

Epidemiology of tuberculosis in Northern Ireland

Annual surveillance report 2007

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Summary

- There were 69 tuberculosis (TB) cases notified in 2007, giving a Northern Ireland rate of 3.9/100,000 population. This contrasts with 61 notifications in 2006 (3.5/100,000).
- Rates of tuberculosis in Northern Ireland remain approximately three times lower than those in England and Wales.
- The former Southern Health and Social Services Board (SHSSB) had the highest rates of tuberculosis in 2007.
- Forty five cases (65%) had pulmonary tuberculosis, of which 23 were smear positive.
- There was only one notified case of tuberculosis in a child under 15 years in 2007.
- The proportion of tuberculosis diagnoses during 2007 born outside the UK/Ireland was 53%, an increase from 2006 (38% born abroad).
- Of 56 isolates of *M. tuberculosis*, three were resistant to at least rifampicin and isoniazid (multi-drug resistance) and two were resistant to isoniazid only.
- Eight healthcare workers were notified with tuberculosis.
- There was one culture confirmed case of *M. bovis*, who had no obvious risk factor.

Introduction

In the United Kingdom, clinicians and public health staff work together at local level to collect detailed clinical and demographic information on tuberculosis cases, which is reported to the enhanced surveillance scheme. Clinicians in Northern Ireland, similar to those throughout the UK, are required to notify all cases of tuberculosis to the local Director of Public Health.

Notification forms (TBS1) are completed by clinicians, recording all available demographic, clinical, microbiological, histological and epidemiological details. In order to facilitate the export and central collation of data for England, Wales and Northern Ireland, outcome data is collected across all three regions of the UK on a standardised 'Tuberculosis Treatment Outcome Surveillance Form' (TBS2). This form has been customised for Northern Ireland use to facilitate collection of drug treatment and outcome data, together with any additional clinical and/or microbiological information not available at the time of initial notification.

If *M. bovis* infection is identified in a notified patient, an additional questionnaire is forwarded to the local consultant in communicable disease control (CCDC). Once completed, the form is returned to the Communicable Disease Surveillance Centre (Northern Ireland) (CDSC (NI)). This questionnaire collects data on case background information, travel history, un-pasteurised milk/milk product consumption, and occupational details (including animal contact).

This report presents the epidemiological data for tuberculosis cases reported in Northern Ireland from 1 January 2007 to 31 December 2007. As the data collection process can only be completed 12 months after the initial notification, an annual epidemiological report does not normally become available until 18 months after the end of the reporting period. The data provides information for inclusion in national, European and World Health Organization (WHO) reports, as well as for disease surveillance at a local level. Provisional data for 2008 is included where relevant.

This report reflects the health service structures in place during 2007/08, prior to the establishment of the Public Health Agency on 1 April 2009. Reference is made throughout the report to the former Health and Social Services Boards (HSSBs) to allow for comparisons with previous reports.

Definitions

Notified case: Refers to clinically active disease caused, or thought to be caused, by infection with organisms of the *Mycobacterium tuberculosis complex* (*M. tuberculosis*, *M. bovis*, *M. africanum*).

Culture confirmed cases: Where the diagnosis has been confirmed by culture as *M. tuberculosis*, *M. bovis* or *M. africanum*.

Other than culture confirmed cases: In the absence of culture confirmation, a case with “a clinician’s judgement that the patient’s clinical and/or radiological signs and/or symptoms are compatible with tuberculosis and a clinician’s decision to treat the patient with a full course of anti-tuberculosis treatment”.¹

Pulmonary tuberculosis: A disease involving the lung parenchyma and/or tracheo-bronchial tree, but which **excludes** pleural and intra-thoracic lymph node disease unless lung parenchyma and/or bronchial tree are also involved.

Sputum smear result: Sputum smear positive tuberculosis is defined as a positive microscopy result on spontaneously produced or induced sputum.

Multi-drug resistance (MDR): Resistance to at least isoniazid and rifampicin.

Methods

Data collection

Completed tuberculosis notification forms are forwarded to CDSC (NI) where the information is entered onto a secure database. Treatment outcome forms are generated and forwarded, approximately nine months after initial notification, to the CCDC of the relevant locality for completion by the patients' clinician, who then returns it to CDSC (NI).

Information on *Mycobacterium tuberculosis* complex isolates are obtained from local hospital diagnostic laboratories and the mycobacterial reference laboratory. Collected data include species (*Mycobacterium tuberculosis*, *M. bovis* and *M. africanum*) and drug susceptibility.

Data on cause of death, including tuberculosis, are also collected from the Northern Ireland Statistics and Research Agency (NISRA).

Datasets are validated (using laboratory reports and anti-microbial susceptibility information), updated and analysed.

Data analysis

Data are entered and analysed using the Health Protection Agency (HPA) Regional Module for Enhanced TB Surveillance database (version 3.0). Tuberculosis rates per 100,000 of the population, stratified by age, sex and HSSB, were calculated using mid-year estimates from the Northern Ireland Statistics and Research Agency (NISRA).

Results

Overall number of cases and rates of infection

A total of 80 cases were reported through the surveillance scheme in Northern Ireland during 2007. Of these 80 cases, nine were laboratory confirmed as an infection with a mycobacterium other than tuberculosis (MOTT), and two other cases were diagnosed as having an illness other than tuberculosis. These 11 patients were de-notified but recorded in the dataset, and excluded from the main analysis, giving a total of 69 cases of tuberculosis notified in 2007 in Northern Ireland. This represents a rate of 3.9/100,000 population, which is slightly higher than 2006 (3.5/100,000).

Follow-up information (TBS2 forms and/or death certificates) was provided for 60 cases (87%) (Table 1).

Table 1: Enhanced TB surveillance notification forms submitted in Northern Ireland, 2007

HSSB	TBS1	Follow-up	Follow-up/TBS2 (%)
EHSSB	29	28	97
NHSSB	11	6	55
SHSSB	18	16	89
WHSSB	11	10	91
Total	69	60	87

Of the 69 notified cases of tuberculosis, 57 (83%) were culture confirmed. Fifty six of the isolates were identified as *M. tuberculosis* and one as *M. bovis*. Twelve cases were notified on the basis of clinical or non-culture diagnosis and response to anti-tuberculosis therapy. Of these 12 cases, six were confirmed by histological (n=4) or microscopic examination (n=2) of lymph node or lung tissue.

