



National TB Surveillance

A report by the Health Protection Surveillance Centre

Quarter 1 2015 TB Report

Report produced 26th May 2015 *

* The data in this report are provisional and will not be regarded as final until all notification data on individual cases are complete and the data have been validated.
Data extracted from CIDR 18/05/2015

Introduction

This Quarter 1 2015 TB Report presents an epidemiological summary of the cases of tuberculosis (TB) notified to eight HSE areas in Ireland during January - March 2015.

HPSC produces a quarterly TB report using data submitted to it by HSE areas after the end of each quarter. Quarterly returns from the areas consist of disaggregate data on new TB notifications and some additional data on notified TB cases from previous years. **Data in quarterly reports should be regarded as provisional until a process of validation has been completed at the end of that notification year.** Quarterly reports will invariably have incomplete data on cases until this process of validation has occurred.

Summary

During Quarter 1 2015:

- 71 TB cases[†] were notified to HPSC
- HSE East reported the highest number of cases at 35 (49.3% of total)
- The male to female ratio was 1.1:1.0
- The highest proportion of cases occurred in those aged 25-34 years (25.4%) and those aged 65 years and older (22.5%)
- 45.1% of all cases were foreign born
- No cases of TB meningitis were notified
- 46 cases (64.8%) were culture positive, two (2.8%) were culture negative and two (2.8%) were reported as not having been culture tested while culture result was not reported for the remaining 21 cases (29.6%)
- *M. tuberculosis* was isolated in 41 (89.1%) and *M. tuberculosis* complex[‡] in five (10.9%) cases
- 38 (82.6%) culture positive cases had drug sensitivity details
- No cases of multidrug-resistant TB (MDR-TB) were notified for this period
- HIV status was reported for 17 (23.9%) TB cases
- No outbreaks were reported during this period

[†] Data in quarterly reports should be regarded as provisional until a process of validation has been completed at the end of that notification year.

[‡] Species of mycobacteria not specified

Results

Total cases of tuberculosis notified in Q1 2015

There were 71 cases of TB notified during the period 1st January to 31st March 2015. The number of cases notified in each HSE area is shown in table 1 and figure 1 and a breakdown of TB cases by county is shown in table 2. Table A1, appendix 1 displays the number of TB notifications, 3 year moving average and crude incidence rate by year.

Table 1: Number and percentage of TB notifications by HSE area, Q1 2015

HSE Area	Quarter 1	% Total
East	35	49.3
Midland	6	8.5
Mid-West	3	4.2
North East	3	4.2
North West	4	5.6
South East	5	7.0
South	11	15.5
West	4	5.6
Total	71	100.0

