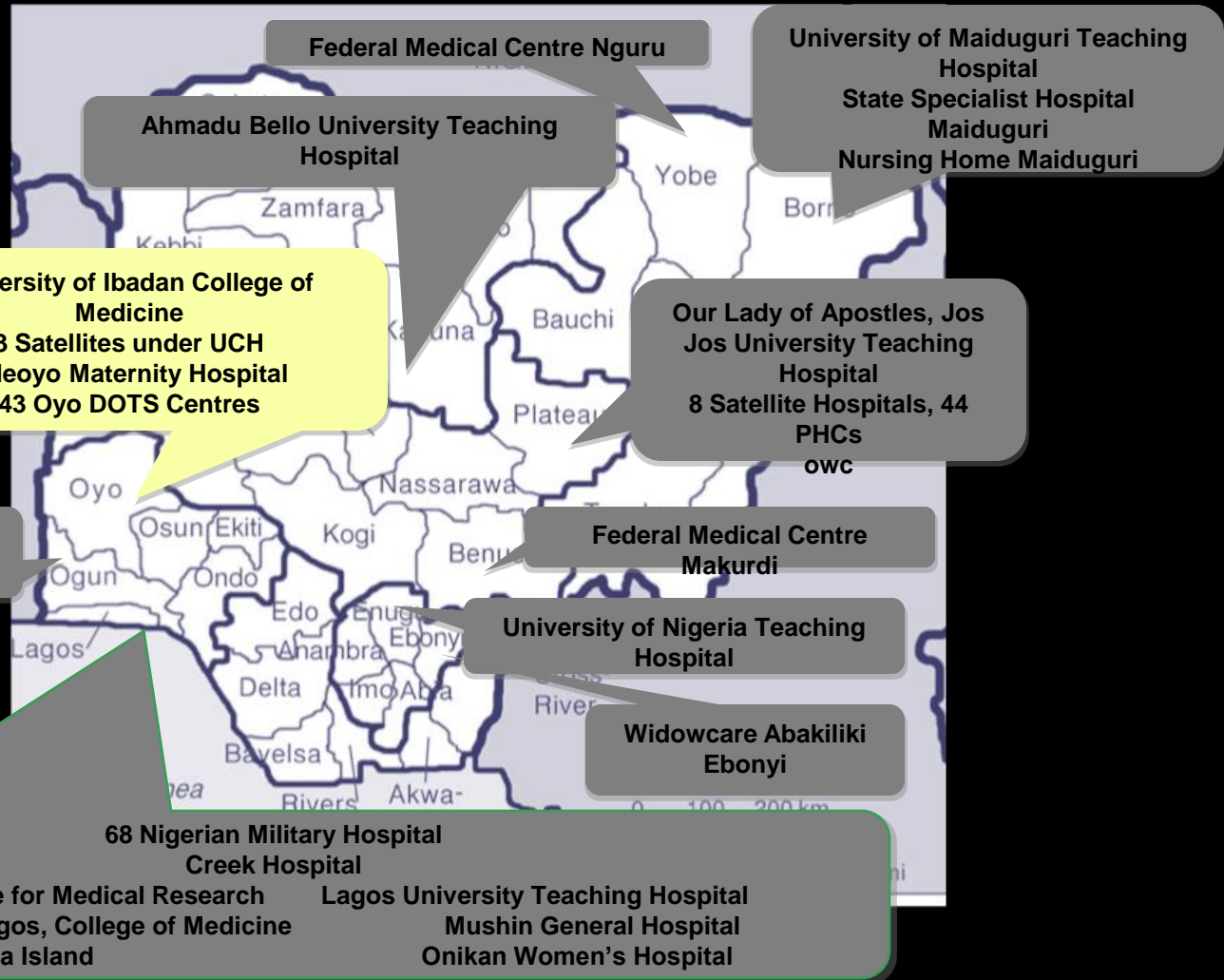# Harvard/APIN Program in Nigeria

- Through Bill & Melinda Gates Foundation funding, Harvard has been working with multiple hospitals and prevention programs in Nigeria since 2000

