



Health Protection Surveillance Centre

Early Infectious Syphilis (EIS) –Annual Report 2022

November 2023

Acknowledgements



The Health Protection Surveillance Centre (HPSC) would like to sincerely thank all data providers and all who have contributed to this report including: The Sexual Health & Crisis Pregnancy Programme (SHCPP), STI clinics, General Practice; laboratories and the Departments of Public Health.

These slides may be copied and reproduced, provided HPSC is acknowledged.
Suggested citation: HSE-Health Protection Surveillance Centre. EIS Slideset 2022.
Dublin: HPSC; October 2023.

Summary-EIS in Ireland 2022

EIS notification rates continue to increase slightly in 2022 but at a slower rate than in 2019

- 94% males 6% females
- gbMSM¹ remain the group most affected by EIS
- Highest EIS rate in males and females was among those aged 30-34years,
- 20% of EIS notifications were reinfections.
- Where HIV status was known:
 - 31% of EIS notifications were in PLHIV²
 - 56% reinfections
- Where HIV PrEP³ status was known
 - 30% of HIV negative males were on PrEP
 - 41% reinfections in those on PrEP
 - 11% reinfections in those not on PrEP
- Where country of birth was known:
 - 50% were born in Ireland.
 - 27% were born in Latin America and Caribbean.
- Where known 14% of EIS notifications were acquired abroad.
- Notifications stabilised in 2022 and this trend continues in [2023](#)
 - Internationally syphilis cases continue to rise including congenital syphilis.
- Antenatal Syphilis and congenital syphilis remain low in 2022
 - Ireland has met the WHO 2030 target for congenital syphilis cases
- Considerable efforts will be needed in Ireland and globally if the WHO 2025 target of 20% reduction in EIS notifications in 15-49 year olds is to be achieved.

¹ gay bisexual and other men who have sex with men. ²People living with HIV. ³ Pre-exposure Prophylaxis.

Recommendations



- Ireland has reached the WHO target for congenital syphilis of <math>< 50/100,00</math> cases per year (currently 2/100,000)
- However, Ireland is not in line to reach WHO targets for EIS in 15-49 years olds
 - 20% reduction in the number of EIS by 2025
 - 90% reduction by 2030

The recommendations are:

- Maximise efforts to raise awareness of syphilis, its symptoms, and how to prevent it
 - <https://www.sexualwellbeing.ie/sexual-health/sexually-transmitted-infections/types-of-stis/syphilis.html>
 - <https://sexualwellbeing.ie/freecondoms/>
 - <https://man2man.ie/syphilis/>
 - <https://man2man.ie/free-condoms-lube/>
- Ensure ready access to regular testing for those who are having condomless sex with new and casual partners in order to detect cases early and prevent further spread. Key affected populations include, gbMSM, PLHIV, transpeople and those on HIV PrEP.
 - [HSE Free Home sampling kit](#)
 - [HSE STI services](#)
 - [Gay Men's Health Service Dublin](#)
- Support the development of sexual health services that are appropriately funded and resourced to meet EIS and other emergent sexual health needs.
- Improve epidemiological data quality, as a result of the pandemic, data quality was poor in recent years. A focus on improving data quality in key variables including Gender identity, HIV status, PrEP status, Country of birth and Country of infection is needed for 2023.

Introduction

- Syphilis is an infectious disease caused by the bacterium ***Treponema pallidum***.
- Syphilis is usually **transmitted by sexual contact** and can also be transmitted from mother to child *in utero*
- Syphilis can be treated. Left untreated, **syphilis infection can cause severe health** outcomes.
- Syphilis infection is divided into stages; **primary, secondary, and early latent syphilis** are known as **early infectious syphilis (EIS)**. EIS requires treatment and is a notifiable disease in Ireland
- Late syphilis includes Late latent and Tertiary syphilis; also requires treatment.
- **Past infection does not confer complete immunity to reinfection.**

Surveillance Process –For Early Infectious Syphilis



- **Laboratories notify all EIS** cases that **meet laboratory criteria** specified in the [case definition](#), to the Computerised Infectious Disease Reporting (CIDR) system. New infections and reinfections are notified. These cases are classified as **confirmed cases**.
- A **clinician** working in a **specialised STI clinical service** can **notify** public health **directly**, if a **symptomatic person** meets the clinical criteria for EIS but does not meet the laboratory criteria. This case will be classified as a **probable case**.
- Once a case has been notified to Public Health via CIDR, Public Health liaise with **clinicians** to **complete enhanced syphilis surveillance forms** (ESF).
- **Public health enter** the data from the ESF on to **CIDR**.
- **HPSC monitor** trends and **provide** information that can be used to **plan** sexual health **services** and public health **response**.

The impact of the COVID-19 pandemic on Early Infectious Syphilis data in Ireland, 2019-2022



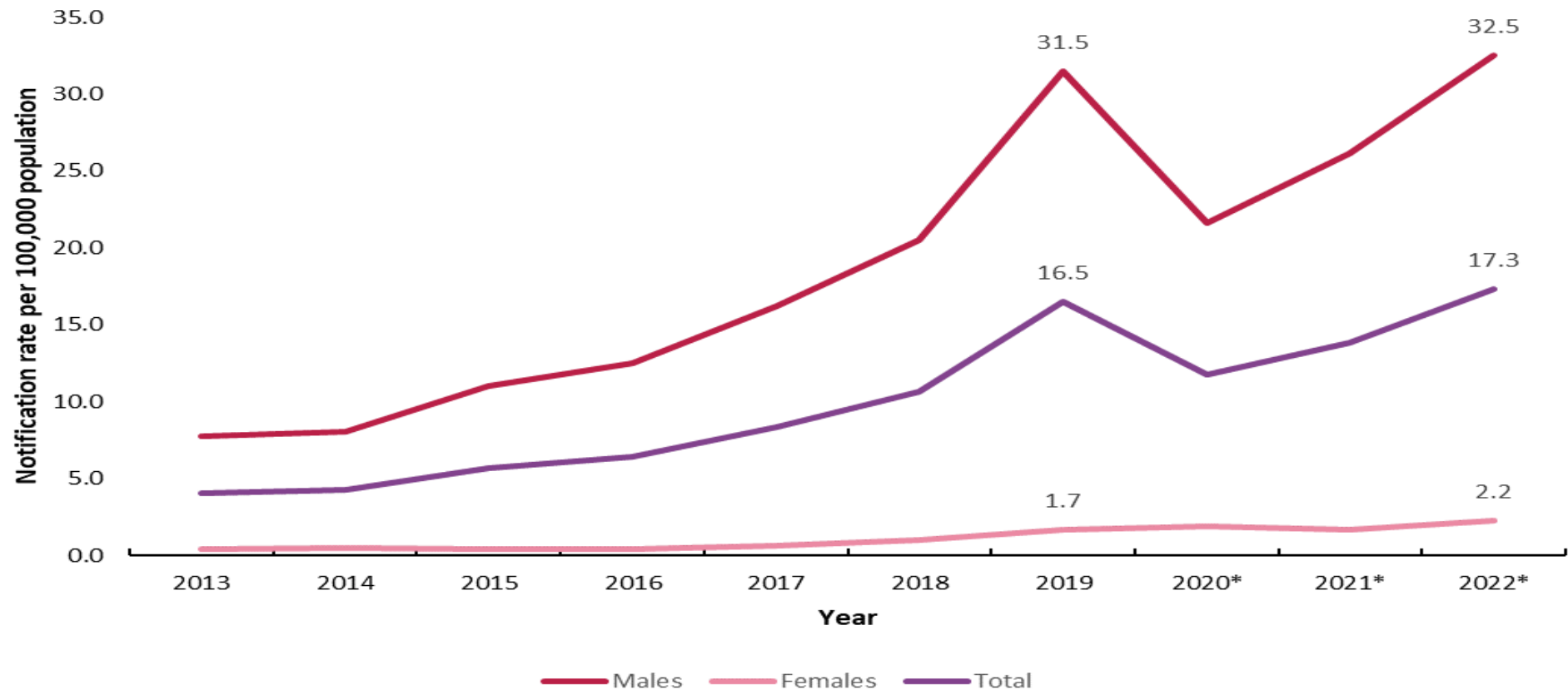
These slides **supersede previously published data** and present data on **confirmed** and **probable** cases of Early Infectious Syphilis (EIS) notified to HPSC to the end of 2022, via the Computerised Infectious Disease Reporting system ([CIDR](#)).

- Early infectious syphilis has been increasing in Ireland since 2013 when case-based notification of STIs was introduced. In 2020 there was a reduction in cases, coinciding with the first wave of COVID-19, and since then notifications have increased in 2021, and 2022, exceeding the numbers observed in 2019 and previous years. The reduction in notifications was likely due to a number of factors including long periods of national lockdown, social and physical distancing measures, reduced sexual health and GP services and reduced testing opportunities.
- The COVID-19 **pandemic affected** the **collection and reporting** of **enhanced data variables**, such as mode of transmission, HIV status, country of birth and country of infection data, for EIS notifications during 2020, 2021 and 2022.
- The percentage of “unknowns” for each variable are reported and data presented where known.
- Initiatives to improve data quality are underway but all enhanced data for 2020-2022 should be interpreted with the completeness of the data in mind.

