

# IMPROVING THE HIV TESTING CASCADE: ADEQUATE IDENTIFICATION OF PATIENTS WITH HIV INDICATOR CONDITIONS IN HOSPITALS BY ELECTRONIC REGISTRATION SYSTEMS

On behalf of the #aware.hiv project

Carlijn Jordans<sup>1</sup>, Katie Hensley<sup>1</sup>, Marius Vogel<sup>1</sup>, Jeroen van Kampen<sup>1</sup>, Charles Boucher<sup>1</sup>, Femke Mollema<sup>2</sup>, Jet Gisolf<sup>3</sup>, Rachida El Moussaoui<sup>4</sup>, Gonneke Hermanides<sup>5</sup>, Renée Finkenflügel<sup>6</sup>, Bart Rijnders<sup>1</sup>, Annelies Verbon<sup>1</sup>, Casper Rokx<sup>1</sup>

<sup>1</sup>Erasmus MC, Rotterdam, the Netherlands, <sup>2</sup> Haaglanden MC, the Hague, the Netherlands, <sup>3</sup> Dutch Association of HIV-treating physicians, Leiden, the Netherlands,

<sup>4</sup> Maasstad hospital, Rotterdam, the Netherlands, <sup>5</sup> Rode Kruis hospital, Beverwijk, the Netherlands, <sup>6</sup> Dutch HIV Association, Amsterdam, the Netherlands

## BACKGROUND

- 2014: UNAIDS set 90-90-90 target
- Current figure in the Netherlands 92-93-96
- Majority of patients with an HIV infection visit physicians for HIV-related medical reasons in the years prior to their HIV diagnosis
- #aware.hiv project aims to improve HIV indicator condition (IC) driven testing
- Key challenge: adequate identification of patients with possible ICs in hospitals which is the first step in triggering the HIV testing cascade

