

# HIV in Ireland - 2015 Report

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Feidhmeannacht na Seirbhíse Sláinte  
Health Service Executive



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## KEY FINDINGS– 2015 HIV DATA

There were 485 HIV notifications in Ireland in 2015, giving a rate of 10.6 per 100,000 population, the highest rate ever reported in Ireland. ECDC reported a rate of 5.9 per 100,000 population in 2014 for countries in the European Union and European Economic Area (EU/EEA) (1). Between 2010 and 2014, HIV diagnosis rates in Ireland were stable but increased by 30% between 2014 and 2015. This increase was mainly confined to HSE East (where a 38% increase in rate was seen). A number of factors contributed to the increase in HSE East, including an improvement to the national surveillance case definition introduced in January 2015 which resulted in improved sensitivity, timeliness and increased number of notifications; an outbreak of HIV among people who inject drugs (PWID) (2); and an increase in diagnoses among migrant men who have sex with men (MSM).

Sex between men was the predominant route of HIV transmission in Ireland in 2015 and accounted for just over half of diagnoses, up from 49% in 2014. A high proportion (29%) were previously diagnosed positive abroad and 82% of these men had transferred their HIV care to Ireland. There was a large increase in the number of diagnoses in MSM between 2014 and 2015, particularly among men from Latin America. Given this large increase, and also increases in other STIs among MSM, a national outbreak response group was established in early 2016 to address this evolving situation. This group is developing responses to the situation including: increasing promotion of safer sex messages and promoting regular HIV and STI testing through the man2man.ie programme; increasing testing capacity for MSM in Dublin via a new clinic, being piloted at the Gay Mens health Service; and employing outreach workers on a pilot basis to deliver peer support and interventions among the MSM community, in particular among Latin American MSM.

Diagnoses among PWID increased in 2015 due to an outbreak of recently acquired HIV among PWID living in Dublin (2). This occurred in homeless chaotic long term polydrug users. Among this population, the outbreak was associated with injection of snow blow, a new psychoactive substance, the re-use of needles and syringes, and having a sexual partner who was also injecting drugs (3). Prevention and control efforts were targeted to this group and the outbreak was declared over in February 2016. As a result of the outbreak, there was increased

testing among PWID and improved surveillance in this group. However, there is a need for ongoing sustained health promotion and harm reduction activities among this very vulnerable group.

Another significant change in 2015 was a big increase in the proportion of cases notified who had a previous HIV positive diagnosis abroad. This proportion was 27% in 2015, up from a range of 14-18% between 2011 and 2014. The majority of these people (79%) transferred their HIV care to Ireland. The change in case definition in January 2015 may account for some of the increase in this proportion, as those known to have been previously treated abroad, may not have two separate tests to confirm HIV diagnosis on arrival in Ireland, and would not have been included in surveillance prior to 2015, but are now included in the national figures. The increasing proportion of cases that are new to Ireland, but previously diagnosed abroad, has significant implications in relation to interpretation of the surveillance data, particularly in relation to late presentation and late diagnosis. This year, the data on late diagnosis are presented separately for all diagnoses and for diagnoses excluding those who were previously diagnosed abroad.

Late diagnosis of HIV is an important public health issue in Ireland with 45% of all diagnoses in 2015 classified as late. Among those who were previously diagnosed HIV positive abroad, a lower proportion (31%) presented late. When those with a previous diagnosis abroad were excluded, the proportion diagnosed late was higher (52%), particularly among heterosexual males and those from sub-Saharan Africa. There is a need to further support access to, and uptake of HIV screening among these groups.

Table 1 highlights the key findings from the 2015 HIV report.

**Table 1: Characteristics of HIV diagnoses, 2015**

Number of HIV diagnoses		485
Rate of diagnoses (per 100,000 population) <sup>1</sup>		10.6
Gender	Males (%)	76.1
	Females (%)	23.9
	Male to female ratio	3.2
Age	Median age of adult cases (years)	34
	Age range of adult cases (years)	18-72
	Young people aged 15-24 years (%)	8.0
	Aged 50 and older (%)	9.3
Route of Transmission	MSM (%)	50.9
	Heterosexual (%)	26.8
	Injecting Drug Use (%)	10.1
	Mother to Child transmission (%)	1.0
	Unknown (%)	11.1
Region of Birth	Born in Ireland (%)	29.9
	Born Abroad (%)	55.1
	Unknown (%)	15.1
Co-infections	Acute STI (%)	14.0
	TB (%)	1.2
	Hepatitis B (%)	2.5
	Hepatitis C (%)	8.5
Previous history of testing	Previously tested positive abroad (%)	26.6
	Transfer of care (of those previously positive abroad)	79.1

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<sup>1</sup> Based on 2011 census

## 1. HIV DIAGNOSES - 2015

There were 485 new HIV diagnoses notified in Ireland in 2015, a crude notification rate of 10.6 per 100,000 population<sup>2</sup>. Figure 1 shows the trend in the rate of HIV diagnoses and the diagnosis rate from 2003 to 2015. Between 2010 and 2014, the rate of diagnosis was fairly stable and between 2014 and 2015, there was a 30% increase in the rate (from 8.2 to 10.6 per 100,000). However, the increase needs to be interpreted in light of a change in the case definition for surveillance which was introduced in January 2015 in HSE East (Dublin, Kildare and Wicklow) which improved both the timeliness of notifications and resulted in an increase in the number of notifications (see technical note on page 30).

Completed enhanced surveillance forms (ESFs) were received for 80% (n=380) of diagnoses in 2015 (as of 2<sup>nd</sup> August 2016).

Since the early 1980's and to the end of 2015, 7,838 people have been newly 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.



**Figure 1: HIV diagnoses and diagnosis rate (per 100,000), 2003 to 2015**

<sup>2</sup> Based on 2011 census

## 1.1 GENDER AND AGE

In 2015, 76% (n=369) of HIV diagnoses were in men and 24% (n=116) were in women, with a male to female ratio of 3.2. The median age of adult cases at HIV diagnosis was 34 years (range: 18 to 72 years); 34 years in men (range: 19-72 years) and 34 years in women (range: 18 to 71 years).

Table 2 shows the age breakdown of cases in males and females. The highest proportion (43%) was reported in 30-39 year olds. Eight percent of cases were in young people (15-24 years of age) and 9% were in those aged 50 and older.

**Table 2: HIV diagnoses by age group and gender, 2015**

Age Group (years)	Male		Female		Total	
	N	%	N	%	N	%
<15	0	0.0	1	0.9	1	0.2
15-19	2	0.5	4	3.4	6	1.2
20-24	26	7.0	7	6.0	33	6.8
25-29	72	19.5	23	19.8	95	19.6
30-34	87	23.6	25	21.6	112	23.1
35-39	67	18.2	28	24.1	95	19.6
40-44	45	12.2	13	11.2	58	12.0
45-49	35	9.5	5	4.3	40	8.2
50+	35	9.5	10	8.6	45	9.3
<b>Total</b>	<b>369</b>	<b>100.0</b>	<b>116</b>	<b>100.0</b>	<b>485</b>	<b>100.0</b>

The rate of diagnoses among men was 16 per 100,000 population compared to 5 per 100,000 population among women. Figure 2 shows the age specific rates among men and women. Men had higher age-specific rates than women in all age groups, except in those aged 15-19 years. The highest rate of diagnoses in men was in 30-34 year olds (45 per 100,000) and in women was in 35-39 year olds (16 per 100,000).

Figure 3 describes the trends in rates of new HIV diagnoses in men and women from 2003 to 2015. The rate among women halved between 2003 and 2015. The rate among men increased from 10.5 per 100,000 in 2003 to 16.2 per 100,000 in 2015, reflecting the large increase in the number of diagnoses among MSM.



