HIV in Ireland

2016 Report

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Acknowledgements

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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- Microbiology laboratories
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- Infectious Disease Unit, Our Lady's Hospital for Children (OLHC), Crumlin for paediatric data
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- HIV clinical nurse specialists
- Health Advisors
- All other clinical staff involved.

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CONTENTS

SUMMARY

There were 508 new diagnoses of HIV in Ireland in 2016, representing a rate of 10.7 per 100,000 population. The total number of HIV diagnoses increased by 5% between 2015 and 2016.

However, excluding those with a previous HIV diagnosis, the number of diagnoses decreased by 6% in 2016, which is a welcome reduction. An increasing proportion (34%) of diagnoses in Ireland in 2016 were in persons known to be previously diagnosed HIV positive abroad, and the majority of these (86%) had transferred their care to Ireland. This proportion has increased from 21% in 2012 (when data collection of this variable started).

Of the 508 new diagnoses, just over half (51%) were among men who have sex with men (MSM). This was the largest number of diagnoses ever reported in MSM, who remain the subgroup most affected by HIV in Ireland. Similar to what was seen overall, the proportion of MSM previously diagnosed HIV positive before arrival in Ireland has been increasing and was 42% in 2016 compared to 16% in 2012. The majority of these men (87%) were born abroad, with the highest number from Latin America. Similarly the numbers of new diagnoses in MSM not previously diagnosed abroad dropped by 14% in 2016 compared to 2015.

Given these increasing proportions of cases new to Ireland who are already known to be HIV positive, it is essential to focus on early engagement in care and immediate initiation of antiretroviral therapy (ART) for clinical benefits, but also to prevent onward transmission. This is in line with advice from the World Health Organisation (WHO) and the recently published national recommendation from the HSE that patients start ART at diagnosis regardless of CD4 count (1, 2). Effective HIV treatment resulting in undetectable viral loads is protective in preventing passing on the virus to others (3).

Twenty eight percent of diagnoses were among heterosexuals, with 64% of heterosexual cases born in sub-Saharan Africa. People from sub-Saharan Africa presented later in the course of their HIV infection than all other groups and additional strategies are urgently needed to reduce the proportion presenting with late diagnosis and advanced disease in this group.

There were 21 diagnoses among people who inject drugs (PWID), a decrease from the numbers in 2014 and 2015 when there was an outbreak of HIV in Dublin among homeless drug users (4, 5).

Data on CD4 count at this diagnosis was available for less than two thirds of the new diagnoses in 2016 which makes the analysis of data on stage of infection difficult. Thirty seven percent of all people diagnosed in 2016 presented late and among those without a history of previously diagnosed HIV abroad, 44% presented late. Groups where additional efforts are needed to detect HIV infection earlier are those from sub-Saharan Africa and those aged over 40 years.

Combination HIV prevention approaches are needed to halt transmission of HIV . This includes HIV testing, counselling, condoms, post-exposure prophylaxis (PEP), sexual health services, the use of antiretroviral therapy treatment as prevention (TasP), and harm reduction interventions for people who use drugs, all of which are currently provided. In addition, a national working group is reviewing the role, cost and benefits of including pre-exposure prophylaxis (PrEP) as one of these approaches.

1. HIV DIAGNOSES - 2016

There were 508 new HIV diagnoses notified in Ireland in 2016, a notification rate of 10.7 per 100,000 population[1]. This is a 5% increase compared to 2015. However, of the 508 diagnoses, 34% had previously been diagnosed HIV positive in another country and the majority of these (86%) were transferring their HIV care to Ireland.

Table 1 gives a summary of the 2016 notifications of HIV. Since the early 1980's and to the end of 2016, 8,341 people have been diagnosed with HIV in Ireland. However, this number does not represent the number of people living with HIV (PLHIV) in Ireland, as it does not take factors such as death and migration into account.

Completed enhanced surveillance forms were received for 83% (n=418) of diagnoses in 2016 (as of 23rd August 2017). Data completeness of key variables is described in Table A1 in the Appendix. Further data completeness reports are available here.

Between 2014 and 2015, there was a large increase in notifications (30%) followed by a smaller increase (5%) between 2015 and 2016 (figure 1). However, a change in the case definition for surveillance which was introduced in 2015 in HSE East (Dublin, Kildare and Wicklow) and to all other areas in 2016 improved both the timeliness of notifications and resulted in an increase in the number of notifications (see technical note on page 21).

[1]Based on 2016 census

Table 1: Summary of 2016 HIV data

Number of HIV diagnoses		508
Rate of diagnoses (per 100,000 population)		10.7
Gender	Males (%)	77.4
	Females (%)	22.6
	Male to female ratio	3.4
Age	Median age of adult cases (years)	35
	Age range of adult cases (years)	18-72
	Young people aged 15-24 years (%)	7.9
	Aged 50 and older (%)	9.5
Probable Route of Transmission	MSM (%)	51.4
	Heterosexual (%)	27.6
	Injecting Drug Use (%)	4.1
	Mother to Child transmission (%)	0.6
	Other (%)	0.4
	Unknown (%)	15.2
Region of Birth	Born in Ireland (%)	25.4
	Born Abroad (%)	61.2
	Unknown (%)	13.4
Co-infections	Acute STI (%)	13.0
	TB (%)	2.4
Previous history of testing	Previously tested positive abroad (%)	34.4
	Transfer of care overall (% among those previously positive abroad)	29.1 (86.3%)