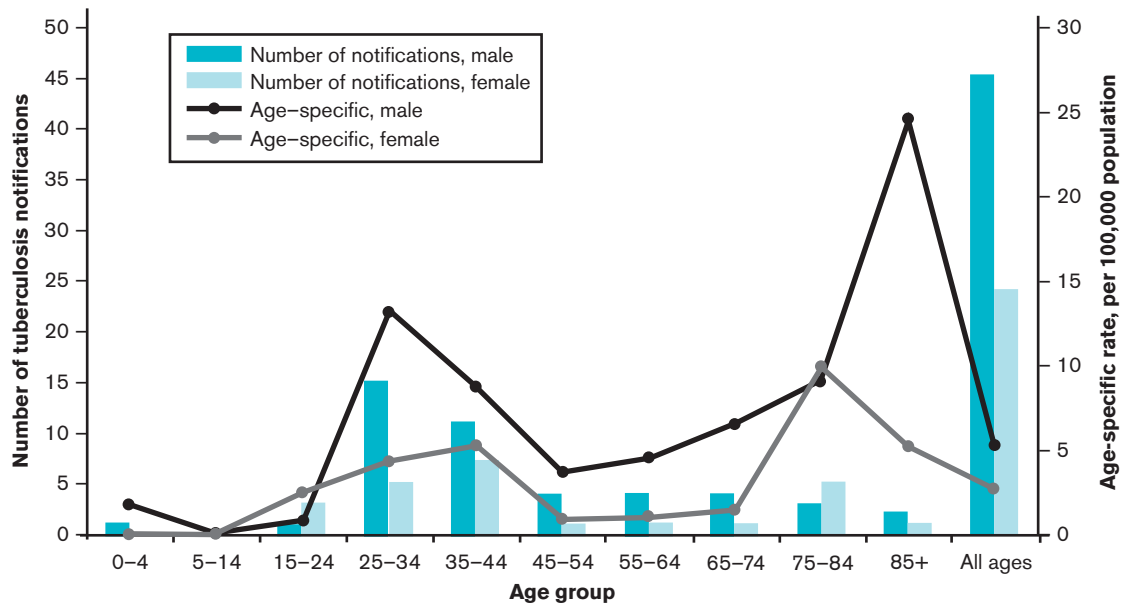
Table 2: Tuberculosis cases in Northern Ireland, 2007

HSSB	Culture confirmed	Non-culture confirmed	Total	Rate per 100,000
EHSSB	23	6	29	4.3
NHSSB	9	2	11	2.4
SHSSB	16	2	18	5.3
WHSSB	9	2	11	3.7
Total	57	12	69	3.9

Based on notified cases

Of the 69 tuberculosis cases, 45 were male and 24 were female, giving a sex ratio male/female (M/F) of 1.9 (an increase on the ratio of 1.2 recorded in 2006). The ages ranged from 1 year to 88 years, with a median of 39 years and a mean of 45 years. The age-sex distribution is shown in Figure 1. While the EHSSB has the highest proportion of cases, the SHSSB continues to have the highest incidence rate of tuberculosis. However, this is not significant ($p=0.2$) (Table 2).

Figure 1: Notified cases of tuberculosis, by age and sex, and age-specific rates per 100,000 population, Northern Ireland, 2007



The highest proportion of male cases was recorded in the 25–34 years age group, with the highest proportion of female cases in the 35–44 years age group. Similar to previous years, the highest age-specific rate for both male and female patients occurred in those aged over 75 years (Tables 3a and 3b).

Table 3a: Rates of notification of tuberculosis per 100,000 population in Northern Ireland, by age and sex, 2007

Age group	Male	Female	Total
0–4	1.7	0.0	0.9
5–14	0.0	0.0	0.0
15–24	0.7	2.4	1.5
25–34	13.1	4.3	8.7
35–44	8.7	5.3	7.0
45–54	3.6	0.9	2.2
55–64	4.4	1.1	2.7
65–74	6.5	1.4	3.8
75–84	9.0	9.9	9.5
85+	24.4	5.2	11.0
Total	5.2	2.7	3.9

Table 3b: Tuberculosis notifications in Northern Ireland, by age and sex, 2007

Age group	Male	Female
0–4	1	0
5–14	0	0
15–24	1	3
25–34	15	5
35–44	11	7
45–54	4	1
55–64	4	1
65–74	4	1
75–84	3	5
85+	2	1
Total	45	24

In 2007, the country of birth was recorded for all but one of the 69 notified cases. Thirty two were known to have been born in the UK/Ireland and 36 were known to have been born elsewhere. Of these 36 cases, 25 were born in Asia (14 in south Asia, 9 in southeast Asia and 2 in east Asia), six were born in European countries, four in African countries and for one case, the country of origin was unknown. In the 10 years between 1992 and 2002, an average of 10% of all notified individuals were known to have been born outside the UK/Ireland. This proportion has been steadily increasing, accounting for 26% in 2005, 38% in 2006 and 53% in 2007.

Information regarding previous tuberculosis infection was recorded for 66 of the 69 notified cases during 2007. The age of these cases ranged from 1 to 88 years, with a mean age of 45 and median age of 39. Six individuals (four were born outside the UK) aged between 27 and 84 years, with a mean age of 41 and median of 34, were reported to have a previous history of tuberculosis. Of these six cases, time interval data from the current date of onset and the previous tuberculosis infection episode was available for five of the individuals. The time period ranged from six months to 40 years, with an estimated mean of 15 years and a median time interval of 13 years.

Site of the disease

Pulmonary tuberculosis cases

Of the 69 notified cases, 45 (65%) were diagnosed with pulmonary tuberculosis and 42 (93%) of the 45 cases were confirmed by culture (*M. tuberculosis*). Twenty three (55%) of the 42 pulmonary tuberculosis cases were found to be sputum smear positive at the time of notification and all were, subsequently, confirmed by culture as *M. tuberculosis* (Table 4). This is higher than in 2006, when 37% of pulmonary tuberculosis cases were found to be sputum smear positive.

