



Epidemiology of hepatitis C in Ireland

Trends from 2004 to Q1 2024

June 2024





Acknowledgements

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- Irish Blood Transfusion Service (IBTS)
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- Health Advisors
- All other clinical staff involved in the provision of hepatitis data

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Hepatitis C in Ireland in 2023: key points

- In **2023**, the hepatitis C notification rate was **10.4 per 100,000** (n=538), **12% increase** in rate since 2022.
- Since the peak in 2007, and excluding the effect of the pandemic on rates, rates had been decreasing over time
- The notification rate in males was more than double that in females
- Highest age specific notification rate was in 35–54-year-olds, trends in age specific rates stable in recent years
- Rates were higher in Dublin and Northeast, Dublin and Midlands and Mid-West health regions

Risk factors (available for 36%)

- **64% People who inject drugs (PWID)**
- **14% sexual exposure**
- 14% other risk factors
- 8% no risk factor identified

Country of birth (available for 52%)

- **40% Ireland**
- **42% Eastern Europe** – an increase since 2022 and earlier years
- 9% Central Europe
- 2% in Latin America
- 2% Western Europe
- 2% Asia
- 2% Africa

81% of cases born outside Ireland were born in an endemic country (anti-HCV prevalence $\geq 2\%$)



Hepatitis C in Ireland: public health implications and actions

- **Hepatitis C is a curable disease.** The HSE's aim is to detect, treat and cure all cases, preventing further spread and reducing case numbers
 - Highly effective [directly acting antiviral treatments](#) that **eradicate the virus in more than 95%** of cases are available free of charge, overseen by the HSE National Hepatitis C Treatment Programme (NHCTP)

- **Notification rates in 2022 and 2023 increased** by 16% and 12%, respectively. This may be due in part to the following factors:
 - Better detection, via increased testing
 - An increase in inward migration from countries of high endemicity to Ireland since early 2022

- **Testing/screening – increasing case ascertainment**
 - [National Hepatitis C Screening Guidelines](#) (2017) set out the key populations to test
 - Hepatitis C screening is routinely offered in drug addiction treatment and prison settings and to gay and bisexual men, and other men who have sex with men (gbMSM) in sexually transmitted infection (STI) clinics
 - Voluntary screening for migrants (free for International Protection Applicants (IPA)/Beneficiaries of Temporary Protection (BOTP))
 - ❖ [HSE Social Inclusion](#) pilot underway to offer HIV, hepatitis B and hepatitis C screening to all IPA and BOTP, ensure prompt access to treatment and improve monitoring and reporting of hepatitis and HIV testing and outcomes
 - ❖ Economic migrants and international students are recommended to have once-off screening if coming from an endemic country
 - Two mobile health units provide healthcare and screening for at-risk populations: [SafetyNet mobile health and screening unit](#), [Drugs, alcohol and Sexual health mobile unit](#)
 - St James's hospital Dublin has been carrying out hepatitis B, hepatitis C and HIV emergency department screening, on an opt-out basis, for patients undergoing blood sampling since 2015
 - Hepatitis C [home testing kits](#) are available free of charge for those with self-reported risk factors
 - Increased use of point of care/rapid diagnostic tests is leading to improved access to testing

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Hepatitis C virus





Hepatitis C virus (HCV)

- The hepatitis C virus was first identified in 1989
- Transmitted through exposure to blood from an infected person
- Most newly diagnosed cases of hepatitis C in developed countries, like Ireland, are in people who inject drugs (PWID) and migrants from higher endemicity countries
- Hepatitis C can also be transmitted from an infected mother to her baby and sexually
 - These modes of transmission are much less common
 - The risk of sexual transmission is higher in gay and bisexual men, and other men who have sex with men (gbMSM) and in people living with HIV
- Most cases are initially asymptomatic or mildly symptomatic - acute infection is rarely detected & there can be a long lag time between infection and diagnosis
- Approximately 70-75% of those infected develop chronic infection
- Chronic infection can cause liver inflammation, fibrosis, cirrhosis, liver cancer (hepatocellular carcinoma (HCC)), liver failure and death
- **Hepatitis C is now curable** - [Free antiviral treatment](#) is available in Ireland through the HSE National hepatitis C treatment programme, **>95% cure rate**, >7,200 people treated with DAA drugs between 2014 and 2023, leading to a significant decrease in the prevalence of chronic infection ([0.1%, 2021-2023](#))



Hepatitis C notifications in Ireland





Summary of hepatitis C notifications in Ireland in 2023

2023 cases	All cases	Cases born in Ireland	Cases born outside Ireland*	Country of birth not reported
Total	538	112	165	261
Males	377 (70%)	86 (77%)	104 (63%)	187 (72%)
Females	160 (30%)	26 (23%)	60 (37%)	74 (28%)
Median age males	43	42	44	44
Median age female	47	39	51	46
Born endemic country			133 (81%)	

- *81% of cases born outside Ireland were born in a country that is endemic for hepatitis C ($\geq 2\%$ anti-HCV prevalence)
- Risk factor information was reported for 76% of cases who were born in Ireland, with 78% reported to be PWID
- Risk factor/mode of transmission was less complete for cases born outside Ireland and information on both country of birth and risk factor was not available for just under half of all cases

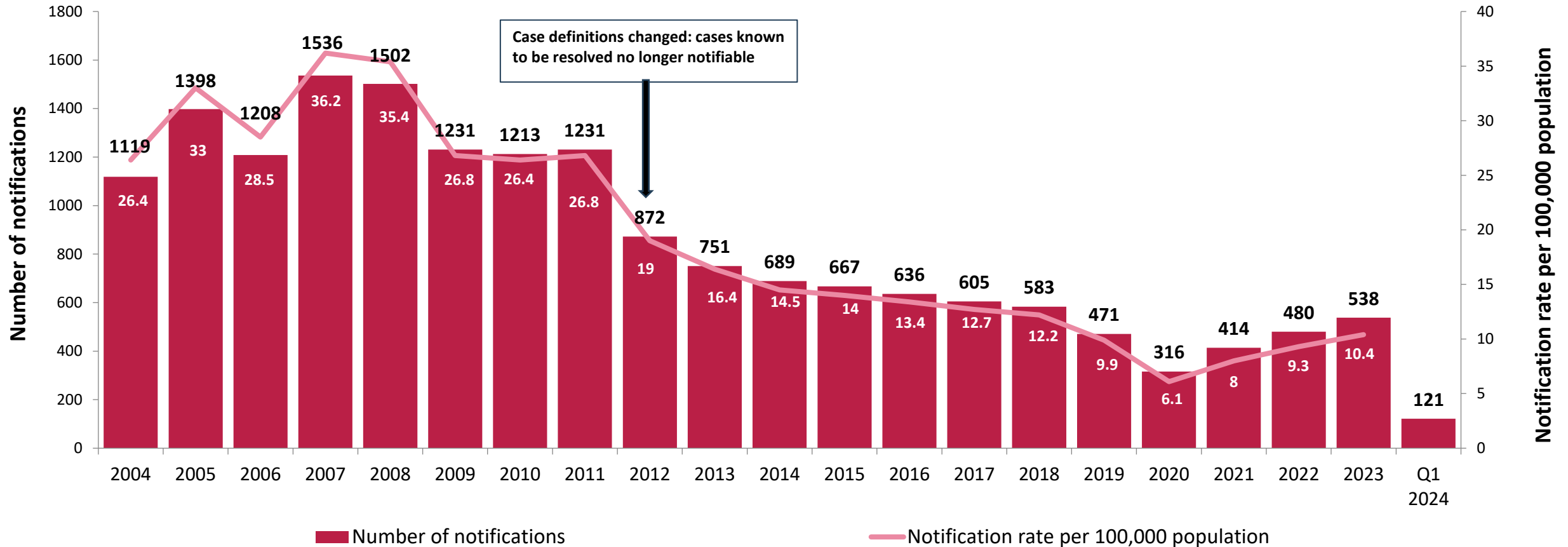


- Unknown, no risk factor data reported
- No known risk factor
- Other
- Blood/blood products in the past
- gbMSM sexual transmission
- Heterosexual transmission
- People who inject drugs





