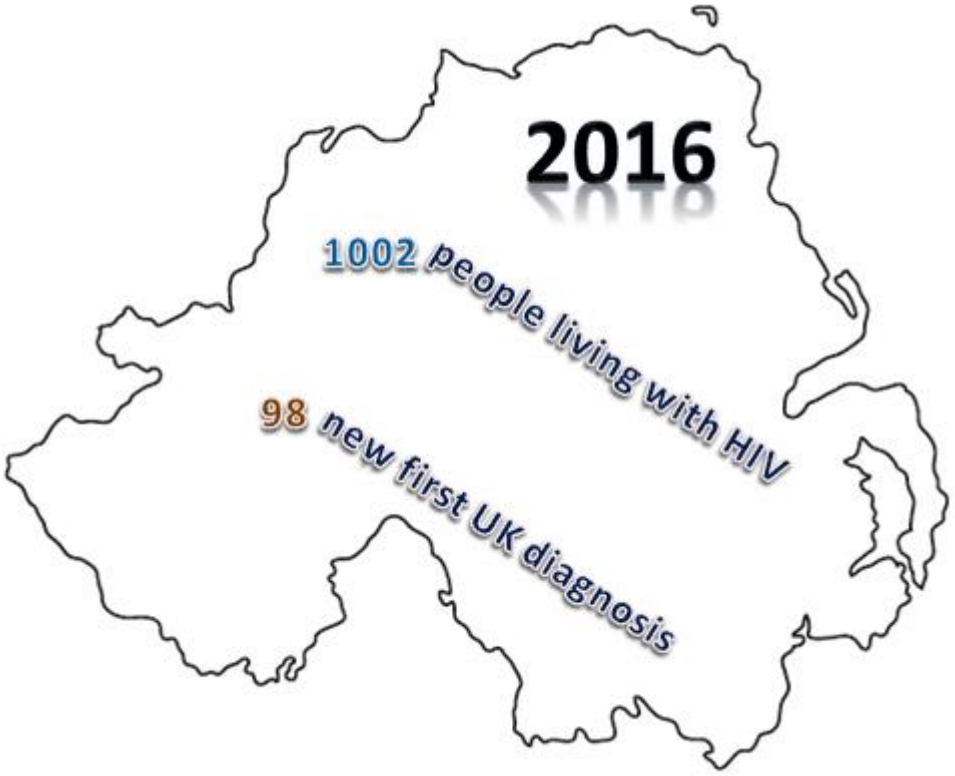
HIV surveillance in Northern Ireland 2017



An analysis of data for the calendar year 2016

HSC Public Health Agency

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This report aims to provide an overview of HIV epidemiology in Northern Ireland by collating and analysing information from a number of sources. Although it reflects epidemiological trends over time, its main focus will be on data collected in 2016.

This publication follows ONS guidance on data disclosure. Where the number of any category of episodes in any one year is between one and four, this is reported either within a cumulative figure, or as an asterix. In addition, where the anonymised figure can be deduced from the totals, the next smallest figure will also be anonymised.

Where percentage figures are given they may not necessarily add to 100% due to rounding.

There is some variance between data published in this report and that published in PHE national data tables. This reflects updated data validation and follow up performed by PHA. Changes will be reflected in the next archive of the national data tables.

1: Surveillance arrangements

Surveillance arrangements for diagnosed HIV/AIDS infection in England, Wales and Northern Ireland are based largely on the confidential reporting of HIV-infected individuals by clinicians to Public Health England, Colindale in London. The main surveillance categories are:

- New HIV diagnoses: data relating to individuals whose first UK diagnosis was made in Northern Ireland

- CD4 T cell data: laboratory reporting of CD4 cell counts on new diagnoses to provide a measure of the stage of an individual's disease around the time of diagnosis

- Accessing HIV care: data relating to individuals who accessed statutory HIV services in England, Wales or Northern Ireland and who were resident in Northern Ireland when last seen for care in 2016 (Survey of Prevalent HIV Infections Diagnosed – SOPHID)

- HIV Testing data: data relating to the number of tests carried out in Northern Ireland is provided by the Regional Virology Laboratory and the Antenatal Screening Programme

2: Introduction and key points

HIV/AIDS is a viral infection caused by type 1 and type 2 HIV retroviruses. Modes of transmission include sexual contact, the sharing of HIV-contaminated needles and syringes, and transmission from mother to child before, during or shortly after birth. Although the risk of HIV transmission through sexual contact is lower than for most other sexually transmitted agents, this risk is increased in the presence of another sexually transmitted illness, particularly where ulcerative. Early treatment of the disease with highly active antiretroviral therapy (HAART) has produced major advances in survival rates.

Annual new HIV diagnoses continue to decline in the UK overall. During 2016, 5,164 new HIV diagnoses were made in the UK, a decrease of 18% from 6,286 new diagnoses the previous year.[1] Although interpretation is complicated by small number variation there is a continued upward trend in annual new diagnoses in Northern Ireland. While prevalence in Northern Ireland is increasing, it remains lower than in the other UK countries. The key routes of transmission remain sexual contact involving men who have sex with men (MSM) and sexual contact between men and women.

