

Research papers (2008-2009) on HIV/AIDS
The World Bank's Development Research Group

Adhvaryu, A. R. and K. Beegle (2009). **The long-run impacts of adult deaths on older household members in Tanzania**. Washington, DC, The World Bank, Policy Research Working Paper. [5037](#)

HIV/AIDS is drastically changing the demographic landscape in high-prevalence countries in Africa. The prime-age adult population bears the majority of the mortality burden. These "missing" prime-age adults have implications for the socioeconomic well-being of surviving family members. This study uses a 13-year panel from Tanzania to examine the impacts of prime-age mortality on the time use and health outcomes of older adults, with a focus on long-run impacts and gender dimensions. Prime-age deaths are weakly associated with increases in working hours of older women when the deceased adult was co-resident in the household. The association is strongest when the deceased adult was living with the elderly individual at the time of death and for deaths in the distant past, suggesting that shorter-run studies may not capture the full extent of the consequences of adult mortality for survivors. Holding more assets seems to buffer older adults from having to work more after these shocks. Most health indicators are not worse for older adults when a prime-age household member died, although more distant adult deaths are associated with an increased probability of acute illness for the surviving elderly. For deaths of children who were not residing with their parents at baseline, the findings show no impact on hours worked or health outcomes.

Beegle, K. and D. de Walque (2009). **Demographic and Socioeconomic Patterns of HIV/AIDS Prevalence in Africa**. Washington, DC, World Bank, Policy Research Working Paper Series. [5076](#)

Understanding the demographic and socioeconomic patterns of the prevalence and incidence of HIV/AIDS in Sub-Saharan Africa is crucial for developing programs and policies to combat HIV/AIDS. This paper looks critically at the methods and analytical challenges to study the links between socioeconomic and demographic status and HIV/AIDS. Some of the misconceptions about the HIV/AIDS epidemic are discussed and unusual empirical evidence from the existing body of work is presented. Several important messages emerge from the results. First, the study of the link between socioeconomic status and HIV faces a range of challenges related to definitions, samples, and empirical methods. Second, given the large gaps in evidence and the changing nature of the epidemic, there is a need to continue to improve the evidence base on the link between demographic and socioeconomic status and the prevalence and incidence of HIV/AIDS. Finally, it is difficult to generalize results across countries. As the results presented here and in other studies based on Demographic and Health Survey datasets show, few consistent and significant patterns of prevalence by socioeconomic and demographic status are evident.

Beegle, K., D. Filmer, et al. (2009). **Orphanhood and the living arrangements of children in Sub-Saharan Africa**. Washington, DC, The World Bank, Policy Research Working Paper. [4889](#)

Increasing adult mortality due to HIV/AIDS in Sub-Saharan Africa raises considerable concerns about the welfare of surviving children. Studies have found substantial variability across countries in the negative impacts of orphanhood on child health and education. One hypothesis for this variability is the resilience of the extended family network in some countries to care for orphans-networks under increasing pressure by the sheer number of orphans in many settings. Using household survey data from 21 countries in Africa, this study examines trends in orphanhood and living arrangements, and the links between the two. The findings confirm that orphanhood is increasing, although not all countries are experiencing rapid rises. In many

countries, there has been a shift toward grandparents taking on increased childcare responsibility-especially where orphan rates are growing rapidly. This suggests some merit to the claim that the extended network is narrowing, focusing on grandparents who are older and may be less able to financially support orphans than working-age adults. However there are also changes in childcare patterns in countries with stable orphan rates or low HIV prevalence. This suggests future work on living arrangements should not exclude low HIV/AIDS prevalence countries, and explanations for changes should include a broader set of factors.

de Walque, D. (2009). "**Does Education Affect HIV Status? Evidence from five African Countries.**" World Bank Economic Review **23**(2): 209-233.

