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# HIV testing in England

## Alison Brown – UK Health Security Agency

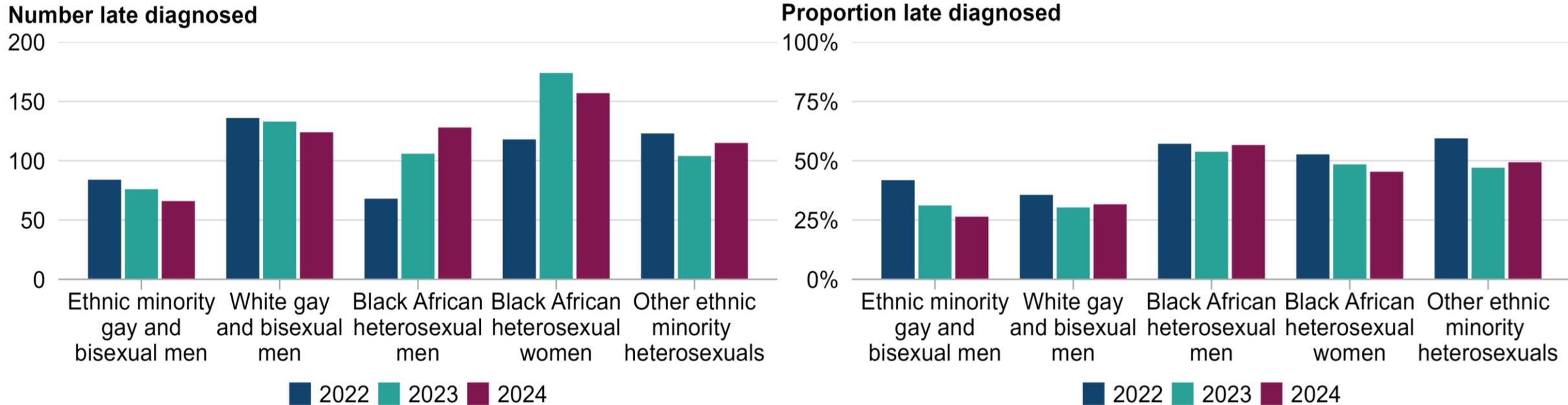
# Aims

- Why is HIV testing is important
- Late diagnoses
- Settings
  - Sexual health services
  - ED opt out testing
  - Other settings
- Focus on:
  - Testing by prevalence band
  - Populations
  - Policies
  - HIV Action Plan

# Why is HIV testing important?

- Late diagnosis biggest cause of preventable mortality in people living with HIV
- People diagnosed late have a greater risk of dying within a year compared to those diagnosed promptly
- Earlier diagnoses = better outcomes
- Still around 4700 people living with undiagnosed HIV in England in 2024
- Access to PrEP and other prevention initiatives

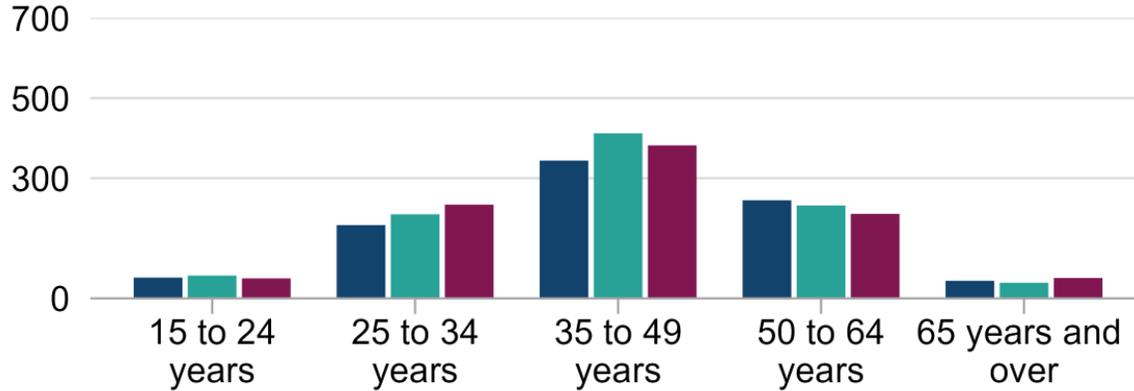
# Number and proportion of late HIV diagnoses among adults [note 1] newly diagnosed with HIV by key adult populations: England, 2022 to 2024



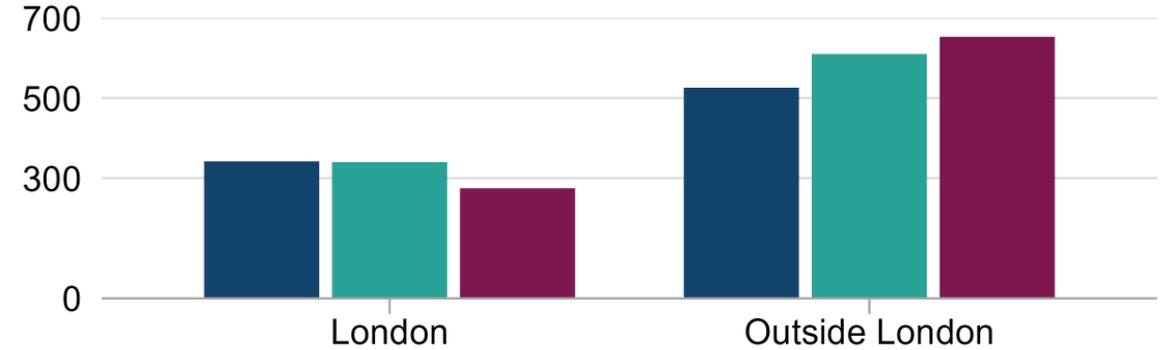
Note 1: includes people aged 15 years and over.

# Number and proportion late diagnosed among adults newly diagnosed with HIV by age group at diagnosis and region of residence: England, 2022 to 2024

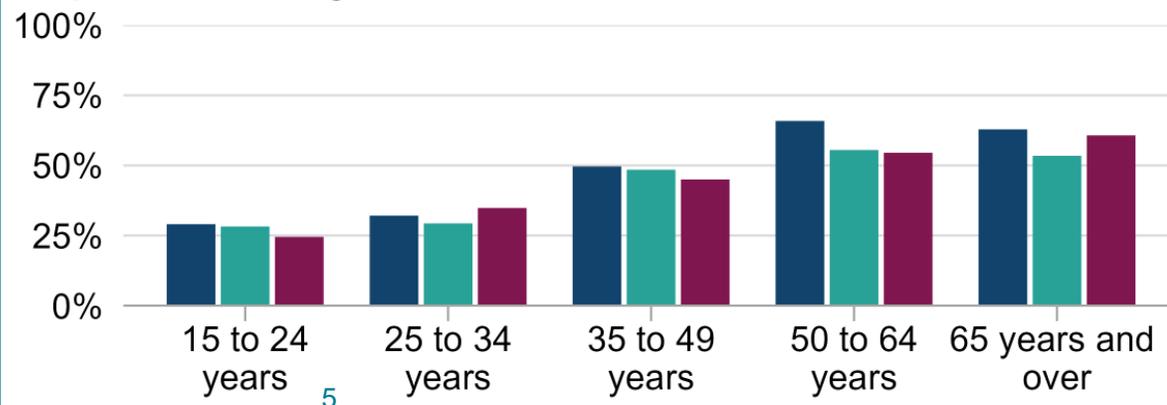
Number late diagnosed



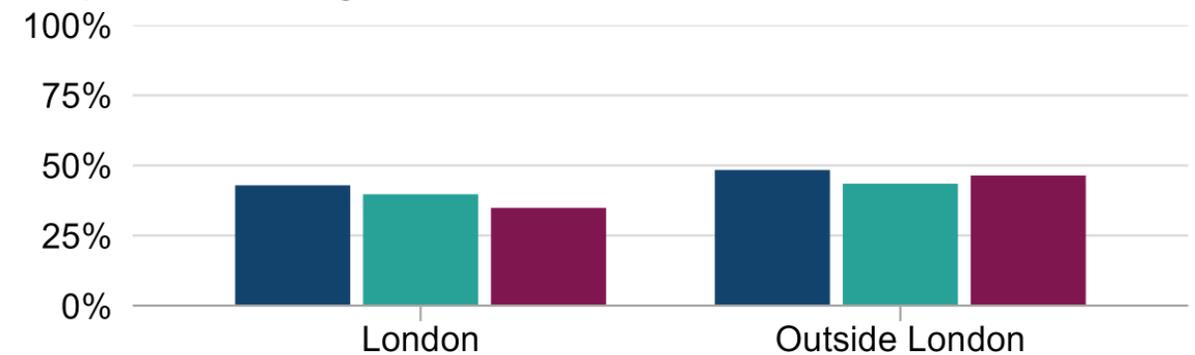
Number late diagnosed



Proportion late diagnosed



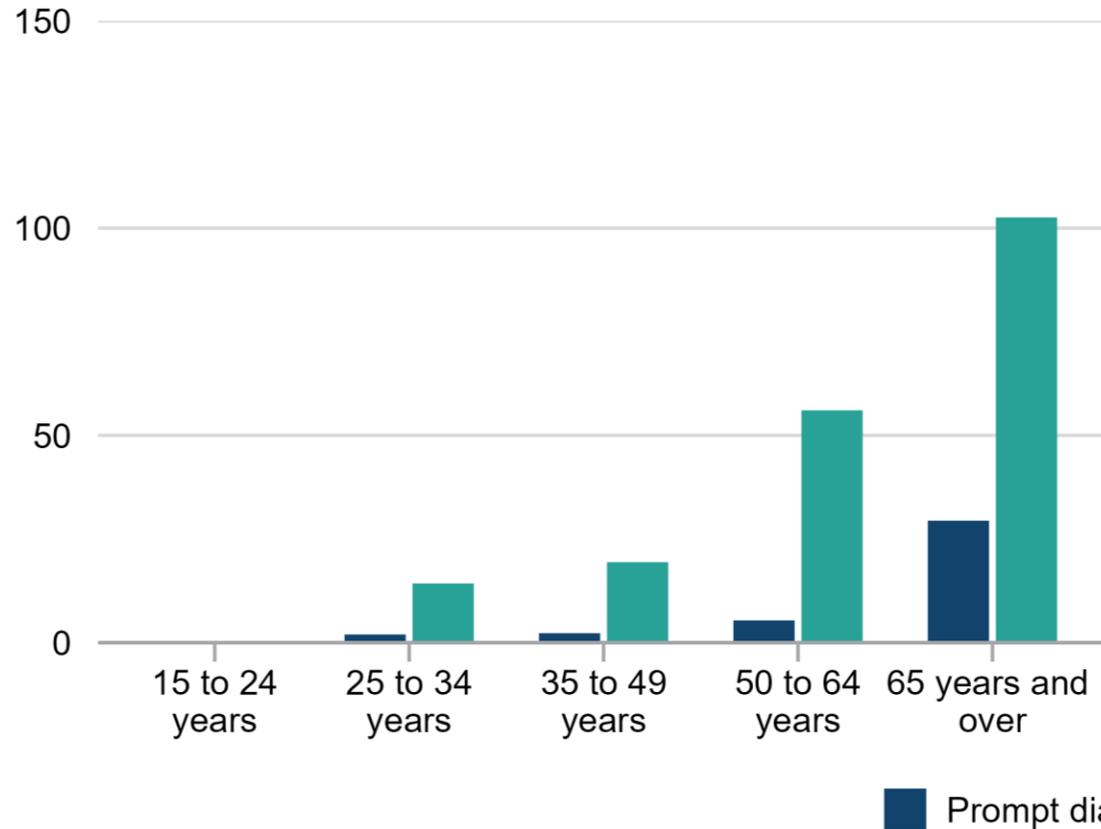
Proportion late diagnosed



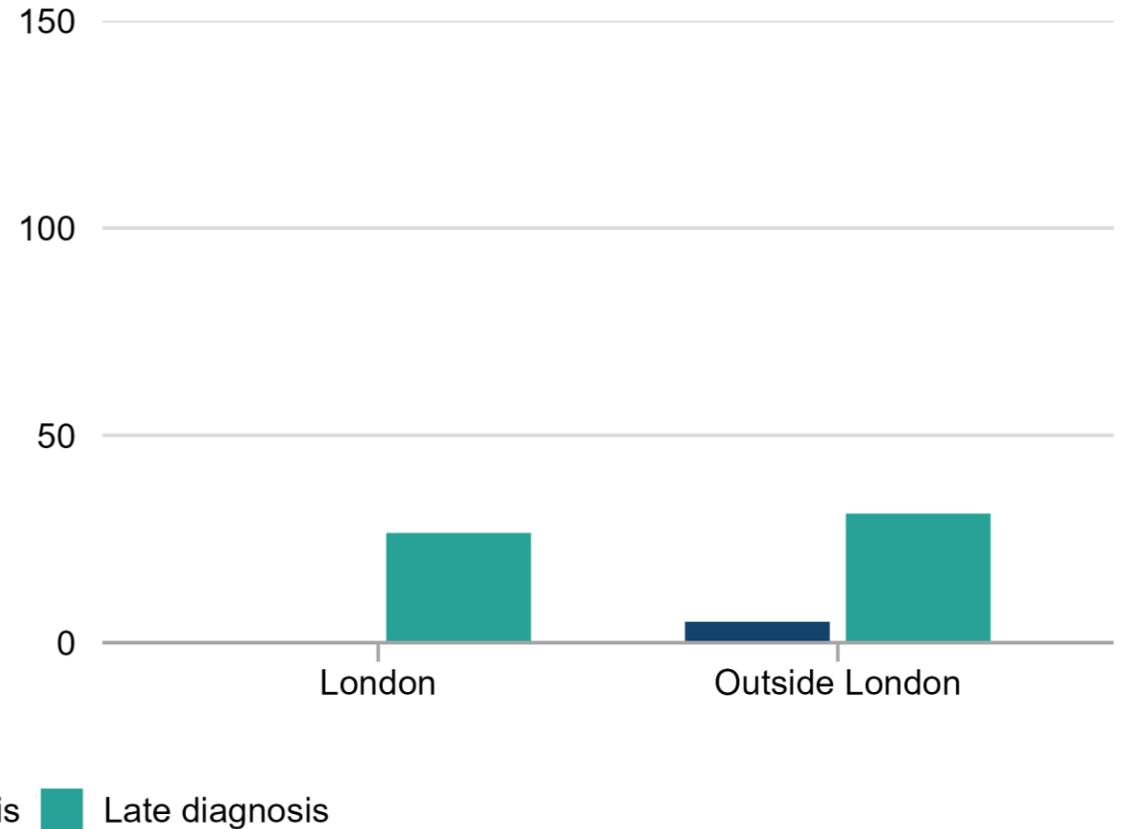
■ 2022 ■ 2023 ■ 2024

# One-year all-cause mortality rates (per 1,000) among adults newly diagnosed with HIV, by diagnostic status, age group at diagnosis and region of residence: England, 2023

One-year mortality rate (per 1,000)



One-year mortality rate (per 1,000)



Note 1: includes people aged 15 years and over.

