



Tuberculosis
Surveillance
Center-RIT/JATA
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TUBERCULOSIS IN JAPAN

ANNUAL REPORT – 2016

About the Tuberculosis Surveillance Center

The Tuberculosis Surveillance Center, located within the Department of Epidemiology and Clinical Research, the Research Institute of Tuberculosis, Japan, is committed to providing technical support for the national computerized tuberculosis surveillance system, as well as compiling annual TB report, analyzing surveillance data and disseminating findings to all those involved in TB control in Japan.

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Notes on the report

This report presents detailed data on TB case notifications made to the Japan TB Surveillance System to the end of 2015. It is largely based on the Book of TB Statistics, published by the Japan Anti-Tuberculosis Association, and available as a printed report in Japanese, however, several additional and original analyses are made for international readers.

This report is the first English edition to be made available publicly.

All raw data used to create tables and figures in this report are available for download at <http://www.jata.or.jp/rit/ekigaku/en/statistics-of-tb/>.

All figures in this report are available for download as a separate slide set also at <http://www.jata.or.jp/rit/ekigaku/en/statistics-of-tb/>.

Chapter 1: Tuberculosis case report, 2000~2015

Overall numbers and rates:

In 2015, 18,280 cases of tuberculosis (TB) were newly notified, of which 12,249 were bacteriologically confirmed. Notification rate per 100,000 population was 14.4 for all TB, and 9.6 for bacteriologically confirmed cases.

Both the number of new cases and notification rates per 100,000 have continued to decline steadily (Table 1, Figure 1).

Table 1: TB case notifications, rates and annual percentage change, 2000-2015

Year	Total		Annual change in case number (%)	Annual change in rate (%)
	Number of cases	Rate per 100,000		
2000	39,384	31.0	-	-
2001	35,489	27.9	-9.9	-10.0
2002	32,828	25.8	-7.5	-7.5
2003	31,638	24.8	-3.6	-3.9
2004	29,736	23.3	-6.0	-6.0
2005	28,319	22.2	-4.8	-4.9
2006	26,384	20.6	-6.8	-7.1
2007	25,311	19.8	-4.1	-3.9
2008	24,760	19.4	-2.2	-2.0
2009	24,170	19.0	-2.4	-2.1
2010	23,261	18.2	-3.8	-4.2
2011	22,681	17.7	-2.5	-2.5
2012	21,283	16.7	-6.2	-5.9
2013	20,495	16.1	-3.7	-3.6
2014	19,615	15.4	-4.3	-4.1
2015	18,280	14.4	-6.8	-6.5

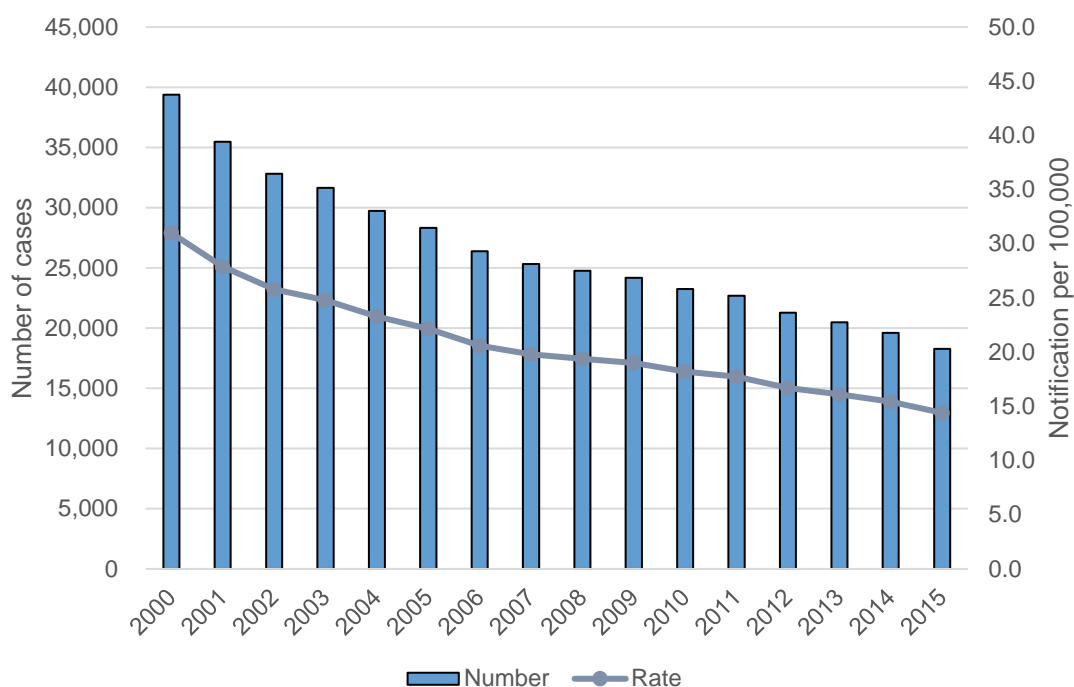


Figure 1: TB case notifications and rates, 2000-2015

Age and sex:

In 2015, 60.9% of the notified cases were males (11,124/18,280) and 39.1% were females (7,156/18,280).

Table 2 summarizes the TB case notifications and rates by sex and age groups. The largest number of cases were diagnosed among those aged 75 to 84 (4,877 cases, a rate of 43.5 per 100,000), followed by those aged 85 and above (4,252 cases, a rate of 86.0 per 100,000). The rates were consistently higher among males than females in all age groups.

Among the elderly aged 65 and above, only the age group 85 years old and above have increased in the number of cases. However, in 2015, the number of cases among those aged 85 and above has decreased as well, indicating a possible turning point in the epidemiology of TB among the elderly in Japan. It is however necessary to follow the trend for the next several years in order to determine whether or not TB among the elderly has also started to decline (Figure 2).

Table 2: TB case notifications and rates by sex and age groups, 2015

Age group	Total		Male		Female	
	Number of cases	Rate per 100,000	Number of cases	Rate per 100,000	Number of cases	Rate per 100,000
0-4	29	0.6	15	0.6	14	0.6
5-14	22	0.2	14	0.3	8	0.2
15-24	687	5.7	376	6.1	311	5.3
25-34	1,120	8.2	603	8.7	517	7.7
35-44	1,277	7.1	725	8.0	552	6.2
45-54	1,316	8.0	857	10.4	459	5.6
55-64	1,663	10.5	1,191	15.3	472	5.9
65-74	3,037	17.6	2,122	26.0	915	10.1
75-84	4,877	43.5	3,024	63.5	1,853	28.7
85+	4,252	86.0	2,197	148.9	2,055	59.2
TOTAL	18,280	14.4	11,124	18.0	7,156	11.0

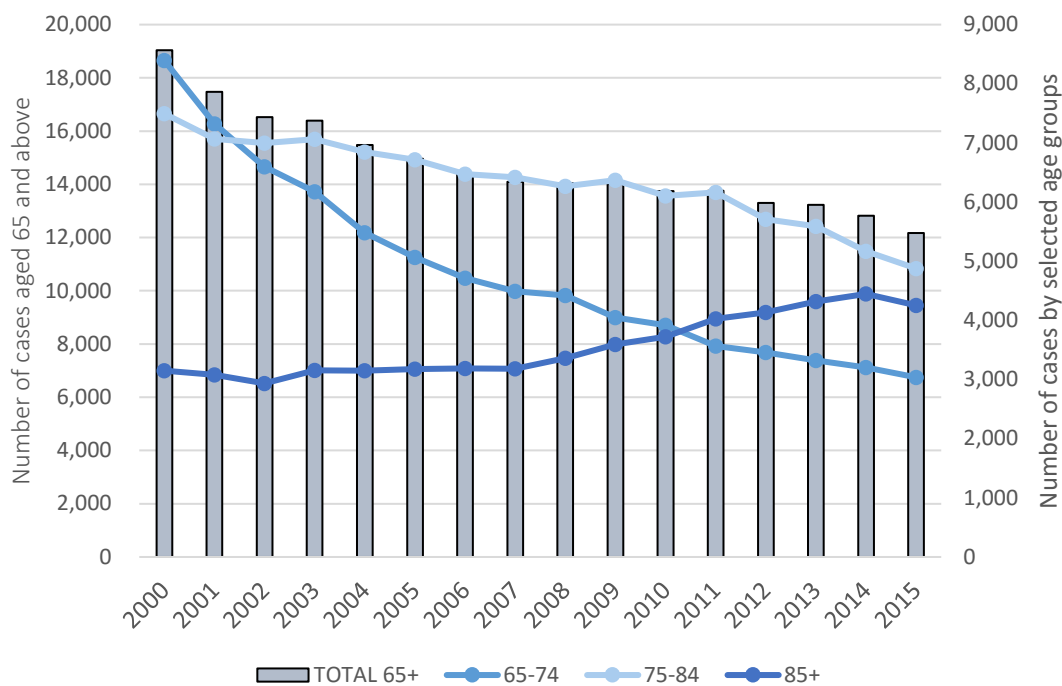
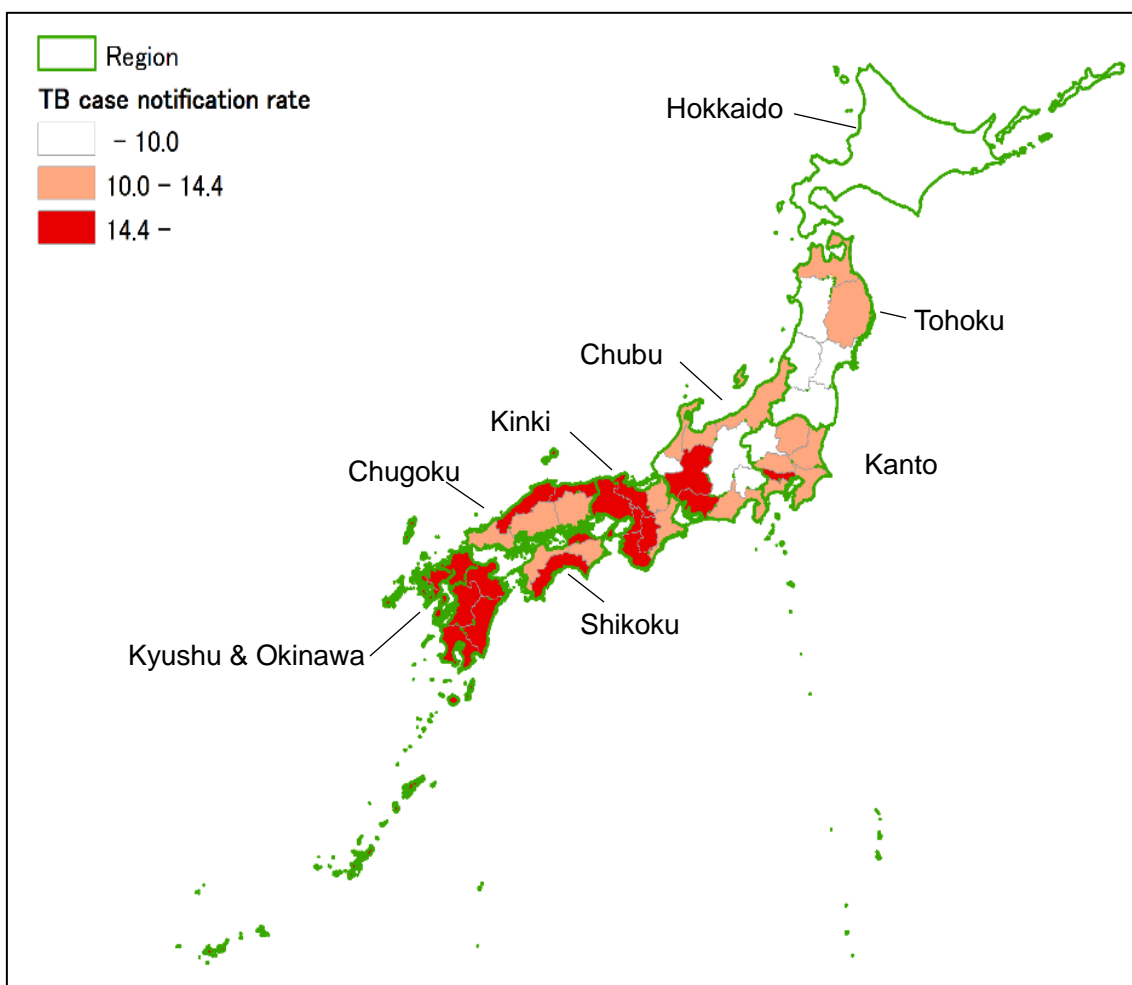


Figure 2: Number of TB cases by selected age groups, 2000-2015

Geographical distribution:

In terms of regional disparities, large variation existed between the 47 prefectures of Japan, with the notification rate ranging from 7.3 per 100,000 in Yamagata Prefecture to 23.5 per 100,000 in Osaka Prefecture (Map 1, Table 3a). As in previous years, the main burden of the disease was concentrated in large urban cities, such as Osaka city with notification rate per 100,000 of 34.4, Nagoya city with 22.4, and Sakai city with 22.0. The rate in the 23 special districts of Tokyo was 19.1 per 100,000 (Table 3b).



