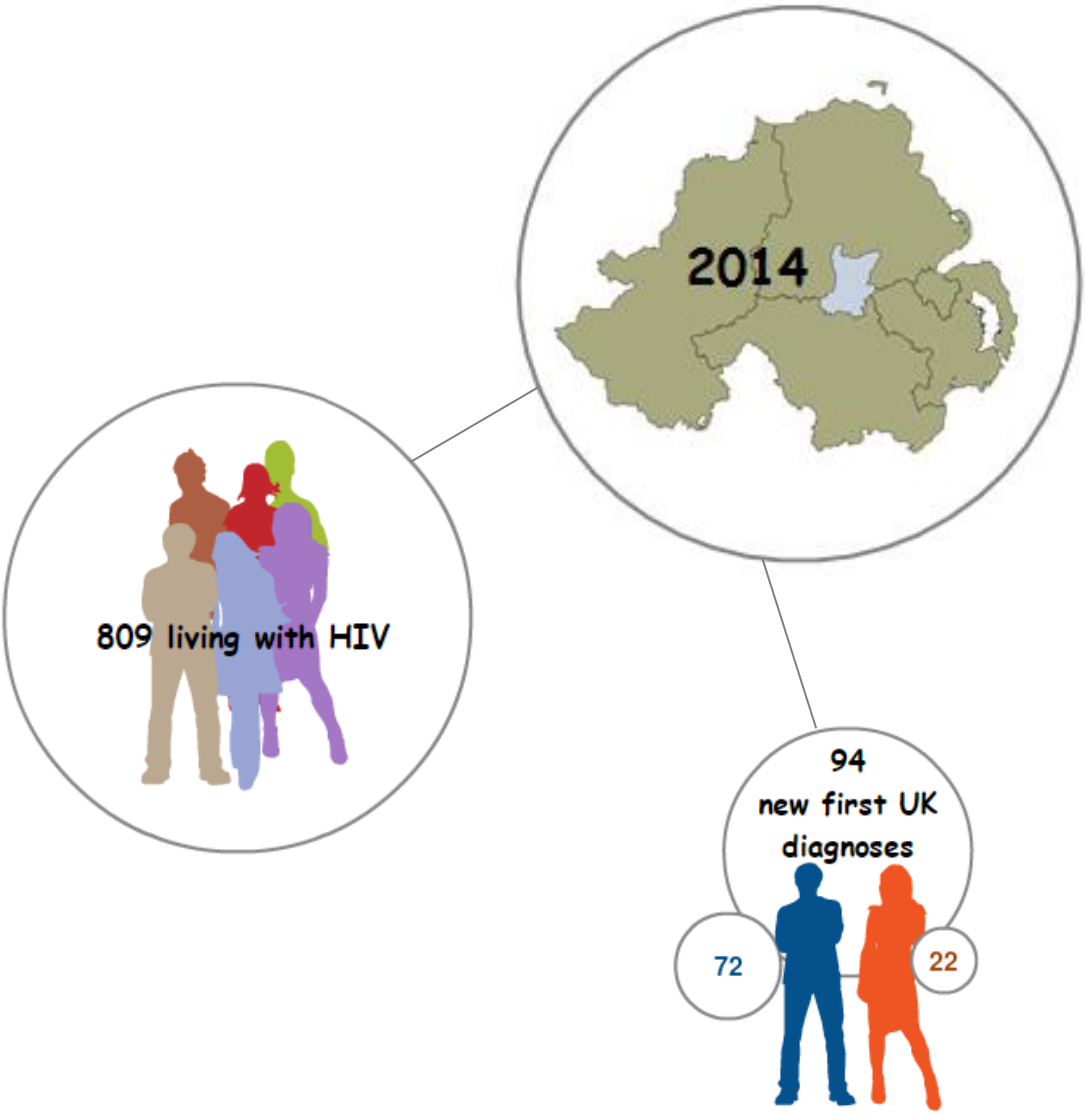
HIV surveillance in Northern Ireland 2015



An analysis of data for the calendar year 2014

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 2014.

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.

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

- HIV incidence: Recent Infection Testing Algorithm (RITA) applied to new diagnoses to provide an indication of recently acquired infection

- 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 2014 (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.

During 2014, 6,151 new HIV diagnoses were made in the UK, an increase of 2% from 6,032 new diagnoses the previous year.[1] Although prevalence in Northern Ireland remains lower than in the other UK countries, the percentage increase in annual new diagnoses in Northern Ireland between 2000 and 2014 is highest of the 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 2014:

- 94 new first-UK cases of HIV were diagnosed in Northern Ireland
- 46 (49%) new HIV diagnoses occurred through MSM transmission
- 39 (41%) new HIV diagnoses occurred through heterosexual transmission
- 43 (51%) new HIV diagnoses were made at a late stage (CD4 count <350 cells/mm^3 within 91 days of diagnosis)
- 809 HIV-infected residents of Northern Ireland (as defined when last seen for statutory medical HIV-related care in 2014) received care
- of those receiving care, 90% (731/809) acquired their infection through sexual contact; 49% (400/809) acquired their infection through sexual contact involving MSM and 41% (331/809) acquired their infection through heterosexual contact
- 60,718 HIV tests were carried out in Northern Ireland, of which 25,534 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, although stabilising at a higher level since 2012 (Figure 1).

