Insight from PWH: A Roadmap to New Models for Long-Acting Injectable Antiretroviral Administration

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BACKGROUND

- Long-acting cabotegravir and rilpivirine (LA CAB/RPV) is injected intramuscularly typically by a nurse in clinic
- As more people with HIV (PWH) are switching to long acting injectable (LAI) antiretroviral therapy (ART), expanding access through new models of care is needed
- Perspectives from PWH on in-clinic administration of LA CAB/RPV could provide critical insight to optimize new models for LAI ART administration

METHODS

- Mixed methods analysis of entry visit data from a 48-week, parallel arm, non-randomized study where PWH on LA CAB/RPV were asked to choose between pharmacist-administered LA CAB/RPV in a pharmacy or continued in-clinic administration by a nurse
- Eligibility: age 18+, receipt of ≥2 LA CAB/RPV in clinic, HIV-1 RNA <50 copies/ml
- At entry, acceptability and appropriateness of the in-clinic model, HIV treatment satisfaction, quality of life, and HIV stigma were assessed
- Semi-structured interviews were conducted in a subset to evaluate barriers and facilitators to the in-clinic model

STATISTICS

- Logistic regression was used to compare dichotomized outcomes adjusted for age, sex, race, and ethnicity
- Thematic analysis identified key barriers and facilitators to administration in the clinic setting

Participant Characteristics

Median (IQR) Frequency (column %)	Total (n=140)	Pharmacy (n=42)	Clinic (n=98)	p-value
Age	40 (33, 51)	39 (33, 43)	41 (33, 55)	0.32
Sex				**0.04**
Male	104 (74%)	36 (86%)	68 (69%)	
Female	36 (26%)	6 (14%)	30 (31%)	
Gender				0.09
Cisgender men	95 (68%)	32 (76%)	63 (64%)	
Cisgender women	34 (24%)	5 (12%)	29 (30%)	
Transgender women	9 (6%)	4 (10%)	5 (5%)	
Other	2 (<1%)	1 (<1%)	1 (<1%)	
Race				0.19
Black/African American	88 (66%)	23 (56%)	65 (70%)	
White	41 (31%)	17 (41%)	24 (26%)	
Other	5 (4%)	1 (2%)	4 (4%)	
Ethnicity				0.37
Hispanic or Latino	19 (14%)	5 (12%)	14 (14%)	
Not Hispanic or Latino	120 (86%)	36 (86%)	84 (86%)	
CD4+ count, cell/mm³	719 (517, 936)	767 (515, 988)	692 (518, 880)	0.49
LA CAB/RPV duration, month	27 (12, 38)	25 (12, 40)	29 (13, 37)	0.93

PWH consider factors related to the emotional experience and logistics as both important barriers and facilitators to LA CAB/RPV administration in the clinic setting. New models of long-acting injectable ART administration need to consider these factors.

