Optimizing a client's first six months on ART:

Differentiated service delivery models to promote early retention in care

Sunday, 8 March 2020

Boston, MA

Format

- Welcome and introductions
- Framing and objectives
- Presentation on early retention data, current country guidelines, data on interventions in the first 6 months
- **Discussions**
  - Clinical needs early on ART
  - Engagement optimization early on ART
  - And then, brainstorming on one or more models of care for the first six months after ART initiation

BOSTON UNIVERSITY

Framing and objectives

Sydney Rosen

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8 March 2020

Boston, USA

Rationale

- Loss from care is highest in first 6 months, but current DSD models systematically *exclude* patients on ART < 6 months (or even <12 months)
- We have made progress toward optimizing the process of ART initiation and achieving long-term retention in care
- Optimizing the delivery of care during the first six months is an obvious next challenge
  - Little change in the past decade, despite ”treat all” and better regimens; haven’t reduced the logistical burden of treatment on patients during the first six months, when they might need it most.
  - Know little about importance of clinical or social interactions during this time period or their impact on outcomes

Objectives

- Design one or more models for the first six months after ART initiation that aim to:
  - Maximize retention in care and/or viral suppression during the first 6 months on ART
  - Create conditions that will maximize long-term retention in care/suppression
  - Minimize time from ART initiation to viral suppression/meeting definition of stability
  - Reduce burden on patients and providers
  - Improve the experience of the first six months on treatment for patients and providers

Baseline

Assumptions:

- Continued increase in baseline CD4 counts, but with a substantial minority (≈10-20%) continuing to present with advanced disease
- Increasing proportion of re-initiators (decreasing proportion of ART-naïve initiators)
- Further scale-up of “low intensity” DSD models for stable patients

Constraints:

- Existing infrastructure and staff (quantity, quality, and distribution)
- Existing management and implementation capacity
- Flat-lined resource availability per patient

Goal

- Imagine that we have a blank slate, can design any models we want to optimize the first six months of care, *subject to the constraints on the previous slide*
- Come away from the meeting with ideas that could be implemented and evaluated under current conditions (or at least a plan to have ideas)

Review of data on early retention in HIV care in Africa, country guidelines, and interventions

Anna Grimsrud

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Retention

Most of the lost clients are under 35 y.o., well and in the first 6 months of initiating treatment

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U.S. President's Emergency Plan for AIDS Relief

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Eswatini

PEPFAR: Q1 FY20: TX_ML Analysis – Contribution to Attrition by Age and Sex

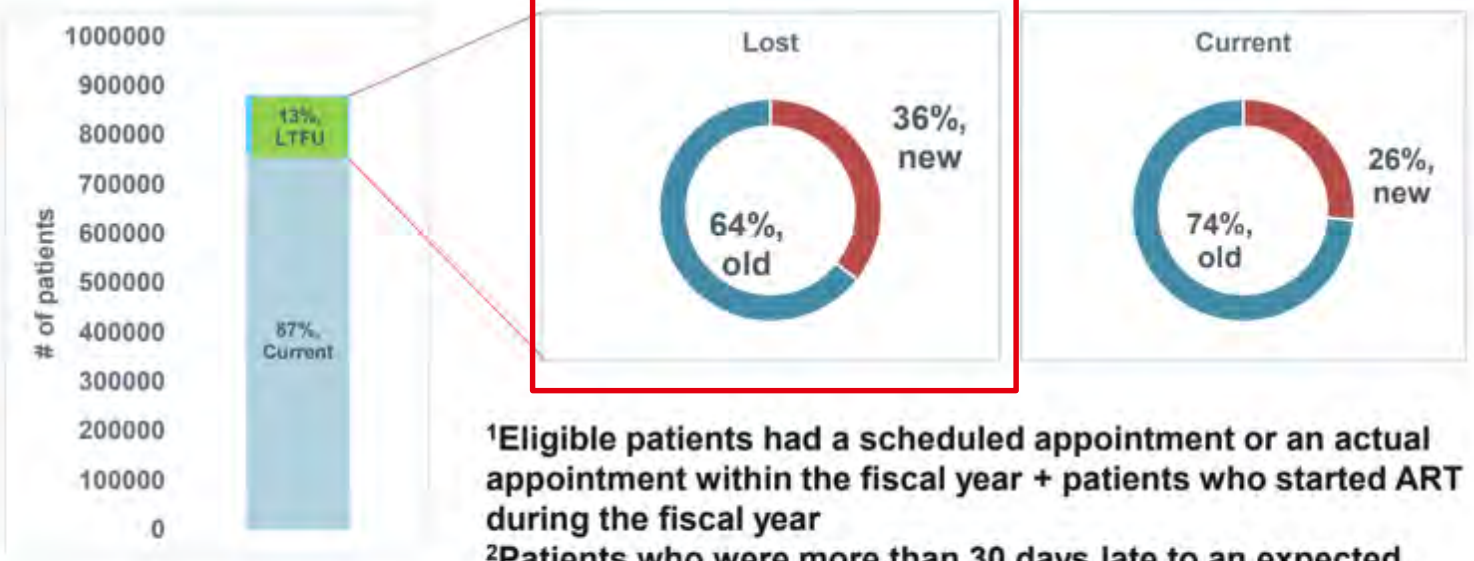
Eswatini PEPFAR COP 20 planning meeting, Feb 2020

Zambia

Of those LTFU – 36% were initiated in the past year

FY19 Retention: Disproportionately high number of TX_N

13% of eligible patients[1] at the end of FY19 were LTFU[2]



[1]Eligible patients had a scheduled appointment or an actual appointment within the fiscal year + patients who started ART during the fiscal year

[2]Patients who were more than 30 days late to an expected appointment at the end of the fiscal year

Zambia PEPFAR COP 20 planning meeting, Feb 2020

Zambia

High proportion of TX_NEW may already be on ART

Baseline VL among those with a "first" positive test in select facilities: **33% were already suppressed**, suggesting they are not treatment naïve

Province	# Baseline VL	# Suppressed	% suppressed
Eastern	175	66	38%
Lusaka	37	19	51%
Southern	171	44	26%
Western	27	6	22%
Total	410	135	33%