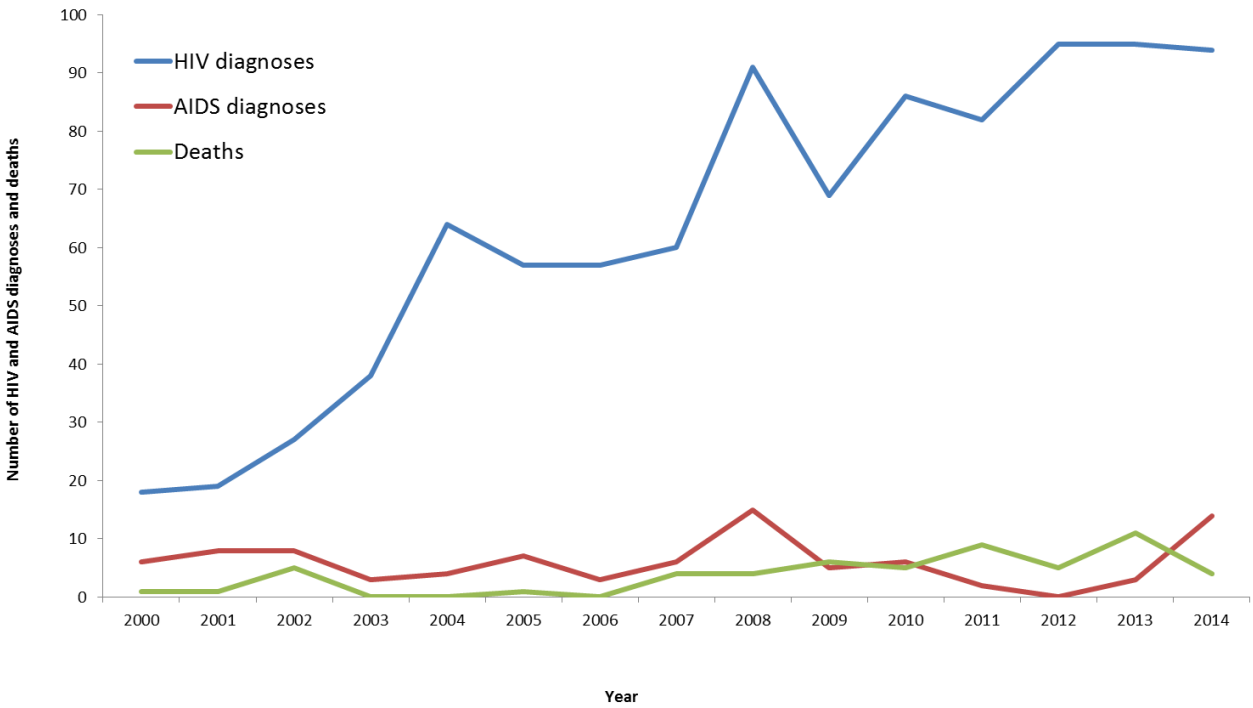
In the ten years since 2004 Northern Ireland has seen a 47% increase in new cases in contrast to the UK overall where there has been a fall of 20% (Table 1).

Table 1: New HIV diagnoses, by UK country, 2004-2014

						1 year change	10 year change	5 year change
Country	**2004**	**2009**	**2012**	**2013**	**2014**	**% +/- 2013-2014**	**% +/- 2004-2014**	**% +/- 2009-2014**
England	7,200	6,136	5,740	5,519	5,559	1%	-23%	-9%
Wales	102	143	120	133	189	42%	85%	32%
Scotland	349	309	286	273	289	6%	-17%	-6%
Northern Ireland	64	69	95	95	94	-1%	47%	36%
United Kingdom*	**7,720**	**6,663**	**6,254**	**6,032**	**6,151**	**2%**	**-20%**	**-8%**

* Includes 33 cases from Channel Islands and Isle of Man and 21 cases were region is not known

Figure 1: New HIV and AIDS diagnoses and deaths among HIV-infected persons, by year of diagnosis or death, Northern Ireland, 2000–2014



The numbers of AIDS diagnoses, and of deaths reported in individuals with HIV have remained relatively low since 2000. This is due largely to the effectiveness of HAART.

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% (1076/1151) of new diagnoses to date (Table 2). Heterosexual transmission has assumed increasing importance since 2003 and has now accounted for 41% (470/1151) of new diagnoses made to date. MSM exposure accounted for 49% of new diagnoses in 2014 (46/94) and has accounted for 53% (606/1151) of new diagnoses made to date. Twenty two new diagnoses have been acquired through injecting drug use and 53 new diagnoses acquired through other/undetermined causes to date.