Map 1: TB notification rate by prefectures, 2015

Note: Area coloured in white denotes those with notification rate below 10 per 100,000, in pink denotes those with notification rate between 10 to 14.4, which is the national average per 100,000, and in red denotes those with notification rate above 14.4 per 100,000

Table 3a: TB case notifications and rates by prefectures, 2015

Prefecture	Number of cases	Rate per 100,000	Prefecture	Number of cases	Rate per 100,000
TOTAL	18,280	14.4	Kinki Region		
Hokkaido Region			Mie	244	13.4
Hokkaido	533	9.9	Shiga	157	11.1
Tohoku Region			Kyoto	376	14.4
Aomori	182	13.9	Osaka	2,074	23.5
Iwate	136	10.6	Hyogo	945	17.1
Miyagi	198	8.5	Nara	230	16.8
Akita	87	8.5	Wakayama	150	15.6
Yamagata	82	7.3	Chugoku Region		
Fukushima	188	9.8	Tottori	90	15.7
Kanto Region			Shimane	102	14.7
Ibaraki	345	11.8	Okayama	235	12.2
Tochigi	229	11.6	Hiroshima	324	11.4
Gunma	192	9.7	Yamaguchi	187	13.3
Saitama	955	13.2	Shikoku Region		
Chiba	878	14.1	Tokushima	106	14.0
Tokyo	2,306	17.1	Kagawa	144	14.7
Kanagawa	1,311	14.4	Ehime	167	12.1
Chubu Region			Kochi	108	14.8
Niigata	232	10.1	Kyushu/Okinawa Region		
Toyama	125	11.7	Fukuoka	773	15.1
Ishikawa	149	12.9	Saga	135	16.2
Fukui	72	9.1	Nagasaki	217	15.7
Yamanashi	73	8.7	Kumamoto	282	15.8
Nagano	175	8.3	Oita	199	17.1
Gifu	314	15.4	Miyazaki	161	14.6
Shizuoka	442	11.9	Kagoshima	257	15.6
Aichi	1,199	16.0	Okinawa	214	14.9

Note: The number of case and rate per 100,000 for Tokyo include those notified from the 23 special districts of Tokyo, as also separately shown in Table 3b. The number of case and rate per 100,000 for other prefectures exclude those notified from designated cities.

Table 3b: TB case notifications and rates in designated cities* (in the order of north to south), 2015

City (Prefecture)	Number of cases	Rate per 100,000
Sapporo (Hokkaido)	183	9.4
Sendai (Miyagi)	93	8.6
Saitama (Saitama)	168	13.2
Chiba (Chiba)	157	16.1
Yokohama (Kanagawa)	565	15.2
Kawasaki (Kanagawa)	226	15.3
Sagamihara (Kanagawa)	79	11.0
Niigata (Niigata)	86	10.6
Shizuoka (Shizuoka)	107	15.2
Hamamatsu (Shizuoka)	78	9.8
Nagoya (Aichi)	514	22.4
Kyoto (Kyoto)	239	16.2
Osaka (Osaka)	925	34.4
Sakai (Osaka)	185	22.0
Kobe (Hyogo)	328	21.3
Okayama (Okayama)	81	11.4
Hiroshima (Hiroshima)	116	9.7
Kita-Kyushu (Fukuoka)	182	18.9
Fukuoka (Fukuoka)	222	14.4
Kumamoto (Kumamoto)	125	16.9
Tokyo 23 special districts	1,761	19.1

*designated city: a city with a population greater than 700,000 and has been designated as such by order of the Cabinet of Japan under Article 252, Section 19 of the Local Autonomy Law.

Chapter 2: Patient classification, 2015

Table 4a-4c summarizes patient classification by sites of disease and treatment history for all, male and female active TB cases. In 2015, of the 18,280 newly notified cases, 77.3% had pulmonary disease, either with or without concomitant extra-pulmonary disease (14,123/18,280), while 22.7% had exclusive extra-pulmonary disease (4,157/18,280). Of the pulmonary TB cases, 86.7% (12,249/14,123) were bacteriologically confirmed, while the proportion was much less at 42.8% among those with exclusive extra-pulmonary disease (1,778/4,157).

Of the 14,123 pulmonary cases, history of previous TB was known for 98.8% (13,953/14,123). Among newly notified pulmonary cases with known history of previous TB, 93.9% (13,102/13,953) were new cases. Of the 4,116 extra-pulmonary cases with known history of previous TB, 95.6% (3,935/4,116) were new cases.

The proportion of pulmonary disease was slightly higher in male than female patients (80.3%, 8,930/11,124 versus 72.6%, 5,193/7,156). The proportions of new cases among both pulmonary and extra-pulmonary cases were slightly higher among female than male patients, but not significantly different (pulmonary, 95.3% versus 93.1%, extra-pulmonary, 96.0% versus 95.3%)

Looking at patient classification by age groups, the proportion of bacteriologically confirmed among the pulmonary cases tended to increase with age, with 27.6% among those aged 0-4 compared with 72.0% among those aged 85 and above. The proportion of extra-pulmonary cases remained relatively constant in all age groups, and was the highest among those aged 5-14 at 31.8%, and the lowest among those aged 15-24 at 14.8% (Figure 3).

Table 4a: Patient classification, both sexes, 2015

Age group	PTB (bacteriologically confirmed)				PTB (clinically confirmed)				ExPTB (bacteriologically confirmed)				ExPTB (clinically confirmed)			
	New	Retreatment	Unknown	Total	New	Retreatment	Unknown	Total	New	Retreatment	Unknown	Total	New	Retreatment	Unknown	Total
0-4	8	0	0	8	12	0	0	12	2	0	0	2	7	0	0	7
5-14	6	0	0	6	7	2	0	9	3	0	0	3	4	0	0	4
15-24	387	14	1	402	175	8	0	183	44	2	0	46	56	0	0	56
25-34	651	33	2	686	256	5	1	262	78	3	1	82	87	3	0	90
35-44	756	45	2	803	212	9	2	223	108	9	1	118	125	7	1	133
45-54	822	61	0	883	170	13	1	184	87	7	0	94	137	17	1	155
55-64	1,042	72	5	1,119	203	16	3	222	121	6	1	128	182	12	0	194
65-74	1,850	127	19	1,996	279	22	6	307	287	9	2	298	412	21	3	436
75-84	3,041	200	42	3,283	256	35	7	298	529	18	2	549	707	32	8	747
85+	2,819	168	76	3,063	150	21	3	174	436	14	8	458	523	21	13	557
TOTAL	11,382	720	147	12,249	1,720	131	23	1,874	1,695	68	15	1,778	2,240	113	26	2,379

PTB: pulmonary tuberculosis either with or without concomitant extra-pulmonary disease, ExPTB: exclusive extra-pulmonary tuberculosis

Table 4b: Patient classification, males, 2015

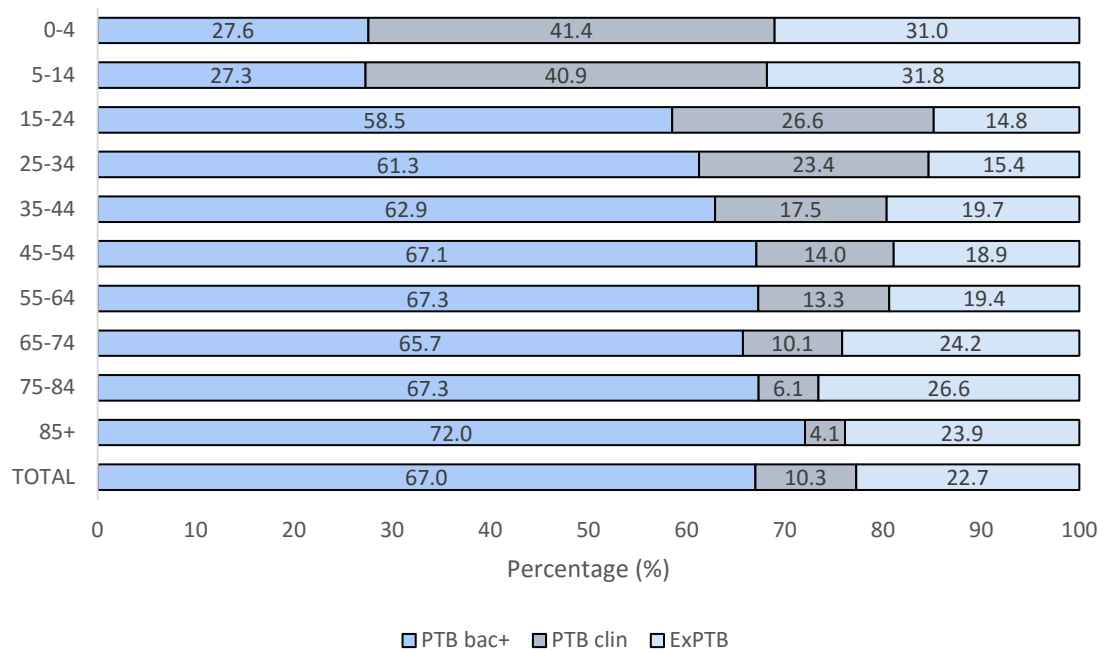
Age group	PTB (bacteriologically confirmed)				PTB (clinically confirmed)				ExPTB (bacteriologically confirmed)				ExPTB (clinically confirmed)			
	New	Retreatment	Unknown	Total	New	Retreatment	Unknown	Total	New	Retreatment	Unknown	Total	New	Retreatment	Unknown	Total
0-4	7	0	0	7	5	0	0	5	2	0		2	1	0		1
5-14	3	0	0	3	7	0	0	7	2	0	0	2	2	0	0	2
15-24	213	9	1	223	93	4	0	97	20	1	0	21	35	0	0	35
25-34	340	20	2	362	146	2	1	149	40	1	1	42	48	2	0	50
35-44	444	27	2	473	113	4	2	119	64	2	1	67	61	4	1	66
45-54	561	45	0	606	99	9	1	109	53	4	0	57	77	7	1	85
55-64	792	56	5	853	139	9	3	151	66	2	0	68	112	7	0	119
65-74	1,381	102	15	1,498	180	16	5	201	160	6	1	167	241	13	2	256
75-84	1,946	144	28	2,118	163	26	7	196	247	10	0	257	427	20	6	453
85+	1,485	121	42	1,648	90	14	1	105	144	8	4	156	267	16	5	288
TOTAL	7,172	524	95	7,791	1,035	84	20	1,139	798	34	7	839	1,271	69	15	1,355