- Established AIDS Prevention Initiative in Nigeria (APIN) as part of Gates Foundation activities

- Track 1.0 PEPFAR funding awarded in early 2004
  - Program enrollment started in mid-2004
  - Years 1-5: Rapid scale-up of HIV prevention, care & treatment activities; built capacity of sites and local partner
  - Years 6-8: Transition to local partner

Harvard PEPFAR Nigeria

Started PEPFAR ART activities at 6 tertiary hospitals in 2004 and expanded to a total of 32 ART sites and 64 PMTCT sites

www.nairaland.com

Federal Medical Centre Nguru

University of Maiduguri Teaching Hospital
State Specialist Hospital Maiduguri
Nursing Home Maiduguri

Ahmadu Bello University Teaching Hospital

University of Ibadan College of Medicine
3 Satellites under UCH
Adeoyo Maternity Hospital
43 Oyo DOTS Centres

Our Lady of Apostles, Jos
Jos University Teaching Hospital
8 Satellite Hospitals, 44 PHCs
owc

Sacred Heart Catholic Hospital Lantoro

Federal Medical Centre Makurdi

University of Nigeria Teaching Hospital

Widowcare Abakiliki Ebonyi

68 Nigerian Military Hospital
Creek Hospital
Nigerian Institute for Medical Research   Lagos University Teaching Hospital
University of Lagos, College of Medicine   Mushin General Hospital
PHC-Iru Victoria Island   Onikan Women's Hospital
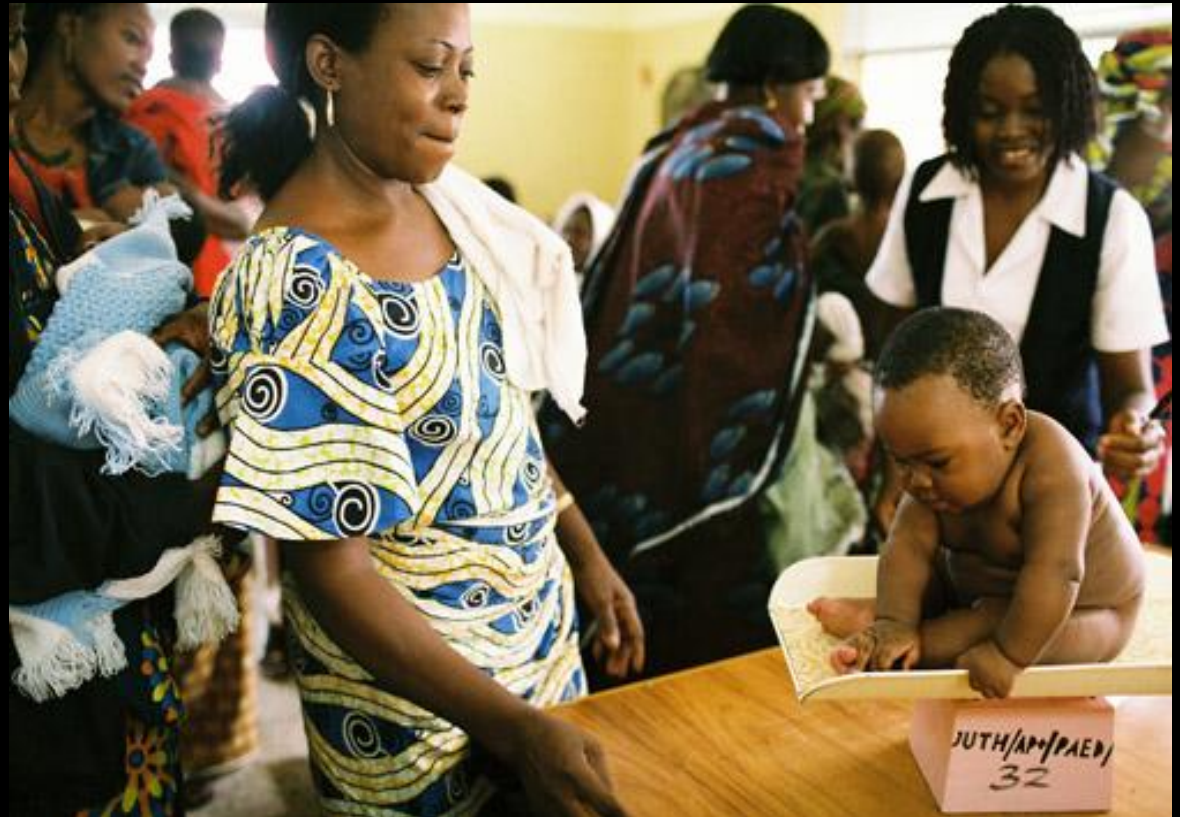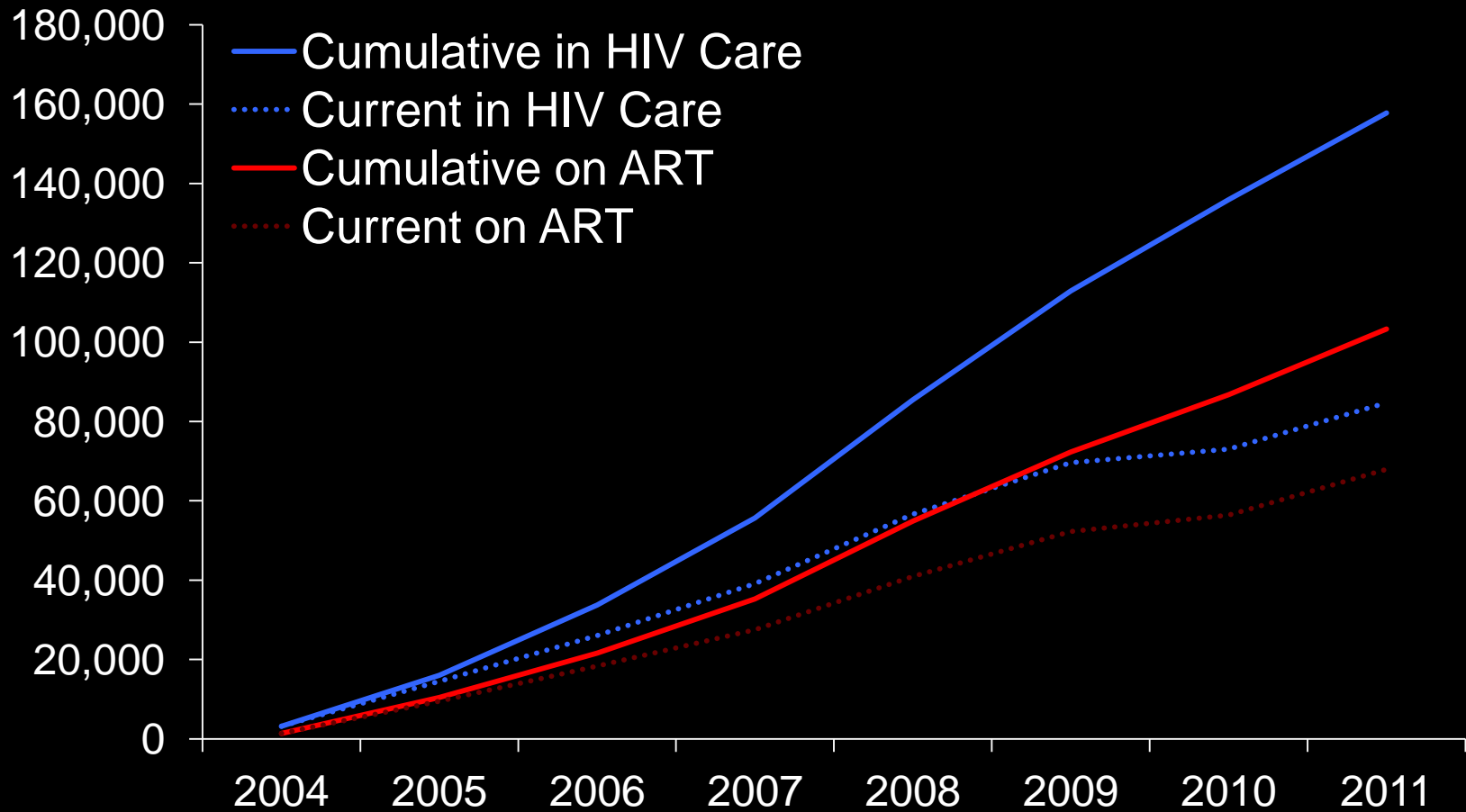
Clinical Program Areas

