COST EFFECTIVENESS AND SURVIVAL ANALYSIS
OF HIV AND AIDS TREATMENT IN KENYA

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ABSTRACT

HIV and AIDS is a major cause of premature death and imposes a large disease burden in Kenya. An estimated 1.5 million people are infected with human immune-deficiency virus (HIV), while 1.5 million have died since the HIV virus was first detected in Kenya in 1984. Economic studies on the cost and health effects of ART/HAART are very scarce in developing countries, Kenya included. There is also limited understanding of the life time cost and benefits associated with HIV and AIDS treatment, and about survival rate conditional on treatment. Also equally poorly understood are impacts of socioeconomic factors on survival of HIV positive patients and on treatment follow-up.

The aim of this thesis is to enhance understanding of the interaction between patient treatment outcomes and economic dynamics given the existing HIV and AIDS trends in Kenya. To achieve its aim, the study collected data from two hospitals in Kenya – Mbagathi Hospital in Nairobi and Moi National Referral Hospital in Eldoret. A micro-costing method was used to cost all the treatment inputs, including laboratory services, human resources for health, prescriptive drugs and ARVs. Using Markov modelling methods the study carried out cost-effectiveness analysis involving a static and dynamic comparison of HIV and AIDS treatments in the two hospitals and estimated the lifetime costs and benefits of ARTs and Non-ARTs. The thesis also employed survival analysis to estimate the survival rate of the patients on treatment follow up from the two different treatment sites controlling for potential confounders.

The study found that ART treatment is the most cost effective treatment method. It also shows that those patients using ARVs and are on treatment follow up in AMPATH (Moi Hospital) treatment site survived for a significantly longer duration of time compared to the patients who were on follow up in Mbagathi Hospital. In addition, the study found that the patients who were on ARVs and were employed at the time of treatment debut had a lower risk of dying compared to the patients who were on ARVs and were unemployed at the time of enrolment for treatment. The study confirmed that ARVs is beneficial and increasingly beneficial the lower the CD4 count values. The study found that condom use not only prevents new HIV infection, but also reduces the mortality risk for the patients on treatment follow up. Finally, in terms of gender, the study found that men who were on treatment follow up had a higher risk of dying than the women.

The study findings support the policy of universal access to treatment for AIDS patients that the government is currently implementing. However, for this policy to achieve the desired results the government not only needs to increase employment but also to ensure that
employees are not retrenched based on their HIV positive status. The study concludes that ART treatment is a highly cost-effective intervention.