During 2016:

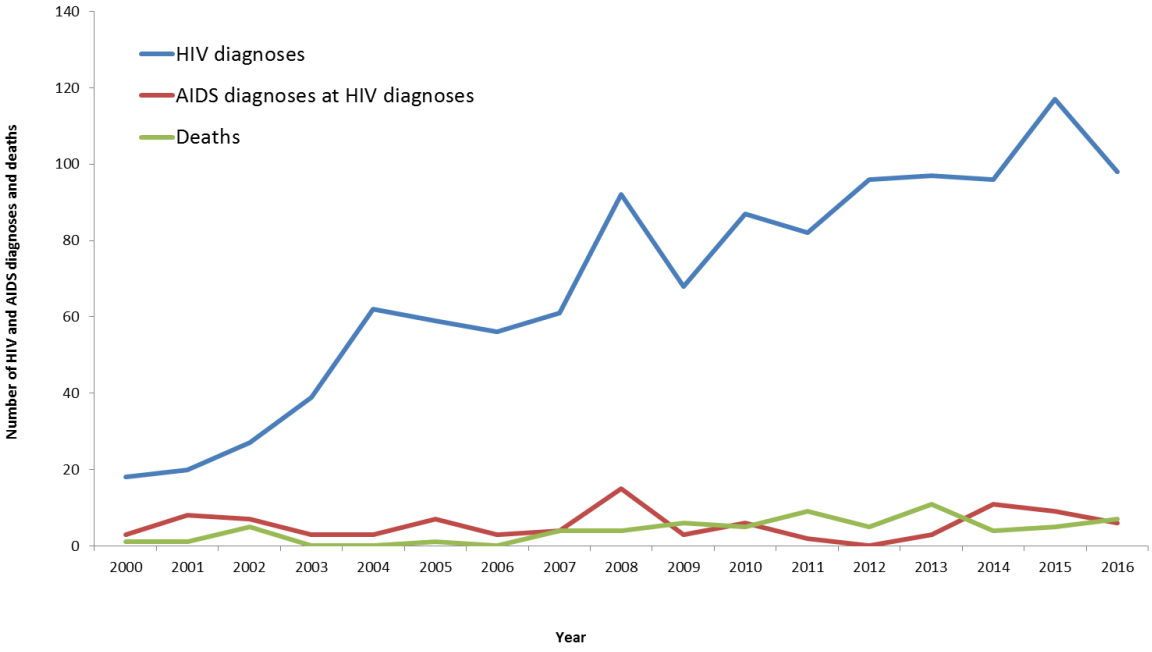
- 98 new first-UK cases of HIV were diagnosed in Northern Ireland
- 54 (55%, 54/98) new HIV diagnoses occurred through MSM transmission
- 36 (37%, 36/98) new HIV diagnoses occurred through heterosexual transmission
- 8 (8%, 8/98) new HIV diagnoses occurred through other or unknown transmission routes
- 34 (47%, 34/73) new HIV diagnoses were made at a late stage (cases which had a CD4 count within 91 days of diagnosis, and in whom the CD4 count <350 cells/mm^3)
- 1002 HIV-infected residents of Northern Ireland (as defined when last seen for statutory medical HIV-related care in 2016) received care
- 98% (939/957) of those receiving care, and where route of transmission was known, acquired their infection through sexual contact. Of these, 59% (561/957) acquired their infection through sexual contact involving MSM and 39% (378/957) through heterosexual contact. Two percent (18/957) acquired their infection through non-sexual contact
- 61,351 HIV tests were carried out in Northern Ireland, of which 24,813 were performed as part of the antenatal screening programme

3: Trend information

New diagnoses

There has been a general upward trend in new HIV diagnoses in Northern Ireland since 2000. In 2015 there were 117 new first UK diagnosed cases in Northern Ireland which is the highest number recorded in any year. 2016 has seen a decrease to 98 new diagnoses (Figure 1).

Figure 1: New HIV and AIDS diagnoses and deaths among HIV-infected persons, by year of diagnosis or death, Northern Ireland, 2000–2016



The numbers of AIDS diagnoses and of deaths reported in individuals with HIV have remained relatively low since 2000 largely to the effectiveness of HAART. In 2016 there were 6 people who were diagnosed with AIDS at their HIV diagnosis (reported AIDS defining illness within 3 months of HIV diagnosis).

Age and gender

Between 2007 and 2016, females accounted for 21% of the total new cases diagnosed (189/894). Males accounted for 79% (705/894) of which 70% (490/705) were MSM. Diagnostic rates have been consistently highest in males and have shown an increased trend over this period. Rates have remained relatively stable in females over this time (Figure 2).