- Prevention

- HCT

- Adult ART and palliative care services

- Pediatric ART and palliative care services
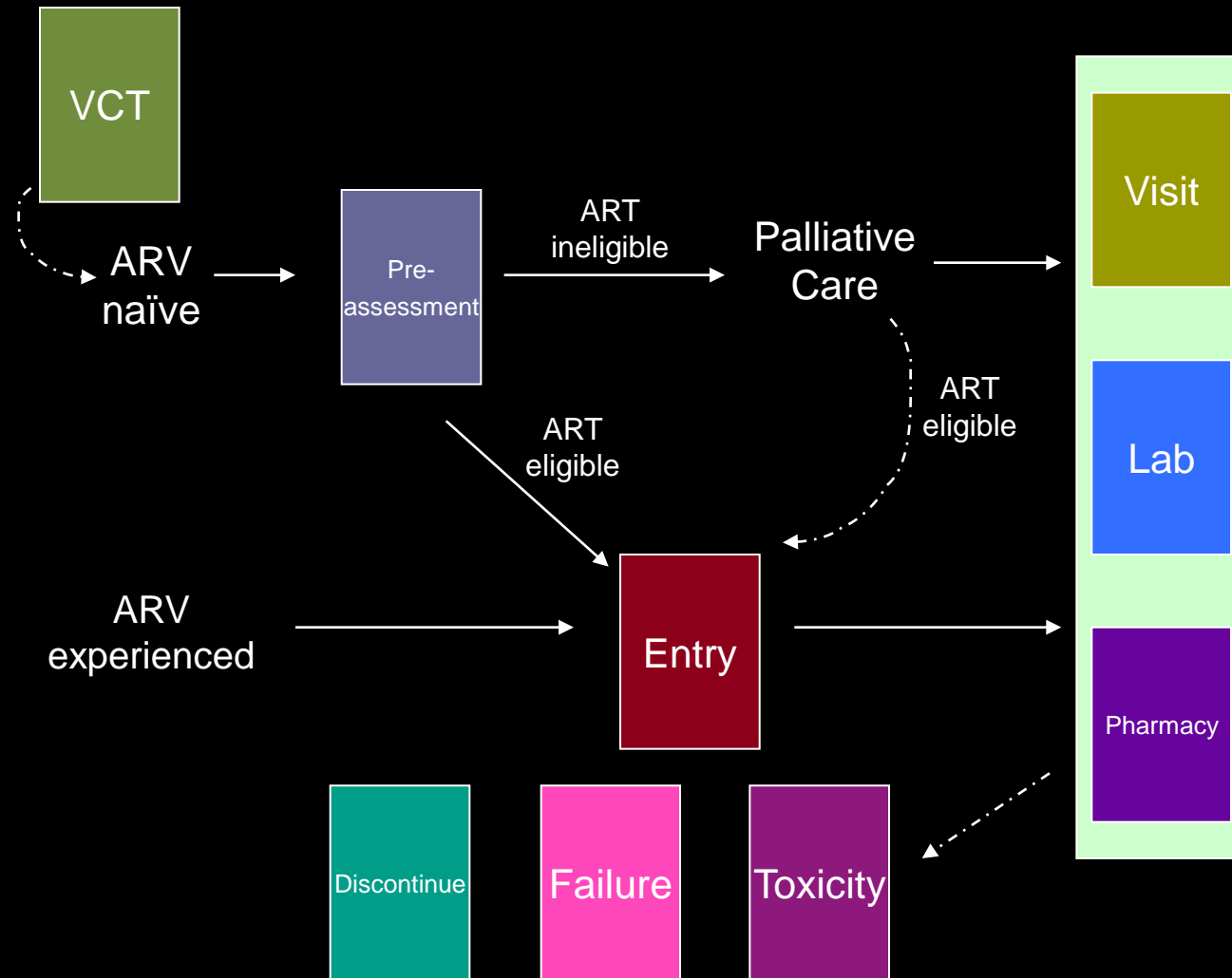
- PMTCT services

