



National TB Surveillance

A report by the Health Protection Surveillance Centre

Quarter 1 2014 TB Report

Report produced 16th May 2014^{*}

^{*} 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 13/05/2014

Introduction

This Quarter 1 2014 TB Report presents an epidemiological summary of the cases of tuberculosis (TB) notified to eight HSE areas in Ireland during January - March 2014.

In January 2011, all HSE areas moved to using CIDR (computerised infectious disease reporting) to record TB case notification data.

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 2014:

- 93 TB cases[†] were notified to HPSC.
- HSE East reported the highest number of cases at 51 (54.8% of total).
- More cases were reported in males (53.8%).
- The highest proportion of cases (28%) occurred in those aged 25-34 years and 35-44 years followed by 15.1% of cases in those aged 65 years and older.
- 41.9% of all cases were foreign born.
- No cases of TB meningitis were notified.
- 64 (68.8%) of all cases were culture positive, eight (8.6%) were culture negative and three (3.2%) was reported as not having been culture tested. Culture result was not reported for the remaining 18 (19.4%) cases.
- Of the 64 cases reported as culture positive, *M. tuberculosis* was isolated in 60 (93.8%) and *M. tuberculosis* complex[‡] in three (4.7%) and *M. bovis* in the remaining case (1.6%).
- 53 (82.8%) culture positive cases had drug sensitivity details.
- One case of multidrug-resistant TB (MDR-TB) was notified for 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 2014

There were ninety-three cases of TB notified during the period 1st January to 31st March 201. 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 2014

HSE Area	Quarter 1	% Total
East	51	54.8
Midland	1	1.1
Mid-West	2	2.2
North East	4	4.3
North West	4	4.3
South East	11	11.8
South	17	18.3
West	3	3.2
Total	93	100.0

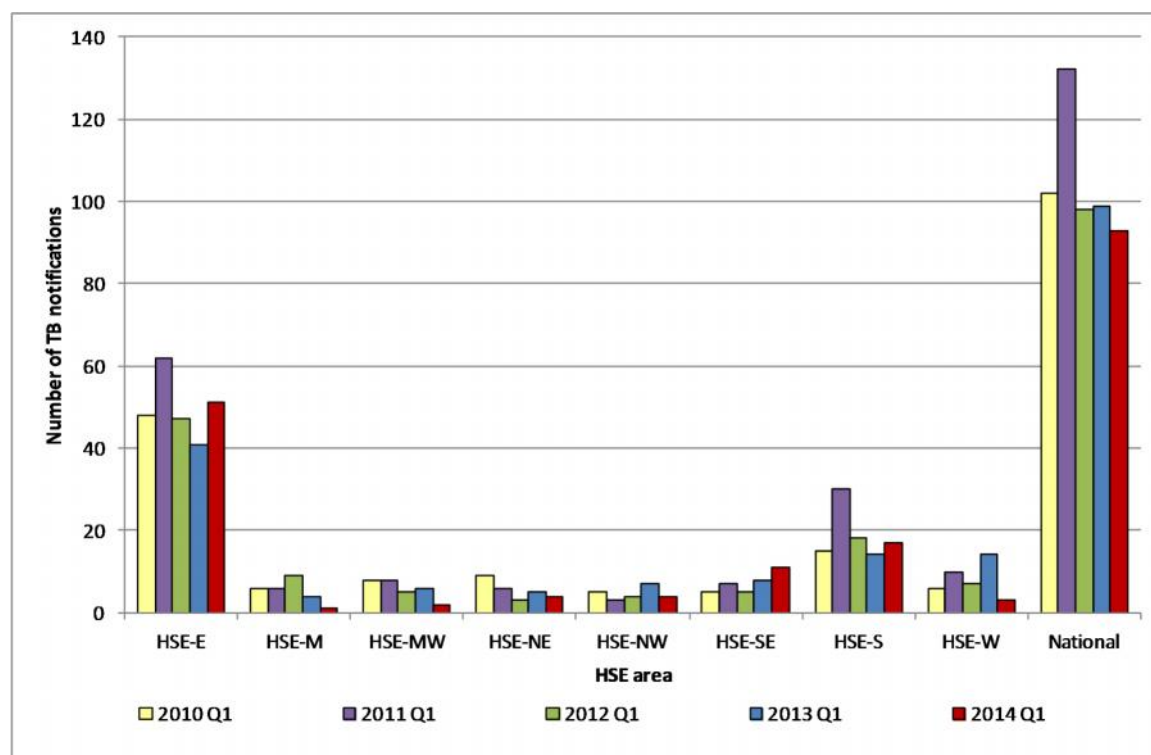


Figure 1: Number of TB notifications by HSE area, Q1 2010-2014[§]

[§] In January 2011, all HSE areas moved to using CIDR (computerised infectious disease reporting) to record TB case notification data.