Number of hepatitis C notifications in Ireland, 2004 - Q1 2024 & notification rate per 100,000 population, 2004-2023

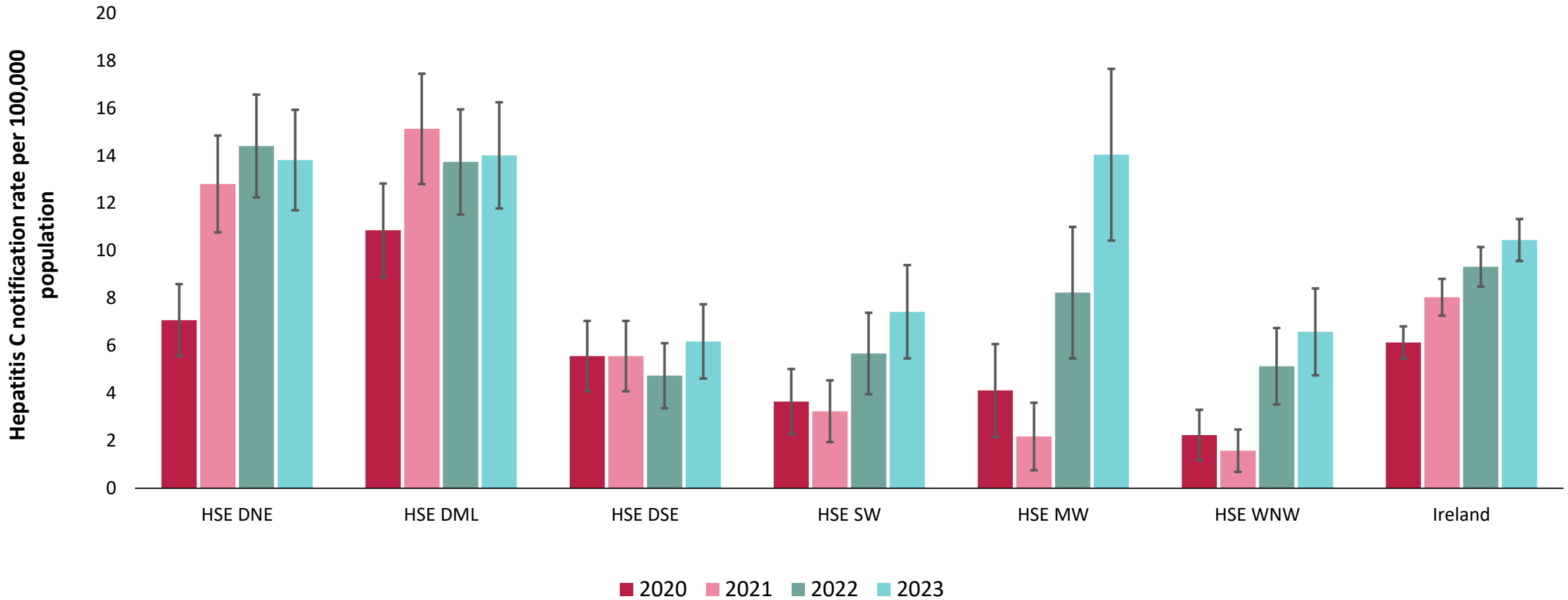


- Hepatitis C notifications decreased between 2012 and 2019 and further decreased during the COVID-19 pandemic in 2020 and 2021
- Notifications increased by 16%, returning to pre-pandemic level in 2022, and increased a further 12% in 2023 (538 cases, 10 per 100,000 population)
- Notifications in Q1 2024 were stable compared to Q1 2023





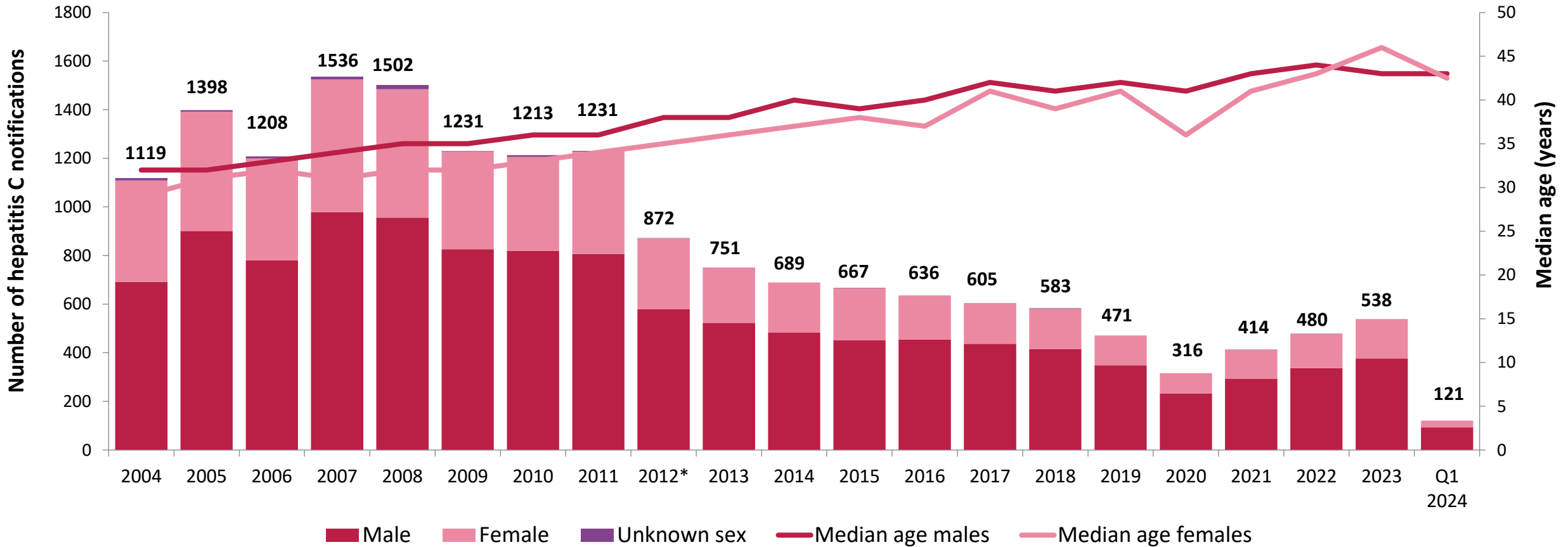
Hepatitis C notification rates per 100,000 population, by HSE health region, in Ireland, 2020-2023



■ The highest notification rates in 2023 were in HSE Dublin and North East, HSE Dublin and Midlands and HSE Mid West



Trends in hepatitis C notifications, by sex and median age, 2004 – Q1 2024, in Ireland

