Annual Report
Tuberculosis & Chest Service
2022

Department of Health
Hong Kong Special Administrative Region

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I. Preface

Global Epidemiology

Tuberculosis (TB) is a curable and preventable disease, yet it continues to be a major global health issue affecting all countries. Worldwide, TB is the second leading infectious killer after COVID-19 (above HIV and AIDS) in 2022. An estimated 10.6 million people fell ill with TB, including 5.8 million men, 3.5 million women and 1.3 million children and 1.3 million people died from this disease (including 167 000 people with HIV). Globally, the estimated TB incidence rate was 133 per 100 000 population. Most people who developed TB were in the WHO regions of South-East Asia (46%), Africa (23%) and the Western Pacific (18%). The 30 high TB burden countries accounted for 87% of all estimated new TB cases worldwide.

Drug-resistant (DR) tuberculosis remains a public health threat. In 2022, there were an estimated 410 000 new TB cases with rifampicin-resistant (RR-TB) or multidrug-resistant (MDR-TB) worldwide. Although treatment success rates have improved to 63%, MDR/RR-TB still caused an estimated deaths of 160 000. It was estimated by WHO that only about 2 in 5 people with drug resistant TB accessed treatment in 2022.

The End TB Strategy has been adopted since 2015 and serves as a blueprint for countries/regions to target reduction of TB incidence by 90%, TB deaths by 95%, and to eliminate catastrophic costs for TB-affected households by 2035. The progress in mitigating the global burden of TB disease was brought to a halt or even reversed due to the impact of the COVID-19 pandemic. Although there was a major global recovery from the COVID-related disruptive effects in 2022, the net reduction of TB incidence from 2015 to 2022 was only 8.7%, which was far from the WHO End TB Strategy milestone of a 50% reduction by 2025. Nevertheless, the progress was much better in the WHO African and European regions, and 83 countries achieved reductions of at least 20%.

Local epidemiology

In Hong Kong, the total number of TB notifications in 2022 was 3 200, and the TB notification rate was 43.6 per 100 000. The corresponding figures in 2021 were 3 716 and 50.1 per 100 000. TB deaths accounted for ≤ 0.4% of the total registered deaths in Hong Kong in the past decade and stayed outside the top ten causes of death in 2022. The significant drop in TB notification rate in 2022 was likely attributed to COVID-19 pandemic which has badly hit Hong Kong. Similar COVID-related impact on trend in the TB notification rate was observed worldwide.

With the successful implementation of passive case-finding, rapid diagnosis and timely initiation of effective anti-TB treatment under directly observed treatment (DOT) in a readily accessible ambulatory outpatient setting, the TB notification rate decreased from a historical peak of 697.2 per 100 000 in 1952 to 43.6 per 100 000 in 2022. However, the TB notification rate declined more slowly in recent years. The ageing population and reactivation from the pool of latent infection is accounting for the retarded decline in rate of TB. Tackling the challenge of an ageing population appears to be a key step in further reducing the local TB notification and TB death rates. The local preventive treatment for targeted household contacts has been extended to those age under 65. However, despite an increased accessibility of diagnostic tools in screening latent TB infection (LTBI) and the heightened awareness of the role of preventive treatment, treatment of LTBI is still hampered by clients' acceptance and treatment-related adverse events such as hepatotoxicity in particular among the older age group.

Challenges on TB Control

The effect of COVID-19 pandemic and vaccination

COVID-19 pandemic has caused an unprecedented threat to the health systems worldwide since 2020. Despite some adjustments of the provision of TB&CS services, there was essentially no disruption of services including medical consultation and directly observed treatment (DOT) during the pandemic. The significant drop in TB notification rate (and total attendance in chest clinics) in 2022 was likely related to the social distancing measures and the change in health-seeking behavior during the fifth wave of the COVID-19 pandemic.

Ageing Population

The population in Hong Kong rose from 6.73 million to 7.47 million from 2002 to 2022. Of which 11.7% and 21.3% were aged 65 or above in 2002 and 2022 respectively. It is projected that more than a quarter of the local population will be 65 or above by 2030. The TB notification rate of those aged 75 or above were around 3 times that of the general population. The average age of the TB deaths was 75.8 in 2022 with more than three-quarters of mortality being 65 years old or above. Management of TB in elderly is challenging as they have, in general, more comorbidities and are more prone to hepatotoxicity and other adverse effects during anti-TB treatment when compared with the younger age groups. Close monitoring of any side-effects along with cautious adjustment of treatment regimen is of paramount importance during treatment.

Co-morbidities of TB patients

Management of TB comorbidity is important as part of the TB control measures. Diabetes mellitus (DM) has been recognized as the most common TB comorbidity in HK. About 20% of TB patients attending chest clinic have DM. A previous local study showed that DM patients had more extensive disease, more adverse effects from treatment and lower success rates as compared with non-diabetic patients. DM control is an important factor affecting the response to anti-TB treatment.

HIV infection is another risk factor for developing TB disease. In HK, the prevalence of HIV co-infection among TB patients has remained below 1% in 2022. In our service, DM screening and HIV testing are routinely offered to TB patients attending chest clinics.

Multidrug-resistant and extensively drug-resistant tuberculosis

With all the concerted efforts, the rate of MDR/RR-TB in HK remained low in 2022, being around 1 % of all culture-confirmed TB cases in 2022. There was no case of extensively drug-resistant (XDR)-TB. The local treatment success rate of MDR/RR-TB was high (about 80%). Given the high rate of DR-TB in some neighbouring areas, frequent population movement and possible cross border transfer of drug resistance, our apparently effective control on MDR/RR- and XDR-TB are constantly subject to these threats. During COVID-19 pandemic, the travel restrictions might have lessened the potential cross-border transfer of drug-resistant TB. Yet, continuous vigilance about the early diagnosis and treatment of DR-TB is of utmost importance.

To improve the treatment and care of patients with DR-TB, WHO has updated the latest consolidated treatment guidelines and operation handbook of DR-TB in 2022 and has prioritized a new 6-month regimen as the treatment of choice for eligible MDR/RR-TB patients, over the two other categories of regimens (the 9-month all-oral regimens and the 18 to 20 months individualized longer regimens based on WHO Group A, B & C drugs). However, the issue of limited availability of pretomanid, one of the components of the 6-month regimen, in some regions including HK has to be solved before the new WHO recommendation could be adopted widely.

The in-patient management of MDR/RR-TB and XDR-TB is supported by the two designated hospital units under the Hospital Authority (HA) - the Grantham Hospital and Kowloon Hospital. Given the potential impact of MDR/RR-TB on public health, close liaison with HA colleagues is maintained regularly. The biweekly joint case conferences are conducted to facilitate the successful management of these difficult cases.

Way Forward

Surveillance and early detection of drug-resistant TB

The Department of Health of Hong Kong SAR will continue to observe the trend of drug resistance rates and enhance the surveillance. The close collaboration with the Public Health Laboratory Services Branch to monitor the local drug resistance pattern and regular reporting of TB-related data to WHO are important strategies to monitor the trend of drug resistance and TB control in Hong Kong and our neighbouring regions. Molecular tests for rapid diagnosis of TB and detection of drug resistance among sputum smear-positive cases and selected smear-negative cases are useful ways for early detection and effective control of DR-TB. Given the continuous development in next generation sequencing techniques, the availability of comprehensive drug susceptibility results will be hastened in future.

Effective anti-tuberculosis treatment

Effective first-line anti-TB treatment under directly observed therapy remains to be the cornerstone of TB control. For drug-resistant TB, the development of new drugs and the introduction of repurposed agents in recent years are bringing new hope to the treatment of MDR/RR-TB and XDR-TB. Since 2019, there has been an increasing use of bedaquiline, linezolid and clofazimine in addition to levofloxacin and cycloserine as the composition of the individualized longer regimen for treatment of MDR/RR-TB. In 2020, WHO recommended a new shorter all-oral bedaquiline-containing regimen of 9 to 12 months for a selected group of MDR/RR-TB patients who had no fluoroquinolone resistance and without previous exposure to second-line drugs (including bedaquiline). For patients with MDR/RR-TB and additional fluoroquinolone resistance (Pre-XDR-TB), a new 6 to 9 months regimen composed of bedaquiline, pretomanid and linezolid (BPaL) has been conditionally recommended under operational research conditions. In 2022, WHO has further updated the recommendations on treatment of MDR/RR-TB. Besides specific recommendations on the use of all-oral shorter regimens and longer regimens for MDR/RR-TB patients, there were two new recommendations – one for the use of the new 6-month BPaLM(BPaL and moxifloxacin) or BPaL regimen in patients with MDR/RR-TB or pre-XDR-TB; and another for a 9-month all-oral regimen in patients with MDR/RR-TB and in whom resistance to fluoroquinolones has been excluded.

Tuberculosis Preventive Treatment (TPT) for LTBI

Targeted screening of four main high-risk groups is conducted locally. They are household contacts of sputum smear-positive patients, people with silicosis, people living with HIV and patients initiating anti-tumour necrosis factor (TNF) biologics. Tuberculin skin test (TST) and/or the interferon

gamma release assays (IGRA) are the screening tests deployed. For Tuberculosis Preventive Treatment (TPT), six-to-nine-month Isoniazid, 12-week weekly rifapentine plus isoniazid regimen given under supervision and 4-month rifampicin are the regimens commonly offered. The completion rate of TPT in household contacts ranges from 80 to 90% with a higher completion rate among cases on the shorter TPT regimens.

Neonatal BCG vaccination

BCG vaccination has a proven protective effect against meningitis and disseminated TB in children. Neonatal BCG is routinely given in Hong Kong at birth with a high coverage rate of over 99% in 2022.

Public health function

The Department of Health has enhanced its public health function by stepping up its local enforcement measures to contain the spread of TB within our community. For non-compliant TB patients posing public health hazards, medical examination notifications or isolation orders with reference to the Prevention and Control of Disease Ordinance (CAP 599) might need to be issued. They are taken as a last resort when all other non-coercive measures such as counselling, education and psychosocial support fail. Cross-jurisdiction notification has also been enhanced when managing TB cases leaving Hong Kong.

Collaboration with other research parties

Tuberculosis & Chest Service (TB&CS) has been actively collaborating with other local and overseas health authorities and academics in conducting studies and researches with an aim to further improve the TB management. Collaboration with local experts was made to review international guidelines and local TB situations. In addition, regular academic activities were organized with the health authorities in the Mainland China and Macao.

Health Promotion

Promotion of smoking cessation

Smoking has long been reported to be associated with TB. Studies showed that tobacco smoking increased the risk of TB infection and disease, negatively influenced the response to treatment and also increased the risk of relapse. In collaboration with the Tobacco and Alcohol Control Office, very brief advice on smoking cessation are actively introduced to clients attending chest clinics.

World TB Day and community support

Measures to raise the public awareness of TB and to mobilize support from the community are of great importance to the success of TB control. It has been achieved through school education and public health talks. Despite the COVID-19 pandemic, a series of activities were conducted to echo the World TB Day of 24 March 2022. Activities included updating TB information on TB&CS website, launching an Announcement for Public Interest (API) on TV, radio, and other media and promoting the World TB Day via the RTHK radio programme "Healthpedia" and an article in a health column of a local newspaper.

With all these activities, it is hoped that the health care workers, the public and all other stakeholders would be able to join hands to fight against this endemic disease.