Table 2: Number and percentage of TB notifications by county, Q1 2014

County	Number of TB Cases	% Total
Carlow	1	1.1
Cavan	2	2.2
Cork	11	11.8
Donegal	2	2.2
Dublin	43	46.2
Galway	1	1.1
Kerry	6	6.5
Kildare	6	6.5
Kilkenny	1	1.1
Limerick	2	2.2
Mayo	2	2.2
Meath	1	1.1
Monaghan	1	1.1
Sligo	2	2.2
Tipperary	3	3.2
Waterford	2	2.2
Westmeath	1	1.1
Wexford	4	4.3
Wicklow	2	2.2
Total	93	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 2014

HSE Area	LHO	Number of TB Cases
East	CCA1	1
	CCA2	4
	CCA3	3
	CCA4	6
	CCA5	4
	CCA6	7
	CCA7	12
	CCA8	6
	CCA9	7
	CCA10	1
	Total	51
Midland	Longford/Westmeath	1
	Laois/Offaly	0
	Total	1
Mid-West	Clare	0
	Limerick	2
	Tipperary North/East Limerick	0
	Total	2
North East	Cavan	2
	Louth/South Monaghan	0
	Meath	1
	Monaghan	1
	Total	4
North West	Donegal	2
	Sligo/Leitrim	2
	Total	4
South East	Carlow/Kilkenny**	1
	Tipperary South	3
	Waterford	3
	Wexford	4
	Total	11
South	Kerry	6
	North Cork	2
	North/South Lee	9
	West Cork	0
	Total	17
West	Galway	1
	Mayo	2
	Roscommon	0
	Total	3
Ireland		93

** This includes one case resident in part of county Kilkenny which is in Waterford LHO

Sex

There were 50 males (53.8%) and 42 females (45.2%) in Q1 2014. 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 2014

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	0	0	0	0.0
5-9	2	0	0	0	0	0	0	0	2	2.2
10-14	2	0	0	0	0	1	0	0	3	3.2
15-19	0	0	0	1	1	0	0	1	3	3.2
20-24	5	0	0	0	0	1	1	0	7	7.5
25-34	16	0	1	1	0	2	6	0	26	28.0
35-44	11	0	0	2	2	2	1	1	19	20.4
45-54	5	0	0	0	0	0	2	0	7	7.5
55-64	4	0	1	0	1	1	4	1	12	12.9
65+	6	1	0	0	0	4	3	0	14	15.1
Unknown	0	0	0	0	0	0	0	0	0	0.0
Total	51	1	2	4	4	11	17	3	93	100.0

Country of origin

During Q1 2014, 48 (51.6%) TB cases were born in Ireland and 39 (41.9%) were born outside Ireland. Country of birth was not reported for 6 cases (6.5%) cases. Table 5 summarises the countries of birth of cases.

Of those 39 cases born outside Ireland, three (7.7%) were reported as asylum seekers or refugees (two from HSE-E and one from HSE –W). Figure 2 shows the annual number of TB cases by geographic origin from 2002 to Q1 2014.

