

Rapid-Start Antiretroviral Therapy (ART) Decreases Time to Viral Suppression at a Large Community Clinic in Los Angeles, California

Nicole Cunningham, MPH
Program Manager, Epidemiology



LOS ANGELES LGBT CENTER

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Background & Aims

- RCTs have shown a significant decrease in time to viral suppression (TVS) with 'Rapid-Start ART'
- Observational studies have produced mixed results
- We evaluated the real-world impact of a rapid-start ART program on TVS in a large, community-based clinic in LA



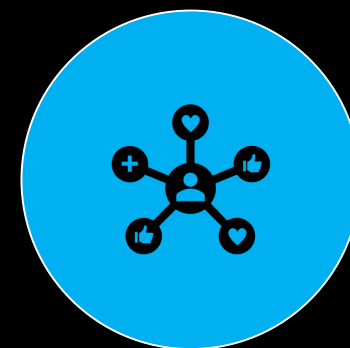
Los Angeles LGBT Center (“The Center”)



Federally-qualified
health center

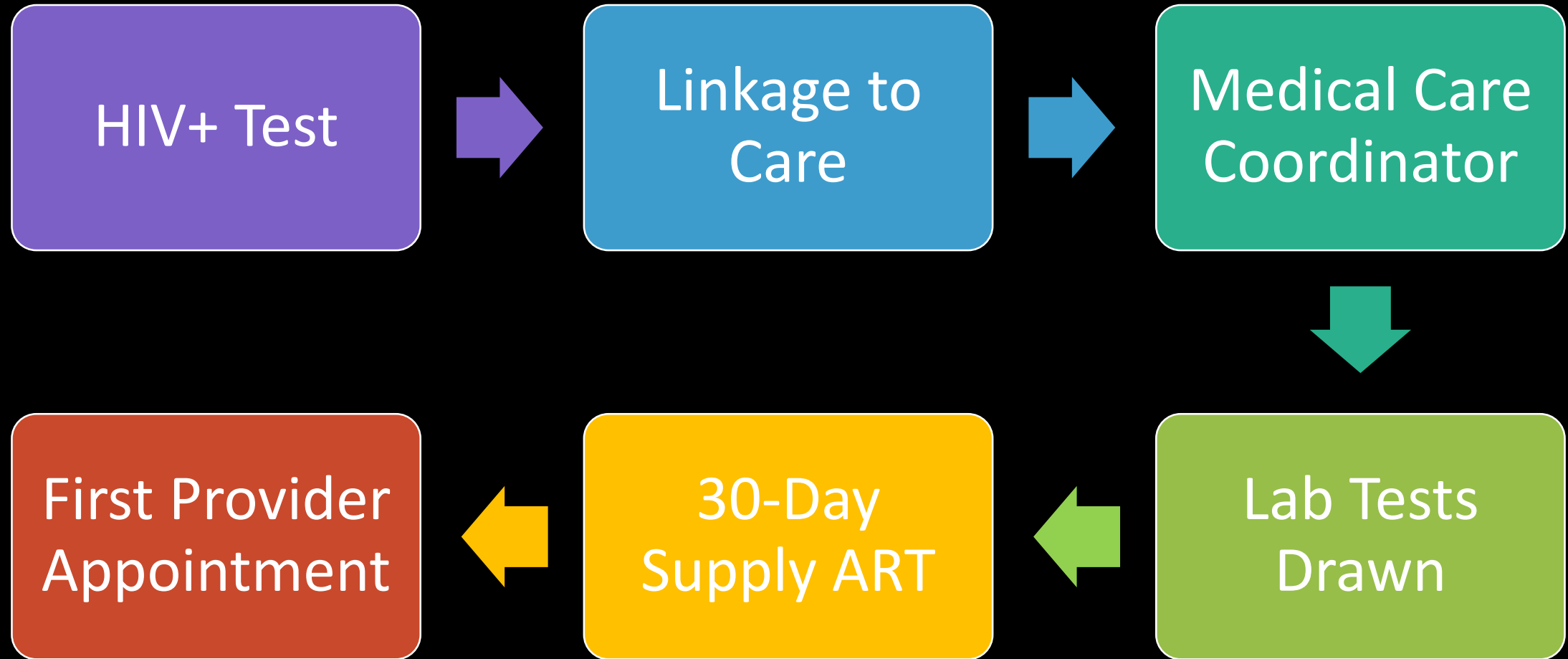


Health & social services,
including HIV/STD testing and
treatment at two locations



Rapid-start program
began in Feb 2017

Rapid-Start Program



Definitions

Rapid-Start Group: Clients who chose to enroll in the rapid-start program.

