

HOW THE RAPID SCALE-UP OF HIV TREATMENT HAS AFFECTED PATIENT ATTRITION RATES: SEVEN-YEAR TRENDS IN 12 RESOURCE-LIMITED COUNTRIES

CÔTE D'IVOIRE, ETHIOPIA, GUYANA, HAITI, KENYA, MOZAMBIQUE, NIGERIA, RWANDA, SOUTH AFRICA, TANZANIA, UGANDA, ZAMBIA

Background and Rationale

In 2004, the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) launched its flagship Track 1.0 Program to rapidly scale up HIV care and treatment services in 13 countries. By 2011—its final year—the program had supported 1.4 million people living with HIV to initiate antiretroviral therapy (ART). A key question raised during this dramatic scale-up was whether the quality of such programs could be sustained as health systems worked to meet the tremendous demand for HIV treatment. Early evidence from South Africa indicated that attrition among patients on ART [those no longer on ART at the clinic where they started treatment] had increased in the early phase of HIV programmatic expansion; however, more comprehensive, cross-country studies were needed to examine broader temporal trends in attrition.

Box: Researchers examined data from the following 12 countries:

- Côte d'Ivoire
- Ethiopia
- Guyana
- Haiti
- Kenya
- Mozambique
- Nigeria
- Rwanda
- South Africa
- Tanzania
- Uganda
- Zambia



Study Overview

ICAP, with support from the Centers for Disease Control and Prevention (CDC), used aggregate, clinic-level data to explore the association between rapid scale-up of ART services and trends in six- and 12-month cohort attrition between the years of 2005 and 2011.¹ Drawing on routinely collected data on 926,344 patients initiating ART in 12,428 successive cohorts at 962 clinics across 12 countries (see box), this study represents the most comprehensive assessment of attrition among ART patients to date. The nearly seven years of observation enabled the examination of trends in attrition over virtually the entire duration of the Track 1.0 Program—and across a wide variety of clinic types, sizes, and approaches to patient care—as national programs and patient populations changed considerably.

Key Findings

Results indicate that, from 2005 to 2011, the Track 1.0 Program experienced a 10-fold increase in the number of supported clinics, and a five-fold increase in the number of patients initiating ART. This was combined with an increase in the decentralization of services towards smaller, primary health facilities and away from urban centers; an increase in median CD4+ cell count at ART initiation; and a decrease in the documentation of CD4+ cell count at ART initiation.

In assessing attrition, the study found that:

- Overall attrition six months after ART initiation was **21 percent** (ranging from 10-29 percent across countries) and, 12 months after ART initiation, was **28 percent** (ranging from 13-38 percent across countries).
- Combining data from all 12 countries, there was a **two percent** increase in six- and 12-month attrition per quarter among cohorts of patients initiating ART after Track 1.0 was initiated in each country, and a **two percent** increase in six- and 12-month attrition per quarter as clinics aged.² In the majority of the 12 countries, however, six- and 12-month attrition **remained stable or decreased over time** after Track 1.0 was initiated in each country and as clinics aged.

1 Cohort attrition was defined as the proportion of patients in each cohort who were no longer on ART at the clinic where they had initiated it. Patients considered no longer on ART included those who died, were lost to follow-up, or remained in care but stopped ART for any reason.

2 “Clinic age” was defined as the number of quarters that a given clinic had been providing ART services.

- Several clinic-level factors were associated with an **increased risk of attrition** at six and 12 months after ART initiation, including:
 - Less complete documentation of CD4+ cell count at ART initiation (an indicator for poor quality care)
 - Lower median cohort CD4+ cell count at ART initiation (likely reflecting higher death rates in patients with advanced HIV disease)
 - Public secondary and tertiary clinics (versus public primary clinics)
 - Clinics with fewer ART patients
- The following types of clinics were associated with a **decreased risk of attrition**:
 - Faith-based and other privately owned clinics (versus public primary clinics)
 - Clinics where fewer patients were known to have transferred to another clinic
 - Clinics where pediatric patients accounted for a smaller fraction of patients initiating ART

Implications

The stable or decreasing trends in attrition found in the majority of the study countries are encouraging, suggesting that expanded access to HIV treatment need not translate into increased attrition. The study found that increasing patient load and expanding services to lower-level and rural health facilities were not necessarily associated with an increase in attrition, which is reassuring in the context of continued global efforts to increase ART access and coverage. Notably, the overall six- and 12-month attrition rates found are consistent with those found in resource-rich settings.³

It should be noted that, as attrition is a composite measure that includes patients who died, were lost to follow-up, and stopped ART for any reason, further analyses of large datasets that include both patient- and clinic-level characteristics are needed to further understand the reasons for patient attrition and identify strategies to overcome these challenges.

3 Gardner EM, McLees MP, Steiner JF, Del Rio C, Burman WJ. The spectrum of engagement in HIV care and its relevance to test-and-treat strategies for prevention of HIV infection. *Clin Infect Dis*. 2011;52(6):793-800.