

Annual Epidemiological Report

November 2019

HIV in Ireland, 2018

Key Facts

Overall numbers and rates

- There were 523 diagnoses of HIV notified in 2018, a rate of 11.0 per 100,000 population.
- This was a 7% increase compared to 2017 and follows a relatively steady notification rate between 2015 and 2017 (10.1-10.5 per 100,000 population).
- 42% of HIV diagnoses were in people who had a previous HIV diagnosis abroad.
- The rate among people without a previous diagnosis abroad was 6.4 per 100,000 population, similar to the rate among this group in 2017 (6.2 per 100,000 population).

Age and Sex

- 79% of diagnoses were in men.
- Most people (79%) diagnosed in 2018 were aged between 25 and 49 years.

Probable route of transmission

- The highest proportion of diagnoses (56%) was among men who have sex with men (MSM). Notifications among MSM increased by 12% between 2017 and 2018.
- Heterosexuals accounted for 31% of diagnoses, a slight decrease compared to 2017.
- Transmission due to injecting drug use remained low, accounting for 3% of diagnoses.

Region of birth

- 71% of people diagnosed with HIV in 2018 were born abroad, 21% were born in Ireland, and 8% did not have information reported on their country of birth.
- The rate of HIV diagnosis among those born outside Ireland has increased substantially since 2011 (from 18.4 per 100,000 in 2011 to 45.7 per 100,000 in 2018).

Stage of infection

- The proportion presenting late in 2018 was 49% (excluding people who were previously diagnosed HIV positive abroad).
- Groups with the highest proportion presenting late were: females; those aged 40 years and older; those born in sub-Saharan Africa; those living outside HSE East; and people who inject drugs (PWID).

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Background

HIV is of major public health importance in Ireland and worldwide. Surveillance of HIV is vital for understanding and responding to the latest trends and features of the HIV epidemic in Ireland. This report provides the latest data on the epidemiology of HIV in Ireland. A slide set on the latest trends of HIV in Ireland which accompanies this report is also available at <http://www.hpsc.ie/a-z/hivandaids/hivdataandreports/>. Further information on HIV can be found at www.sexualwellbeing.ie.

Data Collection

In Ireland, HIV is notifiable under the Infectious Disease Regulations since 2011. Case based data on HIV has been collected in Ireland since 2003, with all cases reported via the Computerised Infectious Disease Reporting (CIDR) system from 2012 onwards.

In January 2015, there was a change to the surveillance case definition for HIV for HSE East (Dublin, Kildare and Wicklow). Previously, confirmatory testing by the National Virus Reference Laboratory (NVRL) was required on two separate samples prior to notification. From January 2015 onwards, confirmatory testing by NVRL on one sample was sufficient for notification purposes. This change was applied to notifications from all other HSE areas in January 2016. This improved the sensitivity of the surveillance system and resulted in increased notifications and more timely notifications since 2015.

HIV enhanced forms are completed by the practice or clinic where HIV is diagnosed (or the referral clinic) and provided to Departments of Public Health who enter data onto CIDR. National data analysis is then carried out by the Health Protection Surveillance Centre (HPSC). Completed enhanced surveillance forms were received for 87% of HIV notifications in 2018 and the proportion completed by HSE area ranged from 67% to 100% (as of 13th September 2019). Data completeness of key variables is described in Table A1 in the Appendix.

Data for this report were extracted from CIDR on 13th September 2019 and were correct at the time of publication. For further details on methods, see page 24 of this report.

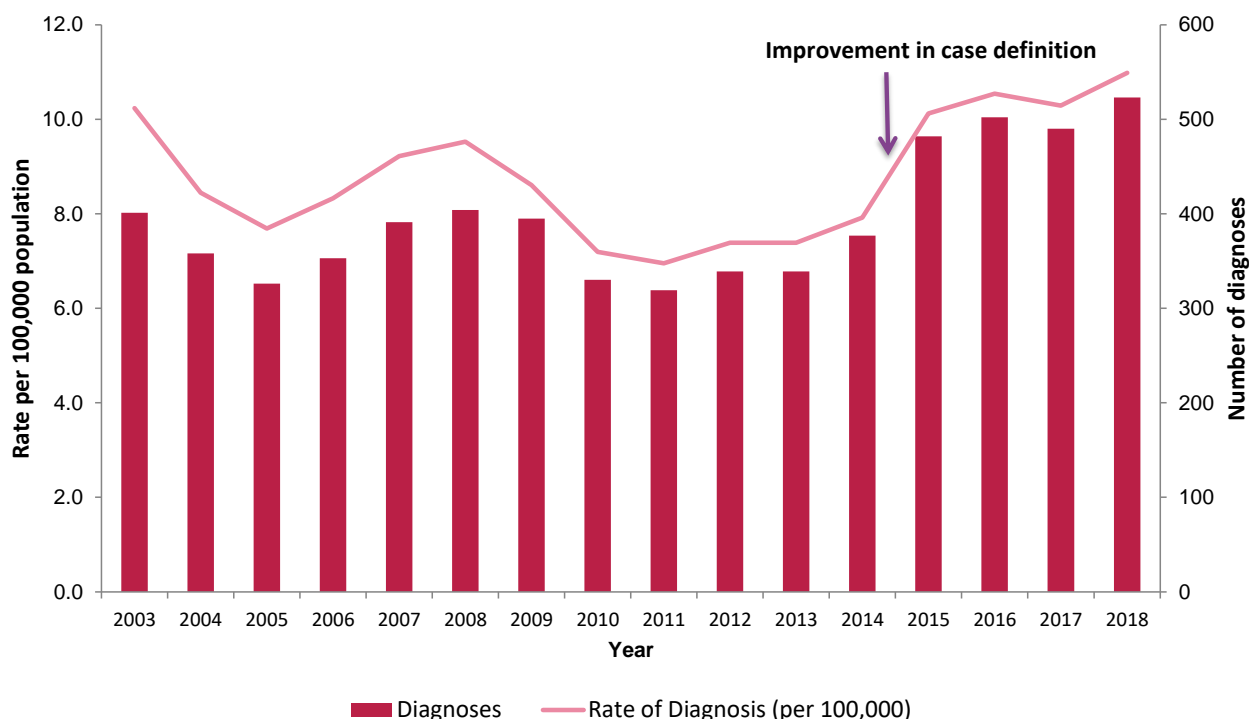
Epidemiology

HIV notifications

In 2018, there were 523 HIV diagnoses in Ireland, corresponding to a notification rate of 11.0 per 100,000 population¹. This is a 7% increase compared to 2017 (n=489) following a steady notification rate between 2015 and 2017. Figure 1 shows the trend in HIV diagnoses and rates from 2003 to 2018. Table 1 describes HIV diagnoses in Ireland from 2015 to 2018.

Since the early 1980's and to the end of 2018, 9,344 HIV diagnoses have been reported in Ireland. Through statistical modelling work done by HPSC in partnership with UNAIDS, it is estimated that the number of people living with HIV in Ireland at the end of 2018 was approximately 7,200 (95% CI 6,200-8,000) with 10% of these people living with undiagnosed HIV. Of the people diagnosed, it is estimated that 88% are on antiretroviral therapy (ART) and of those on ART, it is estimated that 95% have an undetectable viral load. The full report describing these estimates in more detail can be found at <https://www.hpsc.ie/a-z/hivandaids/hivdataandreports/>