II. Tuberculosis & Chest Service

Approximately 80% of notified TB cases are managed in the Government TB&CS. In 2022, a total of 51 880 persons (including 7 811 new patients) attended chest clinics and the total attendance was 408 463. The corresponding figures in 2021 were 56 229 and 525 930. The reduction in total attendance in 2022 was attributed to the impacts of COVID-19 pandemic.

The diagnoses among new patients included active pulmonary TB (20.5%), active TB of other forms (8.5%), inactive TB (1.8%), CXR screening and contact examination (33.6%), bronchitis not specified as acute or chronic (1.4%), acute respiratory infection and pneumonia (3.0%), malignant neoplasm of trachea and bronchus (0.7%) and other respiratory symptoms or diseases (10.2%). A total of 495 chest hospital admissions were arranged.

For the Pneumoconiosis Clinic (the Clinic), it continued to provide a full range of outpatient services to patients with suspected or confirmed pneumoconiosis and mesothelioma. Apart from supporting the operation of Pneumoconiosis Medical Board (the Board) in assessment aspect under the Pneumoconiosis and Mesothelioma (Compensation) Ordinance (the Ordinance), the Clinic also provides services addressing the patients' diversified needs in terms of treatment, prevention and rehabilitation. In 2022, 143 cases with suspected pneumoconiosis or mesothelioma were examined by the Board under the Ordinance, and 103 new patients (79 cases of silicosis, 3 cases of asbestos-related lung disease, 21 cases of mesothelioma) were confirmed by the Board. Up to the end of 2022, a total of 5 466 patients had been confirmed by the Board as having pneumoconiosis and/or mesothelioma under the Ordinance with the date of diagnosis on or after 1 January 1981.

III. Tuberculosis in Hong Kong

Appendix 1 TB Notification & Death Rate of Tuberculosis (All Forms) from 1947 to 2022

Year	TB Notifications			Notification Rate [3]	Number of Death [4]	Death Rate [5]	Ratio [6]	(Death / Notifications) x 100%
	Number	Vietnamese refugees [1]	Chinese immigrants [2]					
1947	4 855	-	-	277.4	1 861	106.3	2.6	38.3
1948	6 279	-	-	348.8	1 961	108.9	3.2	31.2
1949	7 510	-	-	404.4	2 611	140.6	2.9	34.8
1950	9 067	-	-	405.3	3 263	145.9	2.8	36.0
1951	13 886	-	-	689.0	4 190	207.9	3.3	30.2
1952	14 821	-	-	697.2	3 573	168.1	4.2	24.1
1953	11 900	-	-	530.7	2 939	131.1	4.1	24.7
1954	12 508	-	-	528.9	2 876	121.6	4.4	23.0
1955	14 148	-	-	568.1	2 810	112.8	5.0	19.9
1956	12 155	-	-	464.9	2 629	100.6	4.6	21.6
1957	13 665	-	-	499.4	2 675	97.8	5.1	19.6
1958	13 485	-	-	472.5	2 302	80.7	5.9	17.1
1959	14 302	-	-	482.0	2 178	73.4	6.6	15.2
1960	12 425	-	-	405.5	2 085	68.0	6.0	16.8
1961	12 584	-	-	397.2	1 907	60.2	6.6	15.2
1962	14 263	-	-	431.5	1 881	56.9	7.6	13.2
1963	13 031	-	-	380.9	1 762	51.5	7.4	13.5
1964	12 557	-	-	358.3	1 441	41.1	8.7	11.5
1965	9 927	-	-	275.9	1 278	35.5	7.8	12.9
1966	11 427	-	-	314.8	1 515	41.7	7.5	13.3
1967	15 253	-	-	409.7	1 493	40.1	10.2	9.8
1968	9 792	-	-	257.5	1 483	39.0	6.6	15.2
1969	11 072	-	-	286.5	1 470	38.0	7.5	13.3
1970	10 077	-	-	254.5	1 436	36.3	7.0	14.3
1971	9 028	-	-	223.2	1 250	30.9	7.2	13.9
1972	8 420	-	-	204.2	1 312	31.8	6.4	15.6
1973	8 152	-	-	192.2	1 154	27.2	7.1	14.2
1974	8 320	-	-	190.0	974	22.2	8.5	11.7
1975	8 192	-	-	183.6	646	14.5	12.7	7.9
1976	7 928	-	-	175.5	568	12.6	14.0	7.2
1977	7 191	-	-	156.9	532	11.6	13.5	7.4
1978	6 623	-	-	141.9	420	9.0	15.8	6.3
1979	7 907	(498)	-	160.4	523	10.6	15.1	6.6
1980	8 065	(712)	-	159.3	551	10.9	14.6	6.8
1981	7 729	(254)	-	149.1	489	9.4	15.8	6.3
1982	7 527	(112)	-	143.0	454	8.6	16.6	6.0
1983	7 301	(73)	-	136.6	446	8.3	16.4	6.1
1984	7 843	(69)	-	145.3	420	7.8	18.7	5.4
1985	7 545	(59)	580	138.3	409	7.5	18.5	5.4
1986	7 432	(46)	544	134.5	407	7.4	18.3	5.5
1987	7 269	(41)	495	130.3	405	7.3	18.0	5.6
1988	7 021	(121)	433	124.8	388	6.9	18.1	5.5
1989	6 704	(226)	387	117.9	403	7.1	16.6	6.0
1990	6 510	(288)	341	114.1	382	6.7	17.0	5.9
1991	6 283	(281)	293	109.2	409	7.1	15.4	6.5
1992	6 534	(309)	264	112.6	410	7.1	15.9	6.3
1993	6 537	(264)	89	110.8	396	6.7	16.5	6.1
1994	6 319	(230)	87	104.7	409	6.8	15.5	6.5
1995	6 212	(175)	102	100.9	418	6.8	14.9	6.7
1996	6 501	(88)	162	101.0	292	4.5	22.3	4.5
1997	7 072	(34)	156	109.0	252	3.9	28.1	3.6
1998	7 673	(7)	169	117.3	270	4.1	28.4	3.5
1999	7 512	(5)	166	113.7	312	4.7	24.1	4.2
2000	7 578	(7)	152	113.7	299	4.5	25.3	4.0
2001	7 262	(0)	192	108.2	311	4.6	23.4	4.3

Appendix 1 TB Notification & Death Rate of Tuberculosis (All Forms) from 1947 to 2022---*cont'd*

Year	TB Notifications			Notification Rate [3]	Number of Death [4]	Death Rate [5]	Ratio [6]	(Death / Notifications) x 100%
	Number	Vietnamese refugees [1]	Chinese immigrants [2]					
2002	6 602	(0)	186	97.9	267	4.0	24.7	4.0
2003	6 024	(0)	177	89.5	275	4.1	21.9	4.6
2004	6 226	(0)	110	91.8	286	4.2	21.8	4.6
2005	6 160	(0)	77	90.4	271	4.0	22.7	4.4
2006	5 766	(0)	58	84.1	294	4.3	19.6	5.1
2007	5 463	(0)	56	79.0	231	3.3	23.7	4.2
2008	5 635	(0)	67	81.0	229	3.3	24.6	4.1
2009	5 193	(0)	68	74.5	204	2.9	25.5	3.9
2010	5 093	(0)	80	72.5	191	2.7	26.7	3.8
2011	4 794	(0)	81	67.8	187	2.6	25.6	3.9
2012	4 858	(0)	100	67.9	199	2.8	24.4	4.1
2013	4 664	(0)	92	65.0	178	2.5	26.2	3.8
2014	4 705	(0)	85	65.1	187	2.6	25.2	4.0
2015	4 418	(0)	82	60.6	169	2.3	26.1	3.8
2016	4 346	(0)	67	59.2	160	2.2	27.2	3.7
2017	4 250	(0)	78	57.5	184	2.5	23.1	4.3
2018	4 268	(0)	92	57.3	190	2.5	22.5	4.5
2019	4 003	(0)	110	53.3	205	2.7	19.5	5.1
2020	3 656	(0)	83	48.9	200	2.7	18.3	5.5
2021	3 716	(0)	84	50.1	169	2.3	22.0	4.5
2022	3 200	(0)	47	43.6	183	2.5	17.5	5.7

Notes:

(1) Figures in brackets denote the number of Vietnamese refugees included.

(2) Figures of Chinese immigrants denote the new arrivals from Mainland having resided in Hong Kong for less than 7 years.

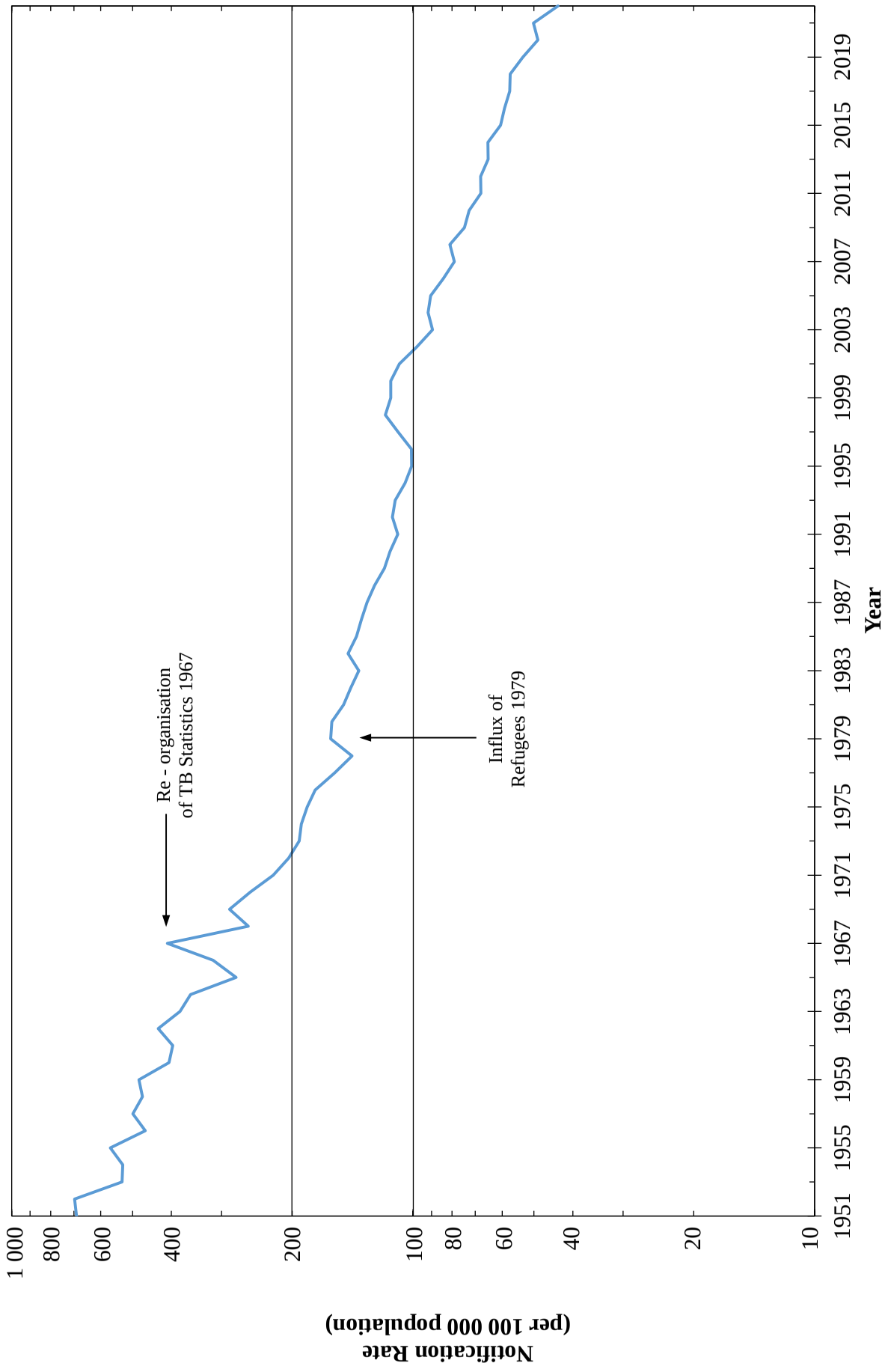
(3) Notification rate per 100 000 population.

