

An Assessment of the role of patient satisfaction in early retention in HIV care among patients receiving antiretroviral therapy in outpatient treatment settings in Nigeria

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Background

- Patient satisfaction can be defined as the extent to which an individual's needs and wants are met by health care providers.
- Patient satisfaction is considered a key component in the assessment of quality of care and competency of health care providers.
- Studies have illustrated a strong correlation between patient satisfaction and health behavior and adherence.
- Antiretroviral therapy (ART) is the only modality of treatment available to prolong life and improve the quality of life of individuals living with HIV/AIDS.
- Efficacy of ART depends on lifelong use with high level of adherence.
- Retention in care plays an important role in achieving high-levels of ART adherence.

Objectives

To evaluate the impact of patient satisfaction with services on patient retention in HIV treatment settings.

Methods

Study Design

- Cross-sectional study.

Datasets

- ACTIONQual – IHVN routinely collected retrospective patient- and site-level data.

Study Sample

- The Institute for Human Virology-Nigeria (IHVN), a PEPFAR implementing partner, provides HIV Care and Treatment services to over 150,000 HIV-infected patients in over 200 treatment facilities through the AIDS Care and Treatment in Nigeria (ACTIONPlusUp) program (Figure 1).
- Data were collected from 37 comprehensive IHVN-supported sites that participated in ACTIONQual 2011. The final analytic sample consisted of 35 facilities.
- Sites were included if they provided comprehensive care and treatment services and had clients receiving treatment as at the beginning of the 1 year review period (January – December 2010). Patients were included if they were >15 years and enrolled into care prior to the review period.

Outcomes of Interest

- Retention: one or more clinic visits during the 1 year review period.

Main independent variable and other covariates

- Patient satisfaction was measured using a standardized patient satisfaction survey including 32 questions relating to waiting time, communication, referrals, and quality of care at the point of exit from the treatment center.
- The current analysis focused on the following measures:
 - The pharmacist explained the side-effects of my medication in a way I could understand (Yes/No/ Not sure/ Does not apply)
 - My doctor explained my lab test results (such as CD4 and viral load) to me (All the time/ Sometimes/ Never/ Does not apply)
 - My adherence counselors made sure I understood how to take my medication properly (All the time/ Sometimes/ Never/ Does not apply)
 - I was able to get the TB services that my provider referred me to (Yes/No/ Not sure)
 - Rating on the overall quality of care provided by the clinic compared to other clinics (Better, The same, Worse, Not sure)
- Other patient-level characteristics: age, gender, ART start year, CD4 cell count (cells/ml) and stage (WHO) at diagnosis at baseline, receipt of a basic care package and prevention education during the review period (education related to sexual or medical transmission in an individual or group).

Analysis

- Descriptive statistics were constructed to examine the characteristics of patients diagnosed with incident PCa. Chi-square tests were used for bivariate comparisons of retention and patient characteristics.
- Cluster-specific logistic regression models were used to examine the relationship between indicators of patient satisfaction and retention considering facility-level random effects.
- Variance partition coefficients (VPC) were calculated to measure the variance in the outcome that was due to facility-level effects.

