



National TB Surveillance

A report by the Health Protection Surveillance Centre

Quarter 1 & 2 2014 TB Report

Report produced 2nd September 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 13/08/2014

Introduction

This Quarter 1 and 2 2014 TB Report presents an epidemiological summary of the cases of tuberculosis (TB) notified to eight HSE areas in Ireland during January - June 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 and 2 2014:

- 178 TB cases[†] were notified to HPSC. This was a decrease compared to 203 TB cases reported for quarter 1 and 2 2013.
- HSE East reported the highest number of cases at 87 (48.9% of total).
- More cases were reported in males (52.2%).
- The highest proportion of cases (23.6%) occurred in those aged 25-34 years followed by 22.5% in those aged 65 years and over.
- 39.9% of all cases were foreign born.
- One case of TB meningitis was notified.
- 126 (70.8%) of all cases were culture positive, 15 (8.4%) were culture negative, seven (3.9%) were reported as not having been culture tested and 30 (16.9%) cases did not have culture results available
- Of the 126 culture positive cases, *M. tuberculosis* was isolated in 116 (92.1%), *M. tuberculosis* complex[‡] in 8 (6.3%) cases, *Mycobacterium africanum* in one (0.8%) cases and *M. bovis* in one (0.8%) case.
- 112 (88.9%) 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 and Q2 2014

There were 178 cases of TB notified during the period 1st January to 30th June 2014. This was a decrease compared to 203 TB cases reported for quarters 1 and 2 2013. 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 1: Number and percentage of TB notifications by HSE area, Q1 & Q2 2014

HSE Area	Quarter 1	Quarter 2	Total	% Total
East	52	35	87	48.9
Midland	1	6	7	3.9
Mid-West	2	5	7	3.9
North East	4	10	14	7.9
North West	4	9	13	7.3
South East	10	7	17	9.6
South	17	12	29	16.3
West	3	1	4	2.2
Total	93	85	178	100.0

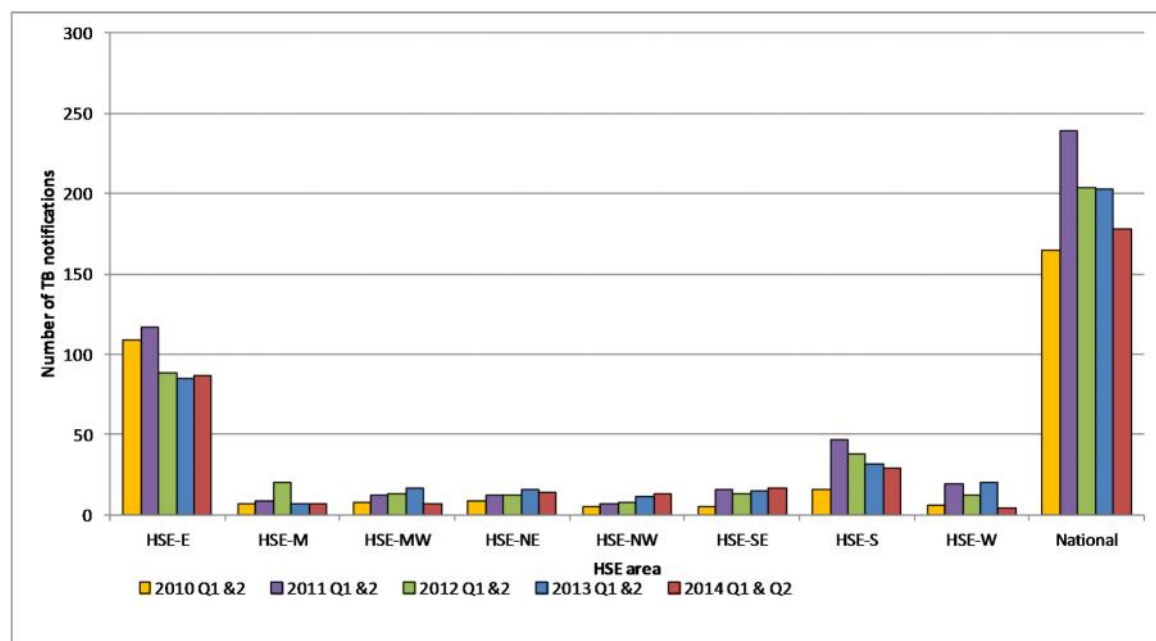


Figure 1: Number of TB notifications by HSE area, Q1 & Q2 2010-2014[§]

