# TREAT-ALL HIV POLICIES AND PATIENT ATTRITION IN SOUTH AFRICA, A PROSPECTIVE STUDY

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## BACKGROUND

South Africa switched from the CD4 500 cells/µl ART eligibility threshold (Pre-UTT) to the Universal Test & Treat (UTT) guidelines in 2016 and the same-day ART initiation (SDI) policy in 2017. While ART uptake has improved, concerns around long term retention in care persist.

In this study, we aimed to determine whether the UTT and same-day ART policies are associated with reduced 12-month attrition from HIV care and examine baseline predictors of 12-month attrition.

## METHODS

We conducted a prospective cohort study, enrolling newly diagnosed (no prior ART) HIV-positive adults (≥18 years) on the date of HIV testing from April to December 2015 (CD4<500 or Pre-UTT period), July-August 2017 (UTT period) and October 2017-August 2018 (SDI period), from two primary health clinics in Johannesburg, South Africa (Fig 1).

Clinical information was prospectively collected from medical records up to 12 months following HIV diagnosis. We present a descriptive analysis with the primary outcome being lost to follow-up (LTFU) at 12-months after HIV diagnosis. LTFU was defined as being >90 days for the last scheduled visit by 12 month in care.

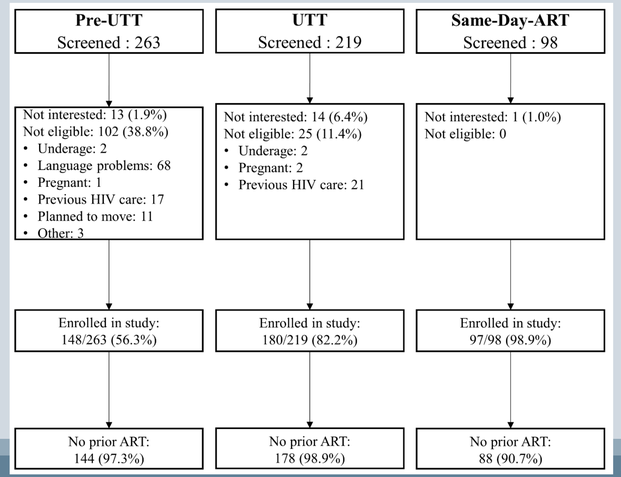



**Fig 1. Participants flow across the pre-UTT, UTT and SDA cohorts**

# HIV positive patients who enter HIV care under the same-day ART policy are at higher risk of disengaging from care,12 months after HIV diagnosis.

## RESULTS

- Overall, 12-months attrition was: 47.2% pre-UTT, 38.2% UTT and 47.7% under the SDI policy
- Overall, 89.2% of those who were late for visits at six months were LTFU at 12 months.
- Starting ART 1-14 day after diagnosis – 50% reduction in 12-months LTFU than starting on the day of diagnosis.
- Among those with ART started <30 days and had 6-months viral load (VL) data, viral suppression decreased with higher delays in ART start.
- Patients starting ART 1-14 days post-test had the lowest proportion of missing VL data (27.6%) vs 41.2% for same-day ART and 40.5% for ART started 15-30 days post-test.

