HIV PLAN 2020 2026

Dominique Van Beckhoven & Agnès Libois

Working group on testing in high burden settings - HIV plan Monitoring Committee

27th November 2025

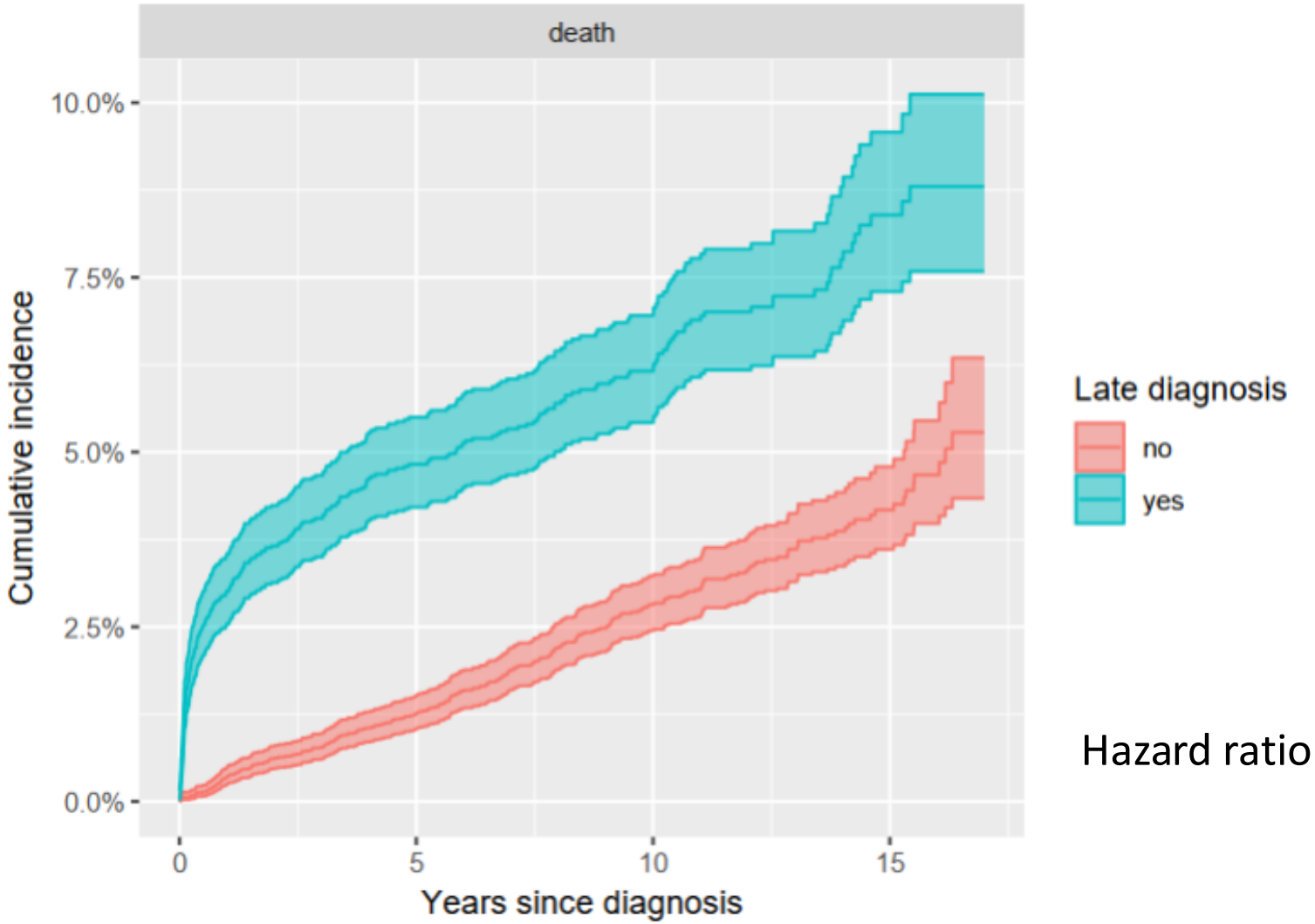
Challenges of the undiagnosed population with HIV

- People might remain **unaware** of their HIV infection for several years
  - Europe, 2022-24: 50 % of HIV diagnoses are late
  - Belgium, 2024: 33 % late diagnoses
    - Independant risk factors: Male
      Older
      Hetero (vs MSM)
      IDU
      Non-Belgian

UNDIAGNOSED HIV INFECTION

- No care and ART
- No viral suppresssion

Increased morbidity & mortality: cumulative incidence of death in PWHIV by late vs no late diagnosis, Belgium, 2006-2022



Hazard ratio: 2.2

Onward transmision of HIV: Majority of new infections originate from individuals unaware of their HIV infection

› Sci Transl Med. 2016 Jan 6;8(320):320ra2. doi: 10.1126/scitranslmed.aad1863.

Sources of HIV infection among men having sex with men and implications for prevention

Oliver Ratmann [1], Ard van Sighem [2], Daniela Bezemer [2], Alexandra Gavryushkina [3], Suzanne Jurriaans [4], Annemarie Wensing [5], Frank de Wolf [6], Peter Reiss [7], Christophe Fraser [6]; ATHENA observational cohort

Seventy-one percent of transmissions were from undiagnosed men, 6% from men who had initiated antiretroviral therapy (ART), 1% from men with no contact to care for at least 18 months, and 43% from those in their first year of infection. *(Netherlands)*

› J Acquir Immune Defic Syndr. 2022 Feb 1;89(2):143-150. doi: 10.1097/QAI.0000000000002844.

Human Immunodeficiency Virus transmission by HIV Risk Group and Along the HIV Care Continuum: A Contrast of 6 US Cities

Xiao Zang [1], Cassandra Mah [2], Amanda My Linh Quan [2 3], Jeong Eun Min [4], Wendy S Armstrong [5], Czarina N Behrends [6], Carlos Del Rio [5], Julia C Dombrowski [7], Daniel J Feaster [8], Gregory D Kirk [9], Brandon D L Marshall [1], Shruti H Mehta [9], Lisa R Metsch [10], Ankur Pandya [11], Bruce R Schackman [6], Steven Shoptaw [12], Steffanie A Strathdee [13], Emanuel Krebs [2 4], Bohdan Nosyk [2 4]; Localized HIV Modeling Study Group

Individuals with **undiagnosed nonacute HIV infection** accounted for the highest proportion of total transmissions in every city, ranging from **37%** in New York City to **65%** in Baltimore.
Individuals with **acute HIV** had the **highest transmission rate per 100 person-years**, ranging from **76** in Miami to **160** in Baltimore.

› J Acquir Immune Defic Syndr. 2025 May 1;99(1):47-54. doi: 10.1097/QAI.0000000000003623.

Updates to HIV Transmission Rate Estimates Along the HIV Care Continuum in the United States, 2019

Arden Baxter [1 2], Chaitra Gopalappa [1 2 3], Md Hafizul Islam [1 2], Alex Viguerie [1 2], Cynthia Lyles [1 2], Anna Satcher Johnson [1 2], Nidhi Khurana [1 2], Paul G Farnham [1 2]

The highest transmission rate was associated with persons with **acute HIV infection and unaware of their HIV status at 16.35 inf/100p-y** , followed by **PWH (nonacute) and unaware of their HIV status (9.52)**, persons aware of their HIV status and not in care (5.96), persons receiving HIV care (on antiretroviral therapy) but not virally suppressed (4.53), and persons virally suppressed (0).

Barriers to testing

Patient level

- Low risk perception
- Lack of awareness on HIV/STI
- Fear of HIV infection and its consequences
- Fear of disclosure
- Denial
- Difficulty accessing services
- No symptom of illness
- Fear of blood sampling

Healthcare level

- Perceived discrimination and stigmatisation
- Insufficient time & competing clinical priorities
- Lack of knowledge, training, communication skills
- Language

➢ **Missed opportunities**

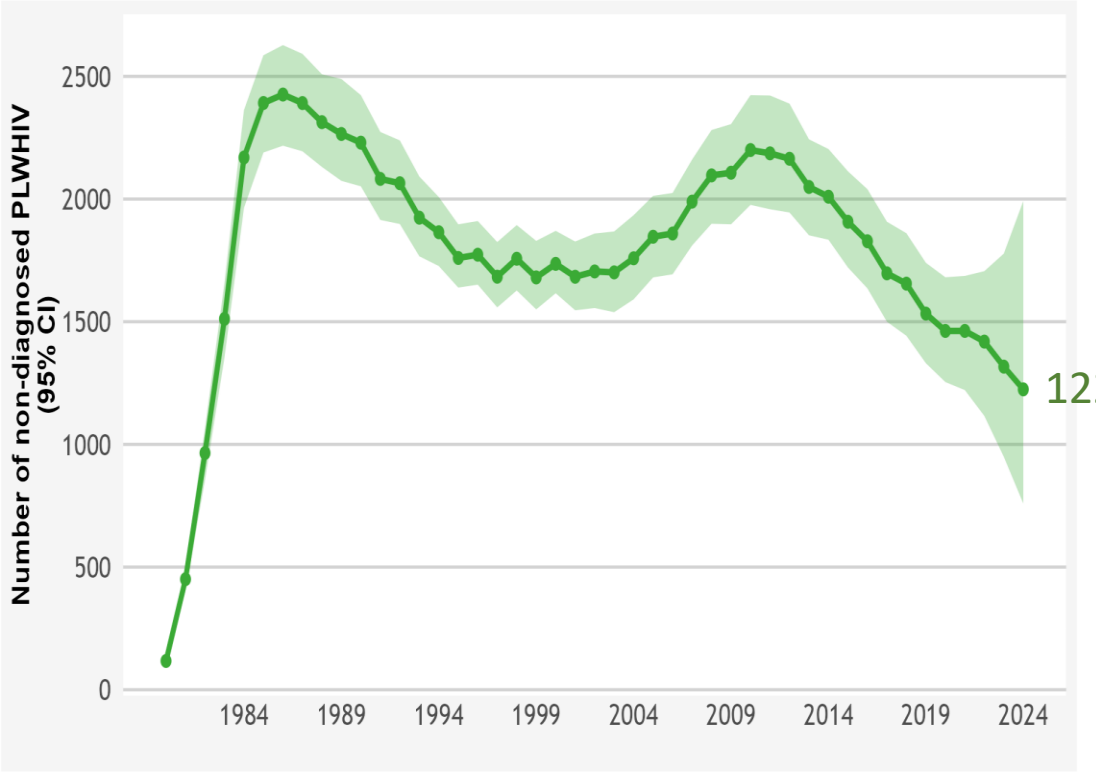
Institutional level

- Regulatory & administrative (undocumented)
- Other basic needs not covered
- Financing for CBT