- OVC services

- HIV/TB care

Harvard PEPFAR Nigeria

Snapshot: Program Scale-Up

Legend:
- Cumulative in HIV Care
- Current in HIV Care
- Cumulative on ART
- Current on ART

Y-axis: 0 to 180,000
X-axis: 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011

Harvard PEPFAR Nigeria

Laboratory Infrastructure

	HIV rapid tests & immunoblot	CBC	Chemistry	CD4-flow	Viral load	Infant PCR	Viral Genotyping
NIMR	X	X	X	X	X	X	X
68MH	X	X	X	X	X	X	
LUTH	X	X	X	X	X	X	
UCH	X	X	X	X	X	X	X
JUTH	X	X	X	X	X	X	X
UMTH	X	X	X	X	X	X	
ABUTH	X	X	X	X	X	X	
FMC Makurdi	X	X	X	X	X	X	
ART satellites	X	X	X	X	X	ongoing	
PMTCT satellites	X	X	X	X	ongoing	ongoing	

Electronic Medical Records System

VCT

ARV naïve

Pre-assessment

ART ineligible

Palliative Care

ART eligible

ART eligible

ARV experienced

Entry

Visit

Lab

Pharmacy

Discontinue

Failure

Toxicity

Harvard PEPFAR Nigeria
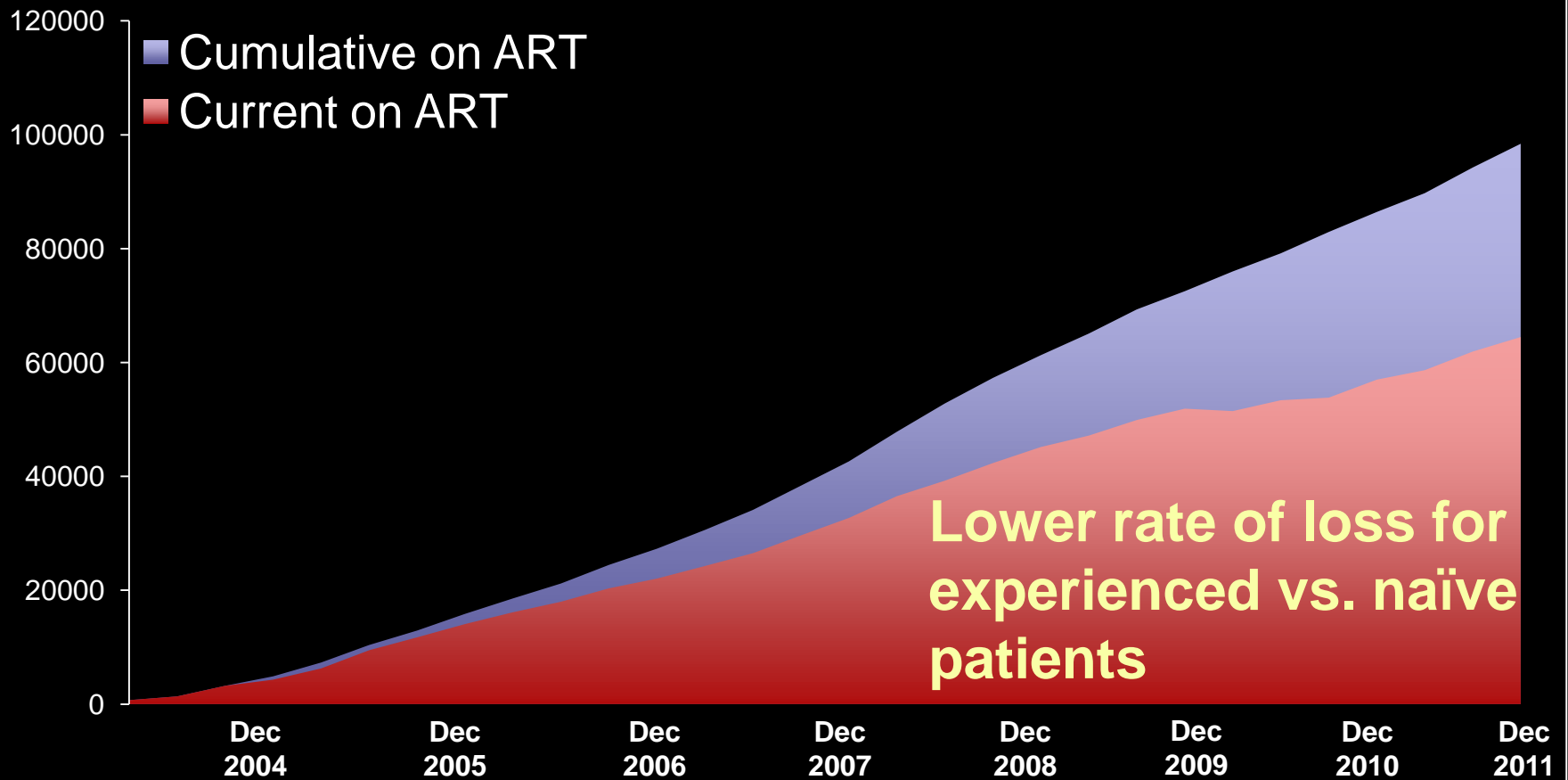
Evaluation Overview

- Used EMR data to examine overall discontinue rates in program, with specific focus on loss to follow-up (LTFU)
