Longitudinal Enrollment and Churn in the AIDS Drug Assistance Program in 3 States, 2014-2021

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Background

- AIDS Drug Assistance Programs (ADAPs) provide access to antiretroviral therapy (ART) for low-income people with HIV (PWH).
- Enrollment churn—defined as disenrolling or re-enrolling in ADAP coverage—may impact ART access continuity, cause program and client administrative burden, and worsen health outcomes (i.e., failure to achieve or maintain viral suppression).
- **Study Objective: To examine patterns and predictors of enrollment churn in the AIDS Drug Assistance Program (ADAP) across three states from 2014-2021.**

Methods

- We analyzed individual-level ADAP data from January 2014-December 2021 in Arizona, Maryland, and Virginia.
- Enrollment and disenrollment dates were used to construct a person-month-level longitudinal dataset.
- Person-time accrued from first observed enrollment until death or December 31, 2021, whichever occurred first.
- Churn events were defined as any transition in enrollment status following a client's first observed enrollment, including transitions from enrollment to disenrollment and from disenrollment to re-enrollment. We calculated the number of churn events per client and estimated incidence rates per 100 person-years (py).
- Poisson regression with a log link, robust variance estimation, and an offset for person-time was used to estimate incidence rate ratios (IRRs) for state, enrollment year, demographic, clinical, and program factors.

Highlights

Among 28,887 ADAP clients across three states, churn occurred at a rate of 37.6 events per 100 person-years. This corresponds to about one enrollment change for every 3 clients each year. Younger adults, Black/African American and Hispanic/Latino clients experienced significantly higher churn rates. ADAP-subsidized insurance reduced churn by 16%, suggesting expanded insurance access could improve antiretroviral therapy access continuity.

Results

- Across 163,678 person-years, we observed 61,481 churn events, corresponding to an incidence rate of 37.6 per 100 person-years (95% CI: 37.3 - 37.9).
- The average client churned 2.13 times (SD: 2.83) over 68 months (SD: 24).
- The average client was enrolled 57% (SD: 33) of the time during the observation window.
- Greater rates of ADAP churn were observed among younger clients, racial/ethnic minorities, and those with certain HIV risk factors

Discussion

- ADAPs may consider streamlining reenrollment processes, enhancing outreach and support for those with a higher risk of churn to ensure that clients are not disenrolled when they are eligible, and expanding access to ADAP-subsidized insurance to reduce churn.
- These strategies could improve ART access continuity and health outcomes while reducing administrative burden on clients and programs.
- Further quantitative and qualitative research is needed to understand how enrollment churn influences health outcomes and quality of life among different groups of ADAP clients.

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Results

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Adjusted Rate Ratios (95% CI) of Churn by Demographic, Clinical and Program Characteristics among 28,887 ADAP Clients Enrolled 2014-2021

Characteristics	Level n (%)	IRR (95% CI)
Age (Ref: 18-29)	30-44 9,463 (33)	0.92 (0.89–0.95)
	45-64 12,456 (44)	0.83 (0.8–0.86)
	65+ 1,363 (5)	0.7 (0.65–0.75)
Sex (ref: Male)	Female 7,631 (26)	0.96 (0.93–1)
Race (Ref: White)	AIAN 368 (1.3)	1 (0.91–1.11)
	Asian 341 (1.2)	0.96 (0.87–1.05)
	Black/AA 17,926 (62)	1.14 (1.11–1.18)
	Multiracial 196 (0.7)	0.86 (0.75–0.98)
	NHPI 49 (0.2)	0.75 (0.57–1)
Ethnicity (Ref: Not Hispanic)	Hispanic 4,329 (15)	1.11 (1.07–1.15)
Residence (Ref: Urban)	Rural 1,250 (4.3)	0.93 (0.9–0.97)
First enrollment year Mean (SD)	Continuous 2016 (2.1)	1.06 (1.06–1.07)
HIV Diagnosis (ref: > 1 year)	Past Year 5,032 (17)	0.93 (0.9–0.97)
AIDS Diagnosis (Ref: Never)	Ever 11,445 (40)	1.05 (1.02–1.08)
HIV Care Engagement in Past 6 Months (Ref: No)	Yes 18,615 (64)	1 (0.98–1.03)
HIV Risk Factor (Ref: Heterosexual Contact)	IDU 2,402 (8.3)	1.07 (1.02–1.12)
	MSM + IDU 1,373 (4.8)	0.91 (0.85–0.97)
	MSM 14,695 (51)	0.97 (0.93–1.01)
	Not Identified 1,885 (6.5)	0.96 (0.92–1)
	Other 284 (1.0)	1.12 (1–1.26)
ADAP Program Type (Ref: Full-Pay)	Insurance 9,939 (34)	0.84 (0.81–0.86)