Sources: Field reports by Plateforme Prévention Sida, Helpcenter Antwerp, Sensoa;
Deblonde J et al. Barriers to HIV testing in Europe: a systematic review. European Journal of Public Health, 2010, Vol. 20, No. 4, 422–432;
EuroTEST. HIV indicator conditions. https://www.eurotest.org/testing-tools/hiv-indicator-conditions/

Estimates of the undiagnosed population, Belgium, 2024

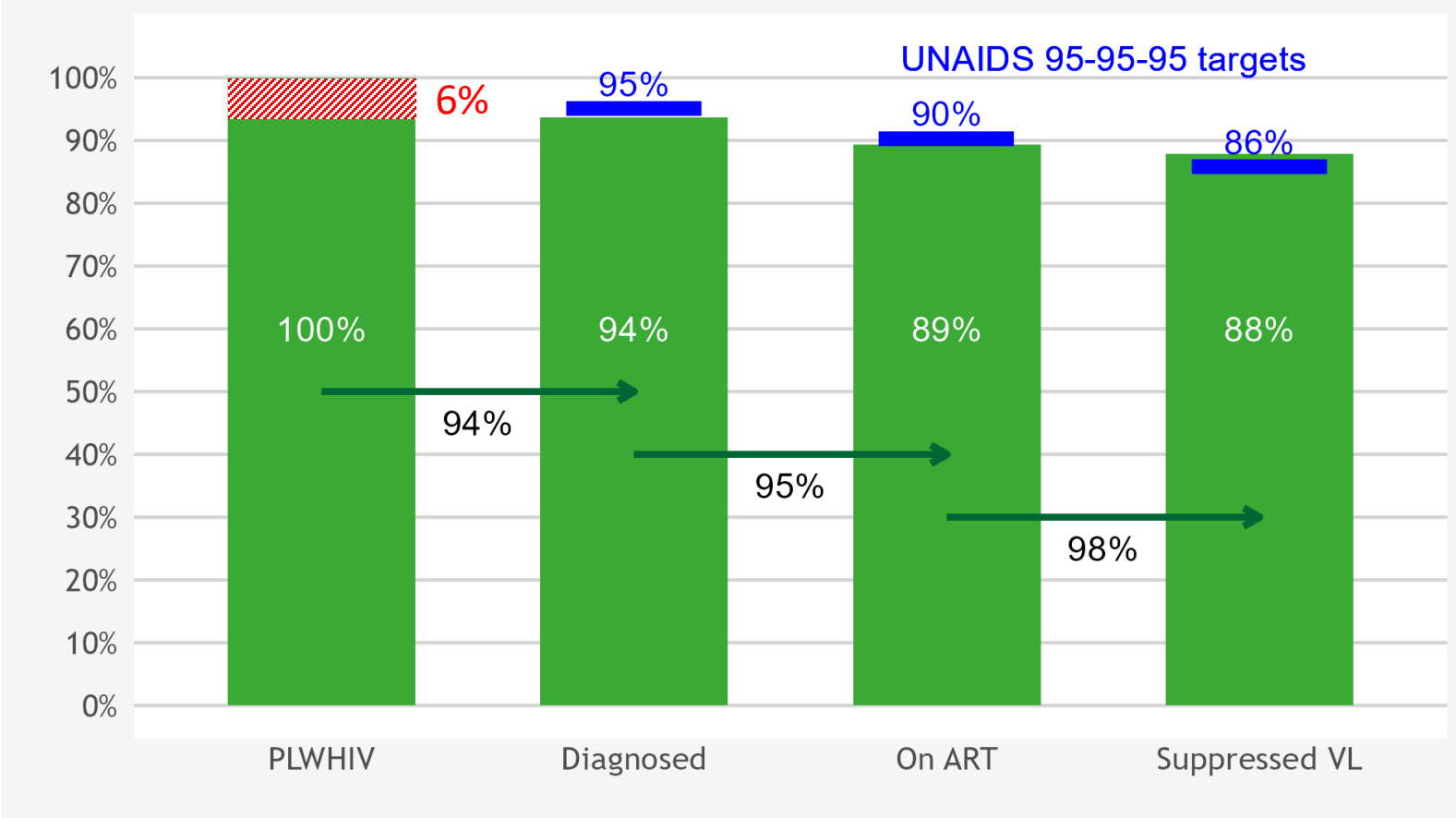
Estimated annual number of people living with undiagnosed HIV infection, 1980–2024



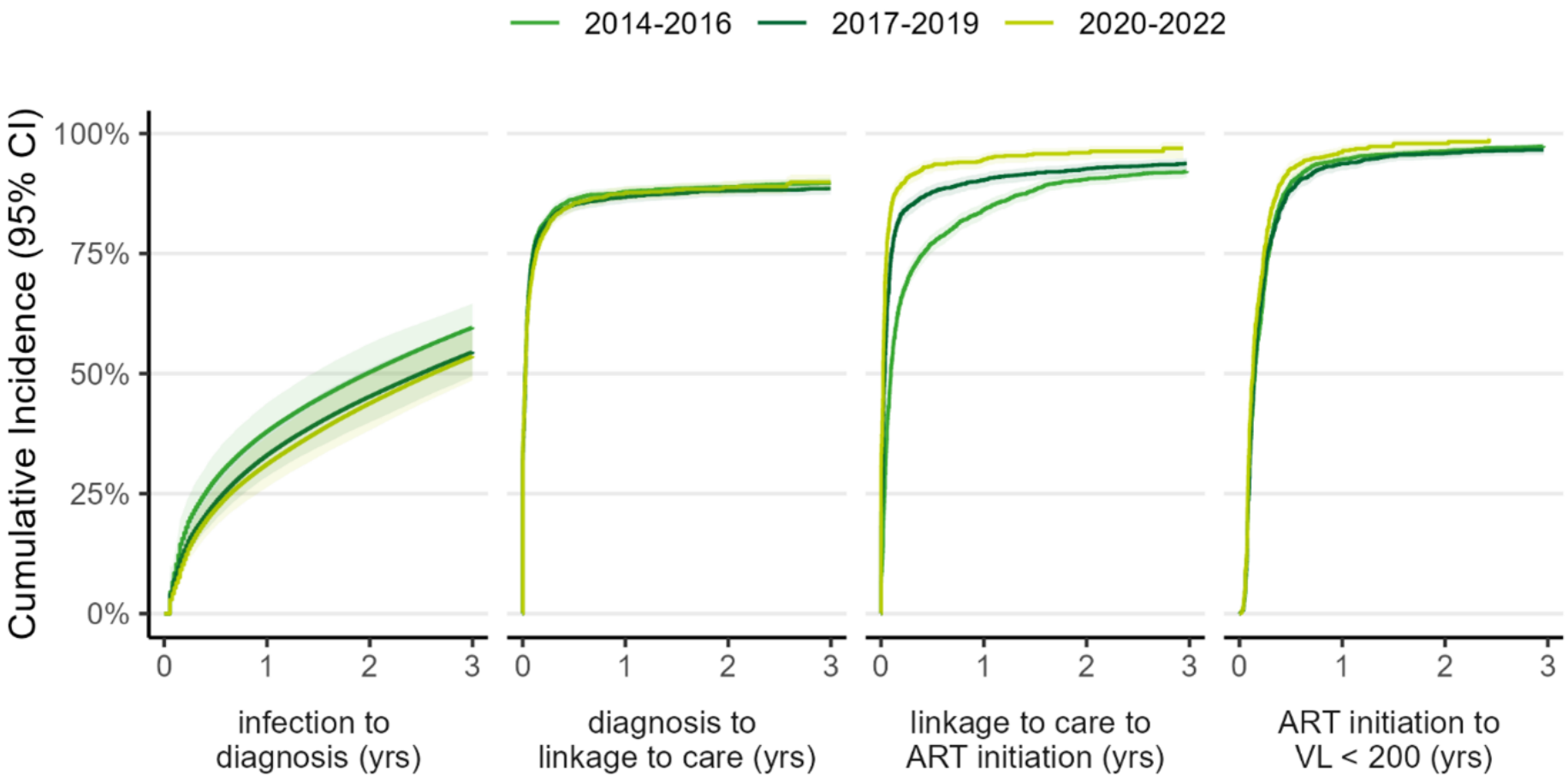
Estimates 2024 by probable mode of infection and grouped nationalities

