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Background

- South Africa's 2023 HIV treatment guidelines introduced several changes to improve early ART outcomes and reduce the care burden on facilities and clients.
- Changes affecting ART clients in the early treatment period included:
 - Fewer clinic visits required in the 1st year of ART
 - Timing of first viral load (VL) test moved to 3 months after initiation (previously 6 months)
 - Eligibility assessment for six-monthly visits, six-month scripts, and enrolment in low-intensity differentiated models of care (DMOCs) at 4 months (previously 7 months).
- We evaluated implementation of the 2023 guideline revision using routine TIER.Net data from three districts.

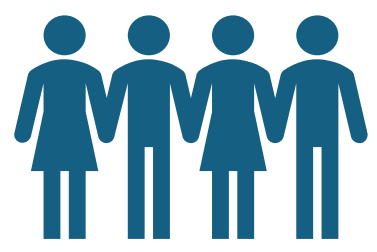
Early viral load testing and six-month scripting and visit intervals reduced the number of clinic visits without compromising viral suppression, but some implementation and data gaps remain.

Methods

- Data source:** Routinely collected TIER. Net data from 18 public-sector primary healthcare facilities across three South African districts (Ehlanzeni, King Cetshwayo, and West Rand).
- Study population:** Non-pregnant adults (≥18 years) initiating or re-initiating ART between January 2022 and March 2025.
- Analysis and outcomes:**
 - Clinic visits:** Compared first-year clinic visit frequency across 2022–2024 ART initiation cohorts.
 - Implementation fidelity:** Interrupted time series analysis assessed uptake of 3-month VL testing (2–<4 months) and assignment to six-month visit intervals and ART scripting before and after the 2023 guideline revision.
 - Treatment outcomes:** Modified Poisson regression assessed associations between receipt of 6-month visit intervals and/or ART scripting and (1) uptake of the second scheduled VL test and (2) viral suppression (<50 copies/mL) at that test. The second VL was expected at 10 (post-2023 guideline cohort) or 12 months (pre-2023 cohort) after ART initiation.