Please note, there were no deaths within one year of diagnosis in people promptly diagnosed in London.

# HIV Action Plan ambitions, populations and priorities

## **Ambitions** (mapped to the UNAIDS recommended 2030 targets for HIV)

- reduce new HIV infections by 90% from 2010 and a continued 5% decline per year after 2030
- reduce AIDS-related deaths by 90% from 2010
- secure the sustainability of the HIV response through 2030 and beyond

## **Five population groups**

- Ethnic minority GBMSM
- White GBMSM
- Black African heterosexual men
- Black African heterosexual women
- Other ethnic minority heterosexual adults (not including Black Africans)



**Priority 1: prevent** - we will prevent HIV transmission through equitable access to HIV prevention services



**Priority 2: test** - we will scale up HIV testing to reduce HIV transmission and protect people's health



**Priority 3: treat** - we will rapidly link and retain people living with HIV in care, ensuring individuals can live healthy lives and cannot pass it on



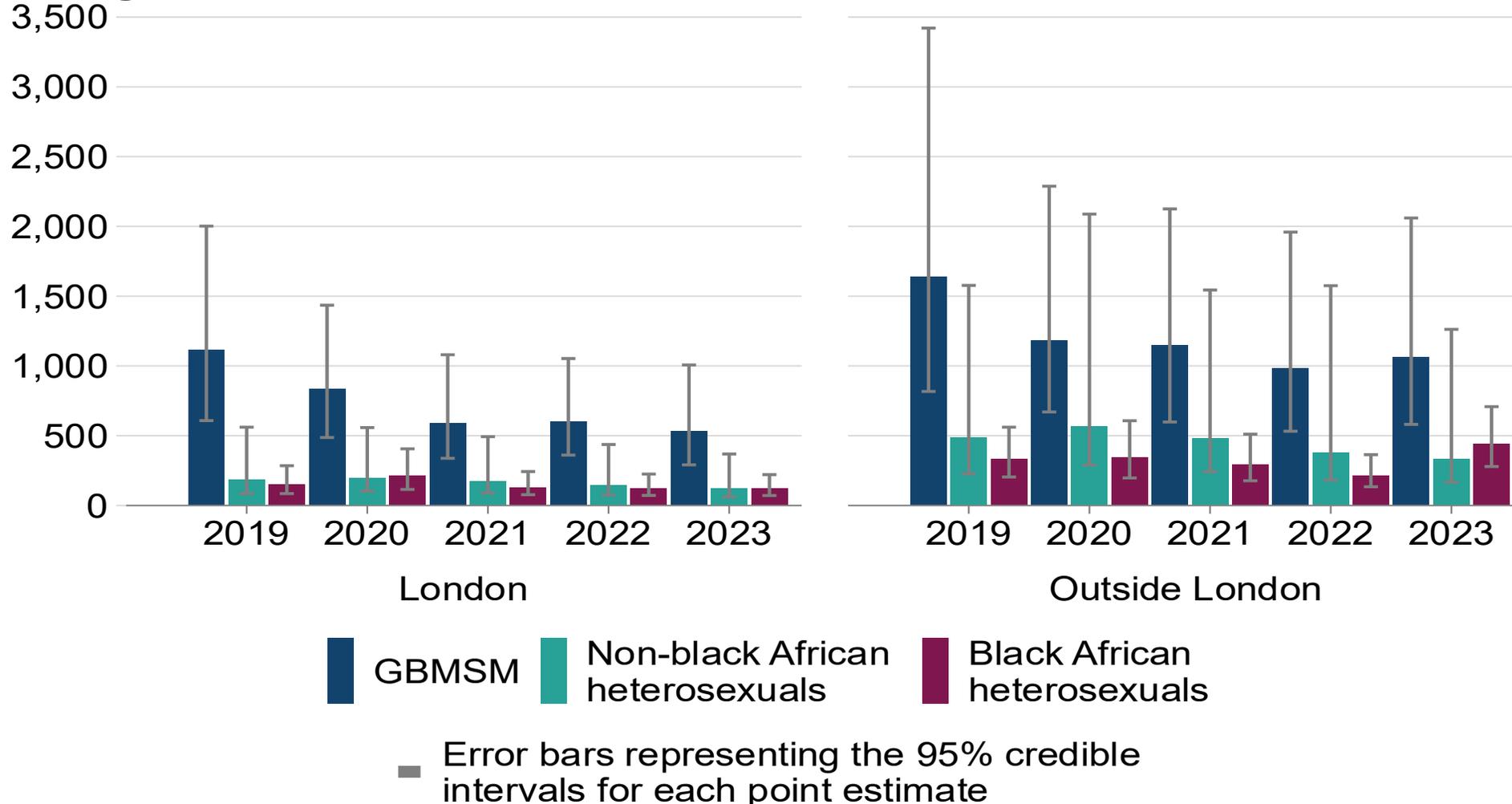
**Priority 4: thrive** - we will address stigma and improve the quality of life for people living with HIV



**Priority 5: collaborate** - we will strengthen the healthcare system to improve HIV care and wider sexual health

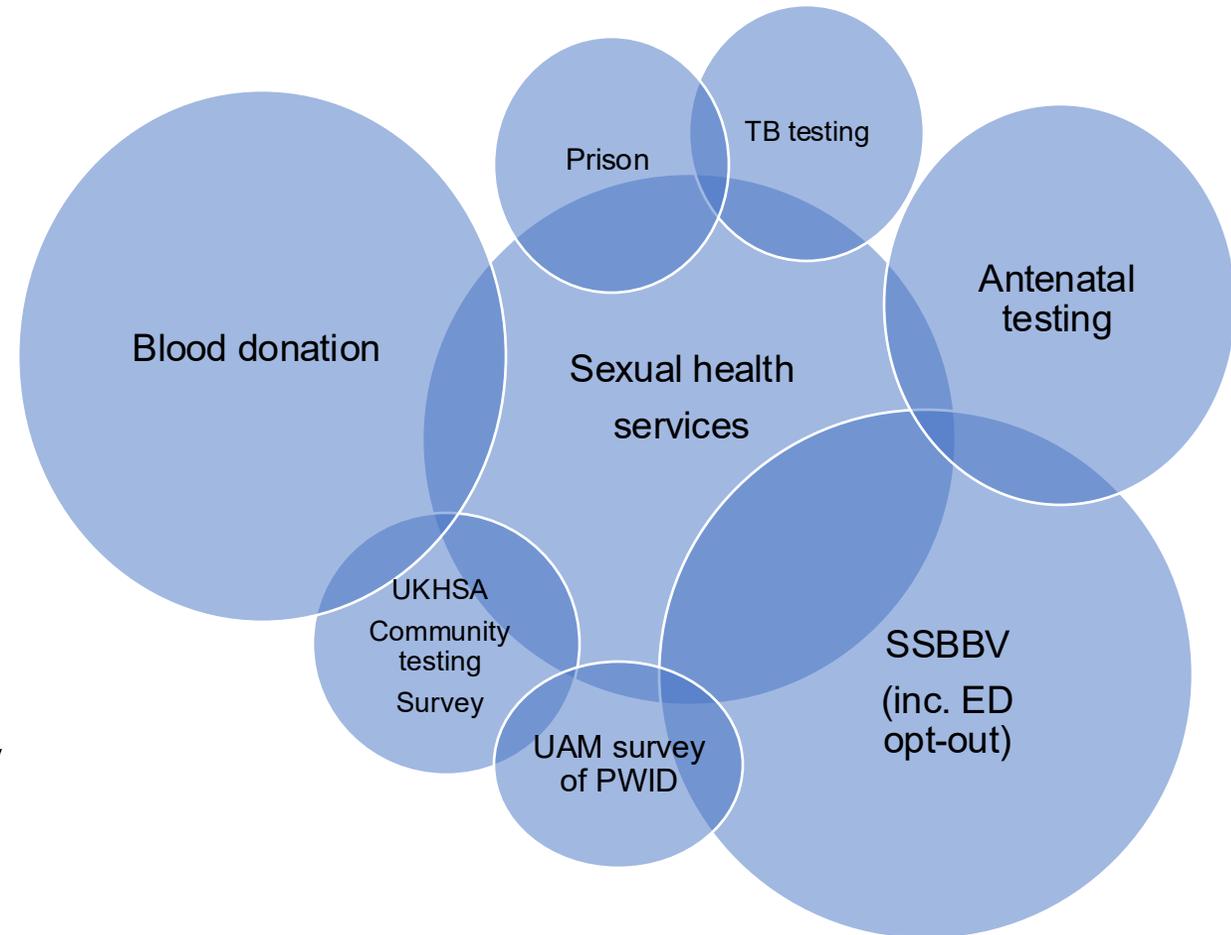
# Background: Who is living with undiagnosed HIV?

Estimated number of people living with undiagnosed HIV



# How do we monitor testing?

- Patchwork of overlapping systems which give a good picture of HIV testing in the UK
- SSBBV particularly valuable due to high level coverage (40% of GP population) and frequent updates
- Value of community testing survey could be improved by making more representative



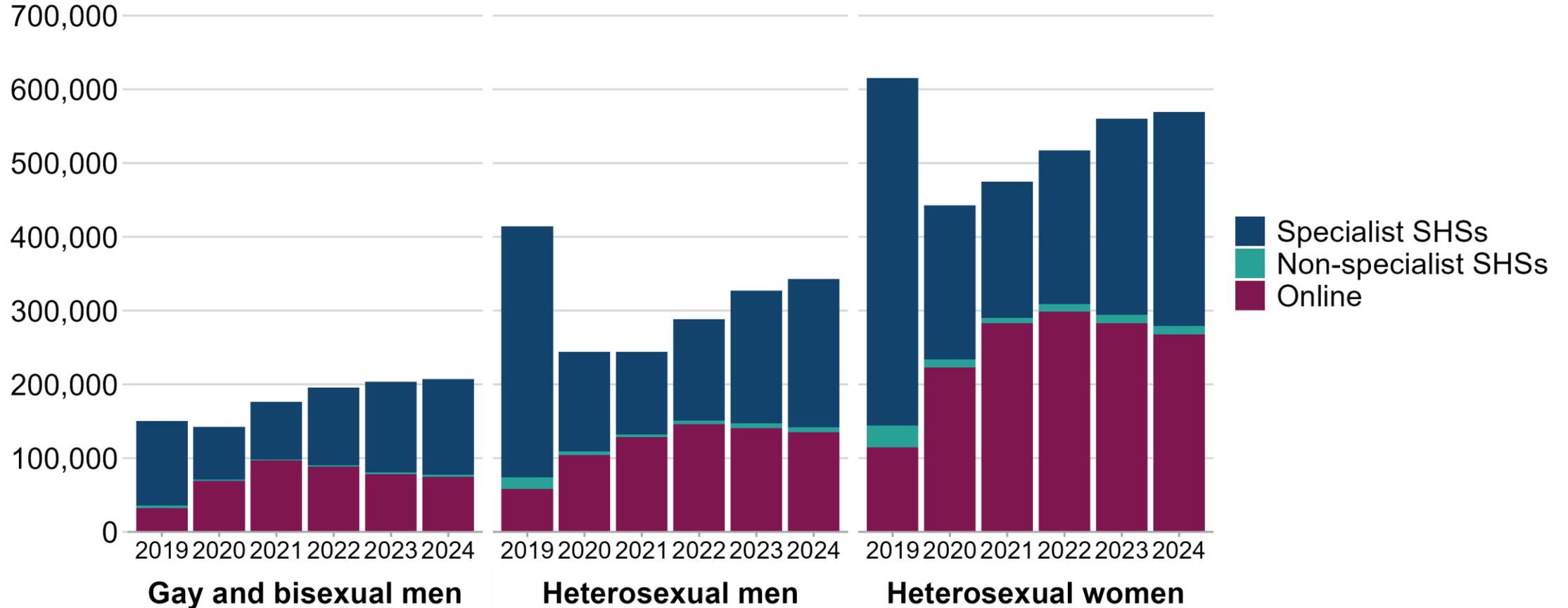


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# Testing in sexual health services