Data from the first five Demographic and Health Surveys to include HIV testing for a representative sample of the adult population are used to analyze the socioeconomic correlates of HIV infection and associated sexual behavior. Emerging from a wealth of country relevant results, some important findings can be generalized. First, successive marriages are a significant risk factor. Second, contrary to prima facie evidence, education is not positively associated with HIV status. However, schooling is one of the most consistent predictors of behavior and knowledge: education level predicts protective behaviors such as condom use, use of counseling and testing, discussion of AIDS between spouses, and knowledge about HIV/AIDS, but it also predicts a higher level of infidelity and a lower level of abstinence.

de Walque, D. (2009). "**Parental Education and Children's Schooling Outcomes: Evidence from Recomposed Families in Rwanda.**" Economic Development and Cultural Change **57**(4): 723-746.

In this article, I investigate how educational outcomes of orphans are affected by the education of the family members in their new family. The study uses household survey data from Rwanda that contain a large proportion of children living in households without their biological parents. The data also allow controlling for the educational attainment of the absent biological parents and the type of relationship that links the children to their adoptive families. The results of the analysis suggest that the education of the adoptive parents has a positive impact on the children's schooling. Interestingly, mothers' education matters more for girls, while fathers' education is more important for boys. The results also indicate that placing orphans with their relatives has a positive impact on their schooling. This finding has obvious policy implications for African countries with a large proportion of orphans due to the HIV/AIDS epidemic or to conflicts.

Zivin, J., H. Thirumurthy, et al. (2009). "**AIDS treatment and intrahousehold resource allocation: Children's nutrition and schooling in Kenya.**" Journal of Public Economics **93**(7-8): 1008-1015.

The provision of antiretroviral medications is a central component of the response to HIV/AIDS and consumes substantial public resources from around the world, but little is known about this intervention's impact on the welfare of children in treated persons' households. Using longitudinal survey data from Kenya, we examine the relationship between the provision of treatment to adults and the schooling and nutrition outcomes of children in their households. Weekly hours of school attendance increase by over 20% within 6 months after treatment is initiated for the adult patient. We find some weak evidence that young children's short-term nutritional status also improves. These results suggest how intrahousehold allocations of time and resources may be altered in response to health improvements of adults.

d'Adda, G., M. Goldstein, et al. (2009). "**AERC-Cornell Symposium on 'Risk, Knowledge and Health in Africa': ARV Treatment and Time Allocation to Household Tasks: Evidence from Kenya.**" African Development Review/Revue Africaine de Developpement **21** 1: 180-208.

Using longitudinal survey data collected over a period of two years, this paper examines the impact of antiretroviral (ARV) treatment on the time allocated to various household tasks by treated HIV-positive patients and their household members. We study outcomes such as time devoted to housework, firewood and water collection, as well as care-giving and care-seeking. As treatment improves the health and productivity of patients, we find that female patients in particular are able to increase the amount of time they devote to water and firewood collection. This increased productivity of patients coupled with large decreases in the amount of time they spend seeking medical care leads to a reduced burden on children and other household members. We find evidence that boys and girls in treated patients' households devote less time to housework and other chores. These results suggest that the provision of ARV treatment generates a wide variety of benefits to households in resource-poor settings.

de Walque, D. and R. Kline (2009). **The association between remarriage and HIV infection: evidence from national HIV surveys in Africa.** Washington, DC, World Bank, Policy Research Working Paper. [5118](#)

The literature shows that divorced, separated, and widowed individuals in Africa are at significantly increased risk for HIV. Using nationally representative data from 13 countries in Sub-Saharan Africa, this paper confirms that formerly married individuals are at significantly higher risk for HIV. The study goes further by examining individuals who have remarried. The results show that remarried individuals form a large portion of the population - usually larger than the divorced, separated, or widowed - and that they also have higher than average HIV prevalence. This large number of high-risk remarried individuals is an important source of vulnerability and further infection that needs to be acknowledged and taken into account in prevention strategies.

de Walque, D. and R. Kline (2009). **Comparing condom use with different types of partners : evidence from national HIV surveys in Africa.** Washington, DC, World Bank, Policy Research Working Paper. [5130](#)

Based on nationally representative samples from 13 Sub-Saharan African countries, this paper reinforces and expands previous findings that condom use in general is low in this region, men report using condoms more frequently than women, and unmarried individuals report they use condoms more frequently than married individuals with their spouse. Based on descriptive, bivariate, and multivariate analyses, the authors also demonstrate to a degree not previously shown in the current literature that married men from most countries report using condoms with extramarital partners about as frequently as unmarried men. However, married women from most countries included use condoms with extramarital partners less frequently than unmarried women. This result is especially troubling because marriage usually ensures regular sexual intercourse, providing more opportunities to pass HIV from extramarital partner to spouse than an unmarried person who may also have multiple partners but not as regular sexual intercourse.

de Walque, D. (2008). "**Do unsafe tetanus toxoid injections play a significant role in the transmission of HIV/AIDS? Evidence from seven African countries.**" Sex Transm Infect **84**(2): 122-5.