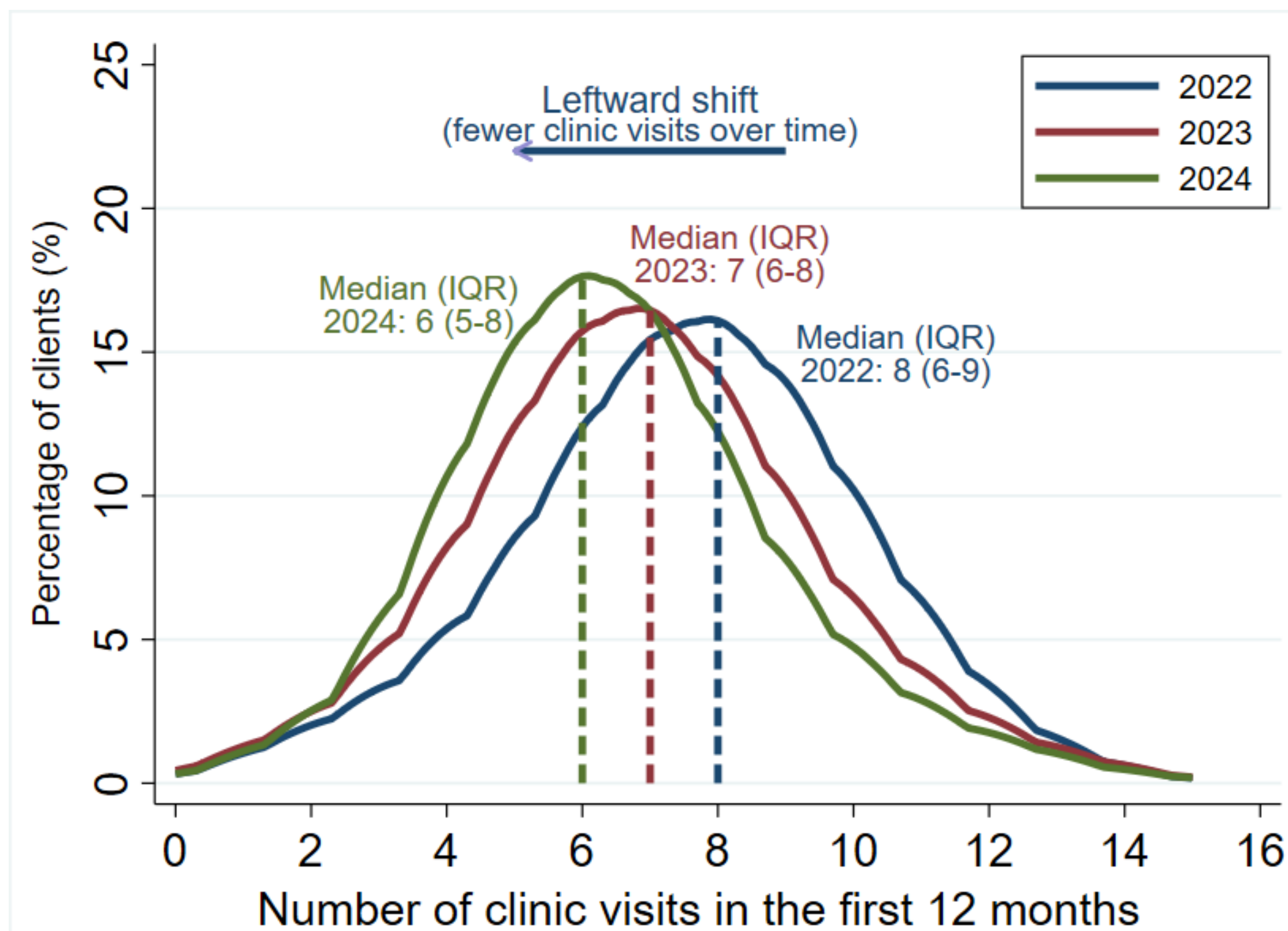
Results

Study population



- 16,338 adults initiated ART (2022–2025)
- Median age 35 (IQR: 29–43);
- 63% female

Figure 1. Median (IQR) number of clinic visits in first year on ART by district, 2022–2024



- Following guideline implementation, the median number of clinic visits in the first year on ART fell from 8 in 2022 to 6 in 2024, aligning with 2023 guideline targets (Figure 1).
- Following guideline implementation, uptake of 3-month VL testing and six-monthly visits and scripting among clients with a suppressed 3-month VL rose sharply across all three districts (Figures 2 and 3).

Figure 2. Uptake of Early VL testing by district (N=16,338)