Diagnostic rates are generally higher in males across all age groups. Although peak rates have historically been in the 25-34 and 35-44 year old age groups, there has been an increasing trend in 20-24 year olds. Rates are generally lower in females and highest in the 25-34 and 35-44 age groups (Table 1, 2).

Figure 2: Diagnostic rates of HIV by gender per 100,000 population aged 20+ years, Northern Ireland, 2007–2016

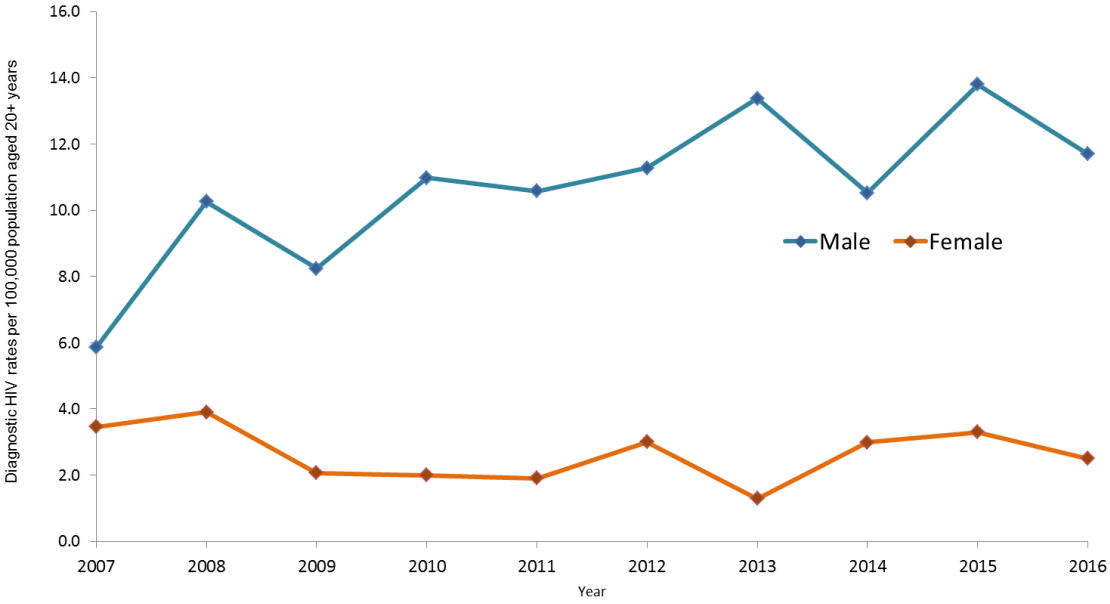


Table 1: Diagnostic rates of HIV in males per 100,000 population aged 20+ years by year of diagnosis, Northern Ireland, 2007-2016

Age Group	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
20-24	4.7	7.9	6.2	14.1	9.5	12.7	9.7	11.4	16.3	19.7
25-34	11.2	16.1	18.5	20.8	19.1	24.0	19.8	14.0	22.1	22.0
35-44	10.0	12.4	14.1	15.1	15.3	14.8	21.0	20.5	22.2	14.6
45+	2.3	7.7	2.5	5.2	6.0	5.3	9.2	5.9	7.8	6.0
20+ years	5.8	10.3	8.2	11.0	10.6	11.3	13.4	10.5	13.8	11.7

Table 2: Diagnostic rates of HIV in females per 100,000 population aged 20+ years, by year of diagnosis, Northern Ireland, 2007-2016

Age Group	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
20-24	6.4	4.8	6.4	0.0	3.2	6.6	0.0	3.3	0.0	0.0
25-34	9.1	10.6	2.4	3.2	4.0	7.1	4.0	5.6	7.2	4.0
35-44	4.5	5.2	4.5	3.8	3.1	3.2	0.8	5.7	6.5	7.3
45+	0.6	0.8	0.3	1.4	0.5	1.1	0.8	1.3	1.5	1.0
20+ years	3.5	3.9	2.1	2.0	1.9	3.0	1.3	3.0	3.3	2.5