    - LTFU: ≥60 days since last scheduled pick-up date

- Predictors of LTFU examined using univariate statistics and multivariable modeling
    - Adherence measured using pill refill

Harvard PEPFAR Nigeria

As of December 2011, 32.3% were LTFU

- Cumulative on ART
- Current on ART

Lower rate of loss for experienced vs. naïve patients

Harvard PEPFAR Nigeria

Evaluation Cohort

75,750 enrolled on ART 2004-2010

→

60,082 with no previous ARV treatment history

→

47,609 with ≥1 year since enrollment on ART

Harvard PEPFAR Nigeria

Discontinuation Patterns by Time on Treatment

Overall retention at M6 was 82% and M12 was 75%

Harvard PEPFAR Nigeria

Baseline & Demographic Characteristics

Predictor	LTFU	Not LTFU	p-value
Sex			<0.001
Female	33.9%	66.1%	
Male	40.3%	59.7%	
Median age (years)	34	35	<0.0001
Level of Education			<0.001
None/Primary	28%	72%	
Tertiary/Secondary	24%	76%	<0.001
WHO stage			<0.001
1-2	22%	78%	
3-4	27%	73%	
Median CD4 count (cells/mL)	125	149	0.0001
Median log viral load (cp/mL)	4.9	4.1	0.0001