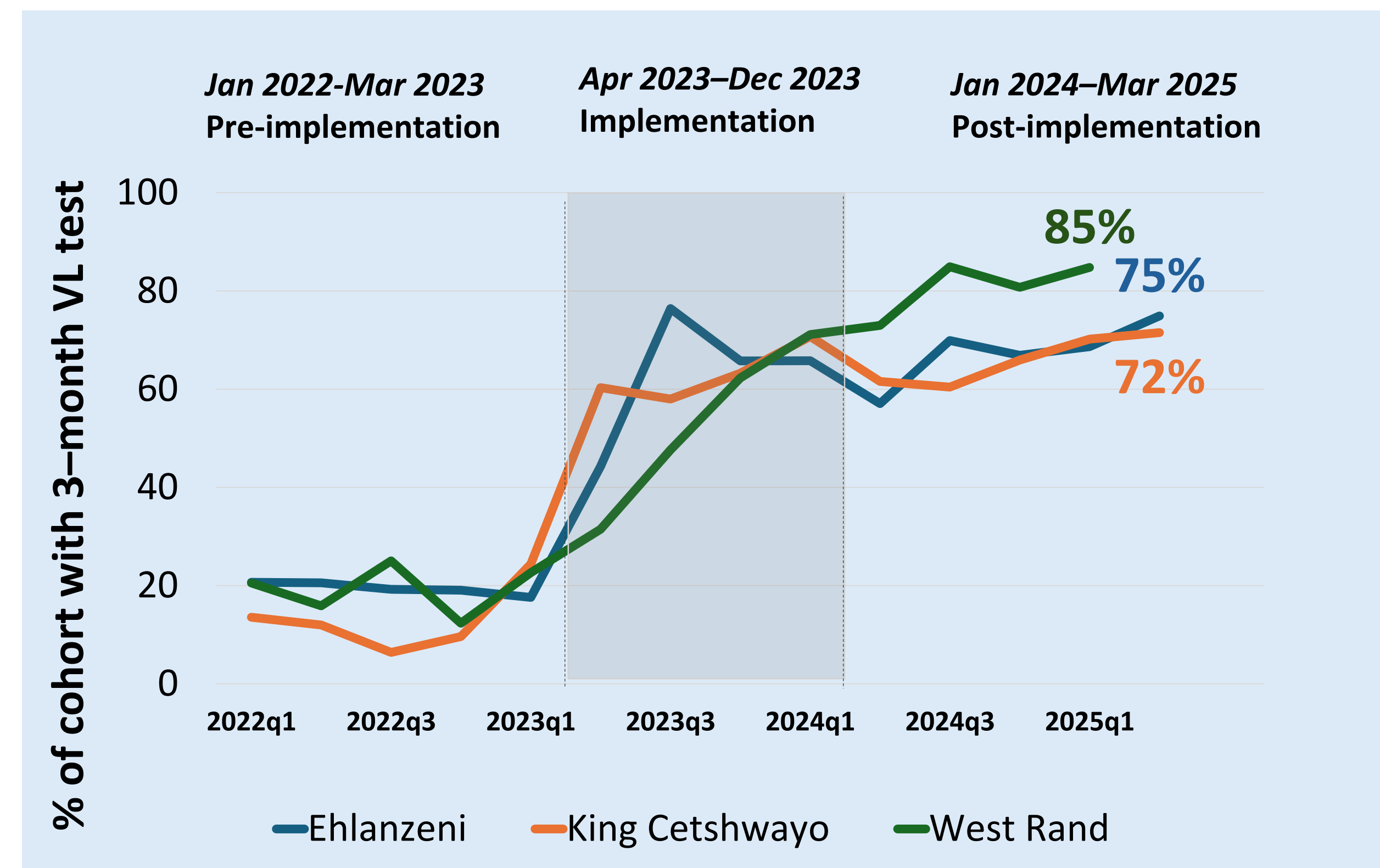


Figure 3. Proportion assigned to a ≥6-month visit interval or 6-month ART scripting after a suppressed 3-month VL (N=3,508)