[§] 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 & Q2 2014

County	Number of TB notifications	% Total
Carlow	2	1.1
Cavan	4	2.2
Clare	3	1.7
Cork	20	11.2
Donegal	9	5.1
Dublin	76	42.7
Galway	2	1.1
Kerry	9	5.1
Kildare**	9	5.1
Kilkenny ^{††}	3	1.7
Laois	1	0.6
Leitrim	2	1.1
Limerick	4	2.2
Longford	3	1.7
Louth	3	1.7
Mayo	2	1.1
Meath	6	3.4
Monaghan	1	0.6
Offaly	1	0.6
Sligo	2	1.1
Tipperary	5	2.8
Waterford ^{††}	3	1.7
Westmeath	2	1.1
Wexford	4	2.2
Wicklow**	2	1.1
Total	178	100.0

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

** One case was resident in county Kildare within in CCA10 (Wicklow) boundaries.

^{††} One case was resident in county Kilkenny within Waterford LHO boundaries.

Table 3: Number and percentage of TB notifications by community care area, Q1 & Q2 2014

HSE Area	Community Care Area	Number of TB Cases
East	CCA1	2
	CCA2	7
	CCA3	8
	CCA4	8
	CCA5	11
	CCA6	11
	CCA7	18
	CCA8	11
	CCA9 ^{††}	10
	CCA10 ^{††}	1
	Total	87
Midland	Longford/Westmeath	5
	Laois/Offaly	2
	Total	7
Mid-West	Clare	3
	Limerick	4
	Tipperary Nth/ East Limerick	0
	Total	7
North East	Cavan	4
	Louth	3
	Meath	6
	Monaghan	1
	Total	14
North West	Donegal	9
	Sligo/Leitrim	4
	Total	13
South East	Carlow/Kilkenny ^{§§}	4
	Tipperary South	5
	Waterford ^{§§}	4
	Wexford	4
	Total	17
South	Kerry	9
	North Cork	3
	North/South Lee	17
	West Cork	0
	Total	29
West	Galway	2
	Mayo	2
	Roscommon	0
	Total	4
Ireland	Total	178

^{††} One case was resident in county Kildare within in CCA10 (Wicklow) boundaries.

^{§§} One case was resident in county Kilkenny within Waterford LHO boundaries.

Sex

There were 84 females (47.2%) and 93 males (52.2%) in Q1 and Q2 2014. Sex was unknown 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 & Q2 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	<i>0.0</i>
5-9	2	0	0	0	0	0	0	0	2	<i>1.1</i>
10-14	1	0	0	0	0	1	1	0	3	<i>1.7</i>
15-19	2	0	0	1	1	1	0	1	6	<i>3.4</i>
20-24	8	0	1	1	0	2	1	0	13	<i>7.3</i>
25-34	25	0	1	2	2	4	8	0	42	<i>23.6</i>
35-44	16	4	1	3	2	2	3	1	32	<i>18.0</i>
45-54	13	0	1	1	1	0	3	0	19	<i>10.7</i>
55-64	9	0	1	0	2	1	7	1	21	<i>11.8</i>
65+	11	3	2	6	5	6	6	1	40	<i>22.5</i>
Unknown	0	0	0	0	0	0	0	0	0	<i>0.0</i>
Total	87	7	7	14	13	17	29	4	178	100.0

Country of origin

During Q1 and Q2 2014, 90 (50.6%) TB cases were born in Ireland and 71 (39.9%) were born outside Ireland. Country of birth was not reported for 17 cases (9.6%) cases. Table 5 summarises the countries of birth of cases.

Of those 71 cases born outside Ireland, six (8.5%) were reported as asylum seekers or refugees. There were two each from HSE-E, -SE and -S. Figure 2 shows the annual number of TB cases by geographic origin from 2002 to Q2 2014.

Table 5: Number and percentage of TB notifications by country of birth, Q1 & Q2 2014

Country of Birth	Number of TB Cases	% Total
Ireland	90	50.6
Afghanistan	1	0.6
Algeria	2	1.1
Botswana	1	0.6
Bulgaria	2	1.1
Cameroon	1	0.6
Cape Verde	1	0.6
China	1	0.6
Ethiopia	1	0.6
Hong Kong	1	0.6
India	17	9.6
Latvia	1	0.6
Malawi	2	1.1
Malaysia	2	1.1
Mongolia	1	0.6
Nepal	1	0.6
Nigeria	8	4.5
Pakistan	4	2.2
Philippines	4	2.2
Poland	4	2.2
Romania	2	1.1
Saudi Arabia	1	0.6
Somalia	3	1.7
South Africa	2	1.1
Syrian Arab Republic	1	0.6
Thailand	1	0.6
Uganda	1	0.6
Venezuela	2	1.1
Viet Nam	1	0.6
Zambia	1	0.6
Zimbabwe	1	0.6
Not specified	13	7.3
Unknown	4	2.2
Total	178	100.0