(4) Data source: Death Registry, Department of Health.

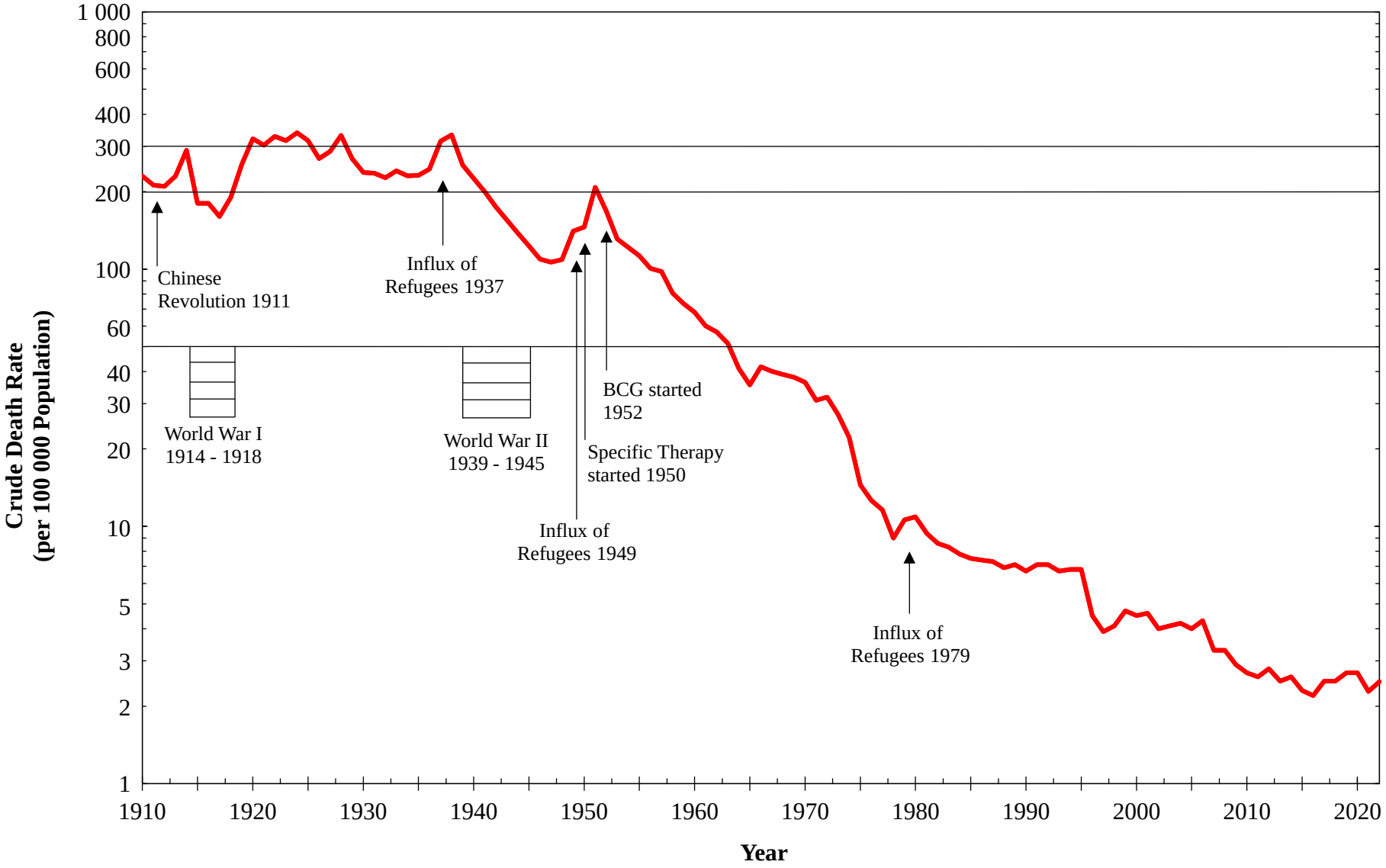
(5) Death rate per 100 000 population.

(6) Ratio of Tuberculosis notifications per death.

Appendix 2 TB Notification Rate (All Forms) from 1951 to 2022



Appendix 3 Crude Death Rate due to Tuberculosis (All forms) from 1910 to 2022



Appendix 4(a) Tuberculosis (All Forms) Notification and Rate by Sex and Age 2022

Age group	TB notifications			Notification rate [(1)]		
	Male	Female	Total	Male	Female	Total
Under 1	0	0	0	1.83	0.00	0.94
1	0	0	0			
2	1	0	1			
3	0	0	0			
4	1	0	1			
5 - 9	0	0	0	0.00	0.00	0.00
10 - 14	3	6	9	1.99	4.30	3.10
15 - 19	17	26	43	12.38	19.77	16.00
20 - 24	29	44	73	18.95	29.35	24.10
25 - 29	38	57	95	18.33	24.91	21.78
30 - 34	45	86	131	19.95	30.01	25.58
35 - 39	50	99	149	22.00	29.67	26.56
40 - 44	57	82	139	24.30	23.42	23.77
45 - 49	78	79	157	33.22	23.81	27.71
50 - 54	115	78	193	47.19	23.42	33.46
55 - 59	150	94	244	55.41	28.04	40.27
60 - 64	247	96	343	81.36	29.58	54.61
65 - 69	281	91	372	110.59	33.78	71.06
70 - 74	246	91	337	127.53	45.03	85.32
75 - 79	215	62	277	200.93	54.34	125.28
80 - 84	186	47	233	241.25	57.18	146.26
85 & over	277	126	403	320.23	87.80	175.22
All age groups	**2 036**	**1 164**	**3 200**	**60.69**	**29.16**	**43.56**

Note:
(1) Notification rate per 100 000 population.

Appendix 4(b) Pulmonary Tuberculosis Notification by Sex and Age 2022

Age group	Pulmonary TB [1]			Bacteriologically [2] Positive Pulmonary TB			Smear Positive Pulmonary TB		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 1	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0
4	1	0	1	0	0	0	0	0	0
5 - 9	0	0	0	0	0	0	0	0	0
10 - 14	3	5	8	2	1	3	0	0	0
15 - 19	15	22	37	12	11	23	4	9	13
20 - 24	20	34	54	10	18	28	3	8	11
25 - 29	29	42	71	20	33	53	8	20	28
30 - 34	31	51	82	20	38	58	8	19	27
35 - 39	42	65	107	24	42	66	10	19	29
40 - 44	43	60	103	30	33	63	15	18	33
45 - 49	68	51	119	51	31	82	34	12	46
50 - 54	96	46	142	57	27	84	37	8	45
55 - 59	128	58	186	89	34	123	45	17	62
60 - 64	219	63	282	163	35	198	83	13	96
65 - 69	243	62	305	188	42	230	70	18	88
70 - 74	211	59	270	151	38	189	50	19	69
75 - 79	191	43	234	142	33	175	45	7	52
80 - 84	162	35	197	135	23	158	36	8	44
85 & over	237	99	336	189	77	266	52	14	66
All age groups	**1 739**	**795**	**2 534**	**1 283**	**516**	**1 799**	**500**	**209**	**709**

Notes:

(1) Pulmonary TB with or without extrapulmonary TB.

(2) Either smear or culture positive.

Appendix 4(c) Pulmonary Tuberculosis Notification Rate [1] by Sex and Age 2022

Age group	Pulmonary TB [2]			Bacteriologically [3] Positive Pulmonary TB			Smear Positive Pulmonary TB		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 4	0.9	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
5 - 9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 - 14	2.0	3.6	2.8	1.3	0.7	1.0	0.0	0.0	0.0
15 - 19	10.9	16.7	13.8	8.7	8.4	8.6	2.9	6.8	4.8
20 - 24	13.1	22.7	17.8	6.5	12.0	9.2	2.0	5.3	3.6
25 - 29	14.0	18.4	16.3	9.6	14.4	12.2	3.9	8.7	6.4
30 - 34	13.7	17.8	16.0	8.9	13.3	11.3	3.5	6.6	5.3
35 - 39	18.5	19.5	19.1	10.6	12.6	11.8	4.4	5.7	5.2
40 - 44	18.3	17.1	17.6	12.8	9.4	10.8	6.4	5.1	5.6
45 - 49	29.0	15.4	21.0	21.7	9.3	14.5	14.5	3.6	8.1
50 - 54	39.4	13.8	24.6	23.4	8.1	14.6	15.2	2.4	7.8
55 - 59	47.3	17.3	30.7	32.9	10.1	20.3	16.6	5.1	10.2
60 - 64	72.1	19.4	44.9	53.7	10.8	31.5	27.3	4.0	15.3
65 - 69	95.6	23.0	58.3	74.0	15.6	43.9	27.5	6.7	16.8
70 - 74	109.4	29.2	68.4	78.3	18.8	47.8	25.9	9.4	17.5
75 - 79	178.5	37.7	105.8	132.7	28.9	79.1	42.1	6.1	23.5
80 - 84	210.1	42.6	123.7	175.1	28.0	99.2	46.7	9.7	27.6
85 & over	274.0	69.0	146.1	218.5	53.7	115.7	60.1	9.8	28.7
All age groups	**51.8**	**19.9**	**34.5**	**38.2**	**12.9**	**24.5**	**14.9**	**5.2**	**9.7**