Early Adherence Patterns Associated with LTFU by Month 12

68% of cohort had ≥95% adherence

P<0.001

% LTFU by M12

Average Percent Adherence Months 0-3

≥95% | 90%-94% | 80%-89% | 50%-79% | <50%

Harvard PEPFAR Nigeria
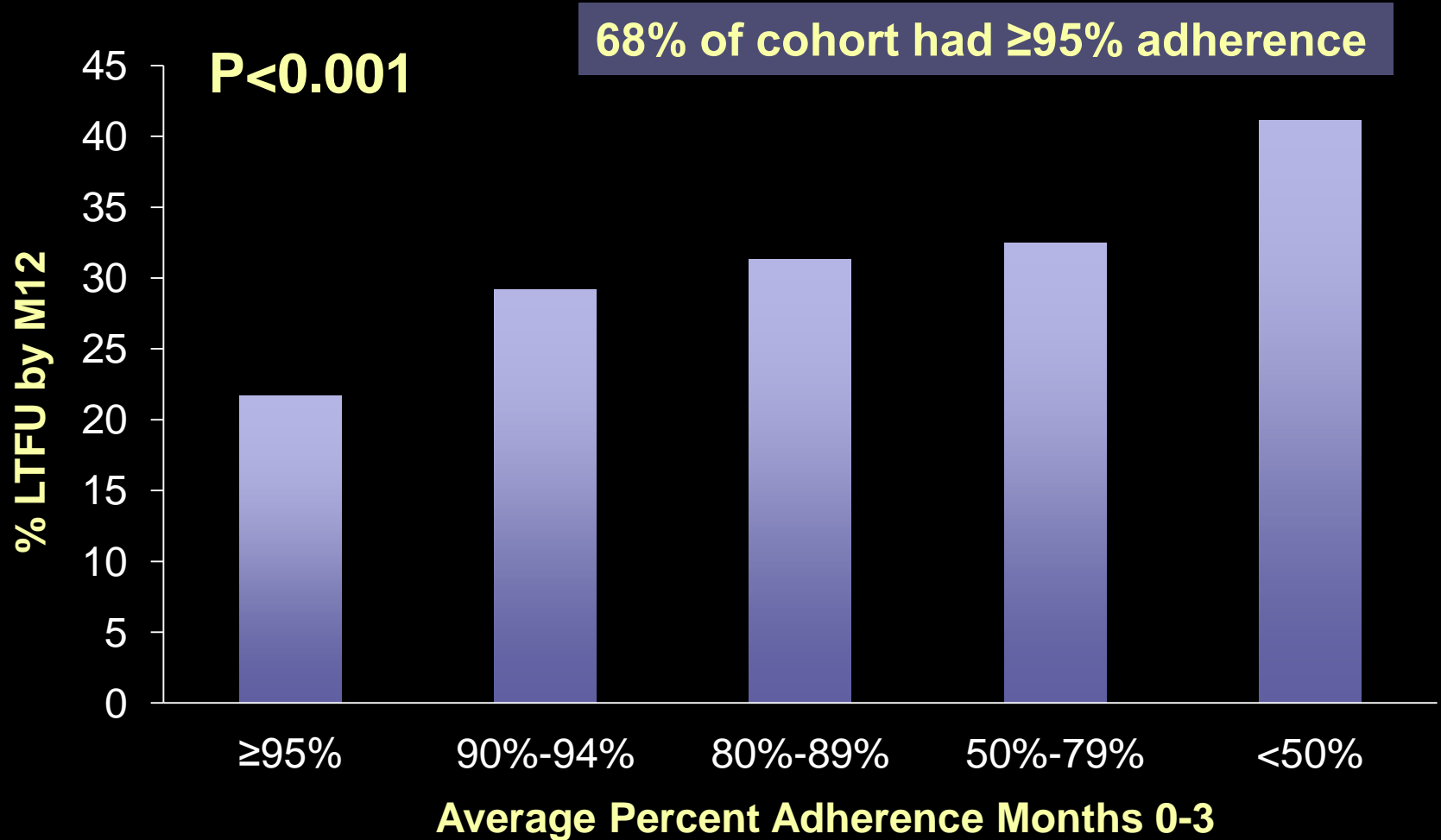
Factors Associated with LTFU