Results

Figure 1. IHVN supported sites in Nigeria

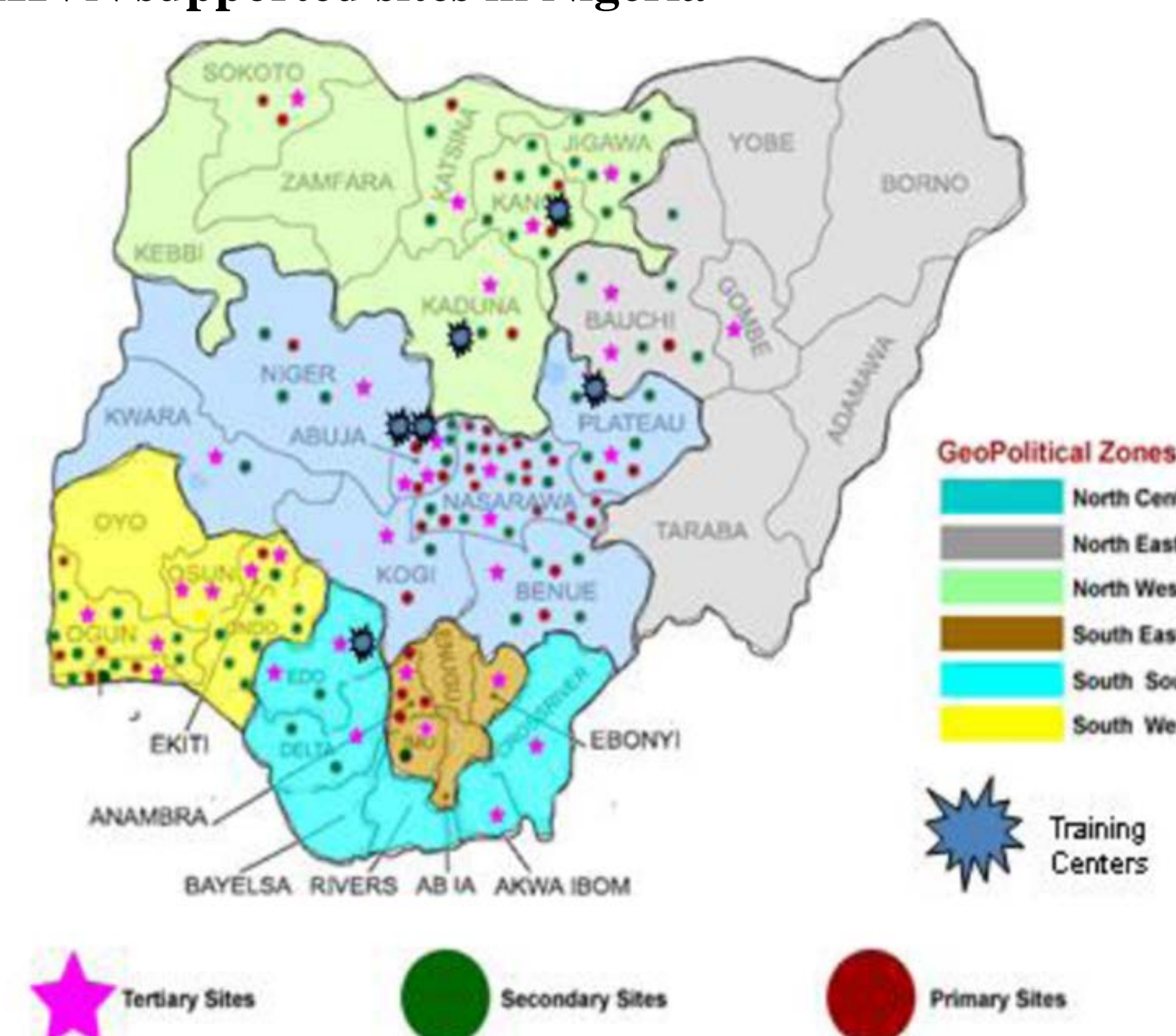


Table 2. Selected characteristics^a of patient satisfaction among 35 facilities

Variables	Full (N= 3,730)		Retained (N= 2,802)		p-value ^b
	N	%	Col. %	Col. %	
Patient satisfaction (Facilities=35)					
Pharmacist explained the side-effects					
Yes	3,007	80.63	81.28	78.68	<0.01
No	468	12.56	12.04	14.15	<0.01
Not sure	129	3.47	3.46	3.49	0.87
Does not apply	68	1.83	1.63	2.43	<0.01
Doctor explained my lab test results					
All the time	1,803	48.34	48.18	48.82	0.79
Sometimes	1,452	38.94	39.09	38.49	0.21
Never	391	10.48	10.42	10.65	0.73
Does not apply	40	1.07	1.07	1.08	0.52
My adherence counselors made sure I understood how to take my medication properly					
All the time	3,165	84.86	84.78	85.07	0.68
Sometimes	468	12.54	12.74	11.96	0.09
Never	30	0.81	0.80	0.82	0.65
Does not apply	67	1.81	0.74	1.27	<0.01
I was able to get the TB services that my provider referred me to					
Yes	1,474	39.52	40.00	39.36	0.83
No	1,928	51.70	51.74	51.58	0.42
Not sure	85	2.29	2.27	2.35	0.71
Rating on the overall quality of care provided by the clinic compared to other clinics					
Better	3,221	86.36	86.53	85.84	<0.01
The same	217	5.81	5.88	5.62	0.17
Worse	22	0.59	0.55	0.70	<0.01
Not sure	3,007	5.07	4.89	5.62	<0.01

