TARGET-ID FEASIBILITY STUDY · HEPHIV 2026

Algorithm-targeted BBV testing in general practice works. Who does it leave behind?

Six practices, July 2025 – March 2026 · a critical reflection on equity at three levels: the algorithm, the practices, the patients

21,958
adults with ≥1 risk factor recorded

→

1,800
top 300 per practice (8%)

→

1,549
eligible participants

→

307
tested — one in five (19.8%)

2
active hepatitis B (HBsAg+)
13 past HBV (anti-HBc+ / HBsAg–)
3 cleared HCV (anti-HCV+ / RNA–)

Presenter: Dr Werner Leber, Queen Mary University of London

METHODS

A risk algorithm, a targeted testing pathway, and a mixed-methods evaluation

1 · Algorithm

Three machine-learning models trained on ~2 million primary-care records to predict any HIV, HBV or HCV positivity (AUC 0.77–0.87)

Logistic regression deployed: most accurate across all three BBVs, and its weights can be applied in practice

2 · Intervention

Search: adults with ≥1 risk factor, no prior test or diagnosis

Rank by score; top 300 per practice. GP review

Letter, text and phone invitation; electronic record of every step

3 · Quantitative

Descriptive statistics

Logistic regression: who was ranked high, who was tested

Practice variation; gap analysis for substance use (Spearman)