Early infectious syphilis notification rate by gender 2013-2022



EIS notification rates continue to increase slightly in 2022 but at a slower rate than in 2019

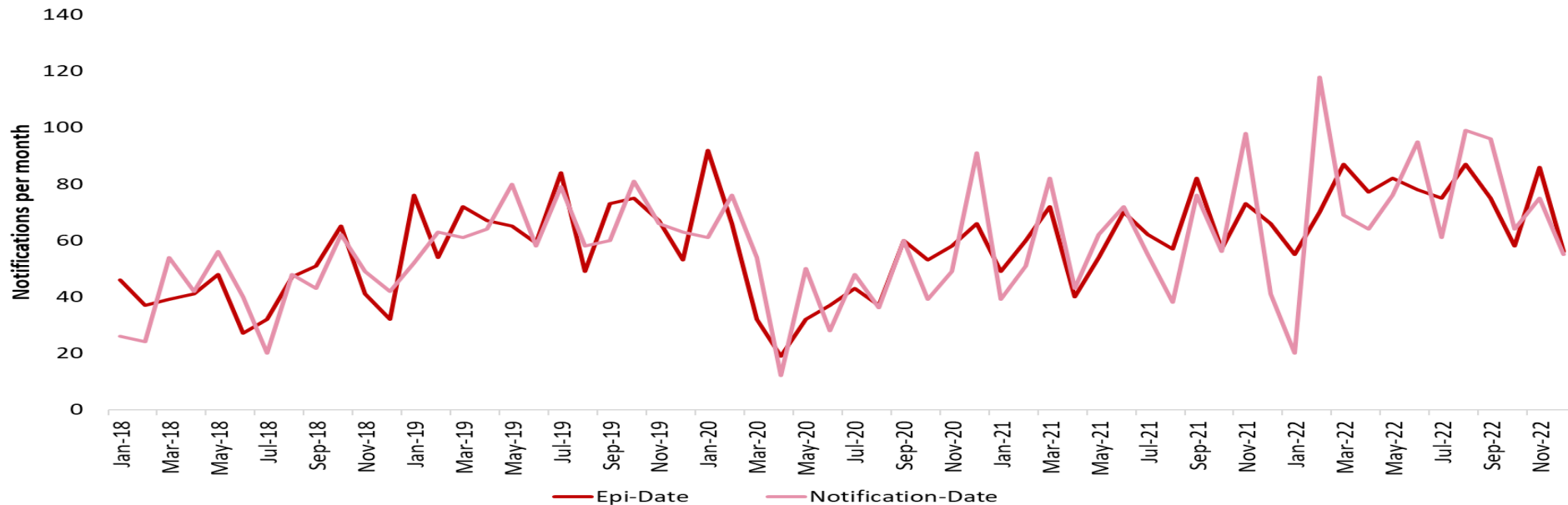


Male includes cis-male and trans-male (where reported) and female includes cis-female and trans-female (where reported). **2022 census data were used to calculate notification rates for 2020 onwards.** See technical notes for further details

EIS notifications per month from January 2018-December 2022 by epidemiological date (the earliest known date of infection) and by notification date.



Epidemiological date minimises the impact of reporting artefacts (such as late or batch notifications) on trend analysis



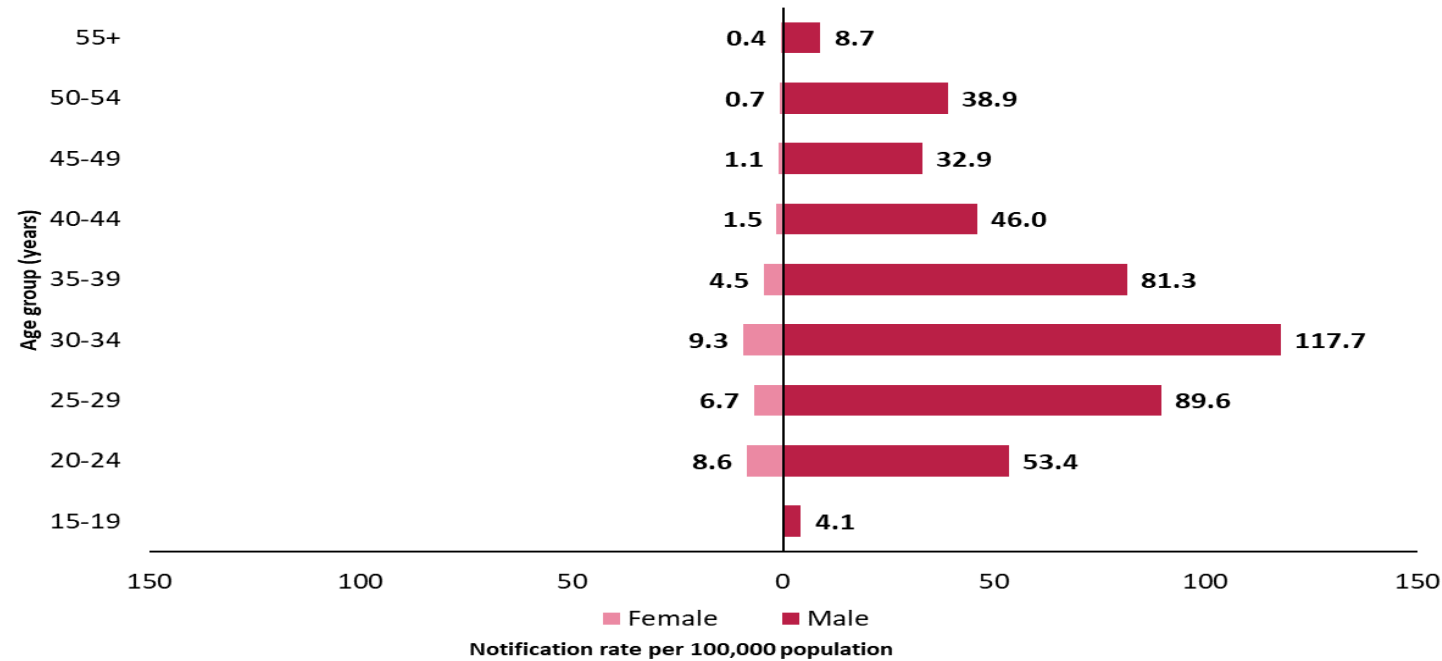
Epidemiological date is based on the earliest of dates available on the notification and taken from date of onset of symptoms, date of diagnosis, laboratory specimen collection date, laboratory received date, laboratory reported date or event creation date/notification date on CIDR

For further statistical analysis of EIS trends please see [The Impact of the COVID-19 Pandemic on the Notification of Sexually Transmitted Infections in Ireland](#)

Notification rate, and number of EIS notifications by gender and age group, 2022*



The majority of EIS cases are in males.



	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55+
Female	0	13	10	16	9	3	2	1	3
Male	7	83	132	189	149	97	61	54	57

Number of EIS notifications by age group and gender

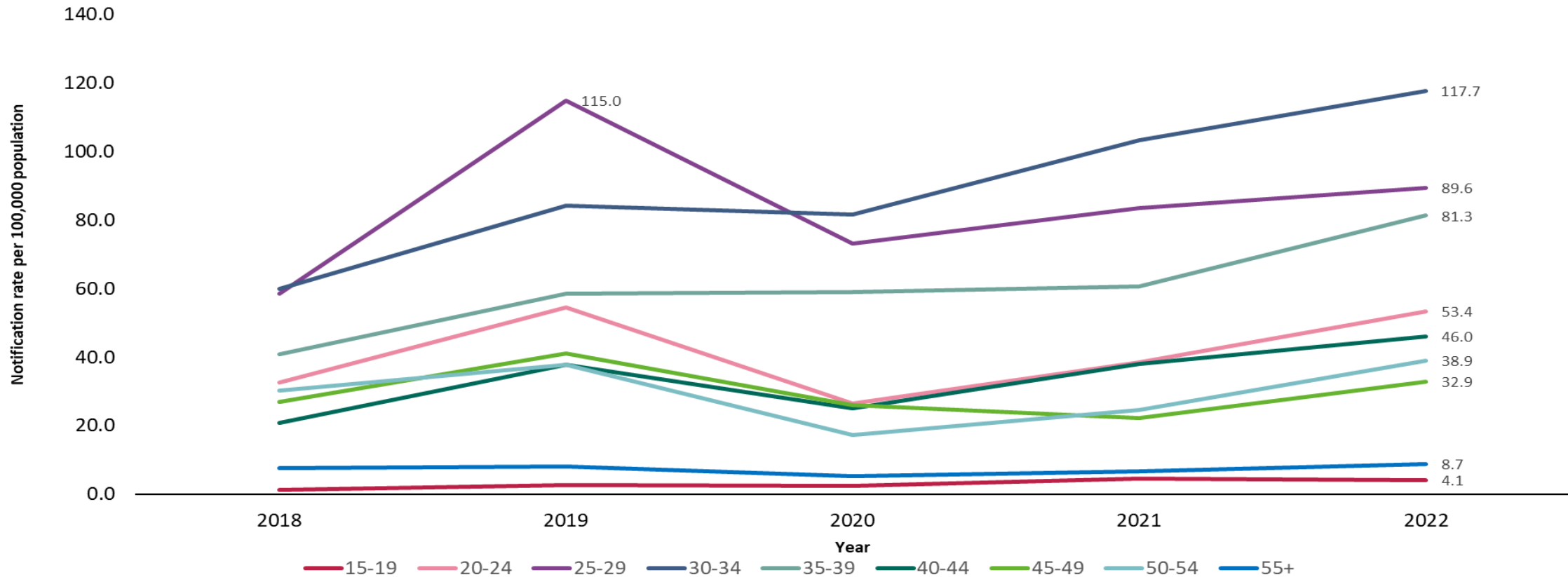
This graph excludes individuals whose age was less than 15 years and cases where age/gender was unknown.

***Census 2022 population data were used.**

Male EIS notification rate trend by age group 2018-2022



Highest rate in males in 2022 was in **30-34 year olds** (117.7 per 100,000 population). The previous highest rate in 2019, was in males aged 25-29 years (115.0 per 100,000 population).