Route of transmission

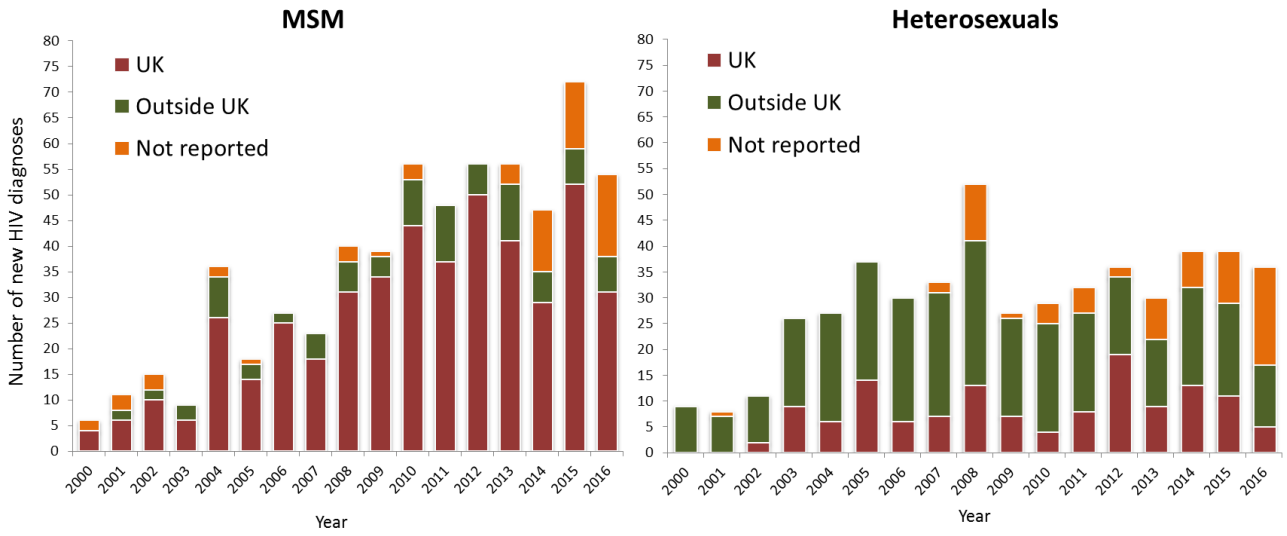
Sex between men and sex between men and women remain the most significant categories of probable route of infection, accounting for 93% (1280/1374) of all new diagnoses to date (Table 3). Heterosexual transmission has assumed increasing importance since 2003 and has now accounted for 40% (552/1374) of all new diagnoses made to date. MSM exposure accounted for 55% of new diagnoses in 2016 (54/98) and has accounted for 53% (728/1374) of all new diagnoses made to date. Since 2009 MSM exposure has consistently accounted for more diagnoses than heterosexual exposure. The annual number of new diagnoses in MSM has been relatively stable since 2010, with the exception of 2015, while there has been a small upward trend in heterosexual diagnoses since 2009.

Table 3: New diagnoses of HIV by year of diagnosis and probable route of infection, MSM and Heterosexual exposure, Northern Ireland, 2000-2016

Year	Sex between men (MSM)	Sex between men and women	All Diagnoses
2000 or earlier	123	60	217
2001	12	7	20
2002	13	12	27
2003	9	29	39
2004	35	25	62
2005	19	37	59
2006	26	30	56
2007	23	33	61
2008	40	52	92
2009	39	27	68
2010	56	29	87
2011	48	32	82
2012	56	36	96
2013	56	30	97
2014	47	39	96
2015	72	38	117
2016	54	36	98
Total	**728**	**552**	**1374**

Cumulative data from 2007 show that for cases acquired through MSM exposure and where probable country of infection was known, the majority were infected within the UK (84%:367/439). In contrast for cases acquired through heterosexual exposure the majority were infected outside the UK (66%:188/284). There has been little change to this annual pattern since 2000 (Figure 3).

Figure 3: New HIV diagnoses by year of diagnosis, by country where infection was acquired, Northern Ireland, 2000–2016



