Improved retention after implementing differentiated services for postpartum women with HIV in Kenya

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BACKGROUND

1. Differentiated service delivery (DSD) extends intervals between HIV clinic visits (e.g., every 3-6 months versus monthly) to simplify care for clinically stable patients (e.g., on ART ≥6 months, virally suppressed).
2. In August 2022, Kenya's HIV treatment guidelines expanded DSD eligibility to include clinically stable postpartum women with HIV (PPWH).
3. We evaluated DSD implementation among PPWH in Kenya, within the East Africa International epidemiology Databases to Evaluate AIDS Consortium.

METHODS

- ***Study design***: retrospective cohort
- ***Setting***: 52 clinics affiliated with the Academic Model Providing Access to Healthcare (AMPATH), Kenya.
- ***Eligibility criteria***: pregnancy end date occurred within 2019-2024; ≥1 attended clinic visit to a maternal-child health clinic within 3 months after pregnancy end date.
- ***Objective 1 analysis***: We determined time intervals between attended and scheduled return visits over time, stratified by the date of the attended visit in relation to postpartum periods: delivery-6, 7-12, and 13-18 months.
- ***Objective 2 analysis***: We determined the incidence of gaps in care for PPWH before and after release of the Kenya 2022 HIV guidelines. The primary outcome was time from pregnancy end to first gap in care (>30 days late for a scheduled visit). We estimated marginal state occupation probabilities of being retained in care versus in a gap in care using the Aalen-Johansen estimator and tested differences using a linear nonparametric test. We estimated recurrent gaps with a marginal multivariable Cox model, including the guideline release as a time-dependent covariate.

RESULTS

- **Objective 1:** 8,148 PPWH with 82,800 clinic visits (**Fig 1**).
- Median time between visits remained ~30 days through the first 6 months postpartum.
- In later postpartum periods, median time intervals increased from 30 to 56 days (7-12 months) and 34 to 63 days (13-18 months).

Postpartum retention in care improved after implementation of differentiated service delivery, supporting its adoption for this population and potential to improve maternal and child health outcomes.

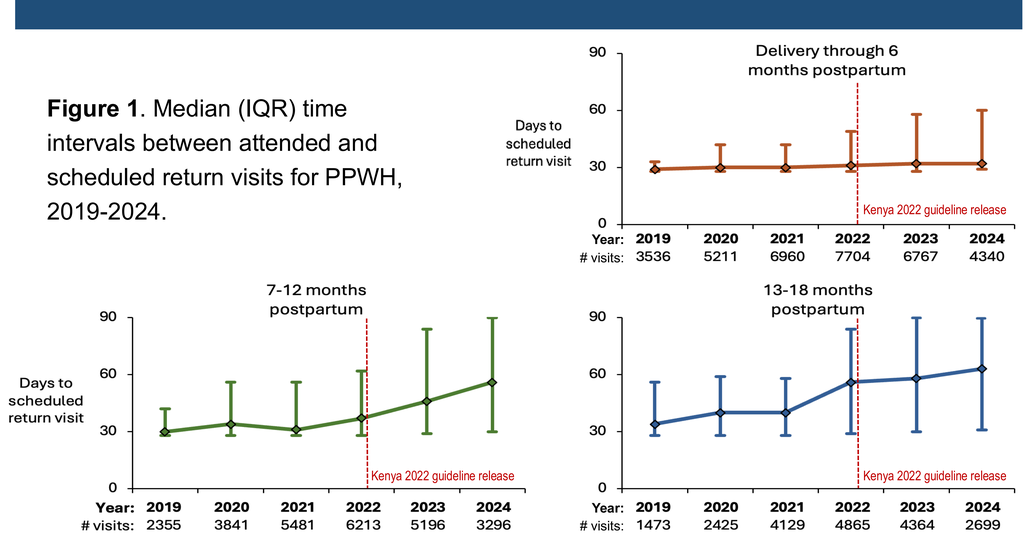


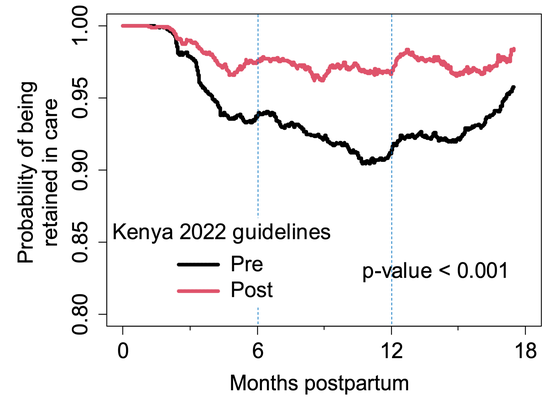
Figure 1. Median (IQR) time intervals between attended and scheduled return visits for PPWH, 2019-2024.

Table 1. Characteristics at pregnancy end (N = 8,148; p ≤0.001 for all).

	Overall Median (IQR)	Gap in care: No Median (IQR)	Gap in care: Yes Median (IQR)
Age (years)	30.8 (25.9, 35.7)	31.5 (26.5, 36.2)	29.7 (25.0, 34.7)
CD4 at ART start (cells/μl)	327 (193, 523)	312 (185, 508)	349 (214, 546)
Years on ART	3.5 (0.5, 7.8)	4.0 (0.6, 8.4)	2.5 (0.4, 6.7)
	N (%)	**N (%)**	**N (%)**
Post-DSD Kenya 2022 guideline	2927 (35.9)	2250 (44.5)	677 (21.9)
Facility			
Health centre	2345 (28.8)	1396 (27.6)	949 (30.6)
District hospital	4616 (56.7)	2785 (55.1)	1831 (59.1)
Regional hospital	1187 (14.6)	870 (17.2)	317 (10.2)
Newly HIV positive	1834 (22.5)	1045 (20.7)	789 (25.5)
ART base			
Dolutegravir	5302 (68.7)	3492 (72.5)	1810 (62.3)
NNRTI (efv, npv)	1873 (24.3)	950 (19.7)	923 (31.8)
PI (atv, lpv) / Other	544 (7.0)	372 (7.7)	172 (5.9)
VL < 1000 copies/mL	5406 (94.9)	3609 (96.0)	1797 (92.9)
Outcome			
Gap in care	3097 (38.0)	0 (0.0)	3097 (100.0)
Death	20 (0.2)	20 (0.4)	0 (0.0)
*Censoring**	5031 (61.7)	5031 (99.6)	0 (0.0)

*18 months (62.9%), database closure (30.8%), transfer out (6.3%)

Figure 2. Probability of retention in care through 18 months, before and after Kenya's 2022 HIV guidelines.



Estimated marginal state occupation probabilities (retained vs. gap in care)

- **Objective 2:** 62% of PPWH were retained through 18 months; 38% had ≥1 gap (**Table 1**).
- Compared to retained PPWH, those with a gap were younger, had higher CD4, shorter ART duration, and more were diagnosed with HIV during pregnancy.
- The probability of being retained was higher post- vs. pre-guideline (**Fig 2**).
- In the multivariable model, the hazard of a gap was lower post- vs. pre-guideline (HR 0.57, 95% CI: 0.47-0.71). Older age and higher facility level were independently associated with lower hazards; HIV diagnosis during pregnancy was associated with a higher hazard.

CONCLUSIONS

- Visit intervals increased after 6 months postpartum over time, reflecting DSD adoption.
- The hazard for a gap in care was lower post- versus pre-DSD guidelines, supporting DSD implementation for PPWH.

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