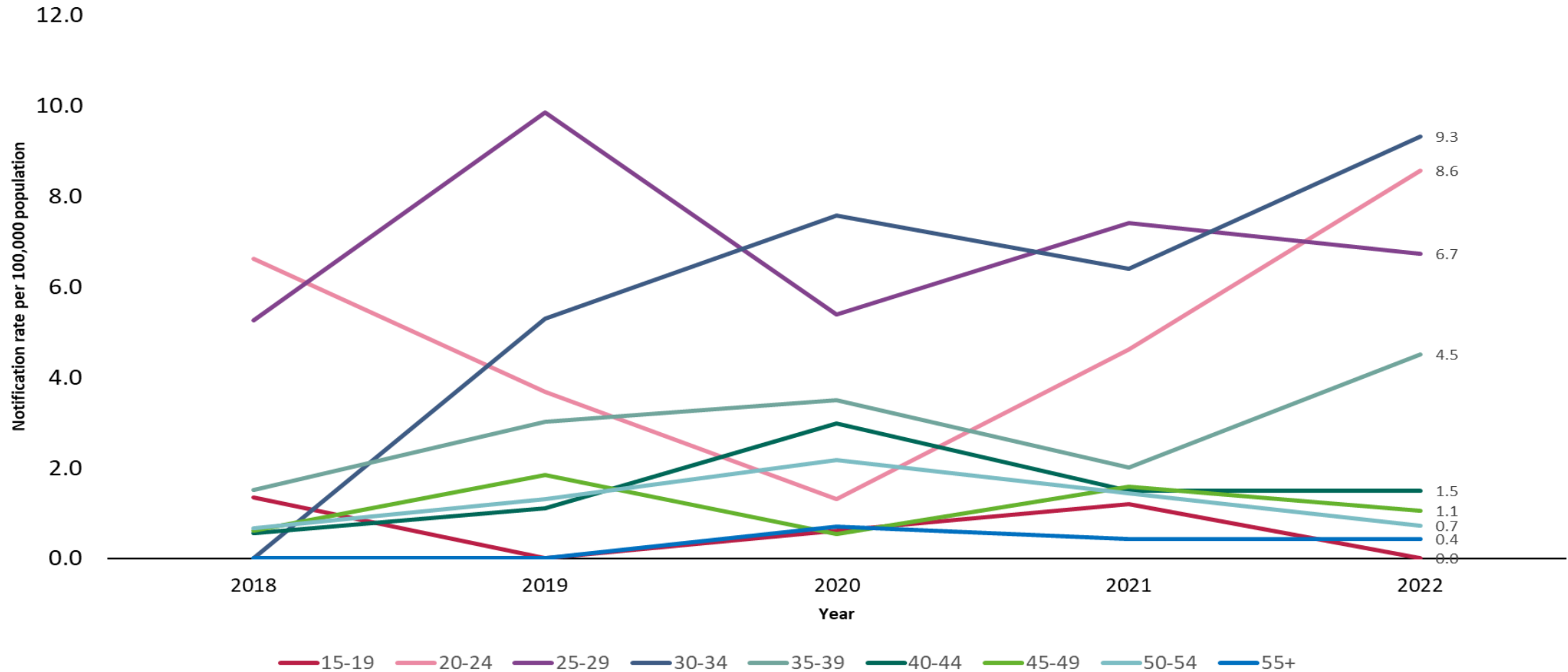


2022 census data were used to calculate notification rates for 2020 onwards; Male includes cis-male and trans-male (where reported)

Female EIS notification rate trend by age group 2018-2022



Rates in women remain low. Actual numbers are small for each age category. The **highest rate** in females in 2022 was in **30-34 year olds** (9.3/100,000 population).



2022 census data were used to calculate notification rates for 2020 onwards; Female includes cis-female and trans-female (where reported).

Antenatal Syphilis and Congenital Syphilis

Antenatal EIS

- All pregnant women are offered antenatal screening for syphilis. Information on the number who are screened is not available. Data cannot be reported as a notification rate per 100,000 pregnancies, and is reported as notification rate per 100,000 births
- The rate of notification of antenatal cases per 100,000 live births in 2022 remains low (7.0 per 100,000 live births)

	2018	2019	2020	2021	2022
Cis-female EIS notifications	24	39	47	45	53
EIS notifications in pregnancy	1	7	2	5	4
Number of births per year*	61022	59294	56812	58443	57495**
Notification Rate per 100,000 live births	1.6	11.8	3.5	8.6	7.0

Congenital Syphilis

- Congenital syphilis rates remain low in Ireland.

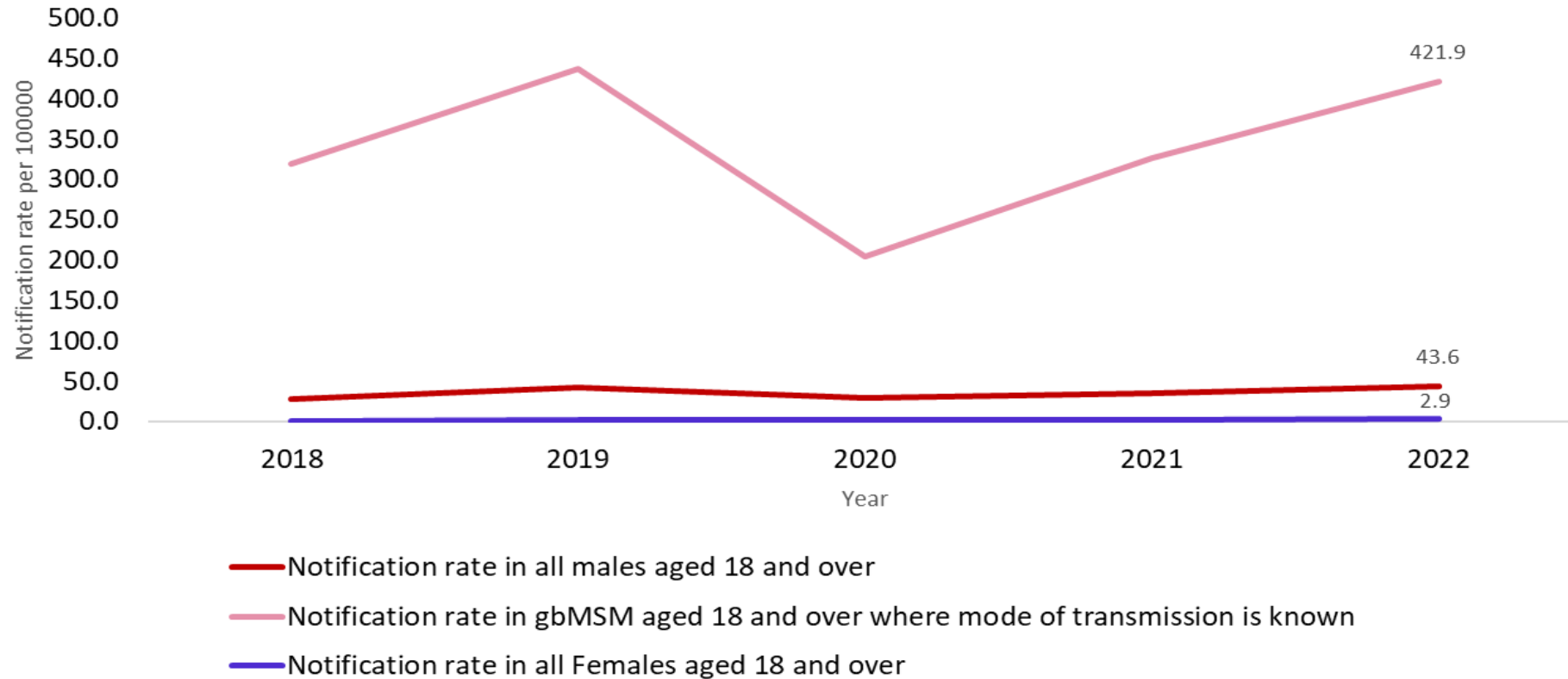
	2018	2019	2020	2021	2022
Confirmed congenital syphilis	0	1	0	0	1
Number of births per year*	61022	59294	56812	58443	57495**
Notification Rate per 100,000 live births	0.0	1.7	0.0	0.0	1.7

*Number of births per year reported by the Central Statistics Office ([CSO](#)). **Data for 2022 are provisional.

Trend in EIS notification rates in those 18 years and older (males, females and gbMSM*) 2018-2022



gbMSM remain the group most affected by EIS

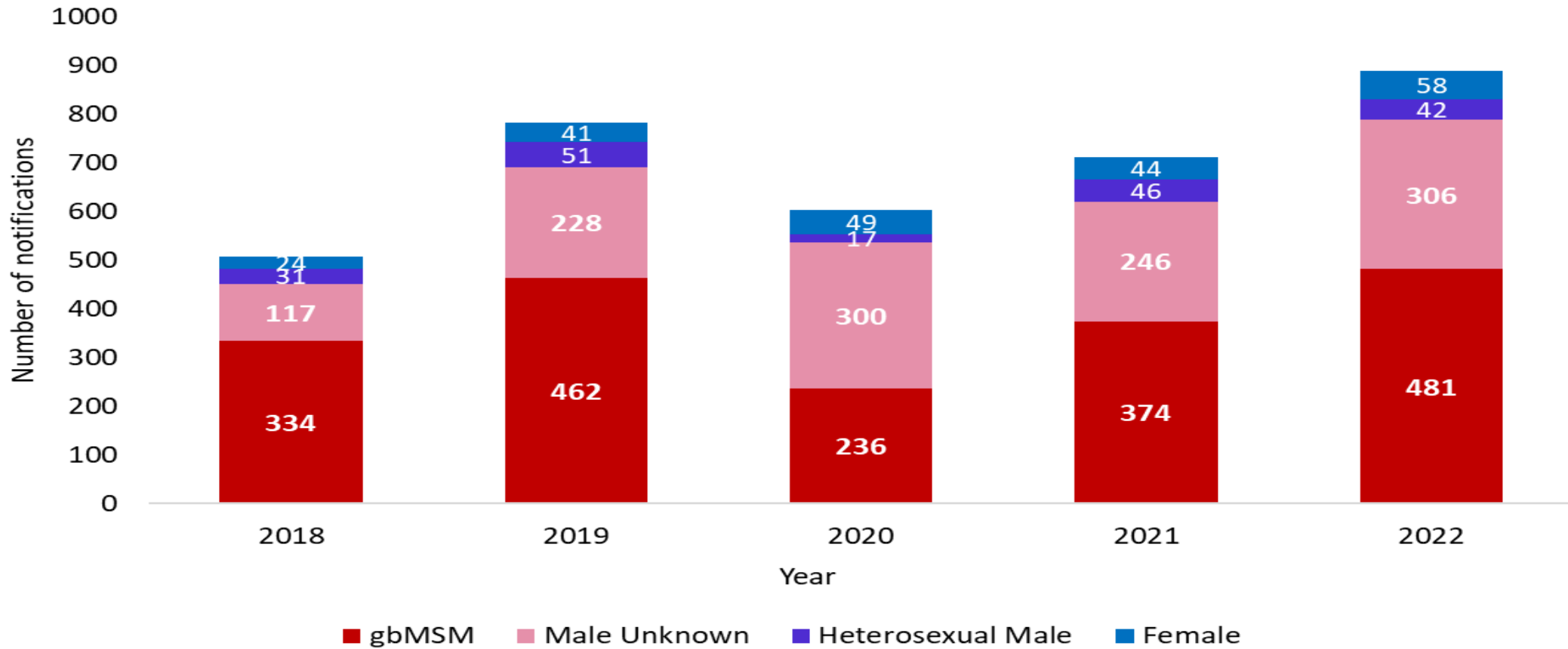


*gay bisexual and other men who have sex with men.

2022 census data were used to calculate notification rates for 2020 onwards. The [2015 Healthy Ireland survey](#) was used to calculate notification rates in gbMSM

Male includes cis-male and trans male (where reported) Female includes cis-female and trans-female (where reported).