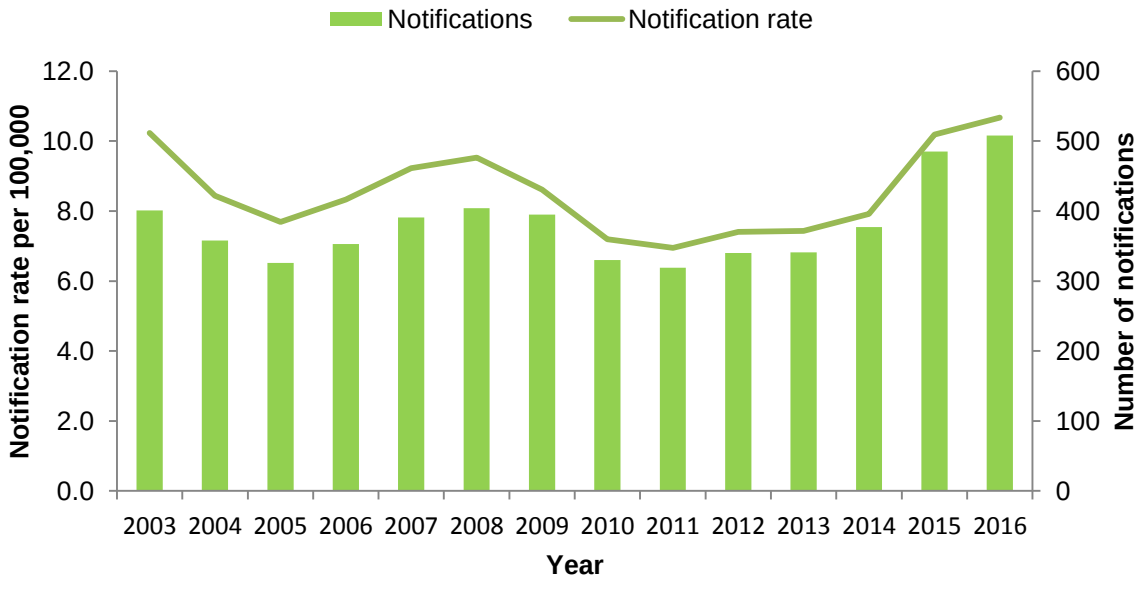

Figure 1: HIV diagnoses and diagnosis rate per 100,000, 2003 to 2016

1.1 GENDER AND AGE

In 2016, 77% of HIV diagnoses were in men and 23% were in women, with a male to female ratio of 3.4. The median age of adult cases at HIV diagnosis was 35 years (range: 18 to 72 years); 35 years in men (range: 19-74 years) and women (range: 19 to 63 years). The highest proportion of diagnoses (43%) was in those aged 30-39 year olds. Eight percent of cases were in young people (15-24 years of age) and 10% were in those aged 50 and older (see Table 2).

Table 2: HIV diagnoses by age group and gender, 2016

Age Group (yrs)	Male		Female		Total	
	N	%	N	%	N	%
<15	0	0.0	1	0.9	1	0.2
15-19	2	0.5	2	1.7	4	0.8
20-24	28	7.1	8	7.0	36	7.1
25-29	76	19.3	14	12.2	90	17.7
30-34	85	21.6	25	21.7	110	21.7
35-39	73	18.6	36	31.3	109	21.5
40-44	50	12.7	10	8.7	60	11.8
45-49	38	9.7	12	10.4	50	9.8
50+	41	10.4	7	6.1	48	9.5
Total	**393**	**100.0**	**115**	**100.0**	**508**	**100.0**

The rate of diagnoses among men was 17.3 per 100,000 male population compared to 5.0 per 100,000 female population among women. Men had higher age-specific rates than women in all age groups (see Figure 2).

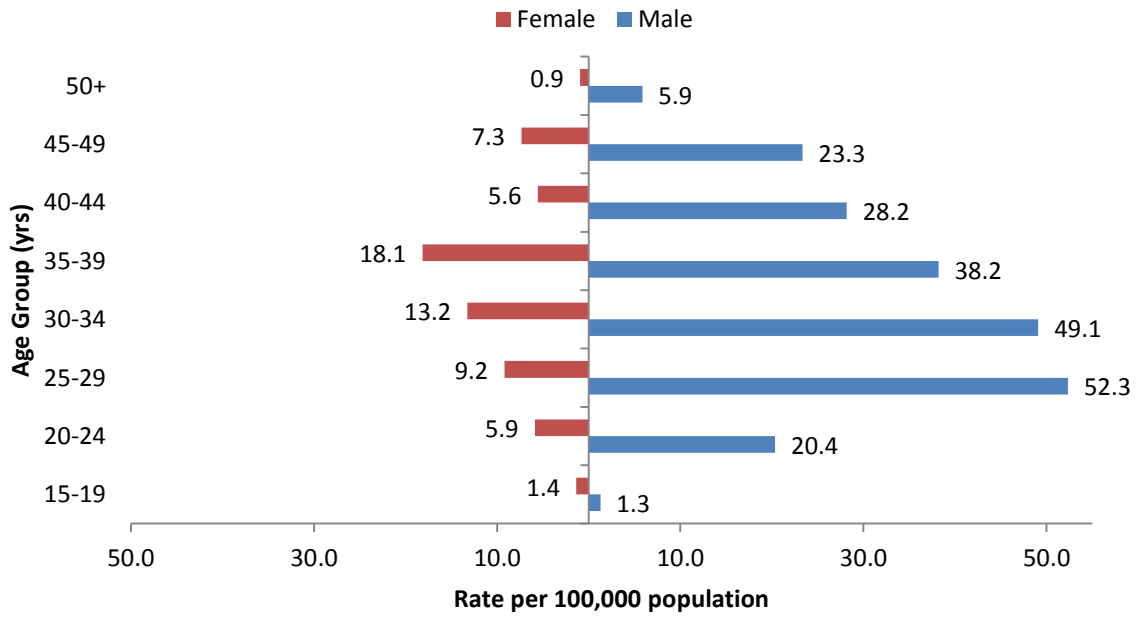

Figure 2: Gender and age specific HIV notification rates (per 100,000 population), 2016

1.2 PROBABLE ROUTE OF TRANSMISSION

Information on probable route of transmission was available for 84% (n=427) of diagnoses in 2016. Among all notifications, sex between men was the predominant mode of HIV transmission (51%), followed by heterosexual transmission (28%). Four percent were among people who inject drugs (PWID). There were three cases where the route of transmission was reported as mother to child transmission (MTCT). Two had previously been diagnosed HIV positive abroad and the third was a baby born in Ireland in 2016[2]. Further information on diagnoses in MSM, heterosexuals and PWID is available on pages 18-20.

