Brigham and Women's Hospital
Founding Member, Mass General Brigham

HARVARD MEDICAL SCHOOL

IDEV
Instituto Dominicano de Estudios Virológicos

Unique Predictors of Retention and Viral Among People With HIV in Dominican Republic

Karol Reyes, MD

X KarolReyesH

BACKGROUND

1. In recent years, the HIV epidemic in the Dominican Republic and surrounding regions in Latin America has disproportionately affected migrants, particularly those from Haiti and Venezuela.
2. Migrants often face unique challenges along the HIV continuum of care that require tailored interventions.
3. We conducted a study to identify factors associated with retention, attrition, and viral suppression in this population to improve outcomes and control HIV in the region.

METHODS
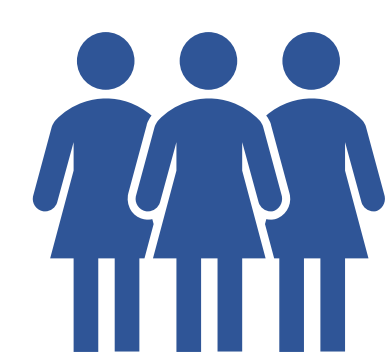
We conducted a retrospective analysis of 1,326 patients enrolled in HIV care from 2019 to 2021 at a major HIV clinic in the DR.

We used multivariable Cox proportional hazards and logistic regression models to assess sociodemographic and clinical factors associated with retention in care and viral suppression (VL < 200 copies/mL).

Key variables included age, nationality, legal documentation status, key population status (e.g., MSM), CD4 count, and site of ART delivery (community- vs. health center-based).

In the Dominican Republic, older age, identifying as MSM, and receiving ART in the community were associated with better retention and outcomes.

Identifying as a migrant and lacking documentation were associated with poorer health outcomes.

Table 1. Sociodemoraphic characteristics of study participants

	Overall (N = 1326)	Retained in care (N = 773)
Sex (N%)		
Female	536 (40.4)	308 (39.8)
Male	790 (59.6)	465 (60.2)
Has a legal document	1006 (77.9)	667 (89.3)
Nationality		
Dominican Republic	774 (58.4)	526 (68.0)
Haiti	504 (38.0)	223 (28.8)
Grouped nationalities	48 (3.6)	24 (3.1)
Risk group		
MSM	356 (26.8)	248 (32.1)
Other or non-Key population	963 (72.6)	522 (67.5)
Transgender or Female Sex Worker	7 (0.5)	3 (0.4)
Reason for attrition		
Deceased	19 (3.4)	-
Lost to follow-up	534 (96.6)	-

Table 2. Retention in Care

	Retained in Care N = 773	Attrition from Care N = 553	HR (95% CI)	P-value
Sex				
Female	308 (39.8)	228 (41.2)		
Male	465 (60.2)	325 (58.8)		
Age group				
18-29	203 (26.3)	172 (31.1)	-	-
30-39	270 (34.9)	219 (39.6)	0.85 (0.40 - 1.05)	0.13
40-49	185 (23.9)	96 (17.4)	0.67 (0.52 - 0.87)	0.002
≥50	115 (14.9)	66 (11.9)	0.74 (0.55 - 1.00)	0.05
Has a legal document				
Yes	667 (89.3)	339 (62.2)	-	-
No	80 (10.7)	206 (37.8)	2.61 (2.09 - 3.25)	<0.001
Nationality				
Dominican Republic	526 (68.0)	248 (44.8)	-	-
Haiti	223 (28.8)	281 (50.8)	1.95 (1.55 - 2.46)	<0.001
Grouped Nationalities	24 (3.1)	24 (4.3)	2.02 (1.31 - 3.13)	0.002
Risk group				
Non-Key population	522 (67.5)	441 (79.7)	-	-
MSM	248 (32.1)	108 (19.5)	0.70 (0.54 - 0.90)	0.006
Trans or Female Sex Worker	3 (0.4)	4 (0.7)	1.33 (0.50 - 3.60)	0.57
Site of ARV delivery				
Health Center	721 (93.5)	546 (98.7)	-	-
Community	50 (6.5)	7 (1.3)	0.14 (0.07 - 0.30)	<0.001

Continuous variables are presented as Median (interquartile range) and proportions are presented as Number (%) unless stated otherwise. n is as listed in the table header, unless stated otherwise.
Grouped nationalities includes Bolivian, Colombian, Cuban, French, Dutch, Jamaican, Mexican, Nicaraguan, Spanish, American, Swiss, Venezuelan.