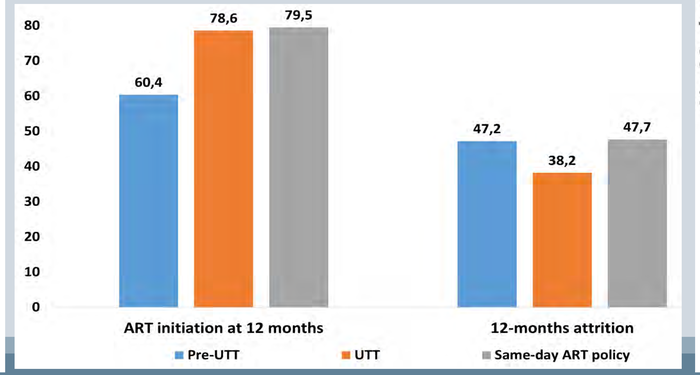



**Fig 2 . Twelve-months ART uptake and % LTFU by ART policy period**

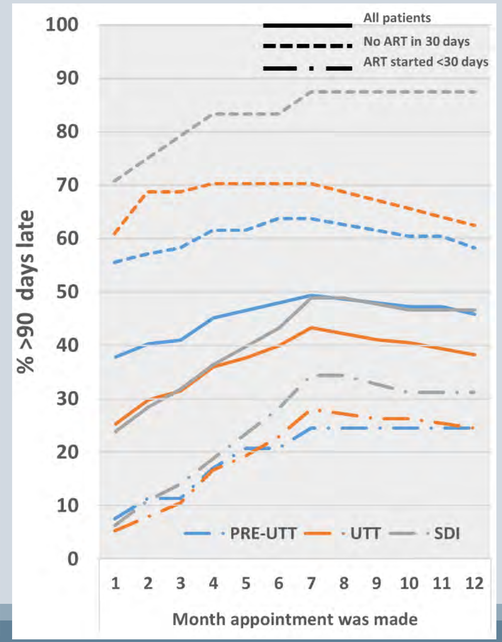



**Fig 3 . Proportion of patients with late visits over 12 months after HIV diagnosis**

**Table 1: Characteristics of sample population by ART policy period**

| | | Pre-UTT | UTT | SDI | Total |
|---|---|---|---|---|---|
| | | (n=144) | (n=178) | (n=88) | (N=410) |
| Sex | Male | 59 (41.0) | 75 (42.1) | 46 (52.3) | 180 (43.9) |
| | Female | 85 (59.0) | 103 (57.9) | 42 (47.7) | 230 (56.1) |
| Age at HIV diagnosis | 18-24 years | 14 (9.7) | 10 (5.6) | 3 (3.4) | 27 (6.6) |
| | 25-29 years | 37 (25.7) | 52 (29.2) | 18 (20.5) | 107 (26.1) |
| | 30-34 years | 40 (27.8) | 39 (21.9) | 24 (27.3) | 103 (25.1) |
| | 35-39 years | 28 (19.4) | 40 (22.5) | 16 (18.2) | 84 (20.5) |
| | 40+ years | 25 (17.4) | 37 (20.8) | 27 (30.7) | 89 (21.7) |
| Baseline CD4 count (cells/mm$^{3)}$ | ≤200 | 61 (42.4) | 65 (36.5) | 33 (37.5) | 159 (38.8) |
| | 201-350 | 33 (22.9) | 34 (19.1) | 16 (18.2) | 83 (20.2) |
| | 351-500 | 25 (17.4) | 29 (16.3) | 11 (12.5) | 65 (15.9) |
| | >500 | 19 (13.2) | 26 (14.6) | 13 (14.8) | 58 (14.1) |
| | Missing | 6 (4.2) | 24 (13.5) | 15 (17.0) | 45 (11.0) |

**Table 2. Association between ART policy period and being LTFU at 12-months post-HIV diagnosis**

| ART policy | LTFU N=410 | Person-years (PY) | Incidence per 100PY | Adjusted by ART status as a time varying exposure | |
|---|---|---|---|---|---|
| | n (%) | | (95% CI) | HR (95% CI) | aHR (95%CI) |
| Total | 178 (43.4) | 218.5 | 78.7 (67.8-91.4) | | |
| Pre-UTT | 68 (47.2) | 69.8 | 97.5 (76.8 - 123.6) | 1 | 1 |
| UTT | 68 (38.2) | 105.4 | 62.6 (49.2 - 79.7) | 1.1 (0.8-1.5) | 1.1 (0.8-1.5) |
| SDI | 42 (47.7) | 43.3 | 87.7 (63.8 - 120.6) | 1.7 (1.1-2.5) | 1.8 (1.2-2.6) |

## CONCLUSIONS

- These results show notable improvements in access and uptake of ART.
- However, the demonstrated higher 12-months attrition during the same-day ART policy period may limit the benefits of the expanded ART program.
- Nevertheless, participants who initiated ART on the day of diagnosis have improved viral suppression rates, six months after starting ART.

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