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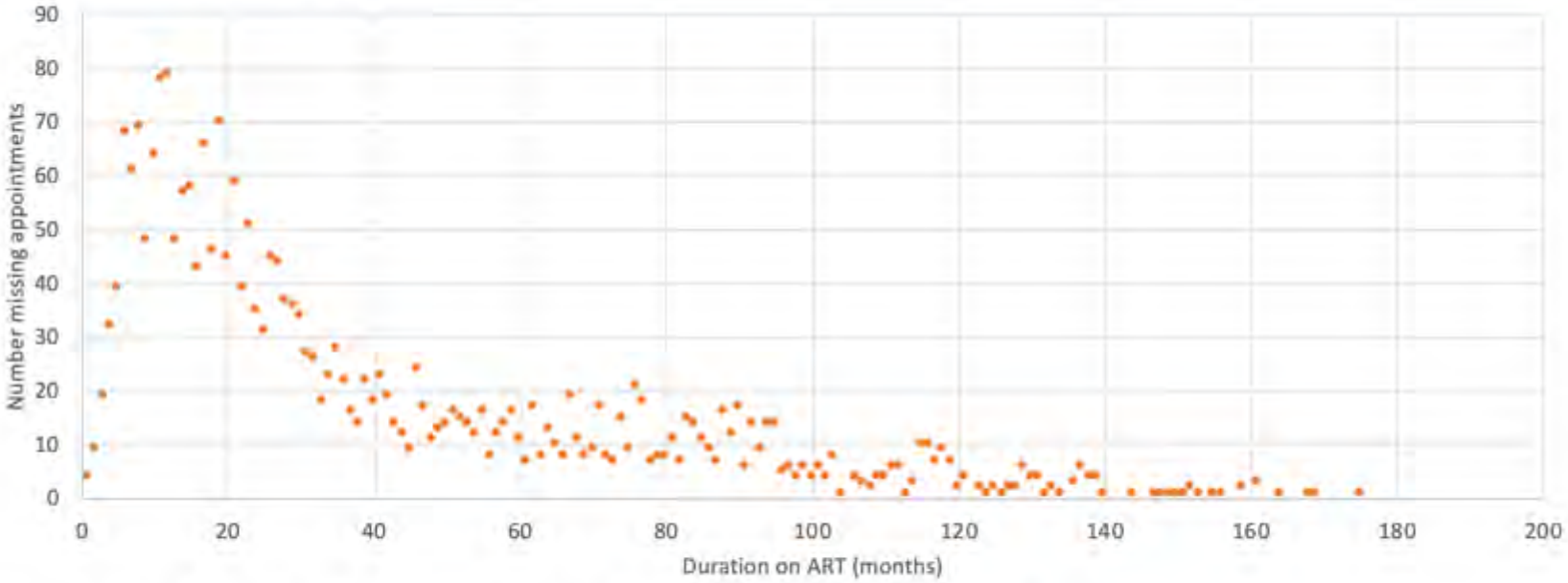
Malawi

Most patients miss their appointments early in treatment | Need to Focus on Time Period Early in ART



Majority of patients missed appointments early in treatment (within 12 months).
Patients on ART for >5 years(60 Months) less likely to miss appointments