4 · Qualitative

Semi-structured interviews: 18 patients, 19 staff

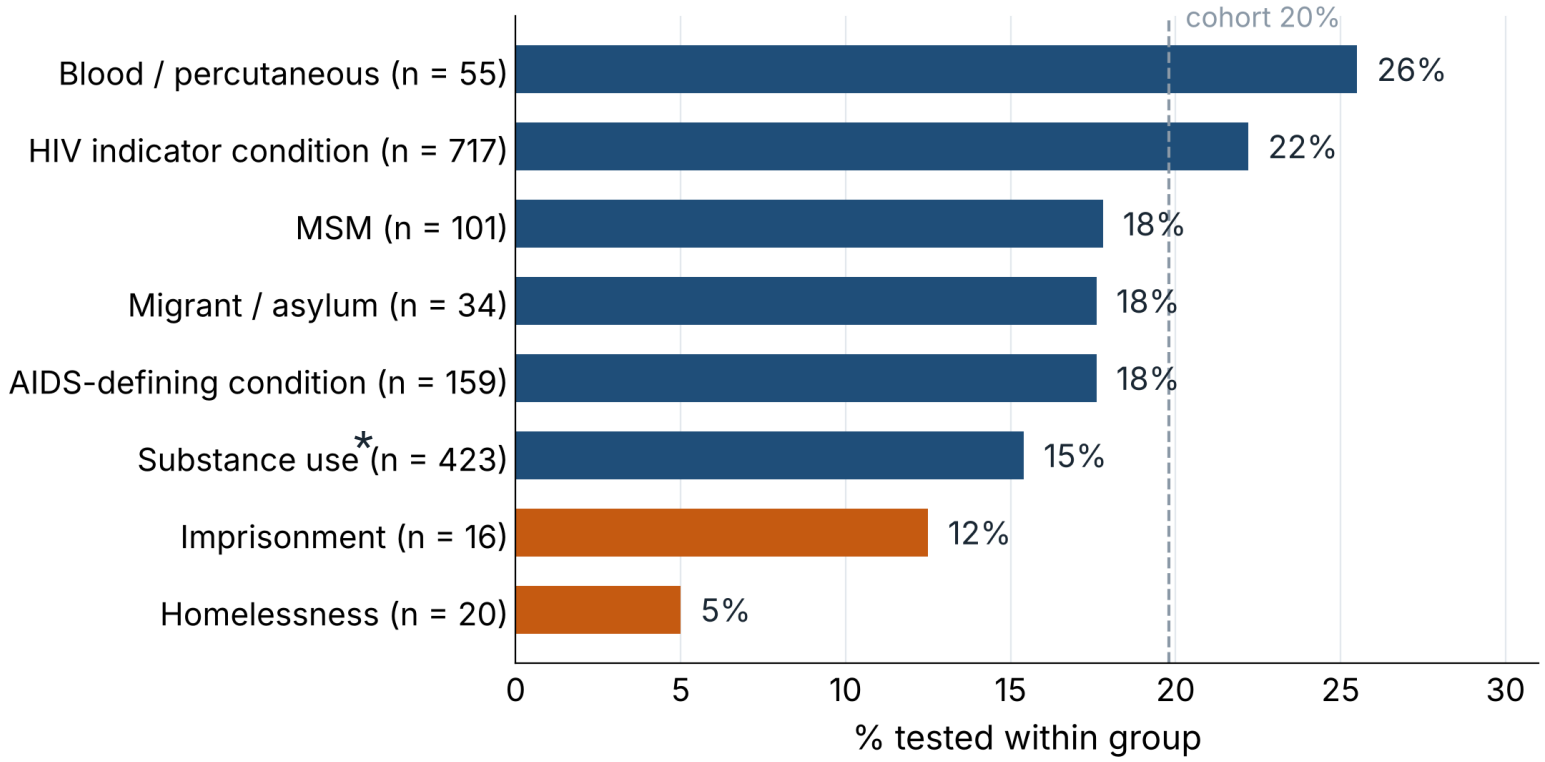
Thematic analysis mapped to CFIR 2.0*

Six practices · Leicester, Bristol, London · July 2025 – March 2026 · n = 1,549

* Consolidated Framework for Implementation Research (Damschroder et al., 2022)

