Rapid antiretroviral therapy start and restart for justice-involved people living with HIV in the Illinois Department of Corrections

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UI Health

Background

- **Rapid ART initiation improves outcomes:** Early antiretroviral therapy (ART) is clinically proven to reduce HIV-related morbidity, mortality, and transmission, particularly when started immediately after diagnosis.[1]
- **Limited evidence in corrections:** While rapid ART has shown success in outpatient settings, data on its implementation and outcomes in populations in-custody, especially for those restarting therapy, remains limited.[2]
- **Gaps in carceral HIV care:** Justice-involved individuals face systemic delays in diagnosis and ART access, leading to poor linkage to care, higher rates of viral rebound, and community transmission.[3]
- **Patients who are treatment-experienced are underrepresented:** Rapid ART studies exclude individuals with prior ART exposure, leaving uncertainty about safety and efficacy in those reinitiating therapy after lapses.
- **Study aims:** This study evaluates rapid ART initiation and re-initiation among adults in-custody with new or prior HIV diagnoses, using a structured telemedicine model within the Illinois Department of Corrections (IDOC).

Methods

- **Study Design & Population**
  Retrospective cohort analysis of adults diagnosed with HIV (ART-naïve or treatment-experienced) and in-custody in the IDOC between January 1, 2021, and June 30, 2024.
- **Telemedicine-Based Rapid ART Model**
  All individuals received rapid ART initiation or restart at their first post-intake visit with a multidisciplinary HIV care team via telemedicine at UI Health.
- **ART Selection & Resistance Evaluation**
  - Individuals who were ART-naïve underwent baseline resistance testing when feasible.
  - Treatment-experienced individuals were restarted on ART based on guideline-based therapy, clinical history, and genotypic data, if available.
- **Statistical Analysis**
  Descriptive statistics summarized demographic data and clinical outcomes. Paired t-tests and Chi-square tests assessed differences in CD4 count and virologic suppression, respectively. Significance was defined as $p < 0.05$.
- **Inclusion Criteria**
  - Adults with HIV while in IDOC custody
  - ART-naïve or treatment-experienced individuals eligible for rapid ART
  - Followed by UI Health's multidisciplinary HIV care team via telemedicine
- **Exclusion Criteria**
  - No confirmed HIV diagnosis during time in IDOC custody
  - Did not initiate or restart ART at the first post-intake appointment

Primary Endpoint:
- Proportion of justice-involved individuals with new or prior HIV diagnoses who achieved viral suppression at first follow-up (HIV RNA <200 copies/mL) following rapid ART initiation or re-initiation while in-custody

Secondary Endpoint:
- Change in CD4 cell count from baseline to first follow-up among individuals starting or restarting rapid ART

Results

Table 1. Baseline Characteristics and Outcomes of Patients who were Treatment-Naïve (n=22)

	Baseline		Follow-up	p-value
Age, n (%)	20 – 30 years	5 (23)	---	---
	31 – 40 years	11 (50)		
	41 – 50 years	5 (23)		
	>51 years	1 (5)		
Gender, n (%)	Male	21 (95)		
	Female	0 (0)		
	Transgender Female	1 (5)		
Ethnicity	Black	16 (73)		
	White	5 (23)		
	Latino	1 (5)		
CD4 count, average (range)	444 (range: 113 – 1127 cells/mm³)		553 (range: 214 – 905 cells/mm³)	P= 0.0025
VL, n(%)	<200 copies/mL	0 (0)	21 (93%)	P<0.0001
	≥200 copies/mL	22 (100)	1 (7%)	
Genotype obtained	Yes	17 (77)	---	---
	No	4 (18)		
	Obtained, unable to sequence	1 (5)		
Rapid Start Agent	Bictegravir/emtricitabine/tenofovir alafenamide	15 (68)	15 (68)	---
	Dolutegravir/lamivudine	7 (32)	7 (32)	