PTB: pulmonary tuberculosis either with or without concomitant extra-pulmonary disease, ExPTB: exclusive extra-pulmonary tuberculosis

Table 4c: Patient classification, females, 2015

Age group	PTB (bacteriologically confirmed)				PTB (clinically confirmed)				ExPTB (bacteriologically confirmed)				ExPTB (clinically confirmed)			
	New	Retreatment	Unknown	Total	New	Retreatment	Unknown	Total	New	Retreatment	Unknown	Total	New	Retreatment	Unknown	Total
0-4	1	0	0	1	7	0	0	7	0	0	0	0	6	0	0	6
5-14	3	0	0	3	0	2	0	2	1	0	0	1	2	0	0	2
15-24	174	5	0	179	82	4	0	86	24	1	0	25	21	0	0	21
25-34	311	13	0	324	110	3	0	113	38	2	0	40	39	1	0	40
35-44	312	18	0	330	99	5	0	104	44	7	0	51	64	3	0	67
45-54	261	16	0	277	71	4	0	75	34	3	0	37	60	10	0	70
55-64	250	16	0	266	64	7	0	71	55	4	1	60	70	5	0	75
65-74	469	25	4	498	99	6	1	106	127	3	1	131	171	8	1	180
75-84	1,095	56	14	1,165	93	9	0	102	282	8	2	292	280	12	2	294
85+	1,334	47	34	1,415	60	7	2	69	292	6	4	302	256	5	8	269
TOTAL	4,210	196	52	4,458	685	47	3	735	897	34	8	939	969	44	11	1,024

PTB: pulmonary tuberculosis either with or without concomitant extra-pulmonary disease, ExPTB: exclusive extra-pulmonary tuberculosis



PTB bac+: bacteriologically confirmed pulmonary tuberculosis, PTB clin: clinically confirmed pulmonary tuberculosis, ExPTB: extra-pulmonary tuberculosis

Figure 3: Proportions of pulmonary and extra-pulmonary diseases by age groups, 2015

Chapter 3: Foreign-born TB, 2007~2015

Overall number and rates:

Information regarding place of birth (Japan-born/foreign-born) was known for 96.1% of the newly notified cases (17,560/18,280). Of those cases, 6.6% was born outside Japan (1,164/17,560). Both the number of, and proportion of those foreign-born out of the total newly notified cases have continued to increase (Table 5, Figure 4).

Table 5: Foreign-born TB cases, 2007-2015

Year	Number of newly notified cases*	Number of foreign-born cases	Proportion of foreign born among total newly notified cases (%)
2007	24,293	842	3.5
2008	24,108	945	3.9
2009	23,746	938	4.0
2010	22,928	952	4.2
2011	22,293	921	4.1
2012	20,624	1,069	5.2
2013	19,653	1,064	5.4
2014	18,828	1,101	5.8
2015	17,560	1,164	6.6

*Exclude those whose country of birth is unknown

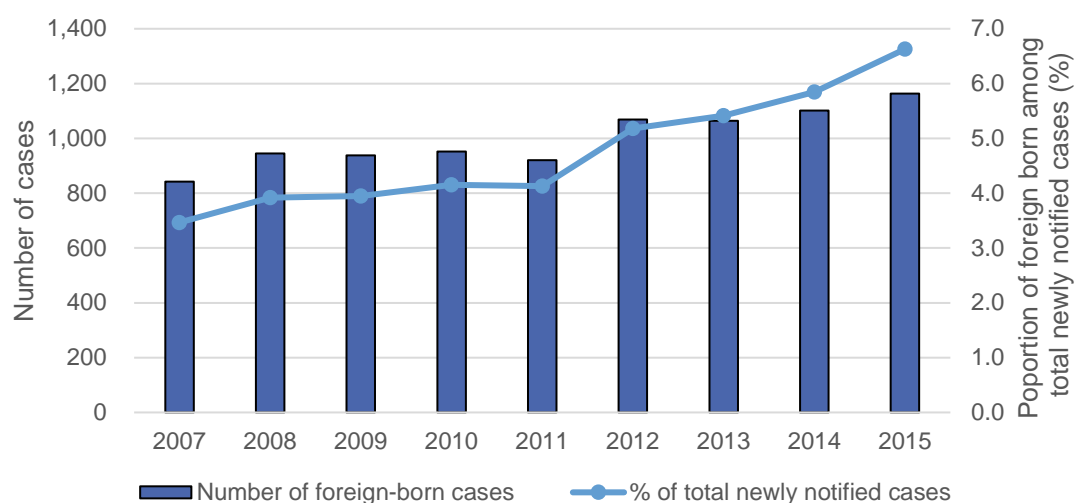


Figure 4: Foreign-born TB cases, 2007-2015

Age and sex:

In 2015, 49.9% of the foreign-born cases were males (581/1,164) and 50.1% were females (583/1,164).

Table 6 summarizes the foreign-born TB cases by sex and age groups. The largest number of cases were diagnosed among those aged 25 to 34 (423 cases), followed by those aged 15 to 24 (353 cases). The proportion of foreign-born of the total newly notified cases was higher among the younger age group, with the proportion exceeding 50% among those aged 15-24, for the first time in 2015.

Table 6: Foreign-born TB cases by sex and age groups, 2015

Age group	TOTAL		MALE		FEMALE	
	Foreign-born cases	Proportion of total newly notified cases* (%)	Foreign-born cases	Proportion of total newly notified cases* (%)	Foreign-born cases	Proportion of total newly notified cases* (%)
0-4	3	10.7	2	14.3	1	7.1
5-14	6	28.6	4	30.8	2	25.0
15-24	353	52.6	202	54.6	151	50.2
25-34	423	38.5	221	37.0	202	40.2
35-44	174	14.1	57	8.2	117	21.6
45-54	101	8.0	38	4.7	63	14.3
55-64	46	2.9	22	1.9	24	5.3
65-74	22	0.8	13	0.6	9	1.0
75-84	18	0.4	12	0.4	6	0.3
85+	18	0.4	10	0.5	8	0.4
TOTAL	1,164	6.6	581	5.4	583	8.5

*Exclude those whose country of birth is unknown

Looking at the trend, the proportion of foreign-born cases among the age group 15-24 has increased dramatically especially since 2011, while that among other age groups have increased steadily (Figure 5).

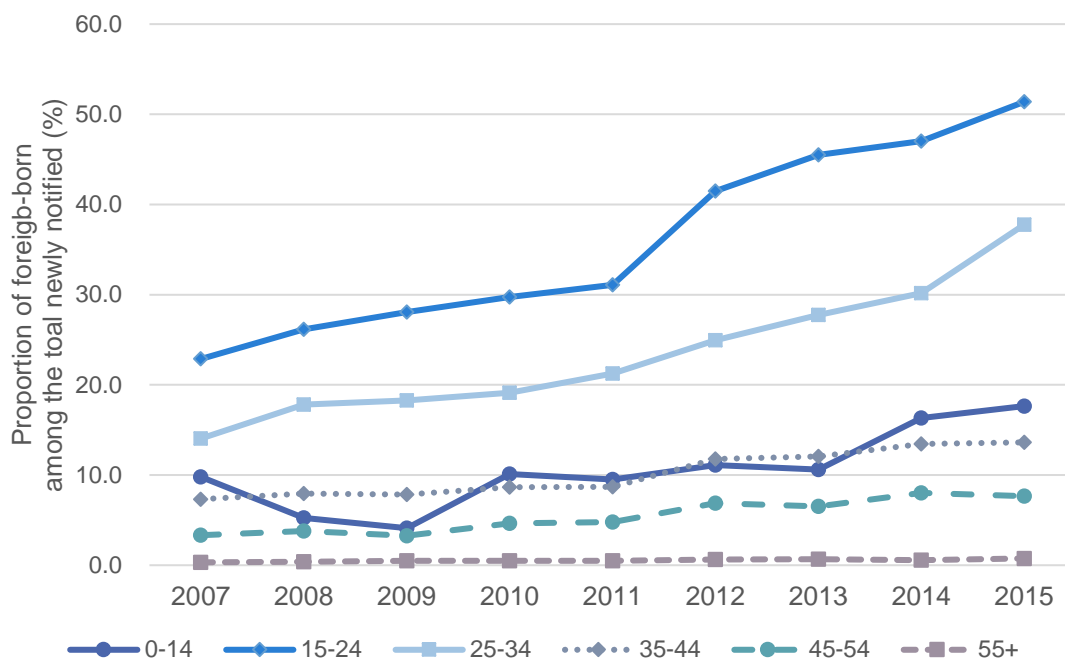


Figure 5: Foreign-born TB cases by age groups, 2007-2015

Country of birth and time of entry to Japan:

Table 7 summarizes the foreign-born TB cases by county of birth and time of entry to Japan. The Philippines and China were the most frequent countries of birth for foreign-born cases notified in 2015 (24.4%, 284/1,164, and 21.4%, 249/1,164), followed by Viet Nam and Nepal (11.6%, 135/1,164 and 9.3%, 108/1,164). A complete breakdown of the countries of birth is provided in Appendix III.

Time of entry to Japan was known for 61.7% (718/1,164) of the foreign-born cases, of which 23.4% (168/718) had arrived in Japan in 2015, 46.9% (337/718) between 2011 and 2014, and 29.7% (213/718) before 2011.

Table 7. Foreign-born TB cases by country of birth and time of entry to Japan, 2015

Country	Number of cases	Proportion (%)	Time of entry to Japan			
			2015	2011-2014	Before 2011	Unknown
Philippines	284	24.4	16	64	86	118
China	249	21.4	40	84	40	85
Viet Nam	135	11.6	37	58	9	31
Nepal	108	9.3	17	52	9	30
Indonesia	78	6.7	2	11	12	53
Rep. Korea	42	3.6	21	25	3	29
Thailand	28	2.4	1	6	13	22
Myanmar	23	2.0	3	7	6	12
India	21	1.8	10	5	3	5
Brazil	18	1.5	2	5	5	9
Peru	13	1.1	1	2	7	8
Mongolia	12	1.0	0	0	3	10
Cambodia	10	0.9	5	4	1	2
Others	65	5.6	3	4	0	3
Unknown	78	6.7	10	10	16	29
TOTAL	1,164	100	168	337	213	446

Looking at the trend in the five most frequent countries of birth, while those from China have decreased, those from Viet Nam, Nepal and Indonesia have increased quite dramatically in the recent years. (Table 8, Figure 6).