Since 2005, the number of diagnoses among MSM has increased over four-fold (see Table 3; Figure 3). The number of cases among heterosexuals has remained stable since 2010 with between 125 and 140 cases per year. The number among PWID increased sharply in 2015 due to an outbreak of HIV among PWID (1, 2) but decreased in 2016.

Table 3: HIV diagnoses by probable route of transmission, 2003 to 2016

Prob route transmission	MSM		PWID		Hetero		MCT		Unk/Other		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	
2003	76	19.0	50	12.5	222	55.4	11	2.7	42	10.5	**401**
2004	63	17.6	74	20.7	179	50.0	3	0.8	39	10.9	**358**
2005	60	18.4	67	20.6	171	52.5	3	0.9	25	7.7	**326**
2006	89	25.2	59	16.7	181	51.3	2	0.6	22	6.2	**353**
2007	91	23.3	55	14.1	165	42.2	6	1.5	74	18.9	**391**
2008	105	26.0	40	9.9	190	47.0	7	1.7	62	15.3	**404**
2009	138	34.9	30	7.6	162	41.0	5	1.3	60	15.2	**395**
2010	134	40.6	23	7.0	127	38.5	9	2.7	37	11.2	**330**
2011	145	44.5	17	5.2	125	38.3	3	0.9	36	11.0	**326**
2012	166	49.0	17	5.0	131	38.6	5	1.5	20	5.9	**339**
2013	158	46.3	21	6.2	132	38.7	3	0.9	27	7.9	**341**
2014	184	48.8	27	7.2	126	33.4	2	0.5	38	10.1	**377**
2015	248	51.3	49	10.1	130	26.9	5	1.0	51	10.6	**483**
2016	261	51.4	21	4.1	140	27.6	3	0.6	83	16.3	**508**

[2] The Rainbow Clinic in Our Lady's Children's Hospital in Crumlin reported that there were 71 babies born to HIV infected mothers in Ireland during 2016. At the time of this report, (based on serial HIV PCR testing); 63 of these infants are not infected and 7 remain of indeterminate status (i.e. do not meet the criteria for HIV infection and are <18 months at time of test). There was one mother to child transmission of HIV in Ireland in 2016 (Personal communication; Amanda Walsh, Sept 2017)

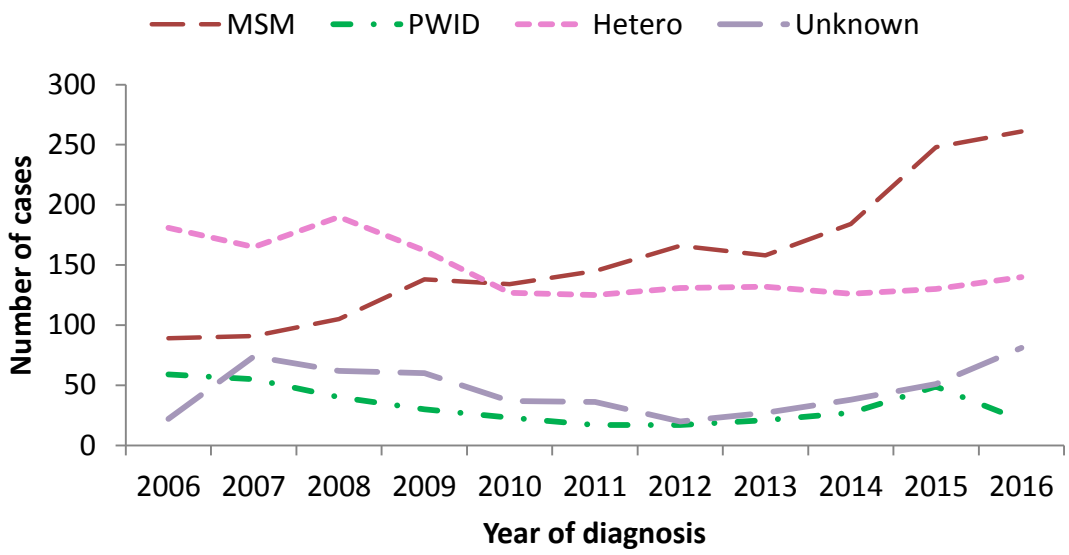

Figure 3: Trend in HIV diagnoses by probable route of transmission, 2003 to 2016

1.3 Region of birth

Twety five percent (n=129) of new diagnoses were born in Ireland, 61% (n=311) were born abroad and 13% (n=68) did not have information on country of birth. Of those born abroad, 36% (n=113) were born in sub-Saharan Africa and 33% (n=103), in Latin America. Geographic origin varied by route of transmission (see figure 4).