	Estimated number [CI 95%]
Total	1224 [759 – 1922]
Belgian MSM	263 [154 – 515]
European MSM	44 [10 – 277]
Other MSM	72 [37 – 147]
Belgian Hetero	369 [163 – 824]
SSA Hetero	292 [131 – 562]
Other Hetero	157 [53 – 307]
IDU	41 [13 – 97]

The undiagnosed population in the CoC, Belgium, 2024



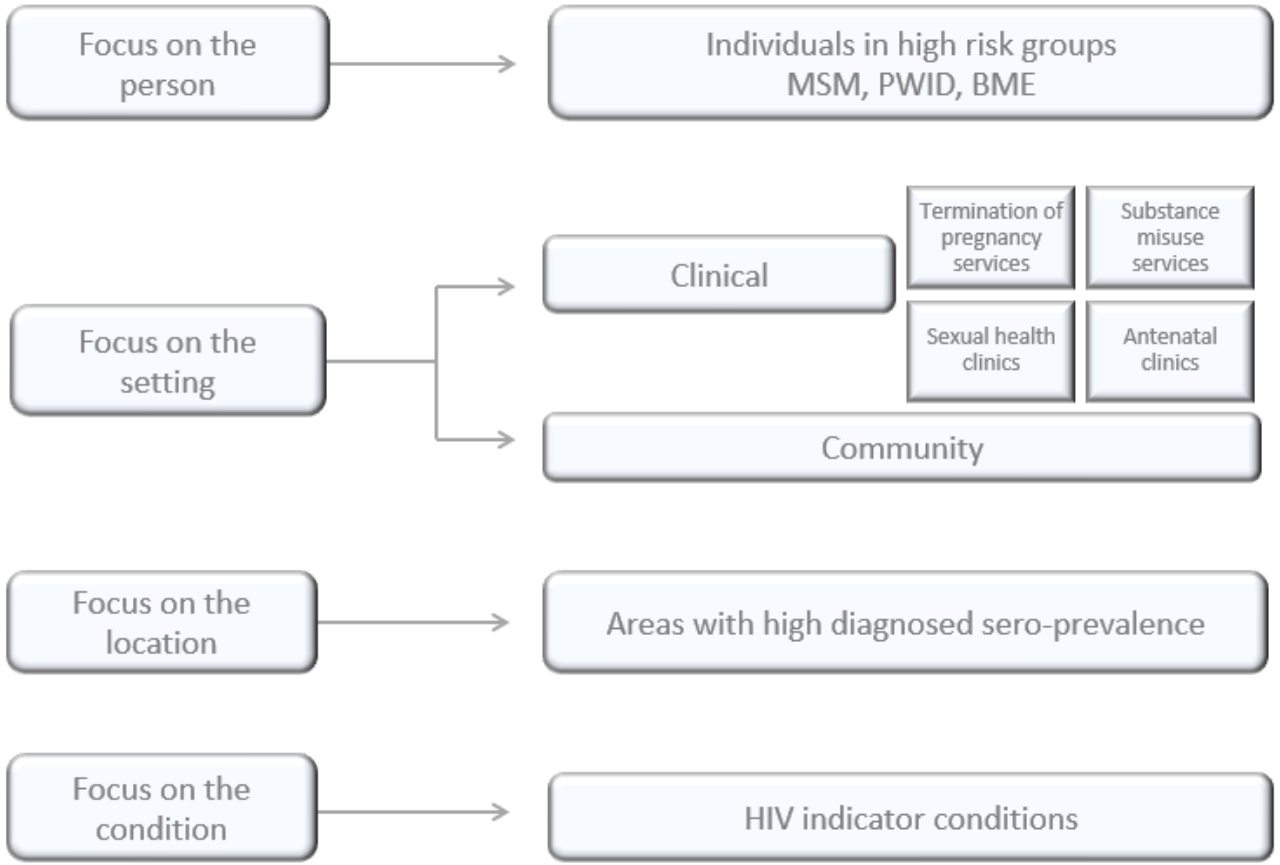
Cumulative incidences by transition stage, 2014-2022



Van Beckhoven et al. Dual cross-sectional and longitudinal perspective on the continuum of HIV care to disentangle natural epidemic evolution from real progress, Belgium 2014-2022. HIV Med. 2025 Jul;26(7):1034-1045.

Challenge ahead: Reduce time from HIV infection to diagnosis -> to support the control of the epidemic

- Need of strategies **acceptable (non stigmatizing)** and **(cost)effective**, with **impactfull targetting**



EuroTEST. HIV indicator conditions

https://www.eurotest.org/testing-tools/hiv-indicator-conditions/

UK national HIV testing: HIV testing positivity

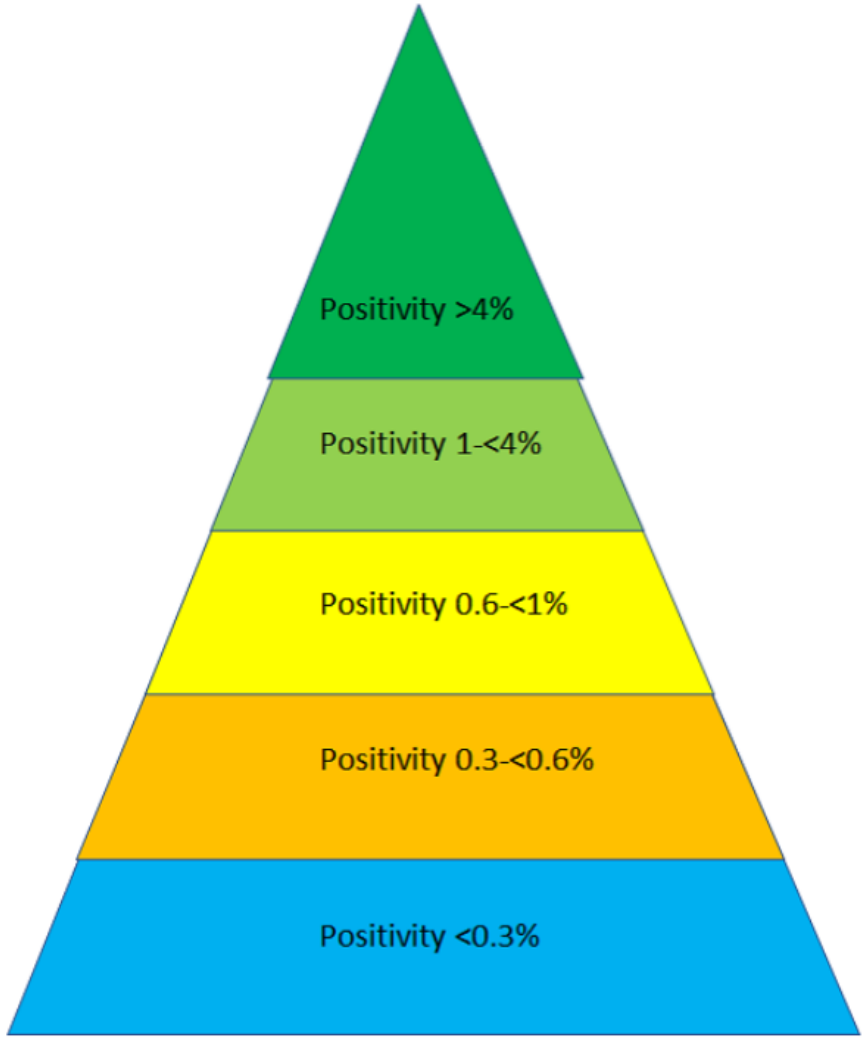
HIV partner notification
GBM with previous STI at SHS

Clinical indicator conditions:
e.g. hepatitis B&C, TB

A&E/hospitals extremely high prev.
Prisons. Other clinical indicator conditions

A&E/hospitals high & low prev.
GP high & extremely high prev.
Black African het women at SHS.
Other clinical indicator conditions