Table 8: Foreign-born TB cases by selected countries of birth, 2007-2015

	2007	2008	2009	2010	2011	2012	2013	2014	2015
China	225	262	266	273	273	294	292	259	249
Philippines	195	234	221	216	218	290	256	292	284
Viet Nam	29	36	44	24	52	63	68	109	135
Nepal	18	27	28	39	38	42	65	88	108
Indonesia	42	53	50	64	49	57	57	53	78

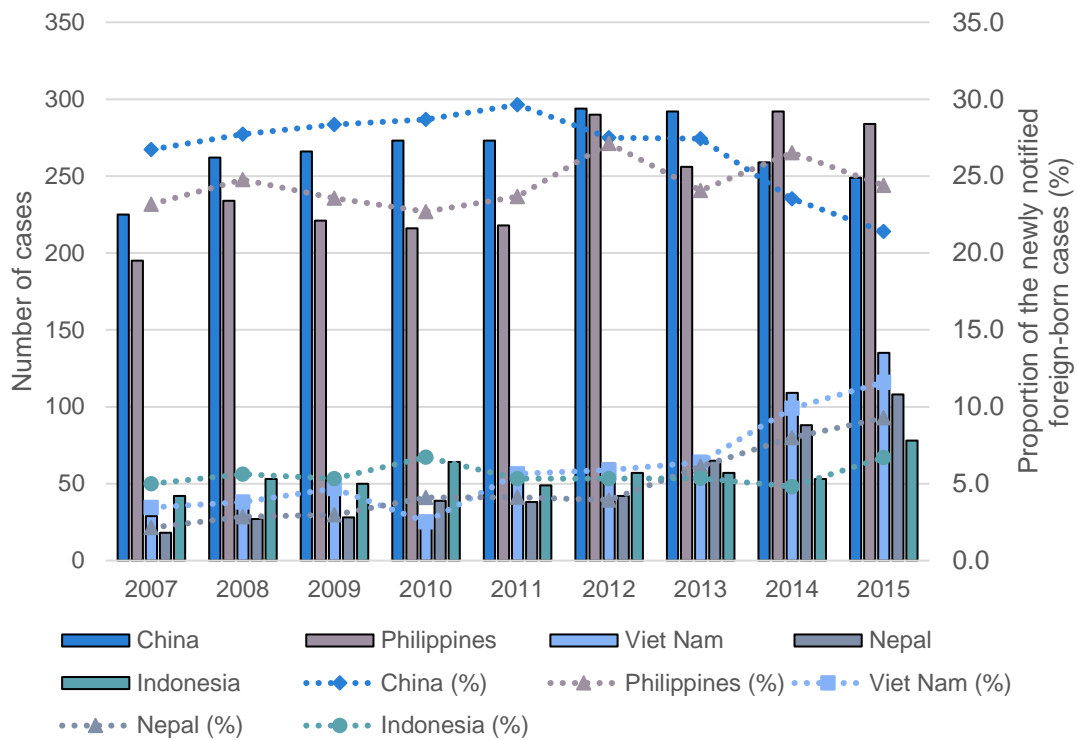


Figure 6: Foreign-born TB cases by selected countries of birth, 2007-2015

Chapter 4: HIV/Diabetes mellitus co-morbidities, 2012~2015

HIV/TB cases:

Table 9 summarizes the newly notified TB cases by HIV status. In 2015, HIV test results were known only for 8.3% (1,514/18,280), while unknown for 66.0% of the newly notified cases. Of those cases with known test results, 40 were HIV positive and 1,474 were HIV negative. Of the HIV co-infected patients 25% (10/40) were foreign-born.

Prior to 2011, HIV status was classified into “HIV positive”, “HIV negative” and “Unknown”. “HIV test done” for years 2008 to 2011 is therefore calculated as the sum of “HIV positive” and “HIV negative” – however, it is likely that “HIV negative” included those who were actually not tested, hence the seemingly sharp decline in the “HIV test done” after 2012 (Figure 7).

Table 9: Newly notified cases by HIV test results, 2012-2015

	2012	2013	2014	2015
Total newly notified cases	21,283	20,495	19,615	18,280
HIV test done	3,328	1,940	1,672	1,514
Of whom positive	62	50	45	40
Of whom foreign-born	9	10	10	10
Of whom negative	3,266	1,890	1,627	1,474
HIV test not done	4,601	5,090	4,970	4,697
Unknown	13,354	13,465	12,973	12,069

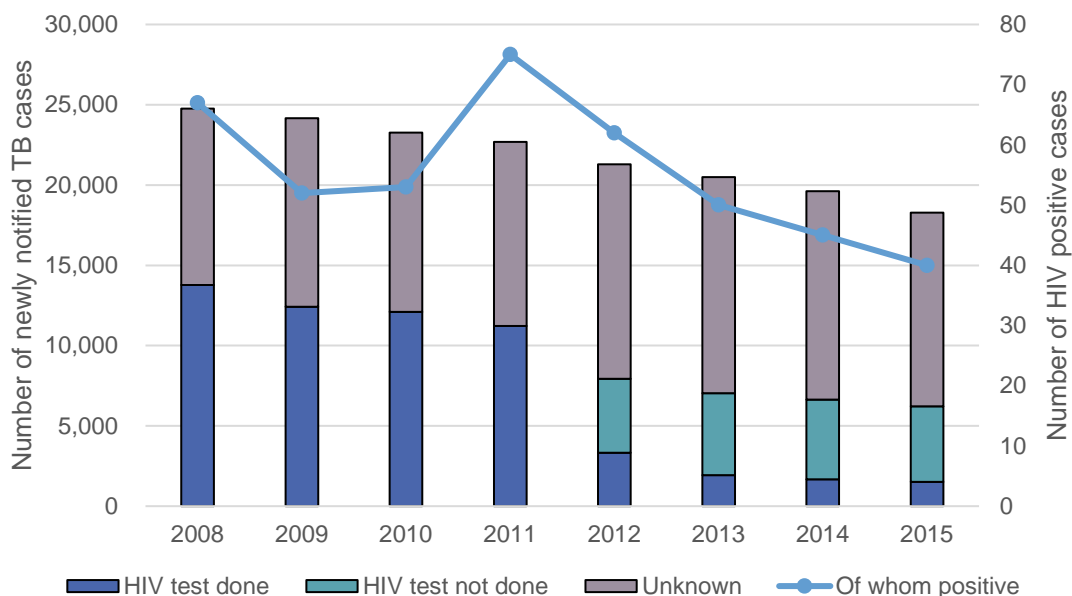


Figure 7: Newly notified cases by HIV test results, 2008-2015

DM/TB cases:

Table 10 summarizes the newly notified TB cases by diabetes mellitus (DM) status. In 2015, the status of DM was known for 88.4% of the newly notified cases (16,158/18,280). Of those cases with known DM status, 2,868 had concomitant DM. Proportion of those co-infected with DM has continued to increase steadily. (Table 10, Figure 8).

Table 10: Newly notified cases by DM coinfection status, 2012-2015

	2012	2013	2014	2015
Total newly notified cases	21,283	20,495	19,615	18,280
DM status known	19,014	17,974	17,289	16,158
Of whom with DM	3,036	2,964	2,753	2,686
Of whom without DM	15,978	15,010	14,536	13,472
DM status unknown	2,269	2,521	2,326	2,122

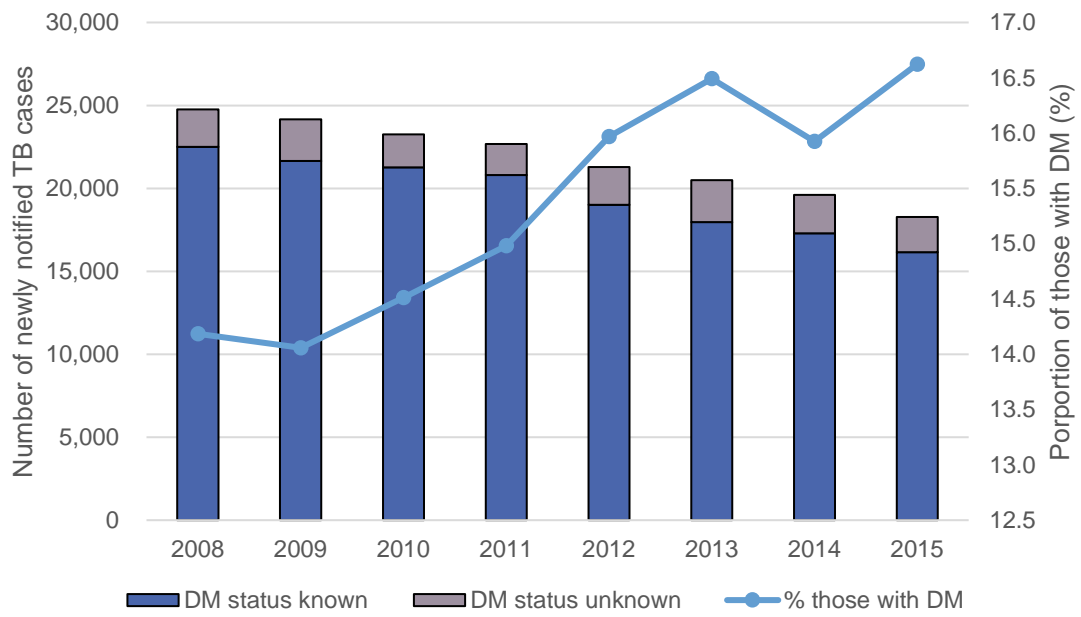


Figure 8: Newly notified cases by DM status, 2008-2015

Chapter 5: Childhood TB, 2000~2015

Table 11 summarizes newly notified cases among children aged 0 to 14 by sites of diseases. In 2015, 51 cases of TB were newly notified among children aged 14 and below, with a rate per 100,000 of 0.3. Of those cases, 56.9% were males (29/51) and 43.1% were females (22/51). 68.6% (35/51) had pulmonary diseases, and 31.4% (16/51) had extra-pulmonary disease only, however, only one case of meningeal and one case of military TB were reported. Both the number of cases and the rate per 100,000 have continued to decline among children aged 14 and below. Numbers of meningeal and military TB cases have also remained constantly at a low level, as shown in Table 12.

Table 11: Newly notified cases by ages 0 to 14, 2015

Age	Number of cases			Pulmonary*	Extra-pulmonary
	Total	Male	Female		
0	13	7	6	8	5
1	5	2	3	4	1
2	5	3	2	4	1
3	2	1	1	0	2
4	4	2	2	4	0
5	1	1	0	0	1
6	0	0	0	0	0
7	0	0	0	0	0
8	6	4	2	5	1
9	2	1	1	1	1
10	0	0	0	0	0
11	4	3	1	4	0
12	4	2	2	1	3
13	3	2	1	3	0
14	2	1	1	1	1
0-4	29	15	14	20	9
0-14	51	29	22	35	16

*Include concomitant extra-pulmonary diseases

Table 12: TB case notifications and rates of TB meningitis and military TB, 0-14 2000-2015

Year	Number of all cases	Rate per 100,000	Number of TB meningitis	Number of military tuberculosis
2000	220	1.2	7	3
2001	195	1.1	7	5
2002	155	0.9	2	4
2003	127	0.7	2	1
2004	117	0.7	5	3
2005	117	0.7	3	3
2006	85	0.5	0	1
2007	92	0.5	0	0
2008	95	0.6	0	1
2009	73	0.4	1	4
2010	89	0.5	0	0
2011	84	0.5	1	2
2012	63	0.4	1	0
2013	66	0.4	2	0
2014	49	0.3	5	2
2015	51	0.3	1	1

Chapter 6: Bacteriological test results

Sputum smear status for pulmonary cases:

Of the 14,123 pulmonary TB cases notified in 2015, the results of sputum smear status were known for 98.9% (13,965/14,123). Of those cases, 53.2% were positive (7,432/13,965). 81.7% of those with a positive smear were also culture confirmed (6,072/7,432), compared with 60.4% of those with a negative smear (3,947/6,533).