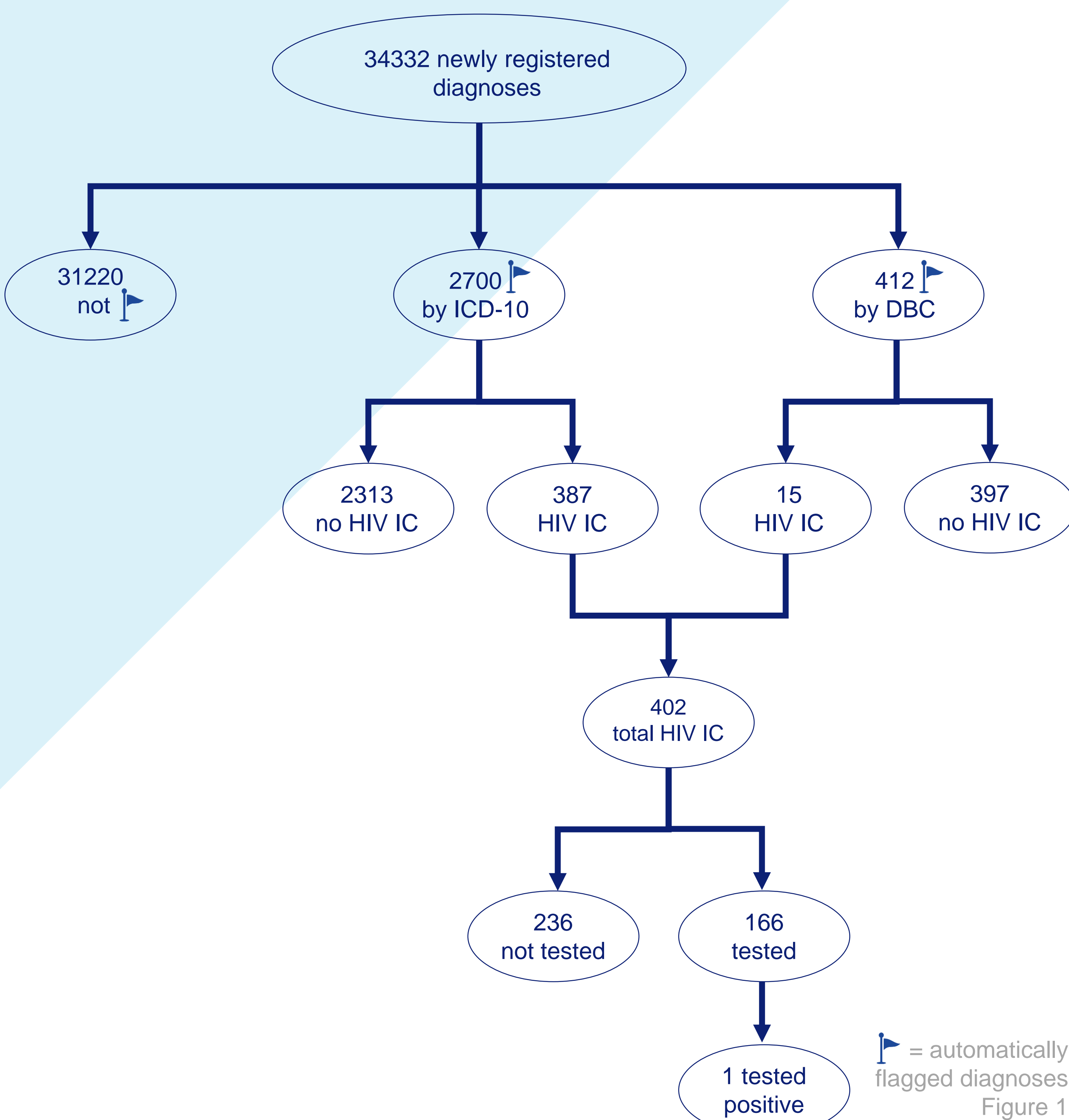
## RESULTS

- All newly registered diagnoses were automatically screened and flagged when the ICD-10 or DBC code was possibly related to an HIV IC (see figure 1)
- After manually reviewing all flagged diagnoses 402 (1.1%) were identified as HIV IC of which 166 (41%) were adequately tested for HIV, 1 tested positive

## METHODS

- A single center prospective implementation project at Erasmus University Medical Center, Rotterdam
- Data were collected on all newly registered diagnoses in patients ≥ 18 years who entered care between January 1<sup>st</sup> 2020 and June 1<sup>st</sup> 2020
- An extensive list of ICD-10/DBC codes (which are mandatory to be registered) was constructed
- A two-step approach was used to identify possible HIV ICs by automatic ICD-10 screening and cross-comparing by standardized health insurance codes (DBC)
- All flagged diagnoses were systematically reviewed

- Table 1 shows the gap between identification of HIV ICs and HIV testing rate
- Automatic screening for HIV ICs using ICD-10 coding had a 96% sensitivity, a 93% specificity, a 14% PPV and a >99% NPV



Top 10 HIV indicator conditions	N (%)	HIV test, N (%)
Hepatitis A + B + C*	45 (11)	36 (80)
Lymphoma*	42 (10)	31 (74)
Cervical cancer	39 (10)	0
Cervical dysplasia	33 (8)	2 (6)
Sexually transmitted infections*	26 (6)	8 (31)
Peripheral neuropathy	22 (5)	1 (5)
Unexplained chronic renal impairment	18 (4)	11 (61)
Lymphocytic meningitis	16 (4)	11 (67)
Seborrheic dermatitis/exanthema	14 (3)	1 (7)
Unexplained chronic diarrhea	14 (3)	1 (7)

\* HIV testing recommended in national guideline

Table 1

## CONCLUSIONS

- Existing ICT infrastructures using mandatory ICD-10 coding in electronic patient files can help to identify patients with HIV ICs in low-prevalence setting
- Our data confirms the gap between HIV IC identification and HIV testing
- Future studies aim at improving this gap