Zoë McLaren
University of Michigan
zmclaren@umich.edu
PAA 2010 Abstract Submission

The links between health status, labor market outcomes and economic development have long been of interest to economists. The economic impact of HIV/AIDS in sub-Saharan Africa is of particular interest because AIDS is chronic, severely incapacitating in later stages and eventually fatal. It strikes individuals in their prime productive and child rearing years and therefore has the potential to affect future generations. The advent of the AIDS epidemic presents both a pressing need for an understanding of how the disease affects economic outcomes and an additional set of challenges to obtaining an unbiased estimate of this impact. Because health status, like schooling, is a form of human capital, characteristics that lead individuals to self-select into being HIV positive may also influence their productivity and hence their labor market outcomes.

Antiretroviral (ARV) drug treatment for AIDS offers promise as an effective policy intervention to improve the lives of the nearly 6 million South Africans who are HIV positive. In July 2004, South Africa began providing ARV treatment in fifty-three public health clinics and by August 2008 was treating almost 500,000 patients in 429 clinics across the country. The pace of the roll-out of ARV treatment was determined by a centralized accreditation process, which introduces a source of exogenous variation that I exploit to estimate the impact of AIDS-related health status on employment outcomes.

The medical literature has documented strong evidence that ARVs dramatically improve the health of HIV+ individuals in both developed and developing countries. One would expect that the resulting increase in productivity would lead to an increase in labor force participation, job search activity, employment and wage income. Changes in health status of one HIV-positive member of a household could influence labor market decisions of other household members as well, regardless of their HIV status. This could occur if women or young adults, for example, are released from caretaking responsibilities and able to pursue employment outside of the home. We would expect to see larger impacts on labor force participation than employment because of the lag involved in obtaining employment.

ARV treatment has been found to be associated with increases in labor force participation and productivity. Thirumurthy et al. (2008) observe increases of 8.5 percentage points in labor force participation and 4.6 in weekly hours worked for individuals initiated on ARV treatment in Kenya, with the largest increases observed within the first six months of ARV treatment. They find that men are more likely to exhibit significant changes in hours worked whereas women are more likely to change their labor supply. Habyarimana et al. (2007) show that workers initiated on ARV therapy experience a large reduction in absenteeism in the 6-12 months following treatment inception, and these gains persist for at least four years. Larson et al. (2008) conservatively estimate that one year after initiating ARV therapy, tea pluckers in Kenya work twice as many days a month than they would in the absence of treatment. Each of these studies found signicantly better economic outcomes for individuals who were on an ARV treatment regimen.

To examine this question, I combine seven waves of Labour Force Survey (LFS) data with newly-available data from all public ARV treatment sites that opened between 2004 and 2007. The LFS collects detailed information about the labor market situation of individuals aged 15-65 years, and basic information about children and seniors, in a nationally-representative sample of approximately 30,000 households. The questionnaire includes questions about demographic characteristics; biographical information; activities related to work; unemployment and non-economic activities; agricultural activities and uncompensated activities.[1] The clinic data were collected by the South African Department of Health from all government-sponsored ARV clinics and contain monthly patient enrollment figures. I use geographic coordinates of LFS communities and ARV clinics to calculate the distance from a community to the nearest clinic and create distance-weighted measures of treatment intensity.

I examine the impact of treatment proximity (distance to nearest clinic) and treatment intensity (number of enrolled patients within a 30 mile radius) on the likelihood of being a labor force participant and the likelihood of being employed (in the formal or informal sector). I perform fixed effects estimation at the community level controlling for district time trends and

[1]More information is available at http://www.statssa.gov.za.

the following individual characteristics: age, age squared, years of primary education, years of secondary education, completed a matric (equivalent of high school), have some post-matric education, never held a job before, ever been married, spouse lives in household, number of adults in the household and number of children (aged 14 and under) in the household.

This is the first evaluation of the rollout of ARV treatment in South Africa. While this study is much larger in scope than previous studies noted above, the fact that I am looking for an impact among the general population, and not just an HIV+ or AIDS-afflicted population biases against finding a significant impact. HIV prevalence is 17 percent among Black Africans and considerably lower among other racial groups, however, it is not possible to determine HIV status of any individuals in the sample. Any change in desired employment may be stifled by South Africa's high and stagnant unemployment rate or high job search costs. Preliminary results suggest that individuals who live closer to ARV clinics and who have more enrolled patients nearby are more likely to be labor force participants. There are no discernible effects on employment.

References

Habyarimana, James, Bekezela Mbakile and Cristian Pop-Eleches. "HIV/AIDS, ARV Treatment and Worker Absenteeism: Evidence from a Large African Firm." Georgetown University: Mimeo, April 2007.

Larson, Bruce, et al. "Early effects of antiretroviral therapy on work performance: preliminary results from a cohort study of Kenyan agricultural workers." AIDS 22(3). 2008.

Thirumurthy, Harsha, Joshua Graff Zivin and Markus Goldstein. "The Economic Impact of AIDS Treatment: Labor Supply in Western Kenya." Journal of Human Resources, 2008, 43:511-552.