Implementation of Routine, Opt-out HIV Testing Does Not Increase Loss to Follow-up

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ABSTRACT

Clouse K et al. Implementation of routine, opt-out HIV testing does not increase loss to follow-up

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Objective: Systematic, opt-out HIV counseling and testing (HCT) may diagnose individuals at lower levels of immunodeficiency but may impact loss to follow-up (LTFU) if healthier people are less motivated to engage and remain in HIV care. We explored LTFU under two different HIV testing strategies.

Design: An observational cohort study.

Methods: We compared patient characteristics and retention in care between adults newly diagnosed with HIV by either voluntary counseling and testing (VCT) plus targeted provider-initiated counseling and testing (PITC) or systematic HCT at a primary care clinic in Johannesburg, South Africa.

Results: 1144 adults were newly diagnosed by VCT/PITC and 1124 by systematic HCT. Two-thirds of diagnoses were in women. Median CD4 count at HIV diagnosis (251 vs. 264 cells/µl, p=0.19) and proportion of individuals eligible for antiretroviral therapy (ART) (67.2% vs. 66.7%, p=0.80) did not differ by HCT strategy. Within one year of HIV diagnosis, half were LTFU: 50.5% under VCT/PITC and 49.6% under systematic HCT (p=0.64). The overall hazard of LTFU was not impacted by testing policy (aHR 0.98, 95%CI: 0.87-1.10). Independent of HCT strategy, males, younger adults and those ineligible for ART were at higher risk of LTFU.

Conclusions: Implementation of systematic HCT did not increase baseline CD4 count. Overall retention in the first year after HIV diagnosis was low (37.9%), especially among those ineligible for ART, but did not differ by testing strategy. Expansion of HIV testing should coincide with effective strategies to increase retention in care, especially among those not yet eligible for ART at initial diagnosis.

HIV counseling and testing "zozos" at WHWC



BACKGROUND

- WHO recommends provider-initiated HIV counseling and testing (PITC) as the standard of care in generalized epidemic settings, regardless of symptom or reason for visit
- In reality, PITC usually targets specific clinic populations, such as antenatal, TB or sexually transmitted infection patients
- Retention in HIV care is a known challenge and the impact of expanding HIV testing on loss to follow-up is unknown
  - People with lower immunodeficiency (higher CD4) may not be motivated to remain in care if they feel well

OBJECTIVE

To evaluate the impact of two HIV counseling and testing strategies – voluntary counseling and testing plus targeted PITC (VCT/PITC) vs. systematic HIV counseling and testing (HCT) – on patient clinical characteristics and loss to follow-up.

METHODS

Study population and site

- Included all adults (age≥18) testing HIV-positive for first time from Jan–June 2010 (VCT/PITC) and Feb–July 2012 (HCT)
- Study site: Witkoppen Health and Welfare Centre, a high-volume primary health care clinic in northern Johannesburg, South Africa
  - NGO-operated clinic supported by public/private funding
  - HIV testing, CD4 collection and ART initiation on-site
  - ART eligibility at WHWC is CD4 ≤350 cells/µl (since 2010)

Data collection and variables

- Data collected via retrospective file review a minimum of 12 months after date first testing HIV-positive
- Exposure: testing strategy (VCT/PITC vs. HCT)
  - Targeted PITC included antenatal, TB or sexually transmitted infection patients, or those tested at clinician discretion
- Outcomes: testing yield (number newly diagnosed), median CD4 value at diagnosis, ART initiation, LTFU 12 months after HIV diagnosis
  - LTFU is determined 3 months after last missed scheduled visit

RESULTS

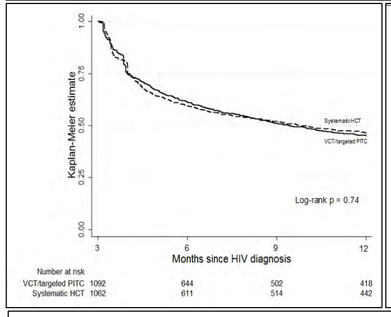
DESCRIPTION OF STUDY PARTICIPANTS (N=2266)