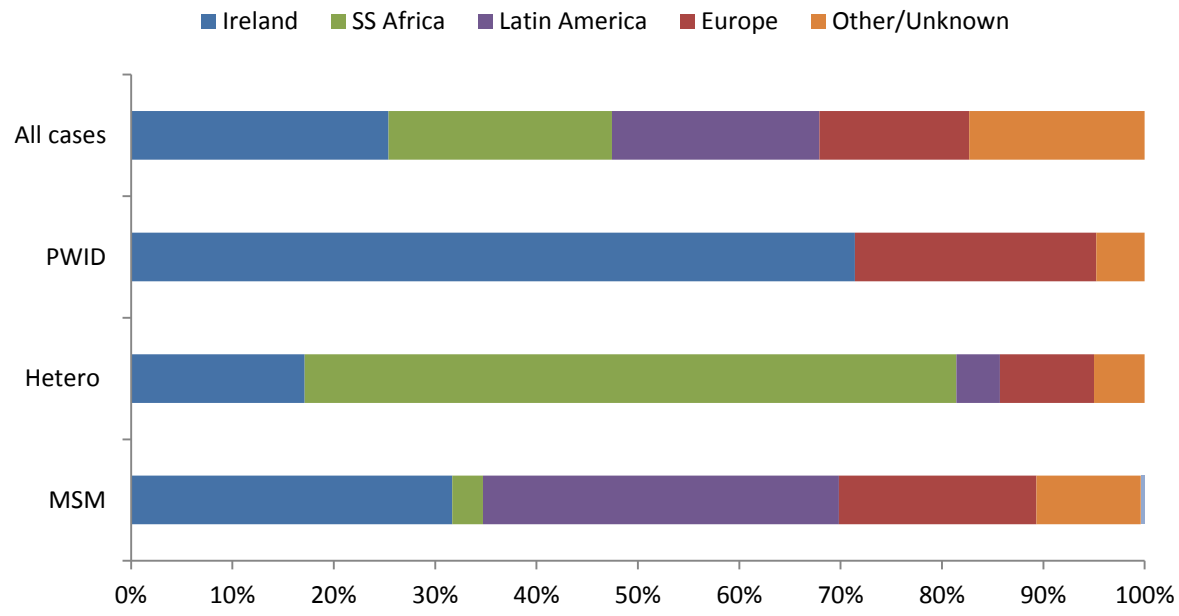

Figure 4: HIV diagnoses by region of birth and probable route of transmission, 2016

The rate of diagnosis among those born in Ireland has remained stable since 2003, ranging from 3.4 to 4.2 per 100,000 population (see Figure 5). There has been much greater fluctuation in the rate among migrants and the rate has increased from 18.4 in 2011 to 38.4 per 100,000 in 2016[3].

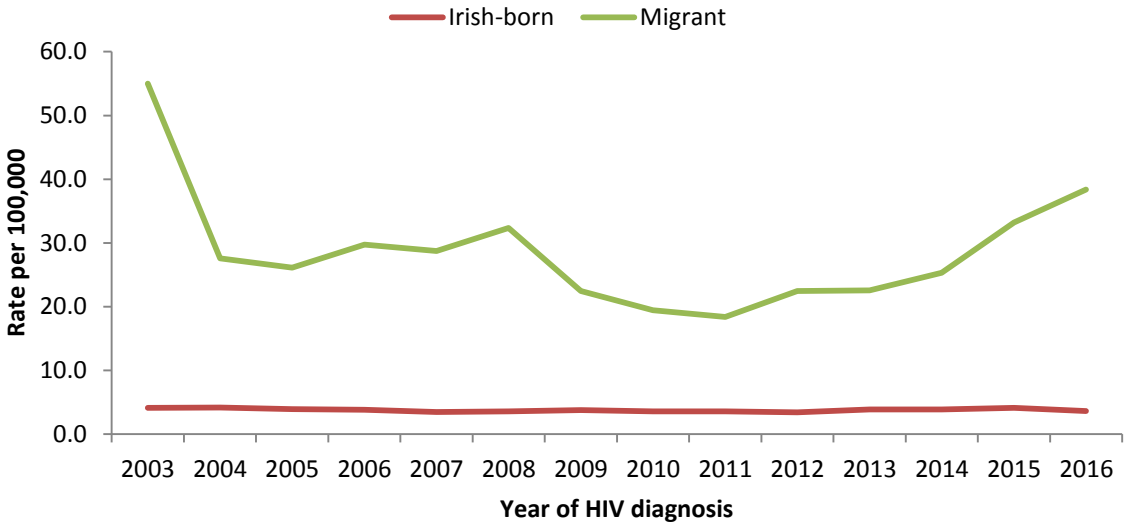

Figure 5: Trend in HIV diagnoses by migrant status, 2003 to 2016

1.4 AREA OF RESIDENCE

In 2016, 360 new HIV cases were diagnosed in people living in HSE East giving a rate of 21 per 100,000 population. This was almost twice the national rate (see Table 4 and Figure 6).

Table 4: Number and rate of HIV diagnoses by HSE area of residence[4], 2016

HSE Area	Counties	Number	% of total	Rate per 100,000
East	Dublin, Kildare, Wicklow	360	70.9	21.0
Midlands	Laois, Longford, Offaly, Westmeath	14	2.8	4.8
Midwest	Limerick, Clare, Tipp (N)	22	4.3	5.7
Northeast	Louth, Meath, Cavan, Monaghan	23	4.5	5.0
Northwest	Sligo, Leitrim, Donegal	5	1.0	1.9
Southeast	Wexford, Waterford, Carlow, Kilkenny, Tipp (S)	13	2.6	2.5
South	Cork, Kerry	51	10.0	7.4
West	Galway, Mayo, Roscommon	20	3.9	4.4
Total		**508**	**100.0**	**10.7**

[3] Rates based on total Irish born and migrant populations taken from the 2006, 2011 and 2016 census

[4] If information on area of residence is not available, cases are assigned to the HSE area of the clinician or the laboratory.

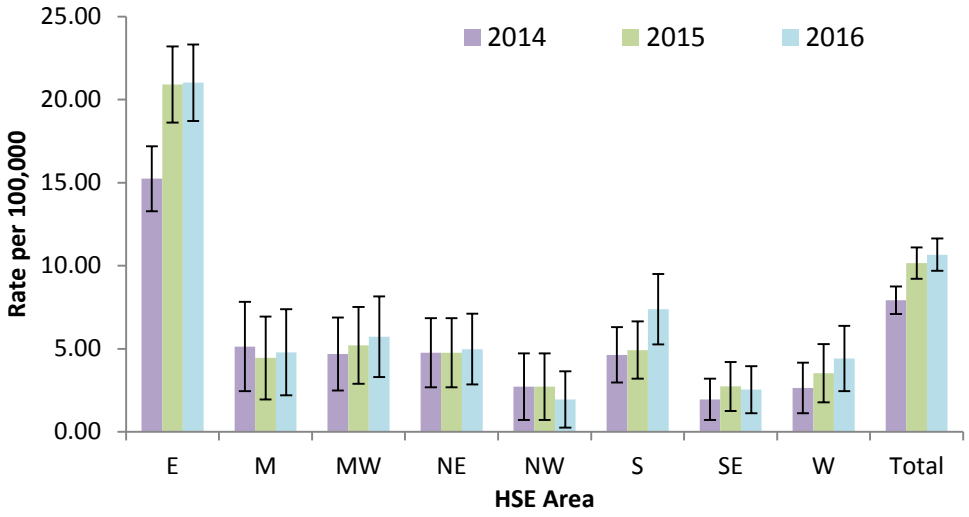

Figure 6: Trend in the rate of HIV diagnoses by area of residence, 2014 to 2016

1.5 PREVIOUSLY TESTED POSITIVE ABROAD INCLUDING TRANSFER OF CARE

Notifications of HIV include all people who are diagnosed HIV positive for the first time **in Ireland** and include a number of people who have been previously diagnosed HIV positive abroad. Among the diagnoses in 2016, just over a third (34%; n=175) were previously diagnosed with HIV in another country (12% of these people were born in Ireland). The number previously positive has continued to increase in recent years (see figure 7). In 2016, the number of cases who had no previous history of HIV diagnosis abroad, and whose first HIV diagnosis was in Ireland decreased by 6% compared to 2015 (from 354 to 333 cases).