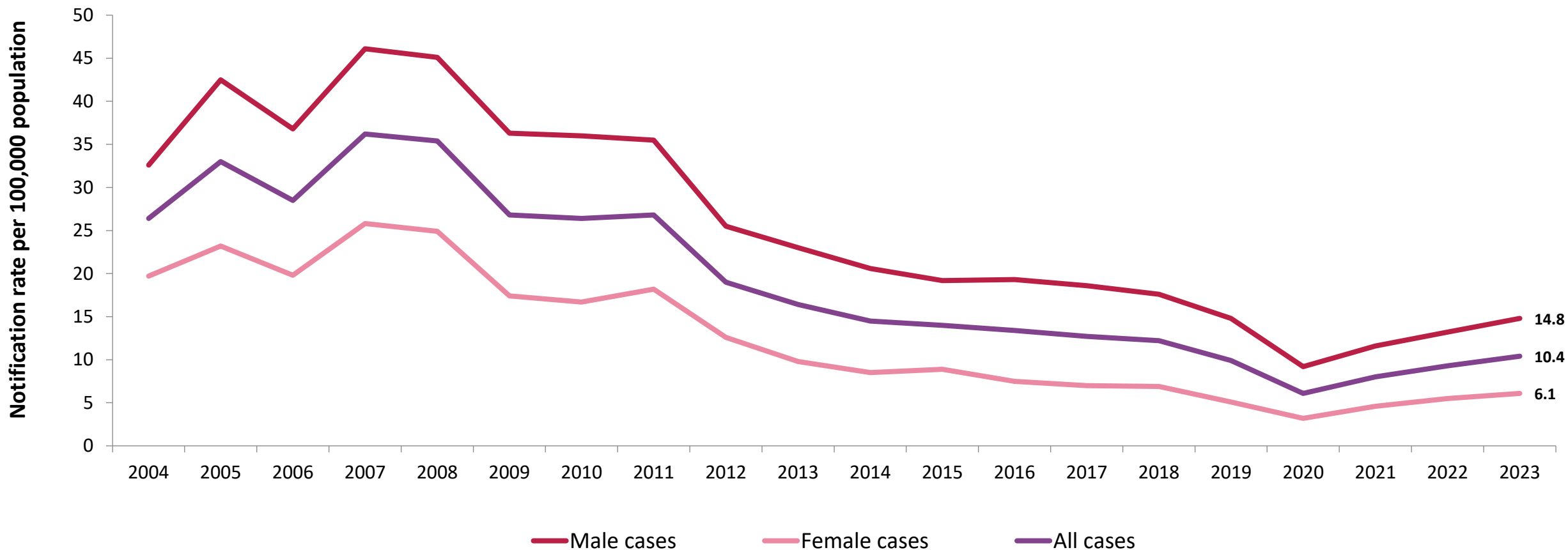


- The median age at diagnosis for hepatitis C cases has increased over time: 31 years in 2004 compared to 44 years in 2023
- Over two thirds of notified cases were male
- On average, male cases were 2 years older than females when diagnosed





Trends in sex specific notification rates per 100,000 population for hepatitis C in Ireland, 2004 – 2023

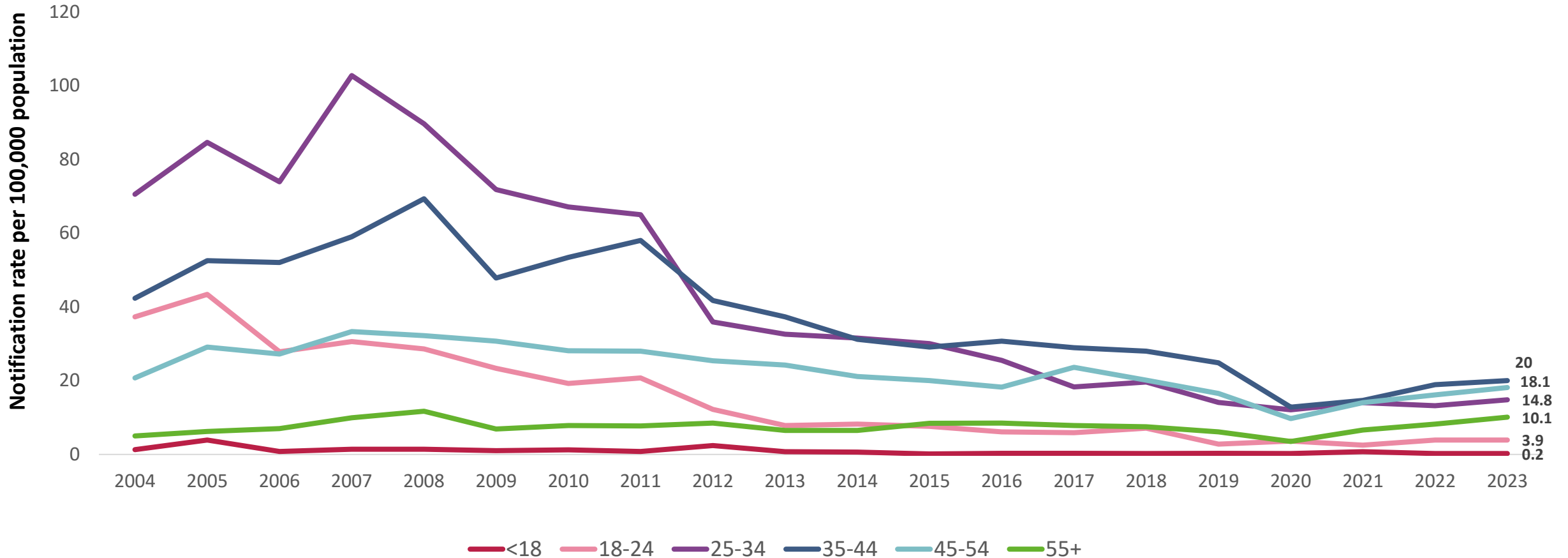


- Hepatitis C notification rates are consistently higher in males compared to females
- In 2023, 70% of notified cases were male (377 males, 160 females, sex not reported for 1 case)





Trends in age specific notification rates per 100,000 population for hepatitis C in Ireland, 2004 – 2023