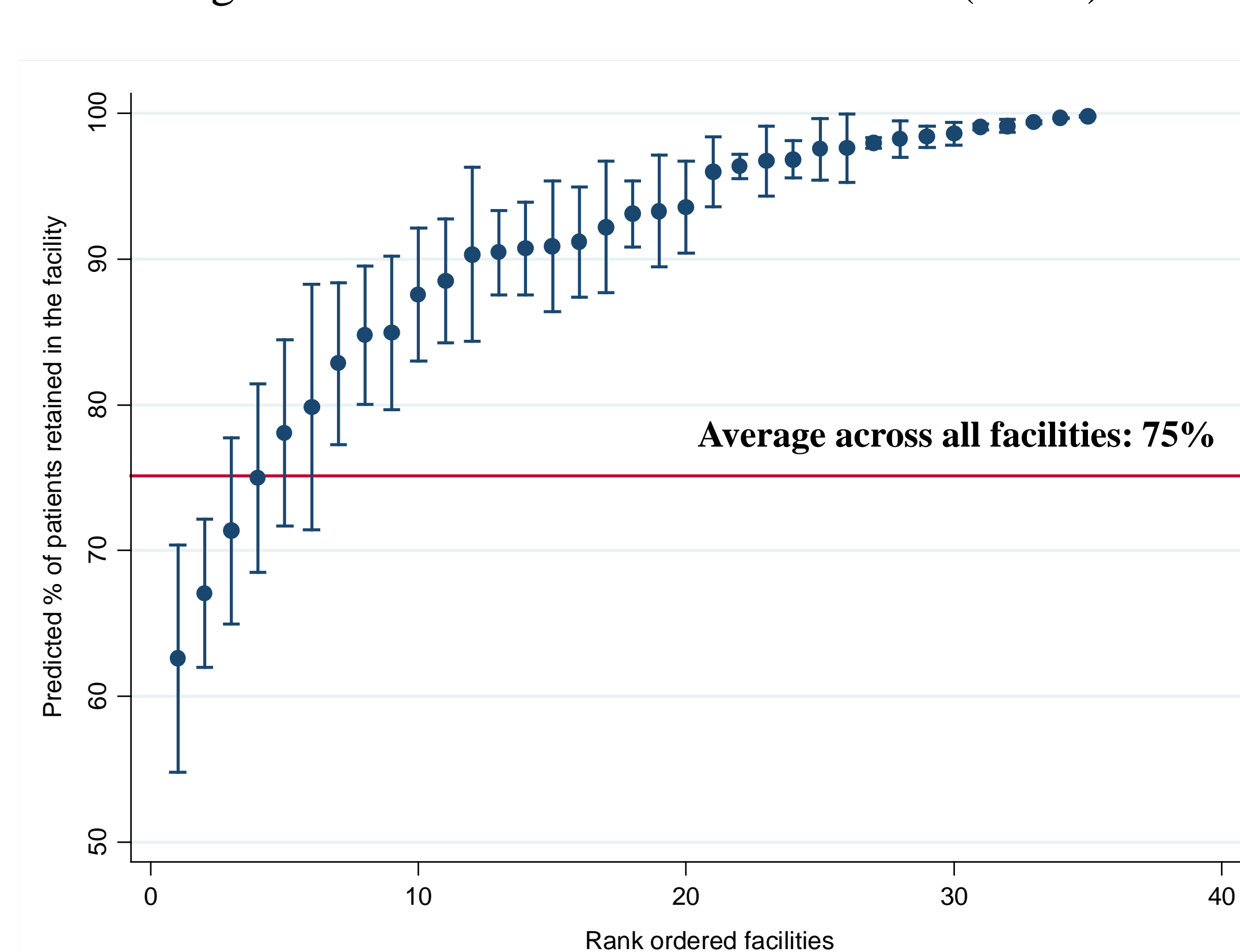
a. Average response of patients treated across all 35 facilities.
b. Calculated using student's t-test.