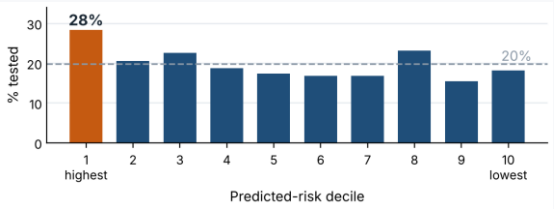
RESULTS · REACH

Every exposure group was reached — three were reached less



1 in 5 tested

28% in the top risk decile, 15–23%



15%*

of substance users tested, vs 22% of others

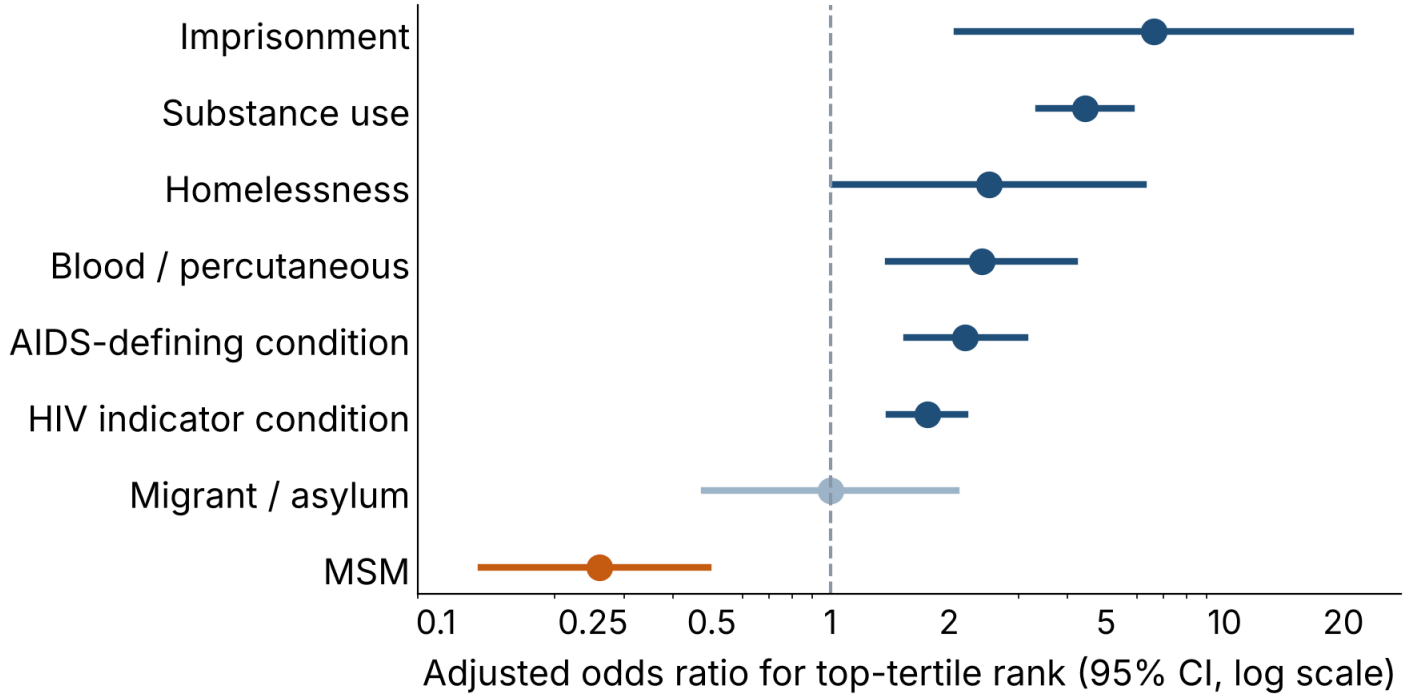
3 of 36

homeless or imprisoned patients tested — small numbers

Testing uptake within each group of patients with that exposure ever recorded. Groups overlap. *Statistically significant.

LEVEL 1 · THE ALGORITHM

The score ranks every exposure up — except MSM, which it ranks down



12% vs 35%

of MSM-coded men vs all others ranked in the top tertile; 57% of MSM in the bottom

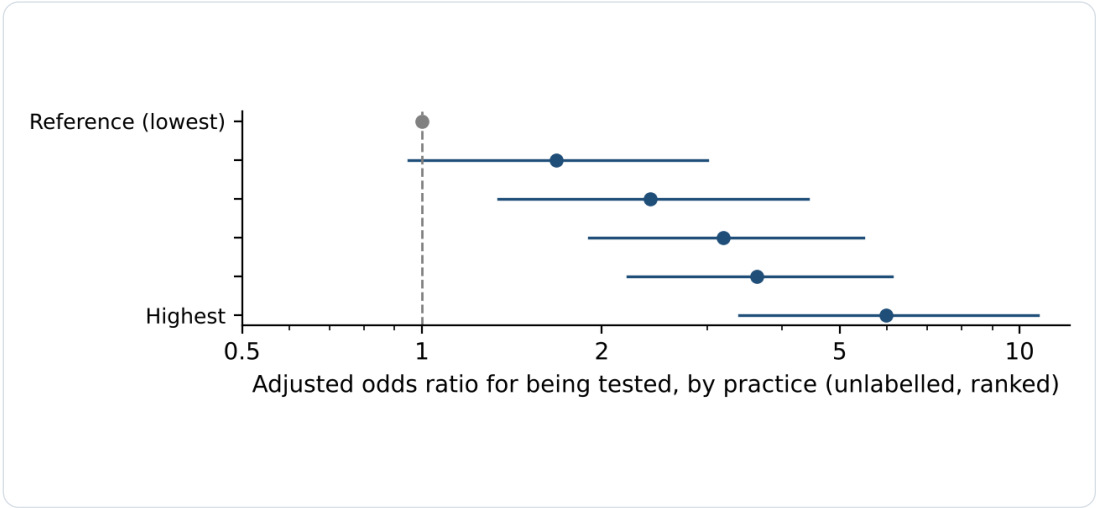
< 0.5%

of the 2 million training records carried an MSM code vs 4% gay/bisexual in London