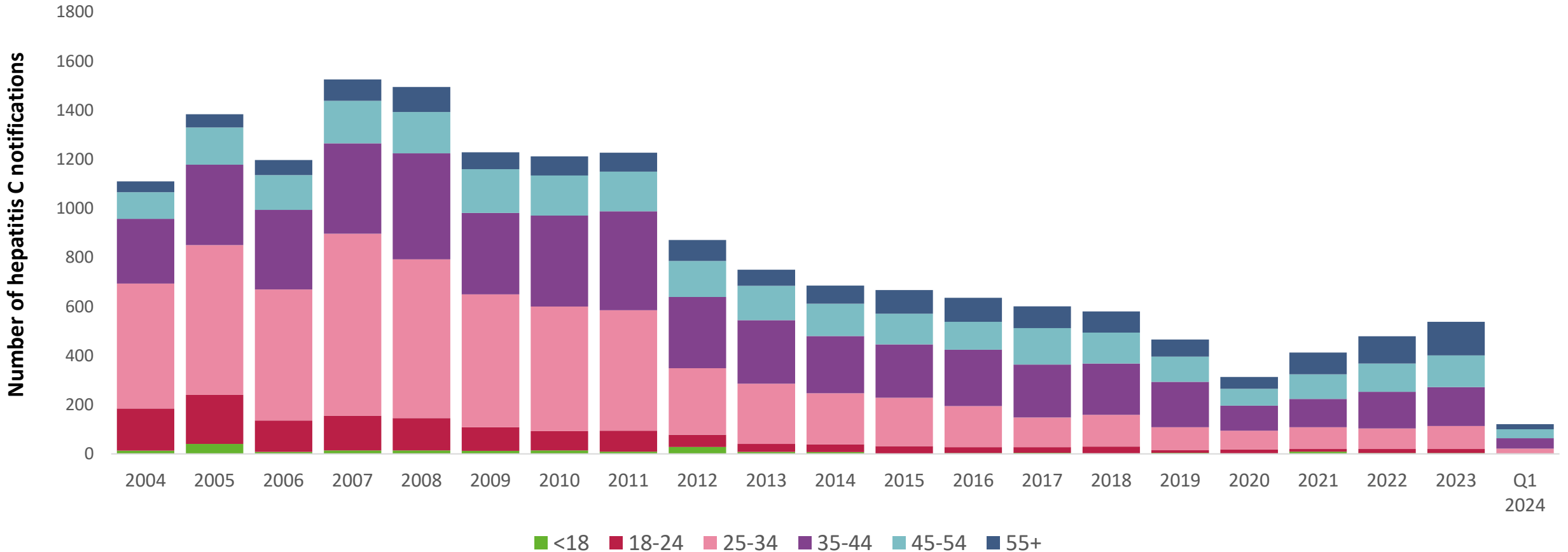


- The highest hepatitis C notification rates in 2023 were in people aged 35-54 years
- Notification rates have decreased over time in those aged <25 years





Number of hepatitis C notifications by age group (years) in Ireland, 2004 – Q1 2024

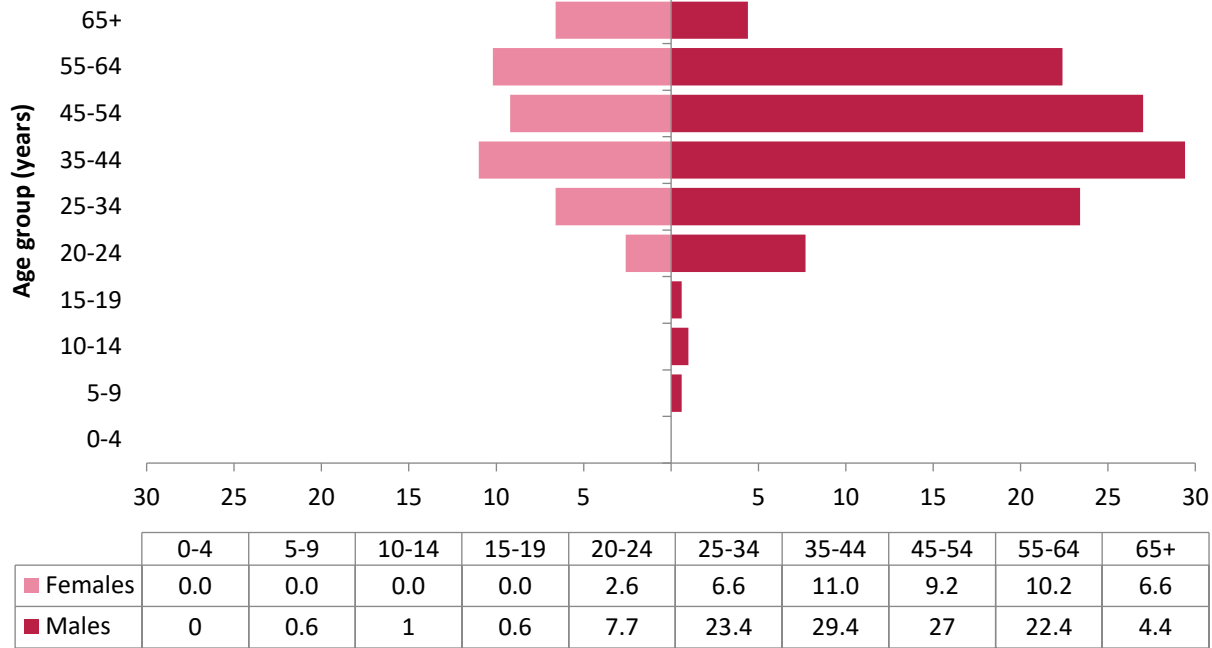


- The age profile for hepatitis C notifications has gradually increased over time
- Seventy nine percent of hepatitis C cases were 35 years or older in 2022 & 2023 compared to 38% in 2004