Figure 1. Trend in HIV diagnoses and rates of diagnosis in Ireland, 2003 to 2018



¹Based on 2016 census

Table 1. Summary of HIV diagnoses in Ireland, 2015-2018

		2015	2016	2017	2018
Total number of diagnoses		482	502	489	523
Rate (per 100,000 population) ¹		10.1	10.5	10.3	11.0
Number of diagnoses excluding those previously diagnosed HIV positive abroad		355	313	293	306
Rate excluding those previously diagnosed HIV positive abroad (per 100,000 population)		7.5	6.6	6.2	6.4
Sex	Males (%)	76.6	77.7	76.5	78.6
	Females (%)	23.4	22.3	23.5	21.2
	Unknown (%)	0.0	0.0	0.0	0.2
	Male to female ratio	3.3	3.5	3.3	3.7
Age	Median age of adult cases (years)	34	35	35	35
	Age range of adult cases (years)	18-72	19-74	18-75	18-71
	Young people 15-24 years (%)	8.1	7.8	8.4	7.3
	Older people (50+) (%)	7.1	7.8	10.8	13.8
Probable route of transmission	Sex between men (%)	51.5	54.6	53.6	56.0
	Heterosexual sex (%)	27.2	28.3	34.4	30.8
	Injecting drug use (%)	10.2	4.0	3.7	2.7
	Mother to Child (%)	1.0	0.6	0.0	0.8
	Other (%)	0.8	0.4	1.4	0.4
	Unknown (%)	9.3	12.2	7.0	9.4
Region of birth	Ireland (%)	31.1	26.1	26.8	20.8
	Abroad (%)	56.4	63.7	64.2	70.9
	Unknown (%)	12.5	10.2	9.0	8.2
Co-infections	Acute STI (%)	14.1	13.4	14.1	12.8
	TB (%)	1.2	2.4	3.5	1.9
Stage of infection	Late presentation ² (%)	55.3	47.5	55.3	49.3
	Advanced HIV infection ³ (%)	29.9	25.8	32.7	30.4

² CD4 count of less than 350 cells/ μ l or AIDS indicator illness at diagnosis, excludes people diagnosed previously abroad

³ CD4 count of less than 200 cells/ μ l or AIDS indicator illness at diagnosis, excludes people diagnosed previously abroad

Age and Sex

Seventy nine percent (n=411) of people diagnosed with HIV in 2018 were male with 21% (n=111) female (one unknown sex).⁴ This results in a male-female ratio of 3.7. Table 2 provides a breakdown of diagnoses in 2018 by age and sex.

Most people (79%) diagnosed in 2018 were aged between 25 and 49 years. The median age of adult cases was 35 years (range: 18-71 years) which is unchanged from that in recent years. The median age was 35 years in both men (range: 19-71) and women (range: 21-65 years). Seven percent of diagnoses were in young people (15-24 years) which is similar to previous years. Fourteen percent of diagnoses were in those aged 50 and older, an increase compared to previous years (11% in 2017, 8% in 2016, 7% in 2015).

Figure 2 shows age specific rates by sex. The rate of HIV diagnoses was over three-fold higher among men (17.5 per 100,000) compared to women (4.6 per 100,000) and men had higher age-specific rates than women in all age groups. The highest rate in men was in those aged 25-29 years while the highest rate in women was in those aged 30-34 years (see Figure 2). Figure 3 and 4 show the trend in HIV rates by age group in males and females.

Table 2. HIV diagnoses in Ireland by age group and sex, 2018

Age Group (yrs)	Male		Female		Total ⁵	
	N	%	N	%	N	%
<15	0	0.0	1	0.9	1	0.2
15-19	1	0.2	0	0.0	2	0.4
20-24	31	7.5	5	4.5	36	6.9
25-29	81	19.7	16	14.4	97	18.5
30-34	89	21.7	32	28.8	121	23.1
35-39	63	15.3	21	18.9	84	16.1
40-44	40	9.7	13	11.7	53	10.1
45-49	46	11.2	11	9.9	57	10.9
50+	60	14.6	12	10.8	72	13.8
Total	411	100.0	111	100.0	523	100.0

⁴ New HIV diagnoses totals for men and women are based on gender identity and include trans people.

⁵ Total for 15-19 years includes one person with sex not reported

Figure 2. Age- and sex- specific rates of HIV diagnoses in Ireland, 2018⁶

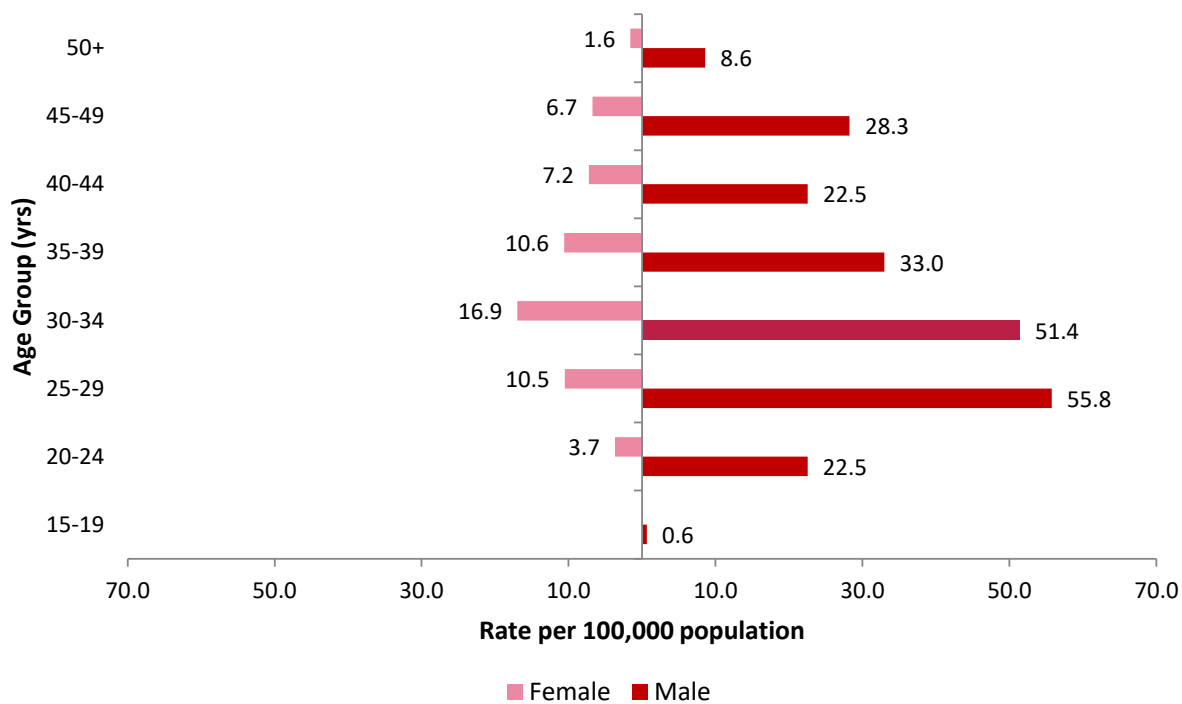
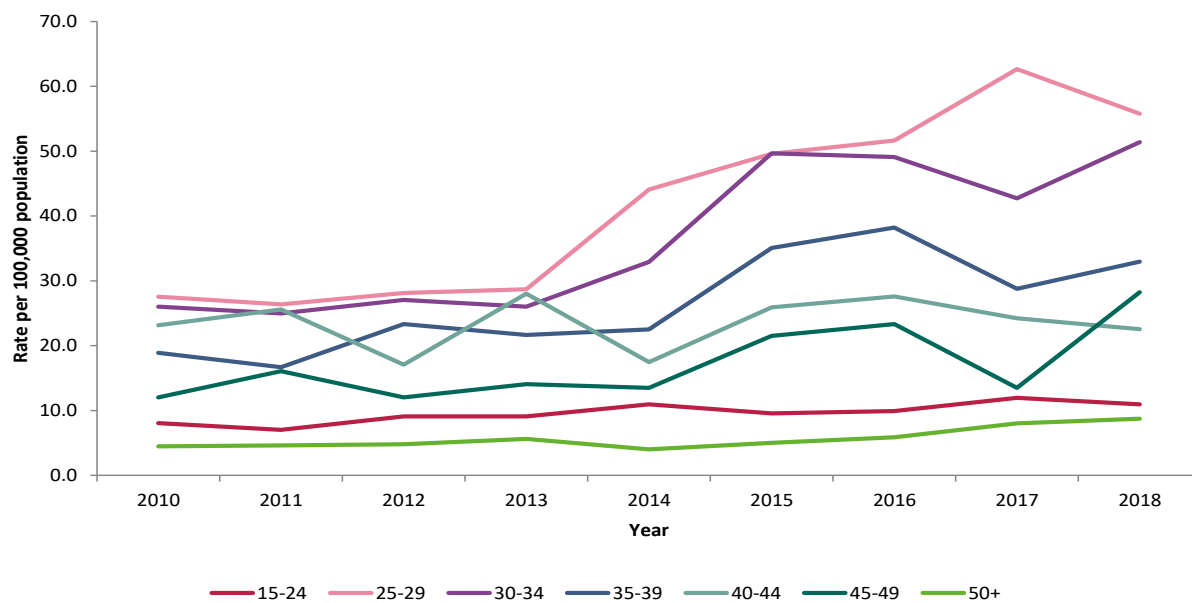
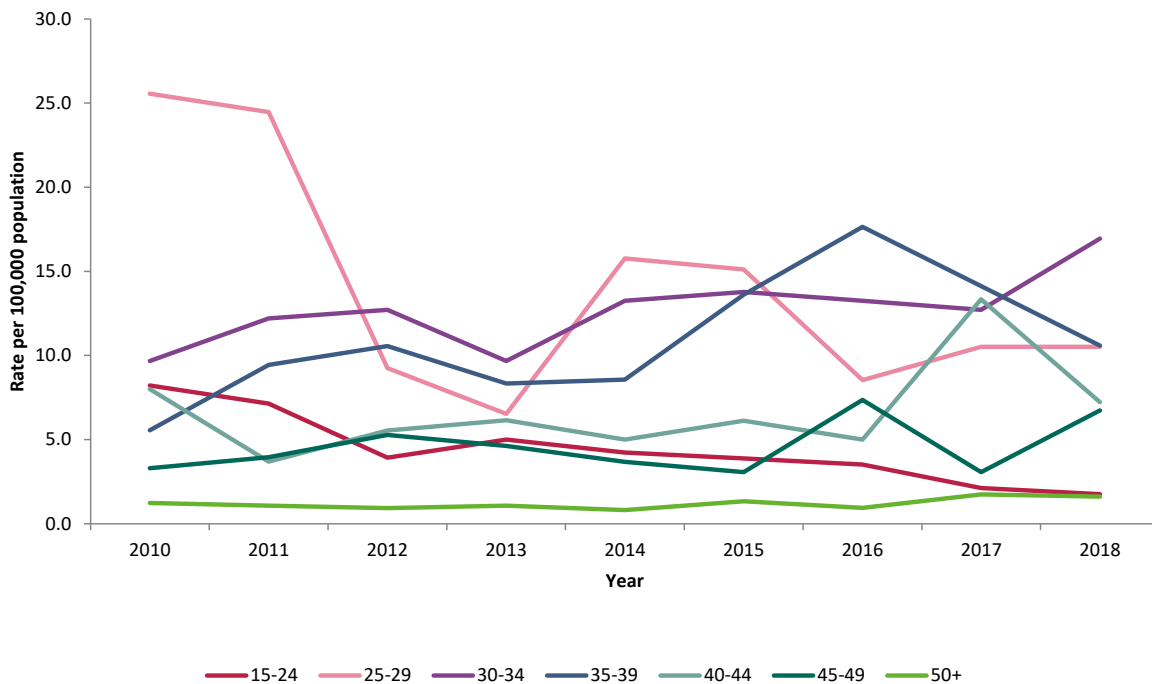