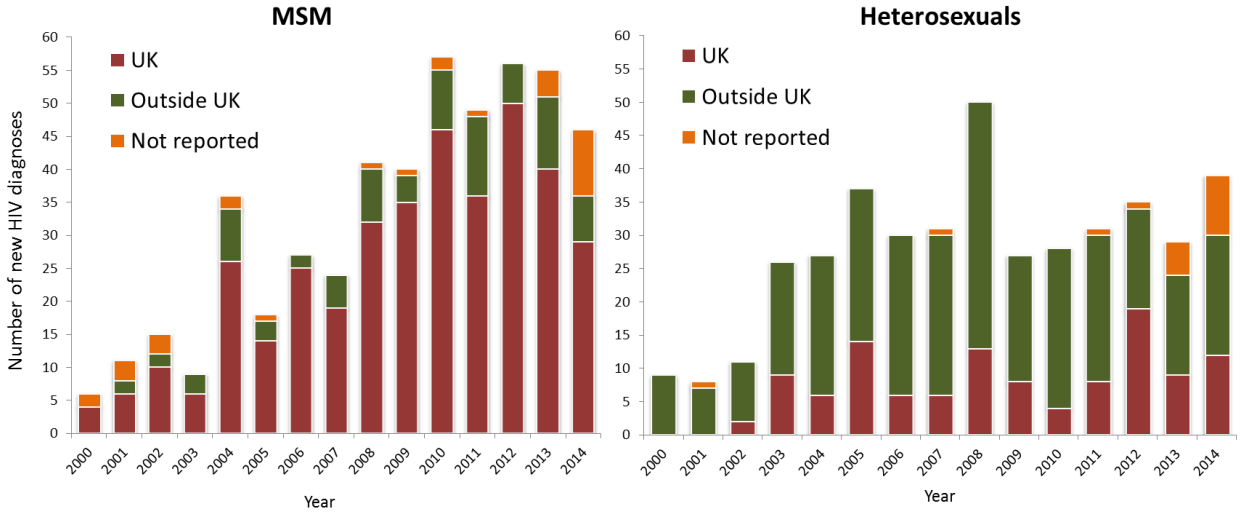
Table 2: New diagnoses of HIV by year of diagnosis and probable route of infection, Northern Ireland, 1998-2014

Year	Sex between men (MSM)	Sex between men and women
1998 or earlier	110	42
1999	7	9
2000	6	9
2001	11	7
2002	15	11
2003	9	28
2004	35	27
2005	18	37
2006	27	30
2007	24	31
2008	41	50
2009	40	27
2010	57	28
2011	49	31
2012	56	35
2013	55	29
2014	46	39
Total**	**606**	**470**

**Excludes other categories of route of infection

Cumulative data from 2000–2014 show that for cases acquired through MSM exposure, the majority were infected within the UK (82%:378/460). In contrast for cases acquired through heterosexual exposure, and where probable location of exposure was known, the majority were infected outside the UK (71%:284/400). There has been little change to this annual pattern since 2000 (Figure 2).

Figure 2: New HIV diagnoses by year of diagnosis, by country where infection was acquired, Northern Ireland, 2000–2014



Age and gender

Between 2005 and 2014 females accounted for 23% of the total new cases diagnosed (181/786). Males accounted for 77% (605/786) of which 68% (413/605) 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 3).

Diagnostic rates are generally higher in males across all age groups, with peak rates in the 25-34 and 35-44 year age groups. Rates are lower in females and more evenly distributed across the 20-24, 25-34 and 35-44 age groups (Table 3, 4).

Figure 3: Diagnostic rates of HIV by gender per 100,000 population aged 20+ years, Northern Ireland, 2005–2014