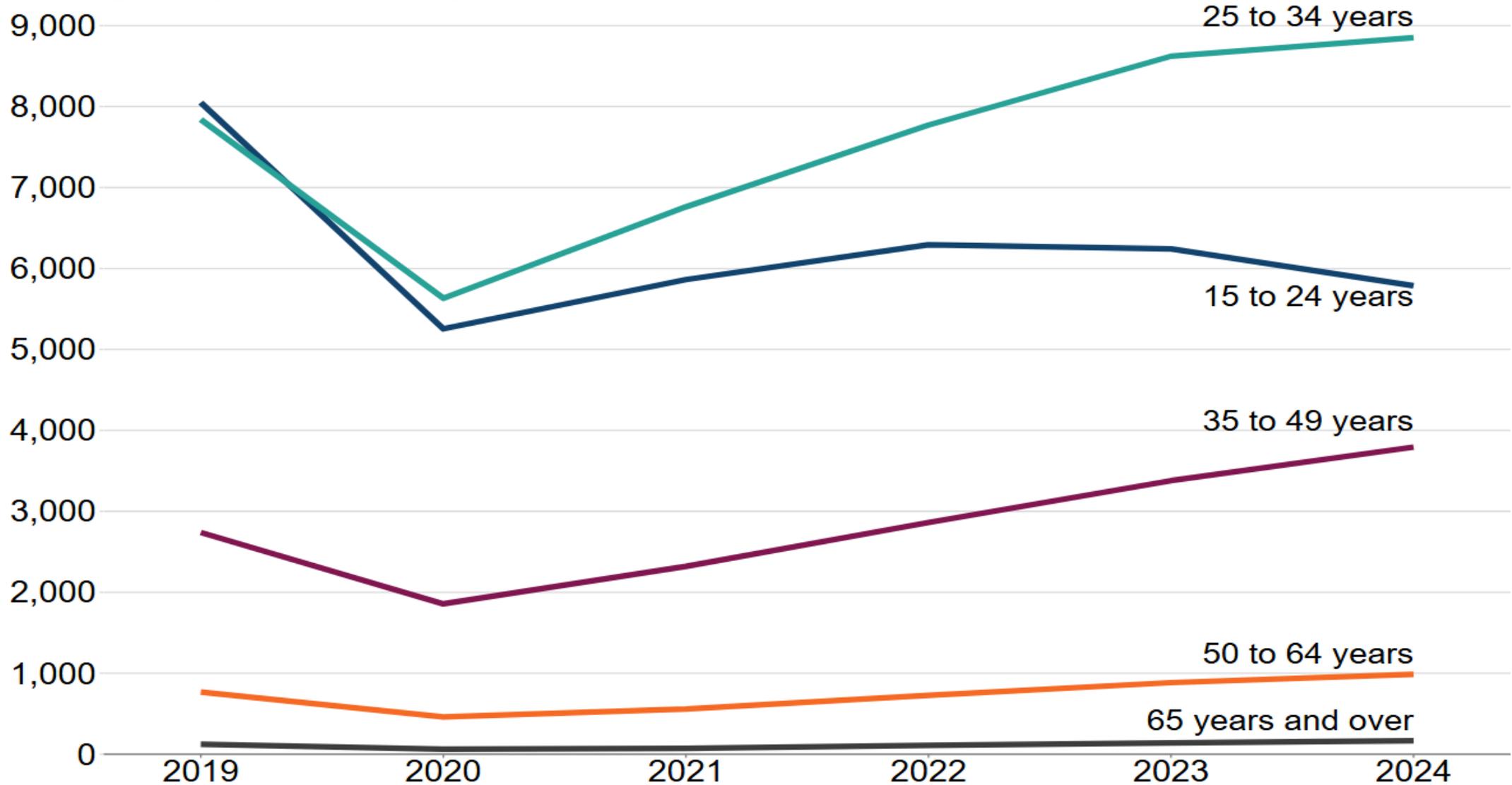
# Testing in Sexual Health Services is increasing.....