Figure 3. Trend in HIV rates in males in Ireland by age group, 2010 to 2018



⁶ Excludes those <15 years

Figure 4. Trend in HIV rates in females in Ireland by age group, 2010 to 2018



Probable route of transmission

Figure 5 displays the trend in HIV diagnoses by probable route of transmission. Table 3 describes the characteristics of people diagnosed with HIV by probable route of transmission. Transmission was not reported or reported to be unknown for 9% of diagnoses in 2018.

Men who have sex with men

Men who have sex with men are the group most affected by HIV in Ireland and accounted for 56% (n=293) of diagnoses in 2018. This is a 12% increase compared to the number of diagnoses in 2017 (n=262) and is the highest number of diagnoses reported in this group since case based reporting began in 2003. Of the diagnoses among MSM in 2018, half were previously diagnosed abroad.

Heterosexual transmission

Heterosexual transmission accounted for 31% (n=161) of HIV diagnoses in 2018. This was a slight decrease compared to 2017 (n=168). Ninety four women and 67 men were reported to have acquired HIV through heterosexual sex in 2018, making heterosexual contact the most common HIV transmission method in women and the second most common in men. Of note, 40% of heterosexual females and 30% of heterosexual males were previously diagnosed positive in another country.

People who inject drugs

The number of people who acquired HIV through injecting drug use in Ireland remains low and accounted for 3% (n=14) of diagnoses in 2018. Of the 14 diagnoses, 13 were male and one was female.

Mother to child transmission

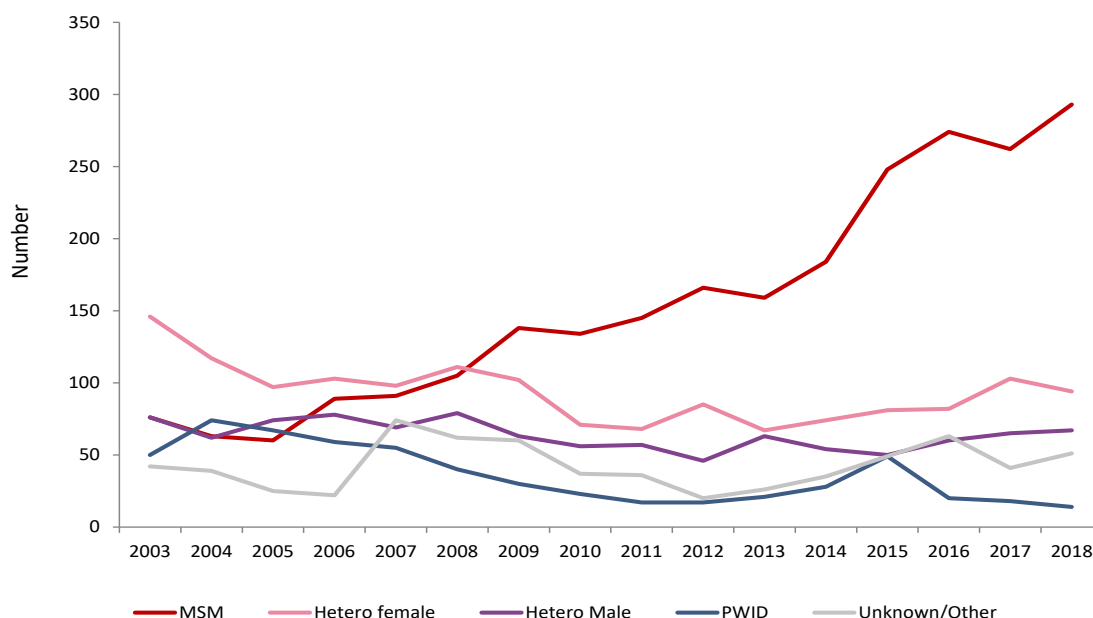
There were four cases where the probable route of transmission was attributed to Mother to Child Transmission (MTCT). Three of these cases were adults and one was a paediatric case. All four cases were born outside Ireland.

The Rainbow Clinic in the Our Lady's Children's Hospital in Crumlin reported that there were 77 babies born to HIV infected mothers in Ireland during 2018. At the time of this report, (based on serial HIV PCR testing); 76 infants are not infected, and one remains of indeterminate status (i.e. does not meet the criteria for HIV infection and are <18 months at time of test).

Trans communities⁷

Since reporting of data on gender identity was included in HIV surveillance in mid-2018⁸, five new diagnoses were recorded among trans people in 2018 (all five were trans female). These cases are included as female throughout the report.

Figure 5. Trend in HIV diagnoses in Ireland by probable route of transmission, 2003 to 2018



⁷ Trans is an umbrella term that refers to all people whose gender identity is different to the gender given at birth. This includes trans men, trans women and other gender identities.