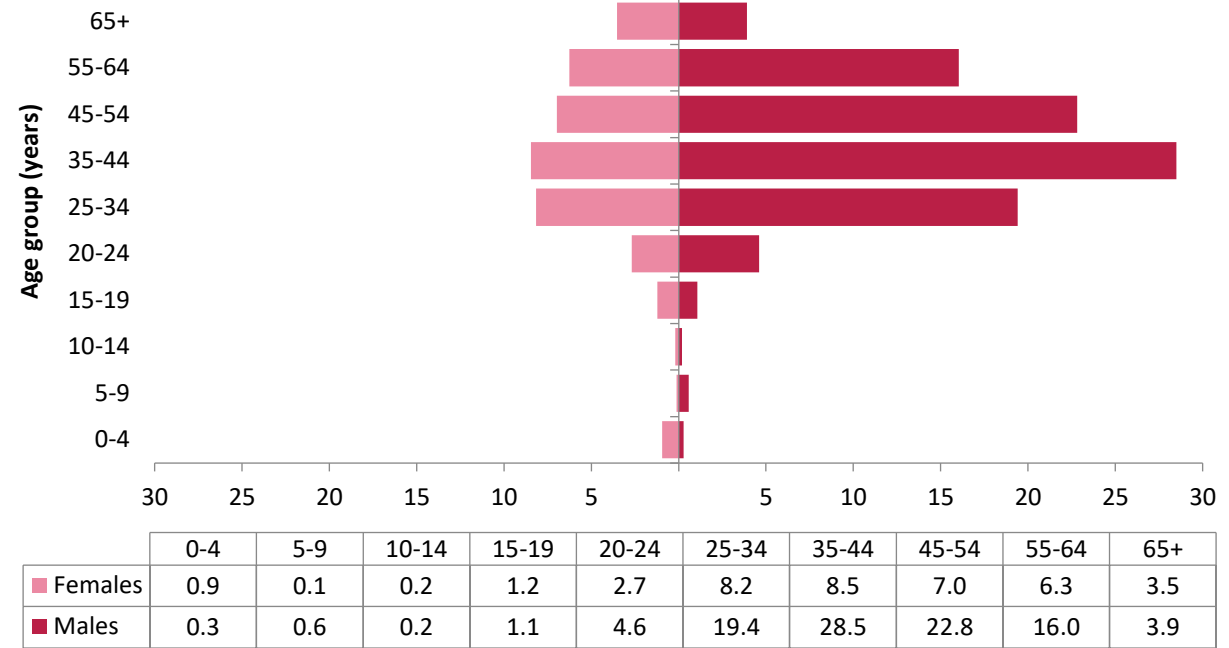




Hepatitis C rates by age and sex, 2023 and mean annual rates, 2019-2023



Hepatitis C notification rate per 100,000 population, 2023



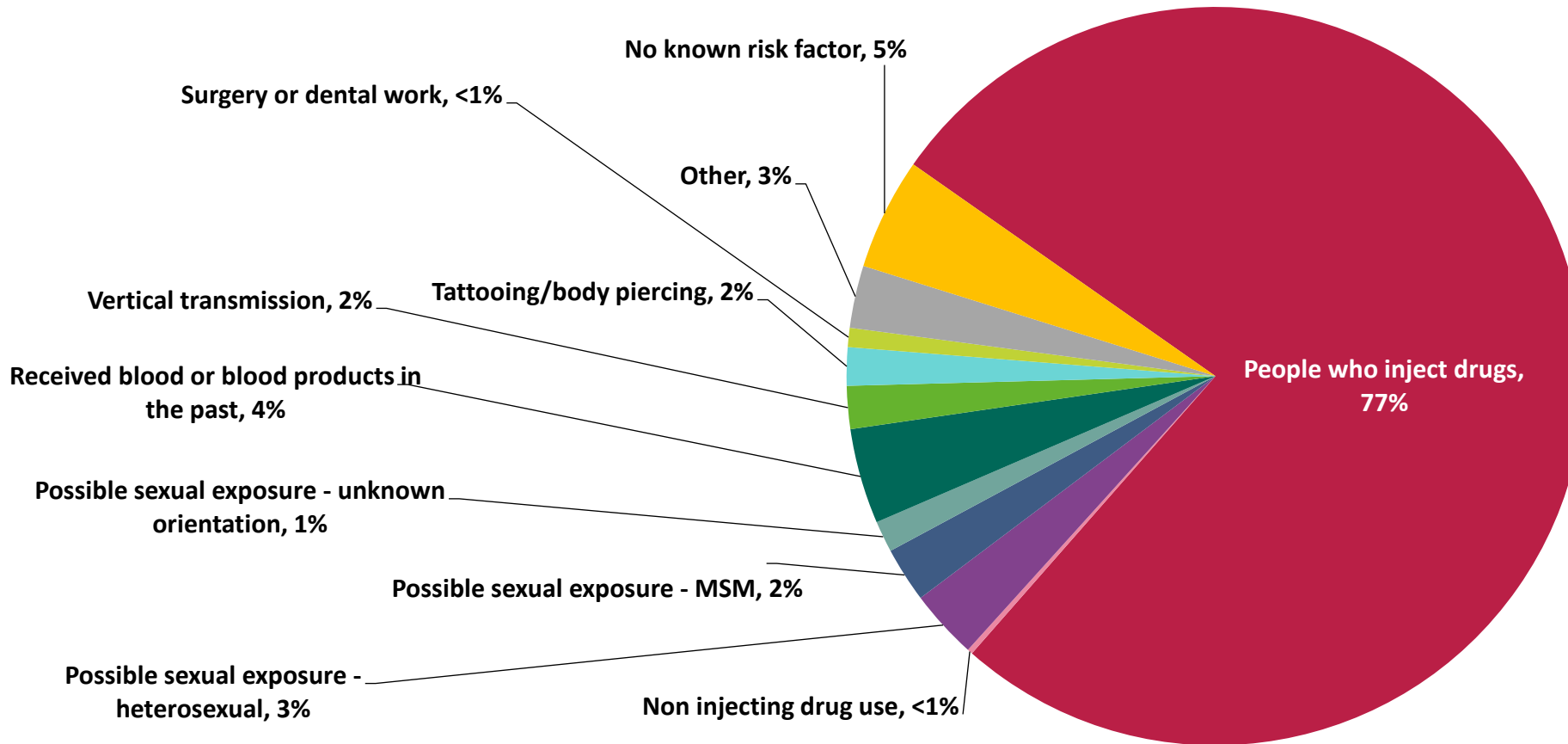
Mean annual hepatitis C notification rates per 100,000 population, 2019-2023

- The age and sex distribution for hepatitis C cases in 2023 was broadly similar to the 5-year period from 2019 to 2023
- 70% of cases were male in 2023 compared to 72% of cases notified 2019-2023
- The highest notification rate in 2023 was in males aged 35-54 years (28 per 100,000 population)
- The hepatitis C notification rate in people aged 20-24 years was low in 2023 (5 per 100,000 population)





Risk factor distribution for hepatitis C notifications in Ireland, 2007- 2023 (where data available - 50%, n = 6,922)

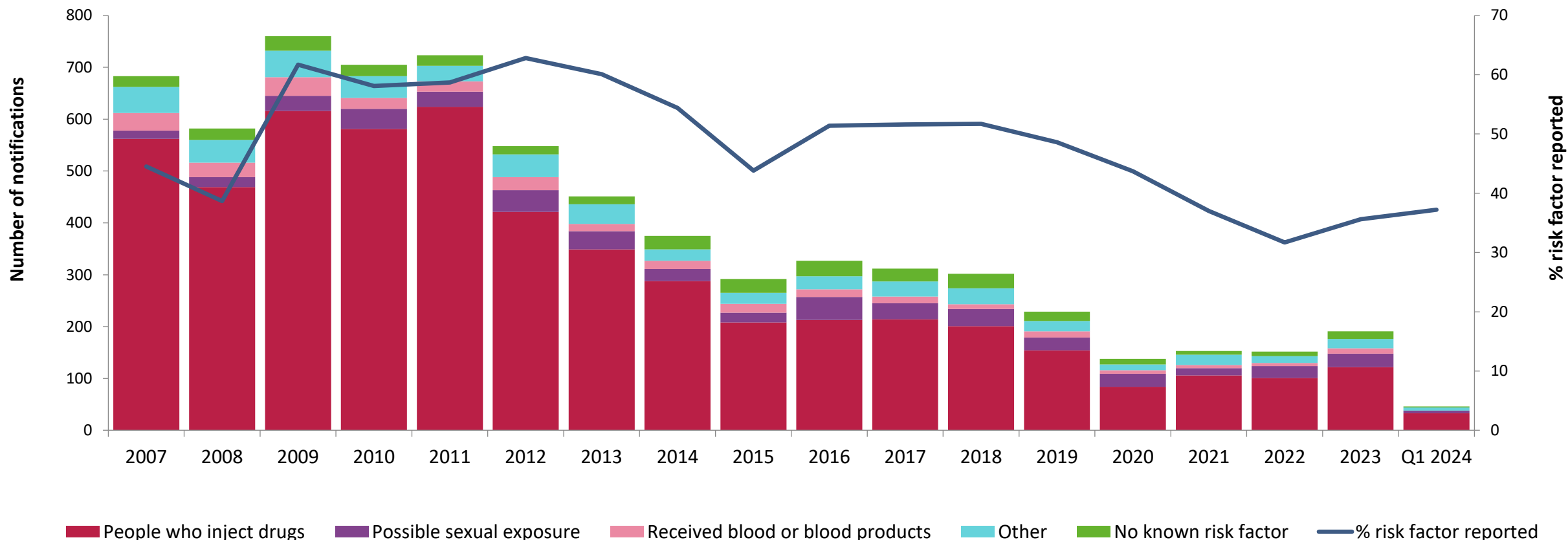


- Risk factor information was available for half of hepatitis C cases notified between 2007 and 2023
- Where risk factor was reported, 77% of cases of hepatitis C were in people who inject drugs
- The [risk of hepatitis C transmission through heterosexual sex](#) is generally considered to be low, and this may be over-reported in the notifications data
- No known risk factor refers to cases that were followed up by the Department of Public Health but for whom a risk factor was not identified





Trends in risk factor for hepatitis C notifications in Ireland, 2007- Q1 2024 (where data available - 50%, n = 6,967)

