



# Socio Economic Empowerment Loans Enhance Retention in Care among HIV Positive Persons Receiving Antiretroviral Therapy in Uganda

Dr Kate Ssamula MBChB, MPH, PGDHEP  
AIDS Healthcare Foundation, Africa Bureau

**Adherence 2018 • June 8-10 • Miami**



# Introduction

- The vast majority of the world's 37 million HIV infected patients including the over 21 million on ART already reside in resource-limited setting
- For patients who have started ART, failures of retention are often equivalent to medication cessation.
- The need to ensure that HIV-infected patients are retained in care is a pressing public health issue and one that affects multiple populations

Horstmann E, Brown J, Islam F, et al.: Retaining HIV-infected patients in care: Where are we? Where do we go from here? *Clin Infect Dis* 2010, 50:752–761.



# Background and rationale

## Retention in HIV care

- Retention in care is required for optimal clinical outcomes in patients with HIV infection
- A systematic review done in 2010 showed that in 39 cohorts with a total of 226,307 patients, the 24-month retention rate was 70.0% and 36-month estimate was 64.8%
- SNAP-E study in Swaziland, put retention in care at 72% after 48 months on ART
- Various factors affect retention, transport costs and poverty remaining key.

## Incentives and HIV care

- Behavioral economics offers a systematic way to think about incentivizing behavior
- Several studies have shown efficacy for improved adherence during the active phase of incentives, but more work is needed to understand the potential for durability beyond the period of incentives

1. Fox MP, Rosen S: Patient retention in antiretroviral therapy programs up to three years on treatment in sub-Saharan Africa, 2007–2009: systematic review. *Tropical Med Int Health* 2010, 15:1–16.
2. Sandile Buthelezi- Best practices in HIV treatment Cascade. South African HIV clinicians



# SEEP Program

- Socio-Economic Empowerment Program (SEEP)
  - Started in 2009
  - Focus to improve the economic livelihood status of clients on ART
- Inclusion criteria
  - 18 – 75 years of age
  - Clinically and Immunologically stable on ART
  - Registered in AHF supported clinic
  - An existing source of income in form of a commercial business
- Loan amounts range from \$15 to \$300 and paid over a 6 months period at an interest rate of 3% per month.
- Amount disbursed to date- **\$569,000**
- Eligible clients formed groups of about 6- 10 members and loans are received as a group but serviced individually













# Study Objectives

- **Primary Objective**
  - To assess difference in retention among SEEP and non-SEEP HIV positive clients



# Methods

- Retrospective cohort analysis
- Extracted routine HIV care data from OpenMRS at 8 health facilities which implemented SEEP program between 2011 - 2017
- Extracted SEEP financial data from a system called Loan Performer
- We defined Retention in Care as “patients alive and on ART at the same facility or those formally transferred out to another ART unit and thus assumed to be on therapy”



# Methods

## Statistical Analyses

- Propensity score matching
  - To account for probability of joining SEEP
  - Variables include (pre-ART variables e.g. age, gender, CD4 count, year of ART initiation, facility, and duration on ART)
- Cox proportional hazard model to establish the association of receiving a loan and retention in care
  - Adjusted for confounders e.g. age, gender, clinical stage and first CD4 count
  - Robust standard errors to account for within facility correlation

All analyses were performed in STATA

# Results

#ADHERENCE2018



Characteristics	ALL Clients (N = 61,047)	SEEP Clients (N = 1,278)
Females, n (%)	37,476 (61.4)	768 (63)
Median Age at ART, (IQR)	32 (26, 39)	56 (50, 63)
Median CD4 cells/uL at enrolment, (IQR)	321(158, 516)	293 (149, 490)
Weight in Kgs at enrollment	55 (49, 62)	56 (50, 63)
Year of enrollment into care		
<2004,	232 (0.4)	21 (1.7)
2004-2008	13,375 (21.9)	489 (40.1)
2009-2013	28,395(46.6)	608 (49.9)
2014-2017	18,949(31.1)	100 (8.2)
Average Loan amount received (US\$)		350
Average number of Loans received		2