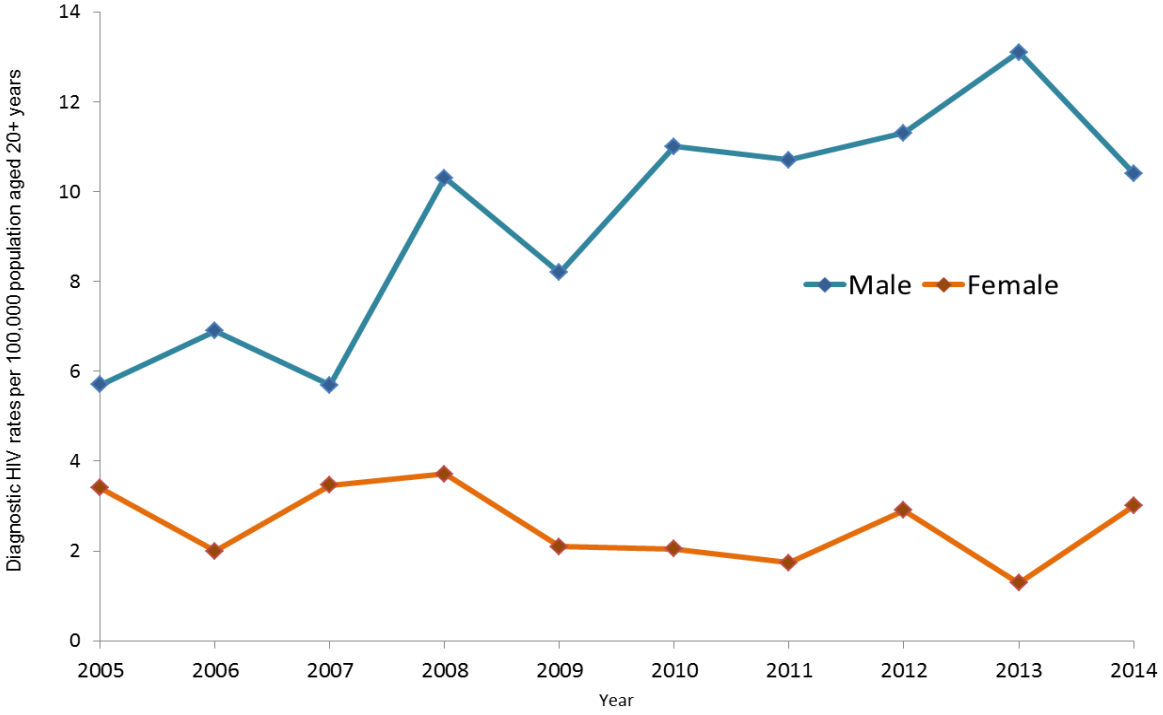


Table 3: Diagnostic rates of HIV in males per 100,000 population aged 20+ years by year of diagnosis, Northern Ireland, 2005-2014

Age Group	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
20-24	13.2	4.8	3.2	7.9	7.8	14.1	9.5	12.7	8.1	11.4
25-34	7.0	17.4	10.3	16.1	18.5	20.8	19.1	24.0	19.8	14.0
35-44	10.9	9.3	10.8	12.4	13.3	15.1	15.3	14.8	20.2	20.5
45+	1.4	2.3	2.3	7.7	2.5	5.2	6.3	5.3	9.2	5.6
20+ years	5.7	6.9	5.7	10.3	8.2	11.0	10.7	11.3	13.1	10.4

Table 4: Diagnostic rates of HIV in females per 100,000 population aged 20+ years, by year of diagnosis, Northern Ireland, 2005-2014

Age Group	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
20-24	5.1	3.3	6.4	4.8	6.4	0.0	3.2	6.6	0.0	3.3
25-34	6.8	5.9	9.1	10.6	2.4	3.2	4.8	6.3	4.0	5.6
35-44	5.3	0.8	4.5	4.5	4.5	3.8	1.6	3.2	0.8	5.7
45+	1.2	0.9	0.6	0.8	0.3	1.4	0.5	1.1	0.8	1.3
20+ years	3.4	2.0	3.5	3.7	2.1	2.0	1.7	2.9	1.3	3.0

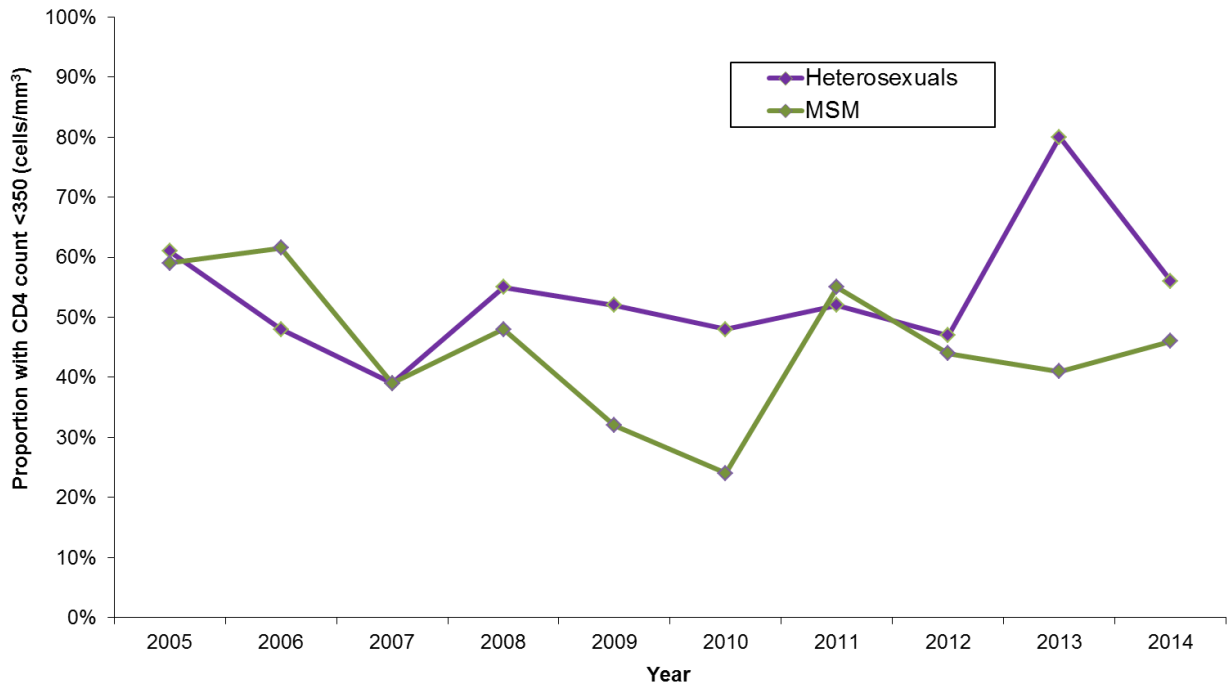
CD4 surveillance

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 2014 are:

- CD4 counts within 91 days were available for 96% (90/94) of diagnoses
- 51% of individuals were diagnosed at a late stage. This compares unfavourably with the overall UK proportion of 40%
- 56% (22/39) of individuals with heterosexually acquired HIV were diagnosed at a late stage. This represents a reduction from 2013 (80% diagnosed late) and is more consistent with previous years (Figure 4). It is consistent with the 2014 overall UK heterosexual estimate of 56%
- 46% (21/46) of individuals with MSM acquired HIV were diagnosed at a late stage. This represents an increase from 41% in 2013 and is greater than the overall UK MSM estimate of 29%

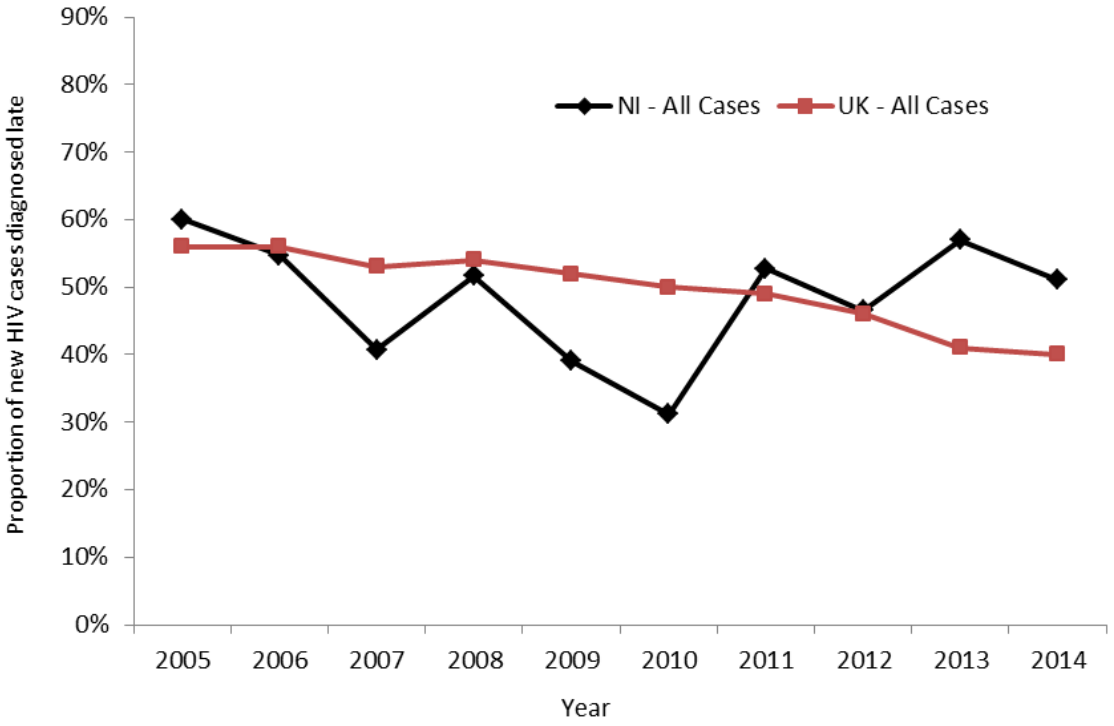
Figure 4: Proportion of new HIV diagnoses in adults in Northern Ireland with a CD4 count <350 cells/mm^3 within 91 days of diagnosis, by probable route of infection, Northern Ireland, 2005–2014



Interpretation of these data for Northern Ireland is difficult due to inherent "small number variation". However, the trend in proportions of individuals diagnosed at a late stage appears

relatively unchanged in recent years. This is in contrast to the UK overall where an improving trend is apparent (Figure 5). 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 4).