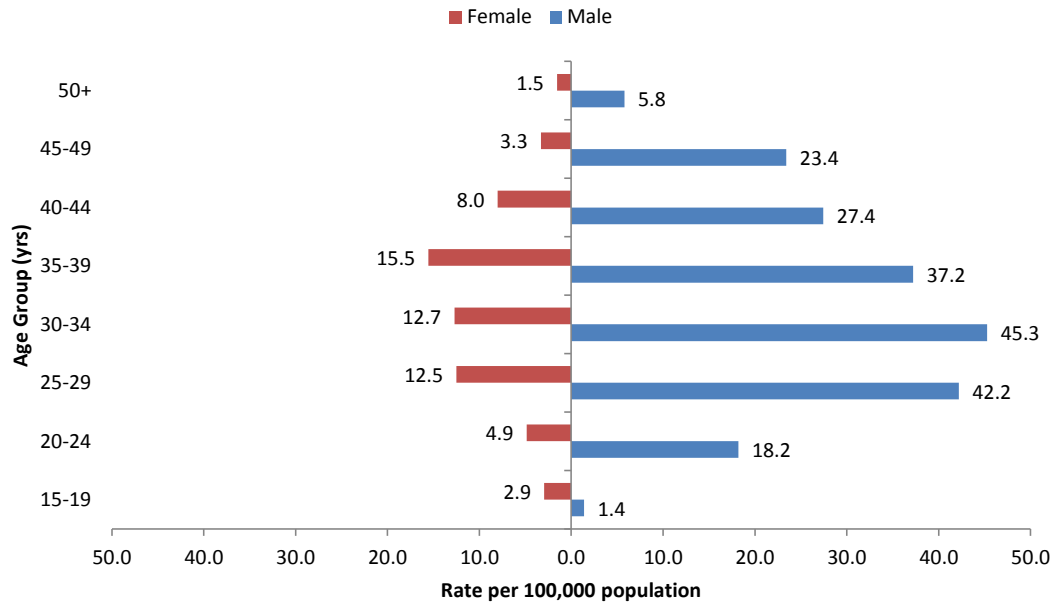


Figure 2: Rate of HIV diagnoses (per 100,000 population) among males and females, 2015

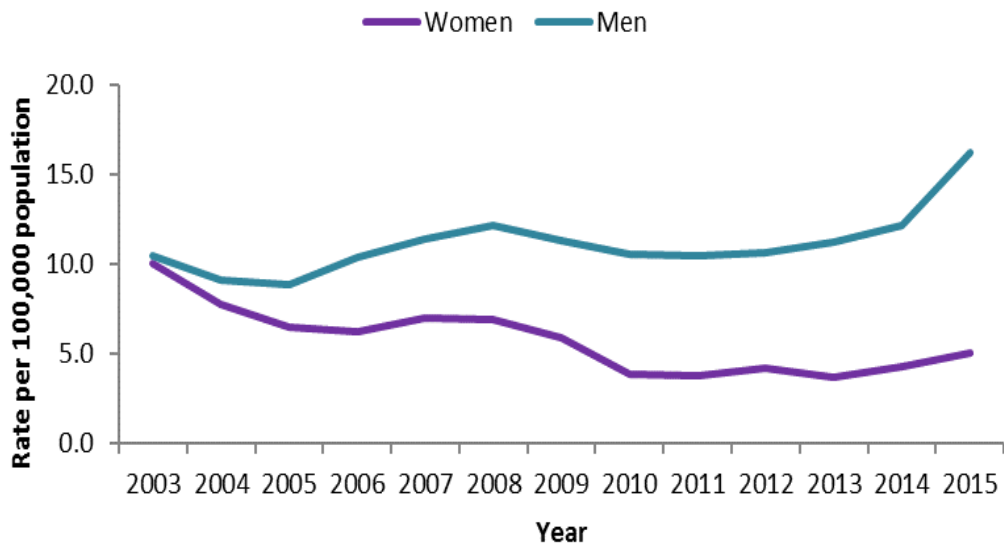


Figure 3: Trends in rate of HIV diagnoses by gender, 2003 to 2015

## 1.2 PROBABLE ROUTE OF TRANSMISSION

Information on probable route of transmission was available for 89% (n=431) of diagnoses in 2015. Sex between men remains the predominant mode of HIV transmission reported in Ireland, accounting for 51% (n=247) of HIV diagnoses in 2015. Heterosexual transmission is the second most commonly reported mode of transmission accounting for 27% (n=130) of HIV diagnoses. Ten percent (n=49) of diagnoses in 2015 were attributed to injecting drug use. There were five cases reported where the route of transmission was identified as mother to child transmission (MTCT). None of these cases were born in Ireland and there were no reported MTC transmissions in Ireland in 2015 (*Personal communication; Michelle Goode, July 2016*).<sup>3</sup> Further information on diagnoses in MSM, heterosexuals and PWID is available later in the report (pages 24-29).

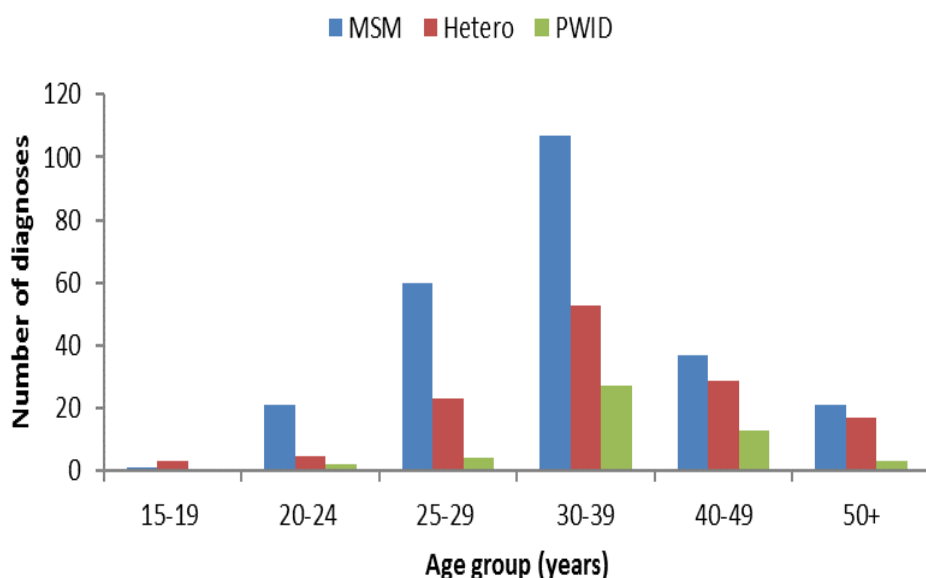
Table 3 details the 2015 diagnoses by probable route of transmission and gender. Sex between men was the commonest route among men and accounted for 67% of new diagnoses. Heterosexual transmission was the most common route among women and accounted for 68% of diagnoses.

**Table 3: HIV diagnoses by probable route of transmission and gender, 2015**

	Male		Female		Total	
MSM	247	66.9	-	-	247	50.9
Hetero	51	13.8	79	68.1	130	26.8
PWID	37	10.0	12	10.3	49	10.1
MTCT	2	0.5	3	2.6	5	1.0
Unknown	32	8.7	22	19.0	54	11.1
<b>Total</b>	<b>369</b>	<b>100.0</b>	<b>116</b>	<b>100.0</b>	<b>485</b>	<b>100.0</b>

Figure 4 details the 2015 cases by probable route of transmission and age group. The 30-39 year olds accounted for most HIV diagnoses in all transmission groups, including 55% of cases attributed to injecting drug use. Cases attributed to sex between men predominated in all age groups, over 20 years.

<sup>3</sup> The Rainbow Clinic in Our Lady's Children's Hospital in Crumlin reported that there were 90 babies born to HIV infected mothers in Ireland during 2015. At the time of this report, (based on serial HIV PCR testing); 86 of these infants are not infected and 4 remain of indeterminate status (i.e. do not meet the criteria for HIV infection and are <18 months at time of test).