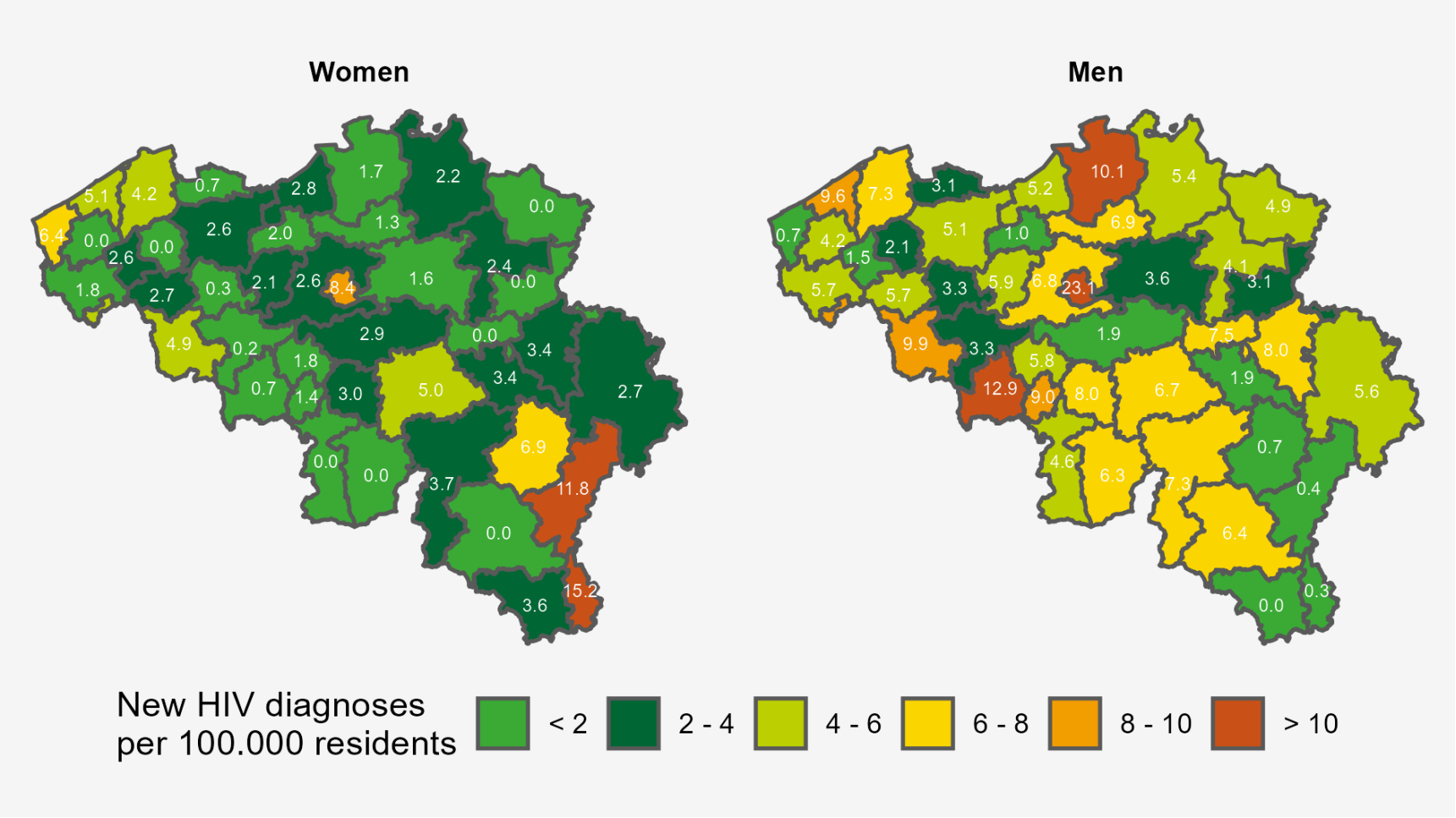
GP low prev.
Targeted home/community testing.
Other clinical indicator conditions



HIV testing positivity pyramid, England 2019

https://www.gov.uk/government/publications/towards-zero-the-hiv-action-plan-for-england-2022-to-2025/towards-zero-an-action-plan-towards-ending-hiv-transmission-aids-and-hiv-related-deaths-in-england-2022-to-2025#objective-2-scale-up-hiv-testing-in-line-with-national-guidelines-1