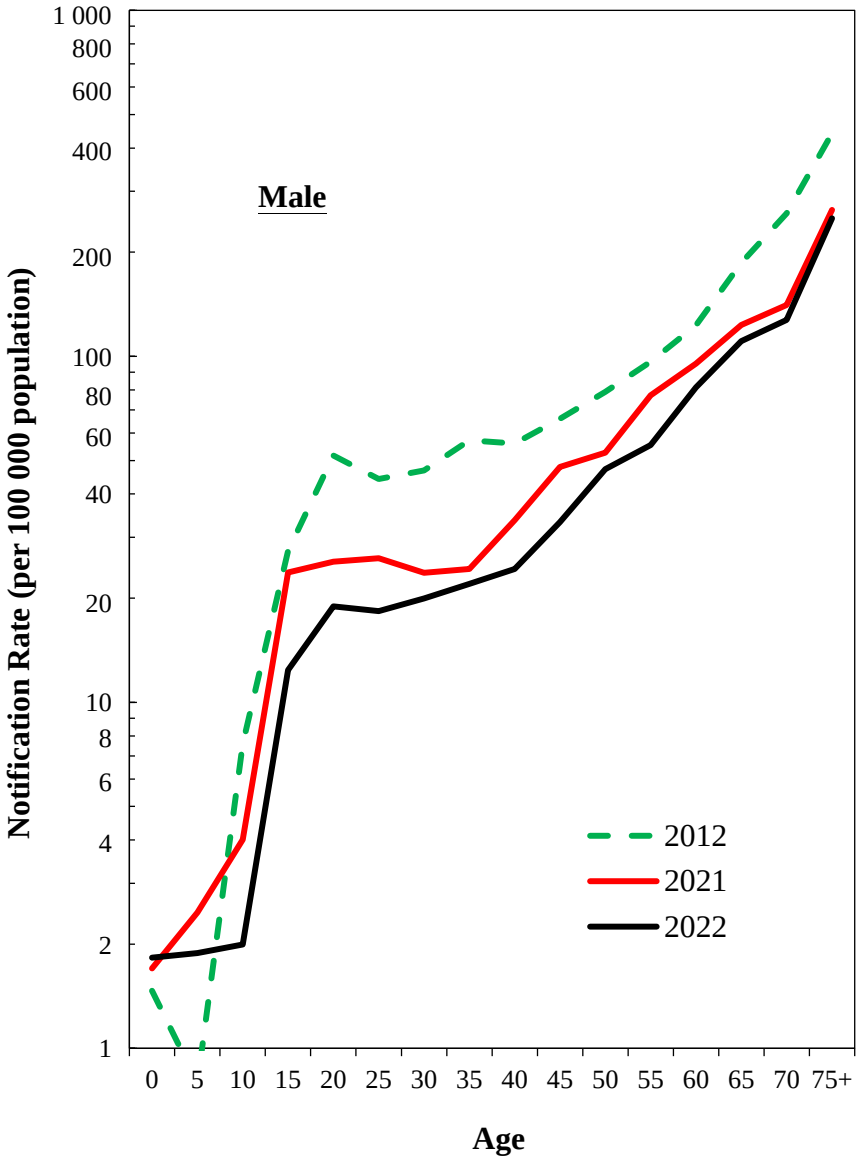
Notes:

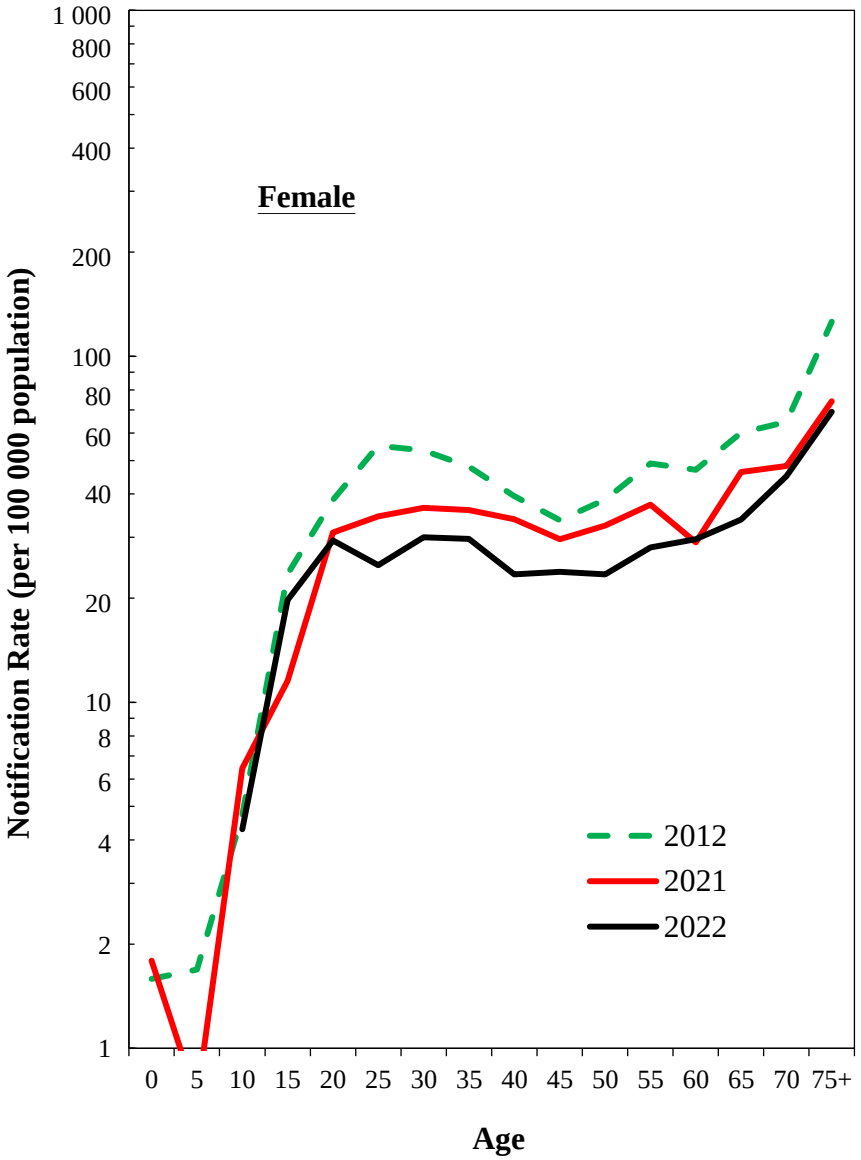
(1) Notification rate per 100 000 population.

(2) Pulmonary TB with or without extrapulmonary TB.

(3) Either smear or culture positive.

Appendix 5 Tuberculosis Notification Rate by Sex and Age 2012, 2021 and 2022





Appendix 6 Notification of TB by TB Types, Sex and Age 2022 [(1)]

Age group	Pulmonary [(2)]			Miliary			Meninges / CNS			Bones & Joints			Others [(3)]		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
5 - 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 - 14	2	2	4	0	0	0	0	0	0	0	0	0	1	4	5
15 - 19	13	14	27	0	1	1	0	1	1	1	0	1	3	10	13
20 - 24	17	25	42	0	0	0	0	0	0	2	0	2	10	19	29
25 - 29	22	35	57	0	1	1	2	0	2	0	0	0	14	21	35
30 - 34	26	44	70	1	0	1	2	0	2	1	3	4	16	39	55
35 - 39	32	50	82	3	0	3	1	1	2	1	1	2	15	47	62
40 - 44	36	48	84	0	0	0	4	0	4	1	1	2	16	33	49
45 - 49	57	47	104	2	1	3	1	1	2	2	0	2	16	30	46
50 - 54	77	35	112	3	2	5	3	0	3	2	1	3	30	40	70
55 - 59	105	44	149	1	2	3	1	1	2	2	3	5	41	44	85
60 - 64	185	52	237	2	1	3	4	2	6	4	2	6	56	39	95
65 - 69	201	48	249	1	1	2	2	2	4	4	4	8	73	36	109
70 - 74	176	51	227	5	0	5	0	0	0	7	5	12	60	35	95
75 - 79	162	35	197	2	2	4	2	1	3	2	5	7	47	19	66
80 - 84	134	28	162	2	0	2	2	2	4	3	1	4	45	16	61
85 & over	209	83	292	0	1	1	0	0	0	0	7	7	68	35	103
All age groups	**1 454**	**641**	**2 095**	**22**	**12**	**34**	**24**	**11**	**35**	**32**	**33**	**65**	**513**	**467**	**980**

Notes:

(1) The total number of all age groups in this table add up to greater than the notification number of 3 200 as some cases may have multiple extrapulmonary sites.

(2) Pulmonary TB only without co-existing Extrapulmonary TB.

(3) Other types of TB include:

TB Laryngitis	32
TB Lymph node	331
TB Peritonitis, intestines, mesenteric, appendicitis	81
TB Pleuritis, pleural effusion	411
TB Skin	25
TB Urogenital system	55
Unspecified	45

Appendix 7 Tuberculosis (All Forms) Deaths and Rate by Sex and Age 2022

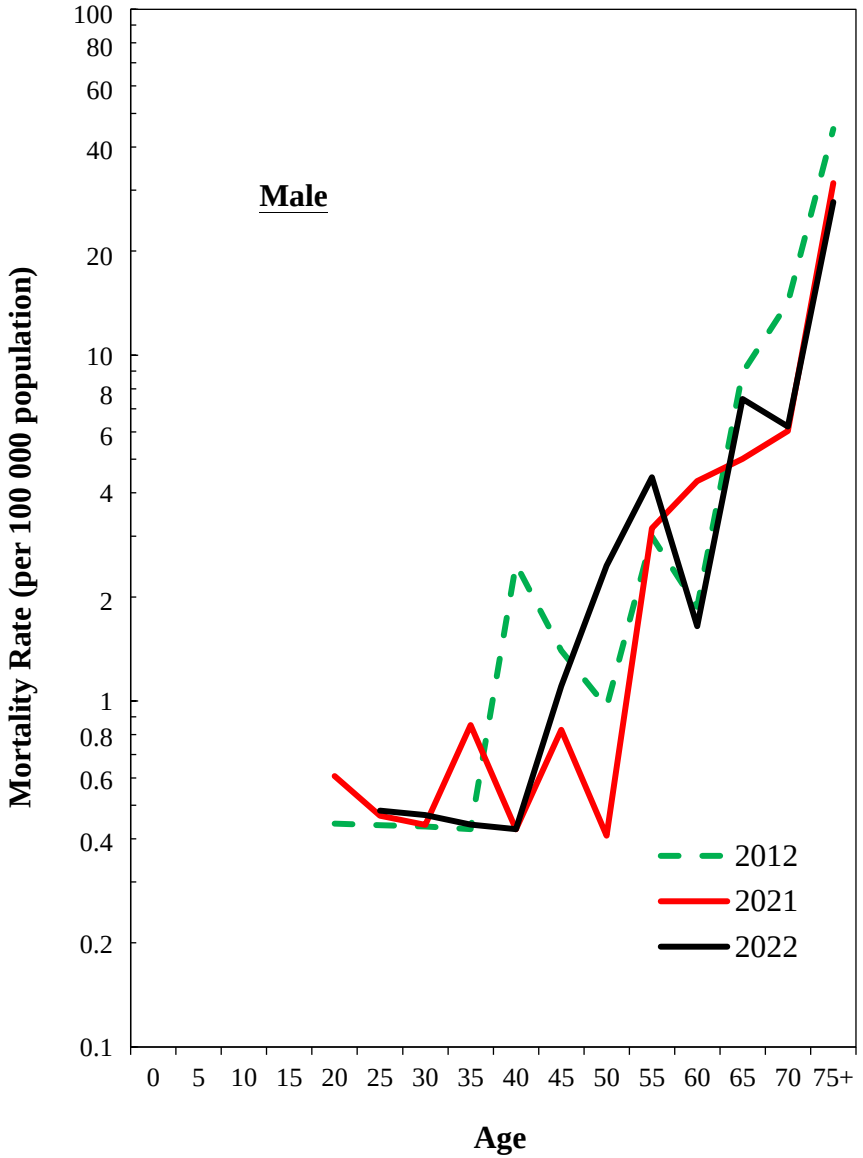
Age group	Tuberculosis (all forms) death [1]			Death rate [2]		
	Male	Female	Total	Male	Female	Total
Under 1	0	0	0	0.00	0.00	0.00
1	0	0	0			
2	0	0	0			
3	0	0	0			
4	0	0	0			
5 - 9	0	0	0	0.00	0.00	0.00
10 - 14	0	0	0	0.00	0.00	0.00
15 - 19	0	1	1	0.00	0.76	0.37
20 - 24	0	0	0	0.00	0.00	0.00
25 - 29	1	1	2	0.48	0.44	0.46
30 - 34	0	0	0	0.00	0.00	0.00
35 - 39	1	0	1	0.44	0.00	0.18
40 - 44	1	1	2	0.43	0.29	0.34
45 - 49	0	0	0	0.00	0.00	0.00
50 - 54	6	2	8	2.46	0.60	1.39
55 - 59	12	4	16	4.43	1.19	2.64
60 - 64	5	2	7	1.65	0.62	1.11
65 - 69	19	3	22	7.48	1.11	4.20
70 - 74	12	3	15	6.22	1.48	3.80
75 - 79	21	6	27	19.63	5.26	12.21
80 - 84	14	8	22	18.16	9.73	13.81
85 & over	40	20	60	46.24	13.94	26.09
All age groups	**132**	**51**	**183**	**3.94**	**1.28**	**2.49**