Culture confirmation:

Of all TB cases notified in 2015, 61.7% (11,283/18,280) were culture confirmed. A higher proportion of pulmonary cases were culture confirmed compared with extra-pulmonary cases (71.1%, 10,035/14,123 versus 30.2%, 1,248/4,157).

Drug susceptibility test results for pulmonary cases:

Of the 14,123 pulmonary TB cases notified in 2015, 71.1% (10,035/14,123) were culture confirmed. Of those cases, drug susceptibility test (DST) results were known for 76.0% (7,630/10,035). Proportion of those whose DST results are known has been above 70% since 2010, and continues, despite gradually, to increase (Figure 9).

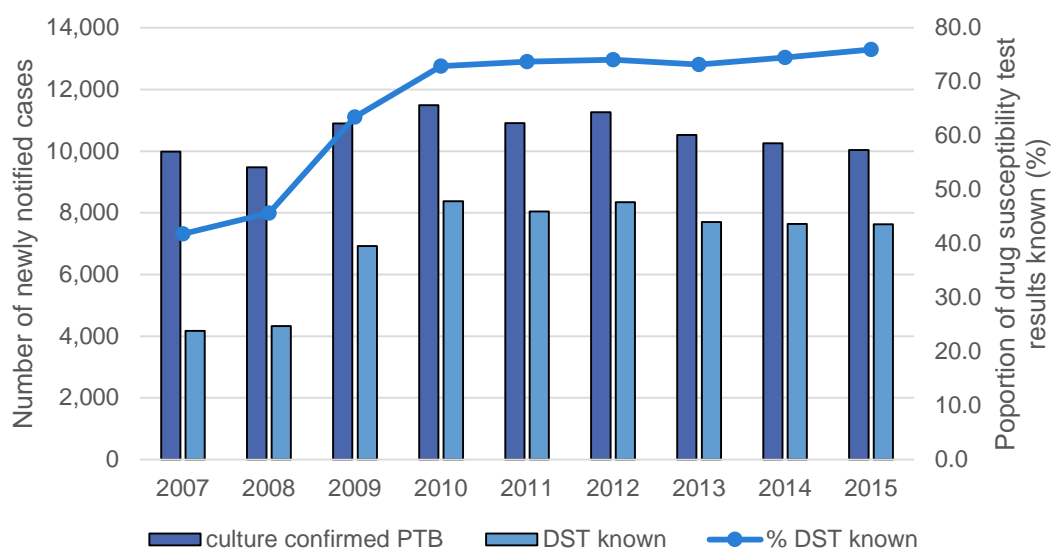


Figure 9: Number of culture confirmed PTB cases and of those whose DST results were known, 2007-2015

Of the 7,630 pulmonary cases with DST results known, 4.2% (324/7,630) were resistant to isoniazid (INH) without MDR, 0.4% (29/7,630) to rifampicin (RFP) without MDR, and 0.6% (48/7,630) to both INH and RFP i.e. MDR (Table 13).

Table 13: Drug susceptibility test results for culture confirmed pulmonary TB cases, 2015

Drug susceptibility test results	Number of cases	Proportion (%)
MDR	48	0.6
Resistant to INH without MDR	324	4.2
Resistant to RFP without MDR	29	0.4
Resistant to other drugs	366	4.8
Susceptible to HRSE	6,806	89.2
Susceptible to HR, susceptibility to other drugs unknown	57	0.7
TOTAL	7,630	100

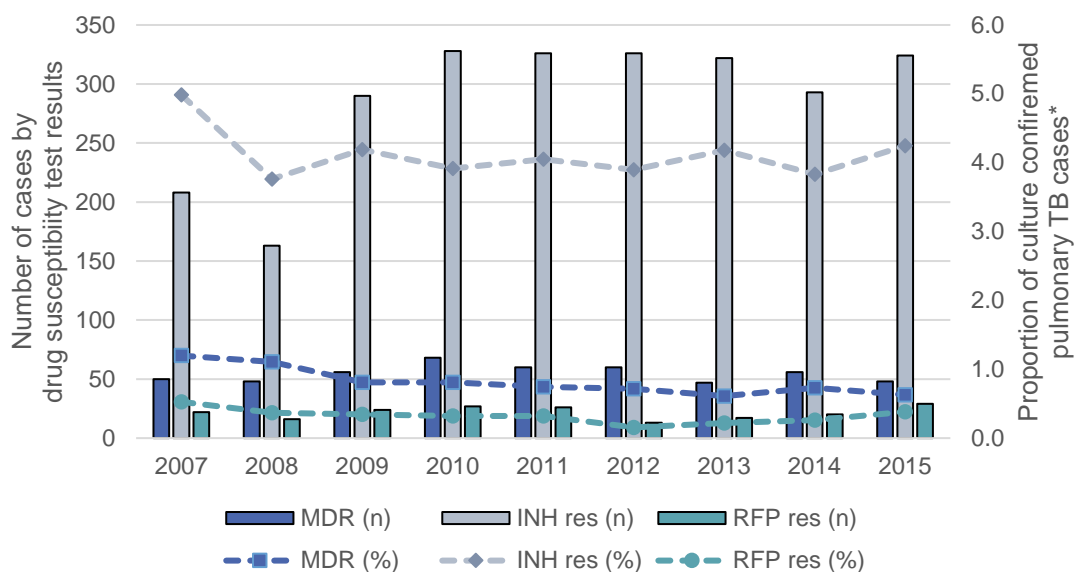
INH: isoniazid RFP: rifampicin HRSE: isoniazid, rifampicin, streptomycin and ethambutol, HR: isoniazid and rifampicin

The proportion of MDR, resistance to INH and RFP among culture confirmed pulmonary TB cases have gradually declined. (Table 14, Figure 10)

Table 14: Selected drug susceptibility test results for culture confirmed pulmonary TB cases, 2007-2015

Year	MDR		Resistant to INH without MDR		Resistant to RFP without MDR	
	Number of cases	Proportion (%)*	Number of cases	Proportion (%)*	Number of cases	Proportion (%)*
2007	50	1.2	208	5.0	22	0.5
2008	48	1.1	163	3.8	16	0.4
2009	56	0.8	290	4.2	24	0.3
2010	68	0.8	328	3.9	27	0.3
2011	60	0.7	326	4.1	26	0.3
2012	60	0.7	320	3.8	13	0.2
2013	47	0.6	322	4.2	17	0.2
2014	56	0.7	293	3.8	20	0.3
2015	48	0.6	324	4.2	29	0.4

*Proportion out of a total of culture confirmed pulmonary TB cases, whose DST results were known



* Proportion out of a total of culture confirmed pulmonary TB cases, whose DST results were known

Figure 10: Drug susceptibility test results, 2007-2015

MDR-TB

Higher proportion of MDR-TB was diagnosed among re-treatment cases than new cases of culture confirmed pulmonary TB cases, whose DST results were known (3.4%, 14/412 versus 0.5%, 33/7,135). Table 15 summarizes MDR-TB cases notified in 2015, by sex and age groups. The proportion of MDR-TB did not differ significantly between males and females (0.6%, 28/4,884 versus 0.7%, 20/2,737). However, proportions were higher among younger age groups for both males and females.

Table 16 summarizes the MDR-TB cases notified in 2015 by countries of birth. Of the 48 MDR-TB cases, 30 were diagnosed among Japan-born, 16 among foreign-born, and 2 among those whose country of birth was unknown. The proportion of MDR-TB diagnosed among the foreign-born was higher than that among the Japan-born new cases of culture confirmed pulmonary TB cases, whose DST results were known (0.3%, 30/6,932 versus 4.1%, 16/389). The most frequent countries of birth of foreign-born MDR-TB cases were China and the Philippines (50.0%, 8/16, and 18.8%, 3/16).

Table 15: MDR-TB by sex and age groups, 2015

Age group	Total		Male		Female	
	Number of cases	Proportion (%) [*]	Number of cases	Proportion (%) [*]	Number of cases	Proportion (%) [*]
15-24	6	2.2	5	3.3	1	0.8
25-34	7	1.6	1	0.4	6	3.0
35-44	4	0.8	2	0.7	2	1.0
45-54	6	1.0	3	0.7	3	1.7
55-64	5	0.7	4	0.7	1	0.6
65-74	8	0.6	6	0.6	2	0.6
75-84	6	0.3	4	0.3	2	0.3
85+	6	0.3	3	0.3	3	0.4
TOTAL	48	0.6	28	0.6	20	0.7

^{*}Proportion out of a total of culture confirmed pulmonary TB cases, whose DST results were known

Table 16: MDR-TB by country of birth, 2015

Country	Number of cases
Japan	30
China	8
Philippines	3
Myanmar	2
Viet Nam	2
Unknown	2
Indonesia	1
TOTAL	48

Chapter 7: Delay

Patient Delay

Table 17 summarizes patient delay, defined as time between onset of symptoms and initial doctor visit being longer than 2 months, by types of TB. Information regarding patient delay was known for 63.0% of the newly notified symptomatic pulmonary cases (6,678/10,592) and 57.1% of newly notified symptomatic extra pulmonary cases (1,984/3,477). Patient delay was observed in 20.0% (1,335/6,678) and 12.1% (240/1,984) of pulmonary and extra pulmonary cases, respectively. The proportion was the highest among the sputum smear positive pulmonary cases, with 23.7% (990/4,183). The proportion of those with patient delay was higher among those aged 15-59 than compared with those aged 14 and below, and aged 60 and above, for both pulmonary and extra pulmonary diseases (Figures 11-13).

Table 17. Patient delay by sites of disease, 2015

	Pulmonary symptomatic		SS+ pulmonary symptomatic		Extra pulmonary symptomatic	
	Number of cases	Proportion (%)	Number of cases	Proportion (%)	Number of cases	Proportion (%)
No delay (<2months)	5,343	80	3,193	76.3	1,744	87.9
Delay (>=2 months)	1,335	20	990	23.7	240	12.1
Total*	6,678	100	4,183	100	1,984	100

*Exclude those whose information on delay is unknown SS+: sputum smear positive

Doctor delay

Table 18 summarizes doctor delay, defined as time between initial doctor visit and diagnosis being longer than 1 month, by types of TB. Information regarding doctor delay was known for 91.5% of the newly notified symptomatic pulmonary cases (9,688/10,592), and 90.5% of newly notified symptomatic extra pulmonary cases (3,147/3,477). Doctor delay was observed in 21.5% (2,087/9,688) and 26.6% (838/3,147) of pulmonary and extra pulmonary cases, respectively. The proportion of those with doctor delay was the highest among those aged 60 and above for pulmonary disease, but similarly high for those aged 0-14 and 35-59 for extra pulmonary diseases (Figures 11-13).

Table 18. Doctor delay by sites of disease, 2015

	Pulmonary symptomatic		SS+ pulmonary symptomatic		Extra pulmonary symptomatic	
	Number of cases	Proportion (%)	Number of cases	Proportion (%)	Number of cases	Proportion (%)
No delay (<1month)	7,601	78.5	5,011	84.3	2,309	73.4
Delay (>=1 month)	2,087	21.5	933	15.7	838	26.6
Total*	9,688	100.0	5,944	100.0	3,147	100.0

*Exclude those whose information on delay is unknown SS+: sputum smear positive

Total delay

Table 19 summarizes total delay, defined as time between onset of symptoms and TB diagnosis being longer than 3 months. Information regarding total delay was known for 63.5% of the newly notified symptomatic pulmonary cases (6,721/10,592), and 57.8% of newly notified symptomatic extra pulmonary cases (2,010/3,477). Total delay was observed in 20.4% (1,373/6,721) and 16.1% (323/2,010) of pulmonary and extra pulmonary cases, respectively. The proportion of those with total delay was the highest among those aged 25-29 for both pulmonary and extra pulmonary diseases (Figures 11-13).