Provisional data for 2008 indicates that of 34 pulmonary tuberculosis cases, 22 (65%) were culture positive and 13 (38%) were smear positive.

Table 4: Pulmonary tuberculosis notifications in Northern Ireland, by HSSB, 2007

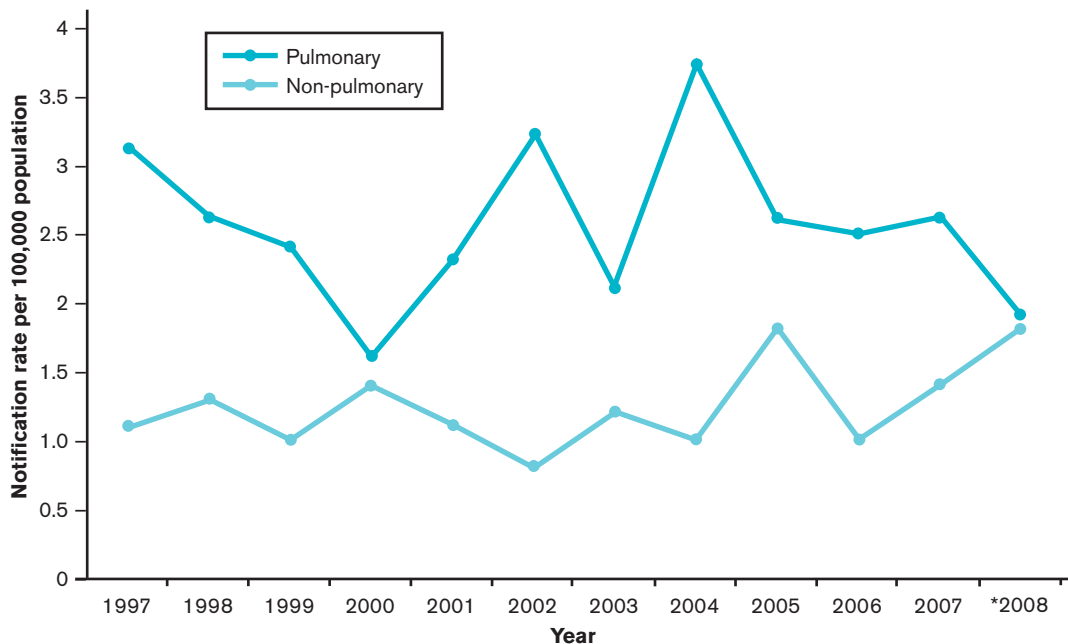
HSSB	Culture confirmed	Non-culture confirmed	Total	Rate per 100,000
EHSSB	16	1	17	2.5
NHSSB	8	1	9	2.0
SHSSB	13	1	14	4.1
WHSSB	5	0	5	1.7
Total	42	3	45	2.6

Fourteen pulmonary tuberculosis cases in 2007 were sputum smear negative at the time of notification. All were subsequently confirmed by culture (*M. tuberculosis*). The outcome of sputum smear testing was not recorded for the remaining eight pulmonary tuberculosis cases; however, six of the eight were confirmed by culture.

Outcome information was available for 40 (89%) of the 45 pulmonary tuberculosis notifications. Thirty three (73%) are known to have successfully completed a full course of anti-tuberculosis treatment. One patient was still on treatment at the time of completion of the outcome form and was intolerant to drugs. Two patients were lost to follow up and four were diagnosed at postmortem or died soon after treatment commenced. Tuberculosis was cited as the primary cause of death for one of these patients. Treatment outcome forms were not completed for a further five patients.

The annual notification rate for pulmonary tuberculosis in Northern Ireland during 2007 was similar to 2006 (2.5/100,000) at 2.6 cases per 100,000 population (Table 4, Figure 2). The provisional rate for 2008 is 1.9/100,000 population.

Figure 2: Rates of pulmonary and non-pulmonary tuberculosis per 100,000 population, Northern Ireland, by year



