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*HEU Policy Briefs present summarised research findings and key policy recommendations on important health care policy issues in Sub-Saharan Africa.*

# Direct costs of HIV health care

## What drives costs during the early and late phases of ART in South Africa?

### Introduction

Access to combination antiretroviral therapy (ART) is rapidly expanding in resource-limited settings. The South African government aims to expand access to ART as documented in the HIV & AIDS and STI National Strategic Plan through the provision of "equitable access" to ART for all in need.

This has also been demonstrated by the President's announcement in December 2009 that the criteria for initiating ART in the South African public sector would be increased from 200 cells/ $\mu$ l to 350 cells/ $\mu$ l which means that more HIV-infected people will be able to get treatment.

However, this has to occur in the context of a highly inequitable health care system where a resource-constrained public health care system is tasked with achieving the commitment to providing ART (Cleary & McIntyre, 2009).

For those who have to plan and budget resources, it is important to find out as much as possible about the costs of providing HIV health care and how these change over time. However, few studies have investigated these costs, particularly those incurred before an individual starts taking ART.

### Research objective

The research describes the direct health care costs in a South African private-sector HIV/AIDS programme and examines the drivers of the costs of HIV health care around the time of ART initiation and during later phases of ART.

### Methods

The researchers analysed the direct costs of treating more than 100,000 HIV-infected adults enrolled in a private HIV care programme in South Africa from 3 years before they started ART until up to 5 years after ART initiation. Within this programme, individuals began to receive ART when their CD4 cell count fell below 350 cells/ml.

The ART initiation criteria used in the private sector study setting is thus the same as the recently adjusted criterion in the public sector.

### Findings

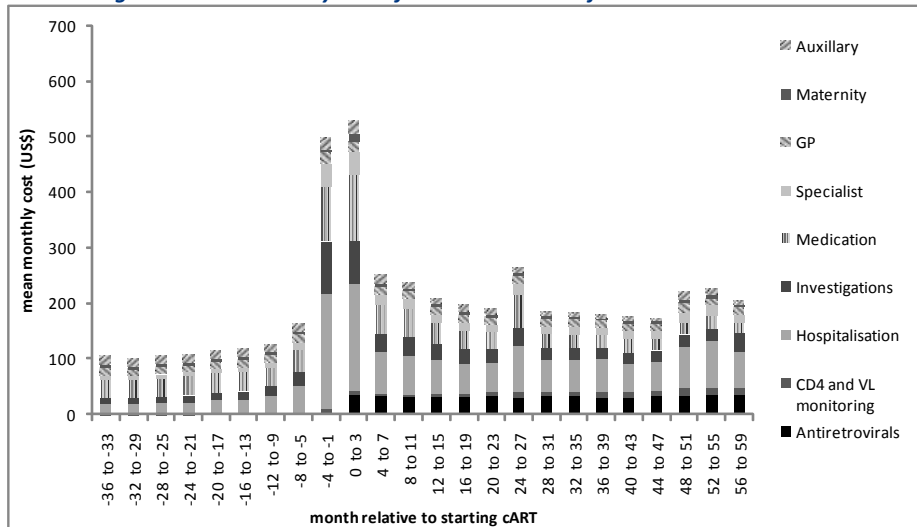
The findings of the study were as follows:

- ◆ The researchers found a peak in direct health costs from 4 months before to 4 months after starting ART, which was driven mainly by hospital costs. The key factors associated with higher costs were a low baseline CD4 cell count, a high baseline HIV viral load, and a shorter time in HIV care before ART initiation. Being in HIV care for more than 6 months prior to starting ART reduced monthly costs.



Monitoring ART adherence could reduce later costs  
Photo courtesy of Roger Sears

### Mean categorised total monthly costs from 36 months before to 60 months on ART



### Applicable findings?

While the authors would not claim that actual cost findings from the private sector settings are generalisable to public sector settings, it is likely that the variables that drive early and late costs will be similar even if the magnitude of the effect could differ. In addition, the private sector patients share many characteristics (proportion of females, age, etc.) with patients treated in the public sector.

- ◆ After this period, costs dropped (although not to the levels seen before this period) and stabilised at an intermediate level for the following 5 years.
- ◆ The key driver of higher costs in the later time periods was lower adherence to the drug therapy. That is, costs were higher among patients who did not take their antiretroviral drugs regularly. Higher adherence prolongs time on the cheaper first line regimen, but also reduces non-ART direct costs.

### Policy implications

Findings that indicate what is driving costs during the early and late phases of ART have implications for policy concerned with finding ways of reducing costs, outlined below.

#### To reduce early costs of ART:

- ◆ Start ART at higher CD4 cell counts.
  - Results suggest that starting ART once the patient is severely immune compromised (e.g. at CD4<50 cells/ $\mu$ l) is bad for the patient and bad for the budget.
  - Recent policy announcements to start ART at 350 cells/ $\mu$ l rather than 200 cells/ $\mu$ l implies that more patients in South Africa will get treatment, and there could be a reduction in the early costs of ART programmes. However, starting ART earlier is likely to lead to overall cost increases in the long run as patients could live for longer.
- ◆ Identify HIV infection at an earlier stage.

#### To reduce later costs of ART:

- ◆ Invest in systems to monitor ART adherence and implement effective interventions if patients do not take their drugs regularly.

#### Selected references

Cleary, S. M. and D. McIntyre (2009). "Affordability - the forgotten criterion in health care priority setting." *Health Economics* 18(4): 373-375.