



**LEARNING GROUP 1: STRENGTHENING FAMILIES**

CHILD, YOUTH, FAMILY AND  
 SOCIAL DEVELOPMENT

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*“In order to increase access, studies of the effects of ART need to go beyond individual morbidity and mortality, to demonstrate benefits at the aggregate level.”*

**A REVIEW OF THE SOCIOECONOMIC  
 IMPACT OF ANTIRETROVIRAL THERAPY ON  
 FAMILY WELLBEING**

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**INTRODUCTION**

People living with AIDS generally experience reduced productivity, which makes their families increasingly vulnerable to poverty. Anti-retroviral therapy (ART) reduces the impact of AIDS on productivity by preventing opportunistic infections, promoting wellbeing and increasing life expectancy. Due to the production of generic medication and increased international solidarity, ART is increasingly available in the developing world. However, there still remains a great deal of room for improvement in access, and the limited availability of paediatric ART is of particular concern.

A large body of work exists on the harmful effects of HIV/AIDS for societies and economies, as well as for individuals. However, while studies demonstrating the health benefits of ART at the individual level are growing rapidly, there remains very little work on its potential social and economic benefits. This paper synthesizes contemporary findings on the social and economic implications of ART, particularly for family wellbeing, by examining the impact of ART on the quality of life of adults, and summarizing both incentives and constraints around ART adherence. While the paper finds substantial positive effects of ART for family wellbeing, a great deal of work is still needed. In particular, there is an urgent need to implement microeconomic research on the implications of ART for developing countries, along with long-term research on the social and economic impact of ART.

**METHODS**

The paper is a systematic review of research on the impact of ART on family wellbeing. Papers included in the review are either primary research evaluating the social and economic impacts of ART, or studies that model the impact of ART on family wellbeing using valid epidemiological data. In addition, papers examining the determinants of ART adherence, and documentation around ART policies and effectiveness were also included. The paper consists of 6 sections: 1. Introduction; 2. Methodology; 3. Determinants of ART adherence; 4. Effects of ART on mental health; 5. Analysis of socio-economic returns to ART; and 6. Recommendations and policy implications.

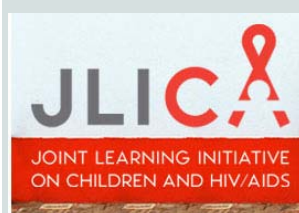
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*“Many evaluations of the costs of HIV/AIDS neglect deferred indirect costs, for example in the accumulation and transmission of physical and human capital.”*

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## KEY FINDINGS

### Economic costs of HIV/AIDS

HIV/AIDS is associated with numerous economic costs. These are both direct and indirect, and operate over both the short and long term. The major effects of HIV/AIDS at the macroeconomic level are felt in two ways: over the short term, as more people fall ill, the ratio of productive workers to the total population falls, decreasing economic production; and, over the long term, through the decreasing quality of the work provided by the representative worker (otherwise known as the human capital effect).

### Breakdown of the costs of HIV/AIDS

One report argues that the costs of HIV/AIDS play out differently depending on a country's level of development. High income countries are the least affected overall, and are able to deal with costs immediately. By contrast, the poorest countries are those which encounter the highest indirect and deferred costs.

Type of Country	Low Income	Low to Middle Income	High Income
(1) Direct Costs	+	++	++
(2) Indirect Costs	+++	++	+
(3) Deferred Costs	+++	++	+
(4) Prevention	+	++	+++

(+ weak; ++ high; +++ very high)

### Determinants of ART adherence

ART Adherence is defined as taking all medications at the correct times, in the appropriate quantities and in line with additional instructions regarding food or drug interactions. Poor adherence can result in treatment failure, poor suppression of HIV viral load, a slower rise in CD4 count, and the emergence of drug resistant HIV strains. Adherence is shaped by structural, social and individual factors. Key structural determinants of adherence include access to high quality health services; decentralized, community-level information about treatment; and the quality of efforts to avoid or counter side-effects and treatment fatigue. Social determinants of adherence include an environment free of stigma and discrimination, and the availability of social support. At the individual level, ART adherence generally increases with age (with the exception of young children, among whom adherence is very high), education level, and ability to meet treatment-related costs, including transportation, food and monitoring tests.

Several studies have been conducted on determinants of ART adherence in the developing world. Nakiyemba et al (2006) and Hardon et al (2006) assess sociological factors explaining the adherence to ARVs in Tanzania, Uganda and Botswana. Goldstein, Johnson and Scheepers (2006) conducted a two-step evaluation of the impact of health literacy and media campaigns on adherence to ARVs in South Africa. Adedimeji and Odutolu (2005) explore the impact of HAART on the quality of life of people living with HIV/AIDS in southwest Nigeria. Reference details for these and other relevant papers can be found in the Kimou paper on the JLICA website.