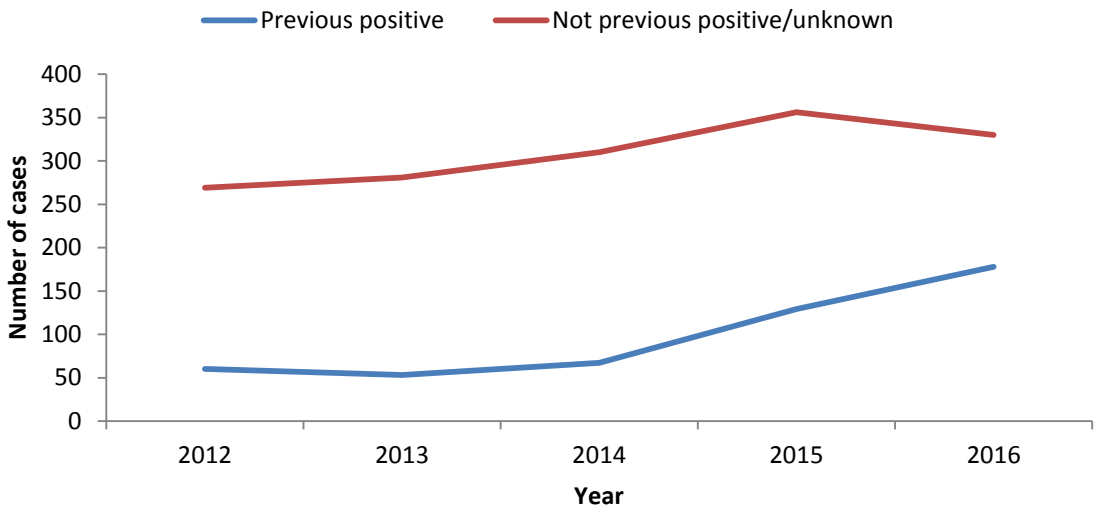

Figure 7: Trend in HIV diagnoses by history of previous positive diagnosis, 2012 to 2016

The change in case definition in January 2015 may account for some of the increase in this number, as those known to have been previously treated abroad, may not have been included in surveillance prior to 2015 (as may not have had two confirmatory tests), but are now included in the national figures.

New cases (not previously diagnosed abroad) in MSM dropped by 14% in 2016, compared to 2015 (see Figure 8). In 2016, MSM were the group with the highest number and proportion (n=110; 42%) previously diagnosed HIV positive abroad and this number has increased steeply since 2014.

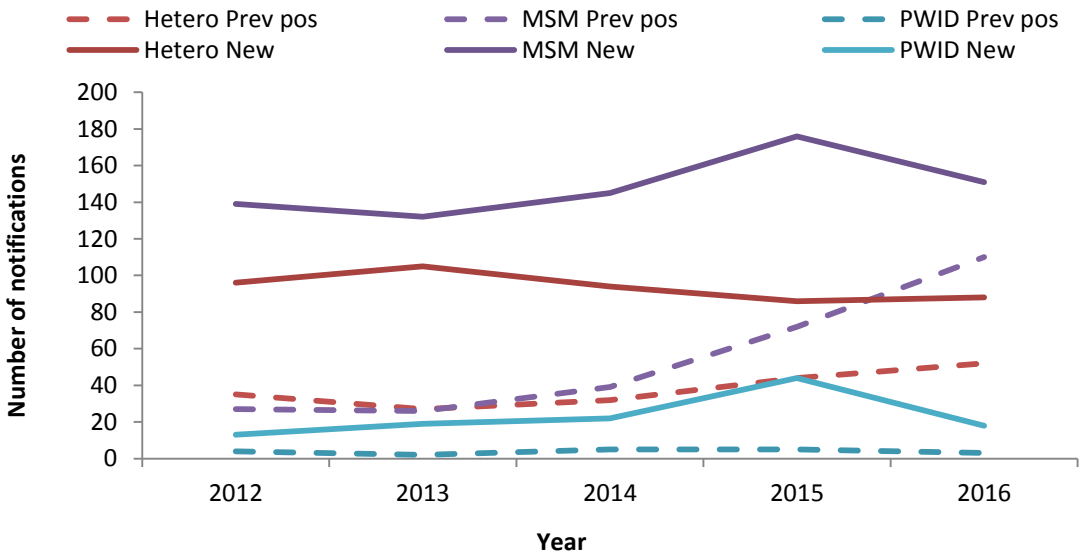

Figure 8: Trend in proportion previously HIV positive by route of transmission, 2012 to 2016

Transfer of care

Since 2015, data has been collected on whether a person has transferred their HIV care from another country to a service within Ireland. Thirty percent of people (n=151) diagnosed in 2016 were "transfer of care". This represents 86% of those who were previously diagnosed HIV positive abroad. By risk group, 88% of heterosexuals, 87% of MSM and 66% of PWID who were previously diagnosed HIV positive elsewhere were reported as transfer of care.

1.6 STAGE OF HIV INFECTION

Clinical stage of Infection

Of the 2016 diagnoses, 52% (n=264) were asymptomatic, 12% (n=62) were symptomatic (non-AIDS), 3% (n=14) had an AIDS-defining illness, 1% (n=7) had an acute sero-conversion illness, and the clinical stage was not reported for the remaining 32% (n=161).