PEPFAR EGPAF program data

Malawi PEPFAR COP 20 planning meeting, Feb 2020

Uganda

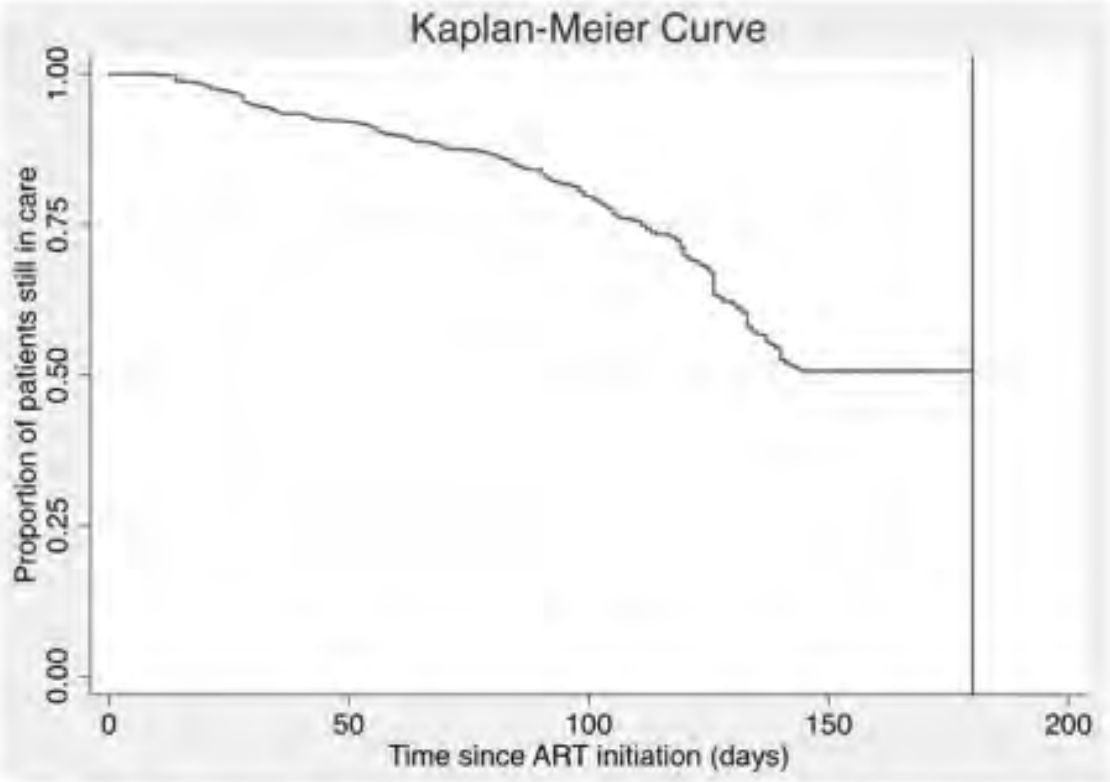


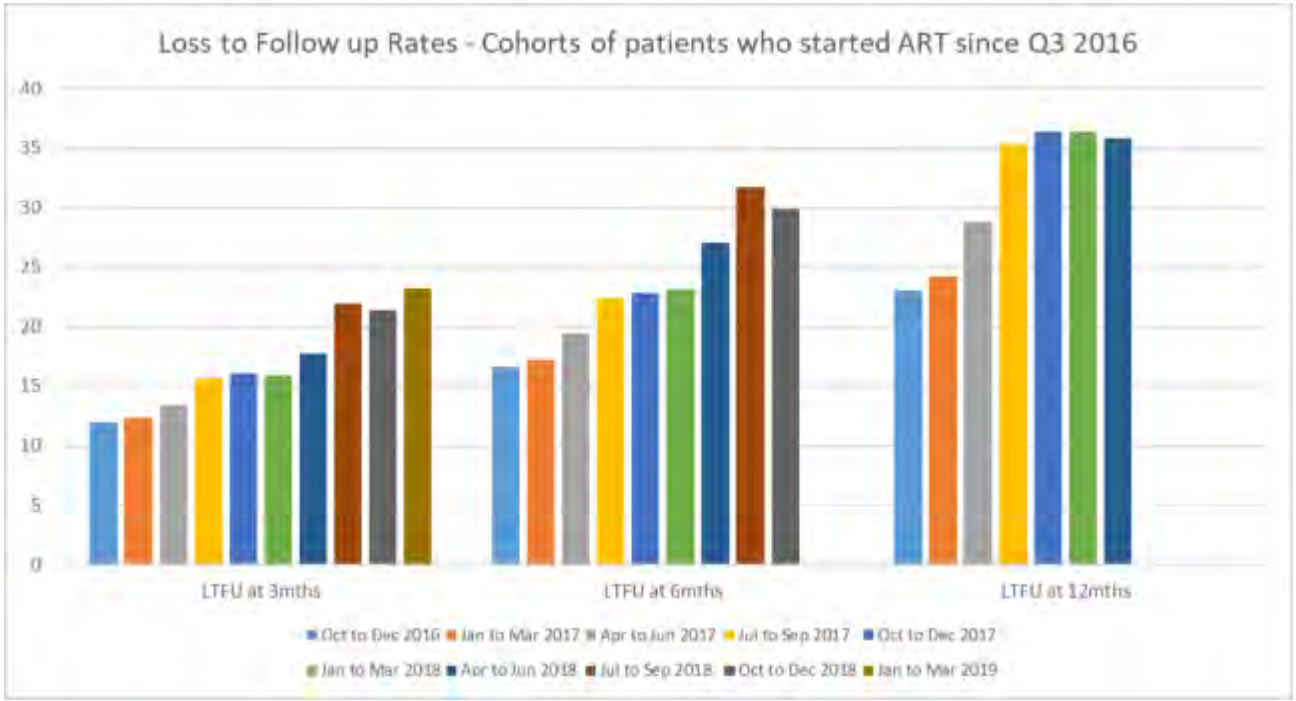
Fig. 2 Kaplan-Meier curves showing the proportion of patients in care over time. Patients with a visit in the final 35 days of follow-up were considered to be in care at 180 days

- 928 newly HIV-diagnosed patients
- Only 53.0% linked to care within 1 month
- Of these, 83.7% linked within 1 week.
- Among 678 newly initiated ART patients, 14.5% never returned for a follow-up visit at the facility

Boeke et la, 2018, BMC Infectious Disease

South Africa programmatic data

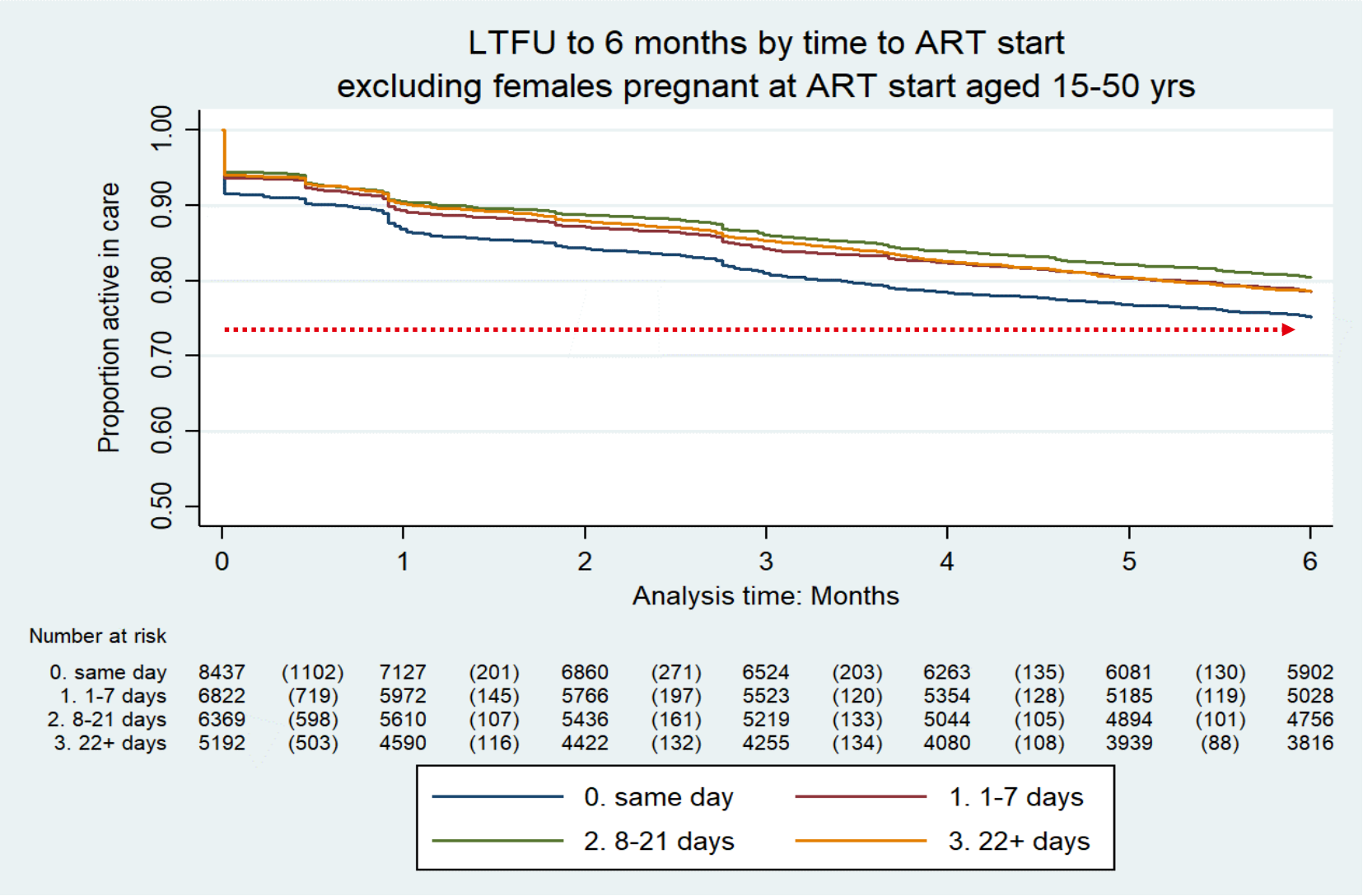
- Loss to follow-up rates are still higher than acceptable and greater efforts are required to **track, trace and return** patients to care.