Table 19. Total delay by sites of disease, 2015

	Pulmonary symptomatic		SS+ pulmonary symptomatic		Extra pulmonary symptomatic	
	Number of cases	Proportion (%)	Number of cases	Proportion (%)	Number of cases	Proportion (%)
No delay (<3months)	5,348	79.6	3,270	77.7	1,687	83.9
Delay (>=3 months)	1,373	20.4	939	22.3	323	16.1
Total*	6,721	100.0	4,209	100.0	2,010	100.0

*Exclude those whose information on delay is unknown SS+: sputum smear positive

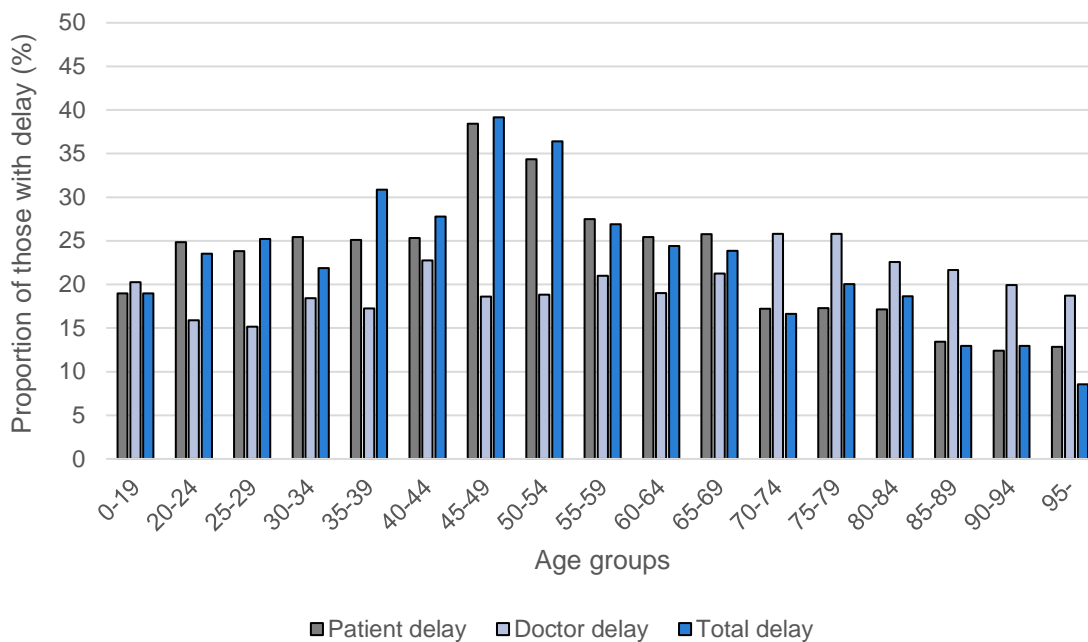


Figure 11: Proportion of those with delay among pulmonary cases, by age groups, 2015

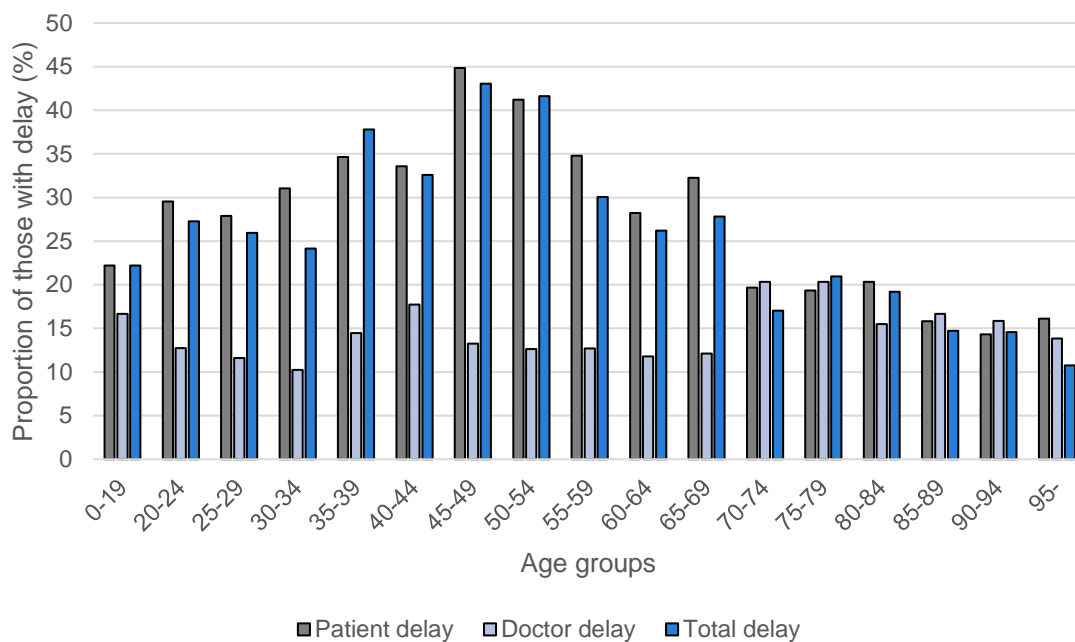


Figure 12: Proportion of those with delay among sputum smear positive pulmonary cases, 2015

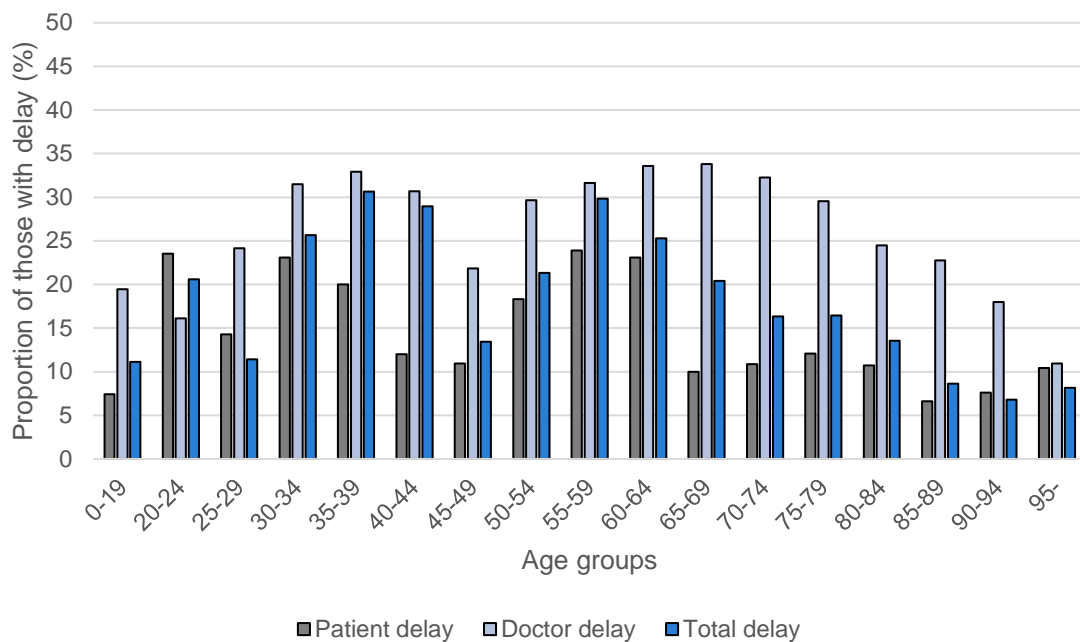


Figure 13: Proportion of those with delay among extra-pulmonary cases, 2015

Chapter 8: Treatment outcome (2014 cohort)

In 2014, a total of 15,149 pulmonary cases were reported. Treatment outcome was available for 99.9% (15,130/15,149), and is summarized in Table 20a. Both the proportions of treatment success (cured and completed) and died were slightly higher among the new cases compared to the retreatment cases (53.7% vs 46.7%, 17.0% vs 15.1%). Proportion of treatment success among the HIV co-infected cases was 22.7% among all TB (10/44), and 38.5% among pulmonary TB (10/26). (Table 20b)

Table 20a: Treatment outcome of pulmonary cases by treatment history (2014 cohort)

	New		Retreatment		Unknown		TOTAL	
	Number	Proportion (%)	Number	Proportion (%)	Number	Proportion (%)	Number	Proportion (%)
Cured	2,013	14.4	144	15.0	13	5.9	2,170	14.3
Completed	5,466	39.2	304	31.7	41	18.5	5,811	38.4
Died	2,373	17.0	145	15.1	49	22.1	2,567	17.0
Treatment failure	48	0.3	10	1.0	1	0.5	59	0.4
Lost to follow-up	870	6.2	71	7.4	8	3.6	949	6.3
Transferred out	478	3.4	22	2.3	1	0.5	501	3.3
Still on treatment	1,014	7.3	101	10.5	7	3.2	1,122	7.4
Unclassified	1,687	12.1	162	16.9	102	45.9	1,951	12.9
TOTAL	13,949	100.0	959	100.0	222	100.0	15,130	100.0

Table 20b: Treatment outcome of HIV co-infected cases (all TB and pulmonary TB) (2014 cohort)

	All TB		Pulmonary TB	
	Number	Proportion (%)	Number	Proportion (%)
Cured	1	2.3	1	3.8
Completed	9	20.5	9	34.6
Died	3	6.8	3	11.5
Treatment failure	0	0.0	0	0.0
Lost to follow-up	0	0.0	0	0.0
Transferred out	4	9.1	4	15.4
Still on treatment	3	6.8	3	11.5
Unclassified	6	13.6	6	23.1
Extra-pulmonary	18	40.9	NA	NA
TOTAL	44	100.0	26	100.0

Treatment outcome of MDR pulmonary cases is re-calculated and summarized in Table 20c. As these are the treatment outcomes after one year, the proportion of those still on treatment is relatively high, compared to the overall outcome of pulmonary cases as shown in Table 20a (25.4% vs 7.4%). The similarly high proportion of those transferred out (19.7%) indicate MDR-TB patients transferring to specialist hospitals which can provide highly advanced medical care.

Table 20c: Treatment outcome of MDR pulmonary cases by treatment history (2014 cohort)

	New		Retreatment		Unknown		TOTAL	
	Number	Proportion (%)	Number	Proportion (%)	Number	Proportion (%)	Number	Proportion (%)
Cured	0	0.0	0	0.0	0	0.0	0	0.0
Completed	5	10.6	0	0.0	0	0.0	5	7.0
Died	2	4.3	2	8.7	0	0.0	4	5.6
Treatment failure	4	8.5	0	0.0	0	0.0	4	5.6
Lost to follow-up	3	6.4	1	4.3	1	100.0	5	7.0
Transferred out	14	29.8	0	0.0	0	0.0	14	19.7
Still on treatment	11	23.4	7	30.4	0	0.0	18	25.4
Unclassified	8	17.0	13	56.5	0	0.0	21	29.6
TOTAL	47	100.0	23	100.0	1	100.0	71	100.0

Treatment outcome of new sputum smear positive pulmonary cases is shown in Figure 14 (see also Table 21). Naturally, the proportions of treatment success decreased and of died increased with age. The proportions of treatment success tended to be higher among females compared with males in most age groups.