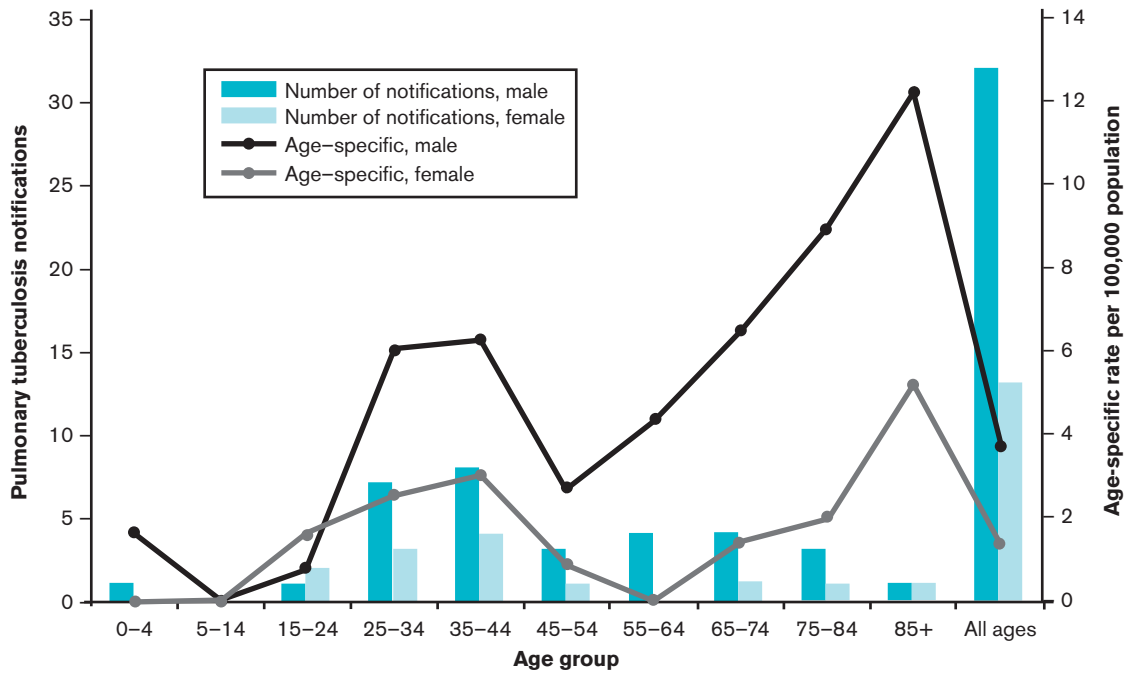
*2008 data provisional

Of the 45 pulmonary tuberculosis notified cases; 32 (71%) were male, of which 30 were culture confirmed cases. The remaining 13 cases (29%) were female, of which 12 were culture confirmed cases. The mean and median ages of the 45 cases were 46 and 40 years respectively. The incidence of pulmonary tuberculosis was spread over a wide age range for both men and women, with 67% of all pulmonary cases occurring in those under 55 years of age (Figure 3). Similar to previous years, the age/sex distribution shows that the highest age-specific rates for pulmonary tuberculosis continue to be recorded in older age groups. During 2007, the highest age-specific rates occurred in the 85+ years age group, for both men and women (Table 5 and Figure 3).

Table 5: Rates of notification of pulmonary tuberculosis per 100,000 population in Northern Ireland, by age and sex, 2007

Age group	Male	Female	Total
0-4	1.7	0.0	0.9
5-14	0.0	0.0	0.0
15-24	0.7	1.6	1.2
25-34	6.1	2.6	4.3
35-44	6.3	3.0	4.6
45-54	2.7	0.9	1.8
55-64	4.4	0.0	2.1
65-74	6.5	1.4	3.8
75-84	9.0	2.0	4.8
85+	12.2	5.2	7.3
Total	3.7	1.4	2.6

Figure 3: Notified cases of pulmonary tuberculosis, by age and sex, and age-specific rates per 100,000 population in Northern Ireland, 2007



Non-pulmonary tuberculosis cases

Twenty four notifications of non-pulmonary tuberculosis were received during 2007. Fifteen (63%) of these cases were culture confirmed; 14 with *M. tuberculosis* and one with *M. bovis*. The annual notification rate for non-pulmonary tuberculosis in 2007 was 1.4 cases per 100,000 population, with the Western Health and Social Services Board (WHSSB) having the highest incidence rate at 2.0 per 100,000 population (Table 6a). This is an increase from the figure recorded in 2006, when the annual rate for the WHSSB was 0.7 per 100,000 population. However, with smaller numbers of non-pulmonary notifications annually, fluctuations in rates are to be expected and caution should be exercised when interpreting trends.

Table 6a: Non-pulmonary tuberculosis notifications in Northern Ireland, by HSSB and case definition, 2007

HSSB	Culture confirmed	Non-culture confirmed	Total	Rate per 100,000
EHSSB	7	5	12	1.8
NHSSB	1	1	2	0.4
SHSSB	3	1	4	1.2
WHSSB	4	2	6	2.0
Total	15	9	24	1.4

Table 6b: Non-pulmonary tuberculosis site of disease, by category, Northern Ireland, 2007

Organ/part affected	Number
Lymph nodes	
Cervical	4
Clavicular	5
Other/unspecified	8
<i>All lymph nodes</i>	17
Abscess	
Axilla	1
Psoas	1
Chest wall	1
<i>All abscesses</i>	3
Other sites	
Mediastinum	1
Brain	1
Pleura	1
Peritoneum	1
Bone	2
<i>All other sites</i>	6

* Numbers are greater than cases due to cases with disease in multiple sites

The principal site of disease in non-pulmonary tuberculosis cases was the lymph nodes (Table 6b).

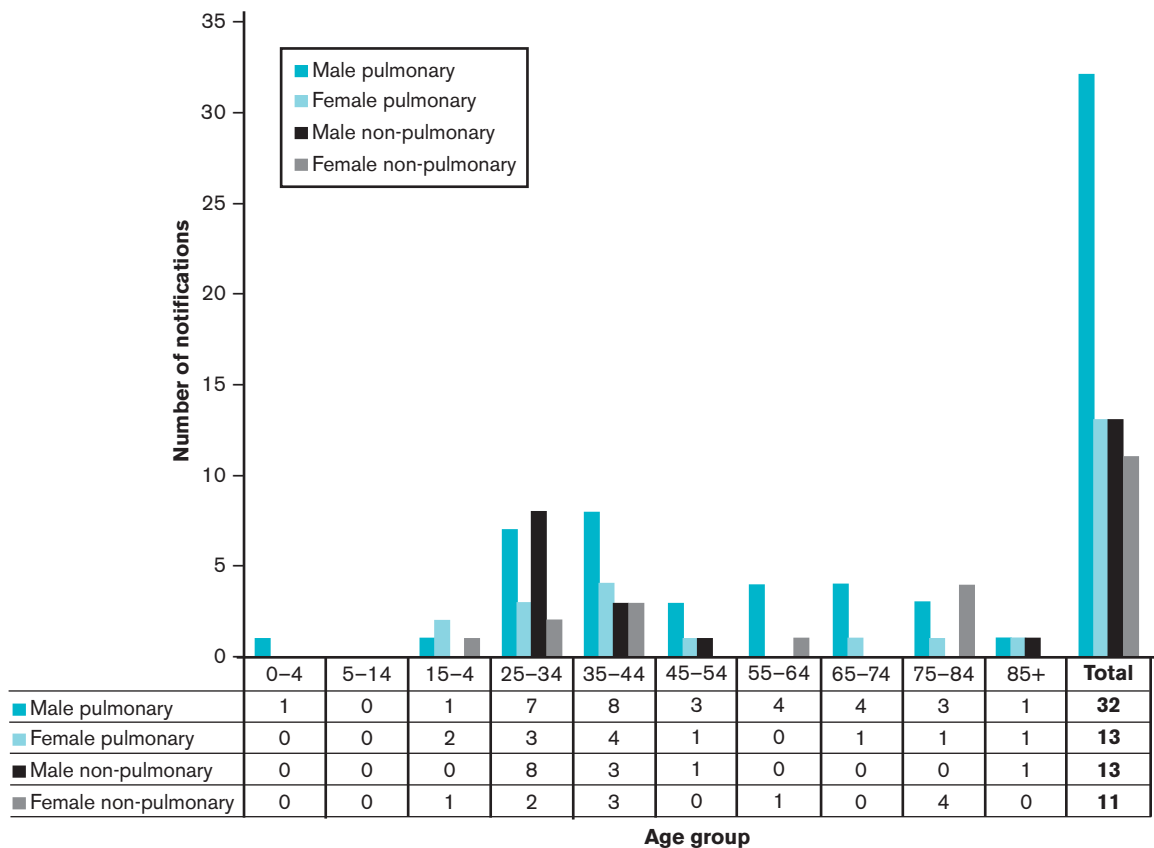
Of the 24 non-pulmonary tuberculosis cases notified during 2007, 13 were male and 11 were female, giving a male/female ratio of 1:1.2, compared with a male/female ratio of 1:2.6 in 2006. The ages ranged from 22 to 87 years, with a median of 37 years and a mean of 44 years. The highest age-specific rate for non-pulmonary tuberculosis among males occurred in the over 85 years age group, and among women, it occurred in the 75–84 years age group (Table 7).