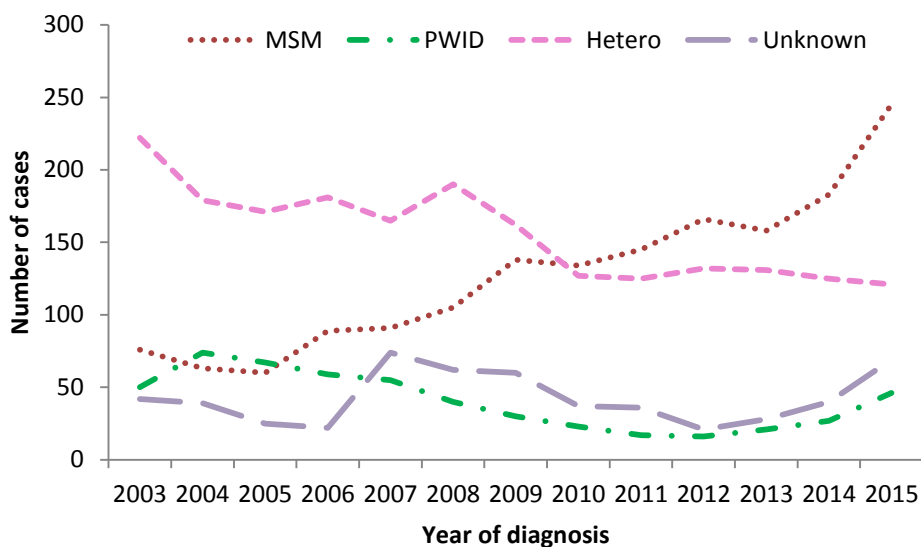


**Figure 4: HIV diagnoses by probable route of transmission and age group, 2015**

Table 4 and figure 5 show the trend in HIV diagnoses by route of transmission from 2003 to 2015. In the 10 years since 2005, the number of diagnoses among MSM has increased four-fold (from 60 to 247). The number of cases among heterosexuals has remained very stable since 2010 with between 125 and 132 cases per year. The number among PWID increased sharply in 2015 due to an outbreak of HIV among PWID (2,3).

**Table 4: HIV diagnoses by probable route of transmission, 2003 to 2015**

Probable route transmission	MSM		PWID		Hetero		MTCT		Unknown		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	48.8	16	4.7	132	38.8	5	1.5	21	6.2	340
2013	158	46.3	21	6.2	131	38.4	3	0.9	28	8.2	341
2014	183	48.5	27	7.2	125	33.2	2	0.5	40	10.6	377
2015	247	50.9	49	10.1	130	26.8	5	1.0	54	11.1	485



**Figure 5: Trend in HIV diagnoses by probable route of transmission, 2003 to 2015**

### 1.3 REGION OF BIRTH

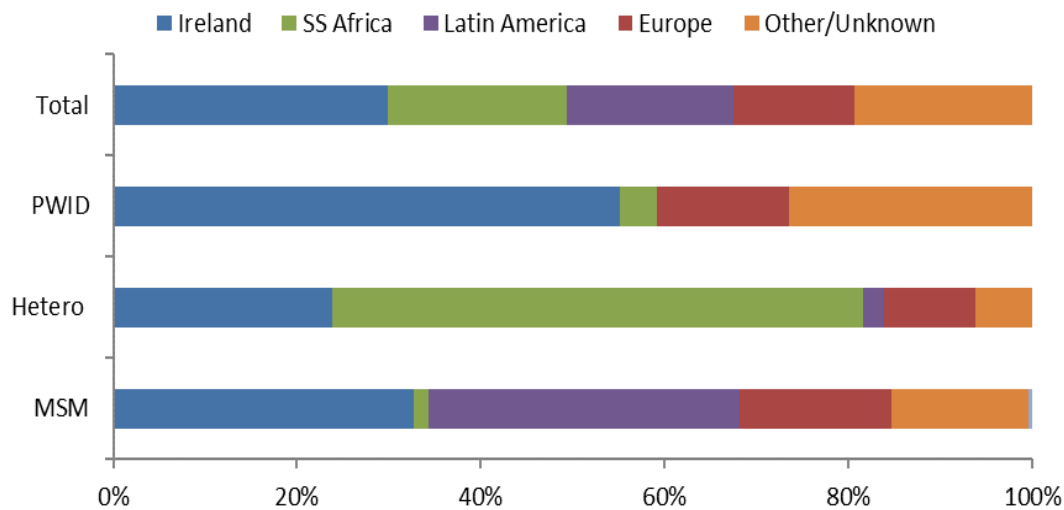
Of the diagnoses in 2015, 30% (n=145) were born in Ireland, 55% (n=267) were born abroad and 15% (n=73) did not have information on country of birth. Of the 267 cases among migrants, 35% (n=94) were born in sub-Saharan Africa and 33% (n=88) were born in Latin America.

Table 5 shows the breakdown of diagnoses by region of birth and gender. Just over a third (35%) of the male cases were born in Ireland while only 15% of the female cases were born in Ireland. Over half (53%) of female cases were born in sub-Saharan Africa.

**Table 5: HIV diagnoses by region of birth and gender, 2015**

Region Of Birth	Male		Female		Total	
	No.	%	No.	%	No.	%
Ireland	128	34.7	17	14.7	145	29.9
Sub Saharan Africa	33	8.9	61	52.6	94	19.4
Latin America	86	23.3	2	1.7	88	18.1
Central Europe	21	5.7	5	4.3	26	5.4
Western Europe	26	7.0	1	0.9	27	5.6
Eastern Europe	3	0.8	8	6.9	11	2.3
South and South East Asia	9	2.4	2	1.7	11	2.3
North America	4	1.1	0	0.0	4	0.8
Other	5	1.3	1	0.9	6	1.2
<b>Total</b>	<b>369</b>	<b>100.0</b>	<b>116</b>	<b>100.0</b>	<b>485</b>	<b>100.0</b>

Geographic origin varied by route of transmission and figure 6 shows the proportion by geographic origin for each route of transmission. Just over a third (34%) of MSM were born in Latin America, 33% in Ireland and 17% in Europe. Fifty eight percent of heterosexual cases were born in sub-Saharan Africa and 24% were Irish born. Fifty-five percent of PWID were born in Ireland and 24% were Irish born. Fifty-five percent of PWID were born in Ireland.

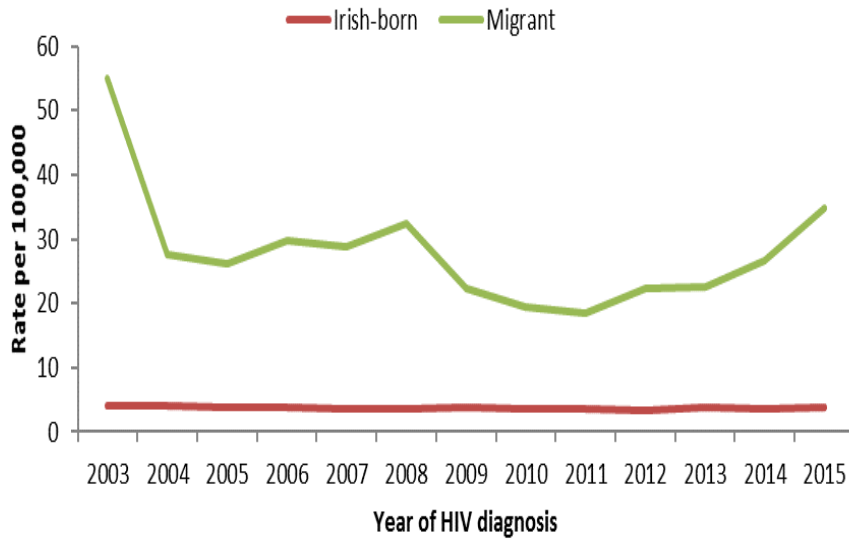


**Figure 6: HIV diagnoses by region of birth and probable route of transmission, 2015**

Figure 7 presents the trend in the rate<sup>4</sup> of diagnoses among those who are born in Ireland and migrants<sup>5</sup>. The rate among those who are born in Ireland has stayed very stable since 2003, ranging from 3.4 to 4.2 per 100,000 population. There has been much greater fluctuation in the rate among migrants and the rate has increased from 18.4 in 2011 to 34.8 per 100,000 in 2015.