Non Rapid-Start Group: Any clients who did not enroll in the rapid-start program but still met the inclusion criteria for the study.

HIV Diagnosis Date: Date of disclosure to the client.

Time to ART Initiation: Time from HIV diagnosis date to the first date ART was prescribed.

Time to Viral Suppression (TVS): Time from HIV diagnosis date to first HIV-1 RNA of <200 copies/mL.

Methods

- Retrospective study of **227 clients (164 rapid-start and 63 non rapid-start)** who:
 - Were newly-diagnosed with HIV
 - Were not virally suppressed at baseline
- **Kaplan Meier (KM)** estimates generated median TVS
 - Groups (rapid-start & non rapid-start) were compared using Log-Rank tests
- A parametric, multivariable **accelerated failure time (AFT) model** estimated the effects of:
 - Group,
 - Demographics,
 - Baseline clinical characteristics on TVS

Baseline Demographics

Table 1 - Baseline Demographics of HIV+ Clients at the Los Angeles LGBT Center, February 2017 - October 2018 (N = 227).

Demographics	Overall		Rapid-Start		Non Rapid-Start		Between Group Comparison
	n	%	n	%	n	%	
Average Age, years (SD)	31 (9)	-	30 (8)	-	33 (11)	-	p=0.08
Gender Identity							p=0.21
Cis Man	214	94%	156	95%	58	92%	
Trans Woman	7	3%	4	2%	3	5%	
Genderqueer/Non-Binary Person	3	1%	3	2%	0	0%	
Cis Woman	3	1%	1	1%	2	3%	

Demographics	Overall		Rapid-Start		Non Rapid-Start		Between Group Comparison
	n	%	n	%	n	%	
Race/Ethnicity							
Latinx	113	50%	83	51%	30	48%	p=0.13
White (Non-Latinx)	48	21%	29	18%	19	30%	
Black (Non-Latinx)	32	14%	27	16%	5	8%	
Other (Non-Latinx)	33	15%	24	15%	9	14%	
Unknown/Missing	1	0%	1	1%	0	0%	
Housing Status							
Stably Housed	184	81%	130	79%	54	86%	p=0.35
Unstably Housed/Homeless	42	19%	33	20%	9	14%	
Unknown/Missing	1	0%	1	1%	0	0%	
Past Year Substance Use							
Yes	57	25%	44	27%	13	21%	p=0.08
No	137	60%	92	56%	45	71%	
Unknown/Missing	33	15%	28	17%	5	8%	

Baseline Clinical Characteristics

Table 2 - Baseline Clinical Characteristics of HIV+ Clients at the Los Angeles LGBT Center, February 2017 - October 2018 (N = 227).