Table 7: Rates of notification of non-pulmonary tuberculosis per 100,000 population in Northern Ireland, by age and sex, 2007

Age group	Male	Female	Total
0-4	0.0	0.0	0.0
5-14	0.0	0.0	0.0
15-24	0.0	0.8	0.4
25-34	7.0	1.7	4.3
35-44	2.4	2.3	2.3
45-54	0.9	0.0	0.4
55-64	0.0	1.1	0.5
65-74	0.0	0.0	0.0
75-84	0.0	7.9	4.8
85+	12.2	0.0	3.7
Total	1.5	1.2	1.4

The number of notified cases of both pulmonary and non-pulmonary tuberculosis, stratified by age group, can be seen in Figure 4.

Figure 4: Notified cases of pulmonary and non-pulmonary tuberculosis, by age and sex, in Northern Ireland, 2007



Anti-tuberculosis treatment

Initial therapy

Initial therapy was recorded for 55 (80%) of the 69 tuberculosis patients notified in 2007. As in previous years, the most commonly reported treatment regimen was the concurrent use of the four drugs: rifampicin, isoniazid, pyrazinamide and ethambutol (Table 8a).

Table 8a: Initial therapies employed for the treatment of tuberculosis in Northern Ireland, 2007

Initial therapy	Number of cases
Rifampicin/isoniazid/pyrazinamide/ethambutol	45
Rifampicin/isoniazid/ethambutol	2
Rifampicin/isoniazid/pyrazinamide	6
Rifampicin/ethambutol/pyrazinamide	2

Continuation therapy

In 2007, continuation therapy was recorded for 50 (72%) of the 69 tuberculosis cases. In all but one of these cases, the treatment regimen was a combination of rifampicin and isoniazid (Table 8b)

Table 8b: Continuation therapies employed for the treatment of tuberculosis in Northern Ireland, 2007

Continuation therapy	Number of cases
Rifampicin/isoniazid	47
Rifampicin/isoniazid/ethambutol	2
Rifampicin/pyrazinamide/ethambutol	1

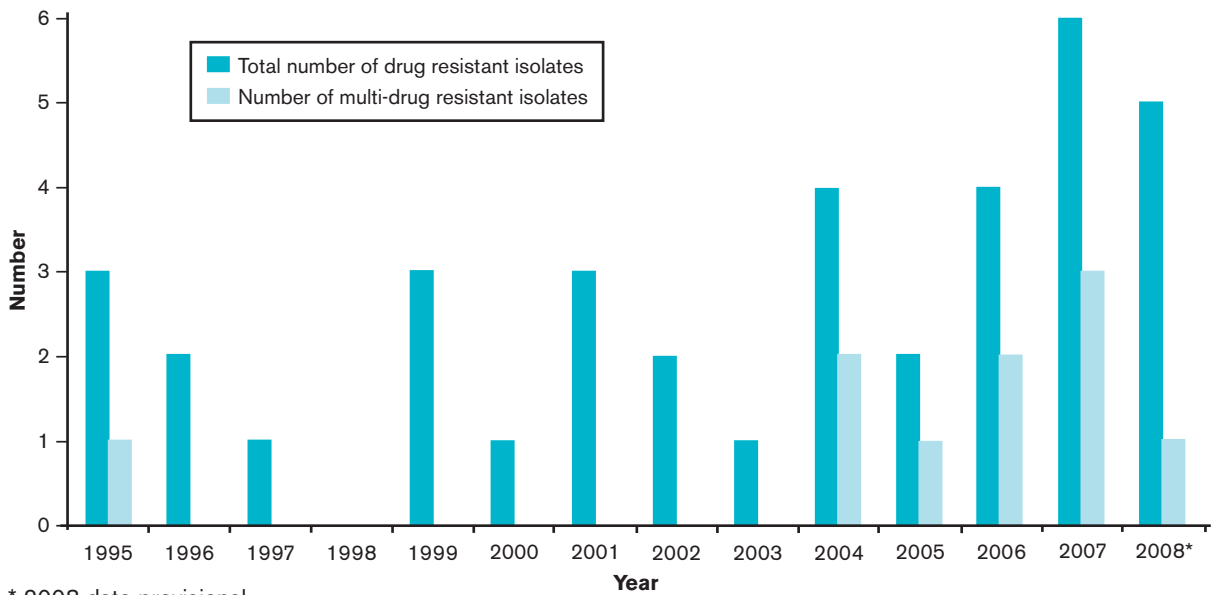
Surveillance of mycobacterial isolates' susceptibility to anti-tuberculosis drugs

Antimicrobial susceptibility information was received on 52 of the 56 *M. tuberculosis* isolates, 39 of which were pulmonary. Antimicrobial susceptibility data was also available on one *M. bovis* isolate.

Three *M. tuberculosis* pulmonary isolates (2 sputum positive) were found to be resistant to both isoniazid and rifampicin (MDR). All three patients were born outside the UK. Two *M. tuberculosis* pulmonary isolates were resistant to isoniazid only and, as expected, the *M. bovis* isolate was found to be pyrazinamide resistant.