Model adjusted for age, sex, education level, ART enrollment year, WHO stage and baseline CD4 count, adherence in Months 0-3 remains a significant predictor of LTFU by M12.
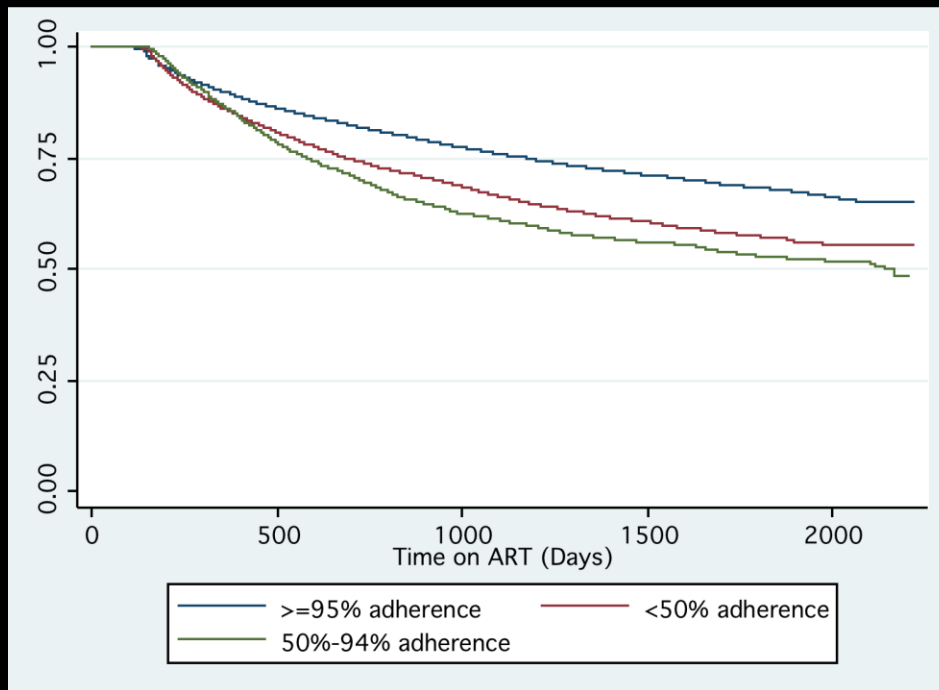
Early (M0-3) Adherence Rate	Hazard Ratio*	p-value
≥95%	-	-
50%-95%	1.46	<0.001
<50%	1.94	<0.001

*adjusted model

Conclusions

- Program retention is critical for ART success

- LTFU rates are concerning, particularly in settings where patient loads are high and resources are limited for extra counseling and tracking lost patients

- Easy tools for targeting patients at risk for loss are useful

- We confirmed that early adherence patterns are strong predictors of retention

Acknowledgements

P. Kanki (PI)
J-L. Sankalé
D. Hamel
B. Chaplin
H. Rawizza
A. Dieng-Sarr
G. Eisen
C. Smith
M. O' Malley
C. Chang
H. Reyes
N. Ulenga
L. Dinic
J. Hosseini
U. Ijeoma
E. Koch
C. Wen
A. Weiss

P. Okonkwo
T. Jolayemi
J. Samuels
E. Ofuche
B. Banigbe
S. Ochigbo
R. Olaitan
P. Akande
T. Oyebode
B. Akinyemi
O. Eberendu
C. O' Martins
J. Adeola
I. Abbas
A. Obakeye

R. Murphy
K. Scarsi
K. Hurt
B. Taiwo
C.Achenbach

I. Adewole
D. Olaleye
J. Idoko
S. Sagay
O. Agbaji
O. Idigbe
D. Onwujekwe
C. Okany
R. Nkado
W. Gashau
H. Muktar
J. Abah
C. Chukwuka
S. Akanmu
F. Ogunsola

All our colleagues at the APIN
PEPFAR sites in Nigeria

And, most importantly, the patients

Harvard PEPFAR Nigeria