Number of people tested

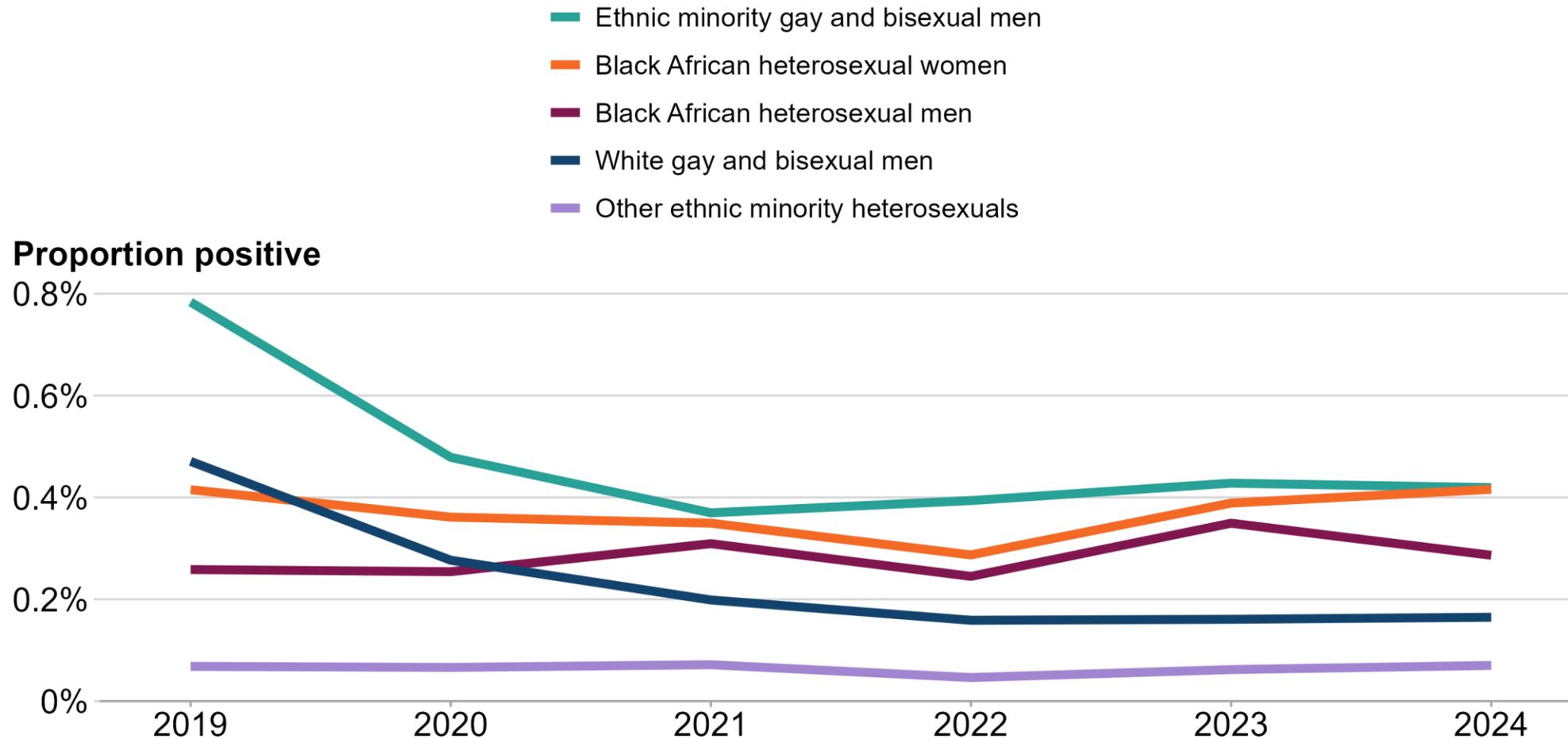


# Testing rate in sexual health services

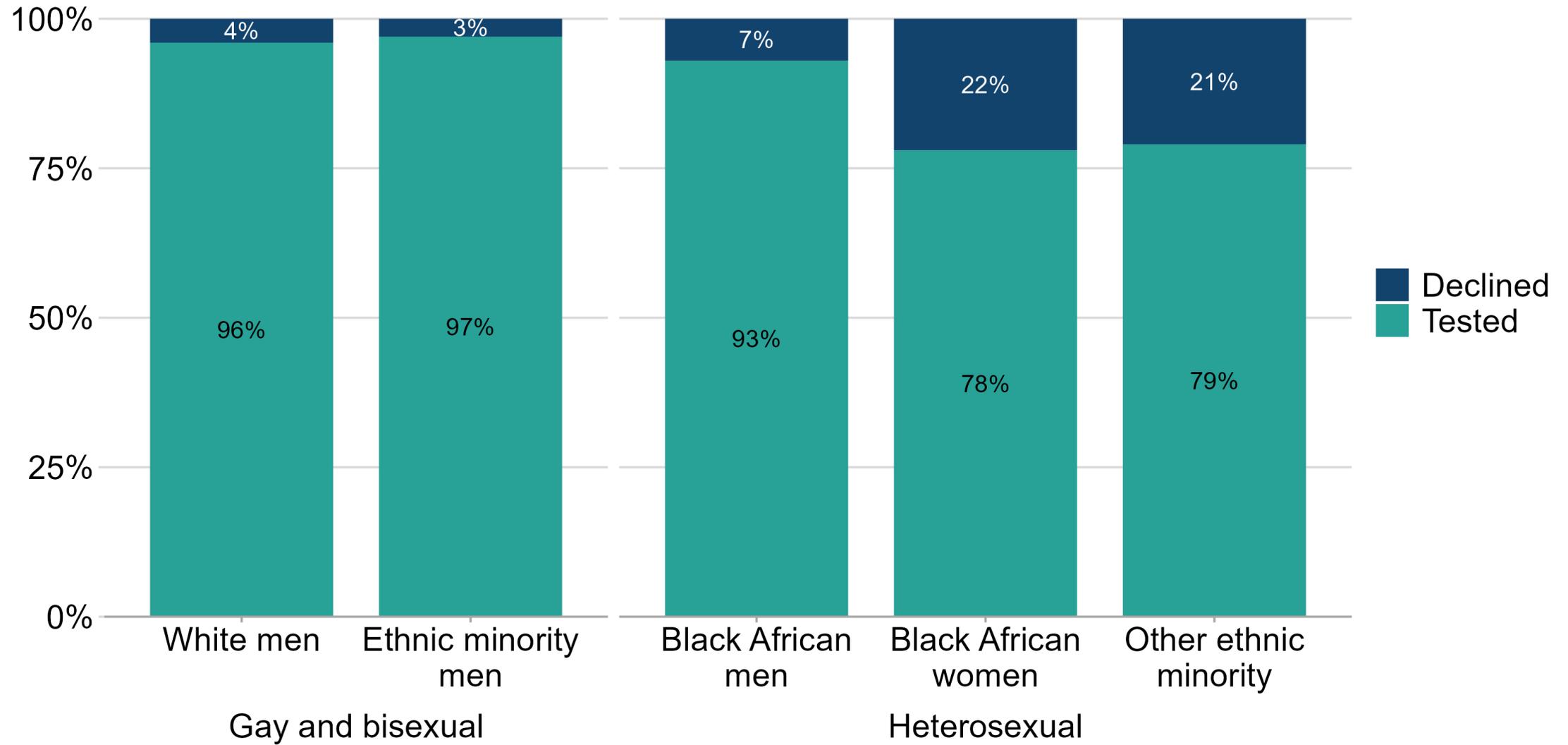
Testing rate per 100,000 population

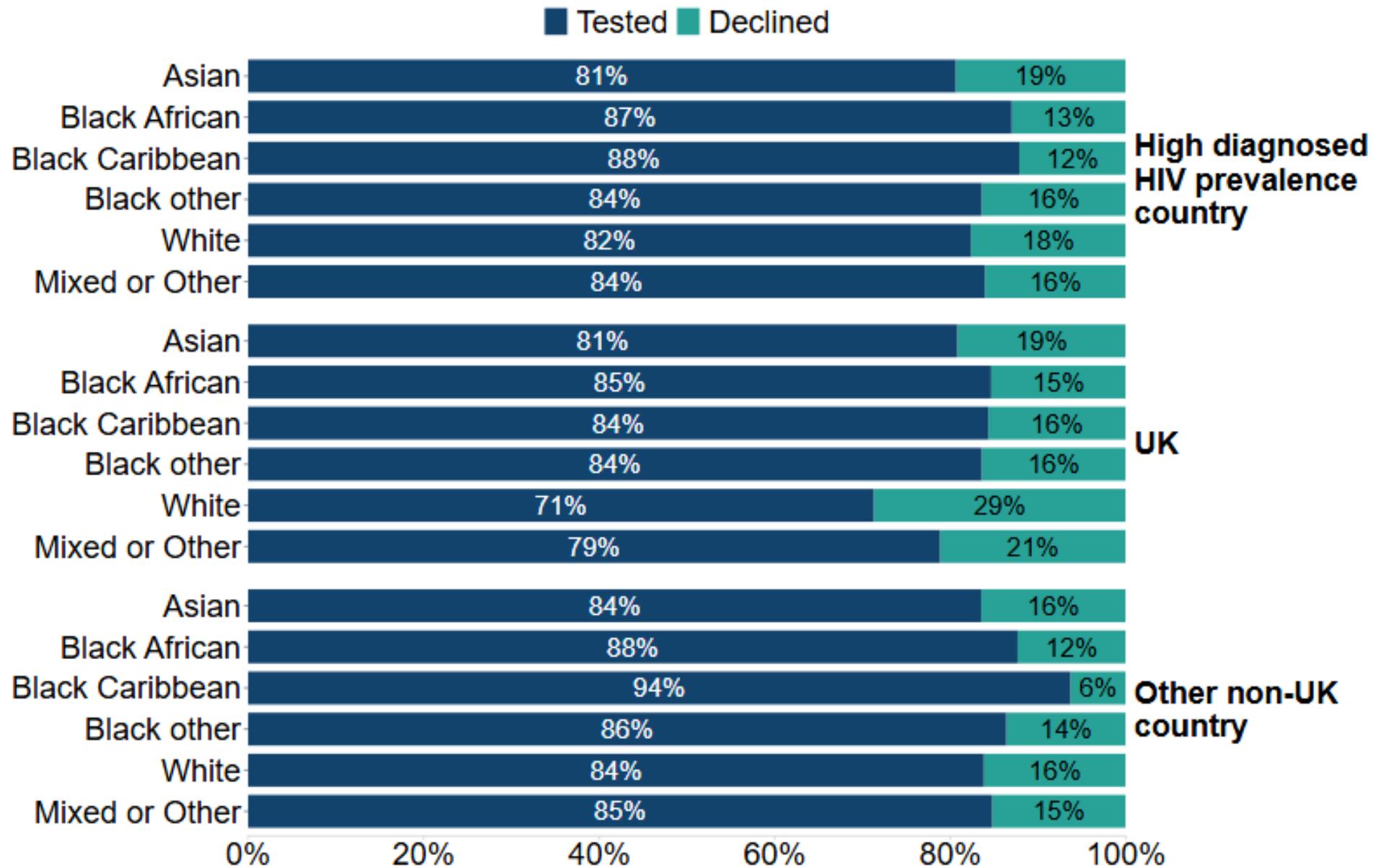


# Proportion testing HIV positive in key adult populations at all SHSs: England, 2019 to 2024



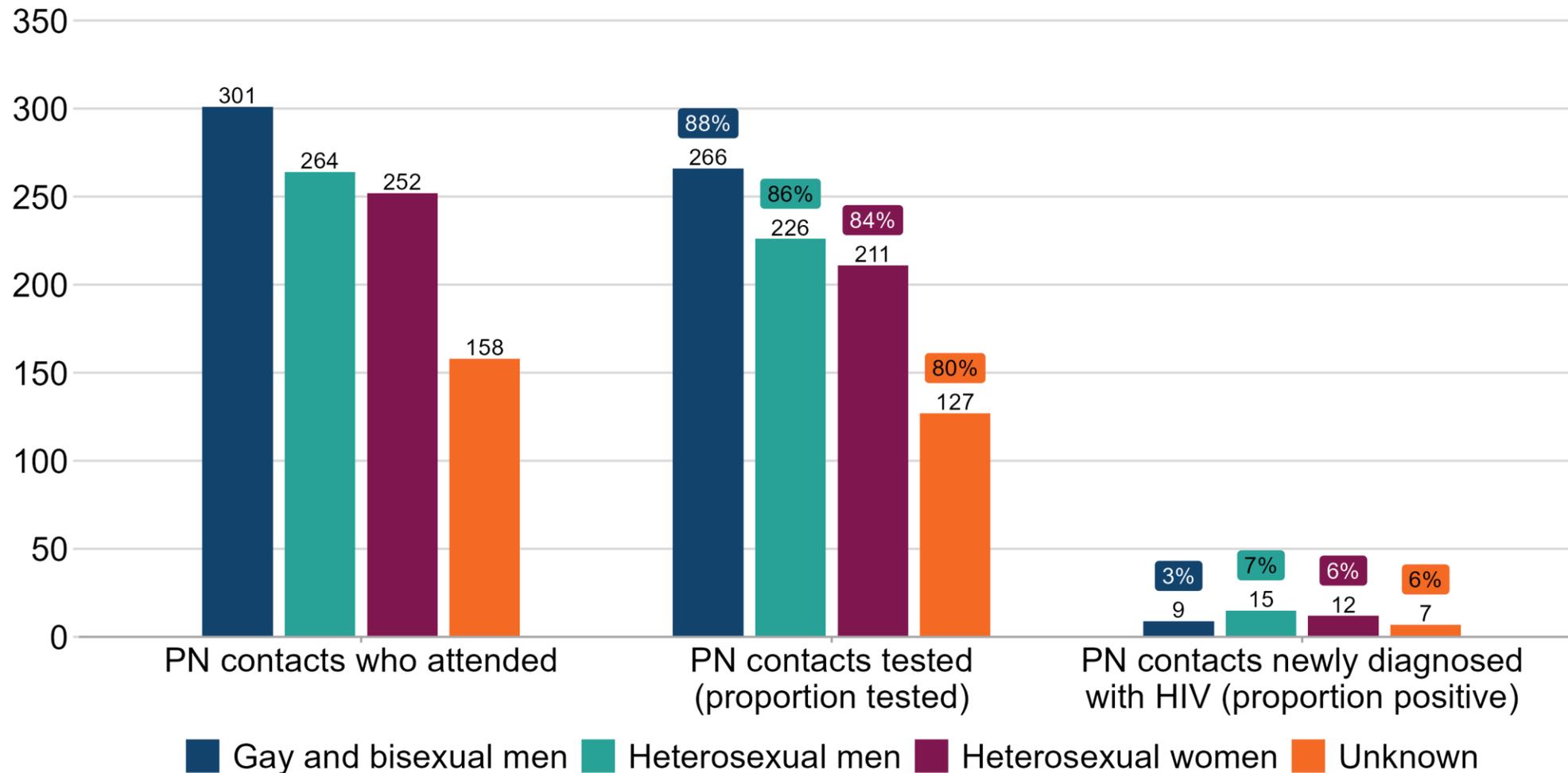
## Proportion of people offered HIV testing



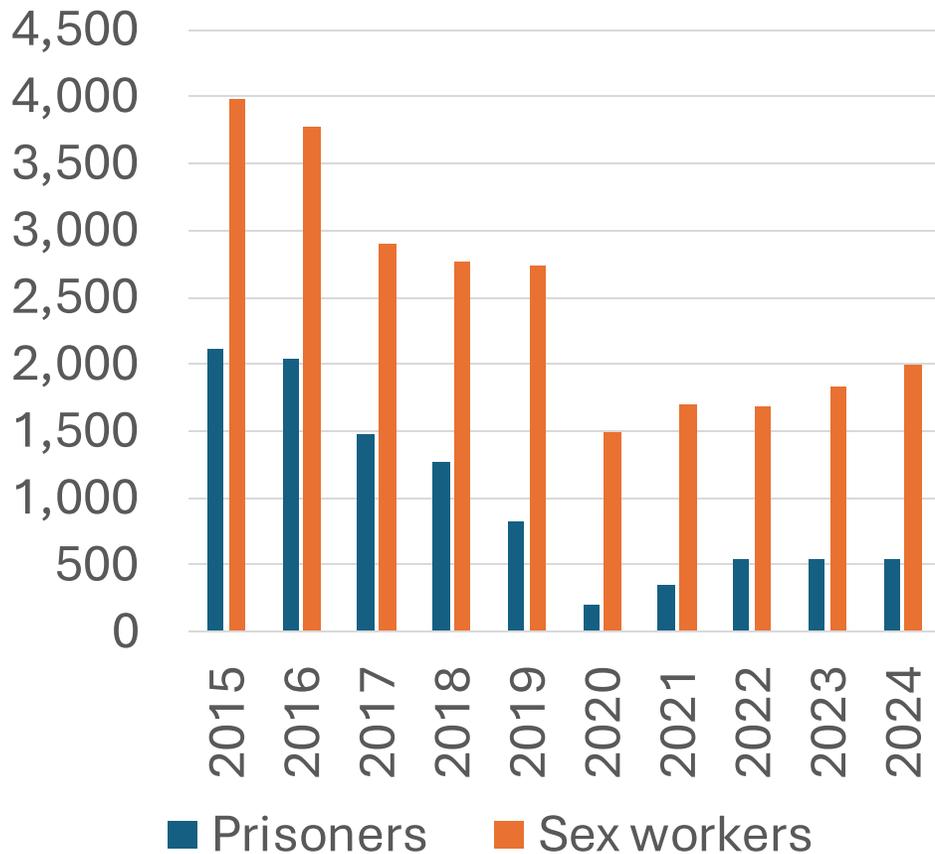


# Number of people testing for HIV and proportion positive at specialist SHS following partner notification (PN): England, 2024

Number of people



# Number of people having an HIV test in sexual health services: prisoners and sex workers



Sexual health services	
Year	2024
Number of tests	1,318,795
People tested	NA
Number positive	NA
Number needed to test	NA
Positivity	0.61%



Award: greatest number tested



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# ED opt out testing

# ED attendees who had a BBV test

- Large scale Programme: > 7 million tests in dashboard data & > 1.3 million people had a BBV test.
- Programme contributed around 50% of BBV tests reported in surveillance data for the same geographic regions and timeframe.

**Number of tests completed in the Programme, by BBV**

<b>Test metric</b>	<b>NHSE Dashboard for 34 sites (not deduplicated)</b>	<b>Sentinel attendees for 24 sites (deduplicated)</b>
Number of HIV tests completed	2,781,164	1,377,299
Number of HCV tests completed	2,363,443	1,060,035
Number of HBV tests completed	1,989,161	879,724

- Opportunity for operational efficiencies: > 250,000 people tested within 4 months of a previous test.

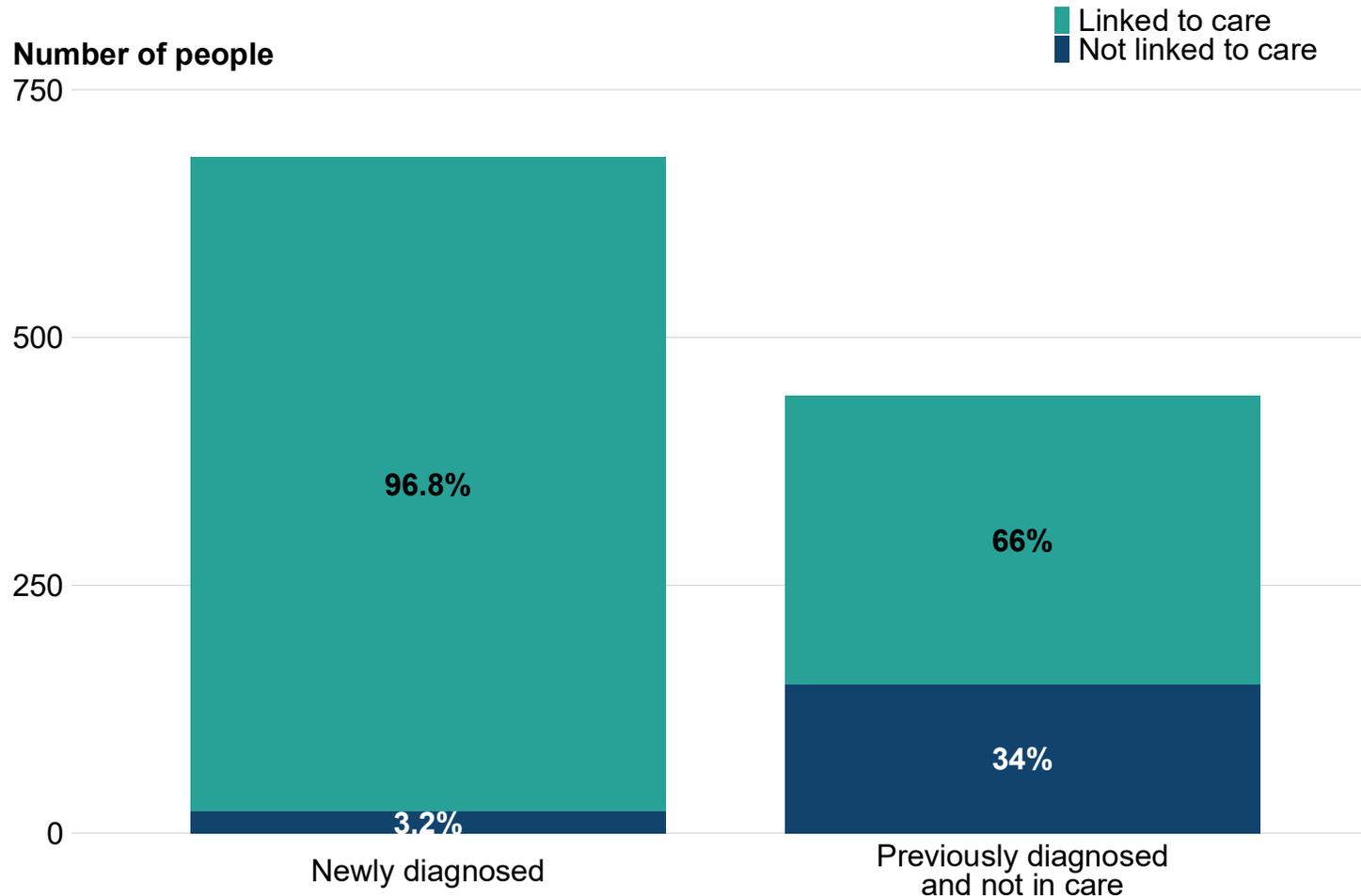
# Attendees testing newly positive (diagnosed) with HIV

- Almost 85% of people newly diagnosed with a BBV had no previous test recorded in any setting in surveillance data.
- 79% of people newly diagnosed in Programme attended ED in the year prior to the Programme initiation

<b>Attendees diagnosed (24 sites)</b>	<b>HIV</b>
Number newly diagnosed tested positive	719
Test positivity	0.05%
Proportion newly diagnosed	8.3%
Number of people needed to be tested (NNT) to newly diagnose one person	1,916

- But: only 8.3% for HIV → lower test positivity and higher number needed to test to newly diagnose one person.

# Linkage to care for people newly diagnosed with HIV or previously diagnosed and not currently in care, April 2022 to December 2024



- 96.8% of those newly diagnosed with HIV when tested at their ED attendance during the Programme have been linked to care
- linkage to care was lower among people previously diagnosed with HIV but not in care within the previous 15 months; 66.0% of people with a positive test were subsequently linked to care because of the Programme

Source: SSBBV matched to HANDD or HARS.