OBJECTIVES: Although sexual transmission is generally considered to be the main factor driving the HIV/AIDS epidemic in Africa, recent studies have claimed that iatrogenic transmission should be considered as an important source of HIV infection. In particular, receipt of tetanus toxoid injections during pregnancy has been reported to be associated with HIV infection in Kenya. The

objective of this paper is to assess the robustness of this association among women in nationally representative HIV surveys in seven African countries. METHODS: The association between prophylactic tetanus toxoid injections during pregnancy and HIV infection was analysed, using individual-level data from women who gave birth in the past five years. These data are from the nationally representative Demographic and Health Surveys, which included HIV testing in seven African countries: Burkina Faso 2003 (N = 2424), Cameroon 2004 (N = 2600), Ethiopia 2005 (N = 2886), Ghana 2003 (N = 2560), Kenya 2003 (N = 1617), Lesotho 2004 (N = 1278) and Senegal 2005 (N = 2126). RESULTS: Once the odds ratios (OR) were adjusted for five-year age groups and for ethnic, urban and regional indicators, the association between prophylactic tetanus toxoid injections during pregnancy and HIV infection was never statistically significant in any of the seven countries. Only in Cameroon was there an association between previous tetanus toxoid injection and HIV positivity but it became weaker (OR 1.53, 95% CI 0.91 to 2.57) once urban location and ethnic group were adjusted for. CONCLUSIONS: Although the risk of HIV infection through unsafe injections and healthcare should not be ignored and should be reduced, it does not seem that there is, at present and in the seven countries studied, strong evidence supporting the claim that unsafe tetanus toxoid injections are a major factor driving the HIV epidemic.

Medlin, C. and D. de Walque (2008). **Potential applications of conditional cash transfers for prevention of sexually transmitted infections and HIV in Sub-Saharan Africa.** Washington, DC, The World Bank, Policy Research Working Paper. [4673](#)

A growing number of developing countries have introduced conditional cash transfer programs that provide money to poor families with certain contingencies attached - such as requiring school attendance or regular immunization and health check-ups. As the popularity of conditional cash transfer programs has grown, experimentation with potential applications in other areas of health, such as sexual and reproductive health, and HIV prevention, in particular, has also increased. Evaluations of conditional cash transfer programs have focused almost exclusively on uptake of health and educational services, which make relatively low demands of participants compared with more complex interventions, which require the cessation of risky behaviors, such as smoking, obesity, and substance abuse. The literature on contingency management - based on the principle that behavioral change occurs when appropriate behaviors are reinforced and rewarded - provides a richer picture of the complexity of the use of conditionality to encourage healthy behavioral change. This paper examines developing countries' experiences with conditional cash transfer programs and the results of trials in clinical settings on the efficacy of contingency management, and addresses their relevance for designing conditional cash transfer programs to address risky sexual behavior and promote the prevention of sexually transmitted infections and HIV in Sub-Saharan Africa.

Thirumurthy, H., J. G. Zivin, et al. (2008). "**The economic impact of AIDS treatment - Labor supply in Western Kenya.**" *Journal of Human Resources* **43**(3): 511-552.

Using longitudinal survey data collected in collaboration with a treatment program, this paper estimates the economic impacts of antiretroviral treatment. The responses in two outcomes are studied: (1) labor supply of treated adult AIDS patients; and (2) labor supply of individuals in patients' households. Within six months after treatment initiation, there is a 20 percent increase in the likelihood of the patient participating in the labor force and a 35 percent increase in weekly hours worked. Young boys in treated patients' households work significantly less after treatment initiation, while girls and adult household members do not change their labor supply.