Figure 5: 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, 2005-2014



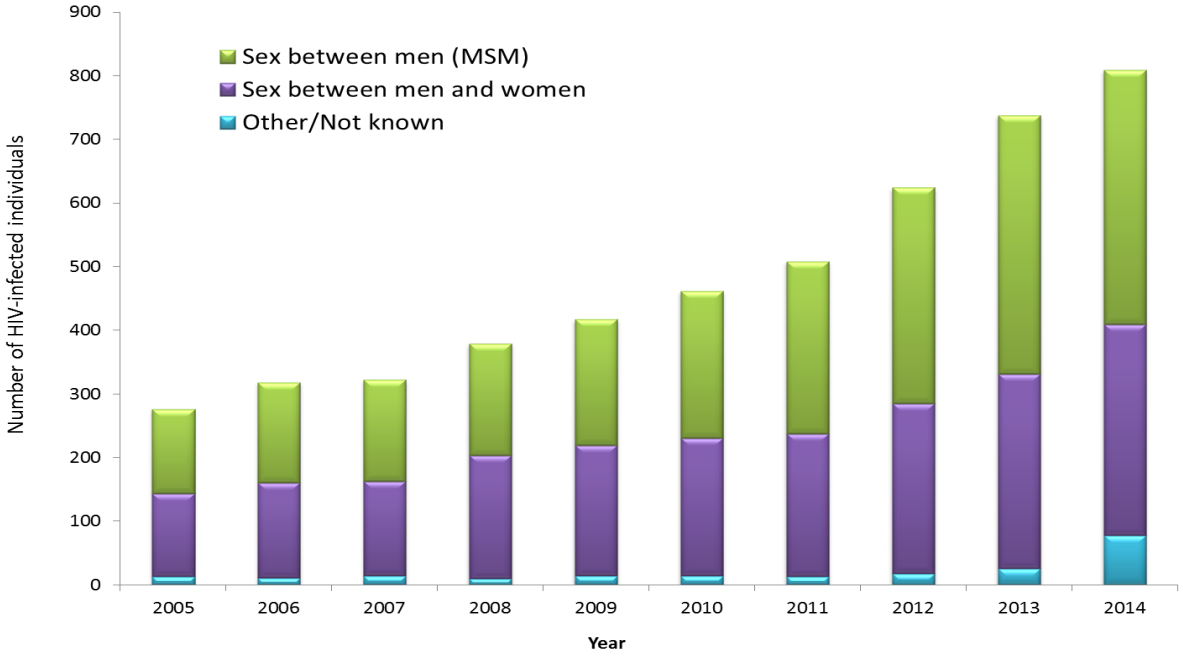
RITA surveillance

The Recent Infection Testing Algorithm (RITA) was extended to Northern Ireland in 2010.[2] This distinguishes recently acquired infection (infection most likely acquired in the four or five months preceding HIV diagnosis) from long-standing infection and can be used to assess disease incidence.

During 2014, the Northern Ireland coverage rate for RITA surveillance was 76% (71/94). Results showed that 15% (11/71) of the newly diagnosed HIV infections tested were recent infections. This compares with 11% in 2013 (8/70).

Prevalent infection

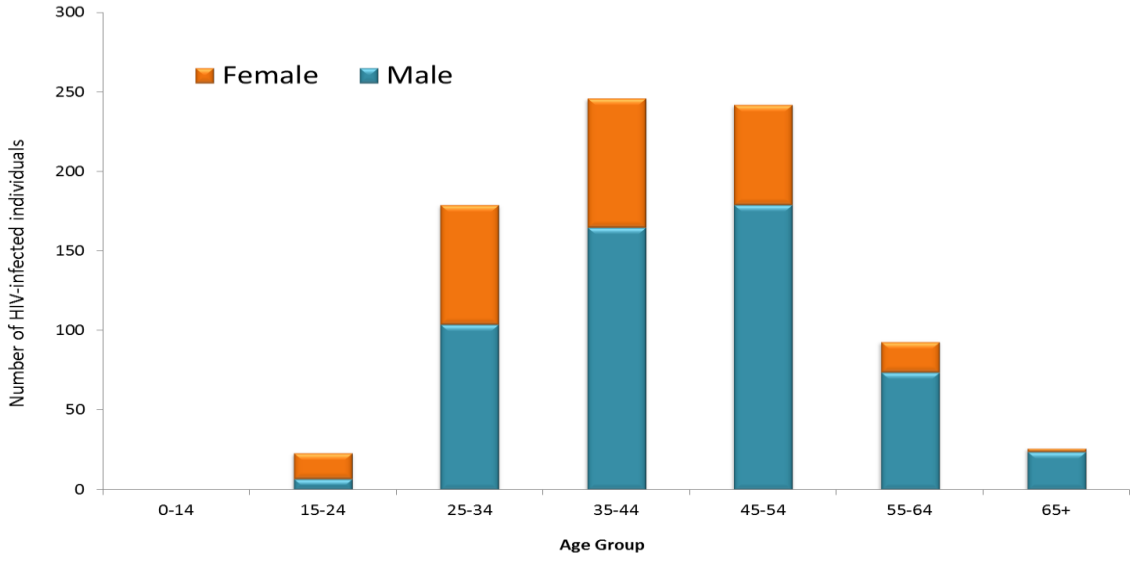
Figure 6: Annual number of HIV infected individuals resident in Northern Ireland accessing HIV-related care, by probable route of infection, 2005–2014



809 residents of Northern Ireland with diagnosed HIV infection (553 men and 256 women) accessed care in 2014. This represents a 10% increase on 2013 (738) and a more than two fold increase since 2005 (276) (Figure 6). These figures reflect both the continued increase in new diagnoses and the role of HAART in increasing survival rates.