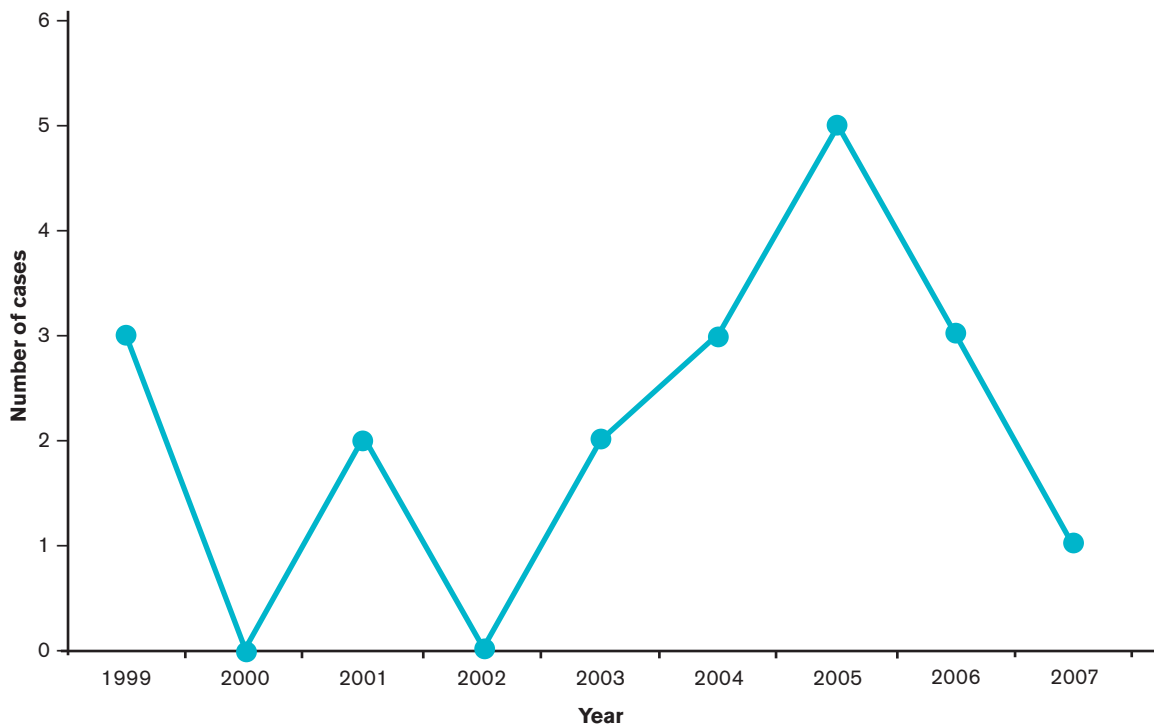
The number of *M. tuberculosis* drug resistant isolates during 2007 increased to six, compared with four (updated from 2006 report) in 2006 (Figure 5). Provisional data for 2008 indicates four cases having resistance to isoniazid and one having MDR. Multi-drug resistant isolates have been reported for each year between 2005 and 2008.

Figure 5: Incidence of drug resistance in isolates of *M. tuberculosis* in Northern Ireland, 1995–2007



Incidence of *M. bovis* infection in Northern Ireland

Figure 6: Incidence of *M. bovis* infection in Northern Ireland, 1999–2007



From 1999 to 2007, there were 19 notified cases of *M. bovis* in Northern Ireland, of which 58% (n=11) were pulmonary and 42% (n=8) were non-pulmonary cases (Figure 6).

There was one culture confirmed non-pulmonary case of *M. bovis* in 2007. In the absence of reported risk factors, it is assumed this was the result of reactivation, which would be consistent with the age profile. With the exception of 2005 when there were five cases, the number of *M. bovis* cases in Northern Ireland has averaged two per year.

Tuberculosis in healthcare workers

In 2007, there were eight healthcare workers notified with tuberculosis, approximately 12% of all notified cases. Two cases were pulmonary and six cases were non-pulmonary. All but one of the cases were born outside the UK. Provisional data for 2008 indicates three healthcare worker notifications, all of which are culture confirmed and one of which is pulmonary. The proportion of notified cases of tuberculosis in healthcare workers in Northern Ireland has been increasing since 1997 (Table 9).

Table 9: Number of tuberculosis notifications and proportion (%) who are healthcare workers (HCW), 1997–2008

Year	Total number of cases	Number of HCW cases	%
1997	70	1	1
1998	66	0	0
1999	57	1	2
2000	51	1	2
2001	55	2	4
2002	67	6	9
2003	57	2	4
2004	81	1	1
2005	75	8	11
2006	63	6	10
2007	69	8	12
2008*	66	3	5

Note: There were no HCW cases reported in 1998

* 2008 data provisional

Discussion

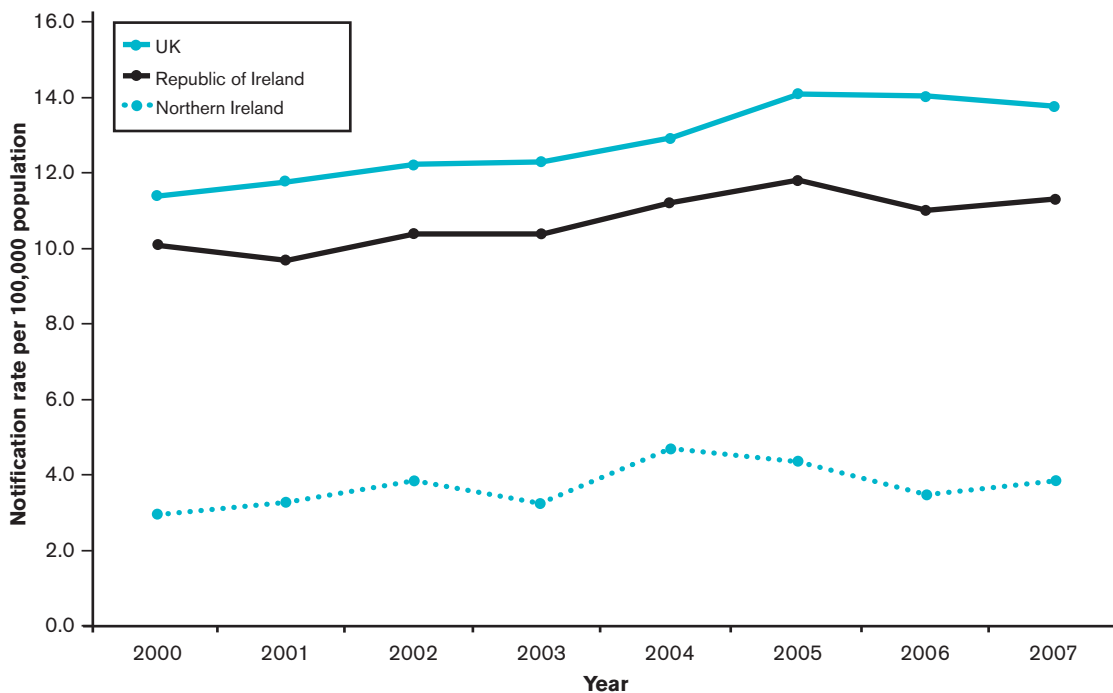
Enhanced surveillance of tuberculosis in the UK