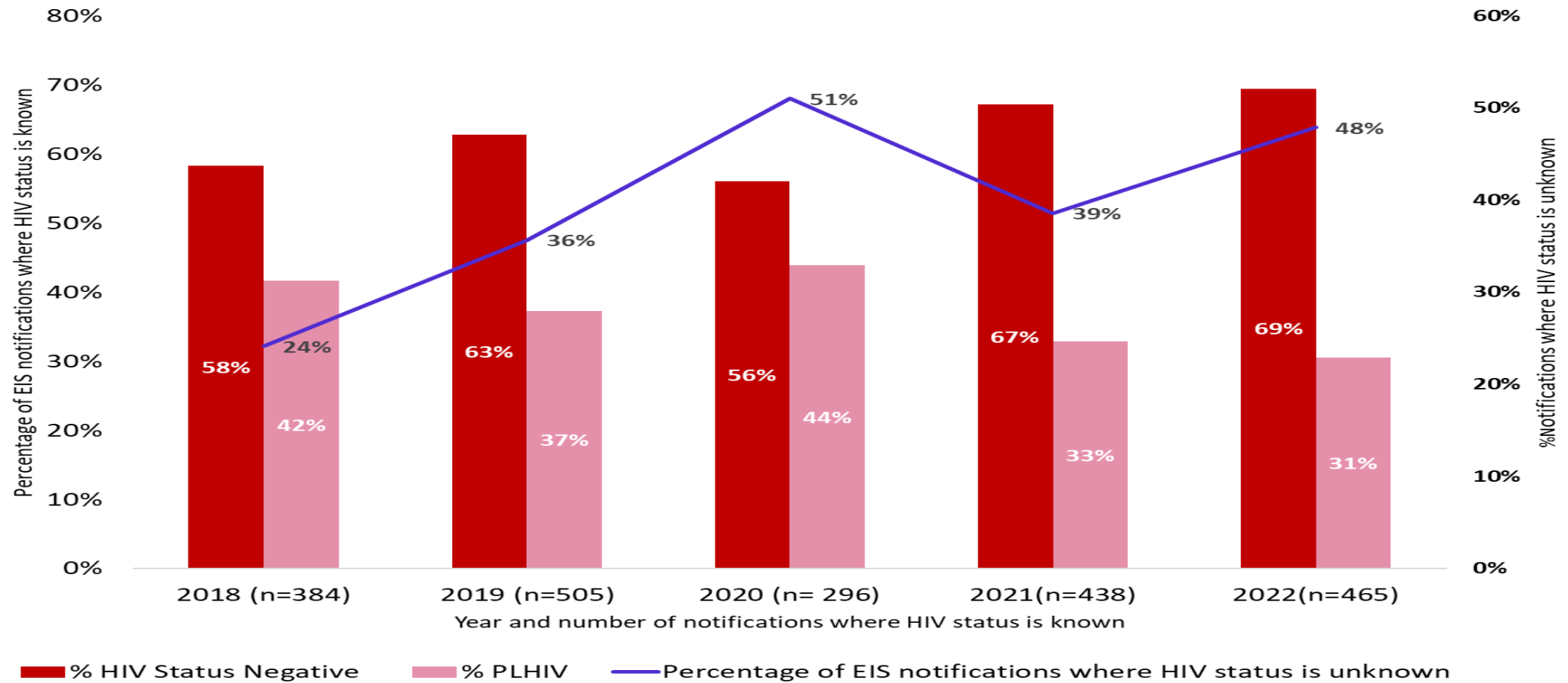
Trend in EIS Mode of Transmission 2018-2022



Where known gbMSM account for 92% of all male EIS cases in 2022

Excludes notifications where gender is unknown

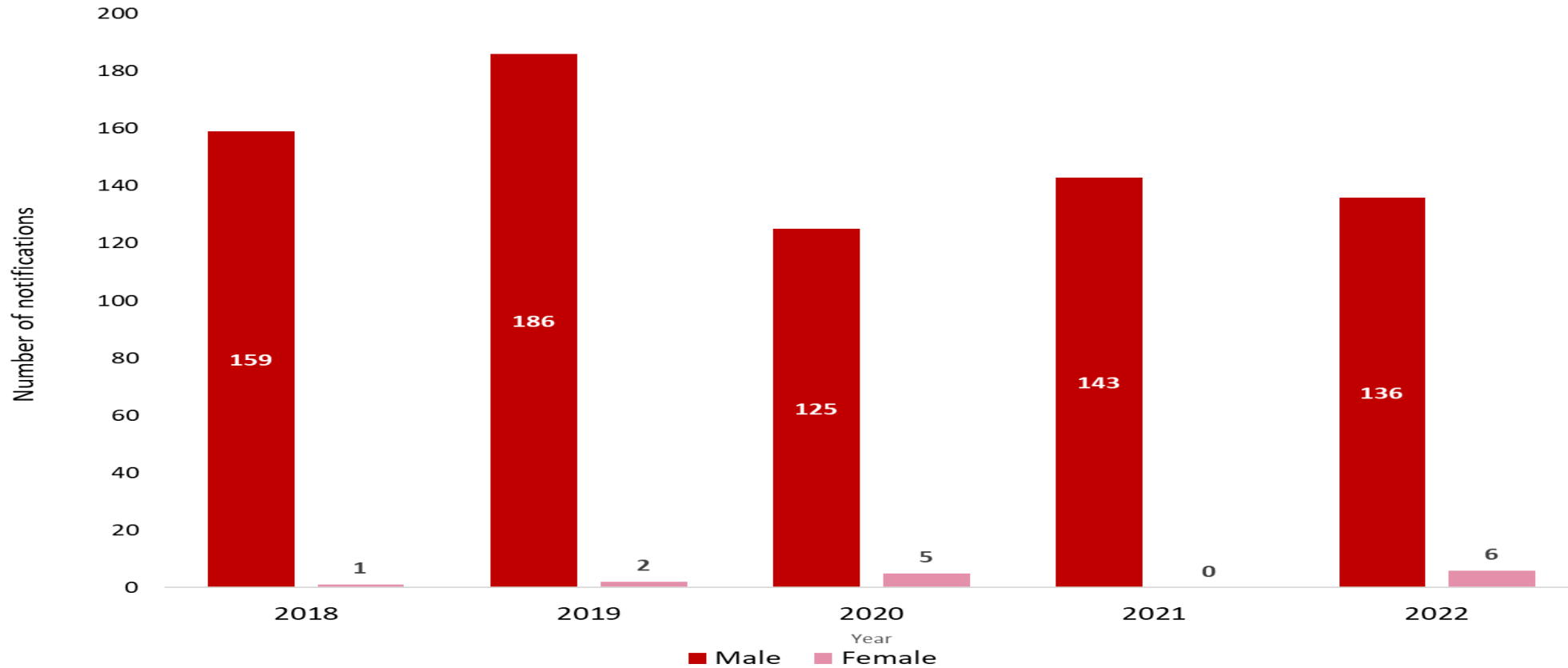
Trend in HIV status (where known) of EIS cases 2018-2022



In 2022, 31% of EIS notifications were in PLHIV* (where known) a decrease from 42% of EIS notifications in 2018