⁸ Data on gender identity were available for 56% of HIV diagnoses in 2018

Table 3. Characteristics of people diagnosed with HIV in Ireland by probable route of transmission, 2018[†]

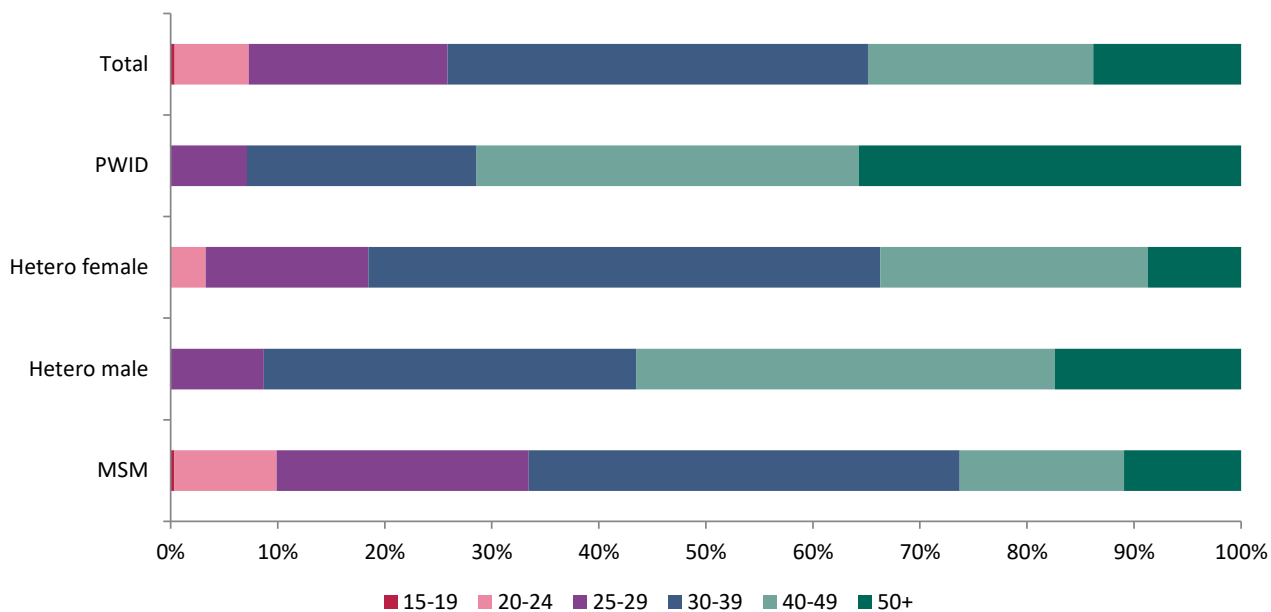
		MSM	Hetero Female	Hetero Male	PWID
Total number of notifications		293	94	67	14
Age	Median age (years)	33	35	43	47
	Age range (years)	19-71	21-65	26-69	28-61
	Young people (15-24) (%)	9.9	3.2	0.0	0.0
	Older people (50+) (%)	10.9	8.5	17.9	35.7
Region of birth	Ireland (%)	23.9	8.5	23.9	57.1
	Latin America & Caribbean (%)	42.7	3.2	3.0	0.0
	Sub-Saharan Africa (%)	3.4	75.5	58.2	0.0
	Western Europe (%)	11.6	1.1	1.5	7.1
	Central & Eastern Europe (%)	6.8	5.3	6.0	28.6
	Other (%)	7.8	4.3	4.5	0.0
	Unknown (%)	3.8	2.1	3.0	7.1
Coinfections	Acute STI (%)	20.5	3.2	4.5	0.0
	TB (%)	1.0	1.1	7.5	0.0
Previous history of testing abroad	Yes (%)	49.9	40.4	29.9	14.3
	No (%)	43.3	40.4	61.2	71.4
	Unknown (%)	6.8	19.2	8.9	14.3
Stage of infection	Late presentation ⁹ (%)	41.4	54.1	58.3	75.0
	Advanced HIV infection ¹⁰ (%)	21.6	37.8	47.2	12.5

⁹ CD4 count of less than 350 cells/ μ l or AIDS indicator illness at diagnosis, excludes people diagnosed previously abroad

¹⁰ CD4 count of less than 200 cells/ μ l or AIDS indicator illness at diagnosis, excludes people diagnosed previously abroad

Analysis of the 2018 diagnoses by probable route of transmission and age group is shown in Figure 6. Men who have sex with men were younger at time of HIV diagnosis than those in other population groups.

Figure 6. HIV diagnoses in Ireland by age group and probable route of transmission, 2018



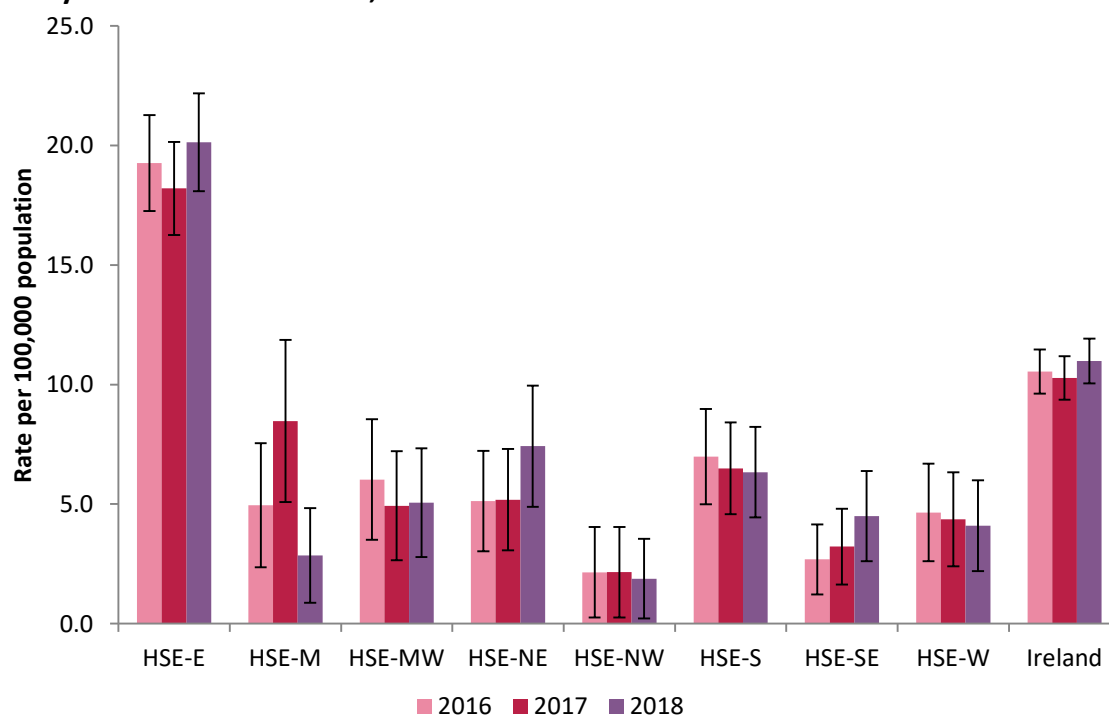
HSE area¹¹

HIV diagnoses among people living in HSE East continued to account for the majority (72%) of diagnoses in Ireland (see Table 4). The highest age-standardised notification rate (ASNR) was in HSE East (20.1/100,000) which was almost twice the national rate. The ASNR in all other areas (except the HSE Northeast) in 2018 was significantly lower than the national rate. Figure 7 shows the trend in ASNR by HSE area from 2016 to 2018.

Table 4. HIV diagnoses in Ireland by HSE area of residence¹², 2018

HSE Area	Number	%
East	375	71.7
Midlands	8	1.5
Midwest	19	3.6
Northeast	33	6.3
Northwest	5	1.0
Southeast	22	4.2
South	43	8.2
West	18	3.4
Total	523	100.0

Figure 7. Trend in HIV age standardised notification rates (with 95% confidence intervals) in Ireland by HSE area of residence, 2016 to 2018



¹¹ Data on HSE area should be interpreted with caution. Where patient address is not known, the HSE area is based on the location of the clinic. Consequently, numbers and rates by HSE area may be a reflection of the location of services.