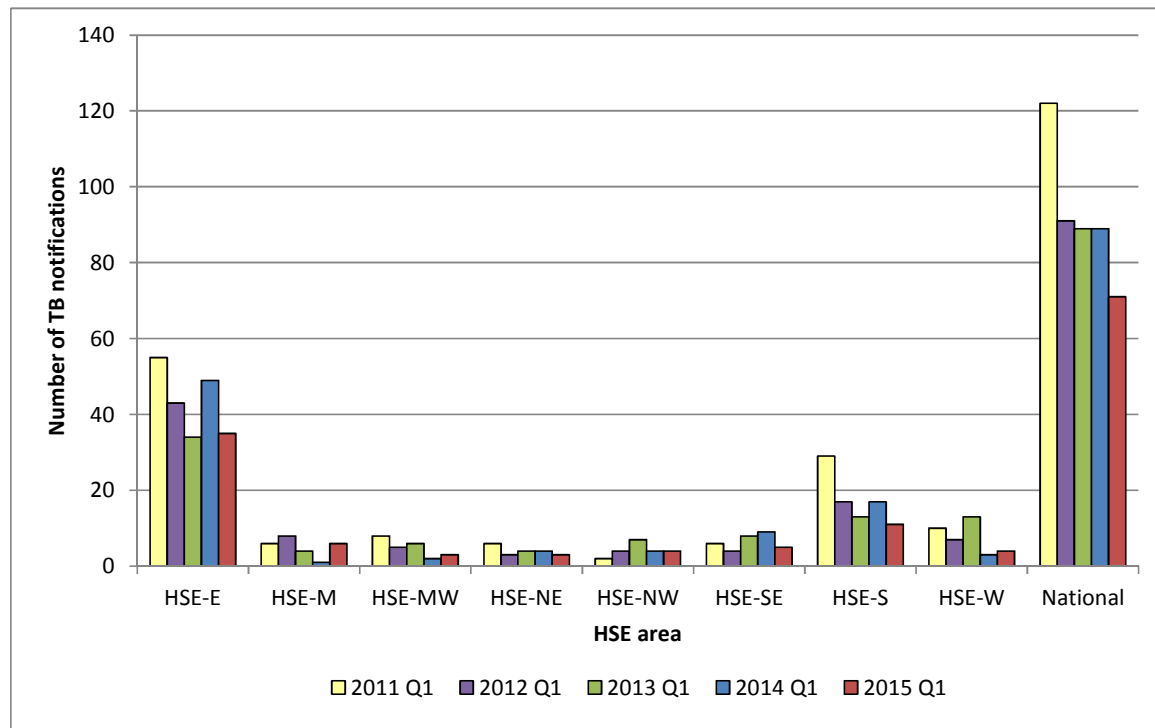


Figure 1: Number of TB notifications by HSE area, Q1 2010-2015

Table 2: Number and percentage of TB notifications by county, Q1 2015

County	Number of TB Cases	% Total
Carlow	2	2.8
Cavan	1	1.4
Clare	2	2.8
Cork	9	12.7
Donegal	2	2.8
Dublin	27	38.0
Galway	3	4.2
Kerry	2	2.8
Kildare	5	7.0
Laois	2	2.8
Limerick	1	1.4
Meath	1	1.4
Monaghan	1	1.4
Offaly	1	1.4
Roscommon	1	1.4
Sligo	2	2.8
Tipperary	1	1.4
Westmeath	3	4.2
Wexford	2	2.8
Wicklow	3	4.2
Total	71	100.0

A further breakdown of cases by community care area is shown in table 3.

Table 3: Number and percentage of TB notifications by LHO, Q1 2015

HSE Area	LHO	Number of TB Cases
East	CCA1	3
	CCA2	0
	CCA3	5
	CCA4	3
	CCA5	2
	CCA6	11
	CCA7	2
	CCA8	1
	CCA9	5
	CCA10	3
	Total	35
Midland	Longford/Westmeath	3
	Laois/Offaly	3
	Total	6
Mid-West	Clare	2
	Limerick	1
	Tipperary North/East Limerick	0
	Total	3
North East	Cavan	1
	Louth/South Monaghan	0
	Meath	1
	Monaghan	1
	Total	3
North West	Donegal	2
	Sligo/Leitrim	2
	Total	4
South East	Carlow/Kilkenny	2
	Tipperary South	1
	Waterford	0
	Wexford	2
	Total	5
South	Kerry	2
	North Cork	2
	North/South Lee	7
	West Cork	0
	Total	11
West	Galway	3
	Mayo	0
	Roscommon	1
	Total	4
Ireland		71

Sex

There were 36 males (50.7%) and 34 females (47.9%) in Q1 2015. Sex was not reported for the remaining case.

Age groups

A breakdown of cases by age group and HSE area is shown in table 4.

Table 4: Number and percentage of TB notifications by age group and HSE area, Q1 2015

Age group (years)	HSE-E	HSE-M	HSE-MW	HSE-NE	HSE-NW	HSE-SE	HSE-S	HSE-W	Total	% Total
0-4	0	0	0	0	0	0	1	0	1	1.4
5-9	0	0	0	0	0	0	0	0	0	0.0
10-14	0	0	0	0	0	0	0	0	0	0.0
15-19	1	1	0	0	1	0	0	0	3	4.2
20-24	4	0	0	0	0	1	0	1	6	8.5
25-34	9	1	1	0	0	1	4	2	18	25.4
35-44	6	1	1	1	2	0	2	0	13	18.3
45-54	3	0	0	1	0	1	1	1	7	9.9
55-64	6	0	1	0	0	0	0	0	7	9.9
65+	6	3	0	1	1	2	3	0	16	22.5
Unknown	0	0	0	0	0	0	0	0	0	0.0
Total	35	6	3	3	4	5	11	4	71	100.0

Country of origin

During Q1 2015, 27 (38.0%) TB cases were born in Ireland and 32 (45.1%) were born outside Ireland. Country of birth was not reported for 12 cases (16.9%) cases. Table 5 summarises the countries of birth of cases.

Of those 32 cases born outside Ireland, two (6.3%) were reported as asylum seekers or refugees (both from HSE-E). Figure 2 shows the annual number of TB cases by geographic origin from 2002 to Q1 2015.