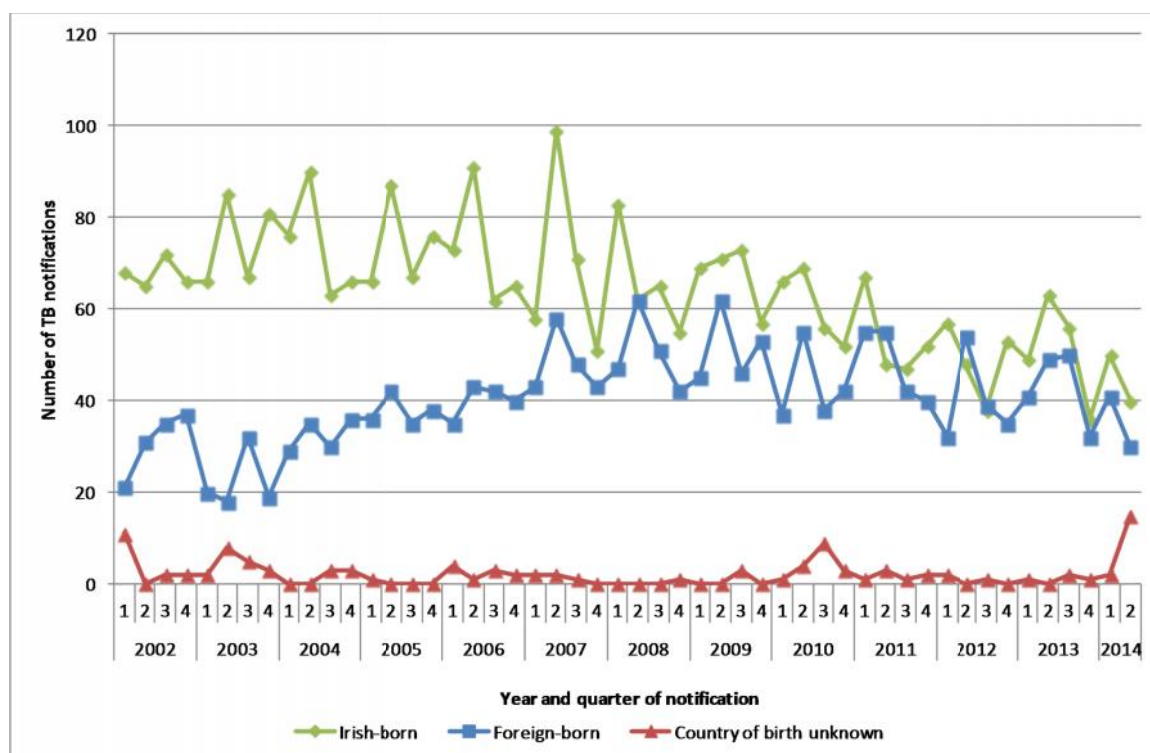


Figure 2: Number of TB notifications by year and quarter of notification and geographic origin, Q1 2002 to Q2 2014

Case ascertainment

Table 6 summarises the method by which reported cases were detected in Q1 and Q2 2014.

Table 6: Number and percentage of TB notifications by method of case finding, Q1 & Q2 2014

Found by	Number of TB Cases	% Total
Presenting as case	140	78.7
Contact tracing	9	5.1
Post-mortem diagnosis	0	0.0
Immigrant screening	0	0.0
Other screening	0	0.0
Other	7	3.9
Pre-employment screening	1	0.6
Not reported	21	11.8
Total	178	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 & Q2 2014

Diagnosis	HSE-E	HSE-M	HSE-MW	HSE-NE	HSE-NW	HSE-SE	HSE-S	HSE-W	Total	% Total
Pulmonary	52	5	3	8	3	8	13	1	93	52.2
Pulm & Extrapulm	5	0	1	1	1	2	1	1	12	6.7
Extrapulmonary	27	1	2	2	6	7	15	1	61	34.3
Not reported	3	1	1	3	3	0	0	1	12	6.7
Total	87	7	7	14	13	17	29	4	178	100.0

Seventy-three cases (41.0%) had an extra-pulmonary disease component reported (table 8).

Table 8: Number and percentage of TB notifications by extrapulmonary site of disease, Q1 & Q2 2014

Extrapulmonary sites	Number of TB cases	% Total
Lymphatic extrathoracic	19	26.0
Pleural	14	19.2
Peritoneal/digestive	8	11.0
Lymphatic intrathoracic	7	9.6
Other	7	9.6
Genito-urinary	5	6.8
Spine	4	5.5
Bone/joint other than spine	2	2.7
Disseminated	1	1.4
Meningitis	1	1.4
Unknown	1	1.4
Not reported	4	5.5
Total	73	100.0

TB meningitis

One case of TB meningitis was reported during Q1 and Q2 2014. This case occurred in the 0-14 year age group and was culture positive for *M. africanum*. The case had a history of BCG vaccination but no previous history of TB disease. This case was born in Ireland.