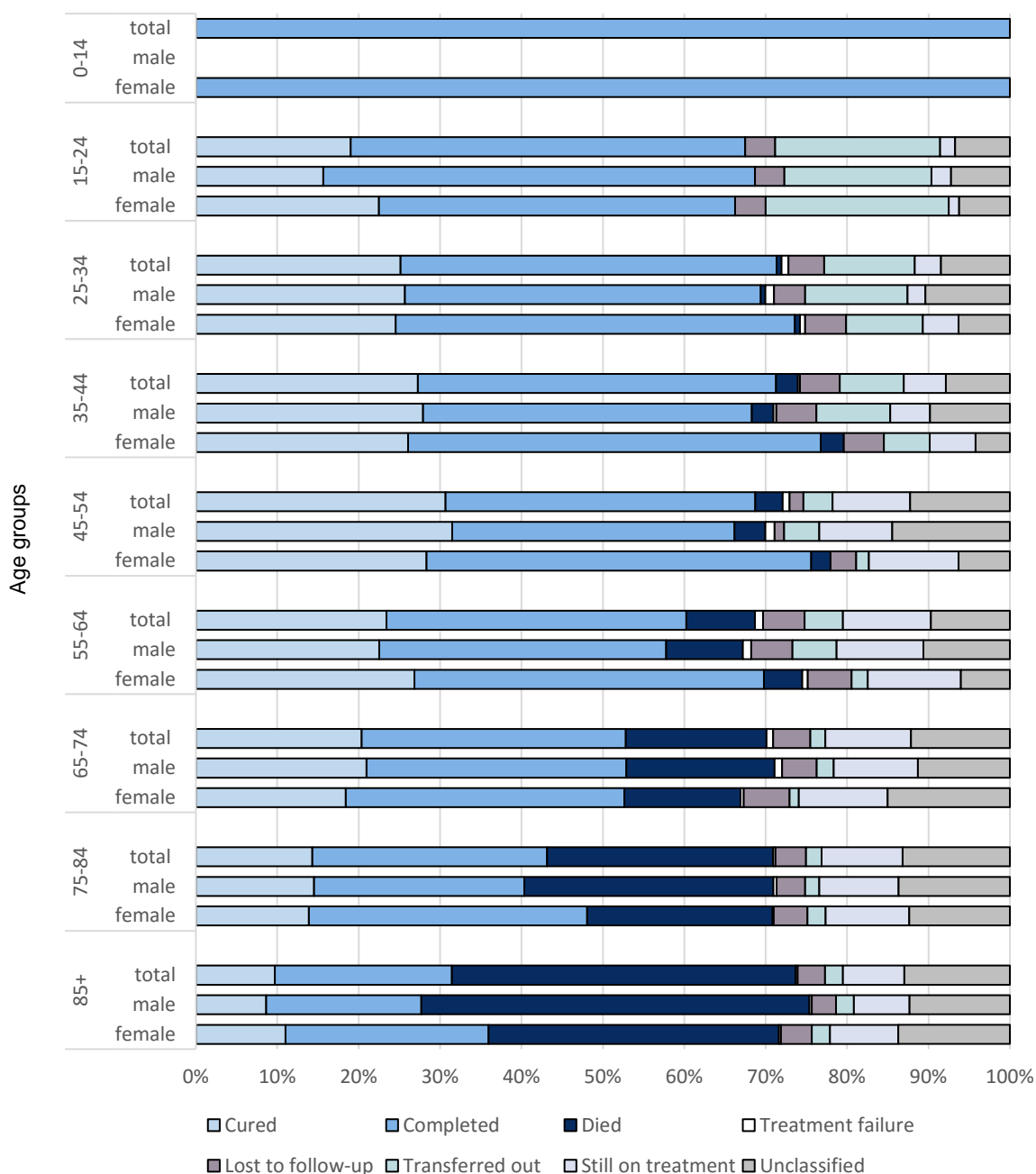


Figure 14: Treatment outcome of new sputum smear positive pulmonary cases by age groups (2014 cohort)

Table 21: Treatment outcome of new sputum smear positive pulmonary cases by age groups (2014 cohort)

		Cured	Completed	Died	Treatment failure	Lost to follow-up	Transferred out	Still on treatment	Unclassified
0-14	Total	0	1	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0
	Female	0	1	0	0	0	0	0	0
15-24	Total	31	79	0	0	6	33	3	11
	Male	13	44	0	0	3	15	2	6
	Female	18	35	0	0	3	18	1	5
25-34	Total	86	158	2	3	15	38	11	29
	Male	47	80	1	2	7	23	4	19
	Female	39	78	1	1	8	15	7	10
35-44	Total	111	179	11	1	20	32	21	32
	Male	74	107	7	1	13	24	13	26
	Female	37	72	4	0	7	8	8	6
45-54	Total	145	180	16	4	8	17	45	58
	Male	109	120	13	4	4	15	31	50
	Female	36	60	3	0	4	2	14	8
55-64	Total	169	266	61	7	37	34	78	70
	Male	129	202	54	6	29	31	61	61
	Female	40	64	7	1	8	3	17	9
65-74	Total	231	368	196	9	52	21	119	138
	Male	182	277	158	8	37	18	90	98
	Female	49	91	38	1	15	3	29	40
75-84	Total	286	577	556	6	75	38	199	264
	Male	186	331	392	5	45	22	125	175
	Female	100	246	164	1	30	16	74	89
85+	Total	180	403	782	5	62	41	140	240
	Male	87	192	480	3	30	22	69	124
	Female	93	211	302	2	32	19	71	116

As the large proportion of died is reported among the elderly, trend in the treatment outcome of those in the younger age groups was analysed. Figure 15 summarizes the trend of treatment outcome among new sputum smear positive pulmonary cases aged 49 and below, and it shows the proportion of treatment success has steadily increased while of those still on treatment at 12 months has decreased.

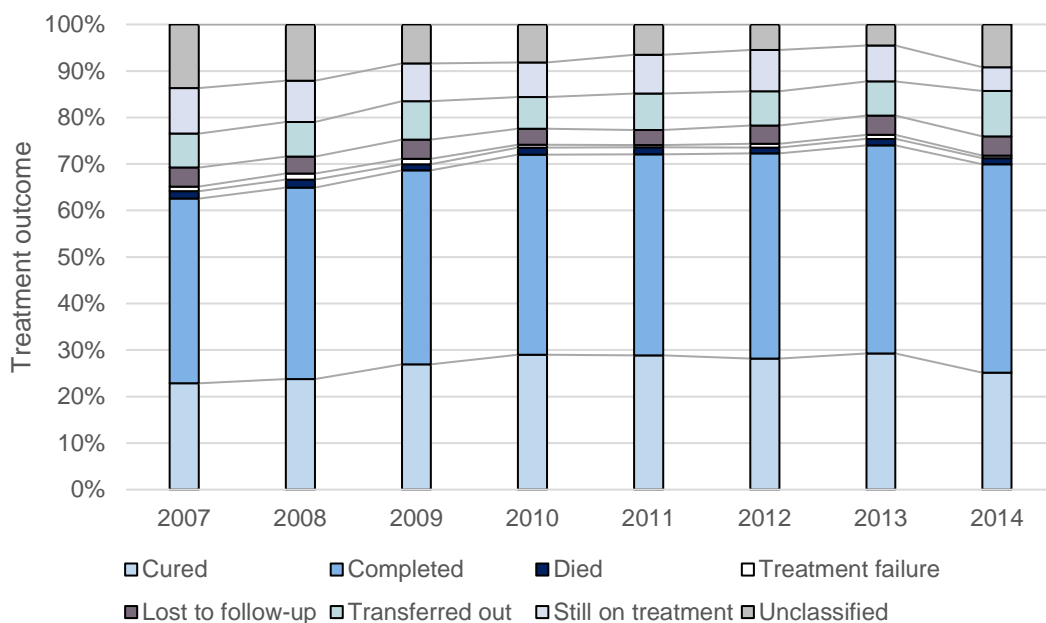


Figure 15: Treatment outcome of new sputum smear positive pulmonary cases aged 49 and below, 2007-2014

Chapter 9: Latent tuberculosis Infection

Table 22 summarizes the latent TB infection (LTBI) case notifications since 2007. In 2015, 6,675 cases of LTBI were newly notified. The number of new cases has reached a peak in 2011, and continued to decrease since then. On the other hand, proportion of foreign-born among the total LTBI cases notified has been increasing, notably from 2011.

Table 22: LTBI case notifications and number and proportion of foreign-born, 2007-2015

Year	Total number of cases	Of which foreign-born	Proportion of foreign-born (%)
2007	2,959	152	5.1
2008	4,832	257	5.3
2009	4,119	249	6.0
2010	4,930	293	5.9
2011	10,046	493	4.9
2012	8,771	487	5.6
2013	7,147	425	5.9
2014	7,562	523	6.9
2015	6,675	540	8.1

Table 23 summarizes the LTBI case notifications by sex and age groups. Breaking down the cases by age groups, the largest number of cases were diagnosed among those aged 45-54 (1,086 cases), followed by those aged 55-64 (1,017 cases). More LTBI is notified among female, especially among those aged 15-64. For adults, this is most likely due to LTBI notified among female health care workers.

Table 23: LTBI case notifications by sex and age groups, 2015

Age groups	Total		Male		Female	
	Number of cases	Proportion (%)	Number of cases	Proportion (%)	Number of cases	Proportion (%)
0-4	420	6.3	182	6.0	238	6.6
5-14	241	3.6	126	4.1	115	3.2
15-24	466	7.0	193	6.3	273	7.5
25-34	848	12.7	358	11.8	490	13.5
35-44	988	14.8	403	13.2	585	16.1
45-54	1,086	16.3	438	14.4	648	17.9
55-64	1,017	15.2	490	16.1	527	14.5
65-74	920	13.8	505	16.6	415	11.4
75-84	544	8.1	286	9.4	258	7.1
85+	145	2.2	65	2.1	80	2.2
TOTAL	6,675	100.0	3,046	100.0	3,629	100.0

Appendix I: Notes on Japan Tuberculosis Surveillance System

Japan introduced the first nationwide computerized TB surveillance system, the Japan Tuberculosis Surveillance (JTBS) in 1987. Both TB and LTBI (those diagnosed as being infected but not with active TB, and who were judged as requiring preventive therapy) are notifiable diseases under the Infectious Diseases Control Law, and local public health centers (PHCs) are responsible for entering the data of notified patients to the system. The data, once entered into JTBS, is updated every month, and major findings are published annually, and also made available on-line, in Japanese. Treatment outcome is reported for the cohort notified in the previous year.

PHCs are local government authorities responsible for public health in Japan. As of 2016, 480 centers were operating in close association with the Ministry of Health, Labour and Welfare of Japan. While the general rule is that one PHC covers approximately 300,000 inhabitants, several centers cover a population of more than 1 million. The main roles of PHCs in terms of TB control include receiving notification of TB, registering patient information into JTBS, processing applications for public subsidy for TB treatment, conducting contact investigation and holding legal responsibility to oversee drug taking and adherence of patients. PHCs are not medical institutions and do not provide diagnostic and treatment services.