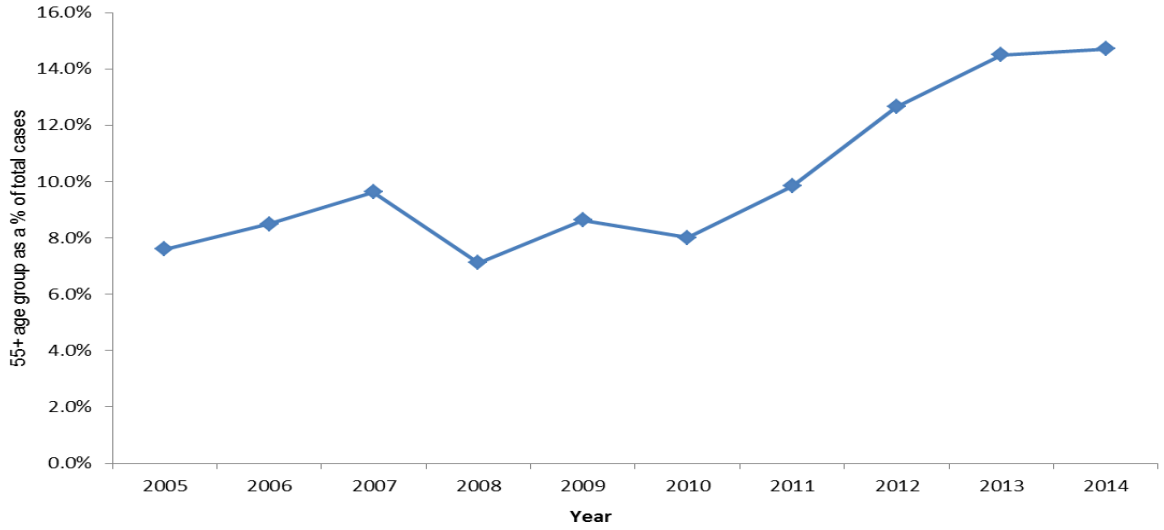
The greatest number of people who received HIV-related care in 2014 were in the 35-54 year age group (60%:488/809) (Figure 7). Eighty-two percent of people who received HIV-related care during 2014 were white ethnicity, 14% were black-African and 4% were classified in other ethnic groups.

Figure 7: Number of HIV infected individuals resident in Northern Ireland accessing HIV-related care, by age and gender, 2014



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 2014 this age group now accounts for nearly 15% (Figure 8). This reflects an increase in new diagnoses in this age group and the now much improved survival rates of HIV.

Figure 8: Proportion of HIV infected individuals resident in Northern Ireland accessing care, aged over 55 years of age, 2005-2014



HIV testing

National guidelines emphasise the importance of HIV testing in key healthcare settings.[3] Early diagnosis has important individual and population benefits.[4] 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.

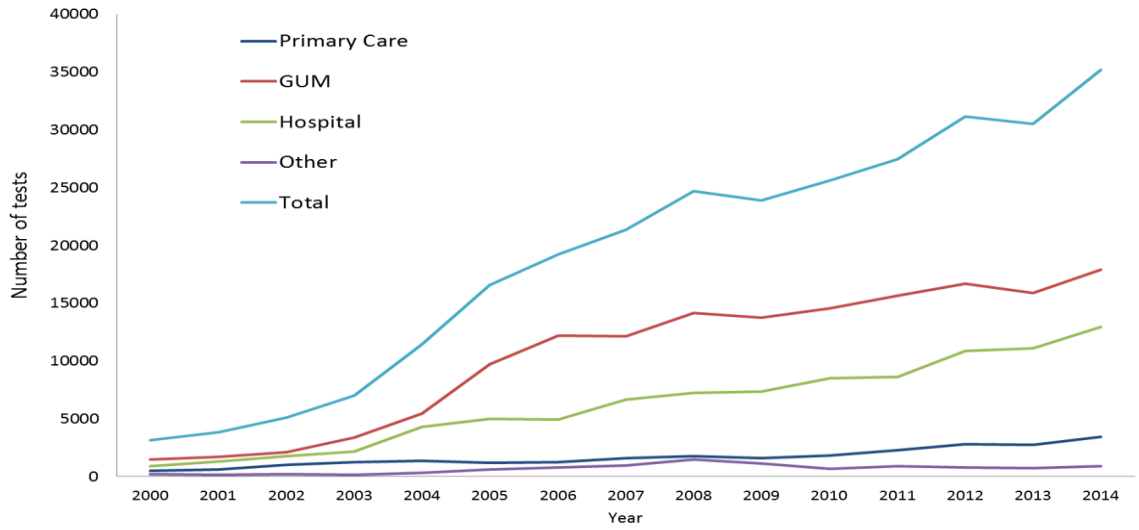
During 2014, 35,184 HIV tests were performed outside the antenatal screening programme in Northern Ireland. This represents an increase of 15% (4,634) from 2013 (30,550) to 2014 (35,184) (Table 5).

Table 5: Number of HIV tests performed by healthcare setting, Northern Ireland, 2010-2014 (excludes antenatal screening programme)

	2010	2011	2012	2013	2014	Increase from 2013-2014	
GUM	14,583	15,639	16,725	15,912	17,887	1,975	12%
Hospital	8,542	8,628	10,882	11,114	12,937	1,823	16%
Primary Care	1,832	2,272	2,786	2,783	3,433	650	23%
Other	701	927	783	741	927	186	25%
Total	25,658	27,466	31,176	30,550	35,184	4,634	15%

Since 2000 there has been a continued upward trend in the total number of tests carried out. There were 3,138 tests carried out in 2000 and 35,184 carried out in 2014, representing a greater than ten-fold increase (Figure 9). Most testing is carried out in the GUM or hospital setting accounting for over 88% of all tests. Notably, testing in primary care (GP) showed an increase of 23% during 2014.