Loss to follow up rates have increased since 2016:

- 12% to 23% after 3mths
- 17% to 30% after 6mths
- 23% to 36% after 12mths

South Africa



Special thanks to Kate Rees for this slide – additional analysis from Lilian et al, PLoSOne, 2020.

South Africa: CROI 2020 poster (1074)

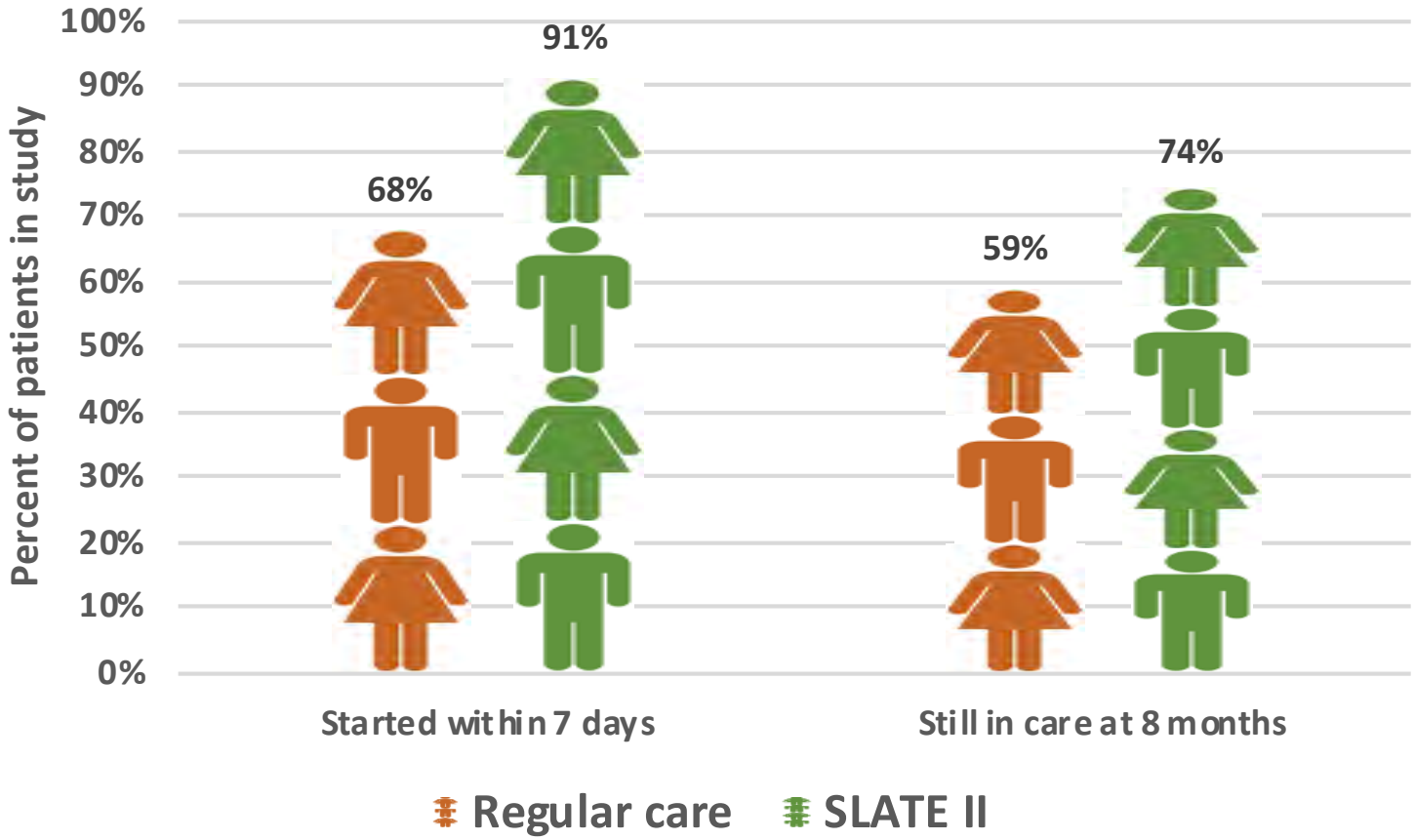
"Treat-all HIV policies and patient attrition in South Africa, a prospective study"

- 12-months attrition was:
  - 47.2% pre-universal test and treat
  - 38.2% universal test and treat and
  - 47.7% under the same-day initiation policy
- 89.2% of those who were late for visits at six months were LTFU at 12 months.
- Starting ART 1-14 day after diagnosis – 50% reduction in 12-months LTFU than starting on the day of diagnosis

Special thanks to Dorina Onoya for sharing your CROI poster

On the other hand: South Africa: CROI 2020 poster (1070)

"A structured algorithm for same-day initiation: SLATE II trial primary outcomes"



Temporal Trends in Early Loss to Follow-up in Southern Africa

IeDEA
International epidemiologic Databases to Evaluate AIDS

Methods

- Eligibility - HIV-positive adults (15 years or older) who initiated ART between 2013 and 2018 and had at least 1 year of potential follow-up
- LTFU - No documented visit ≥120 days, patients are censored at first LTFU event, re-entry of individuals who returned to care after LTFU is not permitted (Johnson 2014 AJE)
- Analysis - Cumulative incidence of LTFU accounting for death as competing event, adjusted cause-specific hazard ratios (HR) using Cox regression, HRs adjusted for age, gender, and stratified by treatment facility

Special thanks to Andreas Haas and colleagues for this analysis

Malawi rural

Cumulative incidence of LTFU by year of ART initiation

Adjusted hazard ratios for time trends in LTFU

Embargoed – not for circulation

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Malawi urban

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Interventions

- What has been tried to improve early retention?