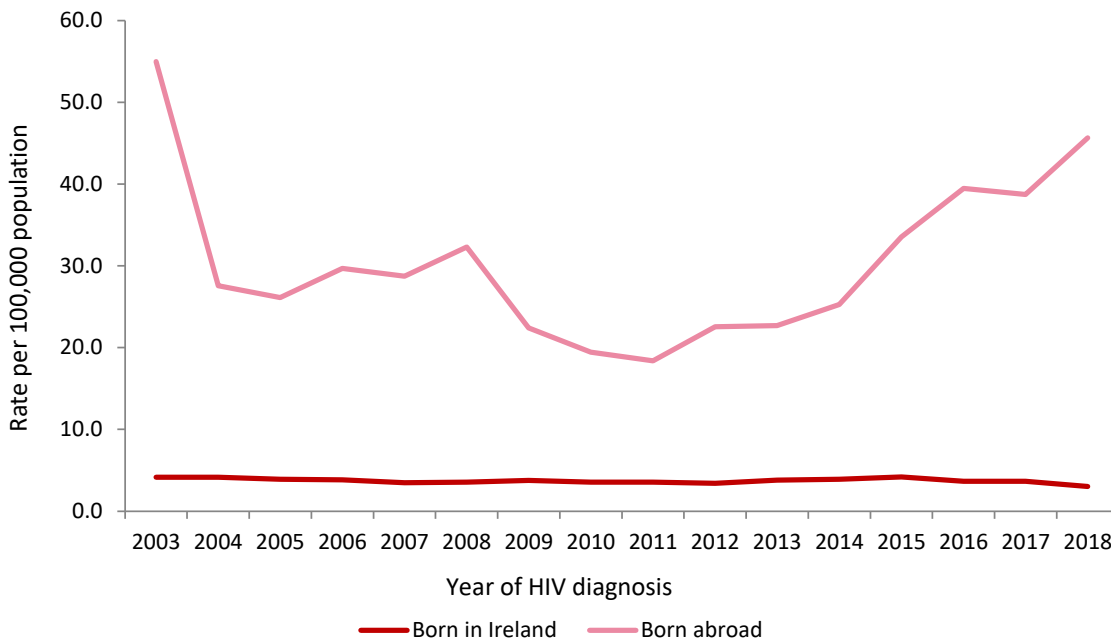
¹² See technical notes on page 24 for counties in each HSE area

Region of birth

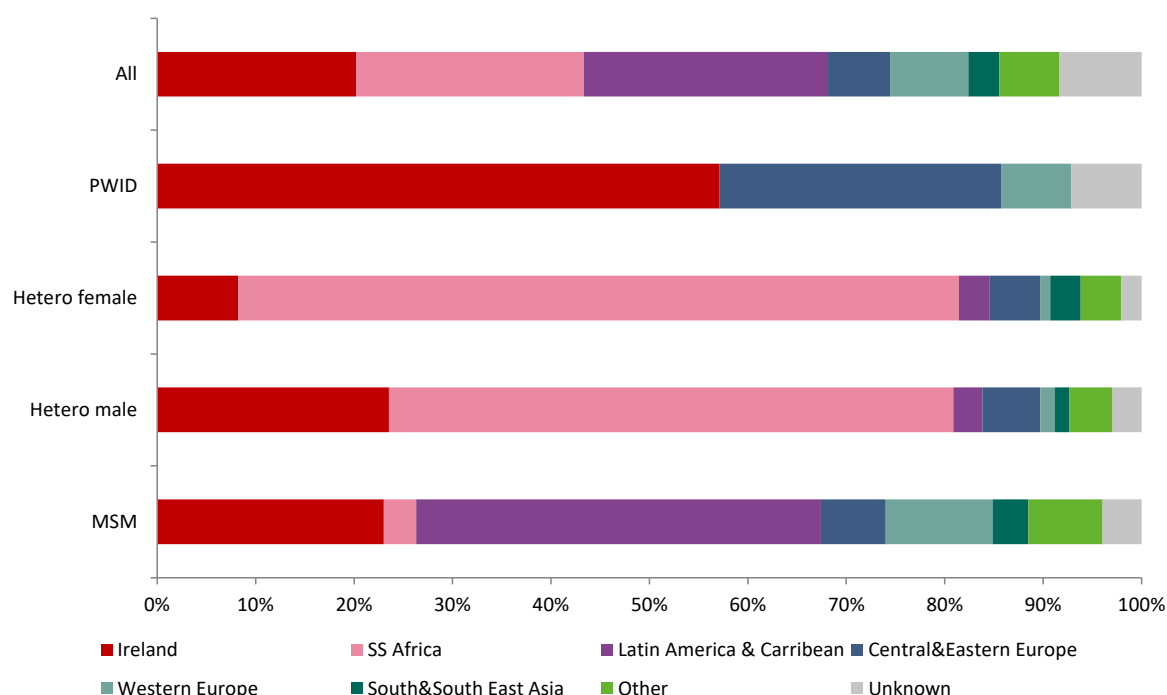
In 2018, 21% (n=109) of people diagnosed with HIV were born in Ireland, 71% (n=370) were born outside Ireland and 8% (n=44) had no information on country of birth reported. Of those not born in Ireland, 36% were born in Latin America and Caribbean, 34% in sub-Saharan Africa, 11% in Western Europe and 9% in Central and Eastern Europe.

The rate of HIV diagnosis among those born in Ireland has decreased in recent years from 4.2 per 100,000 in 2015 to 3.0 per 100,000 in 2018 (see Figure 8). The rate among those born outside Ireland has increased substantially since 2011 (from 18.4 per 100,000 in 2011 to 45.7 per 100,000 in 2018). In particular, the number of diagnoses among those born in Latin America and Caribbean has increased in recent years (from 22 in 2011 to 131 in 2018).

Figure 8. Trend in rate of HIV diagnosis in Ireland by country of birth, 2003 to 2018



Geographic origin varied by probable route of transmission as shown in Figure 9. The majority of men who have sex with men were born in Latin America and Caribbean (43%) or Ireland (24%). The majority of heterosexual females (76%) and heterosexual males (58%) were born in sub-Saharan Africa. The majority of people who inject drugs (PWID) were born in Ireland (57%) or Central and Eastern Europe (29%).

Figure 9. HIV diagnoses in Ireland by region of birth and probable route of transmission, 2018

Co-infections

Overall, 13% of people diagnosed with HIV in 2018 were co-infected with an acute bacterial sexually transmitted infection (STI): chlamydia, gonorrhoea and/or early infectious syphilis. This proportion was higher (21%) among men who have sex with men. Two percent of people diagnosed with HIV in 2018 were co-infected with TB and this was higher among heterosexuals (4%). See Table 5 for further details.

Seventeen people (3.3%) diagnosed with HIV in 2018 were known to be hepatitis B positive and 24 (4.6%) were known to be hepatitis C positive. Seventy nine percent of people who inject drugs were known to be hepatitis C positive at the time of their HIV diagnosis.

Table 5. Co-infections at the time of HIV diagnosis in Ireland by probable route of transmission, 2018

Co-infection with	MSM		Hetero		PWID		Total ¹³	
	No.	%	No.	%	No.	%	No.	%
Acute STI	60	20.5	6	3.7	0	0.0	67	12.8
Chlamydia	19	6.5	3	1.9	0	0.0	22	4.2
Gonorrhoea	18	6.1	1	0.6	0	0.0	19	3.6
Early Infectious Syphilis	33	11.3	4	2.5	0	0.0	38	7.3
TB	1	0.3	6	3.7	0	0.0	8	1.5

¹³ Total includes other/unknown probable route of transmission

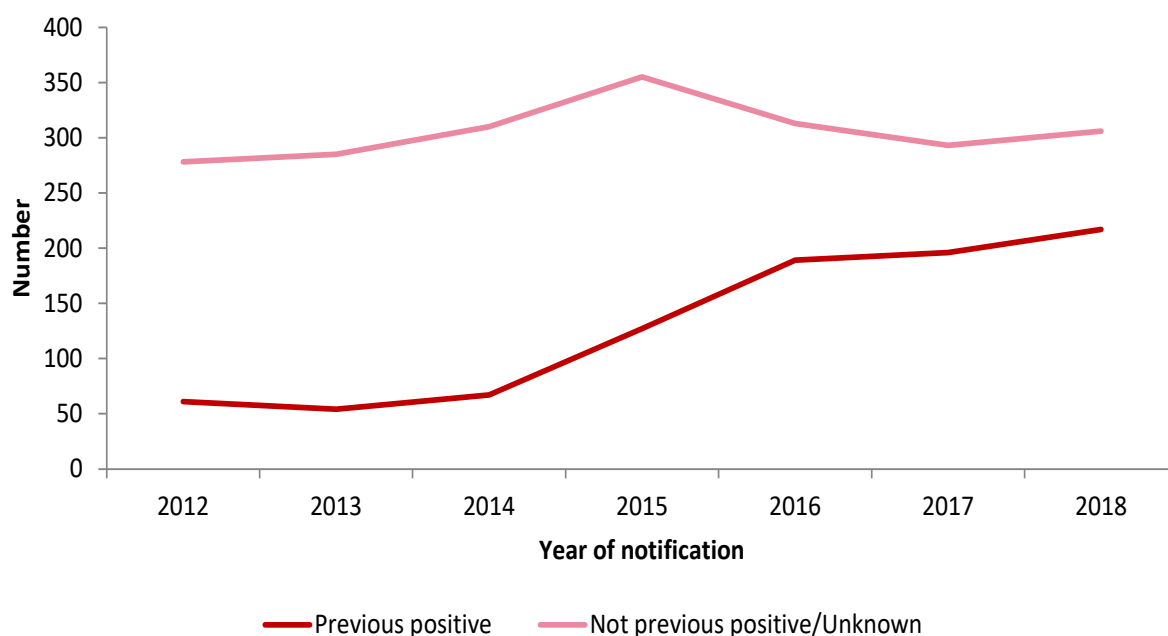
Previously tested positive abroad

Notifications of HIV in Ireland include both people who are diagnosed HIV positive for the very first time and people who have had a HIV diagnosis abroad prior to arrival in Ireland but are being diagnosed in Ireland for the first time.¹⁴