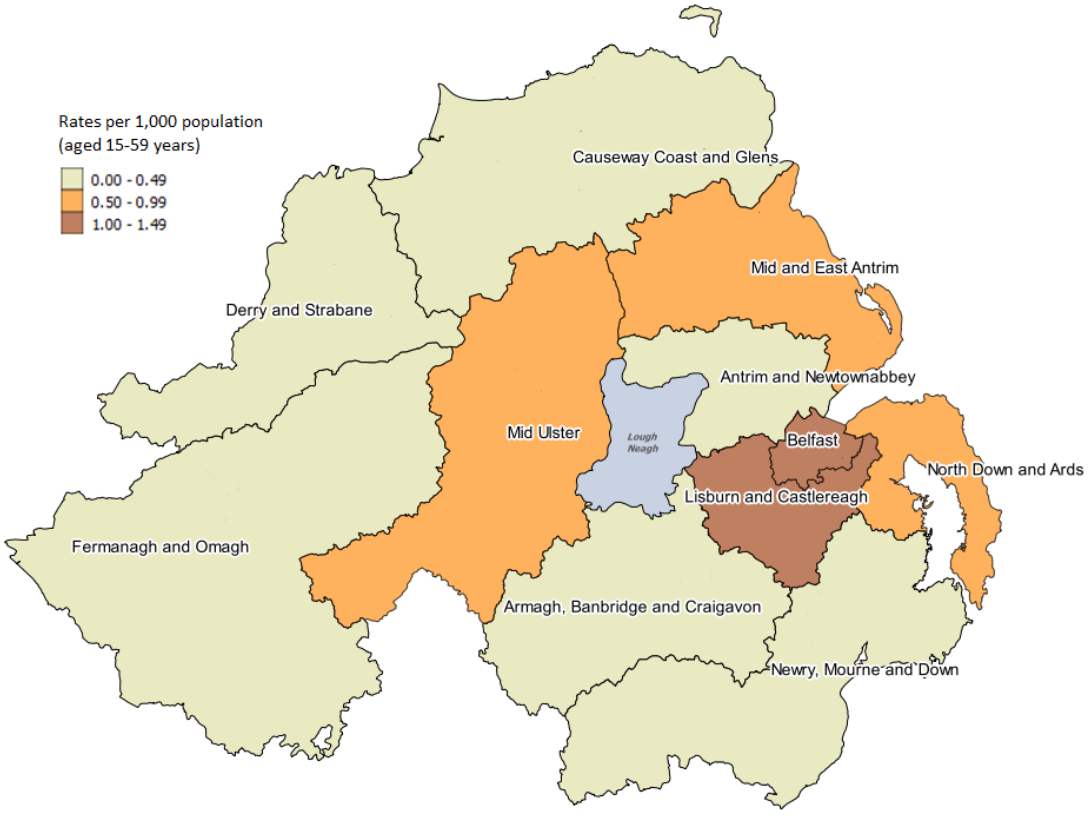
Figure 9: Annual number of HIV tests performed, by healthcare setting, Northern Ireland, 2000–2014 **(excludes antenatal screening programme)**



National UK guidance[4] recommends that routine testing should be considered for all general medical admissions to hospital and for all men and women registering in general practice areas where the prevalence of diagnosed HIV infection is >2/1000 population aged 15-59 years.

Estimates of prevalence derived from the Survey of Prevalent Infection Diagnosed (SOPHID) show that Lisburn and Castlereagh, and Belfast Local Government District areas have the highest rates in Northern Ireland but remain significantly below the 2/1000 threshold (Figure 9).

Figure 10: Diagnosed HIV prevalence per 1,000 population aged 15-59 years, by Local Government District, Northern Ireland, 2014



4: Summary and conclusions

- The annual overall number of new diagnoses has remained stable since 2012
- Sexual exposure is the predominant route of transmission, with MSM accounting for the majority of new diagnoses each year since 2009
- A slight increase in heterosexually acquired diagnoses during 2014 is balanced by a reduction in MSM acquired diagnoses
- 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 new diagnoses in Northern Ireland being made at a late stage is higher than for the UK overall and shows no signs of reducing over time
- Overall HIV testing activity levels continue to increase. They remain lower in primary care compared with GUM or hospital settings

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. Guidance on HIV testing should continue to be reinforced to health professionals.

6: References

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4. Addressing Late HIV Diagnosis through Screening and Testing: An Evidence Summary, Public Health England, April 2014. http://www.bashh.org/documents/HIV%20Screening%20and%20Testing_Evidence%20Summary_April%202014.pdf

Public Health Agency
12-22 Linenhall Street
Belfast
BT2 8BS
Tel: 028 90321313

www.publichealth.hscni.net