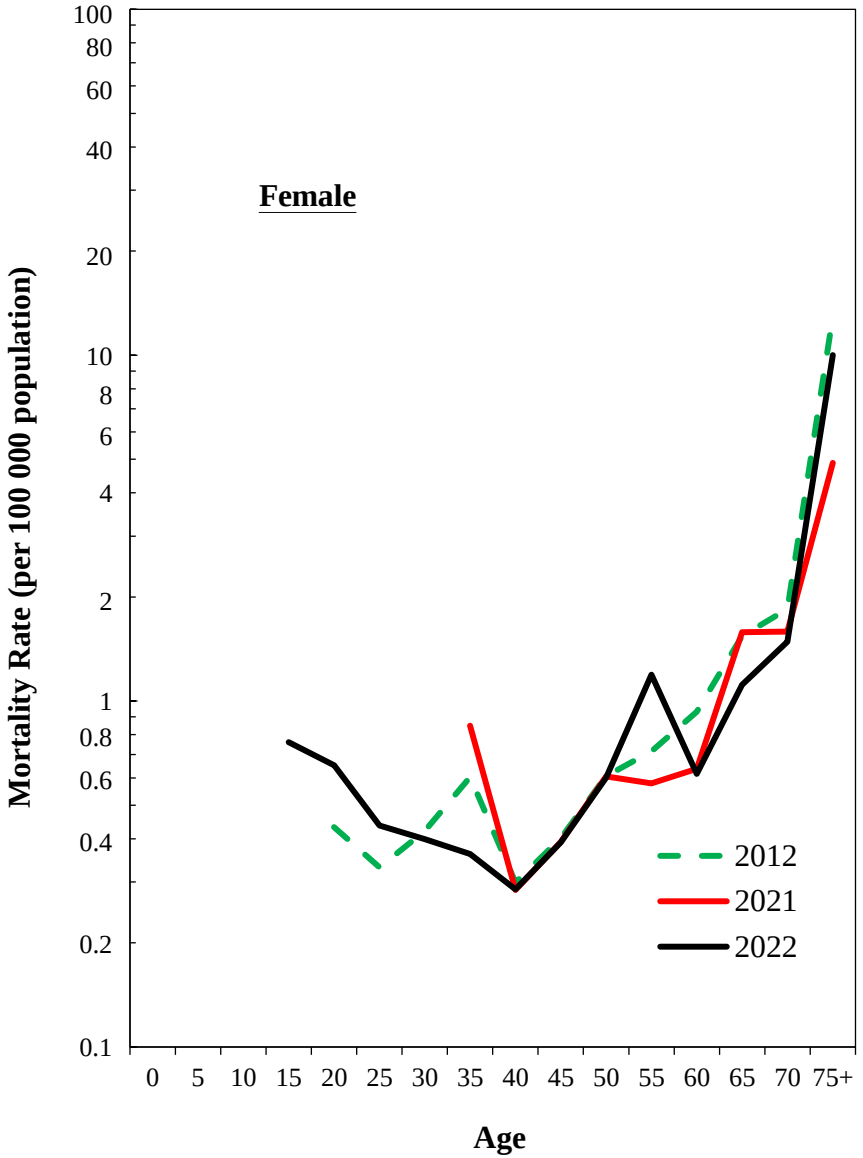
Notes:

(1) Data source: Death Registry, Department of Health.

(2) Death rate per 100 000 population.

Appendix 8 Tuberculosis Mortality Rate by Sex and Age 2012, 2021 and 2022





Appendix 9 Tuberculosis Deaths by TB Types, Sex and Age 2022 (1)

Age group	Pulmonary			Miliary			Meninges			Bones & Joints			Others (2)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 - 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 - 19	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
20 - 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 - 29	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0
30 - 34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 - 39	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
40 - 44	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0
45 - 49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50 - 54	4	2	6	1	0	1	1	0	1	0	0	0	0	0	0
55 - 59	10	3	13	1	0	1	0	1	1	0	0	0	1	0	1
60 - 64	5	1	6	0	0	0	0	1	1	0	0	0	0	0	0
65 - 69	16	1	17	2	0	2	0	1	1	0	0	0	1	1	2
70 - 74	11	2	13	1	0	1	0	0	0	0	0	0	0	1	1
75 - 79	18	4	22	0	1	1	1	1	2	0	0	0	2	0	2
80 - 84	12	7	19	0	1	1	1	0	1	0	0	0	1	0	1
85 & over	37	17	54	1	3	4	0	0	0	1	0	1	1	0	1
All age groups	**115**	**38**	**153**	**7**	**7**	**14**	**3**	**4**	**7**	**1**	**0**	**1**	**6**	**2**	**8**

Notes:

(1) Data source: Death Registry, Department of Health.

(2) The number of deaths in other types of TB include:

	Number
Tuberculosis of intestines, peritoneum and mesenteric glands	6
Tuberculosis of other specified organs	1
Sequelae of respiratory and unspecified tuberculosis	1
Total	8

Appendix 10 Tuberculosis Mortality from 1950 to 2022

Year	% of TB Death		Infant mortality rate [1] from TB	TB Deaths as % of Total Registered Deaths [2]	Average age of TB Death [2]
	Age under 5	Age under 1			
1950	38.34	9.81	5.3	17.7	24.0
1951	34.22	7.73	4.7	20.0	25.0
1952	34.28	7.05	3.5	18.4	25.0
1953	36.27	9.02	3.5	16.1	26.0
1954	31.26	8.17	2.8	14.9	29.0
1955	28.51	8.61	2.7	14.7	31.0
1956	25.22	7.34	2.0	13.6	32.0
1957	21.20	5.76	1.6	13.8	36.0
1958	19.64	7.04	1.5	11.2	36.5
1959	18.92	5.56	1.2	10.8	37.0
1960	10.55	2.21	0.4	10.9	43.0
1961	11.48	2.62	0.5	10.2	43.0
1962	5.74	1.44	0.2	9.3	46.0
1963	5.51	1.08	0.2	8.9	47.0
1964	4.09	0.90	0.1	8.0	48.0
1965	3.36	0.70	0.1	7.3	49.0
1966	2.71	0.73	0.1	8.1	53.0
1967	2.01	0.33	0.1	7.6	54.5
1968	1.15	0.20	0.0	7.7	56.5
1969	0.95	0.27	0.1	7.8	56.0
1970	0.63	0.00	0.0	6.9	57.5
1971	0.64	0.08	0.0	6.2	57.5
1972	0.30	0.15	0.0	6.2	59.0
1973	0.35	0.09	0.0	5.4	58.0
1974	0.82	0.21	0.0	4.4	58.5
1975	1.39	0.31	0.0	3.0	58.5
1976	0.70	0.00	0.0	2.4	59.5
1977	0.38	0.00	0.0	2.3	61.0
1978	0.48	0.24	0.0	1.8	61.0
1979	0.96	0.19	0.0	2.0	61.0
1980	0.73	0.18	0.0	2.1	62.0
1981	0.41	0.00	0.0	2.0	63.0
1982	0.22	0.00	0.0	1.8	63.0
1983	0.45	0.00	0.0	1.7	63.0
1984	0.24	0.24	0.0	1.6	64.5
1985	0.00	0.00	0.0	1.6	65.5
1986	0.00	0.00	0.0	1.6	68.0
1987	0.00	0.00	0.0	1.5	68.5
1988	0.52	0.26	0.0	1.4	69.0
1989	0.25	0.25	0.0	1.4	69.0
1990	0.52	0.52	0.0	1.3	69.0
1991	0.00	0.00	0.0	1.4	69.0
1992	0.00	0.00	0.0	1.3	68.0
1993	0.25	0.25	0.0	1.3	69.0
1994	0.00	0.00	0.0	1.4	71.0
1995	0.00	0.00	0.0	1.4	71.1
1996	0.00	0.00	0.0	0.9	70.6
1997	0.00	0.00	0.0	0.8	72.1
1998	0.37	0.00	0.0	0.8	72.6

Appendix 10 Tuberculosis Mortality from 1950 to 2022 *---cont'd*

Year	% of TB Death		Infant mortality rate [(1)] from TB	TB Deaths as % of Total Registered Deaths [(2)]	Average age of TB Death [(2)]
	Age under 5	Age under 1			
1999	0.00	0.00	0.0	0.9	72.9
2000	0.00	0.00	0.0	0.9	73.4
2001	0.00	0.00	0.0	0.9	74.3
2002	0.00	0.00	0.0	0.8	74.0
2003	0.36	0.00	0.0	0.8	72.3
2004	0.00	0.00	0.0	0.8	73.4
2005	0.00	0.00	0.0	0.7	74.3
2006	0.00	0.00	0.0	0.8	73.5
2007	0.00	0.00	0.0	0.6	74.2
2008	0.00	0.00	0.0	0.6	74.5
2009	0.00	0.00	0.0	0.5	73.7
2010	0.00	0.00	0.0	0.4	73.1
2011	0.00	0.00	0.0	0.4	77.3 [(3)]
2012	0.00	0.00	0.0	0.5	75.9
2013	0.00	0.00	0.0	0.4	74.1
2014	0.00	0.00	0.0	0.4	76.0
2015	0.00	0.00	0.0	0.4	75.6
2016	0.00	0.00	0.0	0.3	77.2
2017	0.00	0.00	0.0	0.4	75.4
2018	0.53	0.53	0.0	0.4	74.6
2019	0.00	0.00	0.0	0.4	77.0
2020	0.00	0.00	0.0	0.4	76.8
2021	0.00	0.00	0.0	0.3	74.7
2022	0.00	0.00	0.0	0.3	75.8

Notes:

(1) Infant mortality rate per 1 000 Registered Live Births.

(2) Data source: Death Registry, Department of Health.

(3) The average age of TB death is calculated by the exact age of TB death from 2011 onwards. Figures may be slightly different from previous years which were compiled basing on the age groups of TB death.