<sup>4</sup> Rates should be interpreted with caution as intra-census year rates are calculated using population data from the census year (2002, 2006 and 2011). It is likely that there are ongoing changes in migrant populations in Ireland.

<sup>5</sup> Not born in Ireland



**Figure 7: Trend in HIV diagnoses by migrant status, 2003 to 2015**

#### 1.4 AREA OF RESIDENCE

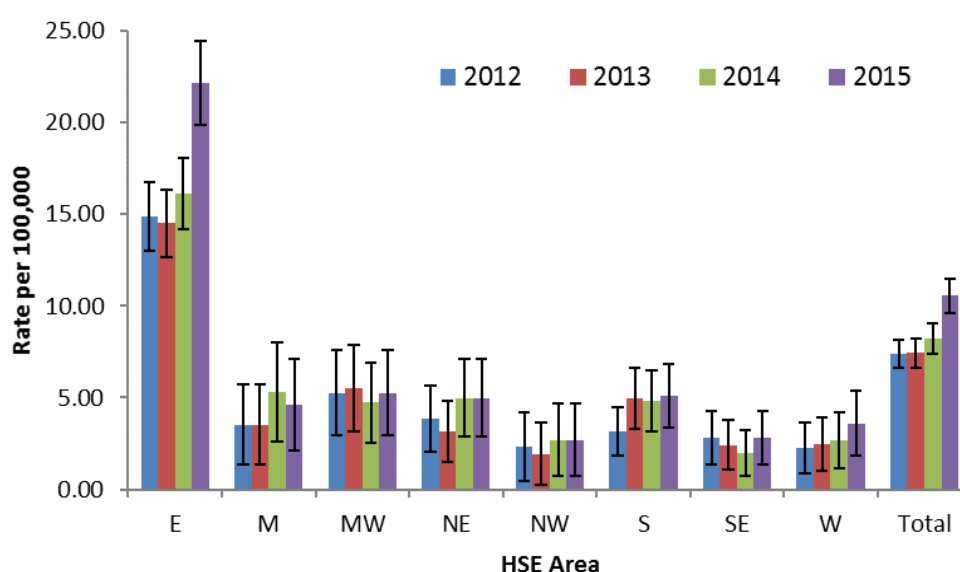
The number of HIV diagnoses in each HSE area and the rate per 100,000 is shown in table 6. In 2015, 359 new HIV cases were diagnosed in people living in HSE East, a rate of 22.2 per 100,000 population. The rate is over twice the national rate. All other areas had rates lower than 6 per 100,000 with the lowest rates in HSE-Northwest (2.7) and HSE-Southeast (2.8).

Figure 8 shows the rate<sup>6</sup> of diagnoses in HSE areas from 2012 to 2015 (with 95% confidence intervals). There was a significant increase (38%) in the rate of diagnoses in HSE East between 2014 and 2015, from 16.1 to 22.2 per 100,000 population. No other area had a significant change.

<sup>6</sup> Based on 2011 census

**Table 6: Number and rate of HIV diagnoses by HSE area of residence<sup>7</sup>, 2015**

HSE Area	Counties	Number	Rate per 100,000
East	Dublin, Kildare, Wicklow	359	22.2
Midlands	Laois, Longford, Offaly, Westmeath	13	4.6
Midwest	Limerick, Clare, Tipperary North	20	5.3
Northeast	Louth, Meath, Cavan, Monaghan	22	5.0
Northwest	Sligo, Leitrim, Donegal	7	2.7
Southeast	Wexford, Waterford, Carlow, Kilkenny, Tipperary South	14	2.8
South	Cork, Kerry	34	5.1
West	Galway, Mayo, Roscommon	16	3.6
<b>Total</b>		<b>485</b>	<b>10.6</b>



**Figure 8: Trend in the rate of HIV diagnoses by area of residence, 2012 to 2015**

### 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 2015, 27% (n=129) were reported to have previously tested HIV positive abroad. Of those who previously tested positive abroad, 64% had been on anti-retroviral therapy (ART).

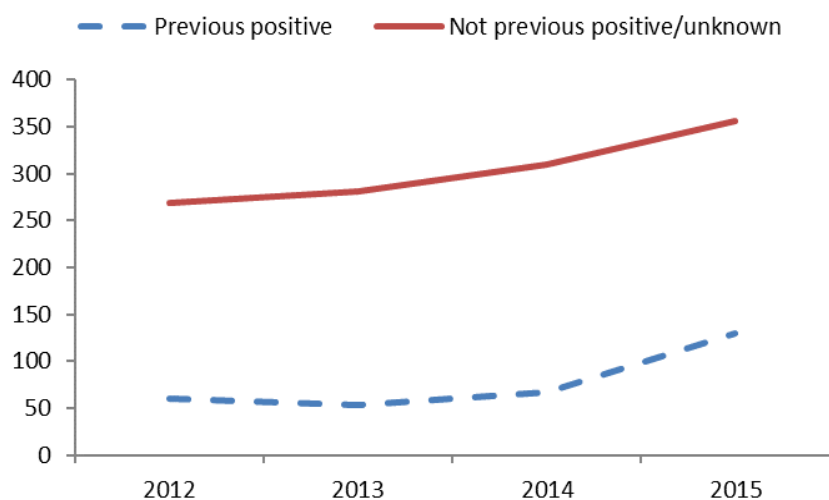
<sup>7</sup> If information on area of residence is not available, cases are assigned to the HSE area of the clinician or the laboratory.

Table 7 describes those who previously tested positive by probable route of transmission. Heterosexuals were the group with the highest proportion previously diagnosed HIV positive abroad (35%), followed by MSM (29%) and PWID (10%).

**Table 7: HIV diagnoses by history of previous HIV diagnosis abroad and probable route of transmission, 2015**

	MSM		Hetero		PWID		Unknown		Total	
Previously diagnosed HIV positive abroad	72	29.1	45	34.6	5	10.2	7	11.9	129	26.6
Not previously HIV positive/Not known	175	70.9	85	65.4	44	89.8	52	88.1	356	73.4
<b>Total</b>	<b>247</b>	<b>100.0</b>	<b>130</b>	<b>100.0</b>	<b>49</b>	<b>100.0</b>	<b>59</b>	<b>100.0</b>	<b>485</b>	<b>100.0</b>

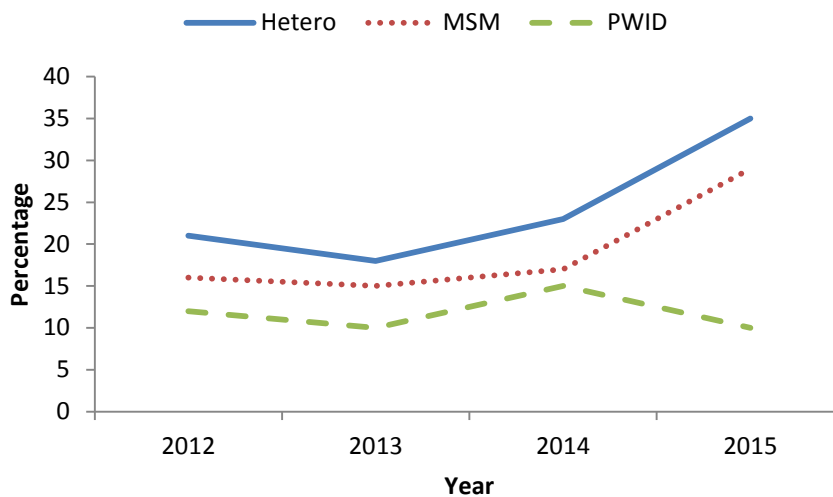
Figure 9 shows the trend in the number of people who were previously diagnosed HIV positive abroad from 2012 to 2015. The number with a previous HIV diagnosis abroad almost doubled between 2014 and 2015 (from 67 to 129). The change in case definition in January 2015 may account for some of the increase in this proportion, as those known to have been previously treated abroad, may not have had two separate tests to confirm HIV diagnosis on arrival in Ireland, and would not have been included in surveillance prior to 2015, but are now included in the national figures. However, there has also been an increase between 2014 and 2015 (15%) among people who did not previously have a HIV diagnosis abroad (from 310 to 356).