## KEY FINDINGS

### Socio-economic benefits of ARV treatment

- **Individual propensity to work**

ART improves CD4 cell counts, leading to improved health and, by extension, improved ability to work. For example, after 6 months of ART, AIDS patients in Kenya were able to spend 35% more time working each week. Women were particularly likely to increase their labour force participation in response to treatment. Cost-effectiveness analyses demonstrate that enhanced individual earning capacity significantly exceeds the costs of ART.

- **Child wellbeing**

As parental health improves with ART, the need for child labour decreases, as does the burden of care in the family. ART therefore results in a substantially higher probability of the children of HIV-infected parents attending school. In addition, due to reduced spending on opportunistic infections, combined with increased income due to parental ability to work, child nutrition generally improves when parents receive ART. When the long-term benefits of improved child health and education are included in cost-effectiveness analyses, the economic benefits of treatment become even more clear.

- **Mental health**

During the advanced stages of AIDS, the disease may affect the central nervous system and memory, resulting in cognitive disturbances termed AIDS Dementia Complex (ADC). While ADC can hamper individuals' ability to adhere to ART, three clinical studies have demonstrated that ART not only prevents the onset of ADC, but can also remedy some of the cognitive disturbances associated with ADC.

- **Macroeconomic benefits**

In industrialized countries, the considerable socio-economic benefits of ART have long been evident. In developing countries, due to the far later availability of ART, evidence regarding these benefits is only gradually becoming available. Brazil was the first developing country to institute a national ART programme in 1997. Substantial reductions in death rates, as well as in hospitalization, were reported, which transformed into substantial, and ongoing, economic savings, as well as improved quality of life for AIDS patients in Brazil. Cote d'Ivoire was also the site of an early developing country ART initiative, although here the initiative was limited to the private sector. Huge savings accrued through decreased worker absenteeism, increased productivity, and reduced health care costs. ART availability in the developing world benefits national health systems, both by extensively decreasing the number of AIDS-related hospitalizations, and by improving the motivation, skill and competence of health sector workers. ART also improves human capital generation by increasing school attendance, and ensuring the availability of healthy teachers.

- **Limited data**

Data on the socio-economic implications of ART in developing countries, at both the national and individual levels, is still extremely limited. Major gaps include details on the socio-economic characteristics of the people accessing treatment in various contexts, details on the provision of paediatric treatment and its implications, and data on the long-term implications of treatment availability.

*“Intra-household time allocation is strongly influenced by the use of ARVs ... after 100 days of ARV treatment, the child labour participation rate decreases significantly”*

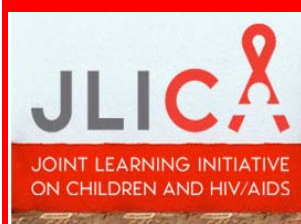
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JOINT LEARNING INITIATIVE  
ON CHILDREN AND HIV/AIDS

*“The cost of insufficient public support for ART for vulnerable individuals could be devastating for economic and social development.”*

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## RECOMMENDATIONS

- **Reduce costs of ART**

Further cost reductions for ARVs and patient monitoring will play the greatest role in increasing access. The costs of biological monitoring tests, in particular PCR-viral load testing and CD4 count testing, must be reduced, and systems and infrastructures for identifying and treating defaulters must be improved. Support is also needed to reduce the opportunity costs of treatment, including transport.

- **International solidarity**

Given the demonstrated benefits of ART, international donors must continue to increase funding for medications and other costs associated with treatment.

- **Encouraging take-up and adherence**

The benefits of ART must be publicized to encourage eligible people to take up and adhere to treatment.

- **Strengthen government interventions**

Governments need to strengthen ART initiatives by making ARVs available free of charge. In addition, efforts to subsidize indirect costs of treatment should be made. These costs include treatment-related transport, improved nutrition, and biological monitoring tests. Although costly, such policies will protect economic and social development, and the wellbeing of families, and may result in significant economic savings over the longer term. In addition, HIV awareness and prevention campaigns should be intensified, the numbers and distribution of voluntary testing centres should be increased, and efforts to prevent AIDS-related stigma and discrimination should be strengthened.

- **Strengthen families affected by HIV**

Greater availability of ARVs will strengthen families affected by HIV. There is a particularly urgent need for improved availability of paediatric ARV treatment. ARV availability must, however, be supplemented by other measures supportive of affected families. For example, home-based care programmes must be strengthened, social support must be provided at community and family levels, standards and policies around care and treatment for people living with HIV/AIDS must be developed and publicized, and the capacity of poor families to cope with HIV/AIDS must be strengthened through the implementation of cash transfers and financing of income-generating activities.

- **Expand and improve research**

Research on the implications of ART access remains limited, particularly in the developing world. Without further research to document the socio-economic benefits of widespread ART availability, it is difficult to motivate strongly for the further expansion of treatment. Research into the characteristics of people currently able to access ART is urgent, as is research on long-term outcomes of ART programmes. Knowledge of the long-term socioeconomic outcomes of paediatric treatment is particularly limited, and research in this area should be prioritized. The determinants of ARV demand and treatment access in developing countries are also not well understood, and require further attention.