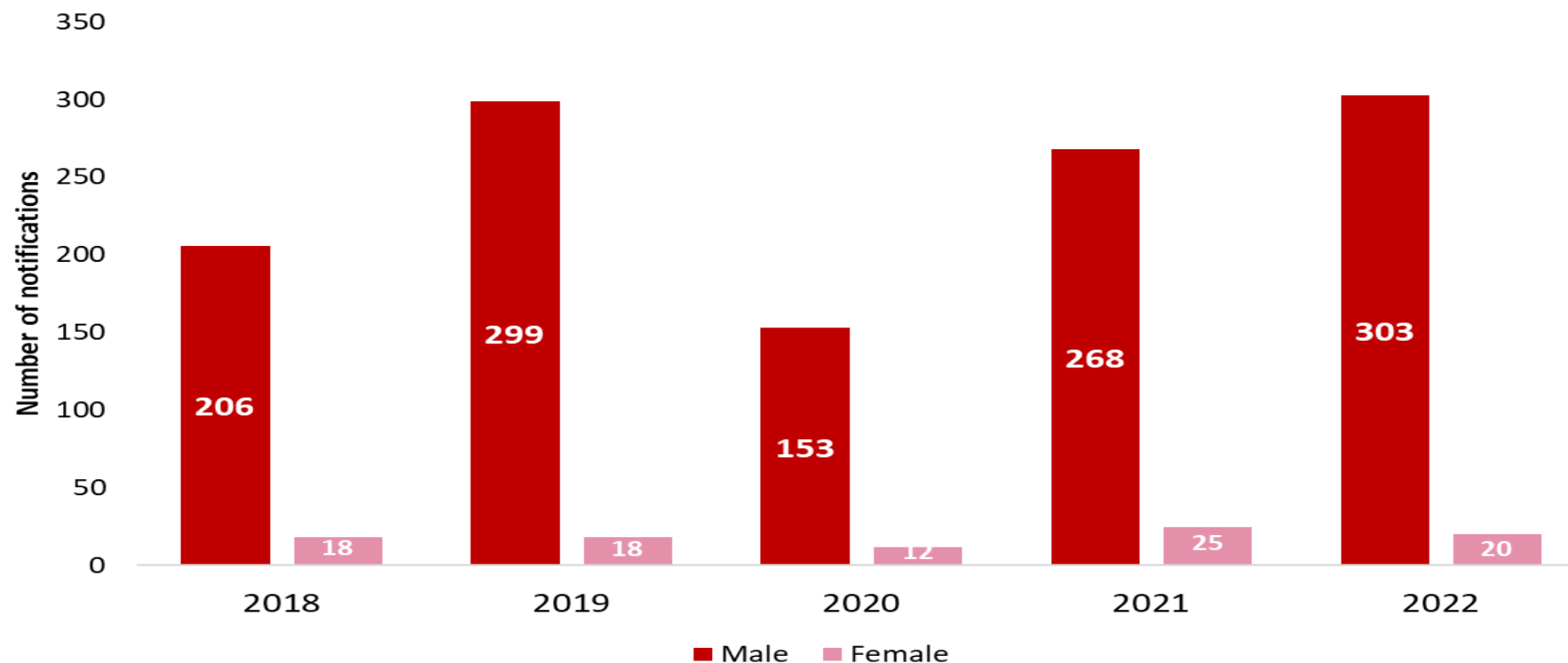
* People living with HIV

Trend in EIS Notifications in PLHIV 2018-2022



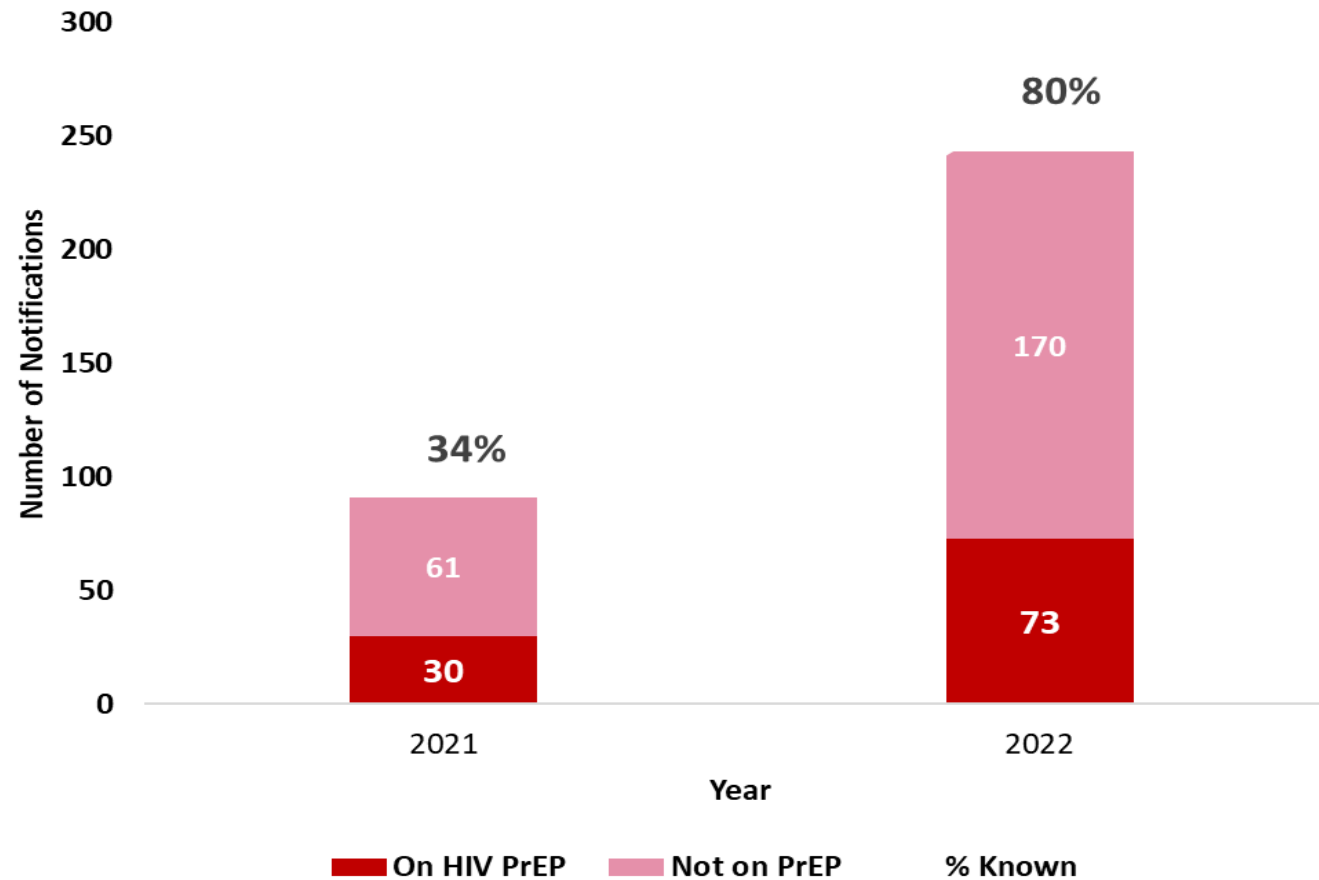
- In 2022, 96% of EIS notifications in PLHIV were male
- 4% of EIS notifications in PLHIV were female
- 56% (n=79/142) of EIS notifications in PLHIV were reinfections up from 41% in 2018.

Trend in EIS Notifications in those known to be HIV Negative by gender 2018-2022



- 94% of EIS notifications in those known to be HIV negative were male.
- 17% (n=56/323) of those known to be HIV negative had evidence of reinfection up from 13% in 2018.

EIS notifications in HIV negative males on PrEP 2021-2022.

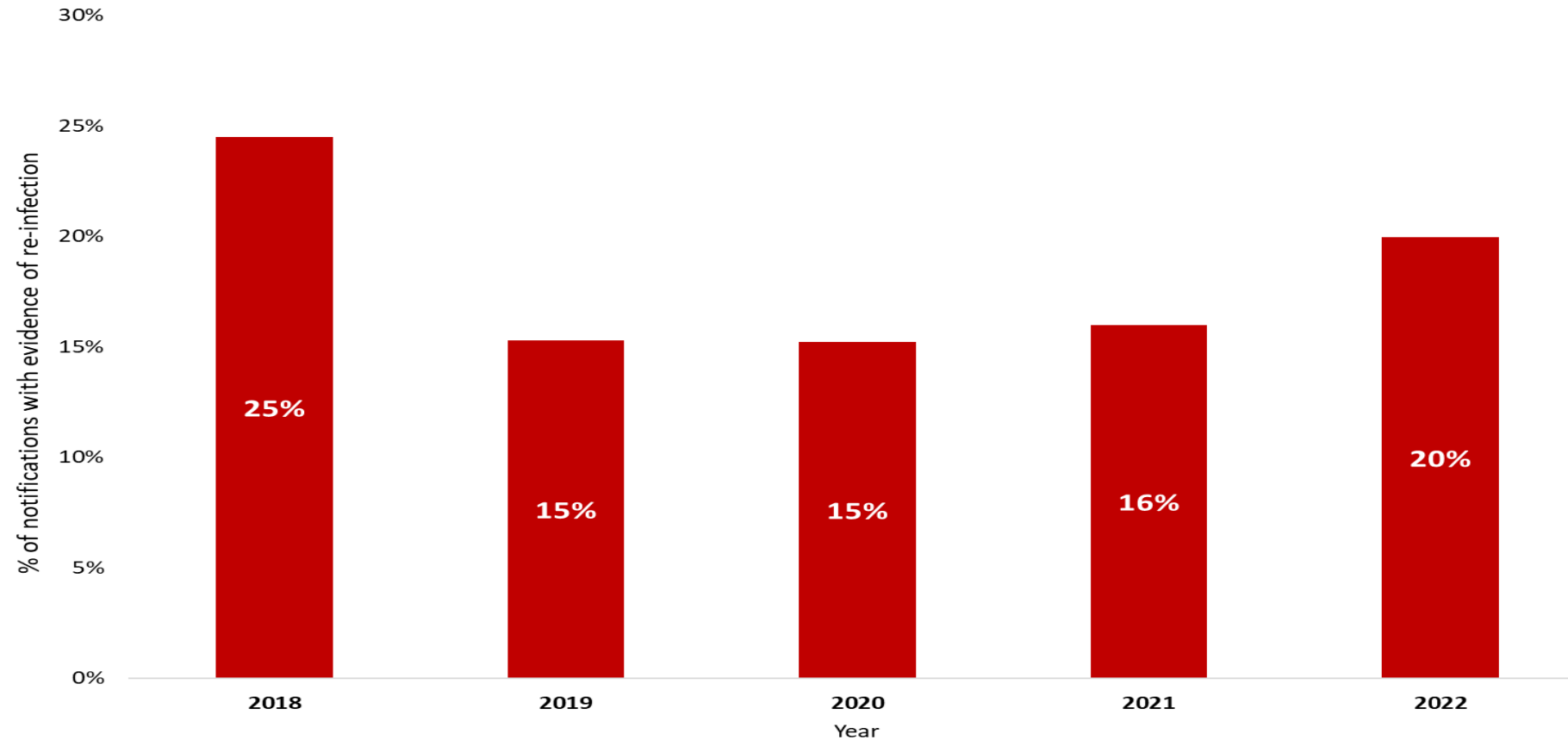


In 2022 among HIV negative males with EIS

- 30% were on HIV PrEP
 - 41% had evidence of reinfection
- 70% were not on HIV PrEP
 - 11% had evidence of reinfection

*Pre-exposure Prophylaxis

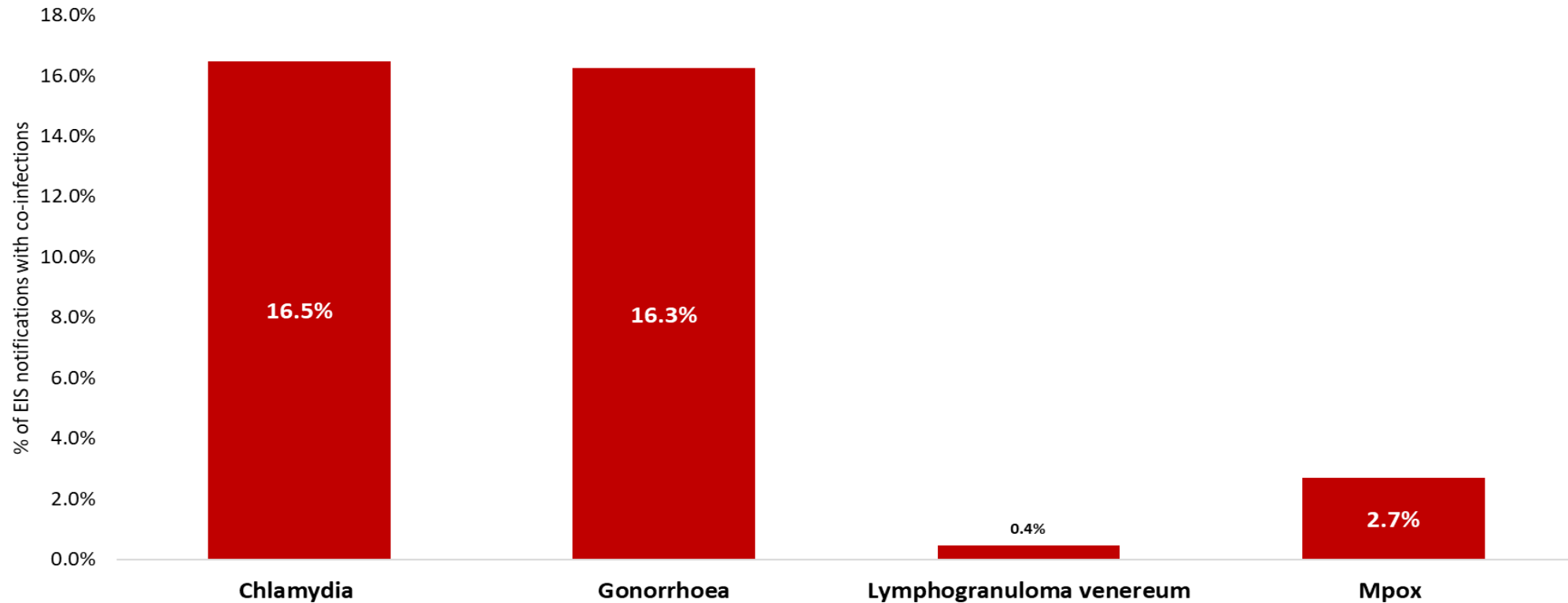
Trend in EIS notifications with evidence of reinfection 2018-2022.