New HIV diagnosis rate per sex & district (and Brussels), 2024



Diagnosis rate /100 000

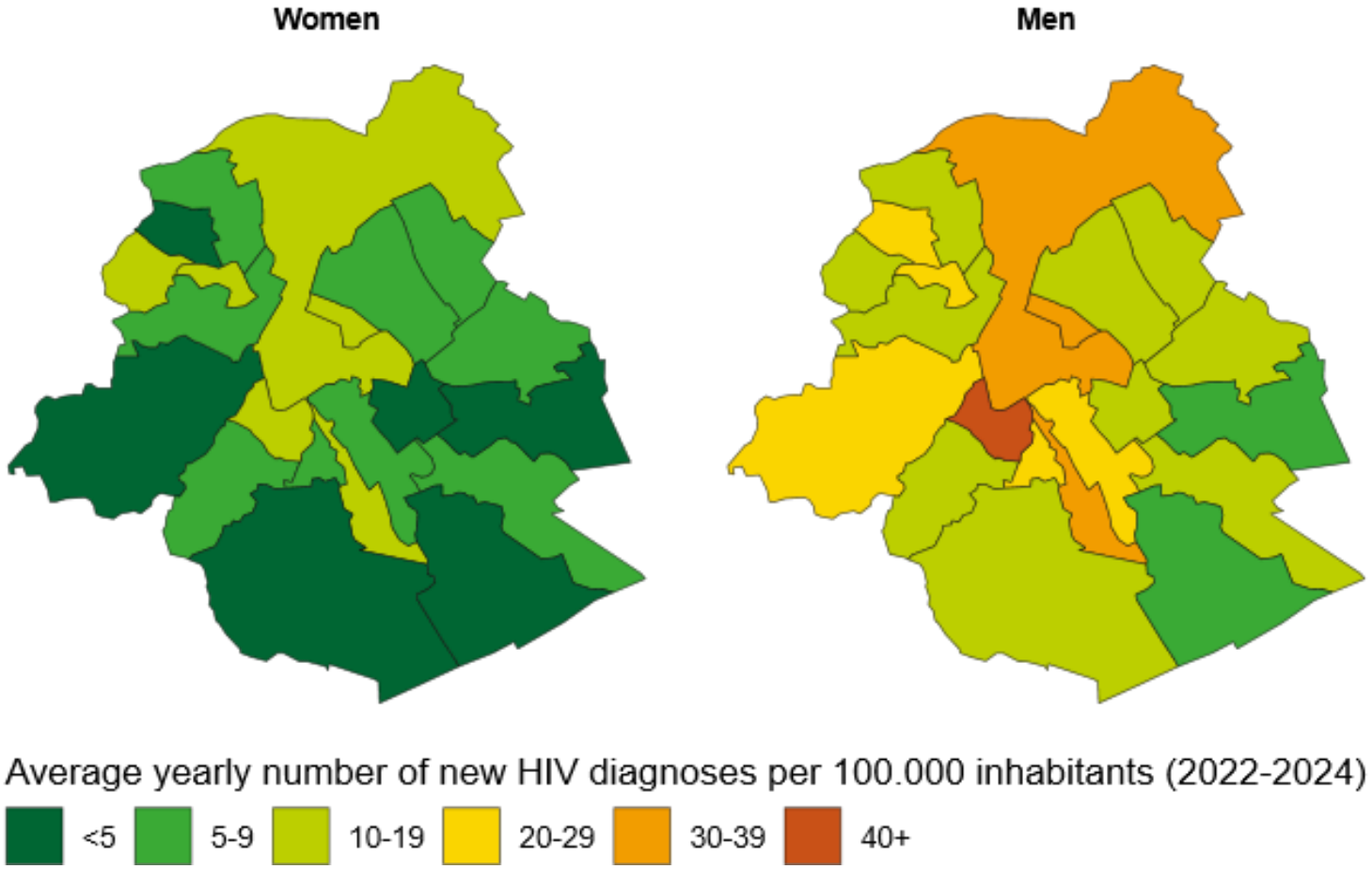
Belgium

All	5.6
Men	8.0
Women	3.1

Brussels

All	16
Men	23.1
Women	8.4

Diagnosis rate per municipality/postal code, Brussels, 2022-24



Diagnosis rate/100 000

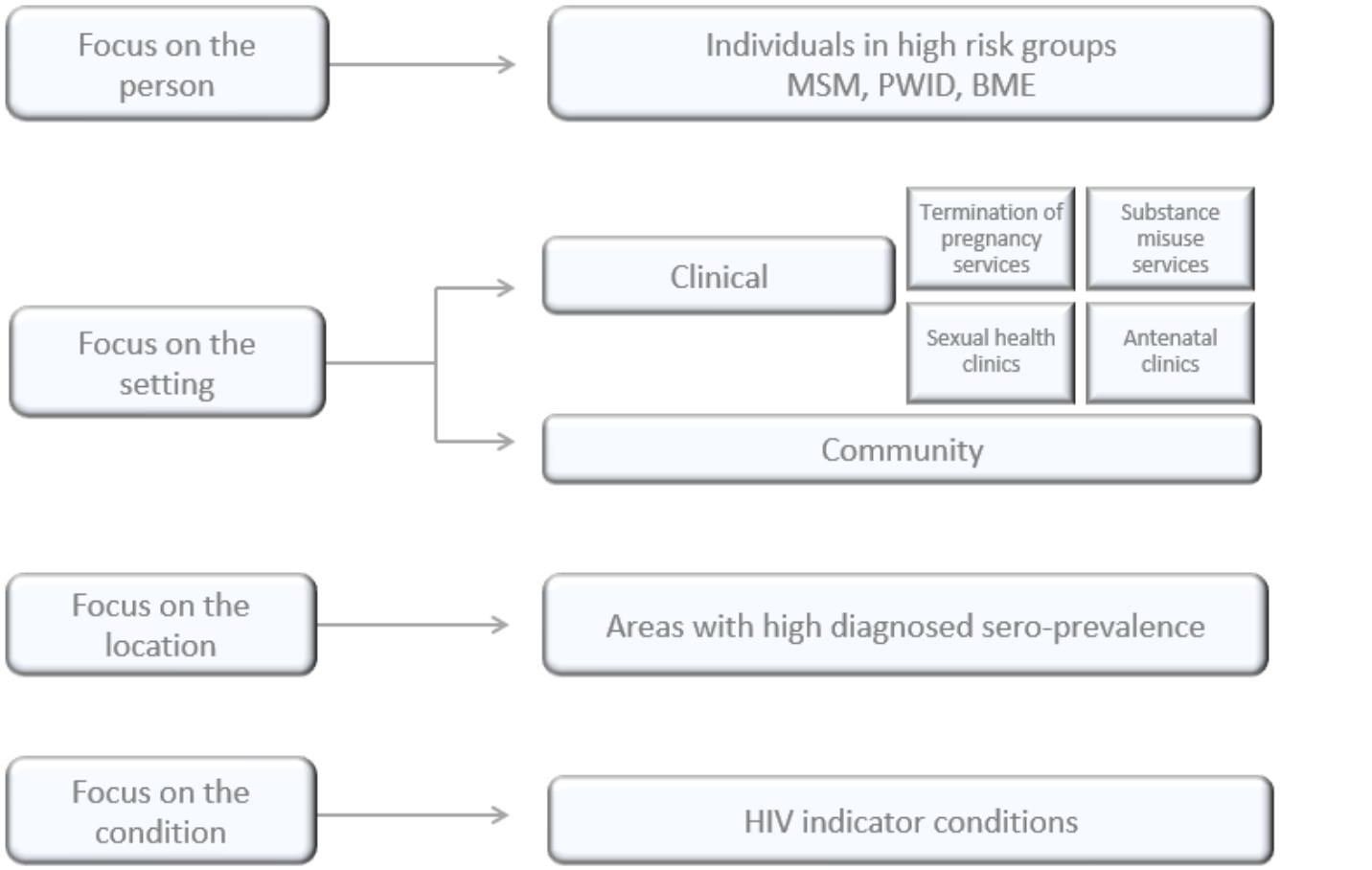
Brussels 1000
M 59
F 22

Saint-Gilles
M 46
F 11

Saint-Josse-Ten-Noode
M 31
F 16

Koekelberg
M 30
F 15

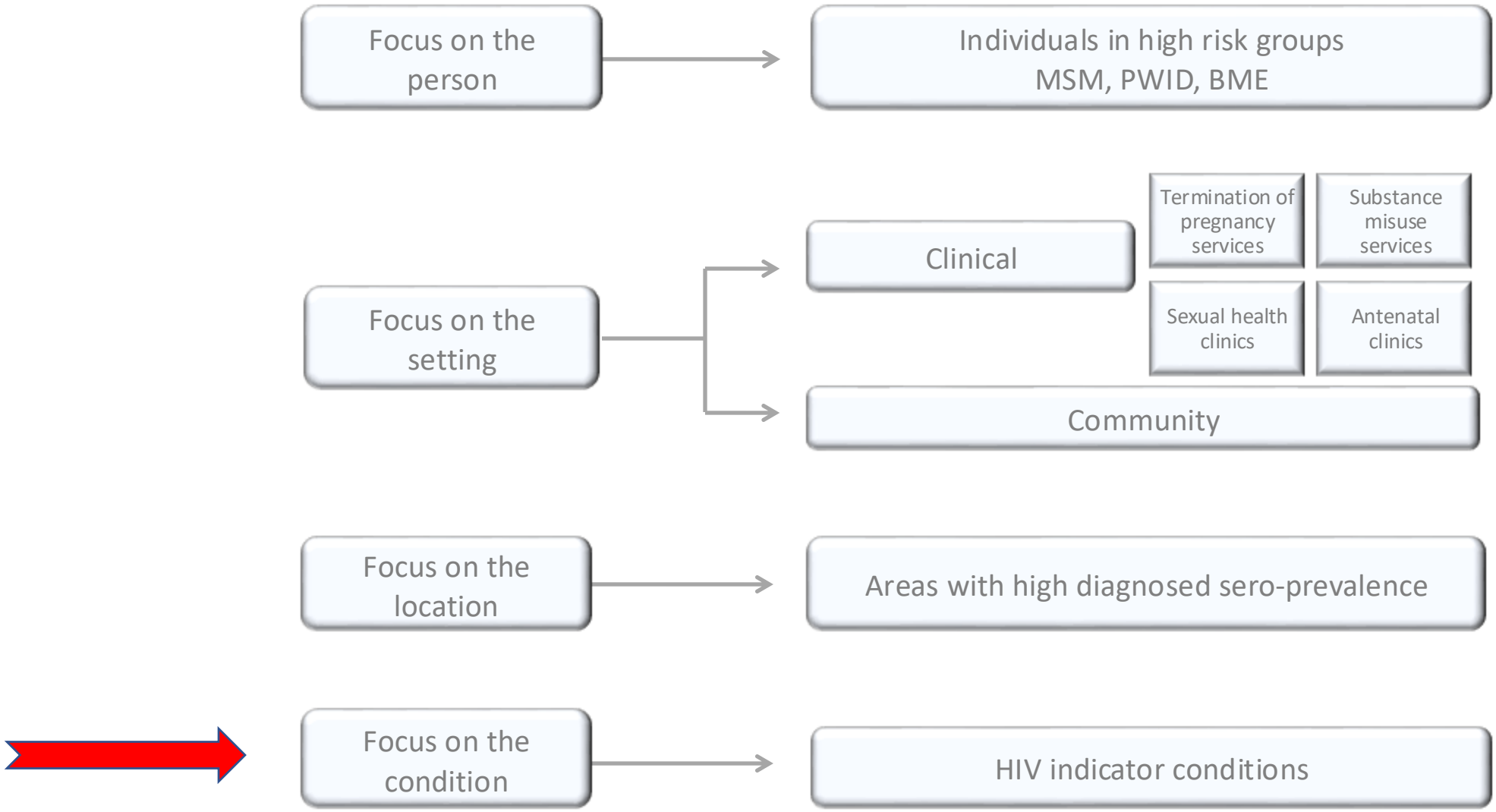
Possible approaches to diagnose the undiagnosed



EuroTEST. HIV indicator conditions

https://www.eurotest.org/testing-tools/hiv-indicator-conditions/

HIV Testing Strategies



EuroTEST. HIV indicator conditions

https://www.eurotest.org/testing-tools/hiv-indicator-conditions/

HIV diagnostics: what can we do better?

Lessons learned from the #aware.hiv project

Carlijn C.E. Jordans, MD, PhD

17 May 2025

Breach

AWARE.HIV
HEALTHCARE PROFESSIONALS

MENU

HIV indicator conditions are encountered across a wide range of medical specialties. The WHO and ECDC recommend HIV testing for individuals presenting with HIV indicator conditions. HIV testing should be offered to all patients diagnosed with HIV indicator conditions, irrespective of their age, ethnicity, sexual orientation, or cultural background. Therefore, it is essential for healthcare providers to recognize HIV indicator conditions within their specialty.

View the list of HIV-indicating conditions by field here

HIV indicators conditions insufficiently implemented

Over half of people diagnosed with HIV had been diagnosed with at least one HIV indicator condition in the years prior to HIV diagnosis

3.2 Specialties and indicator conditions

People with undiagnosed HIV may potentially present to any hospital, clinic or primary care/general practice setting. HIV testing should be considered during any clinical contact when a person presents with an indicator condition. Multiple medical specialties are involved in the care of individuals presenting with the conditions outlined in table 1. Table 2 categorizes the indicator conditions based on the specialty most likely to be involved in their care by categorizing clinical conditions for each specialty.

Table 2: Indicator conditions and specialties involved

Specialty: Respiratory/Pulmonology

- Tuberculosis
- Pneumocystis carinii pneumonia
- Pneumonia, recurrent
- MAC lung disease
- Histoplasmosis, disseminated/extra pulmonary
- Herpes simplex bronchitis/pneumonitis
- Candidiasis bronchial/lungs
- Community-acquired pneumonia

Specialty: Neurology and neurosurgery

- Cerebral toxoplasmosis
- Cryptococcosis, extrapulmonary
- Progressive multifocal leucoencephalopathy
- Reactivation of American trypanosomiasis (meningoencephalitis or myocarditis)
- Guillain–Barré syndrome
- Mononeuritis
- Subcortical dementia
- Multiple sclerosis-like disease
- Peripheral neuropathy
- Primary space occupying lesion of the brain

Yellow: Conditions which are AIDS defining among PLHIV – strongly recommend testing
Blue: Conditions associated with an undiagnosed HIV prevalence of >0.1% – Strongly recommend testing and other conditions considered likely to have and undiagnosed HIV prevalence of >0.1% – Offer testing
Green: Conditions where not identifying the presence of HIV infection may have significant adverse implications for the individual's clinical management despite that the estimated prevalence of HIV is most likely lower than 0.1% – Offer testing

Specialty: Dermatology/dermatovenereology/ genitourinary medicine

- Kaposi's sarcoma
- Herpes Simplex ulcer(s)
- Atypical disseminated leishmaniasis
- Penicilliosis, disseminated
- Seborrheic dermatitis/exanthema
- Herpes zoster
- Sexually transmitted infections
- Hepatitis B or C (acute or chronic)
- Severe or recalcitrant psoriasis
- Candidaemia
- Candidiasis

Specialty: Gastroenterology/hepatology

- Cryptosporidiosis diarrhoea, >1 month
- Microsporidiosis, >1 month
- Isosporiasis, >1 month
- Candidiasis, oesophageal
- Hepatitis B or C (acute or chronic)
- Unexplained chronic diarrhoea

Specialty: Oncology

- Lymphoma, non-Hodgkin
- Kaposi's sarcoma
- Primary lung cancer
- Anal cancer/dysplasia
- Cancer requiring aggressive immuno-suppressive therapy

Specialty: Gynecology/ Obstetrics

- Cervical cancer
- Sexually transmitted infections
- Hepatitis B or C (acute or chronic)
- Pregnancy (implications for the unborn child)
- Cervical dysplasia

Specialty: Hematology

- Lymphoma, non-Hodgkin
- Malignant lymphoma
- Unexplained leukocytopenia/thrombocytopenia lasting >4 weeks
- Unexplained lymphadenopathy
- Thrombotic thrombocytopenic purpura