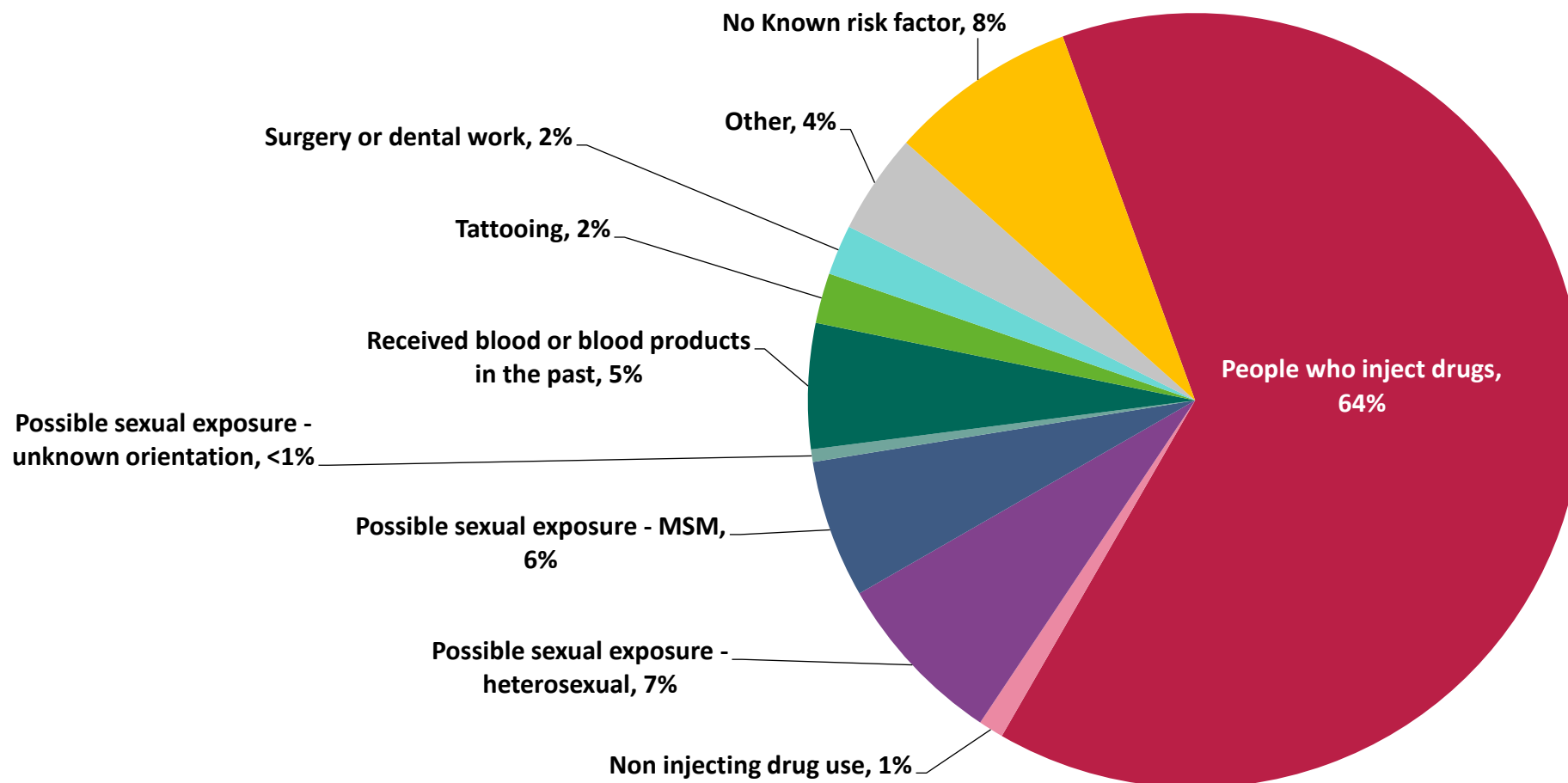


- Where risk factor data were reported, the predominant risk factor for hepatitis C in Ireland is injecting drug use
- No known risk factor refers to cases that were followed up by the Department of Public Health but for whom a risk factor was not identified
- **Note:** information on risk factor and country of birth was not reported for a significant proportion of hepatitis C cases – this should be taken into consideration when interpreting trends in risk factor





Risk factor for hepatitis C notifications in Ireland, 2023 (where data available - 36%, n = 191)

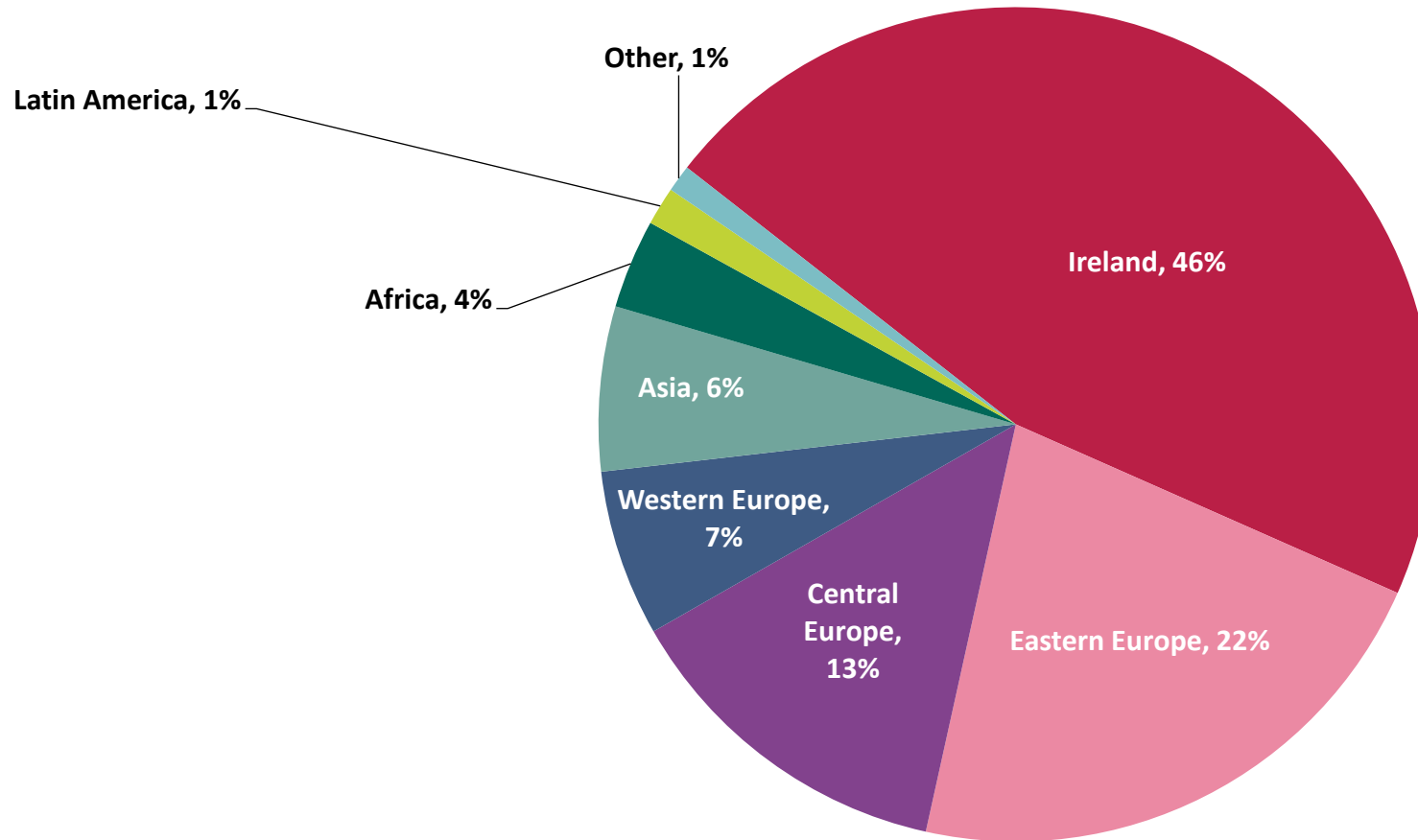


- Some information relating to risk factor was available for 36% of hepatitis C cases notified in 2023
- 64% were in people who inject drugs
- The [risk of hepatitis C transmission through heterosexual sex](#) is generally considered to be low, and this may be over-reported in the notifications data
- No known risk factor refers to cases that were followed up by the Department of Public Health but for whom a risk factor was not identified