There is evidence of reinfection in 20%(n=178/892) of notifications in 2022,

- 96%(n=171/178) of reinfections are male
- 4%(n=7/178) are female.

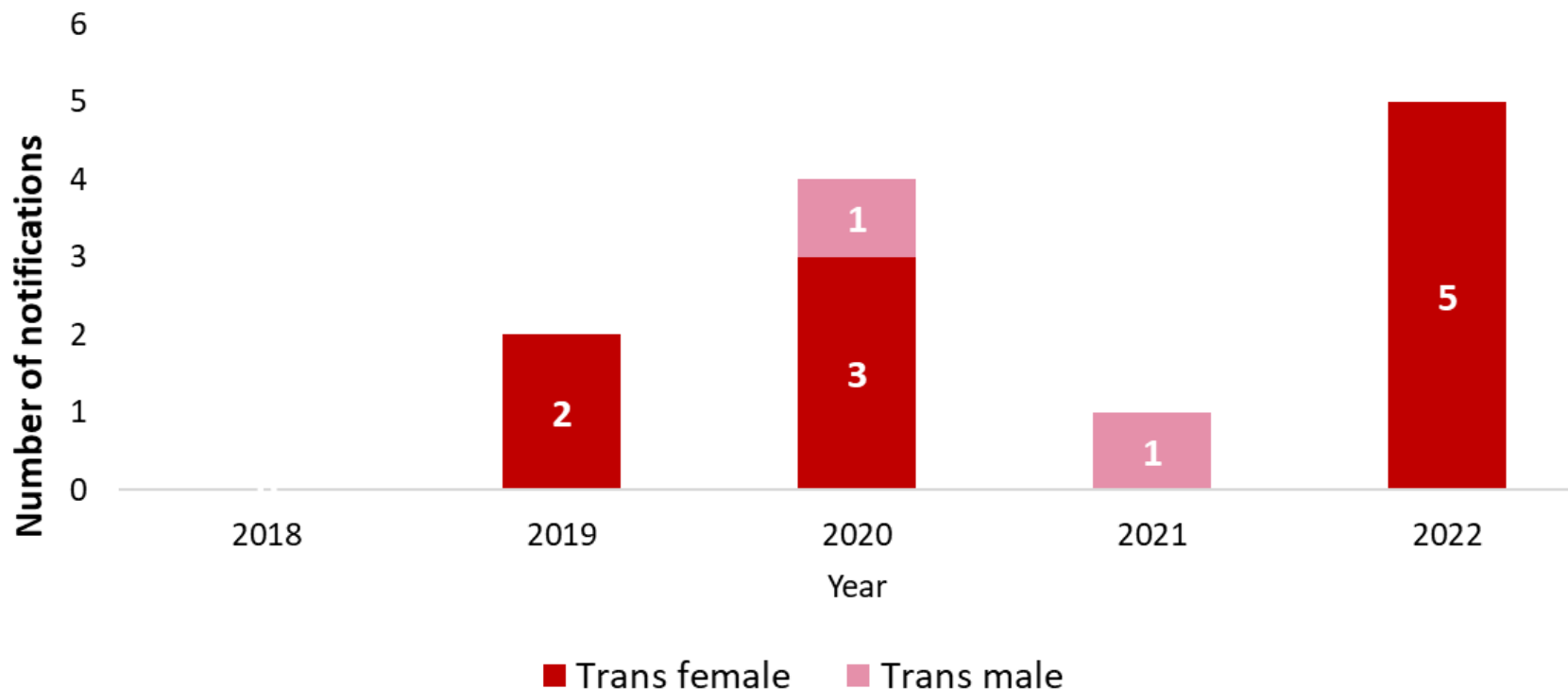
EIS notifications with a second STI notified in the same person in 2022



Where a second or multiple episodes of STIs were detected:

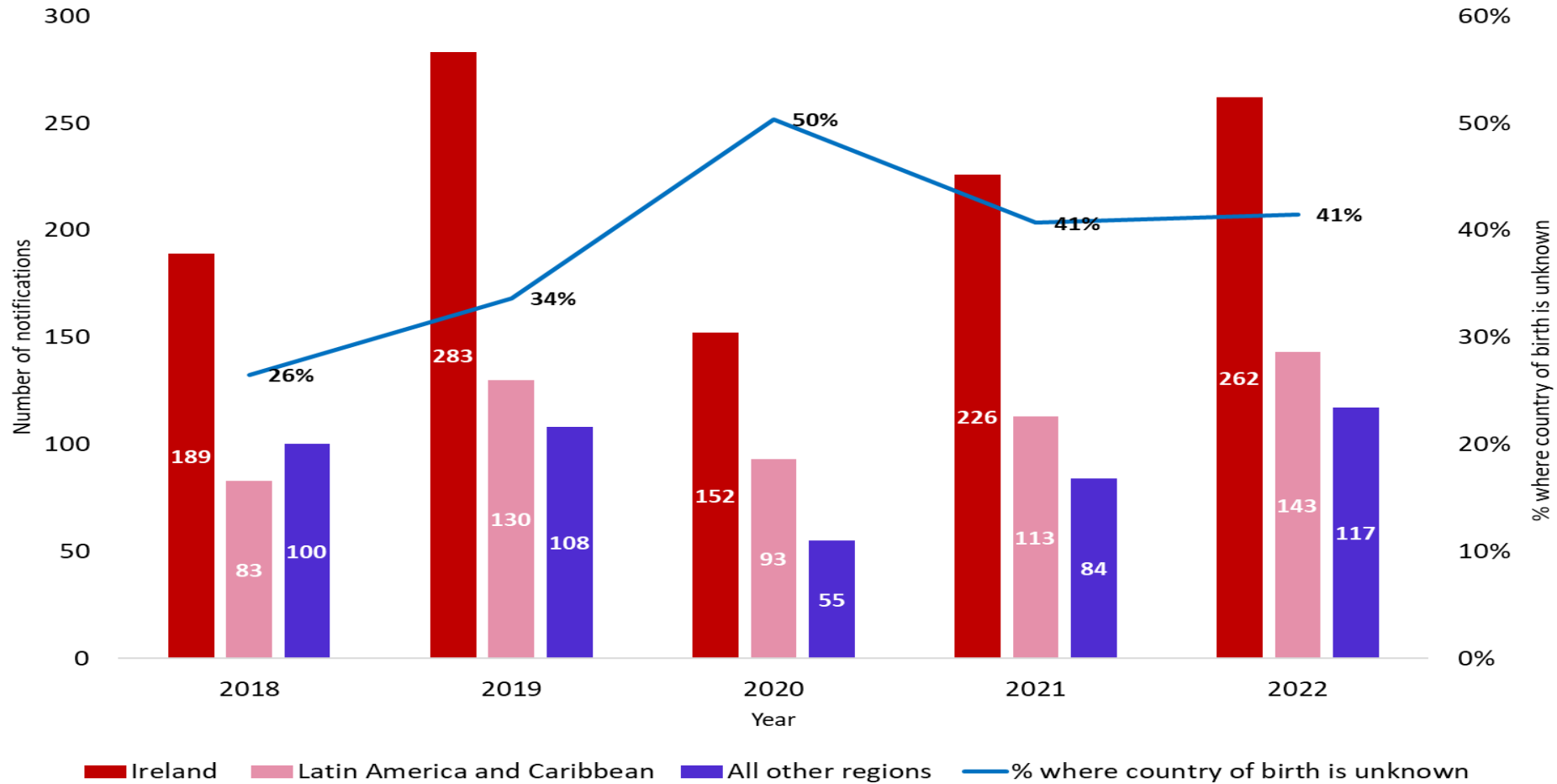
- 98% (n=312/320) were in males
- 2% (n=8/320) were in females
 - 63% (n=5/8) were trans females.