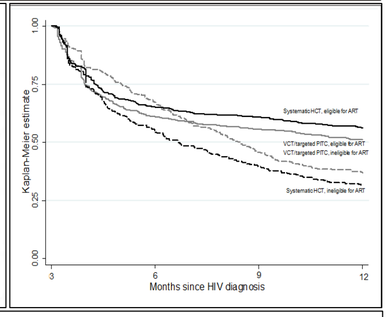
- Median (IQR) age at HIV diagnosis: 32 years (27-39)
- 66.1% female
- Median (IQR) first CD4 value: 256 cells/µl (128-403)

STUDY OUTCOMES BY TESTING STRATEGY

	VCT/PITC	HCT
6-month testing yield	1144 new cases	1122 new cases
Median (IQR) CD4 value at diagnosis	251 (120-397) cells/µl	264 (131-410) cells/µl
ART initiation, among those eligible	58.7% (95%CI: 55.2-62.2%)	63.7% (95%CI: 60.1-67.1%)
12-month LTFU	50.5% (95%CI: 47.6-53.4%)	49.6% (95%CI: 46.6-52.3%)

Kaplan-Meier analyses of LTFU After HIV testing



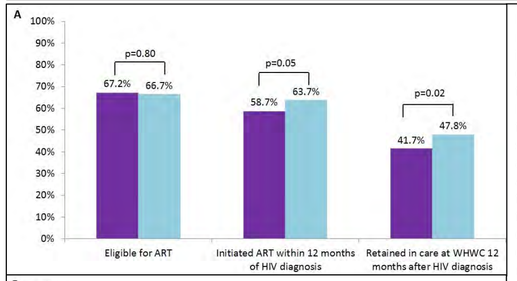


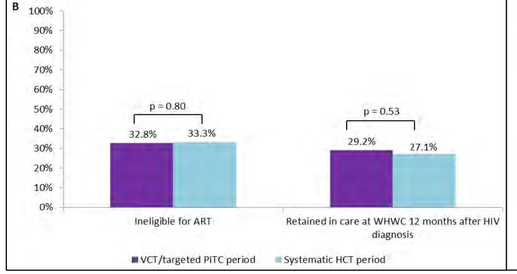
Kaplan-Meier estimates of time to loss to follow-up among 2154 individuals newly diagnosed with HIV, by HIV testing strategy (left) and HIV testing strategy and eligibility for ART at HIV diagnosis (right).

Loss to follow-up is defined as not returning at least 3 months after the last scheduled visit; thus, person-time begins accumulating at 3 months. This analysis excludes 112 patients who died or transferred prior to 3 months follow-up (N=2154).

ART eligibility is defined as the first CD4 value after HIV diagnosis ≤350 cells/µl.

Retention in care by testing strategy and ART eligibility





Retention in care of 2181 newly diagnosed individuals by voluntary counseling and testing or targeted provider-initiated HIV counseling and testing (purple), or systematic HIV counseling and testing (blue). (A) Among individuals eligible for antiretroviral treatment (ART) at time of HIV diagnosis (CD4 count ≤350 cells/µl) and (B) among individuals not yet eligible for ART at the time of HIV diagnosis (CD4 count >350 cells/µl).

Note: 85 (3.8%) patients missing a CD4 count at HIV diagnosis were excluded.

CONCLUSIONS

- Implementation of systematic HCT within primary care:
  - Did not increase HIV case finding.
  - Did not increase baseline CD4 count or proportion of individuals eligible for ART.
  - Did not impact LTFU 12 months after HIV testing (aHR 0.98, 95%CI: 0.87-1.10).
- Overall LTFU was high (50.0%), particularly among those ineligible for ART (59.9%).
- We reported findings under real-world conditions, not a clinical trial. Other changes from 2010 to 2012 may have influenced our findings.
- Future studies should assess the cost and cost-effectiveness of various HIV testing strategies.
- Low retention in care, particularly among young men and those ineligible for ART, highlights the need to link expansion of HIV testing to increased emphasis on interventions aimed at engaging and maintaining those newly-diagnosed in care.

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