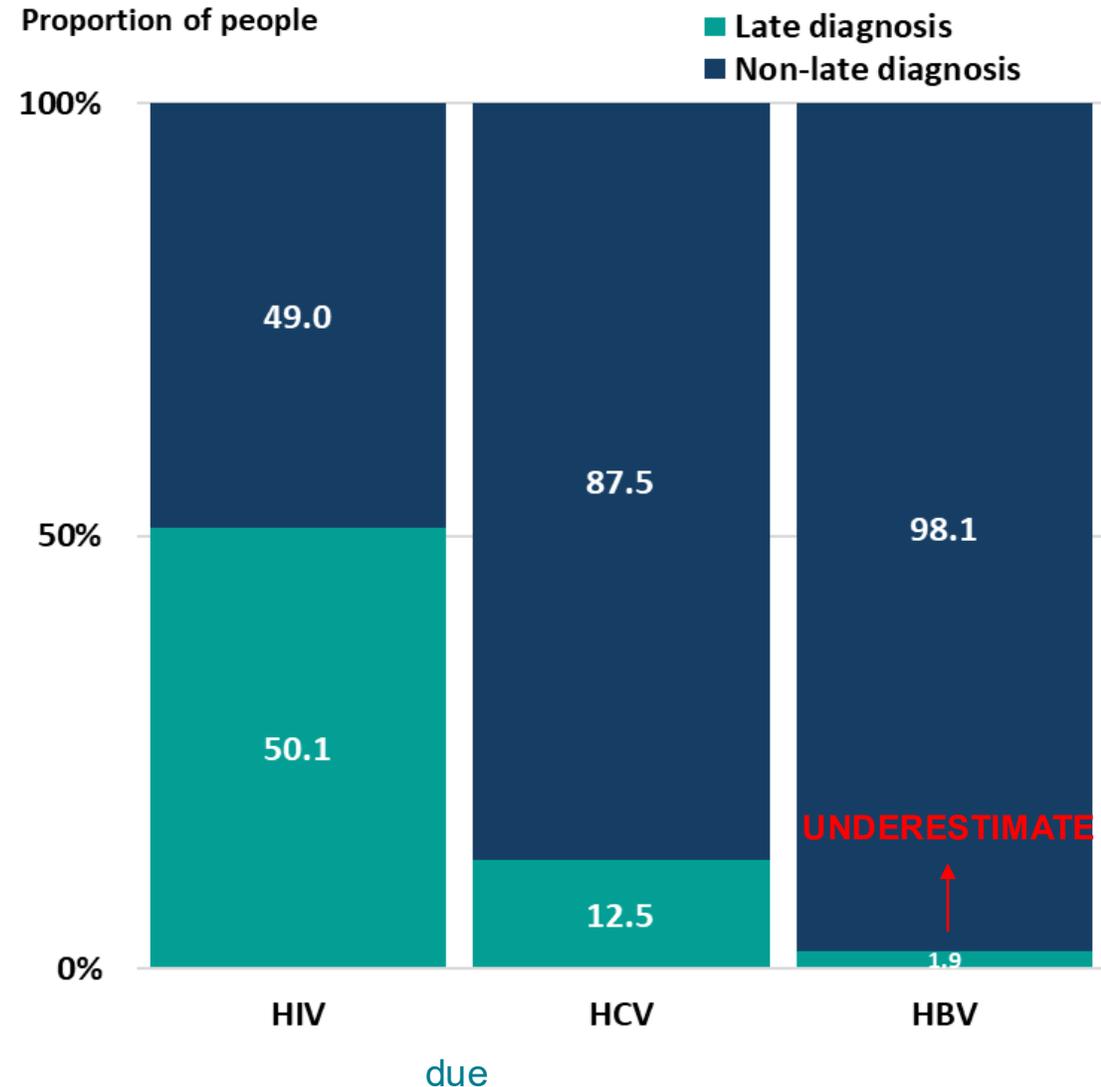
# Late diagnoses among newly diagnosed people

Smallest number of new diagnoses is for HIV; however, half of people newly diagnosed with HIV had a late diagnosis.

Proportion of people newly diagnosed but late higher than in other settings: HIV 50.7% vs 36.9% ; HCV\* 12.5% vs 6.3%

Around 50% of people presenting with late-stage HCV liver disease did not report social risk factors → would not have been identified by routine risk-based testing.

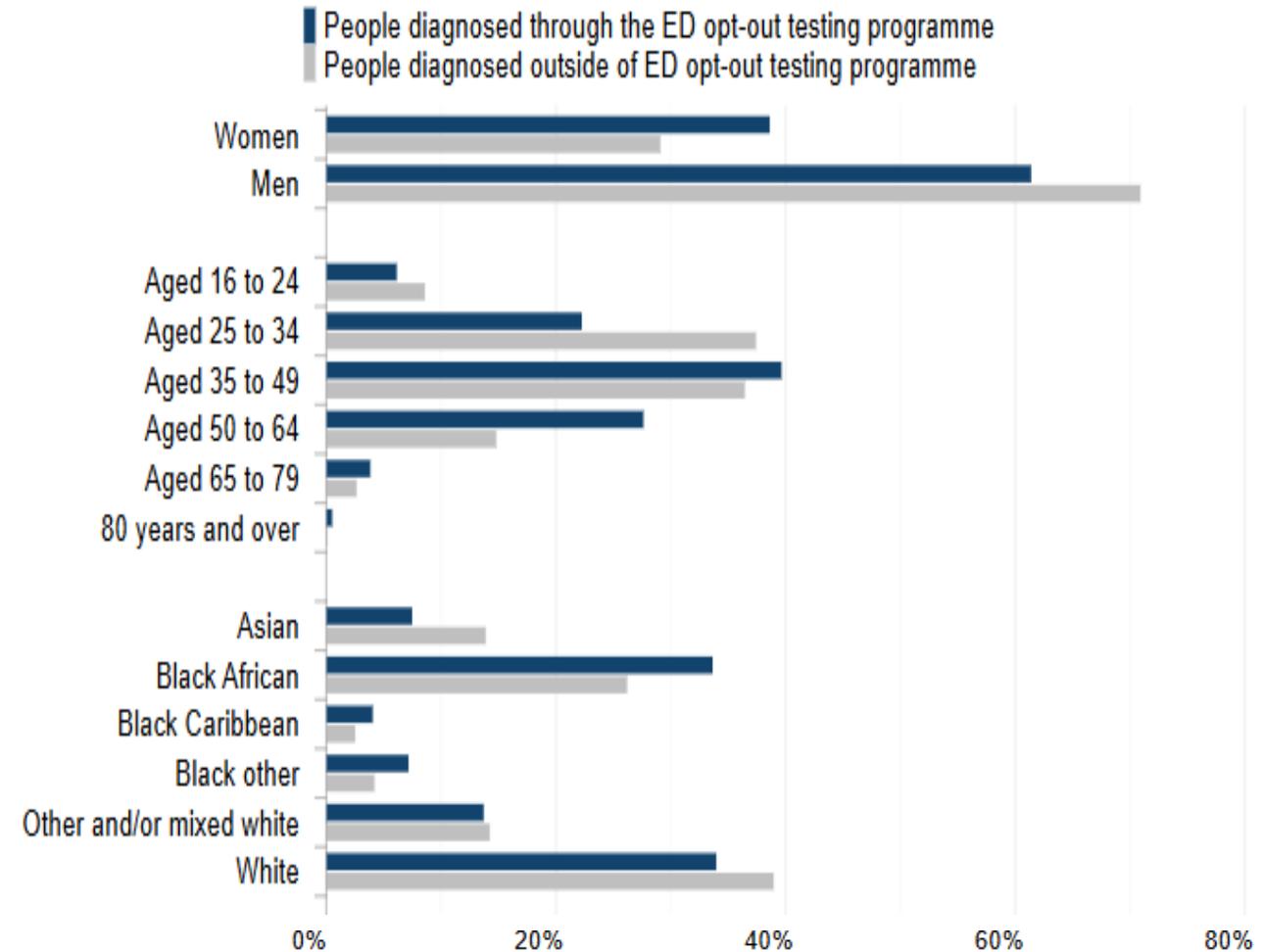
Late HBV diagnosis underestimated - data only captures inpatient and mortality.



\* National HCV estimate from 2021, uses slightly different methodology

# Who are we testing?

- ED opt-out testing identifies HIV in groups for whom access to HIV tests are challenging
- High cost per new diagnosis
- Sub-optimal linkage to care compared to people tested in sexual health services



# PUBLIC HEALTH EVALUATION OF OPT-OUT TESTING FOR BLOOD-BORNE VIRUSES IN EMERGENCY DEPARTMENTS IN ENGLAND: HIV, HEPATITIS B AND HEPATITIS C VIRUSES

**NEED FOR A BBV APPROACH**

**WHO IS ELIGIBLE?**  
ADULTS HAVING A ROUTINE BLOOD TEST IN EMERGENCY DEPARTMENTS ALSO HAVE THEIR BLOOD TESTED FOR BBVs

**HIV, HEPATITIS B, HEPATITIS C**  
Emergency Department →

## THE SCALE OF THE PROGRAMME

7 MILLION TESTS ACROSS 34 SITES

### HIGH UPTAKE: 70% UPTAKE OVERALL, BUT VARIATION BETWEEN SITES

TESTING FOR BBV

**NHS**

HBV & HCV 50% OF DIAGNOSES WERE NEW

8.3% FOR HIV

**GREATEST IMPACT**  
IN NEWLY DIAGNOSING PEOPLE LIVING WITH HBV (3667) AND ONLY NEED TO TEST 240 PEOPLE TO NEWLY DIAGNOSE ONE PERSON WITH HBV

THE PROGRAMME REACHED A POPULATION NOT PREVIOUSLY TESTED

NEWLY DIAGNOSED PEOPLE WITH DIFFERENT DEMOGRAPHICS AND RISK FACTORS

PEER SUPPORT IS ESSENTIAL

1916 FOR HIV  
1276 FOR HCV  
240 FOR HBV

NUMBER NEEDED TO TEST TO NEWLY DIAGNOSE ONE PERSON

ALMOST 3/4 OF PEOPLE NEWLY DIAGNOSED WITH BBV THROUGH THE PROGRAMME HAD NO RECORD OF A PREVIOUS TEST IN ANY SETTING

51% OF PEOPLE NEWLY DIAGNOSED WITH HIV HAD A LATE DIAGNOSIS, 12.5% FOR HCV

ALMOST 3/4 OF PEOPLE NEWLY DIAGNOSED WITH BBV THROUGH THE PROGRAMME HAD NO RECORD OF A PREVIOUS TEST IN ANY SETTING

HIGH PROPORTION LINKED INTO CARE

81.3% FOR HEPATITIS C  
97% FOR HIV

LINKAGE TO CARE FOR HIV IMPROVED FROM 42% WITHIN 14 DAYS TO 97% BY THE END OF THE PROGRAMME.

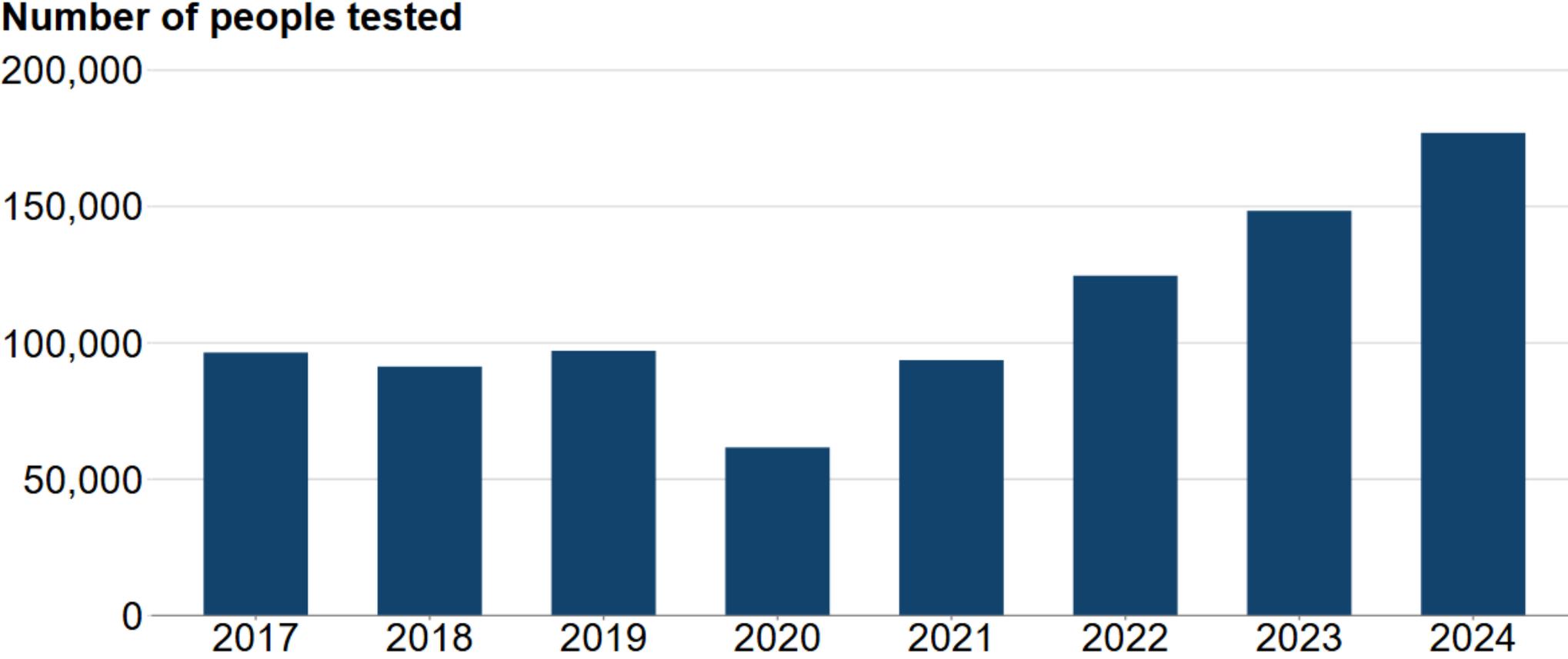
OPT-OUT METHODOLOGY REACHING PEOPLE WHO MAY NOT BE TESTED IN OTHER SETTINGS



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# Testing in general practice