- Much more programmatically than can be found in the peer-reviewed literature

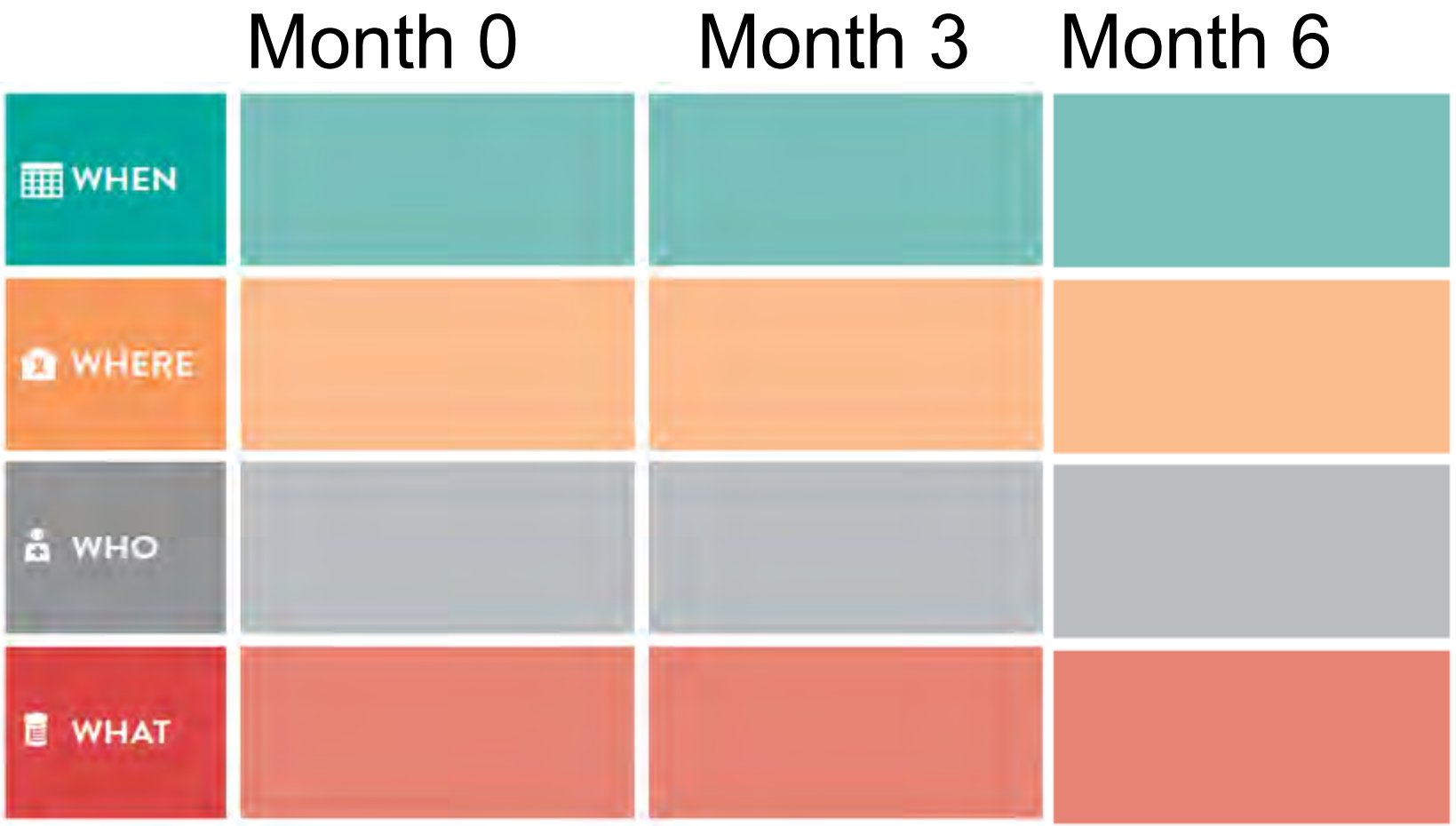
Summary of country guidelines

COUNTRY	# of clinical visits 0-6 months	# of clinical visits 0-12 months	Timing of first VL (or CD4) post initiation	Timing of second viral load	Time to DSD eligibility
Eswatini	Monthly (6 times)	12	6 months	12 months	12 months on ART eligible for CommART
Ghana	Monthly (6 times)	3	6 months	12 months	12 months
Kenya	Monthly (6 times)	6-12	6 months	12 months	12 months
South Africa	Monthly (6 times)		6 months*	12 months	Transitioning to 6 from 12+
Tanzania	Monthly (6 times)	4-6	6 months	12 months	12 months
Uganda	4 times	4	6 months	12 months (for children)	12 months
Zimbabwe	3 times	2	6 months	12 months	12 months

* In the Western Cape province, viral load is done at 4 months
+ In South Africa, National Adherence Guidelines are being revised to transitioning patients to ”repeat prescription collection strategies” after 6 months on ART

First, building blocks

So for early treatment could be…



Frequency of clinical visits (x) and viral load (VL) in the first year

Country	D0	Week 2	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Mont h 11	Month 12
Eswatini	X		X	X	X	X	X	X VL	X	X	X	X	X	X VL
Ghana	X	X	X	X	X	X	X	X VL		X		X		X VL
Kenya	X	X	X	X	X	X	X	X VL	Every 1-2 months depending on stability					X VL
South Africa	X	X	X	X	X	X	X	X VL						X VL
Tanzania	X	X	X	X	X	X	X	X VL	Every 2-3 months depending on stability					X VL
Uganda	X		X	X	X			X VL	Every 3 months					X VL (for children)
Zimbabwe	X	X	X		X			X VL	X					X VL

Recent data on why patients miss clinic visits in South Africa, by time on ART

Embargoed – not for circulation

Right to Care, South Africa. UNPUBLISHED - Do not cite or circulate.

South Africa – Fast track initiation counseling

Four sessions of counselling are part of initiation

- Session 1 (Linkage):
  1. Education on illness and treatment (individual or group)
  2. Identify life goals
  3. Identify support system
  4. Plan for future appointments
  5. Assess readiness of the patient to start treatment
- Session 2 (Day of initiation):
  6. Medication schedule
  7. Managing missed dose
  8. Adherence strategies
  9. Storing medication and extra medication doses
  10. Dealing with side effects

If same-day initiation, then session 1 and session 2 must be completed together

- **Session 3 (After 1 month on ART):**
  11. Explain treatment path ahead
  12. Plan for travels
  13. Dealing with substance use
- **Session 4 (After 2 months on ART):**
  - Assessment education, treatment goals, pathway ahead
    - Provide an explanation/information of further test (e.g. VL)

Pascoe SJS et al. Journal of the International AIDS Society 2019, 22:e25409

JIAS JOURNAL OF THE INTERNATIONAL AIDS SOCIETY

RESEARCH ARTICLE

Differentiated HIV care in South Africa: the effect of fast-track treatment initiation counselling on ART initiation and viral suppression as partial results of an impact evaluation on the impact of a package of services to improve HIV treatment adherence

Sophie JS Pascoe[1,9], Matthew P Fox[1,2,3], Amy N Huber[1], Joshua Murphy[1], Mokgadi Phokojoe[4], Marelize

Methods: We conducted a cluster-randomized mixed-methods evaluation in 4 provinces at 12 intervention sites which implemented FTIC and 12 control facilities providing standard of care. Follow-up was by passive surveillance using clinical records. We included data on subjects eligible for FTIC between 08 Jan 2016 and 07 December 2016. We adjusted for pre-intervention differences using difference-in-differences (DiD) analyses controlling for site-level clustering.