**Figure 9: Trend in HIV diagnoses by history of previous positive diagnosis, 2012 to 2015**



Figure 10 shows the trend in the proportion of people who were previously diagnosed HIV positive abroad from 2012 to 2015 by route of transmission. The proportion who were previously diagnosed HIV positive abroad was highest among heterosexuals from 2012 to 2015 and increased from 23% in 2014 to 35% in 2015. The proportion among MSM increased from 17% in 2014 to 29% in 2015. The proportion among PWID increased from 17% in 2014 to 29% in 2015.



**Figure 10: Trend in proportion previously HIV positive by route of transmission, 2012 to 2015**

#### Transfer of care

Since 2015, data is collected on whether a person is a “transfer of care” (previously in care in another country and this care is transferred to a service in Ireland). One hundred and two people diagnosed in Ireland in 2015 were “transfer of care”. This represents 79% of those who were previously diagnosed HIV positive abroad and 21% of HIV diagnoses in 2015. Of the 102 people, 73% were previously on ART, 12% were started on ART at this diagnosis, for 8% of cases ART was not indicated and for the remaining 8% the information was not available.

- By risk group, 27% of heterosexuals, 24% of MSM and 8% of PWID were reported as transfer of care.
- By region of birth, 35% of migrants and 5% of Irish born and were reported as transfer of care.

## 1.6 STAGE OF HIV INFECTION

**Late Diagnosis:** CD4 count of less than 350 cells/ $\mu$ l at diagnosis or an AIDS defining illness at diagnosis (excluding those with evidence of acute infection<sup>8</sup>)

**Advanced HIV Infection:** CD4 count of less than 200 cells/ $\mu$ l at diagnosis or an AIDS defining illness at diagnosis (excluding those with evidence of acute infection<sup>8</sup>)

### Late presentation

Of all people diagnosed with HIV in Ireland in 2015, 45% were late presenters (where information on CD4 count or AIDS defining illness at diagnosis was available). This is slightly lower than the proportion in recent years (47% in 2014 and 49% in 2013). However, information on stage of diagnosis (CD4 count at diagnosis or AIDS defining illness) was only available for 74% of cases in 2015 which is considerably less than in 2014 (88%) and 2013 (89%).

Considering the high proportion of people diagnosed with HIV in Ireland who have previously been diagnosed HIV positive abroad, it is important to separate out these groups when looking at late presentation. The proportion of people who presented late was much lower (31%) among those who had a previous HIV diagnosis abroad compared to those who were not reported to have a previous diagnosis abroad (52%).

Table 8 presents the proportion presenting late among (a) all diagnoses in 2015 and (b) among those who were not previously diagnosed HIV positive abroad. The groups with the highest proportions presenting late were male heterosexuals, people aged 50 years and over and people born in sub-Saharan Africa.

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<sup>8</sup> P24 antigen positive or clinical diagnosis of acute sero-conversion illness

**Table 8: Frequency of late presentation in all 2015 HIV diagnoses by gender, probable route of transmission, age group and region of origin, 2015**

		Number and Proportion presenting late <sup>9 10</sup>			
		All 2015 diagnoses		2015 diagnoses excluding those previously HIV positive abroad	
		n	%	n	%
Total		161	45.1	126	51.9
Gender	Female	39	48.8	26	53.1
	Male	122	44.0	100	51.5
Route of transmission	MSM	71	35.9	55	42.0
	PWID	17	53.1	15	51.7
	Hetero- male	34	67.4	27	81.8
	Hetero - female	31	50.7	24	57.1
Age Group (yrs)	20-29	44	41.9	33	45.2
	30-39	65	45.5	50	53.8
	40-49	31	46.3	27	55.1
	50+	20	54.1	16	64.0
Region of origin	Ireland	58	45.0	55	47.8
	Europe	24	44.4	16	61.5
	Latin America	27	33.8	29	49.2
	Sub-Saharan Africa	41	56.2	28	68.3

### Advanced HIV Infection

Of all people diagnosed with HIV in Ireland in 2015, 23% had advanced HIV infection (where information on CD4 count or AIDS defining illness at diagnosis was available). This compares to 27% in 2014 and 26% in 2013.

The proportion of people who presented with advanced HIV infection was much lower (11%) among those who had a previous HIV diagnosis abroad compared to those who were not reported to have a previous diagnosis abroad (28%).

<sup>9</sup> Late defined as CD4 count less than 350 cells/ $\mu$ l at diagnosis or an AIDS defining illness at diagnosis

<sup>10</sup> Where information on CD4 count or AIDS defining illness at diagnosis was available

## 1.7 CLINICAL STAGE AT DIAGNOSIS

Clinicians are also asked to indicate the clinical stage at diagnosis for people newly diagnosed with HIV. Of the 2015 cases, 50% (n=240) were asymptomatic, 13% (n=61) were symptomatic (non-AIDS), 6% (n=29) had an AIDS-defining illness, 2% (n=9) had an acute sero-conversion illness, and the clinical stage was not reported for the remaining 30% (n=146).

### AIDS defining illness at time of HIV diagnosis

Of the 29 people with an AIDS defining illness at the time of HIV diagnosis

- Fourteen were heterosexual, 13 were MSM, one was a PWID and one did not have a reported risk group
- Sixteen were born in Ireland and 13 were migrants.
- The most commonly reported AIDS defining illnesses were PCP (Pneumocystis pneumonia) (34%) which was also the most common AIDS defining illness among MSM (39%) and heterosexuals (29%).

## 1.8 CO-INFECTIONS

Table 9 presents data on co-infections with acute infectious syphilis, chlamydia, gonorrhoea, TB, hepatitis B and C by probable route of transmission.<sup>11</sup>

### Co-infection with STIs

People co-infected with HIV and sexually transmitted infections (STIs) are more likely to transmit HIV during sex (4). Of new HIV diagnoses in 2015, 14% were co-infected with an acute bacterial STI (chlamydia, gonorrhoea and/or early infectious syphilis). This was highest among MSM with 23% having a concurrent bacterial STI, compared to 5% among heterosexuals and 4% among PWID.

### Co-infection with TB

Six people (1%) were co-infected with TB at the time of HIV diagnosis.

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<sup>11</sup> Data on co-infections are obtained from data provided on the HIV enhanced surveillance form.

## Co-infection with Hepatitis B and C

Twelve people (3%) were co-infected with hepatitis B, including one person co-infected with acute hepatitis B. Forty one people (9%) were co-infected with hepatitis C, including two people with acute hepatitis C.

**Table 9: Co-infections with HIV by probable route of transmission, 2015**

Co-infection with	MSM		Hetero		PWID		Total	
	No.	%	No.	%	No.	%	No.	%
Acute STI <sup>12</sup>	57	23.1	7	5.4	2	4.1	68	14.0
Chlamydia	23	9.3	4	3.1	0	0	27	5.6
Gonorrhoea	25	10.1	0	0.0	0	0	25	5.2
Early Infectious Syphilis	20	8.1	4	3.1	2	4.1	28	5.8
TB	1	0.4	4	3.1	1	2.0	6	1.2
Hepatitis B	1	0.4	6	4.6	3	6.1	12	2.5
Hepatitis C	3	1.2	5	3.8	31	63.3	41	8.5

## 1.9 HISTORY OF HIV TESTING

Of diagnoses in 2015, 36% reported having previously tested negative, 23% reported that they did not have a previous negative test and information was unavailable for the remaining 41%.