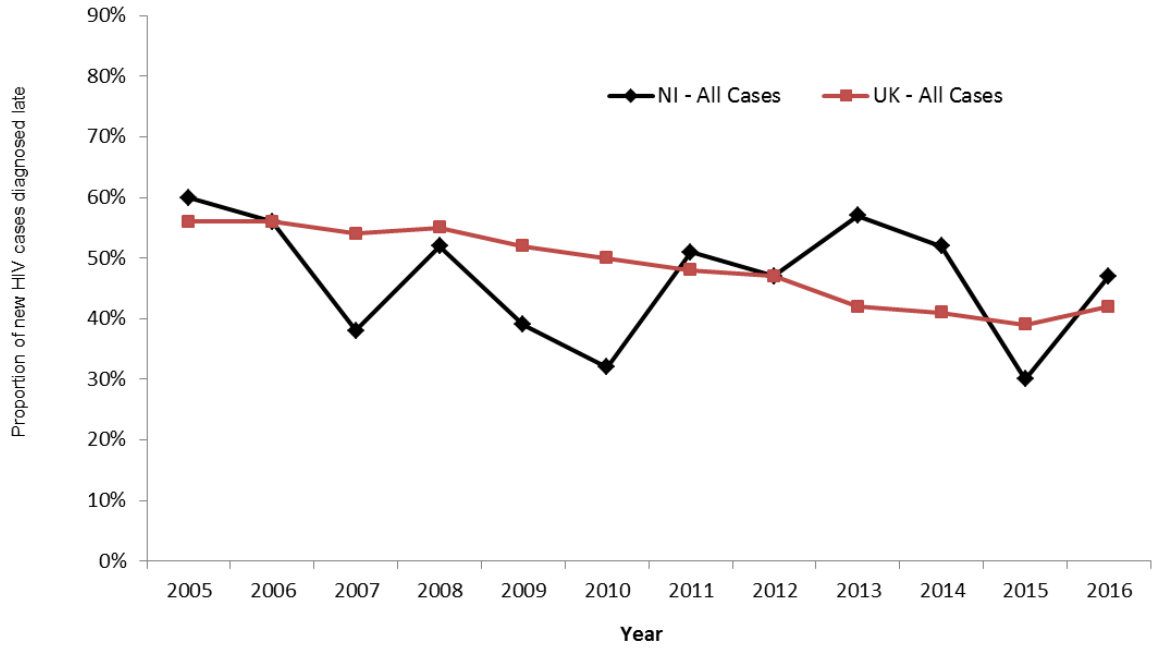
CD4 surveillance

Analysis of CD4 cell counts, combined with other HIV surveillance data, can provide an indication of an individual's stage of disease at diagnosis. A cell count of less than 350 cells/mm^3 within 91 days of diagnosis is a proxy indicator of a late diagnosis. People diagnosed at a late stage have an increased risk of death in the year after diagnosis compared to those diagnosed at an early stage.

Key points for new diagnoses made in Northern Ireland during 2016 are:

- CD4 counts within 91 days of diagnosis were available for 74% (73/98) of diagnoses
- 47% (34/73) of individuals were diagnosed at a late stage
- 46% (31/68) of sexually transmitted cases with a CD4 cell count within 91 days, were diagnosed at a late stage
- 50% (13/26) of individuals with heterosexually acquired HIV were diagnosed at a late stage
- 43% (18/42) of individuals with MSM acquired HIV were diagnosed at a late stage

Figure 4: Proportion of new HIV diagnoses in adults diagnosed with a CD4 count <350 cells/mm^3 within 91 days of diagnosis, Northern Ireland and UK, 2005–2016



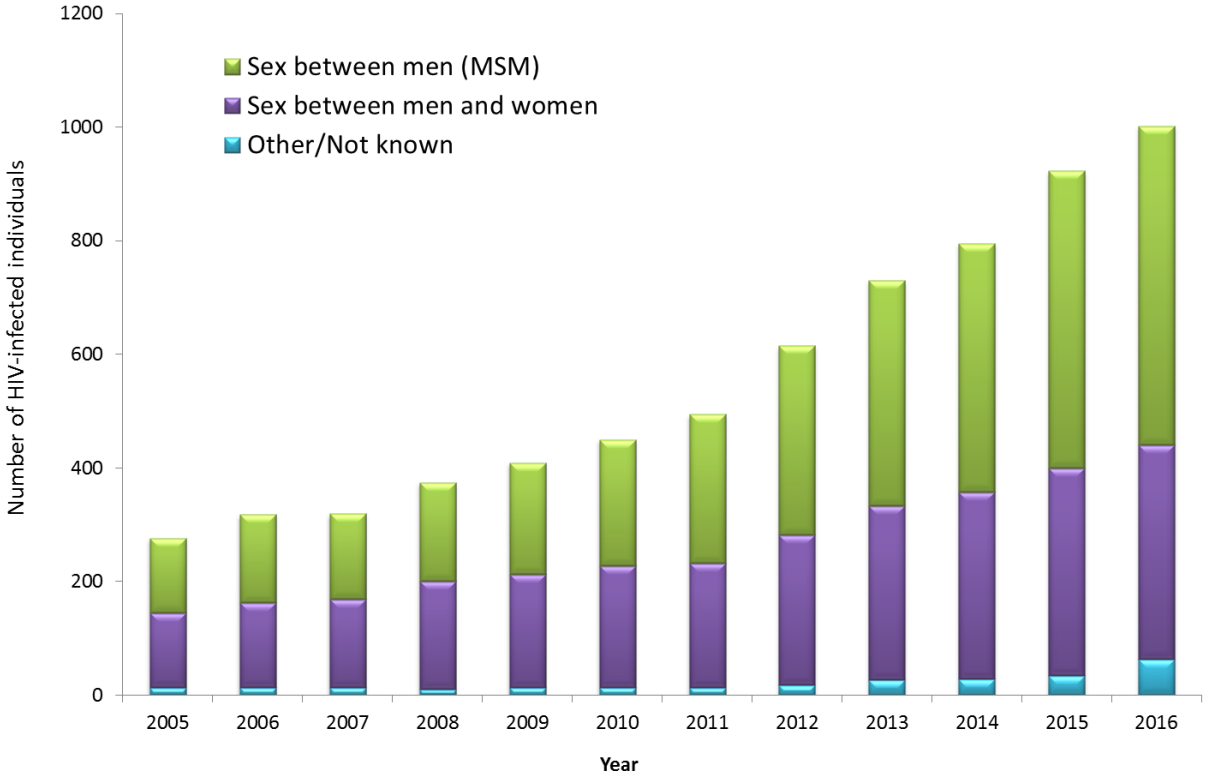
Interpretation of these data for Northern Ireland is complicated by year to year small number variation. However, unlike the overall UK trend of reducing proportions of late stage diagnoses, there has been no discernible trend in Northern Ireland (Figure 4). As elsewhere in the UK, the proportion of MSM acquired cases diagnosed at a late stage tends to be lower than in heterosexually acquired cases, reflecting perhaps better awareness of testing among

MSM (Figure 5). In Northern Ireland in 2016 the proportion of MSM and heterosexually acquired cases diagnosed late were 43% and 50% respectively.