Appendix 11 Top Ten Causes of Death in Hong Kong 2022

Rank	Causes of Death	Detailed list no. ICD 10th Revision ^	Number of Deaths		
			Male	Female	Total %
	All Causes		34 295	27 261	61 557 (1)
1	Malignant neoplasms	C00-C97	8 399	6 318	14 717
2	Pneumonia	J12-J18	5 926	4 575	10 501
3	Coronavirus disease 2019 #	-	5 402	3 889	9 291
4	Diseases of heart	I00-I09, I11, I13, I20-I51	3 874	2 917	6 791
5	Cerebrovascular diseases	I60-I69	1 615	1 442	3 057
6	External causes of morbidity and mortality @	V01-Y89	1 250	711	1 961
7	Nephritis, nephrotic syndrome and nephrosis	N00-N07, N17-N19, N25-N27	891	918	1 809
8	Dementia	F01-F03	529	1 043	1 572
9	Septicaemia	A40-A41	592	621	1 213
10	Chronic lower respiratory diseases	J40-J47	891	234	1 125
	Tuberculosis (including late effects of tuberculosis)		132	51	183
	All other causes	Residues of all causes	4 794	4 542	9 337 (1)

Notes:

% Figures in brackets denote number of death of unknown sex included.

The ICD-10 disease code J98.8 has been adopted for Coronavirus disease 2019 (COVID-2019), which includes certain specific respiratory disorders other than COVID-19. In the table, only registered deaths where COVID-19 was identified as the cause were included in the statistics corresponding to COVID-19.

^ Classification of diseases and causes of death is based on the International Statistical Classification of Diseases and Related Health Problems (ICD) 10th Revision from 2001 onwards.

@ According to the ICD 10th Revision, when the morbid condition is classifiable under Chapter XIX as "injury, poisoning and certain other consequences of external causes", the codes under Chapter XX for "external causes of morbidity and mortality" should be used as the primary cause of death.

Appendix 12(a) Sources of Tuberculosis Notification from 2012 to 2022

Clinic / Hospital	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
East Kowloon Chest Clinic	101	83	83	105	83	83	83	76	49	60	55
Kowloon Chest Clinic	154	167	127	95	98	98	94	65	74	60	58
Sai Ying Pun Chest Clinic	89	79	70	69	59	61	72	40	47	43	27
Shaukiwan Chest Clinic	65	74	66	72	56	45	67	42	37	33	35
Shaukiwan Pneumoconiosis	10	2	9	0	5	7	2	0	0	0	7
Shek Kip Mei Chest Clinic	101	95	80	89	83	70	66	44	38	32	49
South Kwai Chung Chest Clinic	158	122	127	103	98	99	106	69	79	70	87
Tai Po Chest Clinic	82	93	64	54	63	60	44	35	31	30	23
Wanchai Chest Clinic	110	113	95	89	83	88	71	56	47	53	58
Yan Oi Chest Clinic	144	146	104	105	109	100	75	84	69	70	63
Yaumatei Chest Clinic	132	112	101	92	82	81	91	72	54	42	60
Yuen Chau Kok Chest Clinic	108	110	98	80	80	81	73	75	55	67	59
Yung Fung Shee Chest Clinic	116	86	92	87	75	73	66	46	60	55	43
Castle Peak Hospital (Chest Clinic) [(1)]	2	0	0	0	-	-	-	-	-	-	-
Cheung Chau Chest Clinic	1	0	0	0	2	1	0	0	0	0	0
Sai Kung Chest Clinic	4	4	2	3	1	2	1	6	1	0	2
Sheung Shui Chest Clinic	21	30	33	22	30	29	31	18	18	13	12
Tung Chung Chest Clinic	9	11	11	9	21	12	17	19	6	7	7
Yuen Long Chest Clinic	39	66	51	67	53	59	48	36	34	35	33
Sub-total	1 446	1 393	1 213	1 141	1 081	1 049	1 007	783	699	670	678
Grantham Hospital	138	148	140	166	148	128	113	109	113	88	69
Haven of Hope Hospital	68	77	95	96	86	68	69	66	52	57	53
Kowloon Hospital	97	64	74	105	111	111	108	104	104	91	60
Ruttonjee Hospital	165	127	140	109	122	117	113	123	101	77	64
Wong Tai Sin Hospital	58	86	69	62	47	49	63	39	27	39	18
Other Govt. Institutions [(2)]	54	51	61	49	53	58	80	70	70	97	65
Other HA Hospitals	2 497	2 377	2 578	2 370	2 343	2 309	2 357	2 319	2 200	2 246	1 909
Private Practitioners	109	118	129	122	146	141	139	173	131	153	125
Private Hospitals	226	223	206	198	209	220	219	217	159	198	159
Total	4 858	4 664	4 705	4 418	4 346	4 250	4 268	4 003	3 656	3 716	3 200
% of cases from Chest Clinics among the total	29.8	29.9	25.8	25.8	24.9	24.7	23.6	19.6	19.1	18.0	21.2
% from Chest Hospitals [(3)]	10.8	10.8	11.0	12.2	11.8	11.1	10.9	11.0	10.9	9.5	8.3
% from Other Govt. Institutions & HA Hospitals	52.5	52.1	56.1	54.8	55.1	55.7	57.1	59.7	62.1	63.1	61.7
% from Private Sector	6.9	7.3	7.1	7.2	8.2	8.5	8.4	9.7	7.9	9.4	8.9

Notes:

(1) Castle Peak Hospital (Chest Clinic) ceased operation from 1 April 2015.

(2) Data sources are from Outpatient Clinics, Public Mortuaries and Prison Hospitals.

(3) Chest Hospitals include Kowloon Hospital, Wong Tai Sin Hospital, Ruttonjee Hospital, Grantham Hospital and Haven of Hope Hospital.

Appendix 12(b) Breakdown of Tuberculosis Notification from HA Hospitals (other than Chest Hospitals) 2022

Name of Hospital	Number of TB Notification
Alice Ho Miu Ling Nethersole Hospital	67
Bradbury Hospice	1
Caritas Medical Centre	126
Cheshire Home, Chung Hom Kok	1
Hong Kong Buddhist Hospital	9
Hong Kong Children's Hospital	2
Kwai Chung Hospital	1
Kwong Wah Hospital	137
North District Hospital	79
North Lantau Hospital	8
Our Lady of Maryknoll Hospital	3
Pamela Youde Nethersole Eastern Hospital	119
Pok Oi Hospital	92
Prince of Wales Hospital	190
Princess Margaret Hospital	158
Queen Elizabeth Hospital	168
Queen Mary Hospital	110
Shatin Hospital	9
Tai Po Hospital	2
Tin Shui Wai Hospital	25
Tseung Kwan O Hospital	110
Tuen Mun Hospital	188
Tung Wah Eastern Hospital	5
Tung Wah Group of Hospitals - Fung Yiu King Hospital	5
Tung Wah Hospital	6
United Christian Hospital	200
Yan Chai Hospital	88
Total	**1 909**

Appendix 13 Tuberculosis Notification and Notification Rate by District Council Districts 2022

District Council Districts [(1)]	Notification	Notification Rate [(2)]
Hong Kong Island	**504**	**43.56**
Central & Western	89	39.80
Wanchai	59	37.32
Eastern	210	40.52
Southern	146	56.81
Kowloon	**1 123**	**50.91**
Kowloon City	143	35.44
Kwun Tong	330	49.33
Sham Shui Po	233	53.87
Wong Tai Sin	226	55.89
Yau Tsim Mong	191	64.46
NT (East)	**734**	**36.46**
Islands	44	24.14
North	119	35.47
Sai Kung/Tseung Kwan O	183	37.13
Shatin	278	40.37
Tai Po	110	35.04
NT (West)	**825**	**41.90**
Kwai Tsing	262	53.37
Tsuen Wan	76	24.42
Tuen Mun	208	40.88
Yuen Long	279	42.39
Unknown	**14**	**-**
All Districts	**3 200**	**43.56**

Notes:
(1) Population source: Census and Statistics Department.
(2) Notification rate per 100 000 population.

Appendix 14 Establishment and Strength of Tuberculosis and Chest Service [(1)]

Post	Establishment	Strength
Consultant Chest Physician i/c	1	1
Consultant Chest Physician	1	1
Senior Medical & Health Officer	7	5
Medical & Health Officer	23	19
Senior Nursing Officer	1	0
Nursing Officer	15	12
Registered Nurse	75	70
Enrolled Nurse	74	69
Senior Dispenser	9	9
Dispenser	9	9
Executive Officer I	1	1
Statistical Officer II	3	3
Personal Secretary I	1	0
Clerical Officer	16	10
Assistant Clerical Officer	20	22
Clerical Assistant	57	52
Office Assistant	7	4
Workman II	43	43
Senior Radiographer	3	3
Radiographer I	9	7
Radiographer II	23	21
Radiographic Technician	2	0
Darkroom Technician (DT)	10	1

Note:

(1) Establishment and Strength as at 1.12.2022

Appendix 15 Total Attendance at Chest Clinics from 2012 to 2022

Clinic/Hospital	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
East Kowloon Chest Clinic	49 894	51 368	52 449	52 874	54 391	53 160	51 934	44 511	29 457	38 235	29 540
Kowloon Chest Clinic	50 666	52 766	52 423	45 953	45 938	46 887	41 671	39 824	27 042	32 512	25 695
Sai Ying Pun Chest Clinic	36 877	33 892	33 274	36 301	36 622	32 200	33 069	32 981	22 060	24 494	18 579
Shaukiwan Chest Clinic	40 600	42 335	44 417	45 789	42 426	37 176	41 212	36 847	22 732	28 912	22 299
Shaukiwan Pneumoconiosis	6 576	6 137	5 433	4 920	4 806	4 840	4 620	4 415	3 766	3 625	3 350
Shek Kip Mei Chest Clinic	47 853	49 164	51 852	48 142	47 816	47 374	42 544	35 852	26 910	33 024	18 227
South Kwai Chung Chest Clinic	78 785	75 062	73 740	78 403	73 985	67 149	65 577	64 475	47 908	57 156	46 058
Tai Po Chest Clinic	39 318	41 316	32 443	30 988	33 357	32 126	31 641	28 758	17 824	29 430	21 736
Wanchai Chest Clinic	46 777	47 901	49 276	43 900	45 326	42 857	39 552	33 359	24 457	33 697	26 641
Yan Oi Chest Clinic	67 804	64 184	60 278	60 770	61 780	64 016	67 621	67 664	44 535	53 510	42 335
Yaumatei Chest Clinic	62 688	61 905	60 937	57 835	58 938	55 234	50 246	52 632	37 475	51 400	40 027
Yuen Chau Kok Chest Clinic	59 542	67 573	60 396	51 136	56 538	63 228	58 485	53 972	40 180	48 115	36 788
Yung Fung Shee Chest Clinic	74 204	75 140	67 274	65 603	73 857	72 019	70 214	64 832	48 578	57 327	48 031
Castle Peak Hospital (ceased operation from 1 April 2015)	146	124	126	38	-	-	-	-	-	-	-
Cheung Chau Chest Clinic	1 349	1 356	1 273	1 562	1 139	1 781	1 415	1 317	1 046	944	602
Sai Kung Chest Clinic	1 546	1 542	1 371	1 513	1 385	1 248	1 383	1 304	1 255	932	558
Sheung Shui Chest Clinic	17 495	15 308	16 827	15 361	14 113	15 539	13 506	12 853	11 488	10 235	7 780
Tung Chung Chest Clinic	4 248	4 303	4 091	4 166	5 554	5 484	4 467	5 247	2 609	3 647	2 606
Yuen Long Chest Clinic	27 413	29 929	27 377	26 361	26 427	26 369	26 911	26 097	18 243	18 456	17 299
Hei Ling Chau ATC	190	240	162	127	117	130	121	82	43	41	64
Lai Chi Kok Reception Centre	365	279	250	278	234	245	242	192	113	48	42
Shek Pik Prison	140	192	184	199	189	159	152	113	110	72	74
Stanley Prison	529	488	443	360	367	282	234	208	138	118	132
Total	**715 005**	**722 504**	**696 296**	**672 579**	**685 305**	**669 503**	**646 817**	**607 535**	**427 969**	**525 930**	**408 463**