Table 5: Number and percentage of TB notifications by country of birth, Q1 2015

Country of Birth	Number of TB Cases	% Total
Ireland	27	38.0
Bangladesh	2	2.8
China	1	1.4
Congo	1	1.4
Congo, The Democratic Republic of the	1	1.4
India	6	8.5
Latvia	1	1.4
Lesotho	1	1.4
Lithuania	1	1.4
Nigeria	1	1.4
Pakistan	3	4.2
Philippines	2	2.8
Romania	5	7.0
Somalia	1	1.4
South Africa	3	4.2
Sudan	1	1.4
United Kingdom	1	1.4
Zimbabwe	1	1.4
Not specified	7	9.9
Unknown	5	7.0
Total	71	100.0

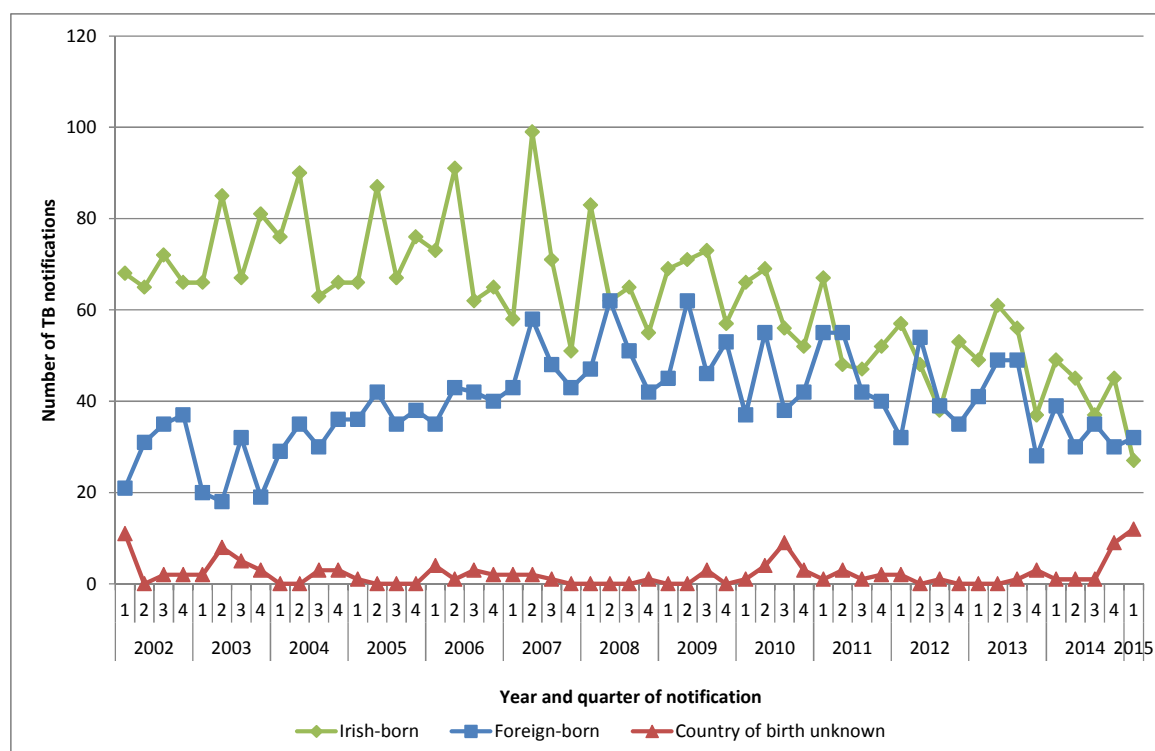


Figure 2: Number of TB notifications by year and quarter of notification and geographic origin, 2002-Q1 2015

Case ascertainment

Table 6 summarises the method by which reported cases were detected in Q1 2015.

Table 6: Number and percentage of TB notifications by method of case finding, Q1 2015

Found by	Number of TB Cases	% Total
Presenting as case	51	71.8
Contact tracing	1	1.4
Immigrant screening	0	0.0
Post-mortem diagnosis	0	0.0
Pre-employment screening	0	0.0
Other	4	5.6
Not reported	15	21.1
Total	71	100.0

Diagnostic categories

Cases are classified into one of three diagnostic categories based on the site of disease. Table 7 summarises the available data for each HSE area.

Table 7 Number and percentage of TB notifications by diagnostic type and HSE area, Q1 2015

HSE area	Pulmonary	Pulmonary & Extrapulmonary (P+E)	Extrapulmonary	Not reported	Total
HSE-E	18	2	13	2	35
HSE-M	5	0	1	0	6
HSE-MW	3	0	0	0	3
HSE-NE	2	0	0	1	3
HSE-NW	0	0	2	2	4
HSE-SE	3	0	1	1	5
HSE-S	6	1	4	0	11
HSE-W	3	0	1	0	4
Total	40	3	22	6	71
%	56.3	4.2	31.0	8.5	100.0

Twenty-five cases (35.2%) had an extra-pulmonary disease component reported (table 8).

Table 8: Number and percentage of TB notifications by extrapulmonary site of disease, Q1 2015

Extrapulmonary sites	Number of TB cases	% Total
Lymphatic extrathoracic	9	36.0
Pleural	3	12.0
Lymphatic intrathoracic	3	12.0
Other	2	8.0
Peritoneal/digestive	2	8.0
Spine	2	8.0
Disseminated	1	4.0
Not reported	3	12.0
Total	25	100.0

TB meningitis

No cases of TB meningitis were reported during Q1 2015.