Figure 5: Proportion of new HIV diagnoses in adults in Northern Ireland with a CD4 count <350 cells/mm^3 within 91 days of diagnosis, by probable route of infection, Northern Ireland, 2005–2016

Prevalent infection

Figure 6: Annual number of HIV infected individuals resident in Northern Ireland accessing HIV-related care, by probable route of infection, 2005–2016

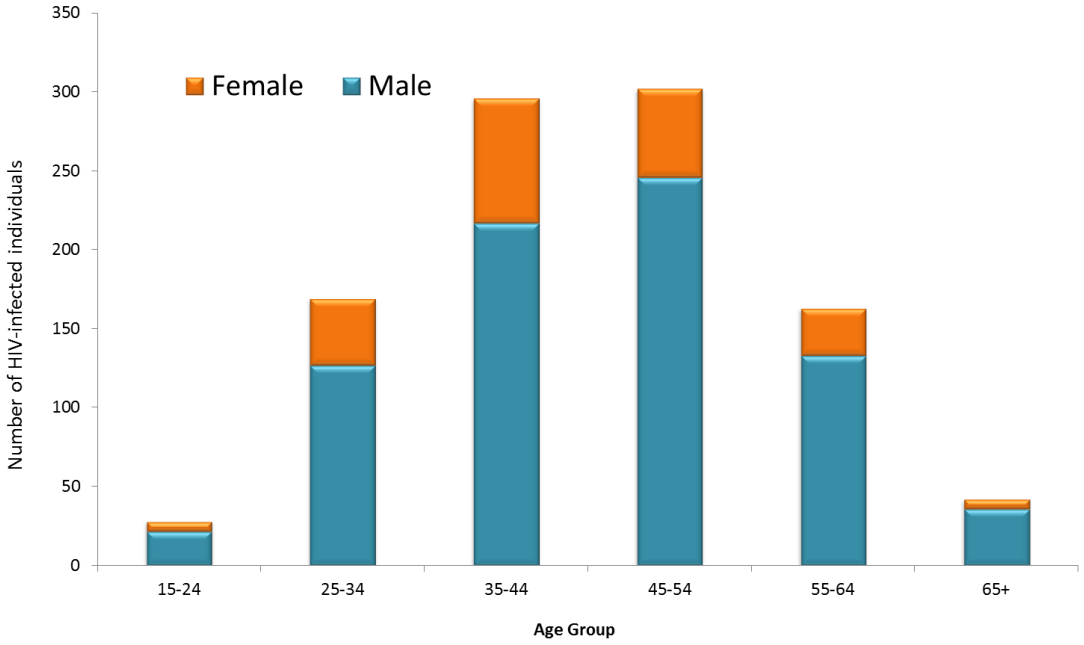


1002 residents of Northern Ireland with diagnosed HIV infection (781 men and 219 women; 2 gender not reported) accessed care in 2016. This represents a 9% increase on 2015 (923) (Figure 6). These figures reflect both the continued increase in new diagnoses and the role of HAART in increasing survival rates.

The greatest number of people who received HIV-related care in 2016 were in the 35-54 year age group (60%: 598/1000) (Figure 7). Eighty-three percent of people who received HIV-related care during 2016 were white ethnicity, 12% were black-African and 5% were classified in other ethnic groups or not reported.

In 2016 sexual exposure accounted for 98% (939/957) of people living with HIV where an exposure category was known. Of this total, MSM accounted for 59% (561/957) and heterosexual exposure 39% (378/957)

Figure 7: Number of HIV infected individuals resident in Northern Ireland accessing HIV-related care, by age and gender, 2016



In Northern Ireland, an increasing proportion of those receiving HIV care are aged over 55 years. In 2005 the 55 and over age group accounted for 7.5% of the total number of people accessing care. The rate remained relatively stable until 2010 and has been increasing since. In 2016 this age group now accounts for 20.5%. This reflects new diagnoses in this age group and the now much improved survival rates of HIV.

Since 2008, national UK guidance[2] recommends that in areas where the prevalence of diagnosed HIV infection is >2/1000 population aged 15-59 years, routine HIV testing should be offered to people admitted to hospital (including ED); and in primary care to people newly registering with the practice.

Estimates of prevalence derived from the Survey of Prevalent Infection Diagnosed (SOPHID) show that Belfast Local Government District area has the highest rate in Northern Ireland but remains below the 2/1000 threshold (Table 4).