- The predicted probability of retention in an 'average' facility in the 2010 review period was 75.1% (Odds: 1.29, 95% CI: 0.97-1.60).
- Approximately 34% of the variation in retention was attributable to facility-level characteristics.

Table 1. Patient characteristics

Variables	Full (N= 3,730)		Retained (N= 2,802)		p-value
	N	%	Col. %	Col. %	
Individual-level characteristics (Facilities=35)					
Age at diagnosis (years)					
< 30	949	25.44	24.27	28.99	<0.01
30-45	2,027	54.34	55.25	51.62	
>45	754	20.21	20.49	19.40	
Gender					
Male	1,342	36.06	34.91	39.52	0.01
Female	2,380	63.94	65.09	60.48	
ART Start year					
2005	299	8.10	7.09	11.17	<0.01
2006	437	11.84	10.98	14.46	
2007	704	19.07	17.63	23.44	
2008	935	25.33	24.61	27.49	
2009	1,035	28.03	29.69	23.00	
2010	282	7.64	10.00	0.44	
Baseline CD4 cell count (cells/ml)					
<100	939	25.17	23.48	30.28	<0.01
100 – 350	1,970	52.82	53.68	50.22	
>350	678	18.18	19.99	12.72	
Baseline WHO Stage					
Stage I	1,076	28.85	33.55	14.66	<0.01
Stage II	808	21.66	22.84	18.1	
Stage III	771	20.67	19.84	23.17	
Stage IV	160	4.29	3.75	5.93	
Receipt of a basic care package					
Yes	1,962	87.47	91.72	58.54	<0.01
No	281	12.53	8.28	41.46	
Receipt of prevention education					
Yes	2,504	74.81	89.94	7.49	<0.01
No	843	25.19	10.06	92.51	

Figure 2. Facility-level variation in retention shown in rank order together with 95% confidence intervals (N=35)



Results (continued)

Table 3. Random intercept logistic regression model results

Variables ^a	Adjusted (random intercept)	
	OR	95% CI
Age at diagnosis (years)		
< 30	Reference	
30-45	2.58	(1.46, 4.55)*
>45	1.58	(0.77, 3.21)
Gender		
Female	Reference	
Male	0.99	(0.59, 1.65)
ART Start year		
2005	Reference	
2006	0.89	(0.27, 2.94)
2007	0.85	(0.28, 2.52)
2008	0.74	(0.27, 2.04)
2009	0.99	(0.34, 2.83)
2010	3.27	(0.65, 16.45)
Receipt of a basic care package		
No	Reference	
Yes	3.43	(1.92, 6.10)*
Receipt of prevention education		
No	Reference	
Yes	>100 *	
Pharmacist explained the side-effects (Yes)^b		
Yes	1.06	(1.03, 1.10)*
My adherence counselors made sure I understood how to take my medication properly (All the time)^b		
Yes	0.99	(0.95, 1.03)
Rating on the overall quality of care provided by the clinic compared to other clinics (Better)^b		
Yes	1.05	(1.00, 1.05)*
Variance partition coefficients		
	34.20%	
Variance of random intercept		
	1.71	(0.81, 3.63)
Likelihood ratio		
	-285.95	

a. Also controlling for WHO stage and CD4 cell count. P-value * < 0.01
b. Facility-level continuous measures of patient satisfaction.

Conclusions

- Patient retention was associated with individual characteristics and the overall-level of satisfaction with the services received at the facilities.
- Interaction between pharmacist and the patient was associated with higher odds of patient retention.
- Receipt of prevention education was also strongly associated with retention.
- There was significant variation in patient retention patterns across the 35 facilities after controlling for individual characteristics and patient satisfaction measures.
- A longitudinal assessment is required to further establish a causal relationship between the specific patient satisfaction domains and retention.

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- The findings and conclusions in this report are those of the author(s) and do not necessarily represent the official position of the Centers for Disease Control and Prevention.