to the death of a working adult, their response is different, associated with compensating an income loss. Third, female adults tend to become a part of the labor force after the death of prime-age adult males. The shift might translate into a decline in their time spent on housework, including child rearing. These findings imply that prime-age adult excess mortality disrupts human capital formation in the society.



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About RENEWAL

Facilitated by the International Food Policy Research Institute, RENEWAL is a regional “network-of-networks” in Sub-Saharan Africa. Currently active in five “hub” countries (Malawi, Uganda, Zambia, South Africa, and Kenya), RENEWAL comprises national networks of food and nutrition-relevant organizations (public, private, and nongovernmental) together with partners in AIDS and public health research. RENEWAL aims to enhance understanding of the worsening interactions between HIV, food security, and nutrition, and facilitate a comprehensive response to these interactions. RENEWAL is grateful for support, at present, from Irish Aid, the Swedish International Development Cooperation Agency (SIDA), the International Development Research Centre (IDRC, Canada), and the United States Agency for International Development (USAID).