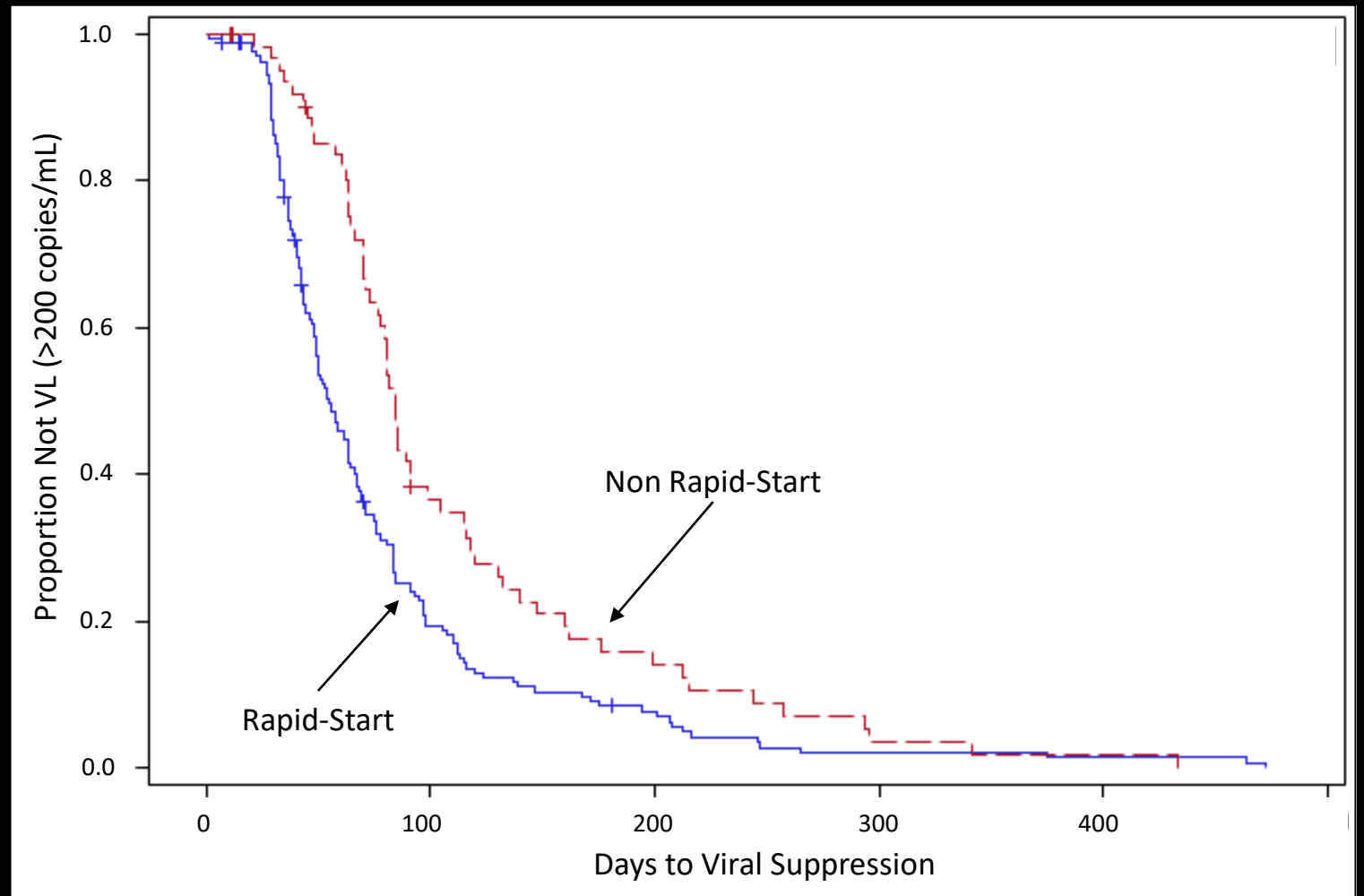
Characteristics	Overall	Rapid-Start	Non Rapid-Start	Between Group Comparison*
Median HIV-1 RNA, log(copies/mL) (IQR)	4.7 (4.2-5.5)	4.8 (4.2-5.5)	4.6 (4.2-5.3)	$p=0.30$
Median CD4 Count, cells/ μ l (IQR)	458 (316-624)	466 (313-654)	420 (342-561)	$p=0.29$
Median Time to ART Initiation, days (IQR)	7 (1-20)	4 (0.5-9)	29 (19-41)	$p<0.0001$

*Baseline clinical characteristics between groups were compared using Wilcoxon rank-sum tests.

Results

Without controlling for other variables, **median TVS was significantly decreased** ($p=0.001$)

- Non rapid-start: 81 days (IQR: 63-130)
- Rapid-start: 53 days (IQR: 36-84)



Results

- Controlling for other variables in the AFT model, TVS was decreased by 28% in the rapid-start group compared to the non rapid-start group (95% CI: 0.57, 0.89)
- Though not statistically significant, TVS was increased among those:
 - Who were young (<25 years old);
 - With a baseline CD4 cell count of less than 200 cells/ μ L;
 - Who were homeless;
 - Who identified as non-Latinx people of color.

Discussion



Implementation of a rapid-start ART program led to a significant decrease in TVS






Today, the Center rapid-starts nearly every newly-diagnosed client



Rapid-start ART may be particularly beneficial during the acute stage of HIV infection, when viremia is highest and risk of transmission to sexual partners is greatest

Limitations

-  Unable to control for substance use and medical case management
-  Follow-up time was limited
-  Limited generalizability to other populations and settings

Future Directions

- World Health Organization **endorses rapid-start for all individuals with HIV**, regardless of infection stage (2017)
- Rapid-start programs can require additional costs, resources, and staff; **sustainability is challenging**
- Research on **other long-term outcomes is needed**





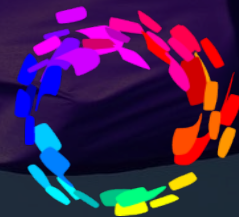
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Questions?
Comments?



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