Country/region of birth for hepatitis C notifications in Ireland, 2007- 2023 (where data available 30%, n = 4,107)

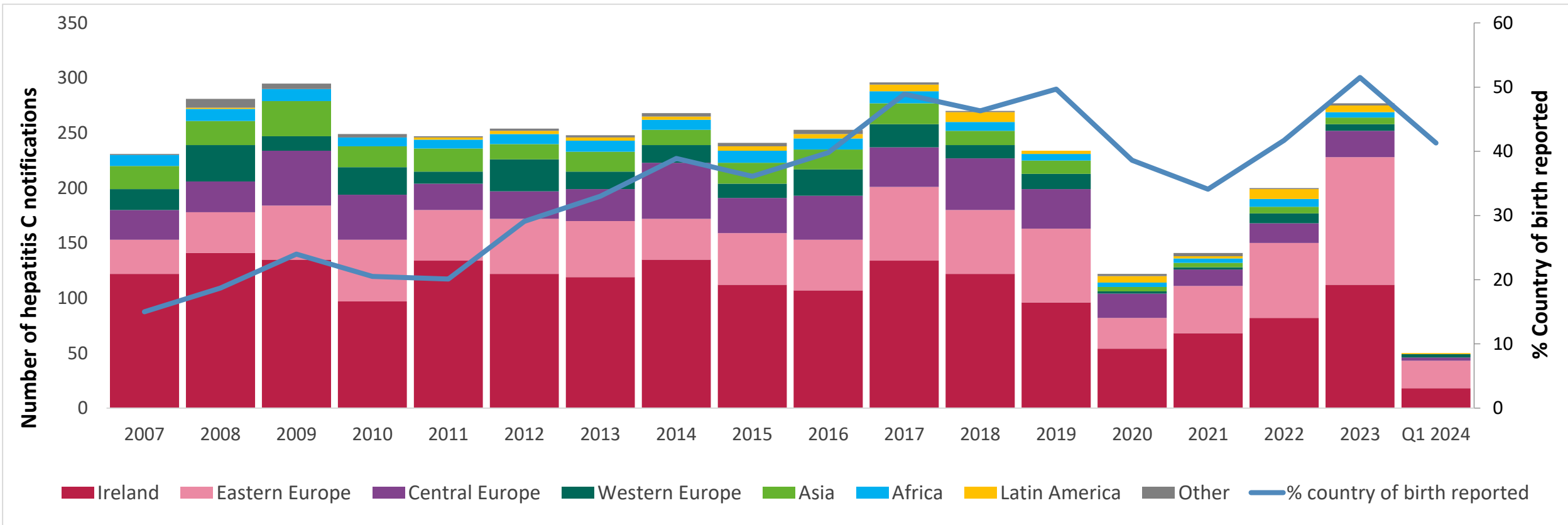


- Information on country of birth was reported for 30% of hepatitis C cases notified between 2007 and 2023
- Of these, 46% were born in Ireland, 22% were born in eastern Europe and 13% were born in central Europe
- 60% of the cases born outside Ireland were born in hepatitis C endemic countries ($\geq 2\%$ anti-HCV prevalence)
- The lack of data completeness should be taken into consideration when interpreting reported data on country of birth





Trends in country/region of birth for hepatitis C notifications in Ireland, 2007- Q1 2024 (where data available 30%, n= 4,157)

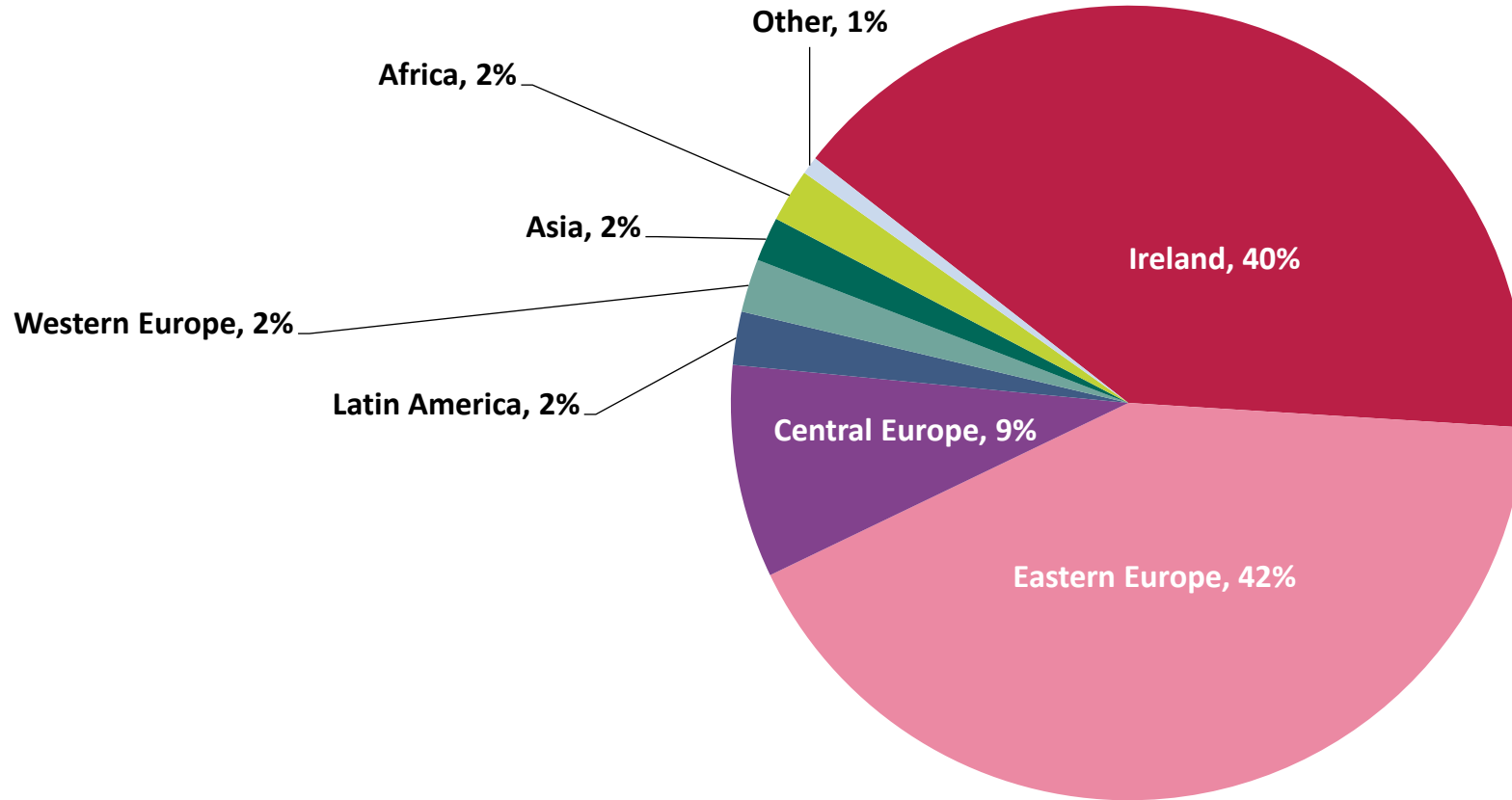


- Information on country of birth was reported for 30% of hepatitis C cases notified between 2007 and Q1 2024
- The proportion of notified hepatitis C cases born in eastern Europe increased from 30% in 2021 to 42% in 2023
- Most countries in eastern Europe are considered endemic for hepatitis C ($\geq 2\%$ anti-HCV prevalence)
- The lack of data completeness should be taken into consideration when interpreting trends in country of birth