Specialty: Infectious Diseases/Internal medicine

- Tuberculosis
- Mycobacterium Tuberculosis, pulmonary or extrapulmunary
- Mycobacterium avium complex (MAC) or Mycobacterium kansasii, disseminated or extrapulmonary
- Mycobacterium, other species or unidentified species, disseminated or extrapulmunary
- Pneumonia, recurrent (2 or more episodes in 12 months)
- Pneumocystis carinii pneumonia
- Cryptococcosis, extrapulmonary
- Salmonella septicaemia
- Cytomegalovirus, other (except liver, spleen, glands)
- Herpes Simplex ulcer(s) >1 month/ bronchitis/pneumonitis
- Candidiasis bronchial/tracheal/lungs
  Candidiasis, oesophageal
- Histoplasmosis, disseminated/ extrapulmonary
- Coccidiodomycosis, disseminated/extra pulmonary
- Atypical disseminated leismaniasis
- Reactivation of American trypanosomiasis (meningoencephalitis or myocarditis)
- Penicilliosis, disseminated
- Sexually transmitted infection
- Hepatitis B or C (acute or chronic)
- Mononucleosis-like illness

Specialty: Infectious Diseases/Internal medicine

- Invasive pneumococcal disease
- Herpes zoster
- Lymphocytic meningitis
- Visceral leishmaniasis
- Unexplained weightloss
- Unexplained fever
- Unexplained chronic diarrhoea
- Unexplained lymphadenopathy
- Unexplained leukocytopenia/thrombocytopenia lasting >4 weeks

Specialty: Rheumatology

- Auto-immune disease treated with aggressive immuno-suppressive therapy

Specialty: Ophthalmology

- Cytomegalovirus retinitis

Specialty: Ear Nose Throat

- Candidiasis tracheal/oesophageal
- Mononucleosis-like illness

Specialty: Nephrology

- Unexplained chronic renal impairment

Specialty: General practice

Symptomatology fitting any of the listed conditions

Specialty: Emergency medicine

Symptomatology fitting any of the listed conditions

Specialty: Dentistry

- Oral hairy leukoplakia
- Candidiasis, oral and oesophageal
- Kaposi's sarcoma

Health Promotion International, 2020;35:301–311
doi: 10.1093/heapro/daz037
Advance Access Publication Date: 5 May 2019
Article

Identifying key elements to inform HIV-testing interventions for primary care in Belgium

Hanne Apers [1,*], Christiana Nöstlinger[1,2], Dominique Van Beckhoven[3], Jessika Deblonde[3], Ludwig Apers[4], Katleen Verheyen[5,6], Jasna Loos[1], and HERMETIC Study Group[†]

[1]Group HIV and Sexual Health, Department of Public Health, Institute of Tropical Medicine, Nationalestraat 155, 2000 Antwerp, Belgium, [2]Faculty of Psychology, University of Vienna, Vienna, Austria, [3]Epidemiology of Infectious Diseases Unit, Department of Public Health and Surveillance, Sciensano - Belgian Scientific Institute of Public Health, Ixelles, Belgium, [4]HIV/STI clinic, Department of Clinical Sciences, Institute of Tropical Medicine, Antwerp, Belgium, [5]General Practitioner, Opglabbeek, Belgium and [6]ELIZA - Center for General Practice, Department of Primary & Interdisciplinary Care Antwerp, University of Antwerp, Antwerp, Belgium

Advisory board and 16 group discussions with 122 Flemish GPs
GPs' current HIV-testing practices and perceived practical relevance of 2 distinct HIV-testing strategies:

- provider-initiated testing of key populations
- indicator condition-based testing

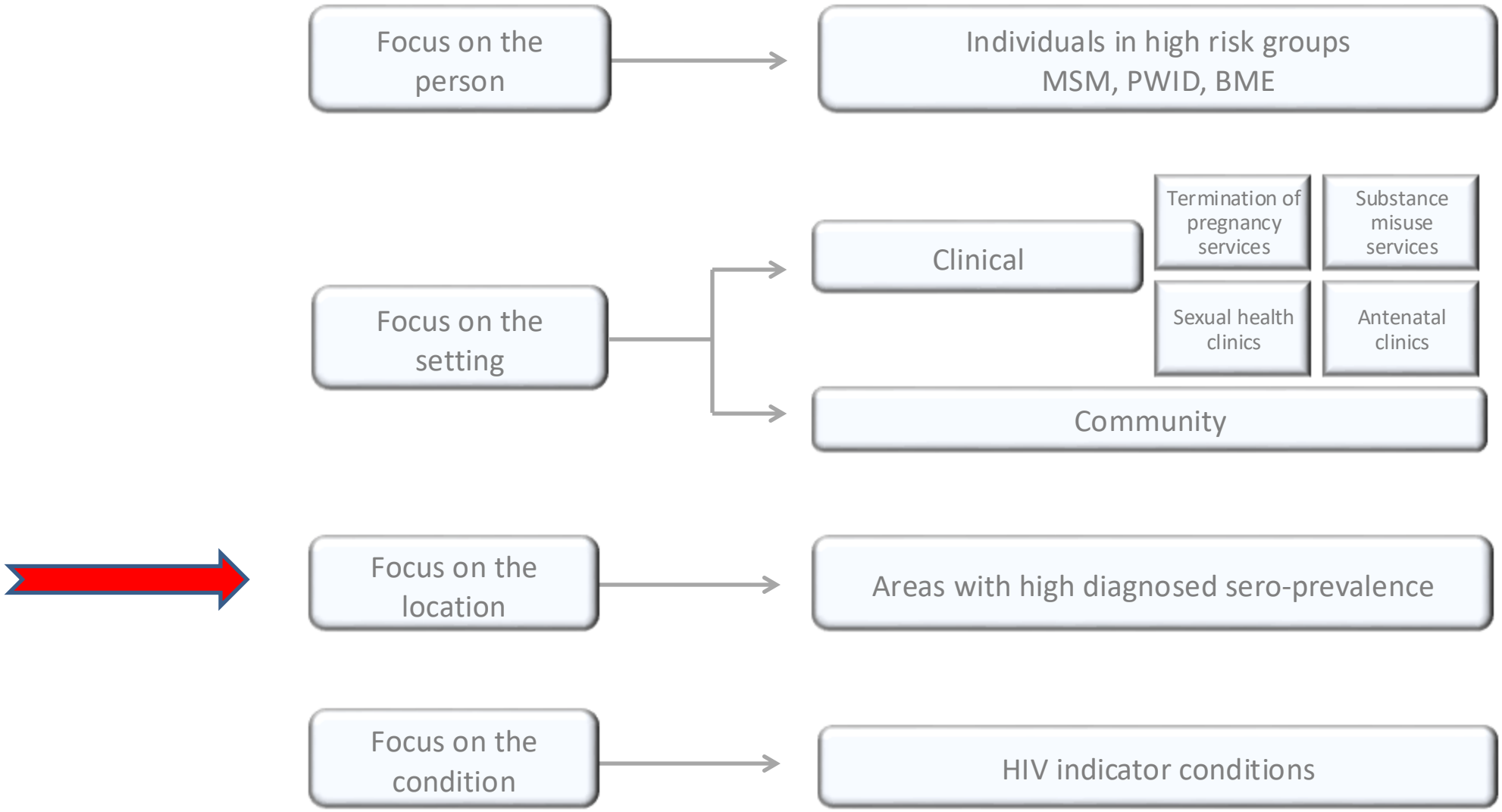
- **Most tests performed were patient-initiated**
- **Multiple barriers to provider-initiated HIV-testing**, i.e. personal discomfort, fear of offending their patient, limited knowledge of benefits of early HIV-diagnosis, misconceptions about HIV-risks, lack of guidelines and time.
- **Barriers for target group-based HIV testing**: difficulties to identify patient's sexual orientation or ethical concerns.
- **Barriers for indicator conditions**: current list of 64 indicator conditions too difficult to integrate in routine care, deeming a reduced list of GP-relevant conditions as more feasible.

Table 3: Ten most diagnosed indicator conditions (left column) and ten most reported conditions indicative for offering an HIV test (right column) in GP practices

Indicator conditions regularly diagnosed in GP practice	Indicator conditions which indicate GPs to test for HIV
1. Sexually transmitted infections (STI)	1. Sexually transmitted infection (STI)
2. Herpes zoster	2. Salmonella septicemia, recurrent
3. Mononucleosis-like illness	3. Unexplained leukocytopenia
4. Seborrheic dermatitis/exanthema	4. Hepatitis B or C
5. Candidemia	5. Unexplained lymphadenopathy
6. Cervical dysplasia	6. Malignant lymphoma
7. Unexplained weight loss	7. Peripheral neuropathy
8. Peripheral neuropathy	8. Mononucleosis-like illness
9. Unexplained fever	9. Coccidioidomycosis
10. Unexplained chronic diarrhea	10. Cytomegalovirus

A shorter list of indicators conditions for GP :an option waiting for more adapted medical file?