Table 5: Number and percentage of TB notifications by country of birth, Q1 2014

Country of Birth	Number of TB Cases	% Total
Ireland	48	51.6
Algeria	1	1.1
Botswana	1	1.1
Bulgaria	1	1.1
Cape Verde	1	1.1
Ethiopia	1	1.1
India	7	7.5
Latvia	1	1.1
Malawi	1	1.1
Malaysia	2	2.2
Mongolia	1	1.1
Nepal	1	1.1
Nigeria	6	6.5
Pakistan	3	3.2
Philippines	1	1.1
Poland	1	1.1
Romania	2	2.2
Saudi Arabia	1	1.1
South Africa	1	1.1
Syrian Arab Republic	1	1.1
Venezuela	2	2.2
Viet Nam	1	1.1
Zambia	1	1.1
Zimbabwe	1	1.1
Unknown	2	2.2
Not specified	4	4.3
Total	93	100.0

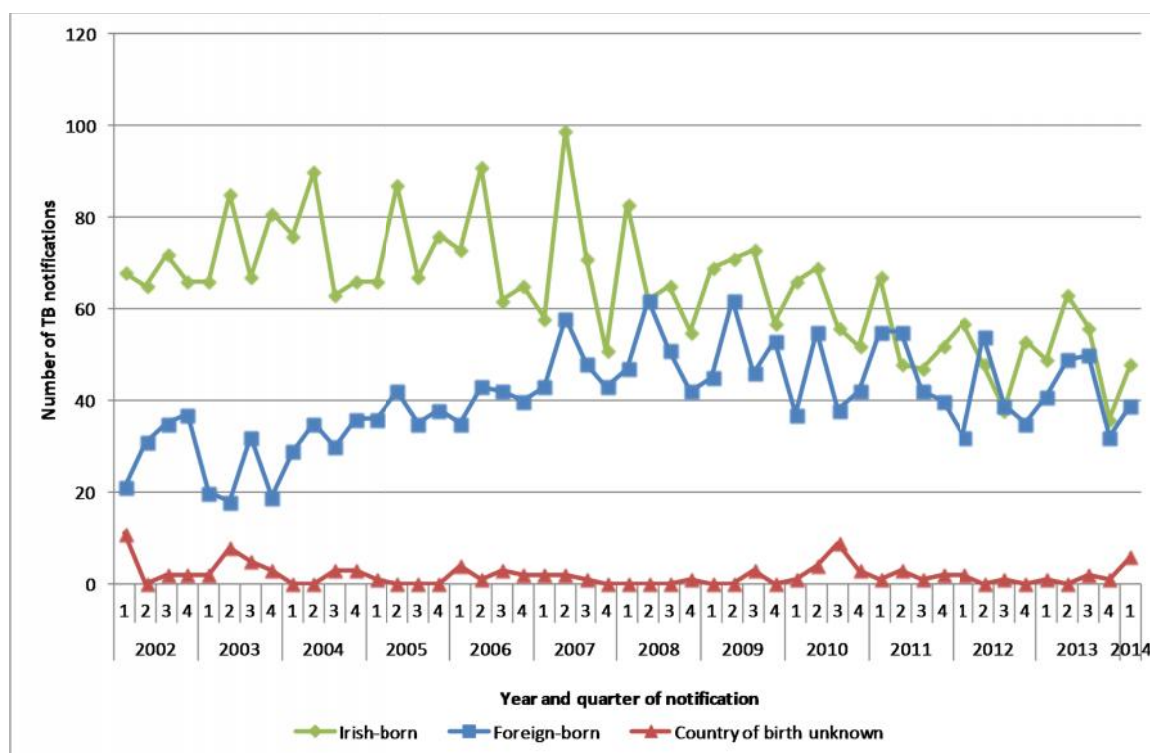


Figure 2: Number of TB notifications by year and quarter of notification and geographic origin, 2002-Q1 2014

Case ascertainment

Table 6 summarises the method by which reported cases were detected in Q1 2014.

Table 6: Number and percentage of TB notifications by method of case finding, Q1 2014

Found by	Number of TB Cases	% Total
Presenting as case	76	81.7
Contact tracing	6	6.5
Immigrant screening	0	0.0
Post-mortem diagnosis	0	0.0
Pre-employment screening	0	0.0
Other	1	1.1
Not reported	10	10.8
Total	93	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 2014

HSE area	Pulmonary	Pulmonary & Extrapulmonary (P+E)	Extrapulmonary	Not reported	Total
HSE-E	30	3	17	1	51
HSE-M	0	0	0	1	1
HSE-MW	2	0	0	0	2
HSE-NW	2	1	1	0	4
HSE-NW	0	0	3	1	4
HSE-SE	3	1	6	1	11
HSE-S	9	0	8	0	17
HSE-W	1	1	1	0	3
Total	47	6	36	4	93
%	50.5	6.5	38.7	4.3	100.0

Forty-two cases (45.2%) had an extra-pulmonary disease component reported (table 8).