Of the 14 people with an AIDS defining illness at the time of HIV diagnosis, eight were heterosexual and six were MSM.

Late presentation and Advanced HIV infection

Late Diagnosis: CD4 count of less than 350 cells/µl at diagnosis or an AIDS defining illness at diagnosis (excluding those with evidence of acute infection[5])

Advanced HIV Infection: CD4 count of less than 200 cells/µl at diagnosis or an AIDS defining illness at diagnosis (excluding those with evidence of acute infection[8])

Of all people diagnosed with HIV in Ireland in 2016, 37% were late presenters and 19% had advanced HIV infection (where information on CD4 count or AIDS defining illness at diagnosis was available). The proportion presenting late is lower than in recent years (45% in 2015, 47% in 2014 and 49% in 2013) and the proportion presenting with advanced infection is also lower compared to previous years (23% in 2015, 27% in 2014 and 26% in 2013). However, information on stage of diagnosis (CD4 count at diagnosis or AIDS defining illness) was available for 63% of cases in 2016 which is considerably less than in previous years (74% in 2015; 88% in 2014).

Considering the high proportion of people diagnosed with HIV in Ireland who were previously diagnosed HIV positive abroad, these groups were separated when analysing late presentation. The proportion of people who presented late among those who were not reported to have a previous diagnosis abroad was 44%. The proportion of people who

[5] P24 antigen positive or clinical diagnosis of acute sero-conversion illness

presented with advanced HIV infection among those without a previous positive diagnosis was 24%.

Table 5 presents the proportion presenting late among (a) all diagnoses in 2016 and (b) among those who were not previously diagnosed HIV positive abroad and Table 6 presents the proportion presenting with advanced HIV infection among (a) all diagnoses in 2016 and (b) among those who were not previously diagnosed HIV positive abroad.

The groups with the highest proportions both presenting late and with advanced HIV infection were females, heterosexuals, people aged 40 years and over and people born in sub-Saharan Africa.

Table 5: Frequency of late presentation in all 2016 HIV diagnoses and in "new" 2016 HIV diagnoses by gender, probable route of transmission, age group and region of origin

		Number and Proportion presenting late			
		Among all 2016 diagnoses		New 2016 diagnoses (excluding those previously HIV positive)	
		n	%	n	%
Total		119	37.2	87	44.2
Gender	Female	30	47.6	24	57.1
	Male	89	34.6	63	40.6
Route of transmission	MSM	61	31.3	42	36.5
	PWID	5	35.7	5	45.5
	Hetero- male	25	48.9	18	58.1
	Hetero - female	23	50.0	20	57.1
Age Group (yrs)	20-29	28	33.7	23	39.7
	30-39	44	31.2	28	34.6
	40-49	32	50.8	22	64.7
	50+	15	50.0	14	60.9
Region of origin	Ireland	36	38.3	32	39.0
	Europe	20	35.1	11	37.9
	Latin America	23	28.0	15	46.9
	Sub-Saharan Africa	36	52.9	26	56.5

Table 6: Frequency of advanced HIV disease in all 2016 HIV diagnoses and in "new" 2016 HIV diagnoses by gender, probable route of transmission, age group and region of origin

		Number and Proportion presenting with advanced HIV infection			
		Among all 2016 diagnoses		New 2016 diagnoses (excluding those previously HIV positive)	
		n	%	n	%
Total		61	19.0	47	23.7
Gender	Female	20	31.7	16	38.1
	Male	41	15.9	31	19.9
Route of transmission	MSM	27	13.8	20	17.4
	PWID	1	7.1	1	9.1
	Hetero- male	13	27.7	10	32.3
	Hetero - female	18	36.0	15	42.9
Age Group (yrs)	20-29	7	8.4	7	12.1
	30-39	28	19.9	19	23.5
	40-49	16	25.0	11	31.4
	50+	10	33.3	4	50.0
Region of origin	Ireland	22	23.2	21	25.3
	Europe	11	19.3	5	17.2
	Latin America	7	8.5	5	15.6
	Sub-Saharan Africa	19	27.9	14	30.4

1.7 CO-INFECTIONS

Among MSM, 22% were co-infected with an acute bacterial STI (chlamydia, gonorrhoea and/or early infectious syphilis). Over 90% of PWID were co-infected with hepatitis C and 6% of heterosexuals were co-infected with TB (see Table 6 for data on co-infections by probable route of transmission).

Table 6: Co-infections with HIV by probable route of transmission, 2016[6]

	MSM		Hetero		PWID		Total	
Co-infection with	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Acute STI	57	21.8	7	5.0	0	0.0	66	13.0
Chlamydia	23	8.8	2	1.4	0	0.0	25	4.9
Gonorrhoea	23	8.8	0	0.0	0	0.0	23	4.5
Acute Infectious Syphilis	28	10.7	5	3.6	0	0.0	35	6.9
TB	4	1.5	8	5.7	0	0.0	12	2.4
Hepatitis B (all stages)	7	2.7	5	3.6	1	4.8	15	3.0
Hepatitis C (all stages)	11	4.2	1	0.7	19	90.5	33	6.5

[6] Data on co-infections are obtained from data provided on the HIV enhanced surveillance form.

2. LABORATORY DATA

HIV testing data

In 2016, there were 192,956 HIV tests carried out in 12 laboratories in Ireland[7], giving a testing rate of 40.5 per 1,000 population. This compares to 38.9 per 100,000 in 2015. There were 117,589 tests among females and 74,218 tests among males (1,149 gender unknown), giving a testing rate of 48.8 per 1,000 among females and 31.5 per 1,000 among males. The higher rate of testing in females reflects the HIV antenatal screening programme. It is important to note that the calculated testing rate 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.

3. DEATHS DUE TO HIV AND AIDS IN 2016

Data on deaths are obtained from (a) clinicians reports via the enhanced surveillance form and (b) data reported to the CSO. It is not possible to link the two sources of information.

3.1 Data from enhanced surveillance forms

Among the HIV diagnoses in 2016, two people were reported to have died at the time of HIV notification, one male and one female (both infected through heterosexual contact).