# Number of people tested for HIV in GP and test positivity, England, 2017 to 2024: data source: SSBBV ~40% coverage



# Positivity in GP settings

**Positivity (%)**

0.4%

0.3%

0.2%

0.1%

0%

2017

2018

2019

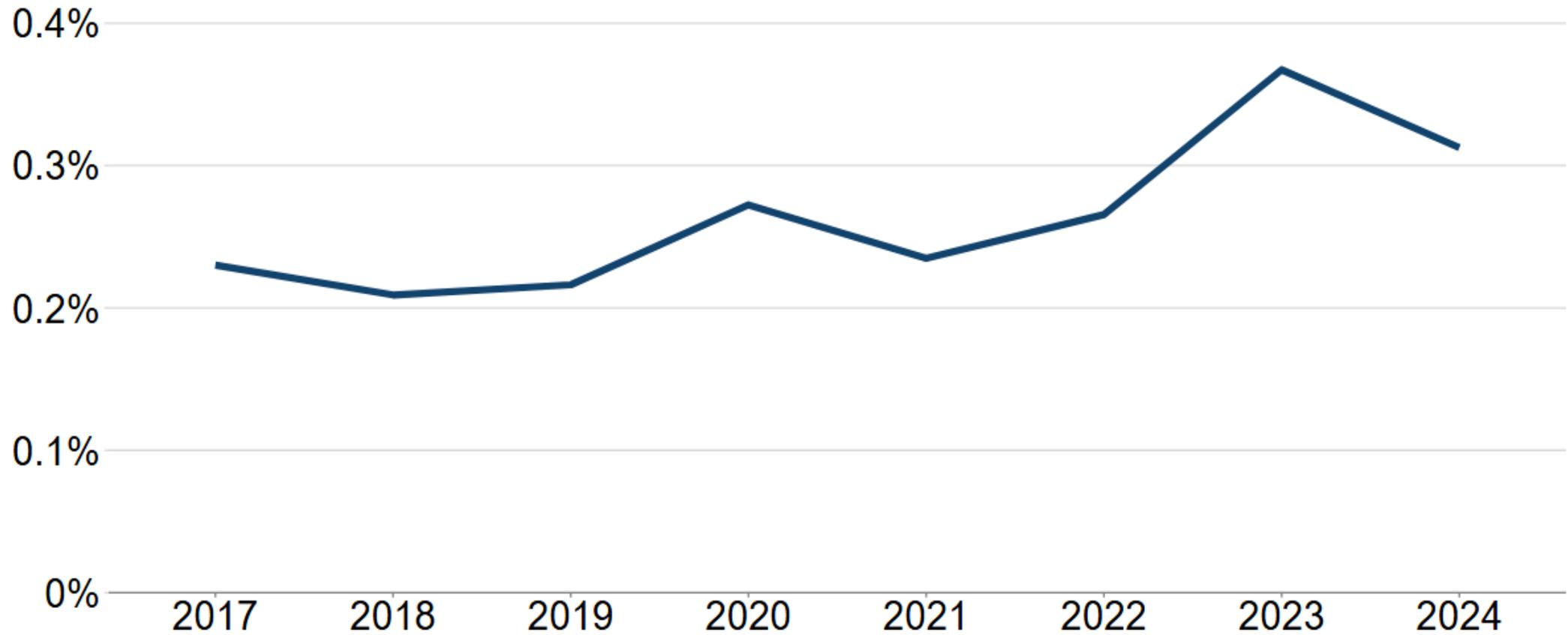
2020

2021

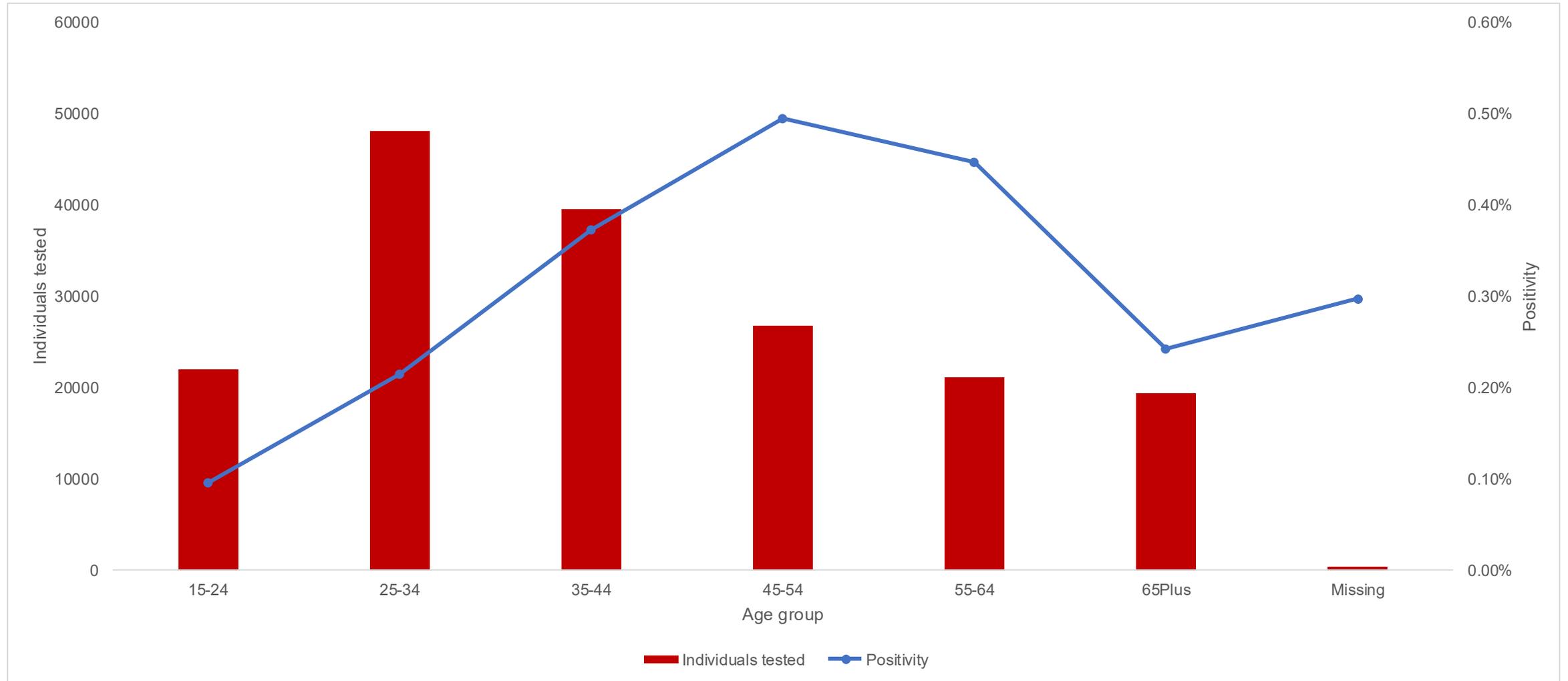
2022

2023

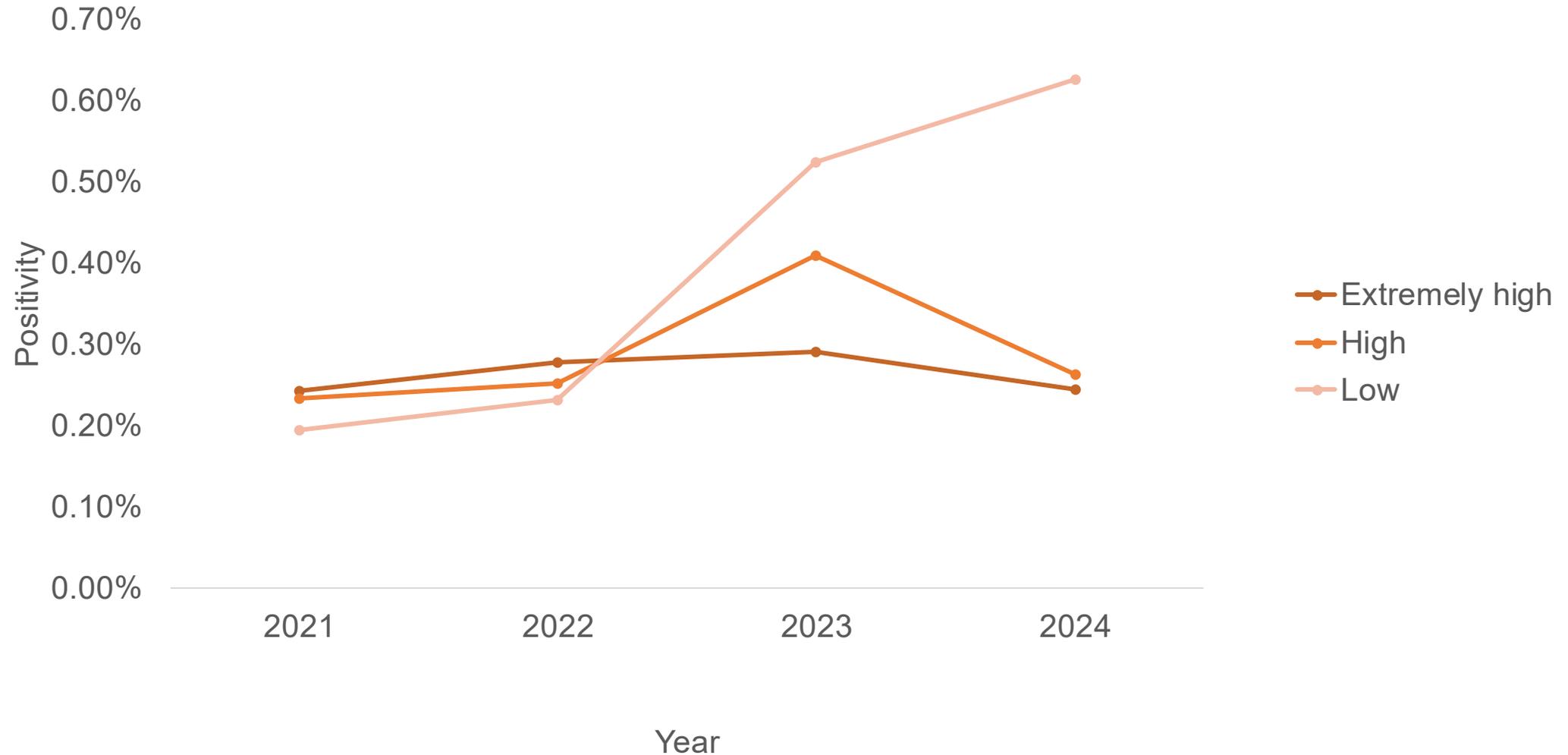
2024



# HIV tests in General Practice – 40% coverage



# Positivity by prevalence in GP settings



# GP (Data source – SSBBV)

Antenatal testing	
Year	2024
Number of tests	183,876
People tested	176,968
Number positive	553
Number needed to test	320
Positivity	0.31%





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# Testing in other settings

# Antenatal services – (Source: ISOSS)

- 71 new HIV diagnoses
- Most (87%) were diagnosed prior to pregnancy
- Of women with HIV, the proportion who were black African fell from 74% in 2012/13 to 64.6% in 2022/23
- 71% of women with HIV had had one or more previous births
- In 2022 to 2023, 83.1% of women newly diagnosed in pregnancy were seen within 2 weeks of diagnosis
- Vertical transmission rate is <0.4% since 2012 (compared to 2.1% in 2000/2001)

Antenatal testing	
Year	2022-2023
Number of tests	NA
People tested	660,000
Number positive	NA
Number needed to test	NA
Positivity	NA

# Blood donation (Data source: Blood service/UKHSA)

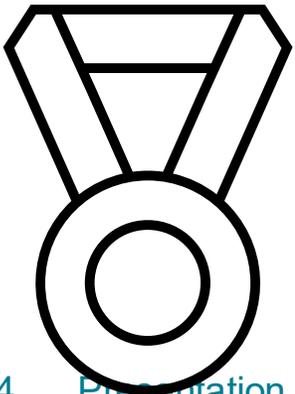
Blood donation	
Year	2024
Number of tests	1,492,302
People tested	801,121
Number positive	9
Number needed to test	165,881
Positivity	0.0006%



# Community testing

Community testing survey	
Year	2023
Number of tests	19,699
People tested	NA
Number positive	55
Number needed to test	NA
Positivity	0.003%

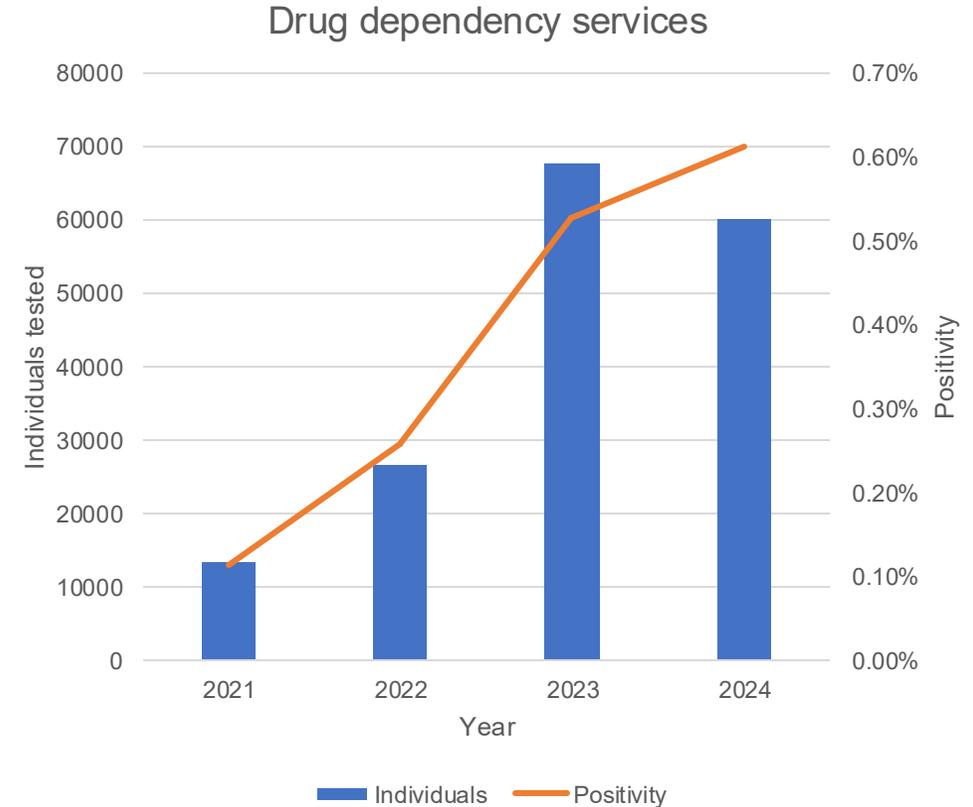
Community testing Outreach (SSBBV)	
Year	2024
Number of tests	9,383
People tested	8,915
Number positive	59
Number needed to test	151
Positivity	0.66%