JTBS has undergone several major system revisions;

- ✧ Information regarding nationality (either “Japanese” or “non-Japanese”) was added to JTBS in 1998, and country name and the year of entry (either “within five years”, or “more than five years” or “unknown”) in 2007. In 2012, the category of nationality was changed to country of birth (either “Japan-born”, “foreign-born” or “unknown”).
- ✧ Information regarding HIV co-infection and DM was added to JTBS in 2007. HIV and DM data are self-reported, and are not matched with other database in any way. Information regarding HIV had been entered as “HIV positive”, “HIV negative” and “unknown” until 2011. Since 2012, a new category of “HIV test not done” was added. Information regarding DM is entered as “with DM”, “without DM” and “unknown”.
- ✧ Information regarding LTBI was added to JTBS in 2007.

- ✧ Cohort classification has undergone a major revision in 2007, and therefore the trend since 2007 is analyzed in this report.

Appendix II: Data quality

Data quality is ensured via the system's automatic verification program, as well as regular meetings at local levels attended by staffs from hospitals and PHCs. Periodic refresher trainings on data entry are also provided to PHC nurses as well as administrative staff across the nation.

Data entry rate for selected variables is summarized in Table i.

While entry rate was relatively high for demographic data, data on homeless history showed much variability (range: 6.7% to 82.8%). Data entry rate for treatment history was between 50% and 95% for all prefectures, however, for previous treatment regimen, the entry rate varied considerably with 2 prefectures scoring below 50%.

Data entry rate for symptoms and modes of detection were generally high with all but 2 prefectures scoring above 95%.

As for delay, data entry rate for doctor delay was generally higher than for patient and total delay – while all prefectures scored above 95% for doctor delay, 8 prefectures scored below 50% for patient and total delay, respectively.

Data entry rate for DM was above 50% for all prefectures, however, only 10 prefectures scored above 50% for HIV.

Data entry rate for microscopy examination results for pulmonary TB cases was above 95% for all prefectures, however for culture examination results, the rate was lower, with one prefecture scoring below 50%. 8 prefectures scored below 50% for DST results.

Table i: Data entry rate by prefectures, 2015

Prefecture	Demographic				Diagnosis						Examination results				
	Country of Birth	Occupation	Homeless history	Treatment history	Previous treatment regimen	Symptoms	Mode of detection	Patient delay	Doctor delay	Total delay	DM	HIV	Microscopy examination results	Culture examination results	DST results
1	99.2	97.9	26.3	65.0	82.1	99.6	99.8	81.6	94.0	82.2	86.7	50.3	98.3	83.0	71.3
2	99.5	100.0	46.2	60.5	66.7	98.9	100.0	51.1	94.0	51.1	94.5	73.6	99.3	64.5	56.2
3	99.3	97.8	64.0	55.4	66.7	100.0	97.1	68.4	89.7	69.1	86.0	61.0	96.0	90.9	47.1
4	95.5	99.5	53.0	59.3	56.3	100.0	100.0	65.2	93.4	65.7	94.4	20.2	99.4	84.1	63.6
5	98.9	100.0	82.8	71.9	50.0	100.0	100.0	58.6	93.1	60.9	92.0	66.7	100.0	92.2	60.8
6	97.6	98.8	48.8	58.6	33.3	100.0	98.8	61.0	84.1	61.0	82.9	0.0	98.5	89.6	62.0
7	100.0	100.0	58.0	72.5	75.0	100.0	100.0	94.7	96.8	94.7	95.7	75.5	98.0	97.4	72.0
8	100.0	99.1	46.1	72.9	69.2	100.0	100.0	48.4	93.9	48.4	90.7	38.3	99.6	82.7	63.2
9	100.0	92.6	26.2	80.7	87.5	99.6	100.0	66.4	95.6	66.4	75.1	65.5	100.0	96.3	62.4
10	100.0	100.0	47.9	70.8	77.8	100.0	100.0	93.8	96.9	94.3	89.1	39.6	100.0	97.4	46.5
11	95.6	97.1	37.5	69.7	61.9	99.7	98.3	40.8	92.7	41.3	89.0	32.9	98.4	70.5	53.1
12	97.9	93.2	44.9	73.0	67.3	99.7	95.8	64.0	94.2	64.4	78.4	19.4	97.0	88.3	82.9
13	99.7	97.0	58.3	70.6	68.3	99.3	99.7	76.8	93.1	77.3	92.2	61.5	99.0	97.4	89.1
14	94.1	96.9	33.8	70.3	73.7	99.5	99.8	58.5	88.6	59.0	80.8	16.3	98.9	75.6	62.9
15	97.8	98.7	58.2	69.8	84.6	100.0	100.0	74.1	91.4	75.9	89.7	36.6	98.9	55.1	36.1
16	97.6	96.0	19.2	67.6	85.7	99.2	99.2	76.0	95.2	76.0	79.2	40.0	100.0	92.9	88.7
17	100.0	100.0	81.2	82.6	60.0	100.0	100.0	94.0	98.7	94.0	96.0	50.3	100.0	99.2	87.4
18	100.0	100.0	77.8	67.6	50.0	100.0	100.0	68.1	95.8	68.1	97.2	23.6	97.8	88.9	58.1
19	94.5	89.0	28.8	62.8	100.0	100.0	100.0	56.2	84.9	56.2	52.1	23.3	97.9	43.8	29.4
20	100.0	99.4	33.7	62.2	80.0	100.0	100.0	84.0	96.0	84.6	97.1	28.0	99.2	89.9	84.2
21	100.0	99.4	67.8	74.3	77.8	99.7	100.0	76.1	97.1	76.8	83.4	39.2	98.4	81.5	65.2
22	99.3	98.0	42.1	80.1	60.0	99.1	99.5	64.3	93.4	64.7	92.5	40.3	99.1	77.8	55.4
23	99.3	98.2	75.3	71.4	81.2	99.7	99.8	78.9	95.7	79.0	92.8	29.6	99.8	96.0	86.9
24	99.2	99.6	40.2	80.4	71.4	100.0	100.0	68.4	89.3	70.1	91.4	30.7	100.0	71.9	40.4
25	89.8	98.1	26.1	72.7	62.5	99.4	99.4	42.7	95.5	42.7	94.9	34.4	100.0	87.6	57.1
26	100.0	99.7	82.4	68.8	72.7	99.7	100.0	87.8	96.5	88.0	94.7	26.1	99.3	93.0	90.4
27	86.4	94.4	40.2	75.4	66.9	98.5	98.6	81.4	94.9	81.7	82.6	9.9	98.7	94.0	91.5

Tuberculosis in Japan: Annual Report 2016

28	90.9	96.0	15.9	79.3	59.2	99.9	99.2	70.5	94.7	70.8	89.1	27.1	99.2	88.9	84.3
29	99.6	98.7	77.0	78.0	68.8	99.6	99.6	82.6	96.1	82.6	94.8	34.3	99.5	98.4	79.5
30	99.3	100.0	76.0	80.7	80.0	99.3	100.0	95.3	97.3	95.3	94.7	30.7	100.0	99.2	92.4
31	97.8	97.8	6.7	79.1	50.0	100.0	98.9	36.7	91.1	36.7	96.7	31.1	100.0	55.1	61.8
32	94.1	100.0	39.2	79.1	100.0	100.0	100.0	49.0	93.1	49.0	99.0	21.6	100.0	88.3	75.0
33	97.9	100.0	34.9	65.8	85.7	98.7	100.0	80.9	93.2	81.7	91.5	42.6	98.9	85.3	62.4
34	97.5	96.6	20.1	75.7	50.0	99.7	100.0	37.7	79.3	37.7	75.0	36.1	99.2	76.2	45.7
35	98.4	96.8	36.9	84.1	55.6	94.1	100.0	59.4	90.9	59.9	92.0	39.6	97.9	63.4	59.5
36	99.1	100.0	16.0	75.7	100.0	100.0	100.0	42.5	95.3	43.4	94.3	13.2	100.0	84.8	85.7
37	100.0	98.6	40.3	76.6	75.0	100.0	100.0	75.0	92.4	75.7	90.3	42.4	99.0	98.0	69.0
38	100.0	100.0	65.3	79.9	90.9	100.0	100.0	86.2	93.4	86.8	97.0	56.9	97.4	90.6	41.1
39	65.7	95.4	30.6	90.6	71.4	100.0	100.0	68.5	94.4	68.5	95.4	12.0	100.0	82.3	86.0
40	95.9	99.6	42.0	75.0	74.2	99.6	99.9	77.4	96.5	77.6	90.2	24.5	98.4	90.4	84.1
41	100.0	99.3	17.0	77.5	66.7	100.0	100.0	55.6	94.1	56.3	90.4	6.7	100.0	83.0	80.0
42	94.0	99.5	47.9	78.8	58.3	100.0	100.0	59.4	87.6	59.9	95.4	36.4	99.4	76.3	78.9
43	93.6	92.9	26.2	74.5	47.8	100.0	94.7	40.1	61.3	40.8	91.5	50.7	97.0	58.6	47.0
44	98.5	88.9	23.6	63.6	70.0	99.5	100.0	76.9	98.0	76.9	94.5	46.2	100.0	94.6	86.5
45	89.4	100.0	49.1	77.7	66.7	100.0	100.0	76.4	94.4	76.4	98.1	49.7	99.2	90.7	68.2
46	100.0	98.8	54.5	78.2	77.8	99.2	100.0	69.3	94.2	69.3	83.3	34.6	97.9	82.6	52.1
47	99.5	95.8	54.2	64.2	66.7	100.0	100.0	74.8	88.8	75.2	93.9	21.0	99.3	86.0	65.2
TOTAL	96.1	97.1	45.5	72.4	69.5	99.5	99.4	70.0	93.0	70.3	88.4	34.0	96.6	86.8	76.0

Tx: treatment, DST: drug susceptibility test

Key:



Appendix III: Supplementary data

Table ii. Population used to calculated the notification rates, 2015

Age group	Total	Male	Female
0-4	5,120,300	2,620,200	2,500,100
5-14	10,744,000	5,487,900	5,256,000
15-24	12,047,900	6,175,700	5,872,200
25-34	13,645,800	6,946,900	6,698,800
35-44	17,892,700	9,039,600	8,853,200
45-54	16,496,600	8,267,400	8,229,300
55-64	15,835,400	7,800,600	8,034,600
65-74	17,255,300	8,173,100	9,082,200
75-84	11,220,800	4,758,000	6,462,700
85+	4,945,400	1,474,800	3,470,800
TOTAL	127,110,000	61,829,200	65,280,800

Source: Population as of October 1, 2015. Population Census, Statistics Bureau, Ministry of Internal Affairs and Communications <http://www.stat.go.jp/data/jinsui/>

Note: The age group specific population does not necessarily add up to TOTAL as the numbers are based on population census. For details, please contact the Ministry of Internal Affairs and Communications, Japan.

Table iii. A complete breakdown of countries of birth of foreign-born TB patients, 2015

Country	Number of cases	Country	Number of cases
Philippines	284	U.K.	2
China	249	Ghana	2
Viet Nam	135	Malaysia	2
Nepal	108	Poland	2
Unknown	78	People's Rep. Korea	2
Indonesia	78	USA	2
Rep. Korea	42	Bolivia	1
Thailand	28	Cameroon	1
Myanmar	23	Ethiopia	1
India	21	Italy	1
Brazil	18	Sri Lanka	1
Peru	13	Morocco	1
Mongolia	12	Rep. of the Marshall Is.	1
Cambodia	10	Mali	1
Taiwan	8	Nigeria	1
Russia	7	New Zealand	1
Bangladesh	6	Papua New Guinea	1
Pakistan	5	Rwanda	1
Canada	3	Saudi Arabia	1
Kenya	3	Turkey	1
Laos	3	Uganda	1
Congo	2	Zimbabwe	1