HIV Testing Strategies



EuroTEST. HIV indicator conditions

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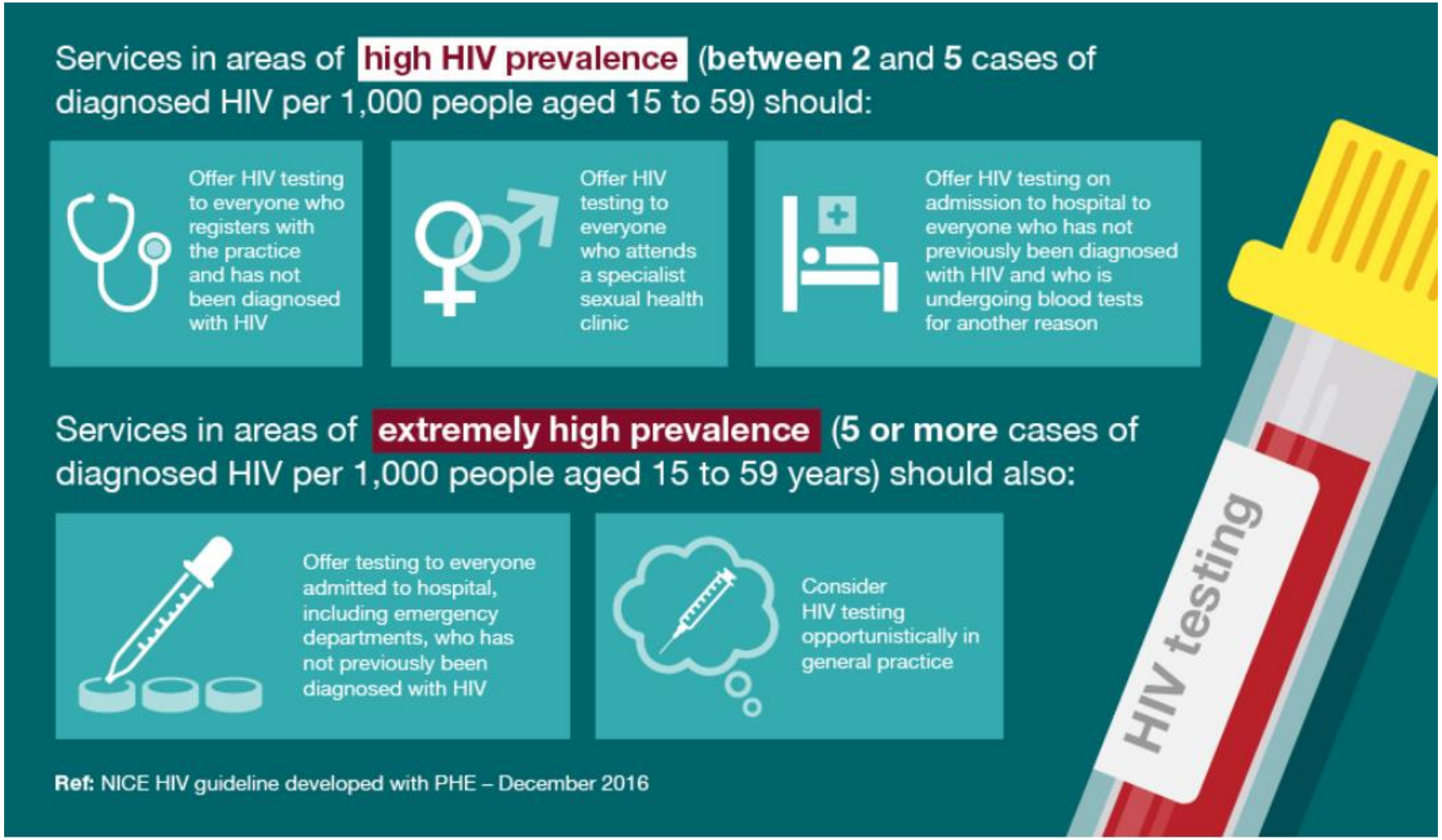
Example: UK national guidance on HIV testing



Update 2025: offer AND **recommend** HIV testing in EDs where there is high or very high HIV prevalence

Health matters: increasing the uptake of HIV testing. 2016 https://www.gov.uk/government/publications/health-matters-increasing-the-uptake-of-hiv-testing/health-matters-increasing-the-uptake-of-hiv-testing?utm_source=chatgpt.com

The UK programme in emergency department

- In April 2022, a 3-year programme of ED opt-out testing for BBVs was implemented in EDs within areas of very high diagnosed HIV prevalence (more than 5 per 1,000 population aged 15 to 59 years)

- Testing for HIV, HBV and HCV for anyone aged ≥ 16 years having a routine blood test during their ED attendance, unless they opted-out (poster, leaflets, videos in EDs)

- The electronic ordering system automatically generated a BBV test alongside routine blood testing sets

Opt-out testing in ED: aims

- Reach an **underserved** population with **high levels of deprivation** (not in other healthcare services)
- Reach people who may **not self-identify as being at risk**

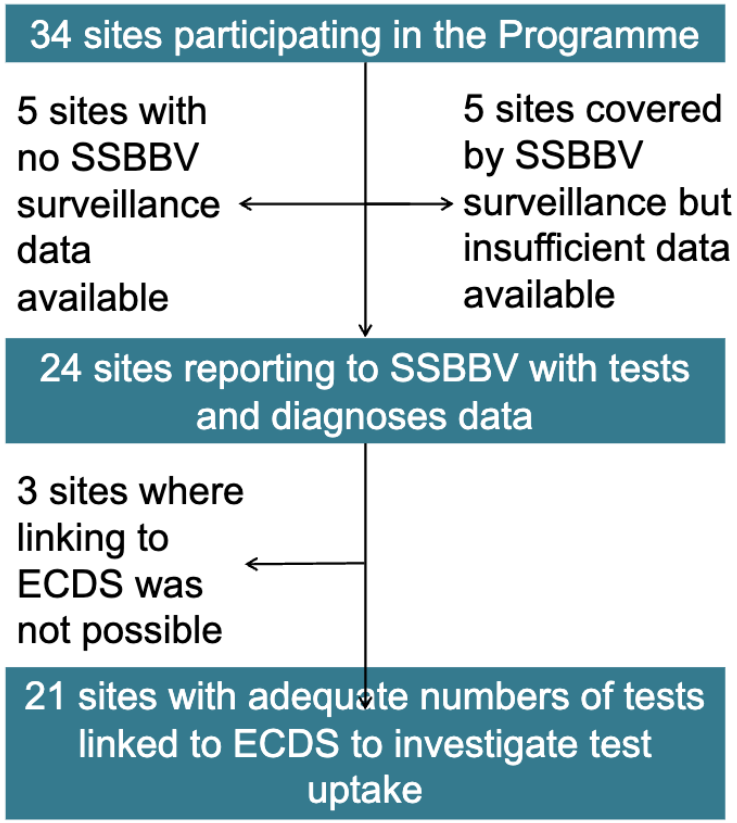
- Provide an opportunity to **re-engage** people with a BBV diagnosis who are not currently in care.

- The opt-out approach **normalises** testing for BBVs: no need to speak or ask about risk factors, potentially reducing stigma and discrimination.

Research and analysis

Protocol: public health evaluation of BBV opt-out testing in EDs in England, 33-month final report 2025

Updated 29 October 2025



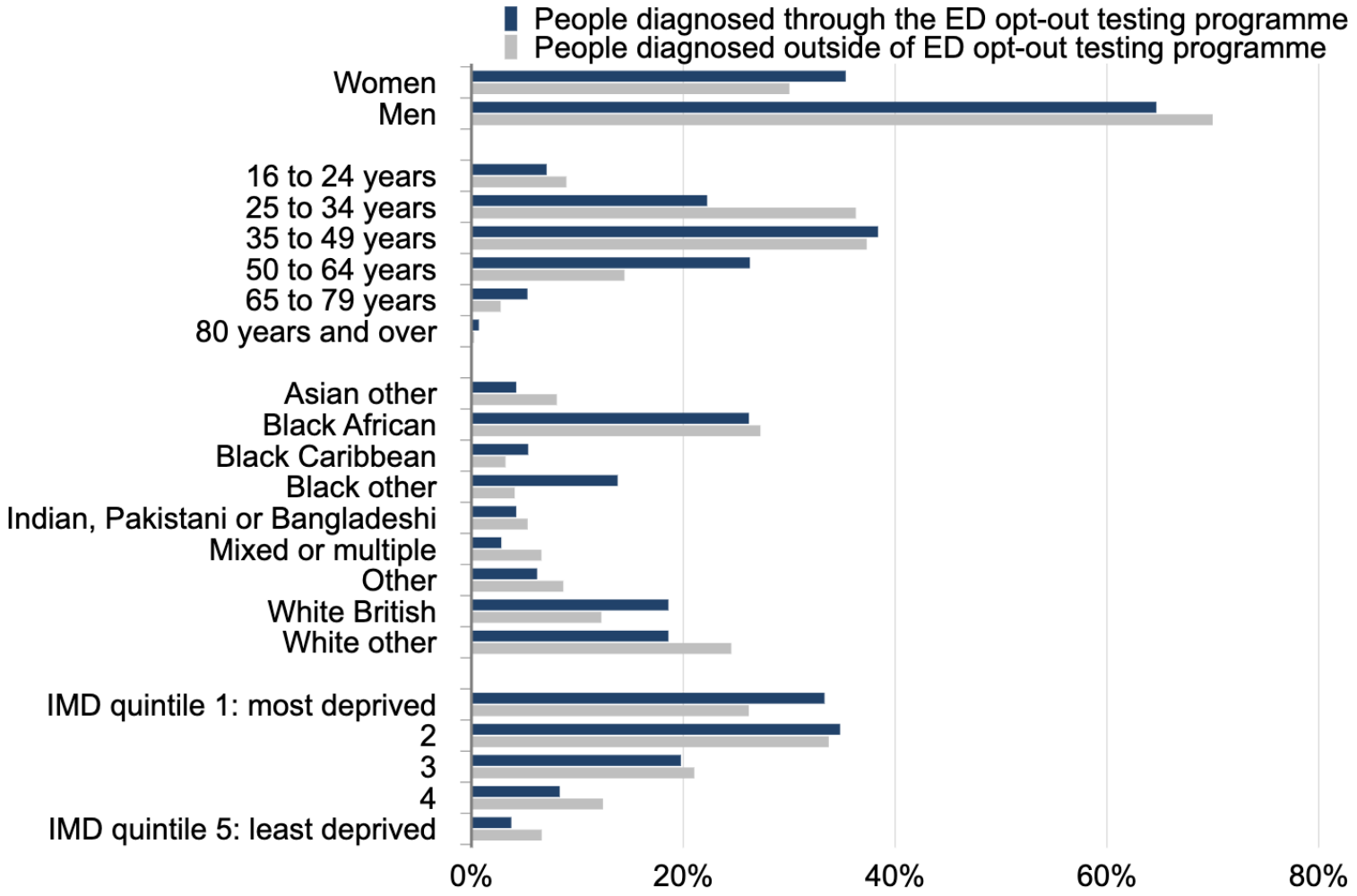
https://www.gov.uk/government/publications/bloodborne-viruses-opt-out-testing-in-emergency-departments/protocol-public-health-evaluation-of-bbv-opt-out-testing-in-eds-in-england-33-month-final-report-2025