Results: We enrolled 362 intervention and 368 control arm patients. Thirty-day ART initiation was 83% in the intervention and 82% in the control arm (RD 0.5%; 95% CI: −5.0% to 6.0%). After adjusting for baseline ART initiation differences and covariates using DiD we found a 6% increase in ART initiation associated with FTIC (RD 6.3%; 95% CI: −0.6% to 13.3%). We found a small decrease in viral suppression within 18 months (RD −2.8%; 95% CI: −9.8% to 4.2%) with no difference after adjustment (RD: −1.9%; 95% CI: −9.1% to 5.4%) or when considering only those with a viral load recorded (84% intervention vs. 86% control). We found reduced crude 6-month retention in intervention sites (RD −7.2%; 95% CI: −14.0% to −0.4%). However, differences attenuated by 12 months (RD: −3.6%; 95% CI: −11.1% to 3.9%). Qualitative data showed FTIC counselling was perceived as beneficial by patients and providers.

Conclusions: We saw a short-term ART-initiation benefit to FTIC (particularly in districts where initiation prior to intervention was lower), with no reductions but also no improvement in longer-term retention and viral suppression. This may be due to lack of fidelity to implementation and delivery of those components that support retention and adherence. FTIC must continue to be implemented alongside other interventions to achieve the 90-90-90 cascade and fidelity to post-initiation counselling sessions must be monitored to determine impact on longer-term outcomes. Understanding the cost-benefit and role of FTIC may then be warranted.

Pascoe et al, 2019, JIAS

South Africa- Huge investments by PEPFAR in “Case managers”

Summary Of Linkage Best Practices

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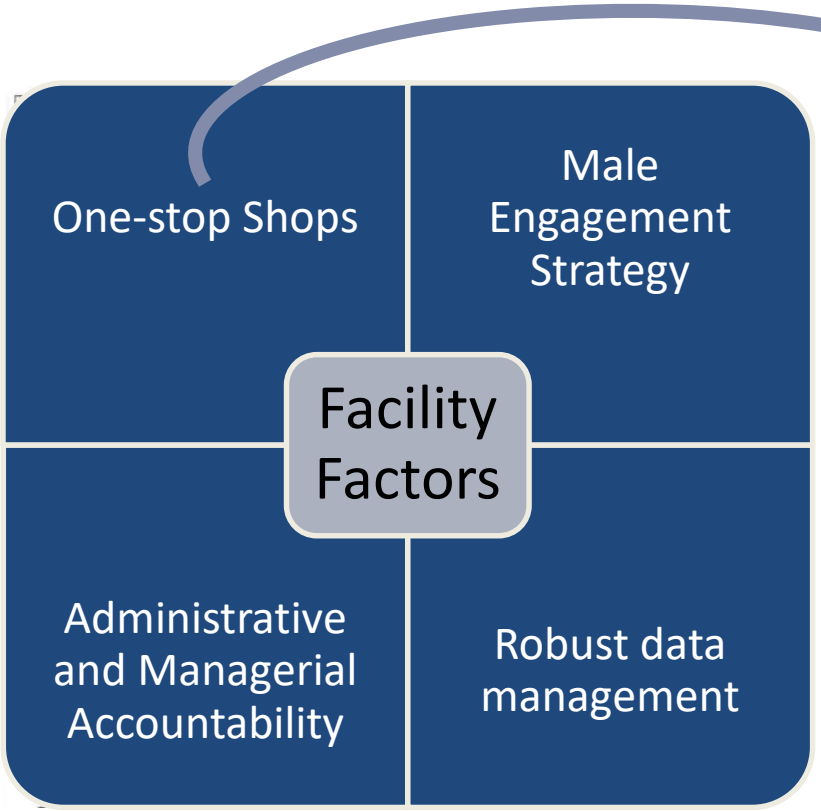
ZAP Two Years Later: Improving Health Service Quality and Availability

Mozambique



CS NICOADALA & CS COALANE

- New on ARV until virally-suppressed
  - Challenge: High-volume HF >200 TX_NEW per month
  - Solution: At least 2 one-stop consultation rooms

One-stop has best total wait time vs. consult time:

Mozambique PEPFAR COP Planning, Feb 2020

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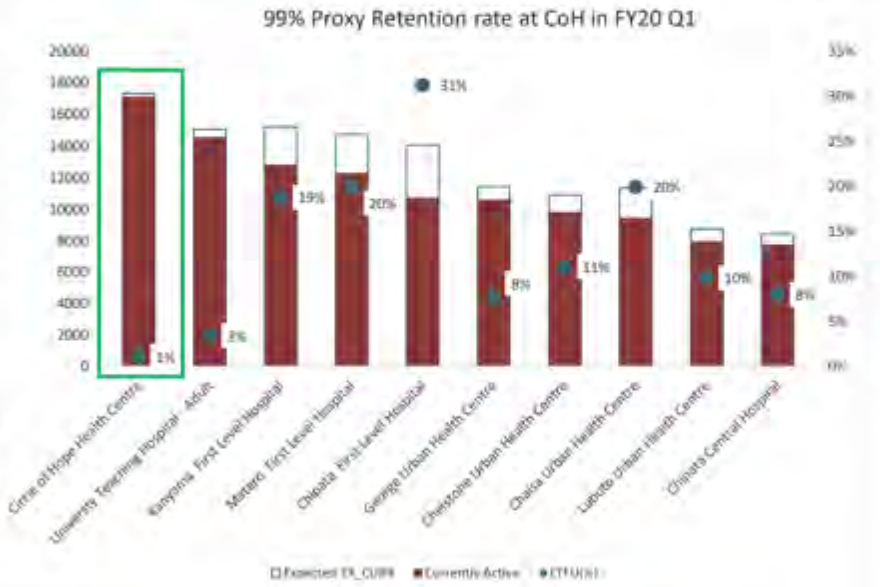
Zambia

Better Treatment Preparation to Improve retention among asymptomatic Clients: The "*walk methodology*"

- Adequate treatment preparation (the CoH 'Walk methodology')
- Treatment literacy
- Positive messages
  - U=U
  - Normal life with early treatment initiation and adherence
- Allows flexibility on where to receive ART services (community post model)

99% Proxy Retention rate at CoH in FY20 Q1



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Malawi

Can We Predict who Is At Risk of LTFU in 1st 6 Months so we Can Target Limited Resources