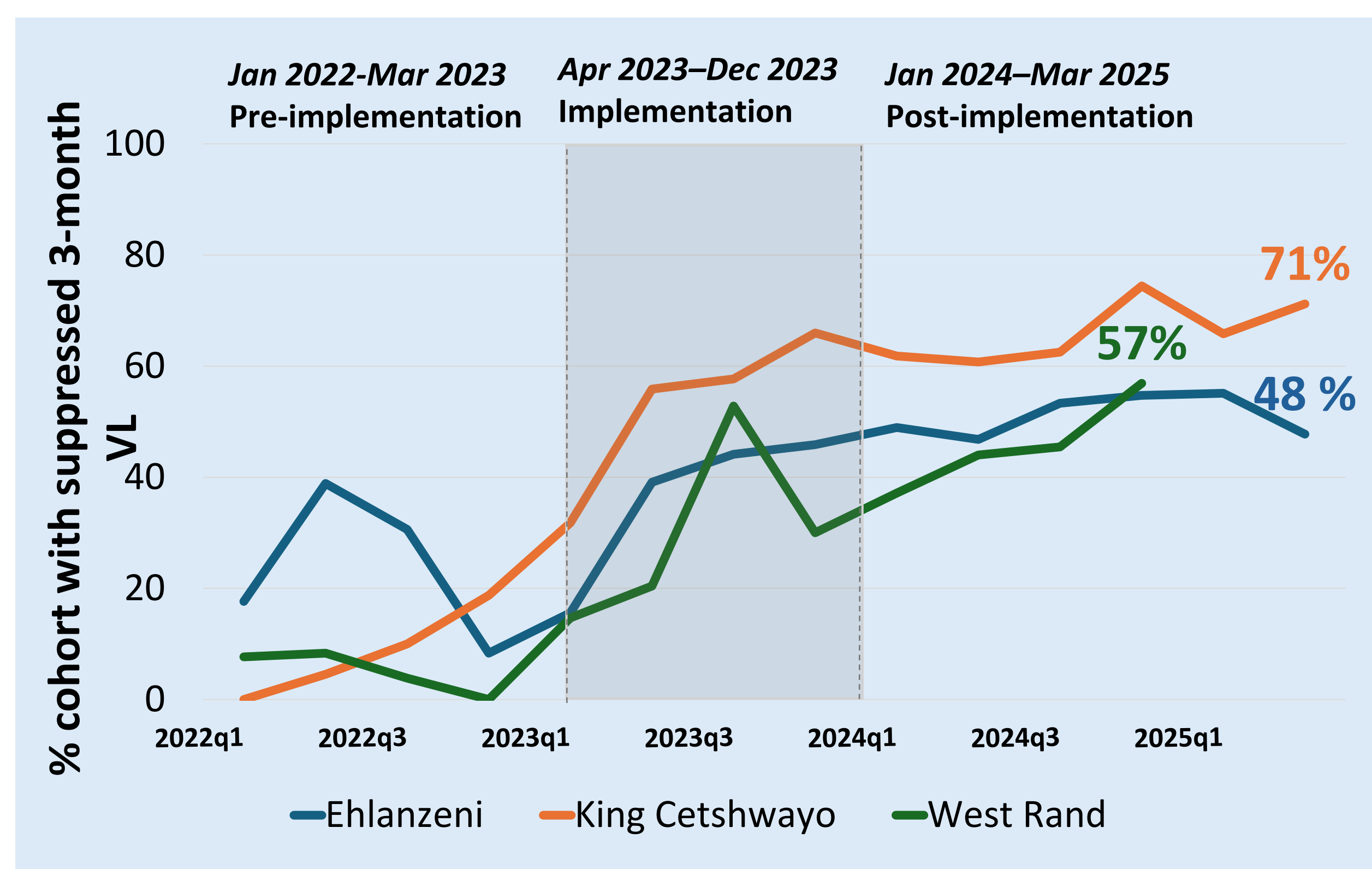


Table 1. First scheduled viral load monitoring outcomes by time of test

Outcome	3 months	6 months	aRR (95% CI)
Viral suppression (<50 copies/mL) among clients with a first VL test at 3 or 6 months (n=9,715)	72%	73%	0.99 (0.96–1.01)

- Of 16,338 clients, 28% had their first VL test within the 3-month window, 29% within the 6-month window, 18% outside these windows, and 25% had no VL test recorded.
- Viral suppression (<50 copies/mL) was similar among clients tested at 3 months (72%) and 6 months (73%; aRR 0.99, 95% CI 0.96–1.01), with no evidence of a difference by timing of VL testing.

Table 2. Second scheduled viral load monitoring outcomes among those suppressed at 3 months, by post-suppression visit interval

Outcome	<6-month interval	≥6-month interval	aRR (95% CI)
Second scheduled VL test uptake (N = 3,508)	61%	63%	1.07 (1.01–1.13)
Viral suppression (<50 copies/mL) among those with a second scheduled VL test (N=2,076)	89%	91%	1.03 (1.00–1.06)

- Among clients suppressed at their 3-month VL test, uptake of the second scheduled VL test was slightly higher with a ≥6-month interval (61% vs. 63%; aRR 1.07, 95% CI 1.01–1.13).
- Viral suppression at the second scheduled VL test remained high and did not differ meaningfully by visit interval (89% vs. 91%; aRR 1.03, 95% CI 1.00–1.06).

Conclusions

- Implementation of the 2023 ART guidelines substantially increased early viral load testing and uptake of six-month visit intervals and ART scripting, while reducing clinic visit frequency.
- Coverage varied across districts, although some observed implementation gaps may reflect incomplete routine documentation.
- Earlier scheduling of six-month visit intervals and provision of six-month ART scripts did not compromise viral suppression.