EIS notifications in transgender people 2018-2022



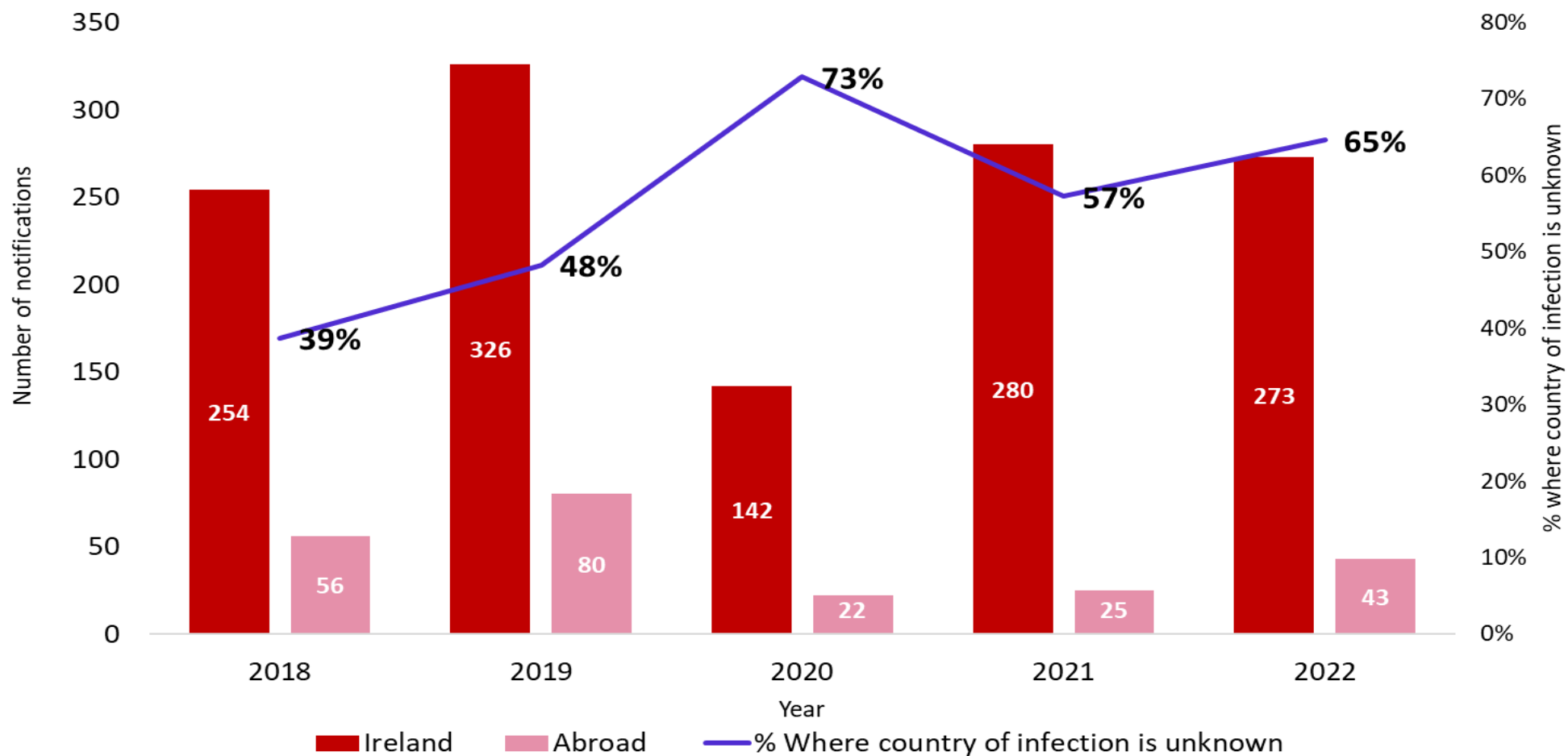
Since reporting of data on gender identity began in mid-2018, 12 EIS notifications have been recorded on CIDR as having occurred in trans people

Trend in EIS notifications by country of birth 2018-2022



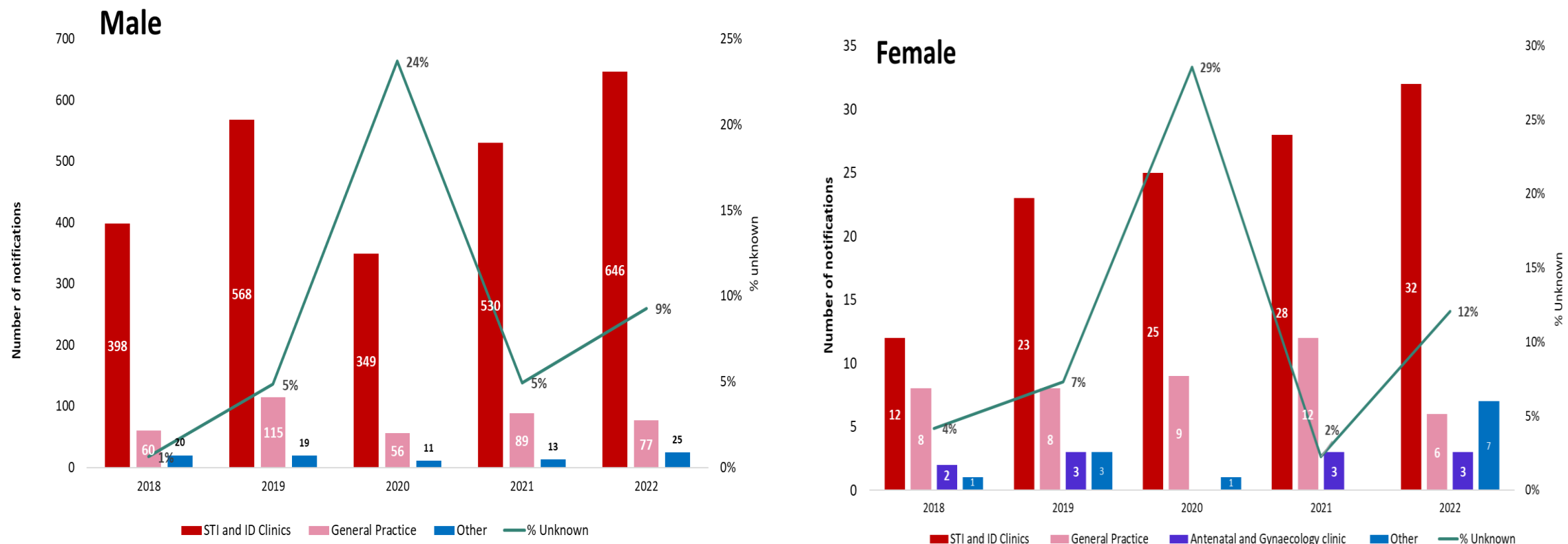
Where known: 50% of those notified with EIS in 2022 were born in Ireland compared with 51% in 2018, 27% were born in Latin America and Caribbean compared to 22% born in Latin America and Caribbean in 2018.

Trend in EIS notifications by country of infection 2018-2022



In 2022 where known 14% of notifications acquired EIS abroad, compared to 18% in 2018.

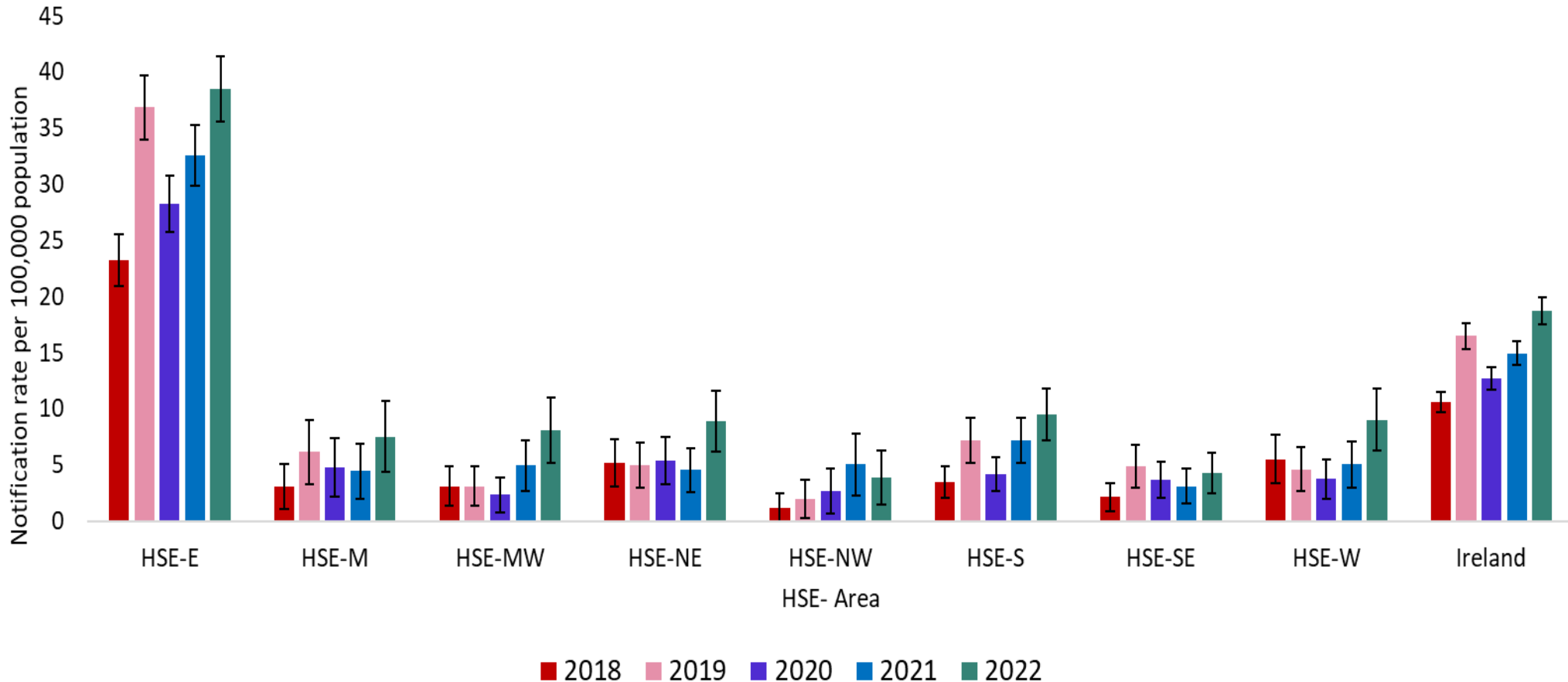
Service where EIS was first identified: 2018-2022



Dedicated STI and ID clinics remain the most common service where EIS was first identified for both males and females in 2022. Antenatal and gynaecology clinics report a small but significant number of EIS notifications in females. Although **Syphilis tests** are **available** through the [free HSE home sampling service](#), a reactive result is not notified to CIDR directly, the **individual** is referred to a public **STI clinic** for further **testing and treatment**.