Sputum-smear status - first sample

Of the 105 cases with a pulmonary component reported during Q1 and Q2 2014, 54 (51.4%) were sputum smear positive at diagnosis. Twenty-two of these cases (40.7%) reported a second sputum smear positive result.

Culture – first sample and isolates

In Q1 and Q2 2014, 126 cases (70.8%) were culture positive, 15 (8.4%) were culture negative, seven (3.9%) were reported as not having been culture tested and 30 (16.9%) cases did not have culture results available (table 9).

Of the 126 culture positive cases, *M. tuberculosis* was isolated in 116 (92.1%), *M. tuberculosis* complex^{***} in 8 (6.3%) cases, *Mycobacterium africanum* in one (0.8%) case and *M. bovis* in one (0.8%) case.

Table 9: Number and percentage of TB notifications by first culture result and HSE area, Q1 & Q2 2014

Culture	HSE E	HSE M	HSE MW	HSE NE	HSE NW	HSE SE	HSE S	HSE W	Total	% Total
Culture positive	67	5	5	9	5	12	19	4	126	70.8
Culture negative	4	0	0	0	3	2	6	0	15	8.4
Not done	0	1	0	1	1	1	3	0	7	3.9
Not reported	16	1	2	4	4	2	1	0	30	16.9
Total	87	7	7	14	13	17	29	4	178	100.0

Antibiotic resistance

Of the 126 culture positive cases reported, 112 (88.9%) had drug sensitivity details completed.

Resistance was reported in 10 cases (8.9% of 112 cases with drug sensitivity data reported and 5.6% of total cases reported). *M. tuberculosis* was isolated in all 10 resistant cases, none of whom reported a previous history of TB. Nine resistant cases were born outside Ireland (table 10).

One multi-drug resistant TB case was reported, in a foreign-born patient with no recorded previous history of TB.^{†††}

No extensively drug resistant (XDR) TB cases were reported during Q1 and Q2 2014.

*** 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 & Q2 2014

Isolate	Isoniazid	Rifampicin	Ethambutol	Pyrazinamide	Streptomycin	Previous history of TB	Born outside Ireland	Age group
M. tb	R	S	S	S	R	No	Y	35-44
M. tb	R	S	S	S	S	No	Y	25-34
M. tb	R	S	S	S	S	Unknown	N	65+
M. tb	R	R	Unk	R	R	No	Y	35-44
M. tb	R	S	S	S	S	No	Y	35-44
M. tb	S	S	S	S	R	No	Y	15-19
M. tb	S	S	S	R	S	No	Y	20-24
M. tb	S	S	S	R	S	No	Y	35-44
M. tb	S	S	S	S	R	No	Y	25-34
M. tb	S	S	S	S	R	No	Y	25-34

Chest X-ray

65 cases (36.5% of total 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 & Q2 2014

Chest X-ray	Number of TB cases	% Total
Active Cavitory TB	25	23.8
Active Non-cavitory TB	40	38.1
Pleural	0	0.0
Inactive/Old TB	1	1.0
Normal	5	4.8
Other	12	11.4
Not Done	0	0.0
Not reported	22	21.0
Total	105	100.0

Previous history

During Q1 and Q2 2014, six cases (3.4% of total reported) had a previous history of TB. Four cases with a previous history of TB were born in Ireland and two were born outside Ireland. Year of previous TB diagnosis was reported for one case (1997).

Outcome

Four cases died during Q1 and Q2 2014 (2.3% of total reported). One death was reported as being due to TB, cause of death was pending a coroner's report for one while cause was not reported for the remaining two cases.

Outbreaks^{***}

During Q1 and Q2 2014, one TB outbreak was reported to HPSC, comprising four cases of active TB disease (none of whom were reported as hospitalised). No cases of latent TB infection (LTBI) were reported to HPSC from this outbreak. This general outbreak occurred in a public house. *M. tuberculosis* was reported as the causative pathogen for this outbreak.

Table 12 summarises TB outbreaks reported during Q1 and Q2 2014.

Table 12: TB outbreak summary, Q1 & Q2 2014

Outbreak Health Board	Number of outbreaks	Number ill	Number hospitalised	Number latent cases
HSE-S	1	4	Not reported	Not reported

Acknowledgements:

Sincere thanks are extended to all those who participated in the collection of data used in this report. This includes the notifying physicians, public health doctors, surveillance scientists, microbiologists, nurses, laboratory staff and administrative staff.

^{***} Outbreak data taken from CIDR on 14/08/2013