## What is happening with pre-ART care in sub-Saharan Africa? Sydney Rosen

The remarkable expansion of access to antiretroviral therapy (ART) for HIV/AIDS in resource-constrained countries has given nearly four million HIV-positive adults in sub-Saharan Africa the opportunity to achieve what for many may be nearly normal life expectancies [1]. Others, however, do not make it past their first year on treatment. A major cause of the high rates of death and loss to follow up seen in most countries is late presentation for treatment [2]. Median starting CD4 counts have increased only modestly in the years since treatment became available [3,4], and most programs still report medians well below even the very low threshold of 200 cells/mm<sup>3</sup> [5].

Earlier initiation of ART requires earlier diagnosis and regular monitoring until treatment eligibility. Poor pre-ART retention in care, or the failure to link patients from HIV testing to HIV care and retain them until they are eligible for ART, is a problem that has only recently begun to be recognized in the research literature. Without effective retention in pre-ART care, beginning with HIV testing and continuing until the first antiretrovirals (ARVs) are dispensed, even patients who have long been aware of their HIV status will access care only when seriously ill, which is often well after treatment eligibility.

Only a handful of quantitative studies reporting on rates of pre-ART linkage and loss in sub-Saharan Africa have been published, and many of these are limited in the time periods and outcomes they consider. A systematic review of the literature on patient retention between HIV testing and ART initiation in sub-Saharan Africa conducted in early 2011 [6] identified 24 papers and abstracts with quantitative data. As a way to synthesize this information, the pre-ART care period was divided into three stages, as illustrated in the figure below. Stage 1 lasts from a positive HIV test to receiving the results of an initial CD4 count (or clinical staging) and being referred to either pre-ART care or ART. Stage 2 is pre-ART care, spanning the period from enrollment in pre-ART until ART eligibility. Finally, Stage 3 lasts from ART eligibility to receipt of the first doses of ARVs. Patients can be lost (die, discontinue, or be lost to follow up) in any stage, as shown in the figure.

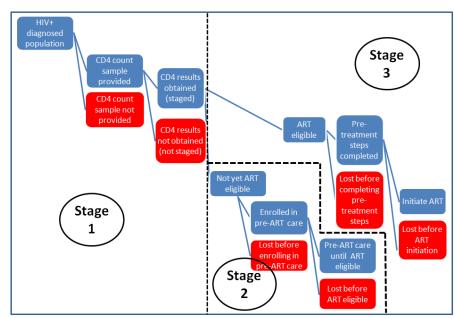


Figure: Stages of pre-ART care

The literature review found that the median rates of retention (stage completion) for patients in sub-Saharan Africa were 52% in Stage 1, 46% in Stage 2, and 66% in Stage 3. Even with some optimistic assumptions about unreported losses, the review concluded that fewer than a third of all patients who test positive for HIV in this region and who are not yet eligible for ART remain continuously in pre-ART care until they reach eligibility. Pre-ART care, as it is currently structured, is thus failing to promote early initiation of treatment, and may be producing few benefits for the resources invested in it.

There appear to be several main reasons for the poor showing of pre-ART care. Most patients during this stage are asymptomatic and may not perceive themselves to require medical care. Since little therapeutic care is offered during the pre-ART period, patients must take on faith that making the effort to come to the clinic for monitoring is worth the costs of doing so. Current approaches to providing care often require multiple clinic visits, for example to first provide a blood sample for a CD4 count and then return a week later to receive the results. Choosing to "wait and see what happens" may well be a preferred strategy for patients who lack resources for transport, risk losing employment by taking time off work, or fear being recognized as a client of an HIV clinic. Other patients who present for care very late die before treatment can be initiated.

A number of interventions are being tried to improve retention in pre-ART care, though very few have been rigorously evaluated. Most interventions aim either to reduce the costs that patients perceive in seeking pre-ART care or increasing the perceived benefits of care. Interventions to reduce costs are more common and focus on structural changes in the delivery of care (fewer visits, more convenient locations, shorter waiting times, etc.). Interventions to increase benefits may offer more services at each visit (e.g. provision of cotrimoxazole or food parcels). There is little evidence so far as to whether these interventions will be effective, and no studies of cost-effectiveness were found.

The review identified two major obstacles to conducting quantitative research on pre-ART care. First, the terminology, definitions, time intervals, and outcomes used to describe and evaluate the pre-ART period are diverse and often poorly explained. Reaching a consensus on standard approaches and definitions would greatly improve the quality of current research. Second, there is an urgent need for health information systems that allow patients to be tracked between service delivery points. The review did not find a single study that was able to follow a cohort of HIV-positive adults all the way from testing to treatment initiation if they were not already eligible for ART when diagnosed. Researchers and program manager must implement effective patient tracking systems that will generate accurate information on the pre-ART period. Even doing this on a relatively small scale will be challenging, but it is vital for promoting early treatment initiation and improving resource allocation decisions.

## References

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