Among the diagnoses in 2018, 42% (n=217) were previously diagnosed HIV positive in another country. This is slightly higher than the number and proportion in 2017 (n=196; 40%). In 2018, the number of cases with no reported history of previous HIV diagnosis abroad (‘new diagnoses’) increased slightly compared to 2017 (from 293 to 306 – see Table 1 for trend). Figure 10 shows the trend in those who were previously diagnosed HIV positive abroad compared to those who were not previously diagnosed HIV positive (including unknowns).

Thirty eight percent of people diagnosed in 2018 were reported to have transferred their HIV care from abroad to Ireland, which is 89% of those who had a previous HIV diagnosis. The majority (88%) of people who had a previous HIV diagnosis had been on antiretroviral therapy (ART) previously.

Figure 10. Trend in HIV diagnoses in Ireland by history of previous positive diagnosis, 2012 to 2018

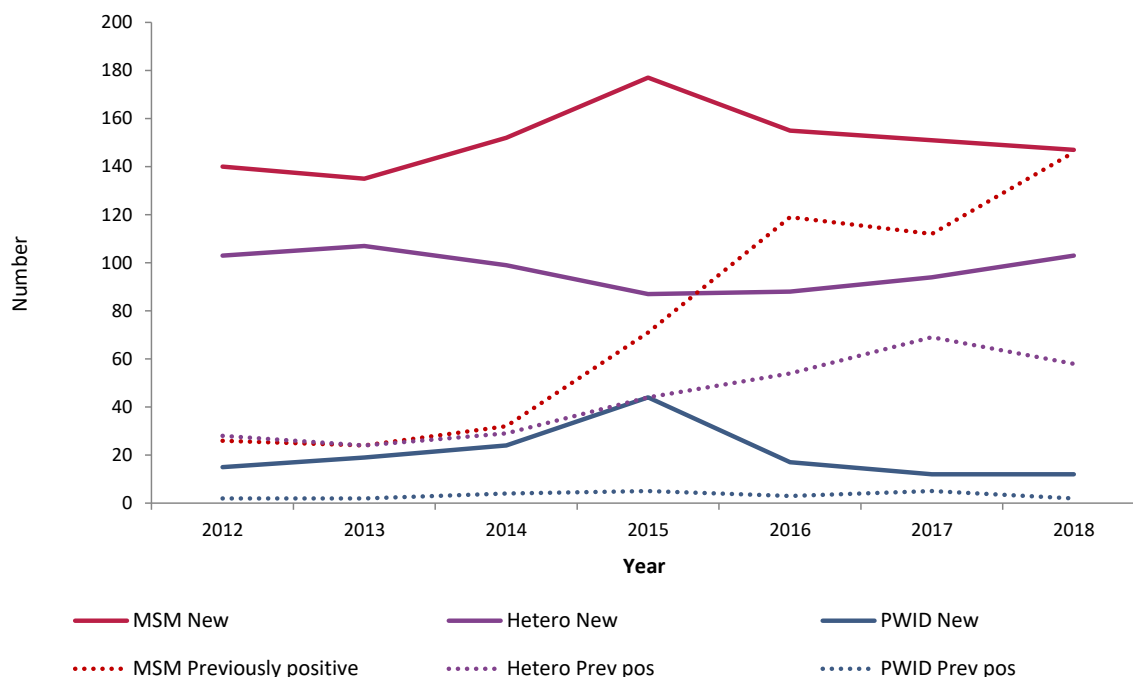


¹⁴ Data on this variable collected since 2012

Figure 11 shows the trend in those previously positive compared to those not previously positive or unknown by probable route of transmission.

- **MSM:** There was an increase in the number of men who have sex with men who were previously diagnosed HIV positive abroad between 2017 and 2018 (from 112 to 146). There was a slight decrease in the number of ‘new diagnoses’ among MSM between 2017 and 2018 (from 151 to 147). Those who had been previously diagnosed abroad accounted for 50% of diagnoses among MSM, which was the highest proportion since these data were collected.
- **Heterosexuals:** There was a slight decrease in the number of heterosexuals who were previously diagnosed abroad between 2017 and 2018 (from 69 to 58). There was a slight increase in the ‘new diagnoses’ among heterosexuals between 2017 and 2018 (from 94 to 103). Those who had been previously diagnosed abroad accounted for 36% of diagnoses among heterosexuals, 40% among heterosexual females and 30% among heterosexual males.
- Most of the diagnoses (86%) among people who inject drugs were ‘new diagnoses’.

Figure 11. Trend in HIV diagnoses in Ireland by history of previous positive diagnosis and probable route of transmission, 2012 to 2018



Stage of HIV infection

Clinical stage of Infection

Of people diagnosed with HIV in Ireland in 2018 and at the time of HIV diagnosis

- 60% (n=313) were reported as asymptomatic
- 9% (n=49) were reported as symptomatic (non-AIDS)
- 4% (n=23) were reported as having an AIDS-defining illness
- 3% (n=15) were reported as having an acute sero-conversion illness
- 24% (n=123) had no clinical stage reported

Of the 23 people reported as having an AIDS defining illness at the time of HIV diagnosis in 2018, 10 were men who have sex with men, nine were heterosexuals and one was a person who injects drugs (three unknown risk group). Pneumocystis pneumonia remained the most commonly diagnosed AIDS-defining illness, accounting for 35% of AIDS diagnoses in 2018, followed by Kaposi's sarcoma which accounted for 17%.

Late presentation and Advanced HIV infection

CD4 cell count at HIV diagnosis can be an indication of how long a person has had HIV before being diagnosed. For surveillance purposes, late HIV diagnosis is defined as CD4 cell count less than 350 cells/ μ l or an AIDS defining illness at diagnosis.¹⁵ Advanced HIV infection is defined as a CD4 count of less than 200 cells/ μ l or an AIDS defining illness at diagnosis.¹⁵

Among all diagnoses in 2018, 34% presented with late infection including 19% with advanced HIV infection (of the 403 individuals where information on CD4 count or AIDS defining illness at diagnosis was available). The proportion presenting late was lower than in previous years (41% in 2017, 38% in 2016, 48% in 2015). The proportion presenting with advanced infection was also lower than in previous years (22% in 2017, 20% in 2016, 24% in 2015). See Table 6 for a breakdown by sex, age group, region of origin, area of residence and probable route of transmission.

¹⁵ Excluding those with evidence of acute infection - P24 antigen positive or clinical diagnosis of acute sero-conversion illness

Table 6. Frequency of late presentation in all HIV diagnoses in Ireland by sex, age group, region of origin, area of residence and probable route of transmission, 2018

		All diagnoses*		
		n ¹⁶	% late	% advanced
Total		403	34.2	18.6
Sex	Female	79	43.0	27.8
	Male	323	31.9	16.0
Age Group (years)	20-29	105	24.8	9.5
	30-39	165	33.3	18.2
	40-49	82	47.5	28.0
	50+	49	34.7	22.4
Region of origin	Ireland	84	39.3	25.0
	Western Europe	36	16.7	11.1
	Central & Eastern Europe	28	39.3	17.9
	Latin America & Caribbean	118	22.0	7.6
	Sub-Saharan Africa	104	50.0	27.9
Area of residence	HSE East	290	32.4	17.2
	Other HSE areas	113	38.9	22.1
Route of transmission	MSM	249	26.1	11.6
	PWID	10	60.0	10.0
	Hetero - male	56	46.4	30.4
	Hetero - female	72	44.4	27.8

Excluding those previously diagnosed HIV positive

Considering the high proportion of people diagnosed with HIV in Ireland who were previously diagnosed HIV positive abroad and likely to have been on prior treatment, it is helpful to exclude these people when analysing the proportion presenting late.