Table 10 describes HIV testing history by probable route of transmission. The proportion with a history of a previous negative HIV test was highest among PWID (57%) followed by MSM (45%) and heterosexuals (27%). The proportion who were infected in either 2014 or 2015 (had a previous negative test in either 2014 or 2015) was highest among PWID (23%), followed by MSM (20%) and lowest among heterosexuals (3%).

**Table 10: HIV diagnoses by probable route of transmission and HIV testing history, 2015**

	MSM		Hetero		PWID		Other/Unk		Total	
	No	%	No	%	No	%	No	%	No	%
Previous negative test in 2014/2015	50	20.2	4	3.1	11	22.5	2	3.4	67	13.8
Previous negative test pre 2014	60	24.3	31	23.8	17	34.7	1	1.7	109	22.5
No previous negative test	54	21.9	42	32.3	5	10.2	9	15.3	110	22.7
Unknown	83	33.6	53	40.8	16	32.7	47	79.7	199	41.0
<b>Total</b>	<b>247</b>	<b>100.0</b>	<b>130</b>	<b>100.0</b>	<b>49</b>	<b>100.0</b>	<b>59</b>	<b>100.0</b>	<b>485</b>	<b>100.0</b>

<sup>12</sup> Acute STI: chlamydia, gonorrhoea or early infectious syphilis

## 2. LABORATORY DATA

### 2.1 HIV RESISTANCE DATA

Transmitted (or primary) HIV drug resistance (TDR) occurs when a resistant virus is acquired by a treatment naïve individual. TDR is of public health concern as it has implications for national treatment policies and first line treatment options.

At present, the NVRL performs genotypic antiretroviral resistance testing (GART) primarily for clinical purposes. During 2015, GART was performed by the NVRL on 293 samples from individuals newly diagnosed with HIV<sup>13</sup>. Amongst these, one or more resistance mutations, from the 2009 World Health Organization (WHO) list of surveillance drug resistant mutations (SDRMs) (5), was detected in 20 presumed treatment naïve individuals, yielding a TDR rate of 6.8%. This is in keeping with previously published findings from the period 2004 through 2008 (6). Twenty eight SDRMs were detected in these 20 individuals: 16 non-nucleoside reverse transcriptase inhibitors (NNRTI); eight nucleoside reverse transcriptase inhibitors (NRTI); and four protease inhibitors (PI). Seventeen individuals had resistance to a single drug class, two had dual class resistance, and one had resistance to three drug classes. Mutations detected are outlined in appendix 2.

Given its potential impact on the control of HIV, WHO and ECDC recommend the surveillance of TDR. The establishment of national TDR surveillance is currently being considered.

### 2.2 HIV TESTING DATA

In 2015, there were 178,267 HIV tests carried out in 12 laboratories in Ireland<sup>14</sup>, 110,602 tests among females and 66,904 tests among males (761 gender unknown). This gives a testing rate of 38.9 per 1,000 population (47.8 per 1,000 among females and 29.4 per 1,000 among males). The higher rate of testing in females reflects the HIV antenatal screening programme.

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<sup>13</sup> Not all newly diagnosed samples underwent GART due to non-receipt of a sample or clinical request, or due to an undetectable viral load.

<sup>14</sup> Hospitals which provided 2015 HIV testing data: Biomnis Laboratory, Dublin; Bon Secours, Cork; Galway Clinic; Galway University Hospital; Mercy University Hospital, Cork; Limerick University Hospital; National Virus Reference Laboratory, Dublin; Portiuncula Hospital, Galway; Rotunda Maternity Hospital, Dublin; Galway University Hospital; St James's Hospital, Dublin; Waterford Regional Hospital; Sligo Regional Hospital

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 2015

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.

#### Data from enhanced surveillance forms

Among the HIV diagnoses in 2015, six people were reported to have died at the time of HIV notification. The deaths were in five men and one woman. The route of transmission for the people who died was injecting drug use (n=3), heterosexual transmission (n=1), sex between men (n=1) and unknown (n=1).

#### Data from CSO Vital Statistics report

There were nine deaths reported to the CSO in 2015 where the cause of death was AIDS or HIV, eight males and one female (see Table 11).

**Table 11: Number of deaths reported to CSO in 2015 where cause of death is AIDS or HIV<sup>15</sup>**

	Age Group (years)					Total
	15-24	25-34	35-44	45-54	55+	
Male	0	1	1	4	2	8
Female	0	0	0	0	1	1
Total	0	1	1	4	3	9

<sup>15</sup> Source: Vital Statistics Reports, CSO available at

<http://www.cso.ie/en/releasesandpublications/ep/p-vsyst/vitalstatisticsyearlysummary2015/>

#### 4. MEN WHO HAVE SEX WITH MEN (MSM)

MSM remain the population most affected by HIV in Ireland. In 2015, there were 247 new HIV diagnoses reported among MSM which was just over half (51%) of all diagnoses in 2015. Table 12 presents key characteristics of diagnoses among MSM in 2015. Of note, 29% of MSM diagnosed with HIV in Ireland in 2015 had a previous HIV diagnosis abroad and 82% of these men had transferred their HIV care from abroad to Ireland.

The number of diagnoses in 2015 is the highest number ever reported among MSM in Ireland and is an increase of 34% compared to 2014. This is largely due to an increase in the number of diagnoses among MSM from Latin America (see Figure 11). Forty percent of the diagnoses among MSM born in Latin America previously tested HIV positive abroad.

By age group, the number of diagnoses among MSM has increased sharply among those aged 25-39 years while the number in younger and older age groups have remained more stable (see Figure 12).

**Table 12: Characteristics of HIV diagnoses among MSM, 2015**

Age	Median age (years)	32
	Age range of adult cases (years)	19-72
	Young people aged 15-24 years (%)	8.9
	Aged 50 and older (%)	8.5
Geographic origin	Born in Ireland (%)	32.8
	Born Abroad (%)	57.1
	Unknown (%)	10.1
Stage of Infection <sup>16</sup> (of those with CD4 count at diagnosis reported)	Late (<350 cells/ $\mu$ l) (%)	35.9
	Advanced HIV infection (<200 cells/ $\mu$ l) (%)	15.7
	Concurrent AIDS diagnosis (%)	5.3
Co-infections	Acute STI (%)	23.1
	Gonorrhoea	10.1
	Chlamydia	9.3
	Early Infectious Syphilis	8.1
Previous history of testing	Previously tested positive abroad (%)	28.7
	Transfer of care (of those with a previous positive diagnosis) (%)	81.9

<sup>16</sup> Stage of infection of all HIV diagnoses among MSM in 2015 (see Table 8 on page 19 for analysis among those without a previous positive diagnosis)