3.2 Data from CSO Vital Statistics report [8]

There were eight deaths reported to the CSO in 2016 where the cause of death was AIDS or HIV, four males and four females.

[7] Hospitals which provided 2016 HIV testing data: Biomnis Laboratory, Dublin; Bon Secours, Cork; Galway Clinic; Galway University Hospital; Mercy University Hospital, Cork; University Hospital Limerick; National Virus Reference Laboratory; Portiuncula Hospital, Galway; Rotunda Maternity Hospital, Dublin; St James's Hospital, Dublin; Waterford Regional Hospital; Sligo Regional Hospital

[8] Source: Vital Statistics Reports, CSO available at

http://www.cso.ie/en/releasesandpublications/ep/p-vsys/vitalstatisticsyearlysummary2015/

4. MEN WHO HAVE SEX WITH MEN (MSM)

MSM remain the population most affected by HIV in Ireland. In 2016, there were 261 new HIV diagnoses reported among MSM which was just over half (51%) of all diagnoses in 2016 (see Table 7 for key characteristics). While the number of diagnoses in 2016 is the highest number ever reported among MSM in Ireland, it is important to note that 42% of MSM diagnosed with HIV in Ireland in 2016 had a previous HIV diagnosis abroad and 87% of these men had transferred their HIV care from abroad to Ireland. Among MSM without a previous HIV positive diagnosis, there was a 14% decrease between 2015 and 2016.

Table 7: Characteristics of HIV diagnoses among MSM, 2016

Age	Median age (years)	33
	Age range of adult cases (years)	19-74
	Young people aged 15-24 years (%)	8.4
	Aged 50 and older (%)	9.2
Geographic origin	Born in Ireland (%)	31.8
	Born Abroad (%)	63.2
	Unknown (%)	5.0
Stage of Infection [9] (of those with CD4 count at diagnosis reported)	Late (<350 cells/µl or AIDS) (%)	31.3
	Advanced HIV infection (<200 cells/µl or AIDS) (%)	13.8
	Concurrent AIDS diagnosis (%)	2.3
Co-infections	Acute STI (%)	21.8
	Gonorrhoea	8.8
	Chlamydia	8.8
	Early infectious syphilis	10.7
Previous history of testing	Previously tested positive abroad (%)	42.1
	Transfer of care (of those with a prev positive diagnosis) (%)	87.3

[9] Stage of infection of all HIV diagnoses among MSM in 2016 (see Table 5 on page 15 for analysis among those without a previous positive diagnosis)

5. HETEROSEXUALS

Heterosexual transmission accounted for 28% of HIV diagnoses in 2016, with 79 diagnoses among females and 61 among males (see table 8). Heterosexual contact is the most common HIV transmission method among women and the second most common among men. Since 2010, the number of diagnoses among heterosexuals has remained stable (ranging from 125 to 140 cases).

Of note, 37% of heterosexual cases were previously diagnosed HIV positive abroad and 88% of these people transferred their care to Ireland. The majority of heterosexual cases were born in sub-Saharan Africa, an area of the world which has a generalised HIV epidemic (>1% of the general population with HIV).

Table 8: Characteristics of HIV diagnoses among male and female heterosexuals, 2016

		Male	**Female**
Total number		61	79
Age	Median age (years)	39	36
	Age range (years)	23-67	20-60
	Young people aged 15-24 years (%)	6.6	7.6
	Aged 50 and older (%)	16.4	5.1
Geographic origin	Ireland (%)	29.5	7.6
	Sub-Saharan Africa (%)	45.9	78.5
	Other (%)	23.0	8.9
	Unknown (%)	1.6	5.1
Stage of Infection[10] (of those with CD4 count at diagnosis reported)	Late (<350 cells/µl) (%)	48.9	50.0
	Advanced HIV infection (<200 cells/µl) (%)	27.7	36.0
	Concurrent AIDS diagnosis (%)	6.6	5.1
Co-infections	Acute STI (%)	9.8	1.3
	TB (%)	3.3	7.6
Previous history of testing	Previously tested positive abroad (%)	34.4	39.2
	Transfer of care (of those with a previous positive diagnosis abroad) (%)	90.5	87.1

[10] Stage of infection of all HIV diagnoses in heterosexuals in 2016 (see Table 5 on page 15 for analysis among those without a previous positive diagnosis)

6. PEOPLE WHO INJECT DRUGS (PWID)

There were 21 new diagnoses (4%) among PWID in 2016, 15 (71%) among males and six (29%) among females (see Table 9 for key characteristics). This is a decrease compared to the number of diagnoses among PWID in 2014 (n=27) and 2015 (n=49) when there was an outbreak of HIV among PWID living in Dublin (4, 5). The outbreak was declared over in February 2016.

Table 9: Characteristics of HIV diagnoses among PWID, 2016

Age	Median age of adult cases (years)	35
	Age range of adult cases (years)	20-59
	Young people aged 15-24 years (%)	9.5
	Aged 50 and older (%)	4.8
Geographic origin	Born in Ireland (%)	71.4
	Born Abroad (%)	23.8
	Unknown (%)	4.8
Stage of Infection[11] (of those with CD4 count at diagnosis reported)	Late (<350 cells/µl) (%)	35.7
	Advanced HIV infection (<200 cells/µl) (%)	7.1
	P24 antigen positve (indicating acute infection)	0.0
Co-infections	Hepatitis C (%)	90.5
Previous history of testing	Previously tested positive abroad (%)	14.3%

[11] Stage of infection of all HIV diagnoses in PWID in 2016 (see Table 5 on page 15 for analysis among those without a previous positive diagnosis)