Table 3. Viral Load Supression

	Undetectable N = 674	Detectable N = 85	OR (95% CI)	P-value
Sex				
Female	258 (38.3)	44 (51.8)	-	-
Male	416 (61.7)	41 (48.2)	0.86 (0.49 - 1.49)	0.59
Has a legal document				
Yes	596 (91.6)	59 (71.1)	-	-
No	55 (8.4)	24 (28.9)	2.15 (1.08 - 4.23)	0.03
Nationality				
Dominican Republic	482 (71.5)	34 (40.0)	-	-
Non-Dominican nationalities	192 (28.5)	51 (60.0)	2.73 (1.43 - 5.26)	0.002
Risk group				
Non-Key population	441 (65.4)	74 (87.1)	-	-
Key population	233 (34.5)	11 (12.9)	0.38 (0.14 - 0.91)	0.04
Initial CD4 count				
<200 cells/mm³	155 (25.3)	28 (37.3)	-	-
≥200+ cells/mm³	457 (74.7)	47 (62.7)	0.59 (0.35 - 1.03)	0.06
Site of ARV delivery				
Health Center	637 (94.5)	72 (84.7)	-	-
Community	37 (5.5)	13 (15.3)	1.10 (0.49 - 2.35)	0.82

Grouped nationalities includes Bolivian, Colombian, Cuban, French, Dutch, Jamaican, Mexican, Nicaraguan, Spanish, American, Swiss, Venezuelan.
Non-Dominican nationalities includes individuals of Haitian nationality, and all other grouped nationalities. This grouped category was formed to facilitate modelling as there were only 24 individuals that were undetectable in the grouped nationalities category.
There were 3 people in the Trans or Female Sex Worker category in the undetectable group so we created a Key population group that included MSM, trans and FSW.
OR = Odds ration, CI = Confidence Interval.

RESULTS

1. Of 1,326 participants, 58.3% remained in care. Retention was higher among older individuals (40-49 years: HR 0.67, p=0.002), those identifying as MSM (HR 0.70, 95%CI 0.54-0.90, p<0.001), and those receiving antiretroviral therapy (ART) in community settings (HR 0.14, 95%CI 0.07–0.30, p<0.001).

2. Attrition was more common among undocumented individuals (HR 2.61, 95%CI 2.09-3.25, p<0.001), people from Haiti (HR 1.95, 95%CI 1.55-2.46, p<0.001), and other non-Dominican nationals (HR 2.02, 95%CI 1.31-3.13, p=0.002).

3. Among the 759 retained patients with available viral load data, 88.8% achieved viral suppression. Factors associated with suppression included being part of a key population (predominantly MSM) (OR 0.38, 95%CI 0.14-0.91, p=0.002) and an initial CD4 count ≥200 cells/mm³ (OR 0.59, 95%CI 0.35-1.03, p=0.06).

4. Detectable viral loads were associated with undocumented status (OR 2.15, 95%CI 1.08-4.23, p=0.03) and non-Dominican nationality (OR 2.73, 95%CI 1.43-5.26, p=0.002).

CONCLUSIONS

1. In the Dominican Republic, older age, identifying as MSM, and receiving ART in the community were associated with better retention and outcomes.
2. Challenges remain for undocumented individuals and migrants, highlighting the need for inclusive strategies that address access to care for this population.
3. By considering these diverse factors, targeted interventions can be developed to improve HIV outcomes and advance epidemic control in the region.

Wilfredo R. Matias, **Karol Reyes**, Maria I. Curiel, Rairis A. Morrison, Maria L. Garcia, Carlos Adon, Louise C. Ivers.