The overall notification rate for the enhanced surveillance of tuberculosis in the UK has been steadily rising from the late 1980s. In 2000, the rate was 11.4/100,000 population, rising to 14.1/100,000 in 2005 and 14/100,000 in 2006. The rate for 2007 was 13.8/100,000 population (Figure 7).

The 2007 notification rate in Northern Ireland (3.9/100,000) still remains approximately one third of that recorded in the rest of the UK. London still accounts for the highest rate (43.2/100,000) and proportion of cases, accounting for 39% of all cases reported in the UK.

Provisional data from the Republic of Ireland (ROI) for 2007 indicates a crude notification rate of 11.3/100,000, which is a slight rise compared with the rate for 2006 (10.8/100,000). The highest crude incidence rates in ROI were in the Health Service Executive (HSE) southern region, with a rate of 17.4/100,000. The HSE regions bordering Northern Ireland had lower crude incidence rates (northwest: 6.7/100,000 and northeast: 5.1/100,000).

Figure 7: Rate of tuberculosis per 100,000 population in the UK (England and Wales), Northern Ireland and the Republic of Ireland, 2000–2007



The number of notifications in Northern Ireland in 2007 (n=69) is slightly higher than in 2006 (n=63). From 1992, when enhanced surveillance of tuberculosis began in Northern Ireland, the notification rate was at its highest in 1994 at 5.3/100,000 population. The lowest rate was in 2000 at 3.0/100,000 population (Table 10). Provisional analysis for 2008 indicates that the number and rate of notification continues to decrease, with 66 notifications (3.7/100,000). From 2004, when the data were stratified, the SHSSB has continually had the highest notification rates per 100,000 population of the four health boards.

Table 10: Number of tuberculosis notifications and rates per 100,000 population, Northern Ireland, 1992–2008

Year	Number of cases	Rate
1992	71	4.4
1993	77	4.7
1994	87	5.3
1995	84	5.1
1996	78	4.7
1997	70	4.2
1998	66	3.9
1999	57	3.4
2000	51	3.0
2001	55	3.3
2002	67	3.9
2003	57	3.3
2004	81	4.7
2005	75	4.4
2006	61	3.5
2007	69	3.9
2008*	66	3.7

* 2008 data provisional

Incidence of tuberculosis in Northern Ireland, by age

In 2000, 53% of tuberculosis notifications were in those aged over 65 years. However, from 2000 to 2005, the proportion of those that were 65 years of age or over at the time of notification fell. By 2002, the figure was 42% and by 2005, it had fallen further to 28%.

The figures for 2006 indicated a slight rise, with 31% of notifications in the over 65 years age group, and this trend continues in 2007, with 35% of cases now in this age group (Table 11a).

The number of cases imported into Northern Ireland in 2007 continued to increase, with an estimated 53% of total cases notified this year born outside the UK or Ireland, compared with 38% of cases in 2006 (Table 11b).

Table 11a: Mean and median ages of all tuberculosis cases notified in Northern Ireland, 2000–2007

Year	Total number of cases notified	Age range	Mean age	Median age
2000	51	2–99	61.0	68.0
2001	55	3–92	55.0	58.0
2002	67	2–94	53.8	56.0
2003	57	1–89	52.8	53.0
2004	81	0–90	45.8	51.0
2005	75	0–87	48.5	49.0
2006	61	17–96	53.0	53.5
2007	69	1–88	44.9	39.0
2008*	66	14–92	52.2	48.0

* 2008 data provisional

Table 11b: Mean and median ages of tuberculosis cases in Northern Ireland known to have been born outside the UK and Ireland, 2000–2007

Year	Total number of notified cases	Number of cases	Percentage of total cases (%)	Age range	Mean age	Median age
2000	51	4	7.8%	32–43	39	41
2001	55	7	12.7%	27–85	41.7	34
2002	67	9	13.4%	24–49	37.6	38
2003	57	12	21.1%	21–44	34.1	35
2004	81	25	30.9%	19–73	34.1	28
2005	75	19	25.3%	13–65	30.9	27
2006	61	23	37.7%	17–73	33.7	33
2007	69	36	52.9%**	19–46	31.4	30
2008*	66	35	57.4%#	23–83	38.7	33

* 2008 data provisional

** In 2007, the country of birth was not known for one case; % figure based on 68 cases

In 2008, the country of birth was not known for five cases; % figure based on 61 cases

The average age at the time of notification, for cases known to have been born in the UK or Ireland, remains above 50 years old (Table 11c). The number of cases of tuberculosis from within the UK/Ireland decreased again in 2007 and provisional data for 2008 indicates that this trend is continuing. The ages of those notified, who were born outside the UK/Ireland, are significantly lower than those born within the UK/Ireland. This continues the trend from previous years.

