

# Implementation of a rapid diagnostic and referral strategy to identify acute HIV-1 infections in Amsterdam

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## Background

Identifying patients with acute HIV-1 infection (AHI) is important:

1. Patients with AHI benefit from immediate start of antiretroviral therapy (ART)
2. Early treatment of AHI could have a significant impact on the ongoing HIV-1 epidemic
3. Patients who start ART during AHI may offer insight into the potential for additional post-treatment HIV-1 control interventions

## Objectives

1. To identify acute HIV-1 infection among men who have sex with men (MSM) at risk in Amsterdam and refer cases for immediate start of treatment
2. To implement a rapid diagnostic and referral strategy

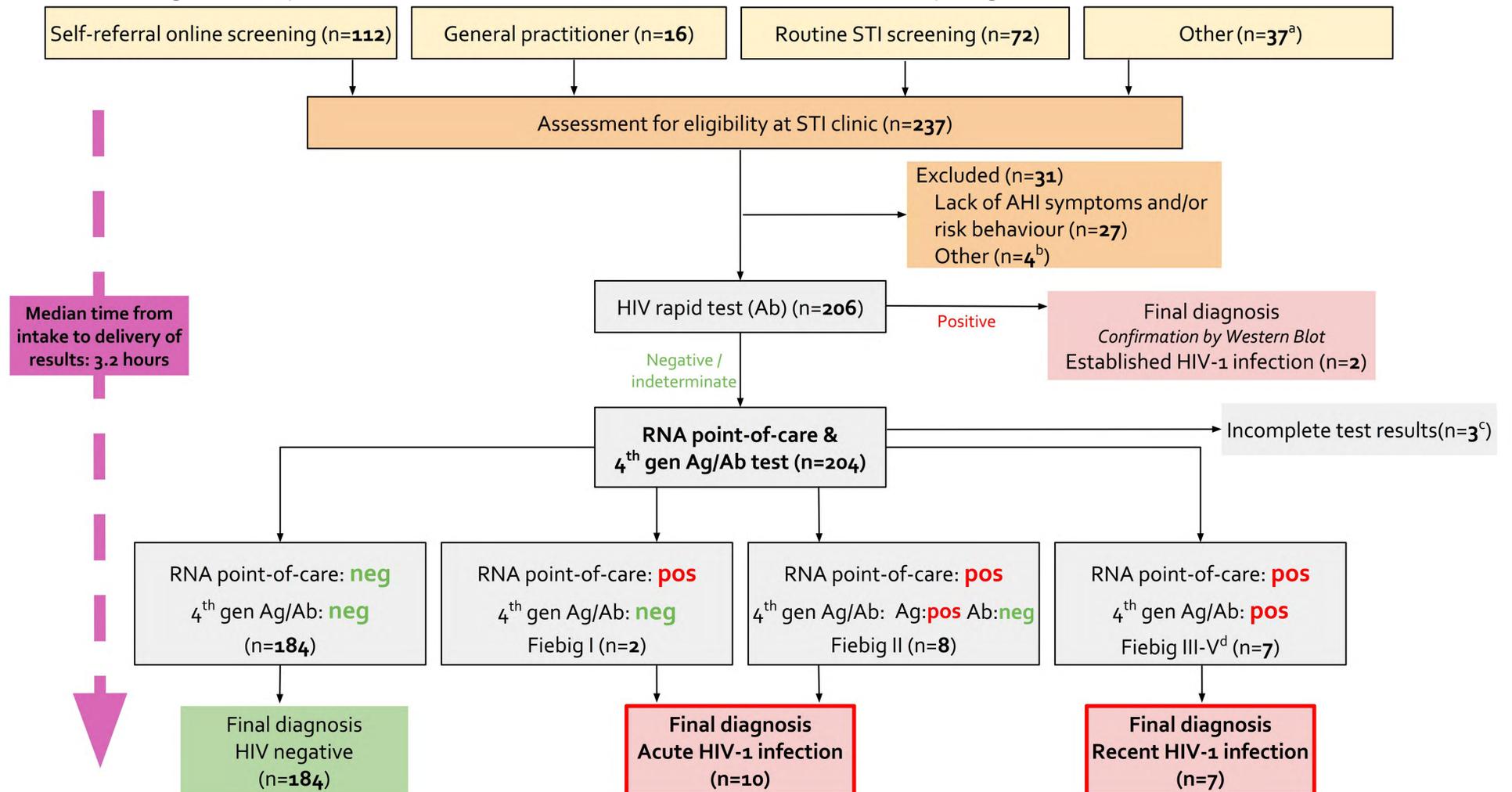
## Methods

MSM were assessed for eligibility after being referred by either a media campaign (hebikhiv.nl, with a self-referral screening tool), by their general practitioner, or during routine STI screening at the Public Health Service.

Eligibility was based on a score of AHI symptoms in combination with condomless anal sex in the previous 3 months. If eligible, a rapid HIV antibody test was performed. If negative, both a point-of-care HIV-1 RNA test (GeneXpert, Cepheid) and a 4<sup>th</sup> generation HIV antigen/antibody test (Murex on LiaisonXL) were performed. AHI was defined as an HIV-1 RNA positive test result and an antigen/antibody negative or only positive for antigen (Fiebig I-II) test result.

## Results

From August 2015 through January 2017, 237 MSM with possible AHI presented for testing, of whom 206 men were eligible. For these 206 men, the median age was 34 years (IQR 26-43). In total, 19/206 (9.2%) MSM were newly diagnosed with HIV-1.



a) Other studies at the Public Health Service, through internet, or unknown; b) Verbal aggression, being transgender, lack of time of client, or unknown; c) 2 missing RNA test results, 1 missing 4<sup>th</sup> generation antigen/antibody test result; d) Based on Western Blot results: 3 were Fiebig III, 1 were Fiebig IV, 3 were Fiebig V

## Conclusions

- Thus far, with the used AHI strategy a high proportion (17/206; 8.3%) of those selected for testing had acute or recent HIV-1 infection
- All patients were referred to an HIV-1 treatment centre within 24 hours for immediate start of ART
- The addition of the point-of-care HIV-1 RNA test yielded 2 extra diagnoses of AHI compared to an approach only using 4<sup>th</sup> generation antigen/antibody assays