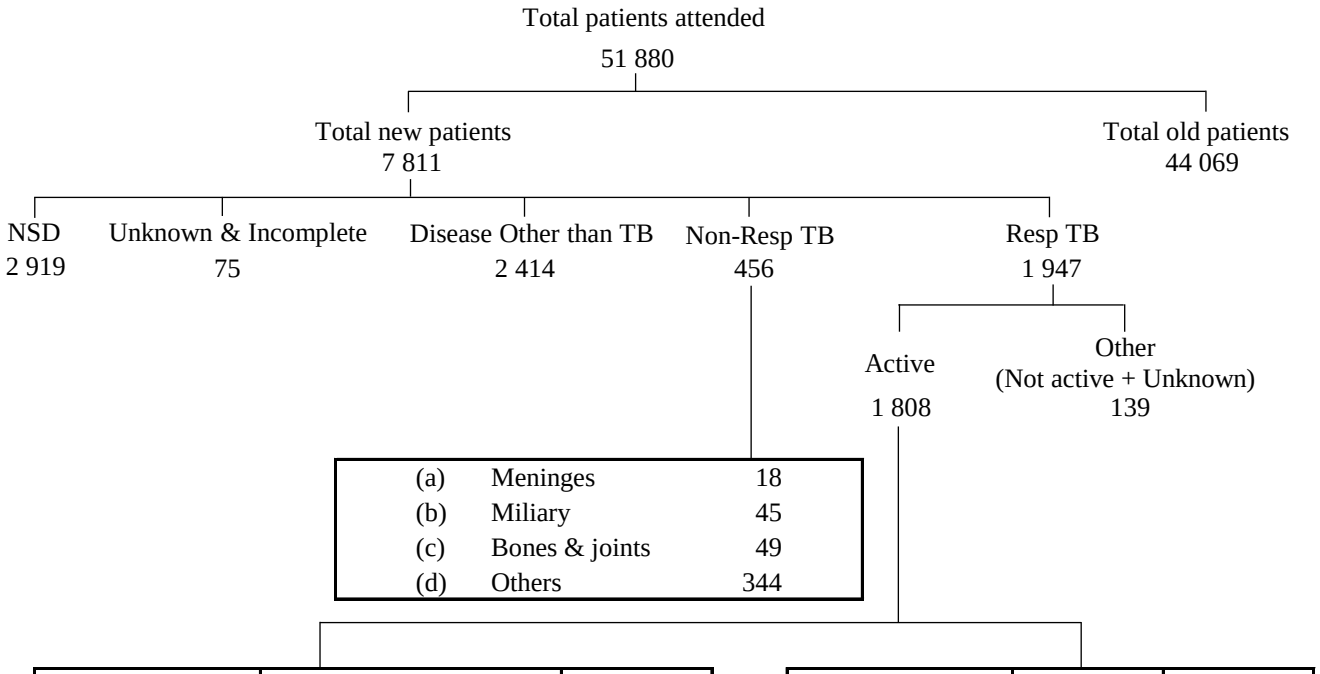
Appendix 16 Number of Doctor Sessions, Cases Seen by Doctor and Cases/Doctor Session 2022

Clinic/Institution	Doctor Sessions [(1)]	Cases Seen by Doctor	Cases/Doctor Session
Full Time Clinics			
East Kowloon	542	8 358	15
Kowloon	500	7 153	14
Sai Ying Pun	491	5 812	12
Shaukeiwan	491	6 094	12
Pneumoconiosis	431	3 350	8
Shek Kip Mei	411	3 321	8
South Kwai Chung	753	12 585	17
Tai Po	491	4 366	9
Wanchai	491	7 019	14
Yan Oi	768	12 631	16
Yaumatei	508	9 345	18
Yuen Chau Kok	623	10 512	17
Yung Fung Shee	588	10 929	19
Sub-total	**7 088**	**101 475**	**14**
Part Time Clinics			
Cheung Chau	24	142	6
Sai Kung	48	352	7
Sheung Shui	292	2 654	9
Tung Chung	147	852	6
Yuen Long	396	4 868	12
Sub-total	**907**	**8 868**	**10**
Institutions of Correctional Services Department			
Hei Ling Chau	12	64	5
Lai Chi Kok Reception Center	22	42	2
Shek Pik	10	74	7
Stanley Prison	24	132	6
Sub-total	**68**	**312**	**5**
All Clinic/Institution	**8 063**	**110 655**	**14**

Note:

(1) Doctor Sessions: One doctor for a half –day session.

Appendix 17 Diagnosis and Characteristics of Patients Attending Chest Clinics 2022



Bacteriology Sputum Culture	Extent	Number
Negative	Minimal	269
	Moderate	109
	Extensive	41
	Not Recorded	95
Positive	Minimal	595
	Moderate	343
	Extensive	213
	Not Recorded	29
Incomplete	Minimal	55
	Moderate	21
	Extensive	18
	Not Recorded	20

Bacteriology Sputum Culture	Cavity	Number
Negative	Yes	83
	No	431
Positive	Yes	309
	No	871
Incomplete	Yes	23
	No	91

A total of 51 880 patients attended, comprising 44 069 old cases and 7 811 new cases. Among new cases, 1 947 had respiratory TB with 1 808 being active, 456 had non-respiratory TB, 2 414 had diseases other than TB, 75 had unknown and incomplete diagnoses, and 2 919 had NSD (no specific diagnosis). Of the 456 new cases with non-respiratory TB, 18 had TB affecting meninges, 45 had miliary TB, 49 had TB affecting bones and joints, and 344 had TB affecting other sites.

Appendix 18(a) Classification of Diseases of First Attenders in 2022 according to International Classification of Diseases Code

Code		Classification	Number of Patients
ICD 9	ICD 10		
010	A15.7, A16.7	Primary Tuberculosis Infection	0
011	A15.0-15.3, A16.0-16.2, J65	Pulmonary Tuberculosis	1 598
012	A15.4-15.6, A15.8-15.9, A16.3-16.5, A16.8-16.9	Other Respiratory Tuberculosis	209
013	A17.0-17.1, A17.8, A17.9	Tuberculosis of Nervous System	18
014	A18.3	Tuberculosis of Intestines	59
015	A18.0, M49.0	Tuberculosis of Bones & Joints	49
016	A18.1	Tuberculosis of Genito-urinary System	28
017	A18.2, A18.4-18.8	Tuberculosis of Other Organs	258
018	A19.0-19.2, A19.8-19.9	Miliary Tuberculosis	45
137	B90.0-90.2, B90.8-90.9	Late effects of Tuberculosis	139
V74.1, 795.5, V07.3	Z11.1, Z11.7, Z22.7, Z29.2, Z86.15, R76.1	Special Screening Examination for Respiratory Tuberculosis, Testing for Latent Tuberculosis Infection, Chemoprophylaxis	2 624
158, 163, 164, 501, 502, 505	C45.0-C45.2, C45.7, C45.9, J61, J62, J62.0, J62.8, J64	Pneumoconiosis / Silicosis / Asbestosis / Mesothelioma	51
160-165, 197	C30-39, C34.0-34.3, C34.8-34.9, C78.0, C78.2	Malignant Neoplasm of Respiratory System	57
212	D14.0-14.4	Benign Neoplasm of Respiratory System	0
031	A31.0-A31.1, A31.8-A31.9	Infection due to other mycobacterium	33
460-466	J00-06, J02.0, J02.8-02.9, J03.0, J03.9, J04.0-04.2, J05.0-05.1, J06.0-06.9	Acute Respiratory Infection	72
470-478	J30-39, J30.0-30.4, J39.8-39.9	Other Diseases of Upper Resp Tract	5
480-486	J12-18, J12.9, J15.0-15.2, J15.5-15.9, J16-18.9, J22, J69.0	Pneumonia	163
487	J09, J10.0-10.1, J10.8, J11.0-11.1, J11.8	Influenza	0
490-491	J40, J41.0-41.1, J41.8, J42	Bronchitis, (not specified as acute or chronic) & chronic brochitis	107
492	J43, J43.0-43.2, J43.8-43.9	Emphysema	2
493	J45, J45.0-45.1, J45.8-45.9, J46	Asthma	9
494	J47	Bronchiectasis	59
495-496	J44, J44.0-44.1, J44.8-44.9	Chronic obstructive pulmonary disease	9
510, 511	J86, J90	Pyothorax (Empyema), Pleurisy	16
512	J93, J93.0-93.1, J93.8-93.9	Pneumothorax	1
503, 513-519	J63, J95, J96, J98, J99, M05.1, M31.3, M32.1, M33.0-M33.2, M34.8	Other Diseases of Respiratory System	0
786	R04-09	Miscellaneous conditions	612
V71	Z00.0, Z01.6, Z02, Z02.1-02.2, Z02.6-02.9, Z71.1	N.S.D.	324
		Diseases Other than TB & Resp System not classified above	1 264
Total			7 811

NB:
Above is a crude mapping of some of the codings in ICD9 to ICD10 as a reference only. Such mapping may result in misclassification of some cases.

Appendix 18(b) Characteristics of Active Respiratory Tuberculosis in First Attenders at Chest Clinics from 2020 to 2022

Extent of diseases on Chest X-ray #	2020		2021		2022	
	Number	%	Number	%	Number	%
1. Minimal	1 040	49.9	1 151	52.7	919	50.8
2. Moderate	534	25.6	561	25.7	473	26.2
3. Extensive	325	15.6	318	14.6	272	15.0
4. Not Recorded	186	8.9	154	7.1	144	8.0
Total	2 085	100.0	2 184	100.0	1 808	100.0
Number of first attenders	8 679		9 066		7 811	
Percentage of active respiratory TB	24.0		24.1		23.1	

Notes:

\# 1. Minimal : Less than right upper lobe
2. Moderate : More than right upper lobe
3. Extensive : More than a lung

Sputum Result in 2022	Number	%
Smear +	445	24.6
Smear - Culture +	743	41.2
Smear - Culture -	498	27.5
Incomplete	122	6.7
Total	**1 808**	**100.0**

Appendix 19(a1) Rate of Drug-resistant Tuberculosis

Among cases registered during the period January to December 2022 (Data from PHLC)

Age Group	Category [@]	% monoresistance to				% resistance to *			MDR-TB %	Total % resistance [#]	Total no. of cases analysed
		E	R	H	S	1 drug	2 drugs	≥ 3 drugs			
0 - 19	New cases	0.00	0.00	0.00	8.57	8.57	8.57	0.00	0.00	17.14	35
	Previously treated cases	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	Overall	0.00	0.00	0.00	8.57	8.57	8.57	0.00	0.00	17.14	35
20 - 39	New cases	0.00	0.66	2.66	5.32	8.64	2.66	0.66	1.66	11.96	301
	Previously treated cases	9.09	9.09	0.00	0.00	18.18	0.00	9.09	9.09	27.27	11
	Overall	0.32	0.96	2.56	5.13	8.97	2.56	0.96	1.92	12.50	312
40 - 59	New cases	0.00	0.00	1.47	5.24	6.71	2.94	0.42	1.05	10.06	477
	Previously treated cases	0.00	0.00	0.00	0.00	0.00	18.75	12.50	12.50	31.25	16
	Overall	0.00	0.00	1.42	5.07	6.49	3.45	0.81	1.42	10.75	493
60 up	New cases	0.07	0.14	2.41	5.38	8.00	2.83	0.34	0.48	11.17	1 450
	Previously treated cases	0.00	0.92	7.34	6.42	14.68	6.42	0.00	0.00	21.10	109
	Overall	0.06	0.19	2.76	5.45	8.47	3.08	0.32	0.45	11.87	1 559
All	New cases	0.04	0.18	2.21	5.39	7.82	2.92	0.40	0.75	11.14	2 263
	Previously treated cases	0.74	1.47	5.88	5.15	13.24	7.35	2.21	2.21	22.79	136
	Overall	0.08	0.25	2.42	5.38	8.13	3.17	0.50	0.83	11.80	2 399

Notes:

E = ethambutol; R = rifampicin; H = isoniazid; S = streptomycin

* % resistant to one, two or more than two of the four drugs E, R, H and S

\# Total % resistance: resistant to at least one of the four drugs E, R, H and S

@ New cases: for cases with no / unknown past history of anti-tuberculosis treatment

Previously treated cases: for cases with past history of anti-tuberculosis treatment

Overall: for all cases

NB:

The figures are based on phenotypic testing results only.