Among people who did not have a previous HIV diagnosis in another country, 49% presented late including 30% who presented with advanced HIV infection (of the 207 individuals where information on CD4 count or AIDS defining illness at diagnosis was available). The proportion presenting late was lower than in 2017 (55%) but similar to 2016 (48%). The proportion presenting with advanced infection was similar to previous years (26-33% between 2015 and 2017). The median CD4 count at diagnosis in 2018 was 359 cells/ μ l (compared to 325 cells/ μ l in 2017, 369 cells/ μ l in 2016, 325 cells/ μ l in 2015).

¹⁶ Number with CD4 count at diagnosis available

Table 7 provides a breakdown of the proportion who presented late and with advanced HIV infection by sex, age group, region of origin, area of residence and probable route of transmission, excluding people with a previous HIV diagnosis abroad. Figure 12 presents the proportion late among this group by sex, age group, region of origin, area of residence and probable route of transmission.

The groups with the highest proportion presenting late were females, those aged 40 years and older, people born in sub-Saharan Africa, people living outside HSE East and people who inject drugs. The groups with the highest proportion presenting with advanced HIV infection were females, those aged 40 years and older, people born in sub-Saharan Africa, people living outside HSE East and heterosexual males and females.

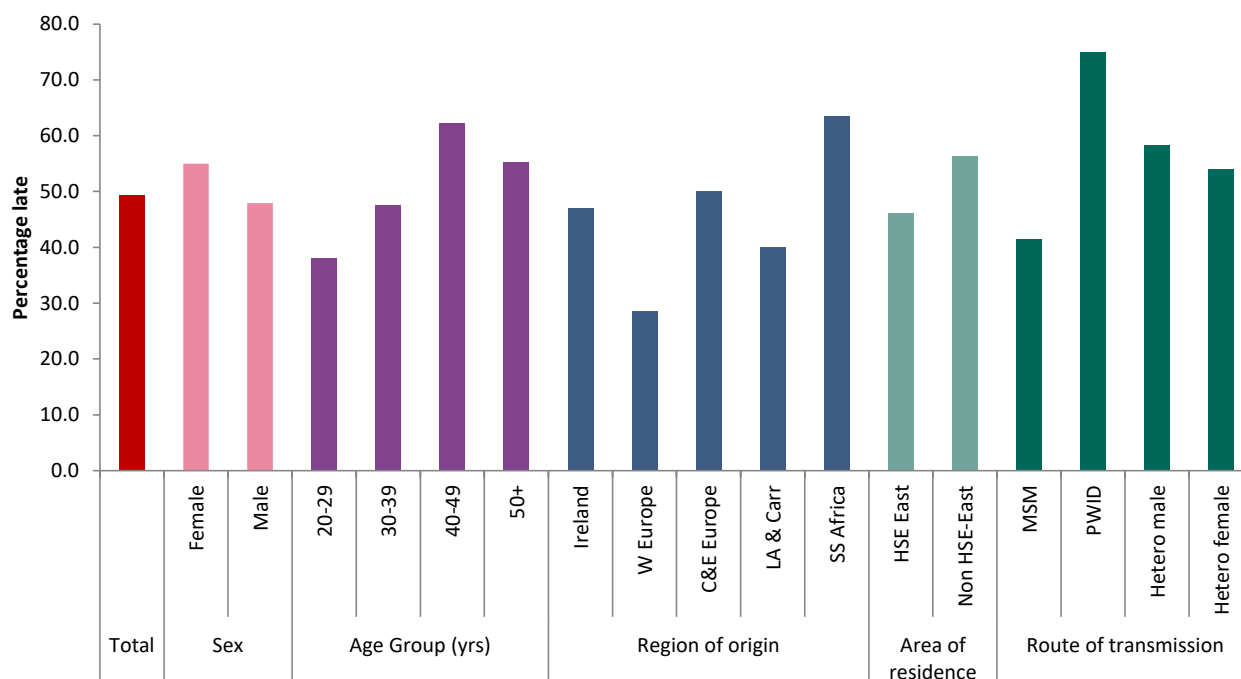
Table 7. Frequency of late presentation in new HIV diagnoses in Ireland by sex, probable route of transmission, age group and region of origin, 2018

		Diagnoses excluding those previously HIV positive*		
		n ¹⁷	% late	% advanced
Total		207	49.3	30.4
Sex	Female	40	55.0	40.0
	Male	167	47.9	28.1
Age Group (yrs)	20-29	50	38.0	18.0
	30-39	82	47.5	29.3
	40-49	45	62.2	44.4
	50+	29	55.2	34.5
Region of origin	Ireland	68	47.1	30.9
	Western Europe	14	28.6	21.4
	Central & Eastern Europe	18	50.0	27.8
	Latin America & Caribbean	40	40.0	17.5
	Sub-Saharan Africa	52	63.5	42.3
Area of residence	HSE East	143	46.2	28.0
	Other HSE areas	64	56.3	35.9
Route of transmission	MSM	116	41.4	21.6
	PWID	8	75.0	12.5
	Hetero- male	36	58.3	47.2
	Hetero - female	37	54.1	37.8

*where CD4 count at diagnosis is available

¹⁷ Number with CD4 count at diagnosis available

Figure 12. Proportion of late presenters in Ireland (excluding those previously diagnosed HIV positive in another country) by sex, age group, region of origin, area of residence and probable route of transmission, 2018



Deaths reported in 2018

Data on deaths are obtained from (a) clinician reports via the enhanced surveillance form at time of HIV diagnosis and (b) data reported to the Central Statistics Office (CSO). It is not possible to link the two sources of information.

(a) Data from enhanced surveillance forms

Among the HIV notifications in 2018, two deaths (both male) were reported at the time of HIV diagnosis.

(b) Data from CSO Vital Statistics report ¹⁸

There were five deaths reported to the CSO in 2018 where the cause of death was AIDS or HIV, four males and one female.

¹⁸ Source: Vital Statistics Reports, CSO available at

<https://www.cso.ie/en/releasesandpublications/ep/p-vs/vitalstatisticsyearlysummary2017/>

HIV testing data

In 2018, there were 236,928 HIV tests carried out in 12 laboratories in Ireland, giving a testing rate of 49.8 per 1,000 population^{19,20}. This compares to a testing rate of 47.0 in 2017 and represents a 6% increase.

There were 140,912 HIV tests among females (up 4% from 134,926 in 2017) and 95,285 among males (up 8% from 87,880 in 2017) undertaken in laboratories in 2018 (731 sex unknown). The testing rate in 2018 was 58.5 per 1,000 population among females, and 40.5 per 1,000 population among males. The higher rate of testing in females reflects the HIV antenatal screening programme. It is important to note that the calculated testing rates are likely to over-estimate the true rate of testing in the population as the numbers reported are not of individuals who have been tested but of tests performed and can include repeat tests on the same individual.

A pilot study on monitoring voluntary community-based HIV testing (VCBT) was carried out in Ireland in 2018 and the report is available [here](#).

¹⁹ Laboratories which provided HIV testing data in 2018: Biomnis Laboratory, Dublin; Bon Secours, Cork; Cork University Hospital; Galway University Hospital; Mercy University Hospital; University Hospital Limerick; National Virus Reference Laboratory; Portiuncula Hospital; Rotunda Maternity Hospital; St James's Hospital; University Hospital Waterford; Sligo Regional Hospital

²⁰ Excludes testing of blood donations

Discussion

In 2018, the HIV notification rate in Ireland increased by 7% compared to 2017. This follows a steady rate between 2015 and 2017. To date in 2019 (up to 12th October), the number of HIV notifications (n=417) is similar to the number of notifications for the same time period in 2018 (n=405).