Award: One in ten tested have not tested previously

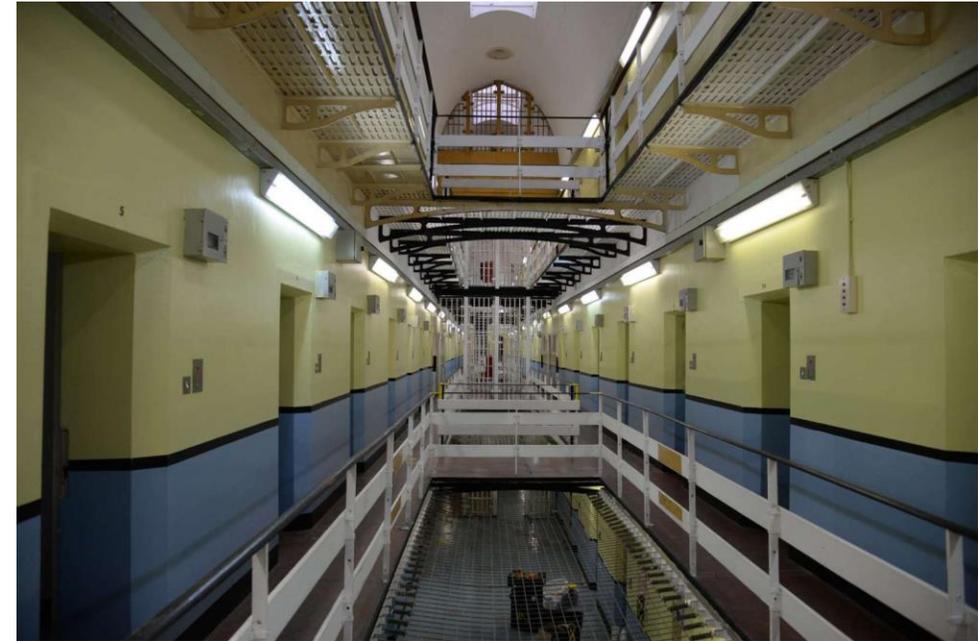
# Drug dependency settings

Drug dependency settings	
Year	2024
Number of tests	63,764
People tested	59,968
Number positive	370
Number needed to test	162
Positivity	0.62%



# Prison

Prison (SSBBV)	
Year	2024
Number of tests	40,779
People tested	36,768
Number positive	191
Number needed to test	192
Positivity	0.52%

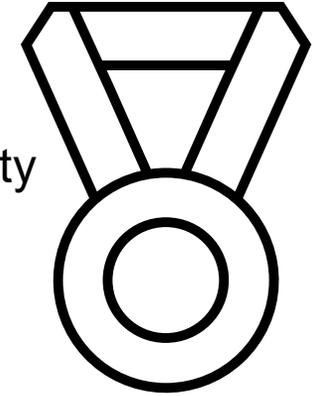


Prison (Health and Justice)	
Year	2023
Number of tests	NA
People tested	88,687
Number positive	651
Number needed to test	136
Positivity	0.7%

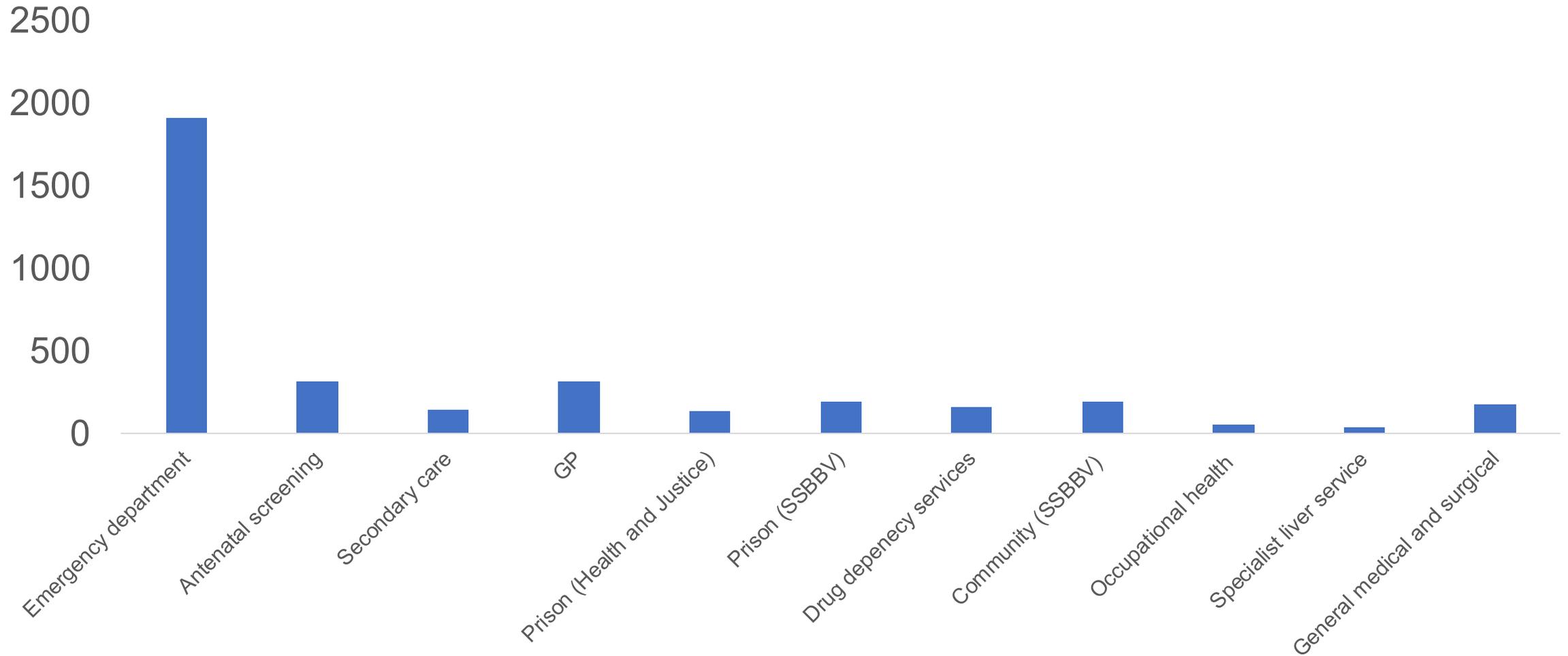
# Specialist Liver service (Source: SSBBV)

Specialist Liver Service	
Year	2024
Number of tests	17,787
People tested	16,677
Number positive	461
Number needed to test	36
Positivity	2.76%

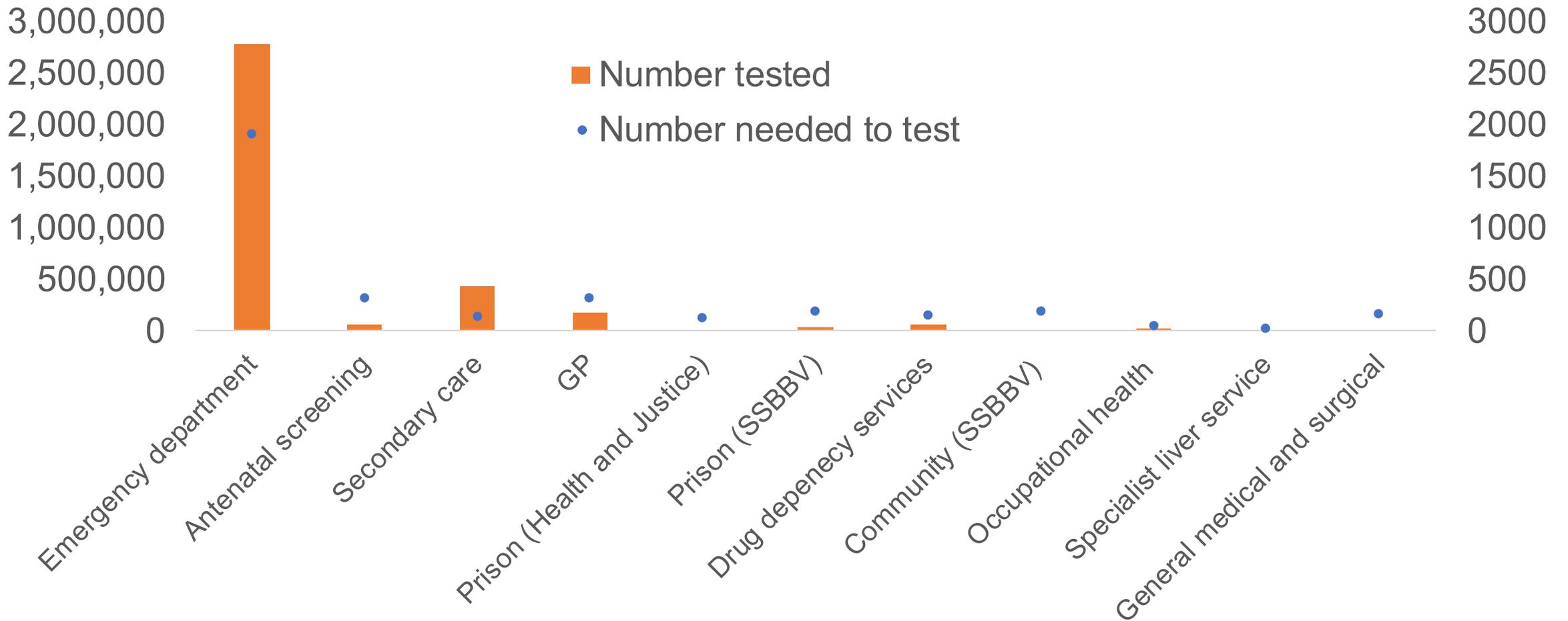
Award: second highest positivity



# Summary: number needed to test



# Summary: number tested vs number needed to test to get one positive diagnosis



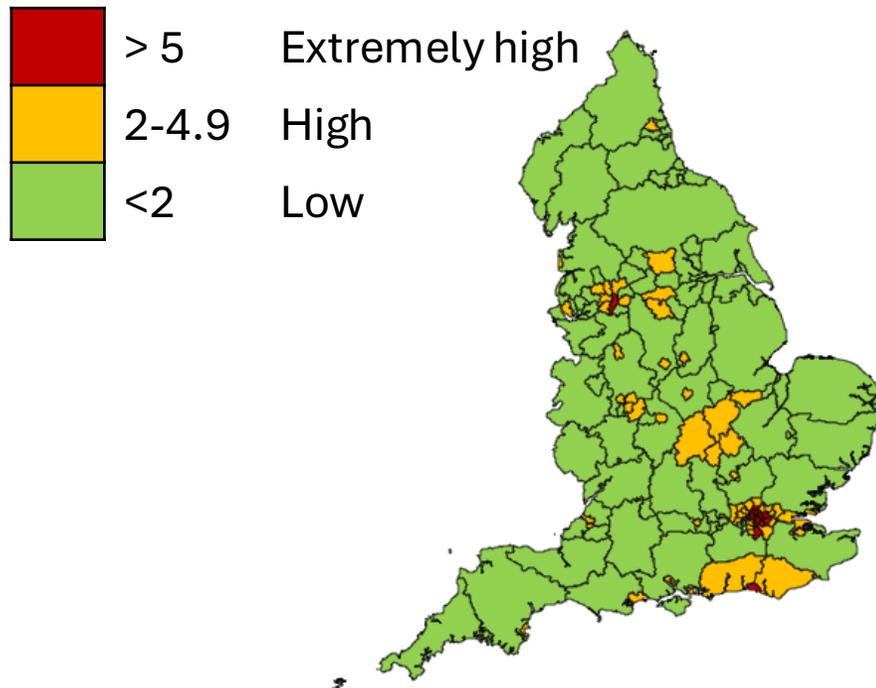


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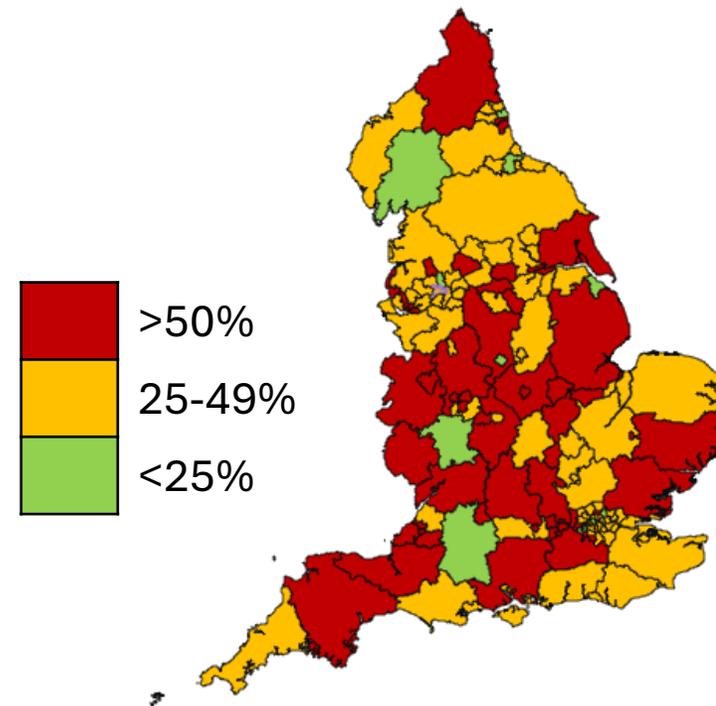
# Testing by prevalence – still relevant?