Table 4: Diagnosed HIV prevalence per 1,000 population aged 15-59 years, by Local Government District, Northern Ireland, 2016

Rate per 1,000 population	Local District Council
0.00 – 0.49	Causeway Coast and Glens Fermanagh and Omagh Mid and East Antrim
0.50 – 0.99	Antrim and Newtownabbey Armagh, Banbridge and Craigavon Derry and Strabane Lisburn and Castlereagh Mid Ulster Newry, Mourne and Down North Down and Ards
1.00 – 1.49	
1.50 – 1.99	Belfast

HIV testing

National guidelines emphasise the importance of HIV testing in key healthcare settings.[3] Early diagnosis has important individual and population benefits. Individuals with HIV have a near-normal life expectancy if diagnosed early and treated promptly. It is estimated that the majority of onward transmission is from those with undiagnosed HIV. Once diagnosed, individuals are less likely to pass on their infection due to treatment and behaviour change. The expansion of HIV testing is now accepted as critical to reducing late HIV diagnoses and the numbers of people with undiagnosed infection.

During 2016, 36,538 HIV tests were performed outside the antenatal screening programme in Northern Ireland. This represents a decrease of 1% (257) from 2015 (36,795) (Table 5).

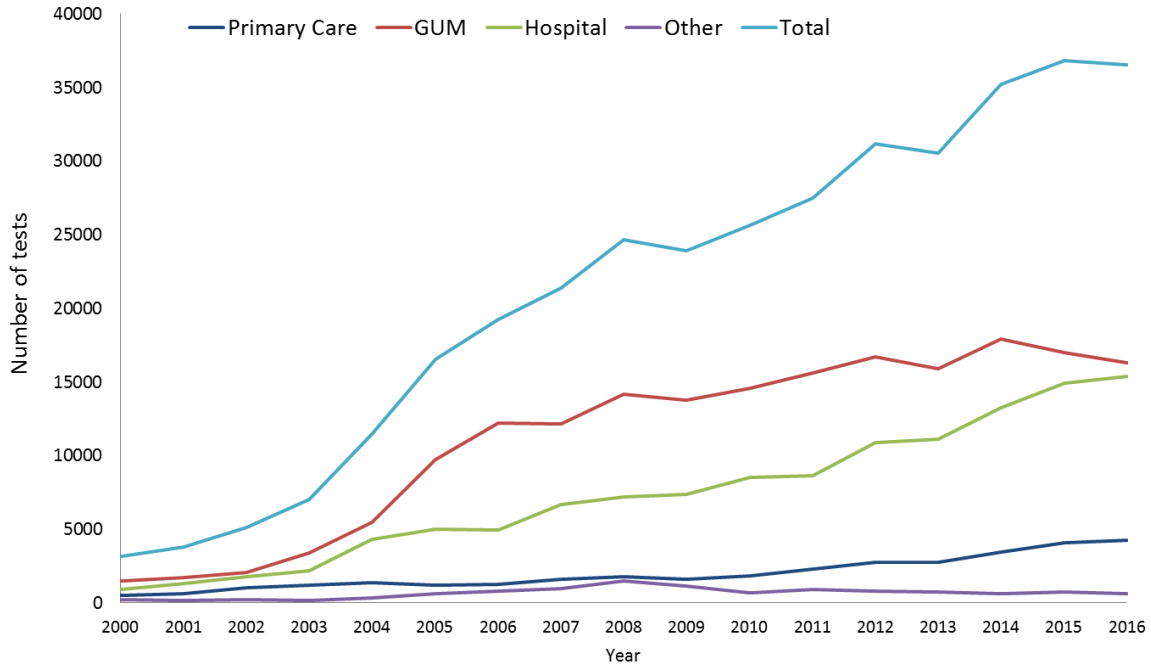
Table 5: Number of HIV tests performed by healthcare setting, Northern Ireland, 2010-2016 (excludes antenatal screening programme)

	2010	2011	2012	2013	2014	2015	2016	Change from 2015-2016	
GUM	14,583	15,639	16,725	15,912	17,887	17,022	16,277	- 745	-4%
Hospital	8,542	8,628	10,882	11,114	13,253	14,942	15,374	432	3%
Primary Care	1,832	2,272	2,786	2,783	3,433	4,093	4,244	151	4%
Other	701	927	783	741	611	738	643	- 95	-13%
Total	25,658	27,466	31,176	30,550	35,184	36,795	36,538	- 257	-1%