Table 8: Number and percentage of TB notifications by extrapulmonary site of disease, Q1 2014

Extrapulmonary sites	Number of TB cases	% Total
Lymphatic extrathoracic	12	28.6
Pleural	7	16.7
Lymphatic intrathoracic	6	14.3
Other	4	9.5
Peritoneal/digestive	4	9.5
Genito-urinary	3	7.1
Spine	3	7.1
Bone/joint other than spine	1	2.4
Disseminated	1	2.4
Not reported	1	2.4
Total	42	100.0

TB meningitis

No cases of TB meningitis were reported during Q1 2014.

Sputum-smear status - first sample

Of the 53 cases with a pulmonary component reported during Q1 2014, 25 (47.2%) were sputum smear positive at diagnosis. Eleven of these cases (44.0%) reported a second sputum smear positive result.

Culture – first sample and isolates

In Q1 2014, 64 cases (68.8%) were culture positive, eight (8.6%) were culture negative and three (3.2%) were reported as not having been culture tested (table 9). Culture result was not reported for the remaining 18 cases (19.4%).

Of the 64 culture positive cases, *M. tuberculosis* was isolated in 60 (93.8%), *M. tuberculosis* complex^{††} in three (4.7%) and *M. bovis* in the remaining case (1.6%).

Table 9: Number and percentage of TB notifications by first culture result and HSE area, Q1 2014

Culture	HSE E	HSE M	HSE MW	HSE NE	HSE NW	HSE SE	HSE S	HSE W	Total	% Total
Culture positive	38	1	1	4	2	6	9	3	64	68.8
Culture negative	2	0	0	0	1	0	5	0	8	8.6
Not done	0	0	0	0	0	1	2	0	3	3.2
Not reported	11	0	1	0	1	4	1	0	18	19.4
Total	51	1	2	4	4	11	17	3	93	100.0

Antibiotic resistance

Of the 64 culture positive cases reported, 53 (82.8%) had drug sensitivity details completed. Resistance was reported in four cases (7.5% of 53 cases with drug sensitivity data reported and 4.3% of total cases reported).

Mycobacterium tuberculosis was isolated in all four resistant cases, none of whom reported a previous history of TB. All four resistant cases were born outside Ireland (table 10).

One case of multidrug-resistant (MDR) TB was notified for this period^{††}.

Table 10: Sensitivity results of drug resistant TB cases in Ireland, Q1 2014

Isolate	Isoniazid sensitivity	Rifampicin sensitivity	Ethambutol sensitivity	Pyrazinamide sensitivity	Streptomycin sensitivity	Previous history of TB disease	Born outside Ireland	Age group (years)
M. tb	Resistant	Resistant	Unknown	Resistant	Resistant	No	Y	35-44
M. tb	Resistant	Sensitive	Sensitive	Sensitive	Sensitive	No	Y	35-44
M. tb	Sensitive	Sensitive	Sensitive	Sensitive	Resistant	No	Y	25-34
M. tb	Sensitive	Sensitive	Sensitive	Sensitive	Resistant	No	Y	25-34

^{††} 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.

Chest X-ray

Thirty-three cases with a pulmonary component (62.3% 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 2014

Chest X-ray	Number of TB cases	% Total
Active Cavitary TB	10	18.9
Active Non-cavitary TB	23	43.4
Inactive/Old TB	0	0.0
Normal	3	5.7
Other	6	11.3
Not done	0	0.0
Not reported	11	20.8
Total	53	100.0

Previous history

During Q1 2014, one case (1.1% of total reported) had a previous history of TB. This case was born outside Ireland. Year of previous diagnosis was not reported for this case.

Outcome

One death was reported during Q1 2014. Cause of death was not available at the time of this report.

Outbreaks^{§§}

During Q1 2014, one TB outbreak was reported to HPSC, comprising four cases of active TB disease. The number of latent TB infections (LTBI) was not reported for this outbreak. This outbreak was a general outbreak associated with a public house. *M. tuberculosis* was reported as the causative pathogen for this outbreak.

^{§§} 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	381	7.9
2013*	380		8.3