Table 11c: Mean and median ages of tuberculosis cases in Northern Ireland known to have been born in the UK or Ireland, 2000–2007

Year	Total number of notified cases	Number of cases	Percentage of total cases (%)	Age range	Mean age	Median age
2000	51	43	84.3	2–99	64.6	70
2001	55	36	65.5	3–85	57.8	64
2002	67	58	86.6	2–94	56.4	62
2003	57	45	78.9	1–89	57.8	66
2004	81	55	67.9	0–90	51.6	56
2005	75	55	73.3	0–87	54.9	58
2006	61	38	62.3	21–96	64.7	62
2007	69	32	47.0**	1–88	61.3	65
2008*	66	26	42.6#	14–92	68.3	74.5

* 2008 data provisional

** In 2007, the country of birth was not known for one case; % figure based on 68 cases

In 2008, the country of birth was not known for five cases; % figure based on 61 cases

Pulmonary tuberculosis cases in Northern Ireland

The rate of pulmonary tuberculosis notifications in 2007 remained similar to that recorded in 2006 (2.6/100,000 and 2.5/100,000 respectively). The SHSSB had the highest rate at 4.1/100,000. This was higher than last year when the rate was 3.0/100,000 population.

However, since 2004, the rates of pulmonary tuberculosis have been relatively stable, declining in three of the four health board areas in Northern Ireland. The exception is the SHSSB area, where the rate has fluctuated. The SHSSB rate was 5.3/100,000 population in 2004, decreasing to 3.0/100,000 population in 2006 and subsequently increasing to 4.1/100,000 in 2007.

The proportion of males with pulmonary tuberculosis in 2007 remained similar to 2006 at 71% (72% in 2006).

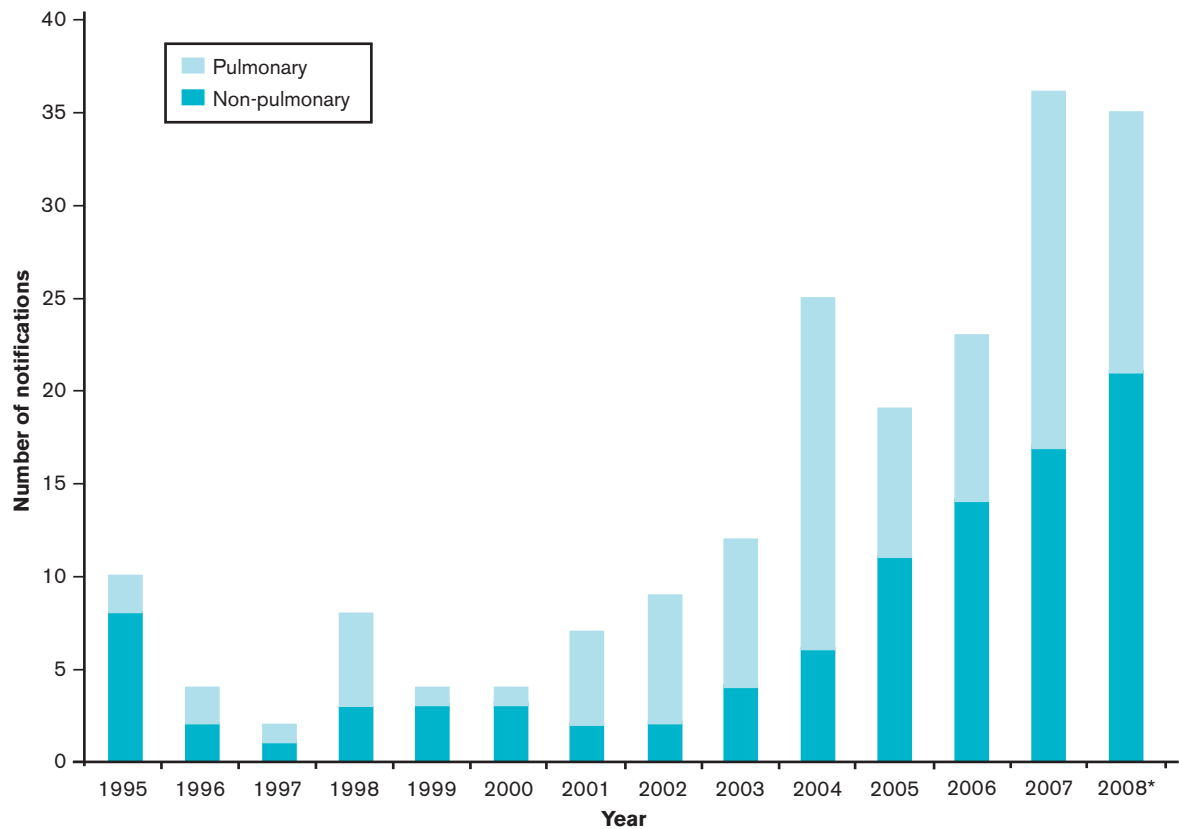
Tuberculosis in Northern Ireland, by place of birth

The proportion of cases in Northern Ireland known to have been born outside the UK continues to increase annually. In 2007, 53% of notified cases were born abroad, compared with 38% in 2006 (Table 11b). The mean age of cases born outside the UK was 31 years, with a median of 30 years and an age range of 19–46 years. This compares with a mean age of cases born in the UK of 61 years, with a median of 65 years and an age range of 1–88 years.

In Northern Ireland during 2007, 36 of the 69 notified cases occurred in individuals born abroad. Nineteen of the 36 cases were notified with pulmonary disease, of which eight were both sputum smear and culture positive for *M. tuberculosis*.

The year of first entry into the UK was recorded for 30 of the 36 cases who were born overseas. Twelve (40%) developed the disease within one year or less of entry to the UK. The time interval from UK entry to the onset of symptoms ranged from less than a year to seven years, with both a mean and median time period of two years.

Figure 8: Site of disease in notified tuberculosis cases born outside the UK, Northern Ireland and the Republic of Ireland, 1995–2008



* 2008 data provisional

Conclusion

The rate of tuberculosis in Northern Ireland remains significantly lower than that in the Republic of Ireland, England and Wales. There has been a recent reduction in tuberculosis notifications in Northern Ireland among those born in the UK/Republic of Ireland. However, this reduction has been offset by a rising number of notifications among those born outside the UK/Republic of Ireland. The latter group are much younger than the former and some are likely to have come to Northern Ireland for economic reasons.

While the number of isolates exhibiting multi-drug resistance remains low, they are becoming more frequent and may pose difficult clinical management challenges, coupled with availability requirements for negative pressure isolation rooms. A heightened vigilance is required to ensure prompt identification, isolation and treatment of such individuals.

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Further reading

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