# Testing by prevalence

- 2024: diagnosed prevalence per 1000 population aged 15-59 years



- Proportion diagnosed late: HIV diagnoses, 2022-2024

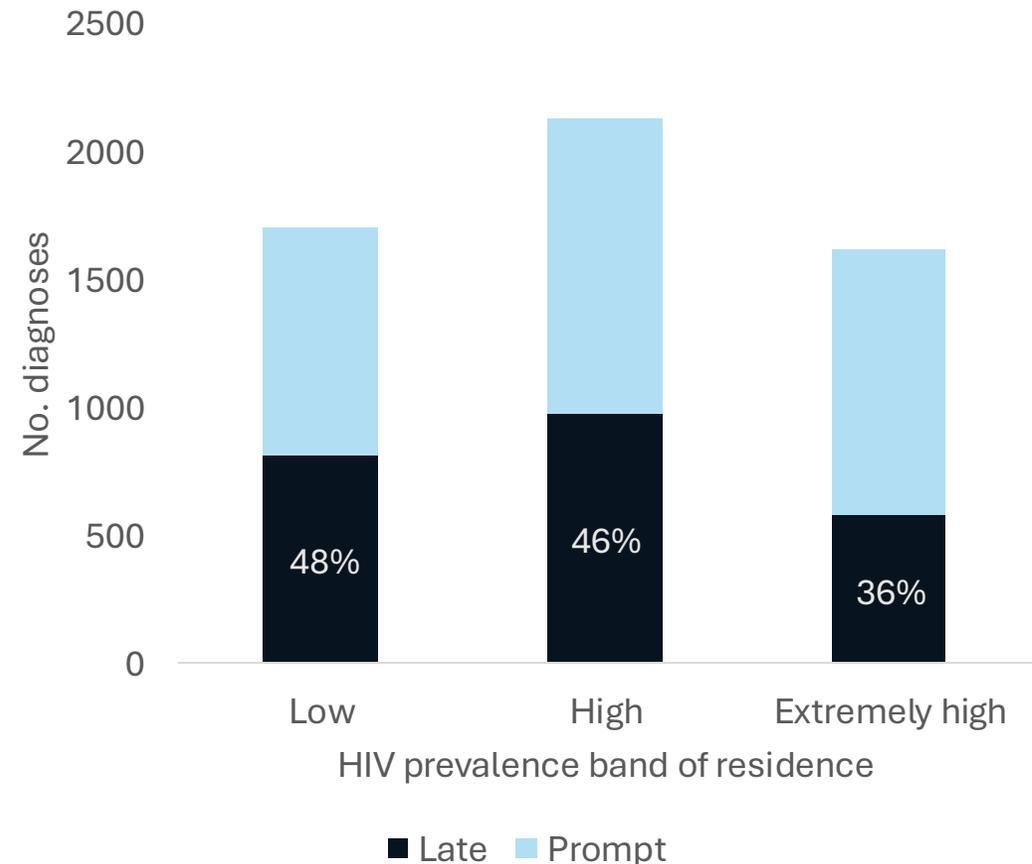


# Late diagnoses vs prevalence, by local authority

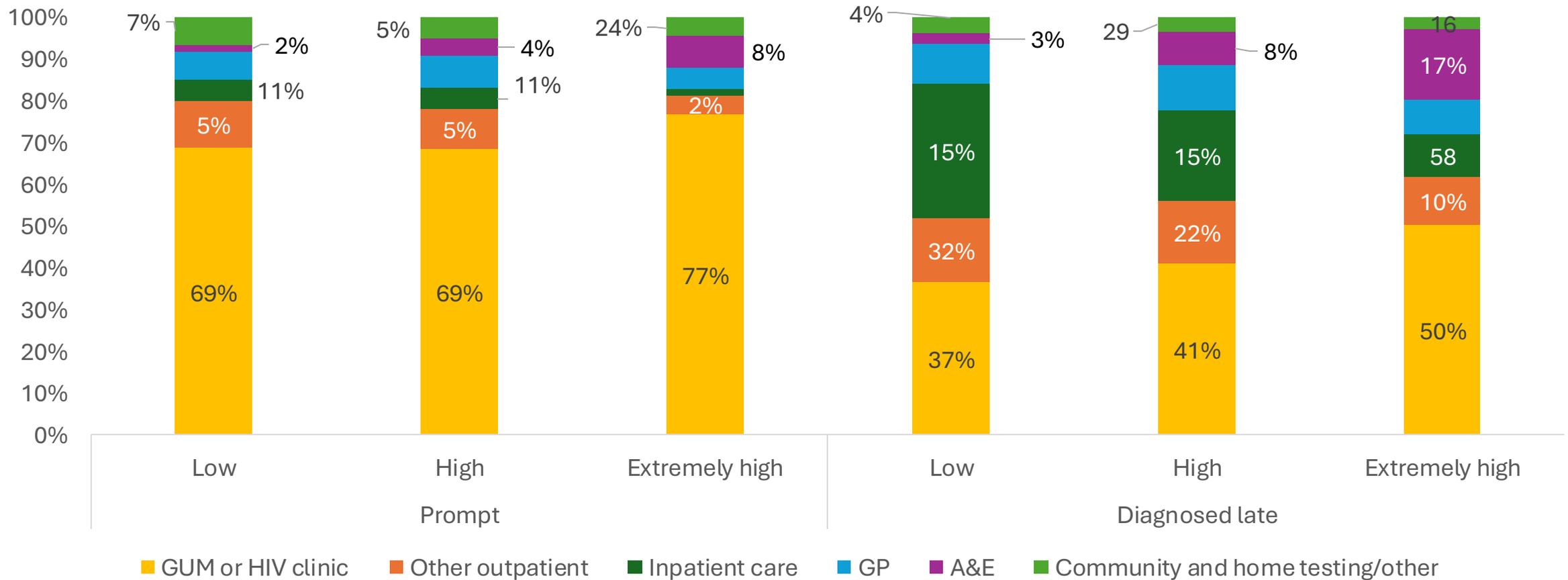
- Between 2020-2022
- Between 2020-2022:
  - 7,024 HIV diagnoses, 78% (5,461) had CD4 count within 91 days
  - Overall, 43% diagnosed late nationally
  - Proportion diagnosed late highest in low prevalence areas
  - Of those diagnosed late:
    - 34% (811) in low prevalence
    - 41% (972) in high prevalence
    - 25% (576) in very high

66% of late diagnoses occur in high or extremely high prevalence areas

- Number of HIV diagnoses and proportion diagnosed late, by diagnosed prevalence band of residence



# Setting of HIV diagnosis by late diagnosis status and diagnosed prevalence band of residence, England 2022



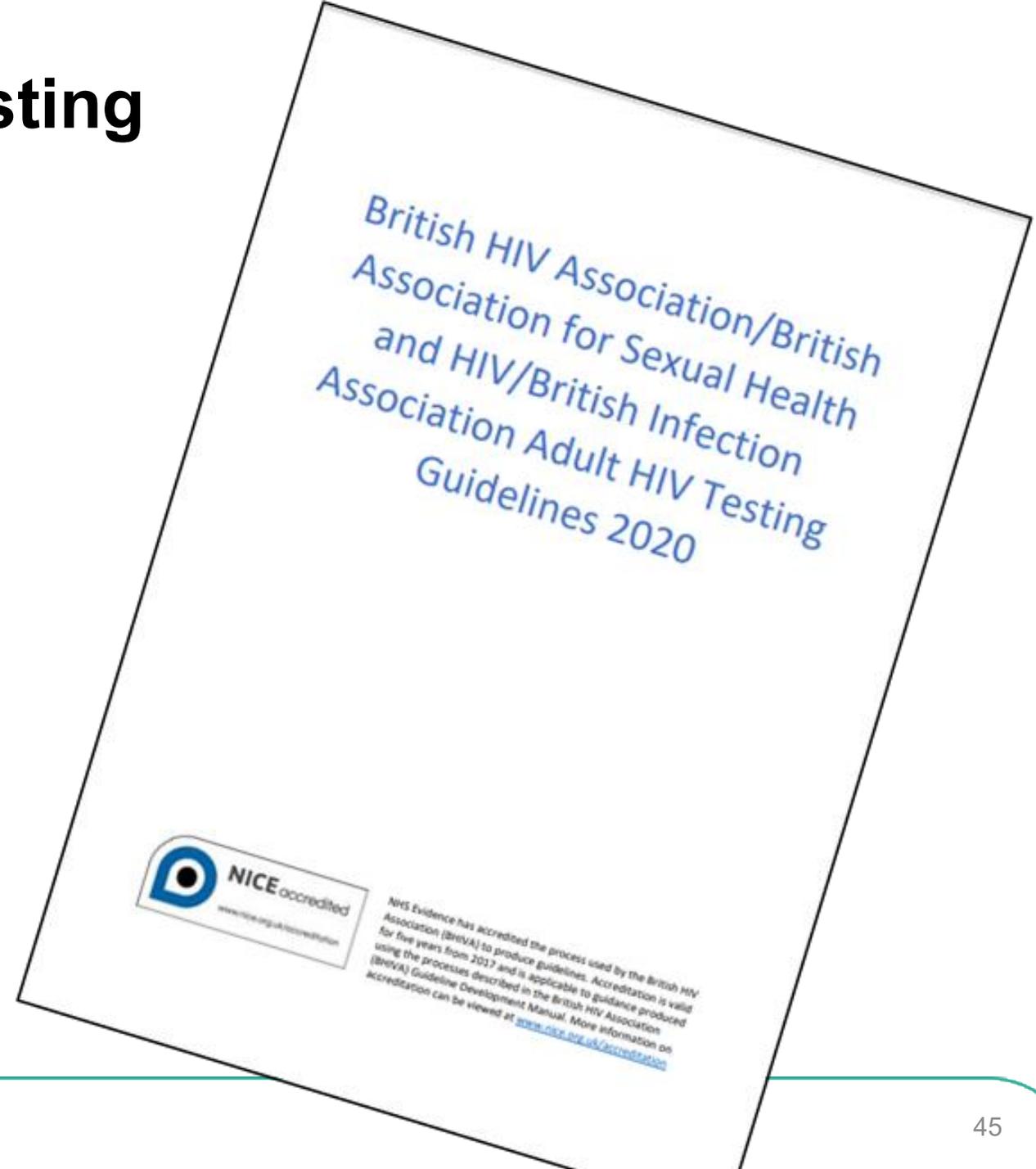


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# Policy and guidelines – next steps

# BHIVA Guidelines on HIV testing

- Recommends testing for all patients accessing primary and secondary healthcare in areas of high and extremely high HIV seroprevalence, including emergency departments.
- Testing needed in key groups such as female sexual contacts of gay and bisexual men, sex workers and trans women.
- Testing in indicator conditions (community pneumonia, unexplained fever)



# NICE GUIDELINES

- NICE guidelines state that specialist Sexual Health Services (should) offer and recommend an HIV test to everyone who attends for testing or treatment.
- In areas of high and extremely high prevalence, offer and recommend HIV testing to everyone in GP not diagnosed with HIV



# Testing Settings:

Issues	What next?
Testing in SHSs remains below 2019 levels, with testing in heterosexual and bisexual women 8% below	Fully implement opt-out testing in this setting
Growing mismatch between diagnosed and undiagnosed prevalence,	Prioritize new testing initiatives
Increasing positivity in drug dependency services,	Further investigation – especially in London
Increase in online testing access since 2019	Importance of variety of testing modalities
Community testing important vehicle for increasing test rates in specific populations	UKHSA should work to increase the value of surveillance of community testing by expanding the range of organisations reporting to the community testing survey,

# Populations:

Issues	What next?
Further work needed to encourage testing in people aged 50 years and over	Education for GPs; strengthening system level interventions such as NHS health check?
High decline of testing in women in sexual health services?	Explore reasons Implement opt out testing Explore features of testing in GP settings that might be more acceptable
People with indicator conditioners	improve monitoring, reporting and awareness about HIV testing in indicator conditions (particularly non-AIDS defining
Partner notification	Sufficient staff and technological resource

# HIV Action Plan ambitions, populations and priorities

## Ambitions

- reduce new HIV infections by 90% from 2010 and a continued 5% decline per year after 2030
- reduce AIDS-related deaths by 90% from 2010
- secure the sustainability of the HIV response through 2030 and beyond

## Five key populations

- Ethnic minority GBMSM
- White GBMSM
- Black African heterosexual men
- Black African heterosexual women
- Other ethnic minority heterosexual adults (not including Black Africans)



**Priority 1: prevent** - we will prevent HIV transmission through equitable access to HIV prevention services



**Priority 2: test** - we will scale up HIV testing to reduce HIV transmission and protect people's health



**Priority 3: treat** - we will rapidly link and retain people living with HIV in care, ensuring individuals can live healthy lives and cannot pass it on



**Priority 4: thrive** - we will address stigma and improve the quality of life for people living with HIV



**Priority 5: collaborate** - we will strengthen the healthcare system to improve HIV care and wider sexual health



# Testing actions

- Invest £108m from April 2026 to March 2029 to deliver opt-out HIV testing in emergency departments (EDs) in very high and high HIV prevalence areas and £48m for HBV and HCV testing
- Ongoing monitoring will inform delivery and maximise efficient use of resources, modifying our approach as required to amplify impact
- Review effectiveness of all HIV testing
- Promote opt-out testing in primary care and SHSs
- Expand digital provision of HIV testing, by trialling HIV home testing, in the NHS App – £5m investment
- From 2026 onwards, review options for expanding digital provision to HIV prevention, including online provision of PrEP, and other testing services through the NHS App
- Implement a national review of late diagnoses by March 2026
- Develop and disseminate late diagnoses reviews twice a year with HIV and SHSs services



# Key points

Patchwork of overlapping surveillance systems can inform narrative

Who do we need to test more? Older people, black African ethnicity, outside of London, GP settings.

Expand coverage of community testing surveillance

Improve monitoring, reporting and awareness about HIV testing in indicator conditions

Explore mismatch between diagnosed prevalence and high levels of positivity in GP settings

Further explore rise in positivity in drug dependency settings

HIV Action Plan will provide opportunities for scaled-up testing