Microbiological results:

Sputum-smear status - first sample

Of the 43 cases with a pulmonary component reported during Q1 2015, 22 (51.2%) were sputum smear positive at diagnosis. Eight of these cases (36.4%) reported a second sputum smear positive result.

Culture – first sample and isolates

In Q1 2015, 46 cases (64.8%) were culture positive, two (2.8%) were culture negative and two (2.8%) were reported as not having been culture tested (table 9). Culture result was not reported for the remaining 21 cases (29.6%).

Of the 46 culture positive cases, *M. tuberculosis* was isolated in 41 (89.1%) and *M. tuberculosis* complex[§] in five (10.9%).

Table 9: Number and percentage of TB notifications by first culture result and HSE area, Q1 2015

Culture	HSE E	HSE M	HSE MW	HSE NE	HSE NW	HSE SE	HSE S	HSE W	Total	% Total
Culture positive	25	5	2	1	1	3	7	2	46	64.8
Culture negative	0	0	0	0	1	0	0	1	2	2.8
Not done	2	0	0	0	0	0	0	0	2	2.8
Not reported	8	1	1	2	2	2	4	1	21	29.6
Total	35	6	3	3	4	5	11	4	71	100.0

MIRU VNTR results

Of the 46 culture positive cases, MIRU-VNTR typing results were reported for 39 cases (84.8%). Of the 39 typed isolates, 37 (94.9%) were unique and two (5.1%) were a 24 loci match. The two cases with VNTR type match were part of an already documented cluster investigated by public health.

Antibiotic resistance

Of the 46 culture positive cases reported, 38 (82.6%) had drug sensitivity details completed. Resistance was reported in three cases (7.9% of 38 cases with drug sensitivity data reported and 4.2% of total cases reported).

Mycobacterium tuberculosis was isolated in all three resistant cases, one of whom reported a previous history of TB. Two resistant cases were born outside Ireland (table 10).

No cases of multidrug-resistant (MDR) TB were notified for this period**.

[§] Species of mycobacteria not specified

** MDR TB is defined as a TB case resistant to at least isoniazid and rifampicin with or without resistance to ethambutol and streptomycin.

Table 10: Sensitivity results of drug resistant TB cases in Ireland, Q1 2015

Isolate	Isoniazid sensitivity	Rifampicin sensitivity	Ethambutol sensitivity	Pyrazinamide sensitivity	Streptomycin sensitivity	Previous history of TB disease	Born outside Ireland	Age group (years)
M. tb	R	S	S	S	S	No	Yes	25-34
M. tb	R	S	Unk	Unk	Unk	Yes	Yes	65+
M. tb	S	S	S	S	R	No	No	65+

Chest X-ray

Twenty cases with a pulmonary component (46.5% of pulmonary cases) had X-ray findings consistent with active pulmonary TB (table 11).

Table 11: Chest X-ray results of TB cases with a pulmonary component, Q1 2015

Chest X-ray	Number of TB cases	% Total
Active Cavitory TB	9	20.9
Active Non-cavitory TB	11	25.6
Inactive/Old TB	1	2.3
Normal	2	4.7
Other	6	14.0
Not done	0	0.0
Not reported	14	32.6
Total	43	100.0

Previous history

During Q1 2015, eight cases (11.3% of total reported) had a previous history of TB. Four of these cases were born outside Ireland. Year of previous diagnosis ranged from 1992 to 2014 for these cases.

HIV status

HIV status was reported for 17 (23.9%) TB cases. Two TB cases were reported as HIV positive (2.8% of total case, 11.8% of cases with known HIV status) while 15 cases were reported as HIV negative (21.1% of total case, 88.2% of cases with known HIV status).

Outcome

One death was reported during Q1 2015. Cause of death was not available at the time of this report.

Outbreaks^{††}

No TB outbreaks were reported to HPSC during this period.

^{††} Outbreak data taken from CIDR on 14/05/2014

Appendix 1:

Table A1: TB notifications, 3 year moving average and crude incidence rate by year

Year	Number of cases	3 year moving average - Cases	Crude rate per 100,000 population
1991	640		18.2
1992	604	612	17.1
1993	598	581	17.0
1994	524	526	14.5
1995	458	469	12.6
1996	434	436	12.0
1997	416	423	11.5
1998	424	433	11.7
1999	469	439	12.9
2000	395	410	10.1
2001	381	392	9.7
2002	410	402	10.5
2003	406	413	10.4
2004	433	430	10.2
2005	448	448	10.6
2006	463	464	10.9
2007	481	473	11.3
2008	467	474	11.0
2009	479	461	10.4
2010	420	433	9.2
2011	413	403	9.0
2012	364	376	7.8
2013	373	357	8.1
2014*	323		7.0