TECHNICAL NOTES

1. 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 NVRL was required on two separate samples prior to notification. From January 2015 onwards, confirmatory testing by NVRL on one sample was sufficient prior to notification. This change was applied to notifications from all other HSE areas in January 2016.
2. Rates were calculated using census data; 2016 census data for 2014-2016; 2011 census data for 2009-2013; and 2006 census data for 2003-2008.
4. Data for this report were extracted from CIDR on 23rd August 2017 and were correct at the time of publication.
5. Data from previous years is 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 exactly with what was reported previously. Similarly, data for 2016 may be updated further in due course and will be reported on in subsequent annual reports
6. Percentages are rounded up in the text and provided to one decimal place in tables.
7. For the purposes of this report, "Mother to Child Transmission" cases were included in the category "Unk/Other" for many of the tables and figures.
8. Data are presented by date of notification

FURTHER INFORMATION

- Weekly, 6 monthly and annual reports on the epidemiology of HIV in Ireland can be found at http://www.hpsc.ie/a-z/hivstis/hivandaids/hivdataandreports/
- The case definition for HIV can be found at http://www.hpsc.ie/notifiablediseases/casedefinitions/
- The HIV enhanced surveillance form can be found at http://www.hpsc.ie/notifiablediseases/notificationforms/

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APPENDIX 1: ADDITIONAL TABLES

Table A1: Data completeness of key variables in 2016

	Completeness in 2016	
	Number	**%**
Probable route of transmission	427	84.1
Country of birth	440	86.6
Previously HIV positive	400	78.7
CD4 count at diagnosis	321	63.2
Viral load at diagnosis	263	51.8
Clinical stage	347	68.4

Table A2: HIV diagnoses by probable route of transmission and gender, 2016

	Male		Female		Total	
MSM	261	66.4	-	-	261	51.4
Hetero	61	15.5	79	68.7	140	27.6
PWID	15	3.8	6	5.2	21	4.1
MTCT	0	0.0	3	2.6	3	0.6
Unk/Other	56	14.2	27	23.5	83	16.3
Total	**393**	**100.0**	**115**	**100.0**	**508**	**100.0**

Table A3: HIV diagnoses by probable route of transmission and age group, 2016

Age Group	MSM		Hetero		PWID		MTCT		Unk/Other		Total	
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
<15	0	0.0	0	0.0	0	0.0	1	33.3	0	0.0	1	0.2
15-19	2	0.8	0	0.0	0	0.0	1	33.3	1	1.2	4	0.8
20-24	20	7.7	10	7.1	2	9.5	0	0.0	4	4.8	36	7.1
25-29	61	23.4	14	10.0	2	9.5	0	0.0	13	15.7	90	17.7
30-34	64	24.5	29	20.7	4	19.0	1	33.3	12	14.5	110	21.7
35-39	48	18.4	38	27.1	6	28.6	0	0.0	17	20.5	109	21.5
40-44	26	10.0	18	12.9	4	19.0	0	0.0	12	14.5	60	11.8
45-49	16	6.1	17	12.1	2	9.5	0	0.0	15	18.1	50	9.8
>50	24	9.2	14	10.0	1	4.8	0	0.0	9	10.8	48	9.4
Total	**261**	**100.0**	**140**	**100.0**	**21**	**100.0**	**3**	**100.0**	**83**	**100.0**	**508**	**100.0**

Table A4: HIV diagnoses by region of birth and gender, 2016

Region Of Origin	Male		Female		Total	
	No.	%	No.	%	No.	%
Ireland	116	29.5	13	11.3	129	25.4
Sub Saharan Africa	41	10.4	71	61.7	112	22.0
Latin America	99	25.2	5	4.3	104	20.5
Central Europe	31	7.9	1	0.9	32	6.3
Western Europe	30	7.6	2	1.7	32	6.3
Eastern Europe	9	2.3	2	1.7	11	2.2
South and South East Asia	6	1.5	1	0.9	7	1.4
Other	12	3.0	1	0.9	13	2.6
Unknown	49	12.5	19	16.5	68	13.4
Total	**393**	**100.0**	**115**	**100.0**	**508**	**100.0**

Table A5: HIV diagnoses by route of transmission and probable region of infection, 2016

Probable region of infection	MSM		Hetero		PWID		Unk/Other		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Ireland	87	33.3	25	17.9	14	66.7	4	4.7	130	25.6
Sub-Saharan Africa	5	1.9	63	45.0	0	0.0	9	10.5	77	15.2
Western Europe	51	19.5	10	7.1	1	4.8	3	3.5	65	12.8
Central&Eastern Europe	6	2.3	3	2.1	3	14.3	0	0.0	12	2.4
Latin America	53	20.3	5	3.6	0	0.0	3	3.5	61	12.0
Other	18	6.9	6	4.3	0	0.0	2	2.3	26	5.1
Unknown	41	15.7	28	20.0	3	14.3	65	75.6	137	27.0
Total	**261**	**100.0**	**140**	**100.0**	**21**	**100.0**	**86**	**100.0**	**508**	**100.0**

Table A6: HIV diagnoses by reason for HIV test, gender and route of transmission, 2016

Reason for Test	Gender		Probable route of transmission				Total
	Female	Male	MSM	Hetero	PWID	Unk/Other	
Antenatal	12	-	-	12	-	1	**13**
Asylum seeker screening	18	9	2	22	-	1	**25**
Known positive partner	10	19	14	15	-	-	**29**
STI screen	11	92	78	19	1	4	**102**
Risky behaviour	5	80	64	8	13	-	**85**
Symptomatic	12	74	50	28	3	5	**86**
Known positive	2	14	9	6	1	0	**16**
Other	11	15	5	12	1	8	**26**
Unknown	34	90	39	18	2	67	**126**
Total	**115**	**393**	**261**	**140**	**21**	**86**	**508**

Table A7: HIV diagnoses by probable route of transmission and HIV testing history, 2016

	MSM		Hetero		PWID		Unk/Other		Total	
	No	%	No	%	No	%	No	%	No	%
Prev neg in 2015/2016	56	21.5	4	2.9	4	19.0	1	1.2	65	12.8
Prev neg pre 2015	74	28.4	26	18.6	9	42.9	4	4.7	113	22.2
No previous neg test	42	16.1	48	34.3	4	19.0	7	8.1	101	19.9
Unknown	89	34.1	62	44.3	4	19.0	74	86.0	229	45.1
Total	261	100.0	140	100.0	21	100.0	86	100.0	508	100.0