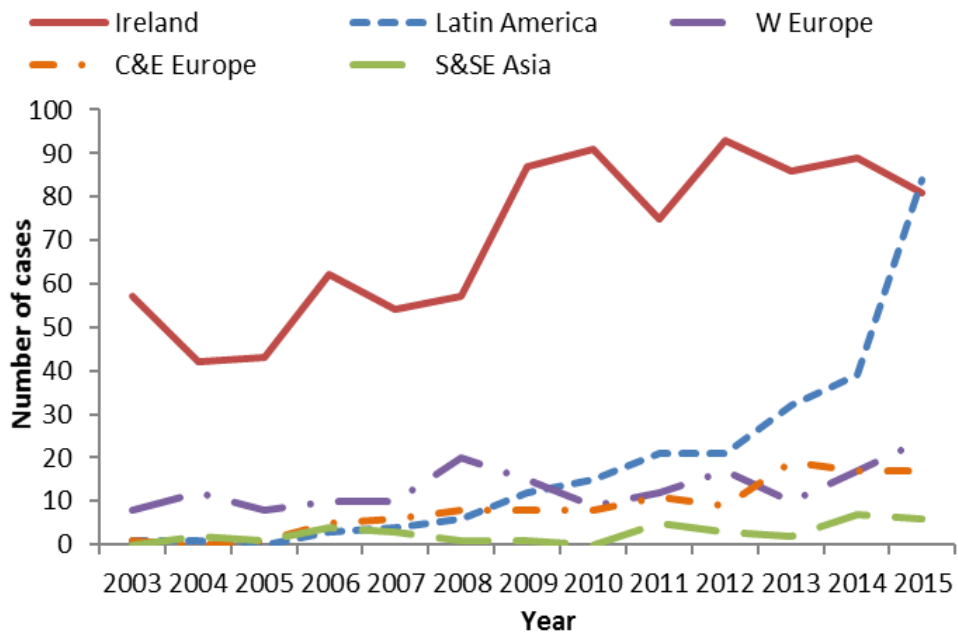


Figure 11: Trend in HIV diagnoses among MSM by region of birth, 2003 to 2015

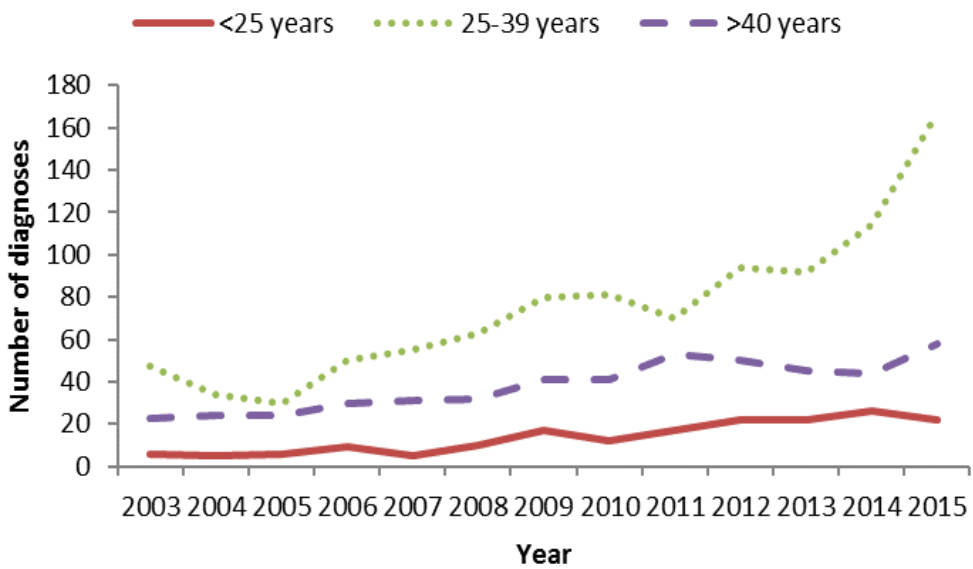


Figure 12: Trend in HIV diagnoses among MSM by age group, 2003 to 2015

## 5. HETEROSEXUALS

Heterosexual transmission accounted for 27% of HIV diagnoses in Ireland in 2015, with 79 diagnoses among females and 51 among males. Heterosexual contact is the most common HIV transmission method among women and the second most common among men in Ireland. Since 2010, the number of diagnoses among heterosexuals has remained fairly stable between 125 and 132 cases.

Table 13 presents key characteristics of diagnoses among male and female heterosexuals in 2015. Of note, 35% of heterosexual cases were previously diagnosed HIV positive abroad and 78% of these people transferred their care to Ireland.

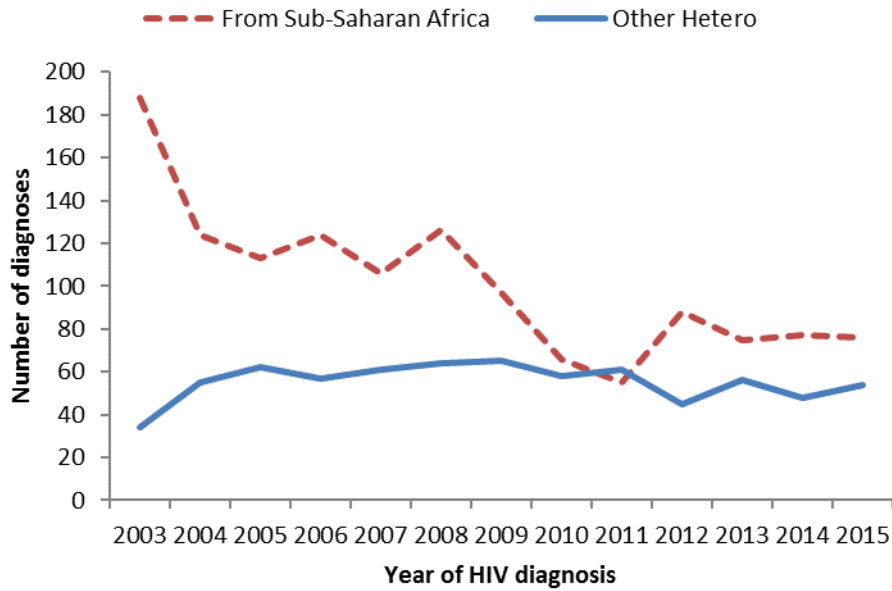
**Table 13: Characteristics of HIV diagnoses among male and female heterosexuals, 2015**

		Male	Female
Age	Median age (years)	41	33
	Age range (years)	24-67	18-71
	Young people aged 15-24 years (%)	2.0	8.9
	Aged 50 and older (%)	13.7	12.7
Geographic origin	Ireland (%)	43.1	11.4
	Sub-Saharan Africa (%)	39.2	69.6
	Other (%)	13.9	11.8
	Unknown (%)	2.0	3.8
Stage of Infection <sup>17</sup> (of those with CD4 count at diagnosis reported)	Late (<350 cells/ $\mu$ l) (%)	67.4	50.0
	Advanced HIV infection (<200 cells/ $\mu$ l) (%)	45.7	23.9
	Concurrent AIDS diagnosis (%)	15.7	7.6
Co-infections	Acute STI (%)	5.9	5.1
	TB (%)	3.9	2.5
Previous history of testing	Previously tested positive abroad (%)	29.4	36.7
	Transfer of care (of those with a previous positive diagnosis abroad) (%)	86.7	73.3
Heterosexual subcategory	Born in a county with a generalised epidemic	39.2	70.9
	Other <sup>18</sup>	13.7	8.9
	No risk identified	47.1	20.3

<sup>17</sup> Stage of infection of all HIV diagnoses in heterosexuals in 2015 (see Table 8 on page 19 for analysis among those without a previous positive diagnosis)

<sup>18</sup> Other includes sexual partner from a country with a generalised epidemic, sexual partner who is high risk, sexual partner who is known to be HIV positive

The majority of heterosexual cases diagnosed in 2015 were born in sub-Saharan Africa, an area of the world which has a generalised HIV epidemic (>1% of the general population with HIV). Figure 13 shows the trend from 2003 to 2015 in the number of diagnoses among those born in sub-Saharan Africa and all other heterosexual cases.