Source: Regional Virology Lab

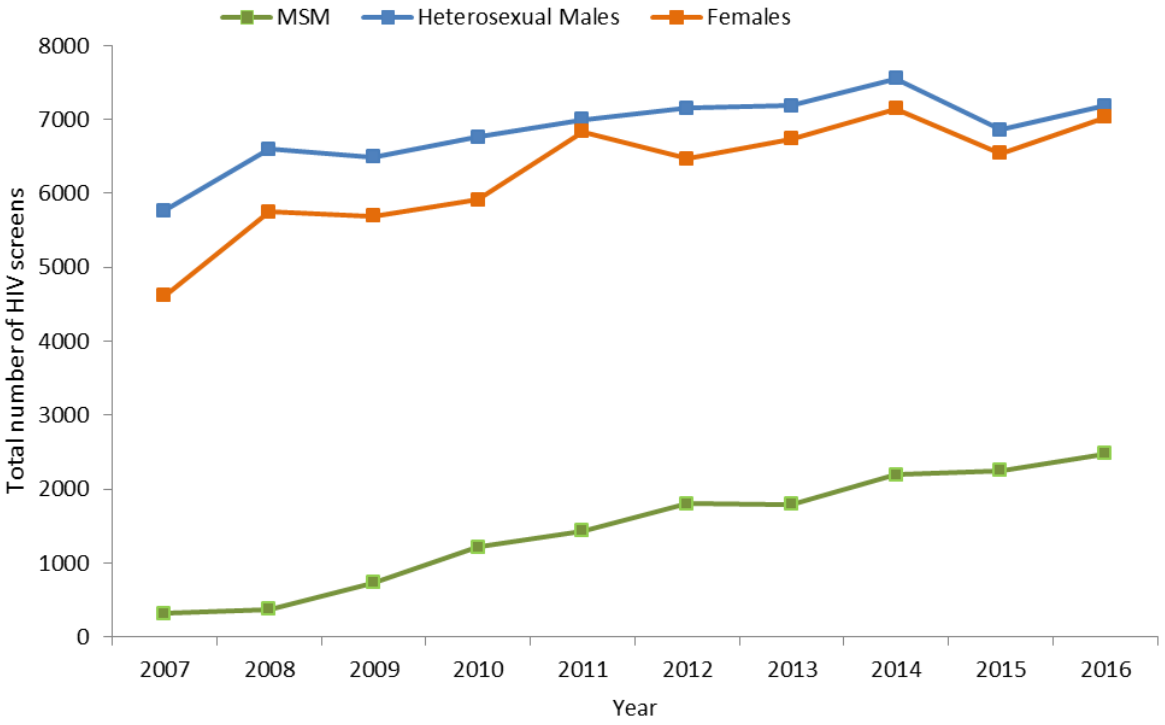
Testing in all settings has increased from 3,138 tests carried out in 2000 to 36,538 in 2016 (Figure 8). Most testing is carried out in the GUM or hospital setting, accounting for over 87% of all tests during 2016. While testing activity in primary care and hospital settings have continued to increase, activity has fallen slightly in GUM clinics for the second successive year. This masks a continued increase in testing in MSM in GUM clinics (Figure 9).

Figure 8: Annual number of HIV tests performed, by healthcare setting, Northern Ireland, 2000–2016 **(excludes antenatal screening programme)**



Further analysis of GUM clinic activity shows that between 2007 and 2016, the annual number of HIV screens in MSM has increased by 670% (322 to 2478). This compares with 25% (5765 to 7198) in heterosexual males and 52% in females (4613 to 7027).

Figure 9: Annual number of HIV screens carried out in GUM clinics, Northern Ireland, 2007–2016



Source: Screening codes - KC60 codes P1A, S2. SHHAPT codes T4, T7

4: Summary and conclusions

- Although the annual overall number of new diagnoses has decreased in 2016, this was from the highest annual total recorded to date in Northern Ireland (117 diagnoses in 2015)
- Sexual exposure is the predominant route of transmission, with MSM accounting for the majority of new diagnoses each year since 2009
- The annual number of new diagnoses in MSM has remained at a higher but relatively stable level since 2010. There has been a small upward trend in heterosexual diagnoses since 2009
- The majority of heterosexually acquired infections are acquired outside the UK, while the majority of MSM diagnoses are acquired within the UK
- The proportion of annual new diagnoses made at a late stage remains relatively unchanged since 2007
- The number of people living with HIV in Northern Ireland continues to increase as a consequence of continuing new diagnoses and improved survival rates due to the success of anti-retroviral treatment
- HIV testing activity levels fell slightly overall during 2016 despite continued increases in hospital and primary care settings. This largely reflects a decrease in tests in GUM clinics for the second successive year. The number of tests performed in MSM in GUM clinics has continued to increase significantly since 2008

5: Recommendations

1. Promoting safer sex and the benefits of HIV testing to the general population, young people and MSM remain key sexual health messages
2. HIV testing guidelines should continue to be promoted to health professionals

6: References

1. Public Health England. Country and PHE Region HIV Data. https://www.gov.uk/government/statistics/hiv-data-tables

2. UK National Guidelines for HIV Testing 2008. http://www.bhiva.org/documents/Guidelines/Testing/GlinesHIVTest08.pdf

3. Addressing Late HIV Diagnosis through Screening and Testing: An Evidence Summary, Public Health England, April 2014. http://webarchive.nationalarchives.gov.uk/20140722091854/http:/www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1317141126407

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