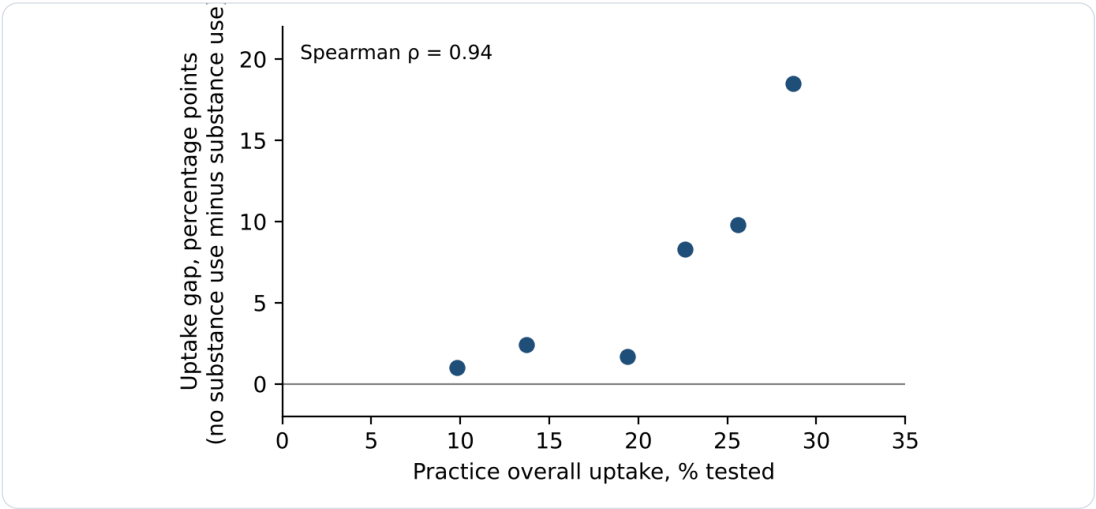
Adjusted odds ratio for a top-tertile rank, each recorded exposure vs the rest, adjusted for age and practice (n = 1,549). Orange: ranked down. Training data: Manley et al., BMC Infect Dis 2026.

LEVEL 2 · THE PRACTICES

Practices varied six-fold — and the ones that tested most left substance users furthest behind



10% to 29% tested. Adjusted odds 1.7–6.0 relative to the lowest practice; the strongest patient factor, age, about two-fold; practice explained more variation than any patient factor.



Gap in uptake between people who don't use substances and those who do, per practice. Present in all six; grows with practice uptake (ρ = 0.94).

The score ranked substance users high (43% in the top tertile). The issue was the test offer, not the ranking.

LEVEL 3 · THE PATIENTS

Where offers were recorded, half accepted — and acceptance rose steeply with age

Acceptance of a test among those offered one, by age (two practices with complete offer records, n = 225)

28%
under 35

47%
35 – 54

65%
55 and over

46%
offered a test — 41% of substance users, 49% of others

52%
accepted once offered — substance users 45%, others 57%

Half of those tested were over 65. The young carry most of the behavioural risk and accept least.

QUALITATIVE · 18 PATIENTS, 19 STAFF

Staff trusted the list, patients accepted the test — and both saw who was still missed

1 · Identification

Algorithm lists seen as credible and more systematic than opportunistic testing

But set-up needed extra technical and administrative work

2 · Invitation to result

Testing acceptable and straightforward

Why me? Invitations raised questions about selection and stigma; language, health literacy and digital access shaped who took part

3 · Delivery

Needs staff capacity to become routine

Staff found it hard to reach people experiencing homelessness or with a drug-use history

Reflexive thematic analysis, themes mapped to CFIR 2.0. Interviews November 2025 – May 2026.

NEXT STEPS

It works. To make it fair: one change at each level

ALGORITHM

Weight MSM up — or test all recorded MSM

Recording of sexual orientation, and data-sharing with sexual health clinics, are the real barrier.

PRACTICES

Opt-out testing proper

BBV serology added to any routine blood sample unless the patient declines — no separate offer step.

An ED-like solution technically challenging in primary care.

PATIENTS

Personalised invitation

By telephone, from a research healthcare assistant with a peer supporter, for marginalised groups and for younger patients.

Resource intensive.

These changes will inform the design of the effectiveness and cost-effectiveness study.

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