Fig.A: Viral Suppression in Patients who are Treatment-Naive

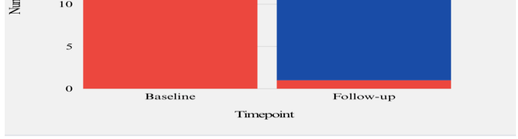
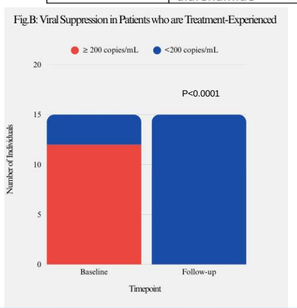


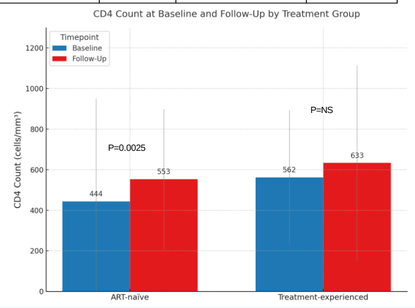
Table 2. Baseline Characteristics and Outcomes of Patients who were Treatment-Experienced (n=15)

	Baseline		Follow-up	p-value
Age, n (%)	20 – 30 years	3 (20)	---	---
	31 – 40 years	7 (47)		
	41 – 50 years	4 (26)		
	>51 years	1 (7)		
Gender, n (%)	Male	12 (80)		
	Female	2 (13)		
	Transgender Female	1 (7)		
CD4 count, average (range)	562 (range: 95 – 760 cells/mm³)		633 (range: 110 – 1073 cells/mm³)	NS
VL, n(%)	<200 copies/mL	3 (20)	15 (100%)	P<0.0001
	≥200 copies/mL	12 (80)	0 (0%)	
Genotype obtained	Yes	1 (7)	---	---
	No	14 (93)		
Rapid Re-Start Agent	Bictegravir/emtricitabine/tenofovir alafenamide	12 (80)	12 (80)	---
	Dolutegravir/lamivudine	1 (7)	1 (7)	
	Dolutegravir/lamivudine/abacavir	1 (7)	1 (7)	
	Rilpivirine/ emtricitabine/tenofovir alafenamide	1 (7)	(7)	

Fig.B: Viral Suppression in Patients who are Treatment-Experienced



CD4 Count at Baseline and Follow-Up by Treatment Group



Results (Cont.)

Figure 3. Transmitted Drug Mutations in Patients who were Treatment-Naive

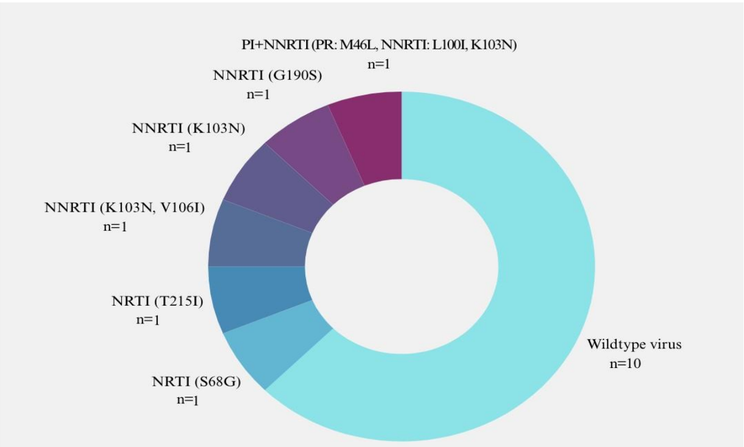


Fig. C: Transmitted Drug Mutations in Patients who are Treatment-Naive (n=16)*
*one was unable to be sequenced

Conclusion

- Rapid ART initiation and re-initiation in the correctional setting led to high rates of early viral suppression, with no need for regimen changes, supporting its feasibility and effectiveness regardless of prior treatment history.
- ART re-initiation was successfully achieved in individuals who were treatment-experienced, even in the absence of genotypic resistance data, demonstrating the safety of empiric therapy approaches in this setting.
- The majority of participants were initiated on BIC/FTC/TAF or DTG/3TC, highlighting the practicality of using guideline-recommended, well-tolerated INSTI-based regimens for rapid implementation in carceral environments.

Disclosures

The authors of this presentation have no financial relationships to disclose.

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