Results (01/04/2022-31/12/2024)

	Number newly diagnosed	NNT	Test positivity
HBV	3,667	240	0.42%
HCV	831	1276	0.08%
HIV	719	1916	0.05%

Number of tests:
2,781,164 HIV tests
2,363,443 HCV antibody tests
1,989,161 HBV tests

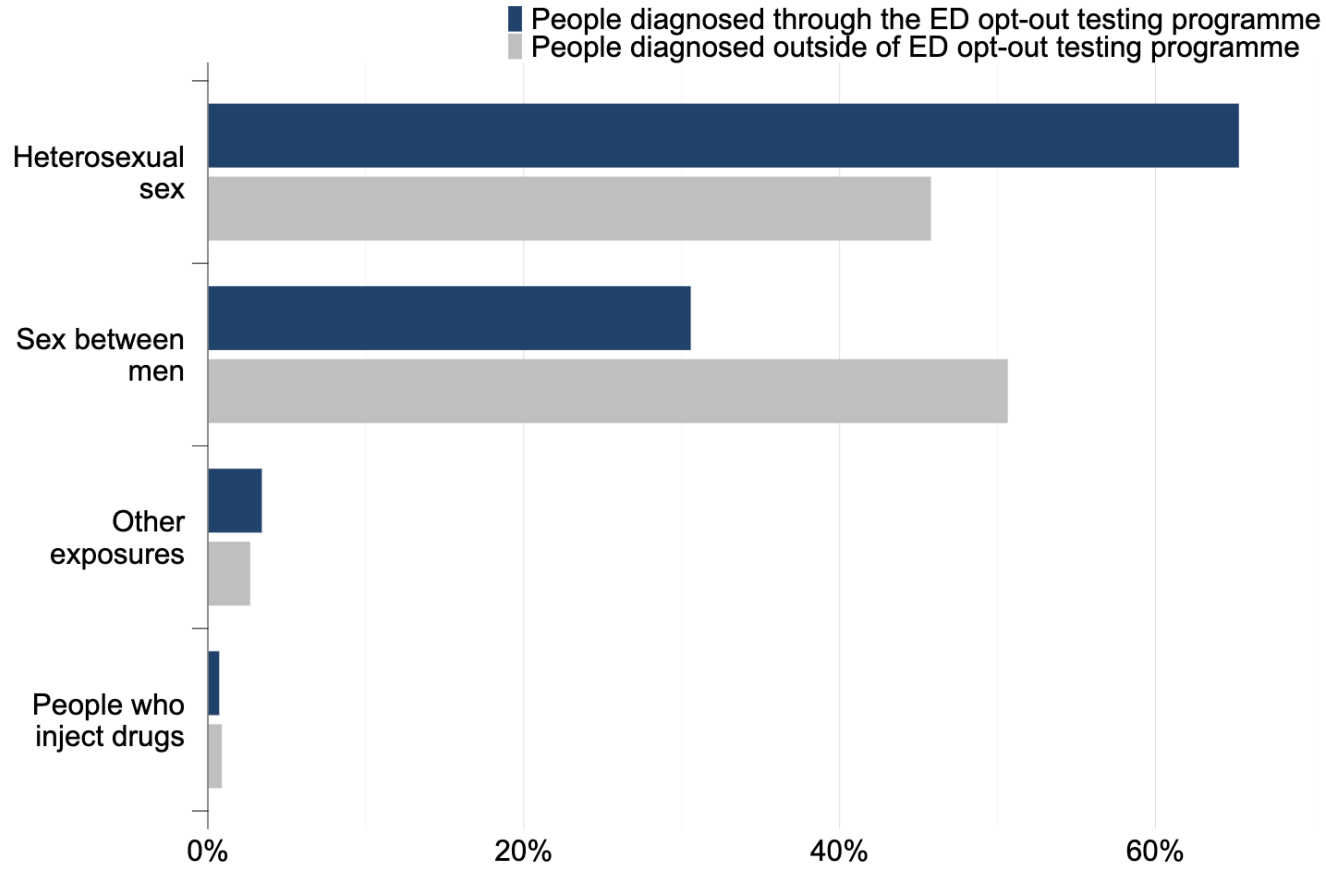
Figure 7. Demographics of people with a new HIV diagnosis, by location of test



People with new HIV diagnosis in the program:

- Older
- More women
- Living in more deprived area

Figure 8. Probable route of HIV acquisition for people with a new HIV diagnosis, by location of test



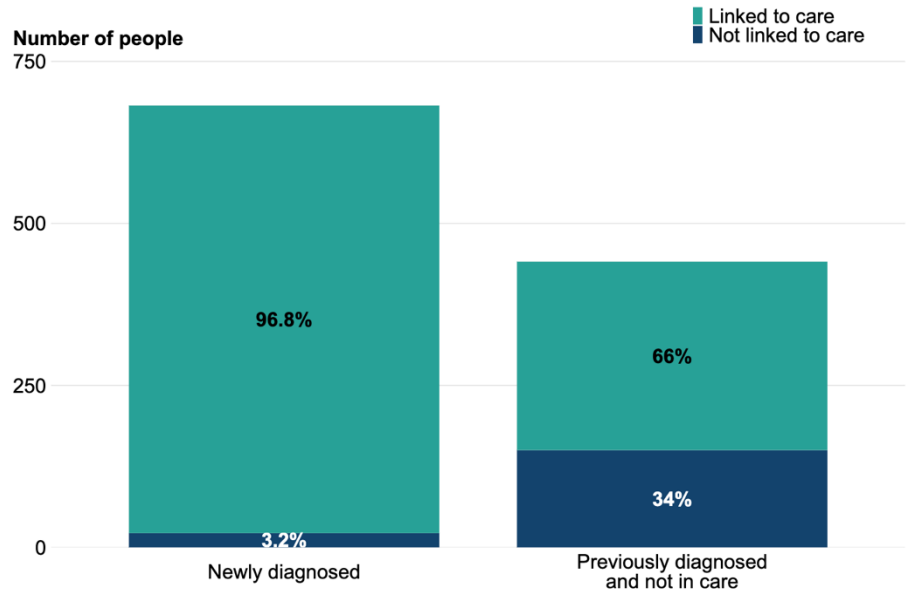
More heterosexual

Success of the opt-out testing approach in diagnosing people with different risk factors compared to other settings

Results

- 50% late HIV diagnosis (37% in other settings)
- 291 people previously diagnosed with HIV but not in care
- Excellent linkage to care

Figure 14. Linkage to care for people newly and previously diagnosed with HIV and not in care in the previously 15 months



Successfull program

Cost-effective in UK if test for HIV, HCV and HBV

Threshold of 1/1000 (0,1%) considered for HIV

Positivity of 0.05 % is below

Can we do the same in Belgium?

Risk of new HIV diagnosis by intersecting migration, socioeconomic, and mental health vulnerabilities in the Netherlands: a nationwide analysis of the ATHENA cohort and Statistics Netherlands registry data

Vita W. Jongen,[a,b,c,*] Anders Boyd,[a,c] Patrizia Carrieri,[d] Nina Schat,[e] Selwyn H. Lowe,[f] Rosan van Zoest,[e] Marit G. A. van Vonderen,[g] Jolanda Lammers,[h] Mark Verhagen,[e] Ard van Sighem,[a,c] and Marc van der Valk,[a,c] on behalf of the ATHENA observational HIV cohort[i]

The Lancet Regional Health - Europe November 2025;

Individuals who:

🌍 have a migration background

💶 face economic vulnerabilities

🧠 experience mental health challenges

...carry a disproportionately higher burden of a new HIV diagnosis.

2012-2023
6055 men and 1020 women

Possible pilot project in the center of Brussels:
Opt-out HIV testing in ED: CHU Saint-Pierre (+Saint-Jean?)

High diagnosis area

High proportion of individuals with

- 🌍 have a migration background
- 💶 face economic vulnerabilities
- 🧠 experience mental health challenges

Pilot project will determine the cost-effectiveness of this strategy in Belgium

and with no GPs

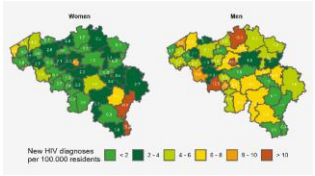
Other possible pilot projects in area of higher diagnosis

- Raise awareness of GPs for systematic HIV testing (i.e new patients, patients with blood sampling)

- Out-reach testing by CBOs

Conclusion

- **Observations:**
  - More than 1200 people with HIV undiagnosed in Belgium
  - Still 33% of late diagnosis
  - Huge difference depending on location



- **Proposals:**
  - Increase awareness of HIV indicators in hospitals and GPs (smaller list?, help of new technology?, aware project)
  - Implement pilot projects to increase HIV testing in area of high HIV diagnosis prevalence in EDs, GPs and CBOs