Results of Individual-Level Risk Analysis

	Variable	AOR	95% CI	p-value	B co-efficient
Sex	Females	1.00			
	Males	1.35	(1.07-1.38)	0.000	0.19
Age	> 35	1.00			
	15-24	2.36	(1.98-2.82)	0.000	0.86
	25-34	1.53	(1.34-1.76)	0.000	0.43
WHO Stage	1, 2, or 3	1.00			
	4	1.92	(1.42-2.58)	0.000	0.65
CD4	<200	1.00			
	200-499	1.10	(0.96-1.26)	0.076	0.10
	>=500	2.16	(1.8-2.61)	0.000	0.77

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Clinically Useful Scoring Sheet to Stratify Risk

Risk Factor	Category	Associated points	Assigned score
Gender	Females	0	
	Males	2	+
Age	>35	0	
	15-24	9	
	25-34	4	
WHO Disease stage	I, II, III	0	+
	IV	7	
CD4 Count (cells/μL)	<200	0	+
	200-499	1	
	>=500	8	
	Total		−

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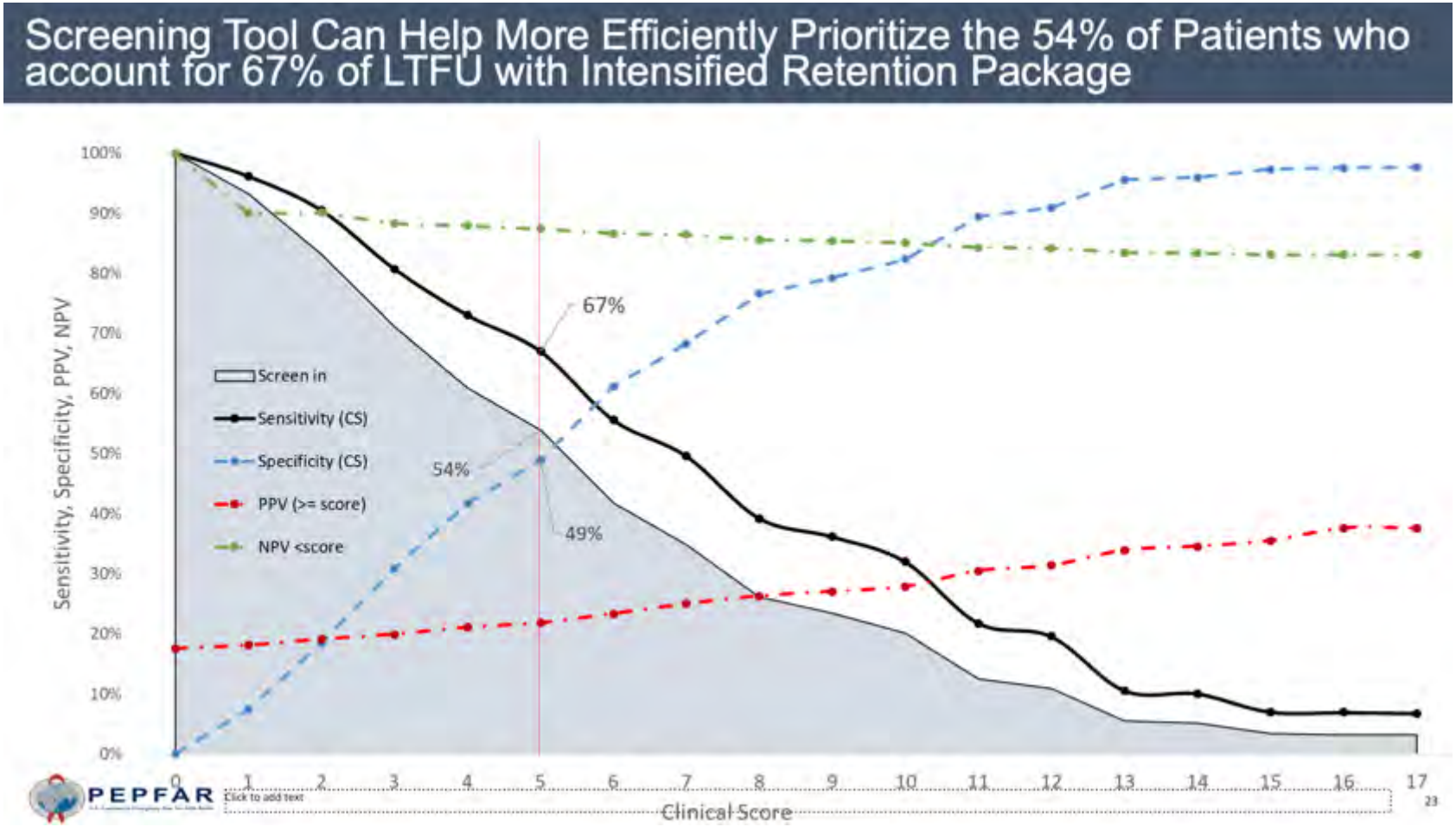