**Figure 13: Trend in HIV diagnoses by heterosexual subcategory, 2003 to 2015**

## 6. PEOPLE WHO INJECT DRUGS (PWID)

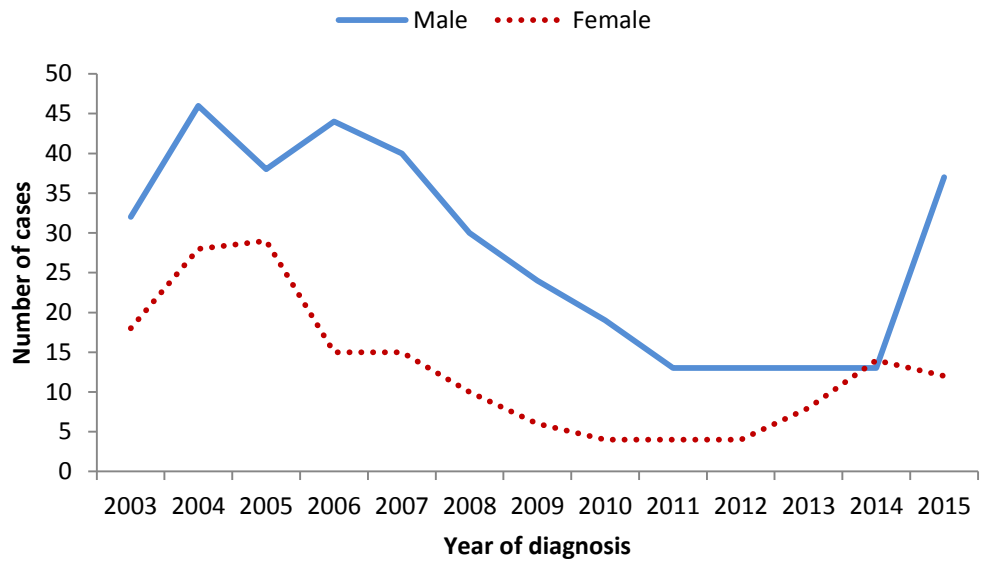
Ten percent (n=49) of diagnoses in 2015 were among PWID. This was an increase of 81% compared to 2014 (n=27). This increase was due to an outbreak of recently acquired HIV infection among PWID living in Dublin in 2014/2015 (2,3). This occurred in generally homeless chaotic polydrug users, and among this population, the outbreak was associated with injection of snow blow, a synthetic cathinone. Other risk factors were found to be the re-use of needles and syringes and having a sexual partner who was also with injecting drugs. Prevention and control efforts were targeted to this group and the outbreak was declared over in February 2016. As a result of the outbreak, there was increased testing among PWID and improved surveillance in this group.

Table 14 presents key characteristics of diagnoses among PWID in 2015 and Figure 14 describes the changing trend in male and female cases between 2003 and 2014.

**Table 14: Characteristics of HIV diagnoses among PWID, 2015**

Gender	Males (%)	75.5
	Females (%)	24.5
	Male to female ratio	3.1
Age	Median age of adult cases (years)	37
	Age range of adult cases (years)	20-55
	Young people aged 15-24 years (%)	4.1
	Aged 50 and older (%)	6.1
Geographic origin	Born in Ireland (%)	55.1
	Born Abroad (%)	20.4
	Unknown (%)	24.5
Stage of Infection <sup>19</sup> (of those with CD4 count at diagnosis reported)	Late (<350 cells/ $\mu$ l) (%)	53.1
	Advanced HIV infection (<200 cells/ $\mu$ l) (%)	28.1
	Concurrent AIDS diagnosis (%)	0.0
	P24 Antigen Positive (indicating acute)	16.3
Co-infections	Hepatitis C (%)	53.1
Previous history of testing	Previously tested positive abroad (%)	10.2

<sup>19</sup> Stage of infection of all HIV diagnoses in PWID in 2015 (see Table 8 on page 19 for analysis among those without a previous positive diagnosis)



**Figure 14: Trend in HIV diagnoses among PWID by gender, 2003 to 2015**

## TECHNICAL NOTES

- 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. Further information on HIV surveillance in Ireland can be found at <http://www.hpsc.ie/A-Z/HIVSTIs/HIVandAIDS/SurveillanceDocuments/File,13903,en.pdf>.
- Data for this report were extracted from CIDR on 2<sup>nd</sup> August 2016 and were correct at the time of publication.
- Data from previous years is updated on an ongoing basis in CIDR, and so data from previous years presented in this report represents our current understanding and most up to date data, and may not correspond exactly with what was reported in previous annual reports. Similarly, data for 2015 may be updated further in due course and will be reported on in subsequent annual reports
- Percentages are rounded up in the text and are provided to one decimal place in the tables.
- 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.
- Data are presented by date of notification

## OTHER SOURCES OF DATA

- Weekly, quarterly and annual reports on the epidemiology of HIV in Ireland can be found at <http://www.hpsc.ie/A-Z/HIVSTIs/HIVandAIDS/SurveillanceReports/>
- Reports on HIV antenatal screening can be found at <http://www.hpsc.ie/A-Z/HIVSTIs/HIVandAIDS/AntenatalHIVTesting/ReportsonAntenatalHIVTestinginIreland/>
- The case definition for HIV can be found on the HPSC website at <http://www.hpsc.ie/NotifiableDiseases/CaseDefinitions/>
- The HIV enhanced surveillance form can be found at <http://www.hpsc.ie/A-Z/HIVSTIs/HIVandAIDS/SurveillanceDocuments/Surveillanceforms/>

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## APPENDIX 1: ADDITIONAL TABLES

**Table A1: HIV diagnoses by route of transmission and probable region of infection, 2015**

Probable region of Infection	MSM		Hetero		PWID		Other/Unk		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Ireland	107	43.3	36	27.7	27	55.1	4	6.8	174	35.9
Sub-Saharan Africa	5	2.0	55	42.3	1	2.0	4	6.8	65	13.4
Western Europe	26	10.5	5	3.8	0	0.0	0	0.0	31	6.4
Central & Eastern Europe	6	2.4	6	4.6	4	8.2	3	5.1	19	3.9
Latin America	48	19.4	1	0.8	0	0.0	0	0.0	49	10.1
Other	11	4.5	4	3.1	1	2.0	5	8.5	21	4.3
Unknown	44	17.8	23	17.7	16	32.7	43	72.9	126	26.0
<b>Total</b>	<b>247</b>	<b>100.0</b>	<b>130</b>	<b>100.0</b>	<b>49</b>	<b>100.0</b>	<b>59</b>	<b>100.0</b>	<b>485</b>	<b>100.0</b>

**Table A2: HIV diagnoses by reason for HIV test, gender and route of transmission, 2015**

Reason for Test	Gender		Probable route of transmission				Total
	Female	Male	MSM	Hetero	PWID	Oth/Unk	
Antenatal	18	-	-	13	1	4	<b>18</b>
Asylum seeker screening	11	9	2	16	2	-	<b>20</b>
Known positive partner	5	26	17	12	2	-	<b>31</b>
STI screen	7	91	80	14	3	1	<b>98</b>
Risky behaviour	4	63	52	4	10	1	<b>67</b>
Symptomatic	21	74	43	36	10	6	<b>95</b>
Other	10	19	7	10	5	7	<b>29</b>
Unknown	40	87	46	25	16	40	<b>127</b>
<b>Total</b>	<b>116</b>	<b>369</b>	<b>247</b>	<b>130</b>	<b>49</b>	<b>59</b>	<b>485</b>



## APPENDIX 1: RESISTANCE MUTATIONS DETECTED IN IRELAND DURING 2015<sup>20</sup>

NRTI DRMs	Frequency in Ireland 2015	NNRTI DRMs	Frequency in Ireland 2015	PI DRMs	Frequency in Ireland 2015
M41L	3	L100I	1	L23I	-
K65R	-	K101E/P	1	L24I	-
D67N/G/E	1	K103N/S	9	D30N	1
T69D/Ins	-	V106M/A	-	V32I	-
K70R/E	1	V179F	-	M46I/L	2
L74V/I	-	Y181C/I/V	-	I47V/A	-
V75M/T/A/S	-	Y188L/H/C	1	G48V/M	-
F77L	-	G190A/S/E	-	I50V/L	-
Y115F	-	P225H	4	F53L/Y	-
F116Y	-	M230L	-	I54V/L/M/A/T/S	-
Q151M	-			G73S/T/C/A	-
M184V	1			L76V	-
L210W	-			V82A/T/F/S/C/M/L	-
T215Y/F/I/S	1			N83D	-
T215C/D/V/E	1			I84V/A/C	-
K219Q/E/N/R	-			I85V	-
				N88D/S	1
				L90M	-
<b>TOTAL</b>	<b>8</b>		<b>16</b>		<b>4</b>

<sup>20</sup> from the World Health Organisation 2009 List of Mutations for Surveillance of Transmitted Drug Resistance