EIS notification rates by HSE Area, 2018-2022

The highest notification rates were observed in HSE-E (Dublin, Kildare, Wicklow)

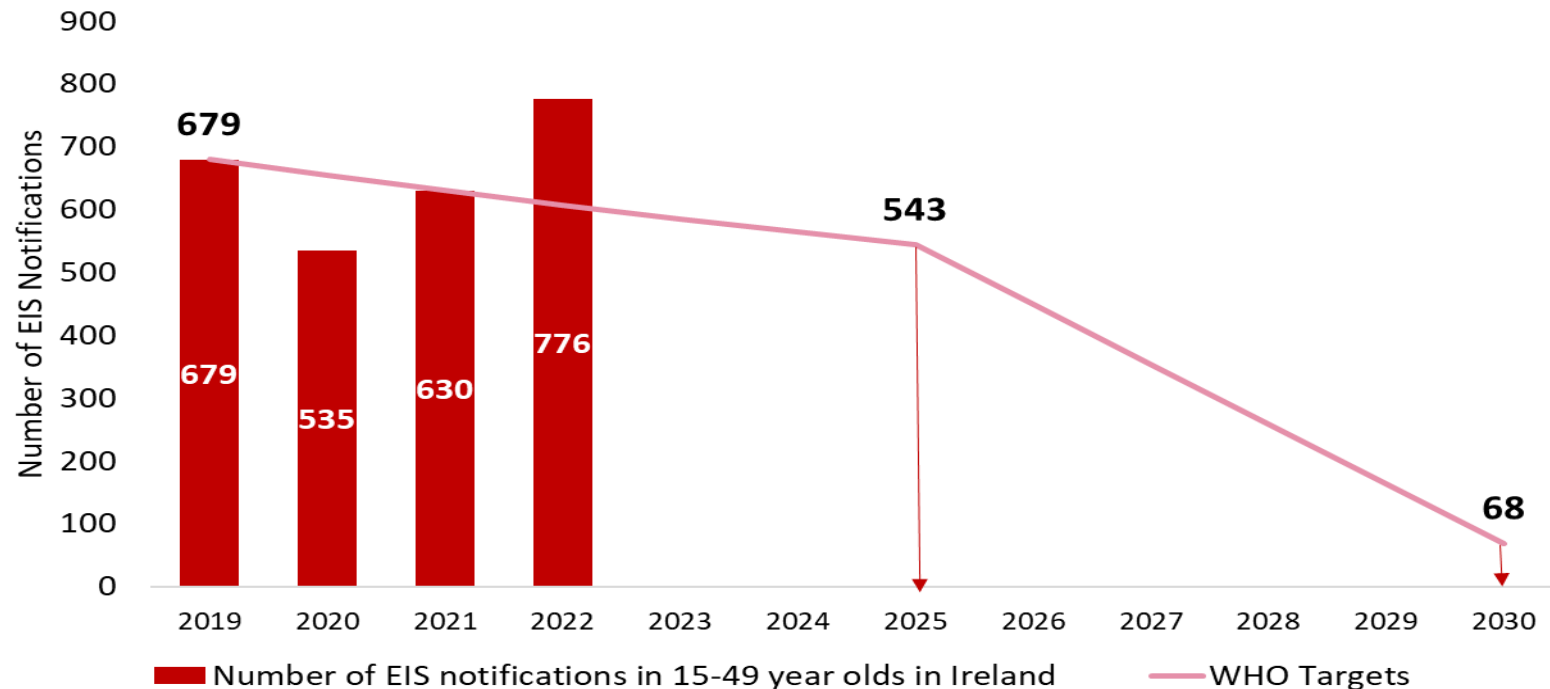


Please see technical notes for further details of the geography of each region. HSE-Area notification rates were calculated using 2016 census data. 2022 census small area data were not available at time of publication.

WHO Indicators for EIS



- WHO published [Global health sector strategies](#) which aims to **reduce STIs** in those aged **15-49 years** by **2030**.
- 2025 targets reflect a 20% reduction in the number of new cases of syphilis (2019 baseline) whilst the 2030 targets reflect a target of 90% reduction in the number of new cases of EIS
- In 2022 Ireland is **not on target** to meet the 20% reduction in EIS cases in **15-49 year olds** by 2025.

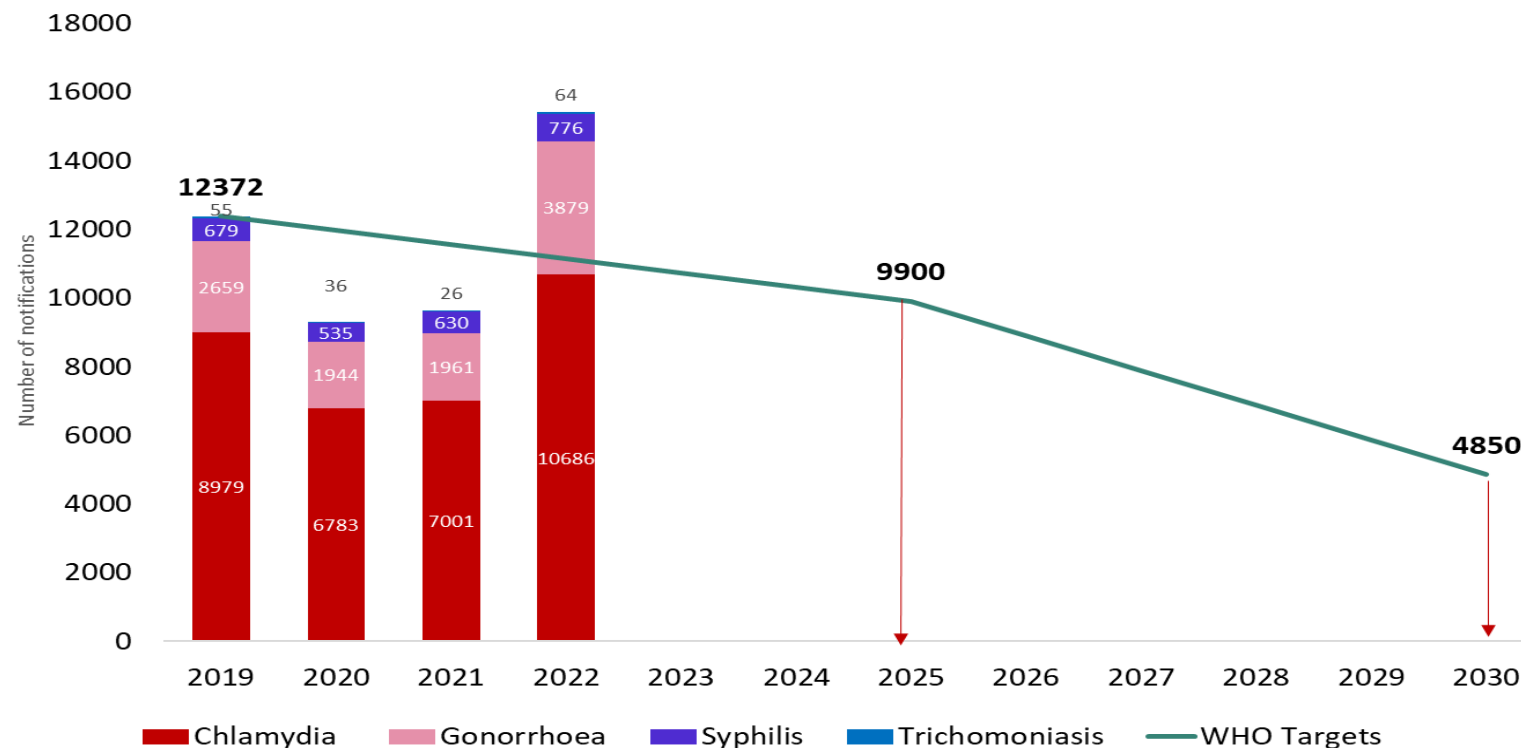


- In 2022 Ireland had congenital syphilis rate of 1.7 per 100,000 live births per year, **Ireland has met the WHO 2030 target for congenital syphilis cases** of <50 per 100,000 live births per year.

WHO Indicators for reduction in STIs (Chlamydia, Gonorrhoea, Syphilis and Trichomoniasis) in Ireland



- **2025** targets reflect a **20% reduction** in incidence for all 4 diseases in those **aged 15-49 years** (2019 baseline) whilst the 2030 targets reflect a target of 90% reduction in the number of new cases of syphilis and gonorrhoea as well as 50% reduction in the number of new cases of chlamydia and trichomoniasis by 2030.
- Ireland is **not on target** to meet the 20% reduction in STIs in **15-49 year olds** by 2025.



Irish and International Trends in EIS

- In Ireland EIS notifications have stabilised in 2022 and this trend continues in [2023](#). The National Syphilis Outbreak Control Team (OCT), established in [June 2021](#), was stood down in [March 2023](#) as a result. Congenital syphilis rates in Ireland remain low.
- Syphilis continues to increase internationally;
 - In [United States](#) latest data for 2021 shows an increase in reported syphilis cases including congenital syphilis.
 - In [Canada](#) the national rate of infectious syphilis increased to 30 per 100,000 in 2021 up 20% from 2020
 - In [UK](#) in 2022 syphilis diagnoses were highest since 1948.
 - In [New Zealand](#), there has been a 41% increase in syphilis cases in the second half of 2022 although the increase has largely been in men there is concern that this will impact the rate of congenital syphilis.
 - In [EU/EEA](#) countries the overall syphilis rate increased in 2021 to a level similar to 2019. National congenital syphilis notification rates remained low in most [EU/EEA](#) countries that provided data.

Technical Notes



- Data are based on statutory notifications and were extracted from Computerised Infectious Disease Reporting (CIDR) system on 22nd Sept 2023. Data are subject to ongoing review, validation and update. As a result, figures in this report may differ from previously published figures.
- STI data in this report are presented based on date of notification to the Health Protection Surveillance Centre (HPSC) unless otherwise stated.
- Population data were taken from Census 2016 for the years 2014-2019 and from Census 2022 for the years 2020 to 2022 from the Central Statistics Office. Data were aggregated into the following age groups for analysis: 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, ≥55 years.
- Unless otherwise stated data are presented by gender. Gender is based on gender identity where it is provided, otherwise sex at birth is used. Gender identity refers to a person's internal sense of themselves (how they feel inside) as being male, female, transgender, non-binary or something else. This may be different or the same as a person's assigned sex at birth. All data presented by the gender male includes cis male and trans male and data presented by the gender female includes cis female and trans female.
- When incidence rates by gender are reported the numerator is gender identity as recorded on CIDR and the denominator is population data from Census 2016 by sex (at birth) for the years 2014-2019, the denominator is population data from Census 2022 by sex (at birth) for the years 2020-2022.
- To calculate rates among gbMSM, data from [Healthy Ireland survey 2015](#) (for males, gender of last sexual partner male for 6%) was applied to the male population (aged 18 and over) from census data.

Technical Notes

- **Counties covered by former HSE area are as follows:**
- HSE East (HSE E): Dublin, Kildare & Wicklow;
- HSE Midlands (HSE M): Laois, Longford, Offaly & Westmeath;
- HSE Midwest (HSE MW): Clare, Limerick & Tipperary North;
- HSE Northeast (HSE NE): Cavan, Louth, Meath & Monaghan;
- HSE Northwest (HSE NW): Donegal, Leitrim & Sligo;
- HSE South (HSE S): Kerry & Cork;
- HSE Southeast (HSE SE): Carlow, Kilkenny, Tipperary South, Waterford & Wexford;
- HSE West (HSE W): Galway, Mayo & Roscommon.