The rate of HIV in Ireland is high compared to other countries in Western Europe, many of which have seen declines in their HIV rates in recent years (1). However, when reviewing HIV notification data, it is important to note that a high proportion (42% in 2018) of notifications in Ireland occurs in people who have had a previous HIV diagnosis in another country before arrival in Ireland. As this is their first HIV diagnosis in Ireland, they are included in the national data and reports in order to assess the prevalence of HIV in Ireland and to measure the burden of disease. However, for some analyses it is important to separate out people who were previously diagnosed from those who were not, in order to understand the impact of prevention campaigns and measure the incidence of HIV in Ireland. The rate among people without a previous HIV diagnosis is 6.4 per 100,000, similar to the rate in 2017. For all people diagnosed with HIV in Ireland, it is of utmost importance that they are engaged in care as soon as possible after diagnosis and start ART as soon as possible (or continue taking ART) both for their own optimal health benefit and to prevent transmission of HIV. Further information on access to ART in Ireland is available at <https://www.hpsc.ie/a-z/hivandaids/hivtreatmentandprep/>

As in previous years, the highest number of HIV diagnoses were in MSM, with the largest proportion (43%) born in Latin America and Caribbean, followed by Ireland (24%). Of note, 21% of MSM diagnosed with HIV in 2018 were co-infected with a bacterial STI, with 11% co-infected with early infectious syphilis. This is concerning in light of recent increases in rates of early infectious syphilis, particularly among MSM (2). In order to reduce HIV transmission among MSM, a continued focus on implementing and sustaining the evidence based actions outlined in the [MSM action plan 2017](#) is needed, with a particular focus needed for migrant MSM (3). In 2019, the Sexual Health and Crisis Pregnancy Programme (SHCPP) established a multi-sectoral MSM Health Committee which aims to maintain a focus on sexual health in MSM on an on-going basis and coordinate planning and resourcing for MSM sexual health.

The proportion presenting late among some groups is concerning. Late diagnosis is associated with a ten-fold increased risk of short-term mortality (within a year of diagnosis) and an increased risk of transmission (4). This highlights the need to increase awareness and availability of HIV testing, particularly among key populations. There is also a need to promote the message that those on treatment with an undetectable viral load cannot transmit HIV (Undetectable equals Untransmittable). HIV testing is available free of charge in many locations in Ireland, see <https://www.sexualwellbeing.ie/sexual-health/hse-sti-services-in-ireland.html>).

In order to halt the transmission of HIV and to achieve the updated targets issued by UNAIDS (that by 2030, 95% of people with HIV will be diagnosed, 95% of those diagnosed will be on ART and 95% of those on ART will have an undetectable viral load), it is vital that there is a focus on combination HIV prevention approaches (5). A national PrEP (pre-exposure prophylaxis) programme has been introduced in Ireland in November 2019 and will be expanded in 2020 (6). The new programme means that those who attend an approved service which is offering PrEP and are found to be at substantial risk for HIV and meet the clinical criteria will be eligible for PrEP free of charge, dispensed through community pharmacies. Information for people who think they may be at risk from HIV and are considering taking PrEP is available at sexualwellbeing.ie/prep. Other recent initiatives include participation in HIV Fast-Track Cities, a global partnership between cities to address the HIV epidemic at a city level. In line with Healthy Ireland, and the Healthy Cities and Counties programme, funding was announced in Ireland in June 2019 to kick start the HIV Fast-Track Cities initiative in Ireland's four largest cities (7).

It is hoped that PrEP, in combination with other HIV prevention approaches, including increasing availability and accessibility of HIV testing, continued provision of free condoms, provision of post-exposure prophylaxis (PEP), treatment as prevention (TasP) and continued harm reduction for people who inject drugs, will contribute to reducing the number of HIV diagnoses in Ireland.

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Technical notes

- Data are presented by date of notification and may not match analyses done by date of diagnosis (as per ECDC).
- Data from previous years are updated on an ongoing basis in CIDR, and so data from previous years in this report represents our most up to date data, and may not correspond with what was reported previously. Similarly, data for 2018 may be updated further in due course and will be reported on in subsequent reports.
- While efforts are made to remove duplicate records from these data, it is not always possible to link and remove all duplicate records and some patients or disease events may be counted more than once.
- Rates were calculated using census data; 2016 census data for 2014-2018; 2011 census data for 2009-2013; and 2006 census data for 2003-2008.
- Age standardised notification rates were calculated using the direct method in which the national population was taken as the standard population. Population data were taken from Census 2016 from the Central Statistics Office (www.cso.ie). Data were aggregated into the following age groups for analysis: 0-4 years, 5-9 years, 10-14 years, 15-19, 20-24, 25-34, 45-54, 55-64 and ≥ 65 years.
- Percentages are rounded up in the text and provided to one decimal place in tables.

Further information available on HPSC website

Weekly and annual reports on the epidemiology of HIV in Ireland: <http://www.hpsc.ie/a-z/hivandaids/hivdataandreports/>

Case definition for HIV: www.hpsc.ie/a-z/hivandaids/casedefinitions/

HIV enhanced surveillance form: <http://www.hpsc.ie/notifiablediseases/notificationforms/>

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In order to accurately track the HIV epidemic in Ireland and to assess the impact of HIV prevention programmes, it is essential to have good quality surveillance data. The production of this annual report is the result of a huge amount of work carried out by many people in collecting and collating the data. We would like to sincerely thank all of the data providers and all who have contributed to this report including:

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- GPs
- HIV clinical nurse specialists
- Health Advisors
- All other clinical staff involved.

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Appendix: Extra Tables

Table A1. Data completeness of key variables, 2018

	n	%
Probable route of transmission	474	90.6
Country of birth	480	91.8
Previously HIV positive	442	84.5
CD4 count at diagnosis	400	76.5
Viral load at diagnosis	375	71.7
Clinical stage	403	77.1

Table A2. HIV diagnoses by probable route of transmission and age group, 2018

Age Group	MSM		Hetero		PWID		Unknown/Other		Total	
	n	%	n	%	n	%	n	%	n	%
0-14	0	0.0	0	0.0	0	0.0	1	1.8	1	0.2
15-19	1	0.3	0	0.0	0	0.0	1	1.8	2	0.4
20-24	28	9.6	3	1.9	0	0.0	5	9.1	36	6.9
25-29	69	23.5	20	12.4	1	7.1	7	12.7	97	18.5
30-34	67	22.9	41	25.5	2	14.3	11	20.0	121	23.1
35-39	51	17.4	27	16.8	1	7.1	5	9.1	84	16.1
40-44	21	7.2	24	14.9	2	14.3	6	10.9	53	10.1
45-49	24	8.2	26	16.1	3	21.4	4	7.3	57	10.9
>50	32	10.9	20	12.4	5	35.7	15	27.3	72	13.8
Total	293	100.0	161	100.0	14	100.0	55	100.0	523	100.0

Table A3. HIV diagnoses by region of birth and sex, 2018

Region Of Birth	Male		Female		Total ²¹	
	n	%	n	%	n	%
Ireland	100	24.3	9	8.1	109	20.9
Sub Saharan Africa	51	12.4	73	65.8	124	23.8
Latin America & Caribbean	129	31.4	5	4.5	134	25.7
Central & Eastern Europe	28	6.8	6	5.4	34	6.5
Western Europe	39	9.5	4	3.6	43	8.2
South & South East Asia	12	2.9	5	4.5	17	3.3
Other	16	3.9	1	0.9	17	3.3
Unknown	36	8.8	8	7.2	44	8.4
Total	411	100.0	111	100.0	522	100.0

²¹ One person with sex not reported

Table A4. Characteristics of people diagnosed with HIV by probable route of transmission in Ireland (excludes those previously diagnosed HIV positive in another country), 2018

		MSM	Hetero Females	Hetero Males
Total number of cases (excluding previously positive)		147	56	47
Age	Median age of adult cases (years)	33	34.5	41
	Age range of adult cases (years)	19-71	21-65	28-69
	Young people (15-24) (%)	11.6	0.0	0.0
	Older people (50+) (%)	13.6	7.1	21.3
Country of birth	Born in Ireland (%)	38.8	14.3	29.8
	Born abroad (%)	54.4	82.1	65.9
	Unknown (%)	6.8	3.6	4.3
Coinfections	Acute STI (%)	23.1	1.8	6.4
	TB (%)	1.4	1.8	4.3
Stage of infection	Late presentation ²² (%)	41.4	54.1	58.3
	Advanced HIV infection ²³ (%)	21.6	37.8	47.2

²² CD4 count of less than 350 cells/ μ l or AIDS indicator illness at diagnosis

²³ CD4 count of less than 200 cells/ μ l or AIDS indicator illness at diagnosis