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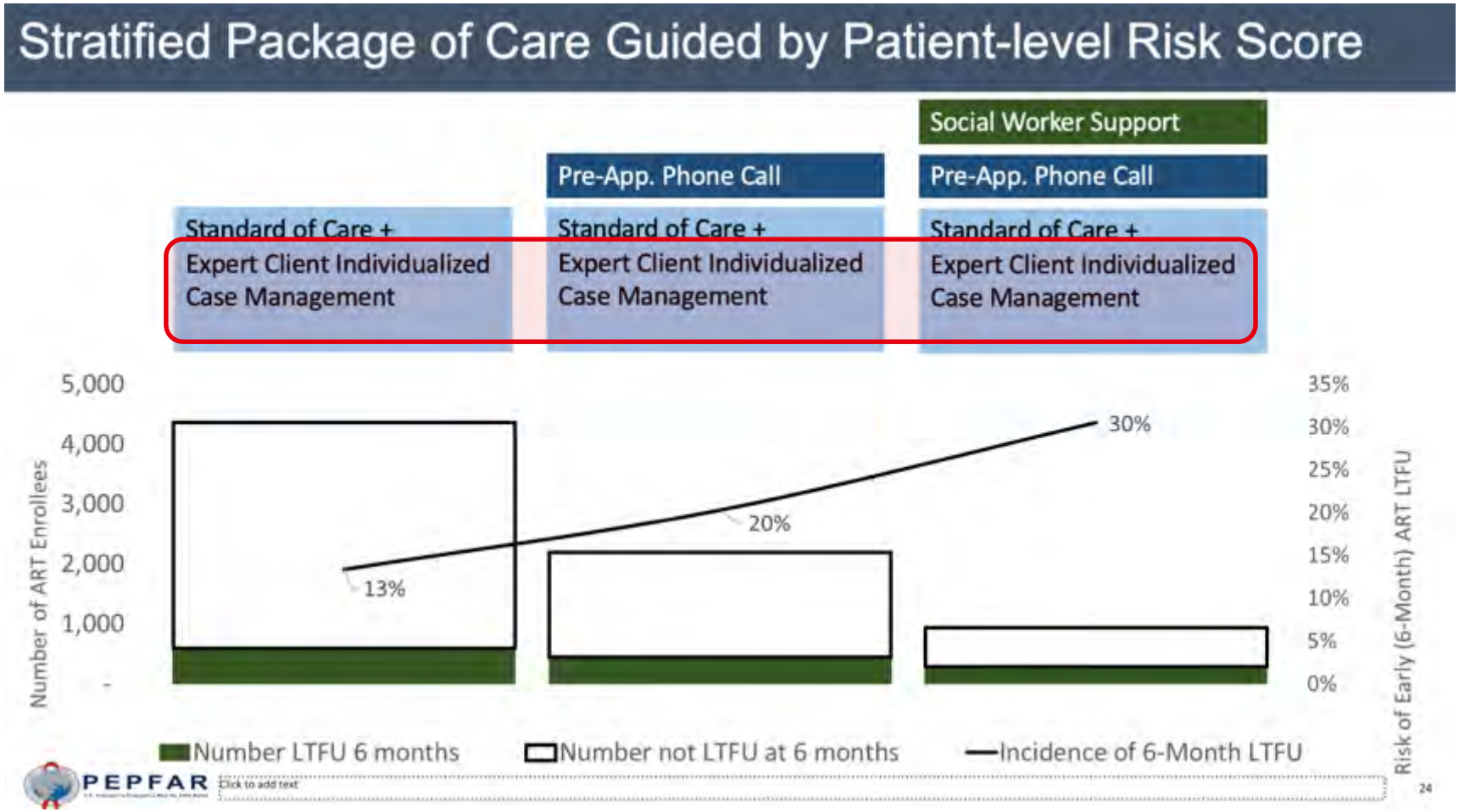

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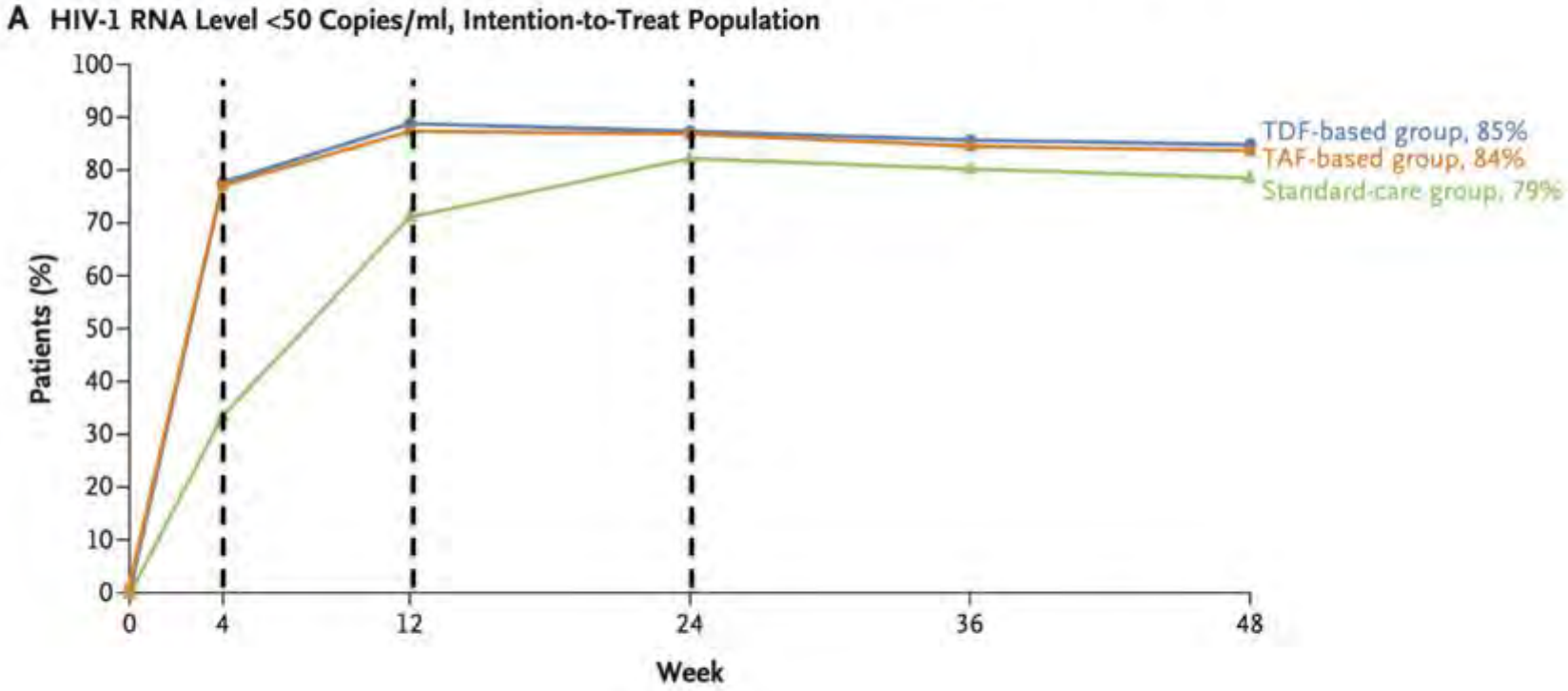
Discussion 1
Clinical optimization

- What do people living with HIV need and want clinically in the first 6 (12) months on treatment?
- Given resource constraints, can (and should) we “dis-intensify” clinical care in this period without jeopardizing outcomes?
- Specific clinical questions, for example:
  - Earliest time to do VL monitoring with DTG
  - When is an in-person clinical consultation needed, compared to a lay or virtual interaction ? Routinely or on demand? By whom?

HIV TREATMENT

Earlier first viral load – suppression rates post-ART initiation



Source: Venter et al NEJM 2019

Special thanks to Lara Vojnov for sharing this slide

Discussion 2: Engagement

- What do people living with HIV need and want in terms of engagement?
- Can we triage to more or less engagement?
- Specific engagement questions, for example:
  - The importance of offering patient choice
    - In a study, how can choice be included? What are the choice(s)/options?
  - How are positive engagement habits formed?
    - Short term investment for lifelong ART

Discussion 3: What would an optimal model look like?

- What are the clinical needs?
- What are the engagement needs?
- And how should/could these be provided?

…Let's make a model!


Let's have brunch!