Country/region of birth for hepatitis C notifications in Ireland, 2023 (where data available 52%, n = 277)



- Information on country of birth was reported for 52% of hepatitis C cases notified in 2023
- Of these, 40% were born in Ireland, 42% were born in eastern Europe and 9% were born in central Europe
- 81% of the cases born outside Ireland were born in hepatitis C endemic countries ($\geq 2\%$ anti-HCV prevalence)
- The lack of data completeness should be taken into consideration when interpreting reported data on country of birth
- see slide 8 for further information on risk factor by country of birth for cases reported in 2023





Hepatitis C prevalence in Ireland (people living with chronic infection)

- **Diagnosed cases: approximately 17,500** cases of hepatitis C were notified in Ireland between 2004 and Q1 2024
 - Includes some duplicates (full names not always provided/name variations)
 - Includes some spontaneously resolved cases pre-2012 (25-30% notifications 2004-2011 ~3,000 cases)
 - Includes cases that were chronically infected when notified but have since been successfully treated (>7,200 cases in Ireland treated with DAA drugs, additional cases treated with previously available drugs)
 - A proportion of notified cases are also likely to have died – 33% of [hepatitis C cases diagnosed in Scotland](#) estimated to have died by the end of 2021
- [HPSC/NVRL study](#): leftover National Virus Reference Laboratory sera 2014-2016, estimated viraemic HCV prevalence was 0.57% of adults (95% CI: 0.4-0.8), 19,606 people (95% CI: 13,758-27,860)
- **More recent viraemic hepatitis C prevalence estimates**
 - [2018 Antenatal screening data](#): viraemic infection **0.19%** based on specimens from 2018 from Rotunda and National Maternity hospital
 - [2019 Modelling study](#): viraemic HCV infection **0.21%** (95% CI: 0.13-0.35) or 7,844 individuals (95% CI: 4,711-13,035)
 - [The Coombe maternity hospital](#): viraemic infection decreased from 0.5% in 2015 to **0.1%** in 2022
 - [Seroprevalence study using specimens from 2021-2023](#): viraemic HCV infection **0.1% prevalence** (3,500-5,000) based on >14,000 anonymised residual sera from a nationwide selection of hospital laboratories. 0.5% anti-HCV positive (high clearance rate, most likely due to the impact of DAA treatment)



Resources for advice on preventing hepatitis C infection and accessing testing

- **Free hepatitis C home testing** is available from the HSE for those with self-reported risk factors: [Order a hepatitis C test](#)

HSE Social inclusion

▪ HSE Addiction services

- Information on where to access [addiction support](#), including free screening for BBV screening & vaccination against hepatitis A and B
- <https://drugs.ie/> provides information about drugs, advice on harm reduction and information on treatment
- Bloodborne virus screening, including hepatitis C, is available in a range of addiction treatment settings

▪ HSE Intercultural health [Overview of programmes](#)

- Health services include voluntary communicable disease screening for IPAs and BOTPs
- Safetynet primary care <https://www.primarycaresafetynet.ie/> provides medical services, including infectious disease testing to those without access to healthcare, including homeless people, people who use drugs and migrants

HSE sexual health and wellbeing

- Provides **free** supports for preventing sexually transmitted infections (STIs) [including condoms](#) and [vaccinations](#)
- STI testing, including hepatitis C for gbMSM and those with other risk factors, is provided free of charge in **public sexual health or GUM clinics**
- [National free home STI testing](#), including hepatitis C for gbMSM, is available from the HSE
- Resources for gbMSM are available at www.man2man.ie

- St James's hospital Dublin has been carrying out hepatitis B, hepatitis C and HIV emergency department screening, on an opt-out basis, for patients undergoing blood sampling since 2015



Limitations

- Hepatitis C became notifiable in Ireland in 2004. Notifications include some (but not necessarily all) cases diagnosed before 2004, and some duplicates (full names not reported for all notifications)
- Prior to 2012 the hepatitis C case definitions did not explicitly exclude cases that were known to be resolved (not viraemic at time of diagnosis) and hepatitis C antigen or RNA results were not commonly reported. It is likely that at least one quarter of cases notified 2004-2011 were past infections with spontaneously resolved infection or successfully treated infection.
- Because hepatitis C can be asymptomatic, or mildly symptomatic for some time, cases may be infected for years before they are diagnosed and notified
- Most cases are identified through screening in high-risk settings and **notification trends do not represent trends in incidence** of infection
- Hepatitis C notification data completeness is a barrier to understanding the current epidemiology of hepatitis C in Ireland – information on risk factor and/or country of birth were available for just over half of notified cases in 2023
- In 2015 the World Health Organization (WHO) published a global health sector strategy on viral hepatitis, and a corresponding [Action plan for the European Region](#), with the aim of eliminating viral hepatitis as a public health threat by 2030
 - Ireland has implemented a lot of the WHO recommendations, but hepatitis C testing and mitigation measures are not being monitored in some settings, making it difficult to measure how well guidelines are being implemented and the impact of prevention and control programmes



Technical notes

1. Data are based on statutory notifications and were extracted from Computerised Infectious Disease Reporting (CIDR) system on 3rd June 2024. Data are provisional and subject to ongoing review, validation and update. As a result, figures in this report may differ from previously published figures.
2. Only laboratory confirmed cases notified to CIDR are presented in these slides
3. Data are presented based on date of notification to the Health Protection Surveillance Centre (HPSC).
4. Population data were taken from Census 2006, 2011, 2016 and 2022 from the Central Statistics Office (CSO)
5. Rates per 100,000 population were calculated using the 2006 census for notifications 2004-2008, the 2011 census for notifications 2009-2013, the 2016 census for notifications 2014-2019 and the 2022 census for notifications 2020-2023.
6. The COVID-19 pandemic (2020 and 2021) impacted hepatitis surveillance data through reduced migration and potential reductions in case ascertainment and in transmission for acute infections.
7. The counties covered by each of the six HSE Health Regions are as follows:
 - HSEDNE: HSE Dublin and North-East - North Dublin, Meath, Louth, Cavan, and Monaghan
 - HSEDM: HSE Dublin and Midlands - Longford, Westmeath, Offaly, Laois, Kildare, West Wicklow, parts of South Dublin
 - HSEDSE: HSE Dublin and South-East - Tipperary South, Waterford, Kilkenny, Carlow, Wexford, East Wicklow, parts of South Dublin
 - HSEMW: HSE Mid-West - Limerick, Tipperary and Clare
 - HSESW: HSE South-West - Kerry and Cork
 - HSEWNW: HSE West and North-West - Donegal, Sligo, Leitrim, West Cavan, Roscommon, Mayo, and Galway