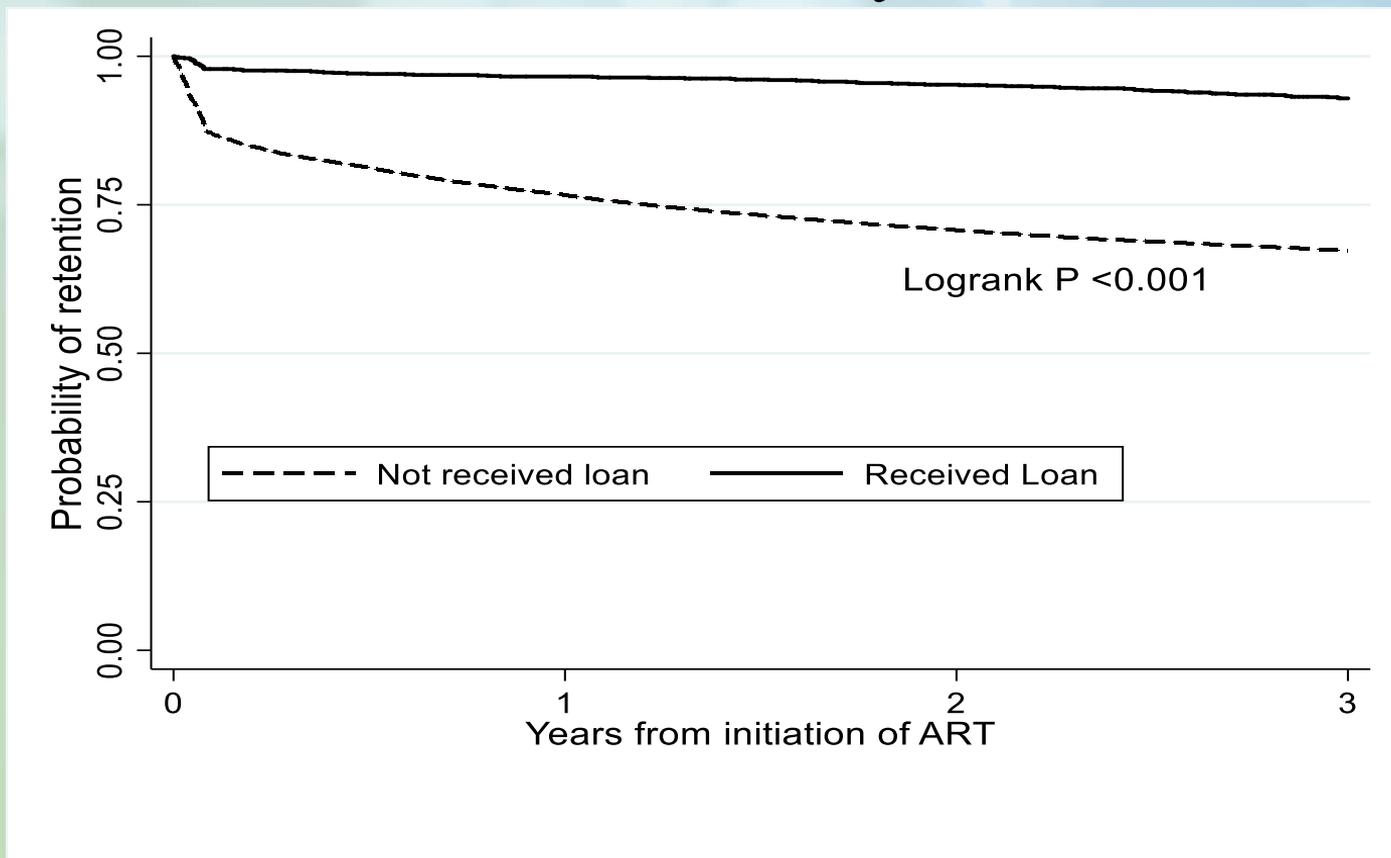


# Retention on ART by Loan status

Period	SEEP Clients	No SEEP Clients
6 months	97%	81%
12 months	96%	76%
18 months	96%	73%
24 months	95%	71%
36 months	93%	67%



# Survival Analysis



# Factors associated with retention

#ADHERENCE2018



Variable	Adjusted Hazard Ratio (95% CI)	No SEEP Clients
Age	1.10 (1.06 - 1.14)	<0.001
Gender	1.15 (1.08 - 1.22)	<0.001
CD4 at ART cells/ul		
< 350	Ref	
350 – 499	0.89 (0.75 - 1.04)	0.160
500+	1.22 (1.01 - 1.48)	0.041
Year of ART start		
< 2004	Ref	
2004 – 2008	2.59 (2.06 - 3.27)	<0.001
2009 – 2013	3.50 (2.96 - 4.12)	<0.001
2014 - 2017	0.78 (0.54 - 1.14)	0.209
Loan status		
Never received	Ref	
Received	0.73 (0.55 - 0.96)	0.024

AHF



# Strengths and Limitations

- Strengths
  - Few HIV facilities in RLS capable of providing loans
  - Limited publications of loans and effect of retention despite literature citing financial reasons as barriers to retention
  - Large sample size
- Limitations
  - Challenges of using routine HIV clinical data for research
  - Inherent bias (e.g. confounding by indication)
  - Used baseline variables at ART start for propensity score matching



# Conclusions

- The provision of financial loans among patients receiving antiretroviral therapy lowers risk of attrition.
- PLWHIV who often face challenges in adherence due to limited economic activities to sustain them in care, need to be provided with loans to ensure adherence to ART



# Acknowledgments

- James Kiiza Balya
- Agnes Kiragga
- Dr. Juan Gonzalez Perez,
- Dr. Jan van den Hombergh
- Jonathan Ikapule
- Julius Kiwanuka
- Henry Magala
- Dr. Penninah Iutung Amor
- Michael Weinstein



#ADHERENCE2018



# Questions?

AHF

AIDS HEALTHCARE  
FOUNDATION