Thematic Findings from Interviews about In-Clinic LA CAB/RPV Administration

Theme/ Subtheme	Barriers	Facilitators	Example Quotations
Emotional Experience			
Respectful Nurse & Staff Interactions	——	Professional, personable, and respectful nurse and staff interactions foster trust and comfort	*"They're always friendly. The hospitality there is definitely nice. They don't make you feel like you're not wanted there, or you're opted out or the odd man out. They treat you very respectful."*
Supportive/Helpful Nurse & Staff	——	Nurses answer questions, offer resources, and assist with logistics	*"If I need something, I know to speak up and ask and, if they don't have it, they'll lead me to the right resources that can provide me with whatever I need."*
Reassurance of Nurse Competence	——	Trust in regular nurses who are experienced and perceived as competent, promoting feelings of safety; uncertainty about medication mixing at pharmacy	*"The nurses are very good and been doing it for a while and I feel safe and secure, and nobody's gonna say anything while I'm there, so it's safe."*
Rapport & Familiarity with Nurse	Preference to know ahead of time who is administering injection; discomfort with unfamiliar nurse	Comfort and rapport with known nurses; preference for continuity	*"Maybe twice a year I'll have a different nurse that I've never seen before. I've had the shot for two years now, so it has been nice to have a rapport, or be familiar with what's about to happen, what's going on."*
Anonymity/Risk of Recognition via Place	Fear of being identified in HIV-specific clinic areas	Mixed-specialty clinic layout and discreet check-in enhance anonymity	*"Because it's in the Infectious Disease Clinic. So, it's kind of obvious that somebody's there for something in that realm. To the pharmacy point, there would be much greater anonymity"*
Privacy & Discretion	Open doors, thin walls, loud staff, visible medication handling	Curtains pulled, doors closed, discreet communication, and familiar staff support feelings of privacy	*"Definitely feels private because they always make sure that the door is shut. On top of that, the curtain is pulled, in case anyone were to come in the door."*
Logistics/Procedures			
Clinic Navigation & Access	Difficulty navigating from parking to Infectious Disease clinic; parking challenges	Easier access when location is closer or transportation support is provided (e.g. gas cards)	*"It is annoying when I just have to go for the shot because I have to drive 30 minutes … spend a half hour, drive another 30 minutes home.. I end up spending an hour and a half altogether between traveling, walking in, doing all of that, which is kind of frustrating, just to get a shot."*
Crowding & Wait Times	Crowded clinic environment; long wait times, especially with substitute nurses	Quick process when regular nurse is present; efficient scheduling and check-in	*"It is annoying because the time that I get seen is based on how busy they are that day. It's not like I get straight in because I have an appointment. If it's busy, I'll end up sitting longer."*
Scheduling & Flexibility	——	Flexible scheduling, rescheduling ease, and alignment with other appointments streamline care	*"They always work around my schedule."*
Integrated Care	——	Ability to combine injection visits with other appointments (e.g. PCP, labs) is convenient	*"One of my six month's doctor's appointment is always tied in, so it works good."*

This work was supported by a grant from ViiV Healthcare to COH. The content is solely the responsibility of the authors and does not necessarily represent the official views of ViiV Healthcare.

Quantitative Outcomes by Injection Administration Model Selected by Participants

Median (IQR)	Pharmacy (n=42)	Clinic (n=98)	p-value
Acceptability score (AIM)	4.75 (4-5)	4.75 (4-5)	0.96
Appropriateness score (IAM)	4.63 (4-5)	4.88 (4-5)	0.99
HIV treatment satisfaction (HIVTSQs)	65 (62-66)	65 (59-66)	0.64
Quality of life (SF-36)			
Physical functioning	100 (75-100)	90 (60-100)	0.19
Energy	60 (50-70)	55 (40-75)	0.73
Emotional well-being	80 (60-88)	76 (56-88)	0.74
Social functioning	88 (50-100)	75 (50-100)	0.39
General pain	90 (68-100)	79 (55-100)	0.06
General health	70 (50-85)	70 (55-85)	0.97
HIV Stigma (Short HSS)			
Overall	30 (25-37)	28 (23-33)	0.12
Negative self-image	6 (5-9)	6 (3-8)	0.13
Personalized stigma	6 (3-8)	6 (3-7)	0.89
Disclosure concerns	9 (9-11)	9 (7-10)	0.14
Public attitude concerns	9 (7-11)	9 (6-10)	0.08

AIM and IAM scores range 1-5, with higher scores indicating higher acceptability and appropriateness. HIVTSQs scores range 0-66, with higher scores indicating greater satisfaction. Each SF-36 component score ranges 0-100, with higher scores indicating higher perceived QOL. Overall HIV Stigma score range 12-48, with higher scores indicating greater HIV stigma. Adjustment for age, sex, race, and ethnicity did not change the results.

RESULTS

- 140 patients were enrolled with 98 continuing LA CAB/RPV in the clinic and 42 transitioning to pharmacy
- For in-clinic LA CAB/RPV, acceptability, appropriateness, treatment satisfaction, and QOL were high and not different by LA CAB/RPV administration model selected
- Interviews (n=20) identified two core themes across barriers and facilitators of in-clinic LA CAB/RPV—emotional factors and logistical factors—each comprising comparatively more facilitators than barriers
- Mixed methods findings indicated that while acceptability score was similar between groups, pharmacy choosers identified clinic barriers (navigation, crowding) not mentioned by clinic choosers

CONCLUSIONS

- These patterns suggest acceptability score may mask differences in how patients frame their care preferences
- Recreating facilitators and considering barriers will be important in adapting novel models for LAI ART administration

PLAIN LANGUAGE SUMMARY: PWH find that receiving their LA CAB/RPV in the clinic is acceptable and appropriate, but they also cite emotional and logistical barriers that should be considered when coming up with ways to expand access to this treatment.