Appendix 19(a2) Rate of Drug-resistant Tuberculosis

Among cases with date of starting treatment during the period

January to December 2022

	New case		Previously treated cases		Combined	
	N	%	N	%	N	%
Total Number of strains tested	2 263	100	136	100	2 399	100
Susceptible to all 4 drugs	2 011	88.86	105	77.21	2 116	88.20
Any resistance	252	11.14	31	22.79	283	11.80
H	125	5.52	21	15.44	146	6.09
R	21	0.93	5	3.68	26	1.08
E	8	0.35	1	0.74	9	0.38
S	185	8.17	20	14.71	205	8.55
Monoresistance	177	7.82	18	13.24	195	8.13
H	50	2.21	8	5.88	58	2.42
R	4	0.18	2	1.47	6	0.25
E	1	0.04	1	0.74	2	0.08
S	122	5.39	7	5.15	129	5.38
Multidrug resistance	17	0.75	3	2.21	20	0.83
H+R	9	0.40	0	0.00	9	0.38
H+R+E	1	0.04	0	0.00	1	0.04
H+R+S	4	0.18	3	2.21	7	0.29
H+R+E+S	3	0.13	0	0.00	3	0.13
Other patterns	58	2.56	10	7.35	68	2.83
H+E	2	0.09	0	0.00	2	0.08
H+S	55	2.43	10	7.35	65	2.71
H+E+S	1	0.04	0	0.00	1	0.04
R+E	0	0.00	0	0.00	0	0.00
R+S	0	0.00	0	0.00	0	0.00
R+E+S	0	0.00	0	0.00	0	0.00
E+S	0	0.00	0	0.00	0	0.00
Number of drugs resistant to:						
0 drug	2 011	88.86	105	77.21	2 116	88.20
1 drug	177	7.82	18	13.24	195	8.13
2 drugs	66	2.92	10	7.35	76	3.17
3 drugs	6	0.27	3	2.21	9	0.38
4 drugs	3	0.13	0	0.00	3	0.13

Appendix 19(b1) Trend of anti-TB drug resistance from 2003 to 2022 (1)

New case

(Percentage)	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Ethambutol	0.42	0.34	0.54	0.35	0.12	0.45	0.26	0.25	0.33	0.70	0.54	0.65	0.54	0.50	0.73	0.52	0.44	0.52	0.47	0.35
Rifampicin	0.69	0.75	0.83	0.86	0.46	0.64	0.90	0.78	0.88	0.95	1.03	0.85	0.92	0.78	0.89	1.12	0.70	0.60	0.78	0.93
Isoniazid	4.64	3.65	4.16	4.13	3.79	4.33	4.19	4.86	4.18	4.66	4.39	5.33	4.90	5.80	6.17	5.20	5.23	5.12	5.33	5.52
Streptomycin	7.59	6.90	6.72	6.00	7.47	6.89	8.04	7.61	7.32	9.48	8.22	9.36	9.30	8.91	9.11	8.03	7.71	7.41	7.55	8.17
MDR-TB	0.46	0.48	0.51	0.55	0.31	0.30	0.67	0.70	0.63	0.74	0.70	0.68	0.54	0.50	0.63	0.73	0.63	0.48	0.58	0.75
Total % resistance	10.54	8.84	9.33	8.64	9.32	9.41	10.59	9.88	10.08	11.67	10.72	12.47	11.98	11.43	12.28	11.03	10.46	10.37	10.62	11.14

Previously treated cases

(Percentage)	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Ethambutol	2.19	2.14	3.92	1.61	0.90	2.65	0.47	2.56	0.00	1.70	0.99	4.73	2.50	2.27	1.69	1.42	1.68	0.57	0.00	0.74
Rifampicin	3.41	4.29	3.64	2.90	2.10	3.53	1.73	4.47	2.84	4.08	2.22	5.09	3.13	4.17	3.37	4.25	2.23	1.14	2.60	3.68
Isoniazid	9.00	10.46	8.68	10.00	9.31	10.00	6.45	9.58	6.38	10.54	6.17	12.73	13.75	12.88	9.55	12.74	15.64	6.25	7.14	15.44
Streptomycin	9.25	11.26	10.08	9.35	11.11	9.12	8.49	13.42	10.28	13.95	10.62	13.09	15.63	13.64	12.92	9.91	15.64	6.82	10.39	14.71
MDR-TB	2.92	3.75	2.52	2.90	2.10	2.94	1.57	4.15	2.13	3.74	1.98	4.00	3.13	3.41	3.37	4.25	2.23	0.57	1.95	2.21
Total % resistance	14.11	16.35	14.29	13.55	15.32	15.59	12.26	17.25	12.06	18.71	13.58	20.73	21.25	19.32	15.73	16.98	22.91	11.93	13.64	22.79

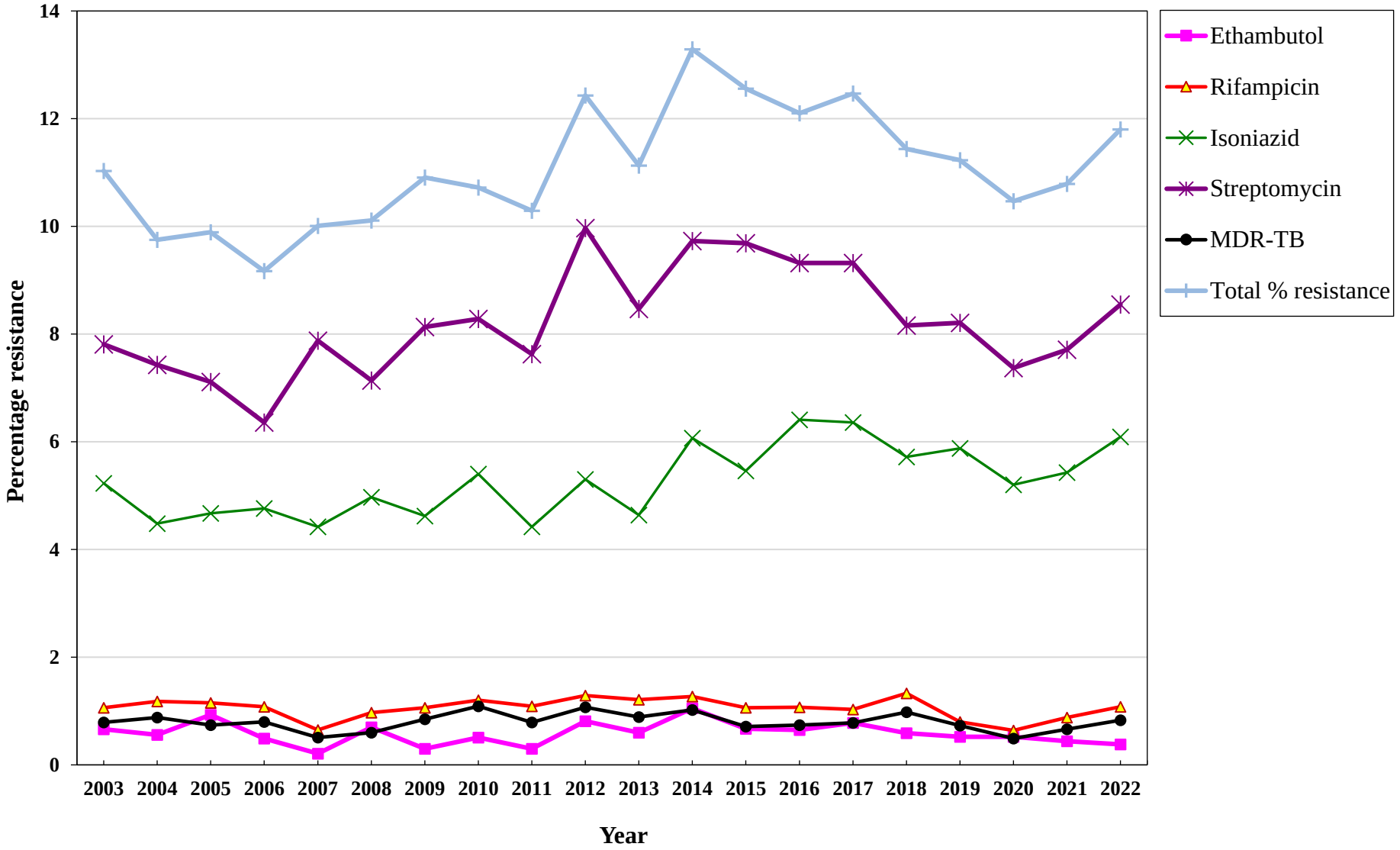
Overall

(Percentage)	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Ethambutol	0.66	0.56	0.93	0.49	0.21	0.70	0.30	0.51	0.30	0.81	0.60	1.05	0.67	0.65	0.78	0.59	0.52	0.52	0.44	0.38
Rifampicin	1.06	1.18	1.15	1.08	0.65	0.97	1.06	1.20	1.09	1.29	1.21	1.27	1.06	1.07	1.03	1.33	0.80	0.64	0.88	1.08
Isoniazid	5.23	4.48	4.67	4.76	4.42	4.97	4.62	5.40	4.42	5.30	4.64	6.07	5.46	6.41	6.36	5.72	5.88	5.20	5.43	6.09
Streptomycin	7.81	7.43	7.11	6.36	7.88	7.14	8.13	8.28	7.63	9.97	8.47	9.73	9.69	9.32	9.32	8.16	8.21	7.37	7.71	8.55
MDR-TB	0.79	0.88	0.74	0.80	0.51	0.60	0.85	1.09	0.79	1.07	0.89	1.02	0.71	0.74	0.78	0.98	0.73	0.49	0.66	0.83
Total % resistance	11.03	9.75	9.89	9.17	10.01	10.11	10.91	10.72	10.29	12.43	11.13	13.29	12.56	12.10	12.47	11.44	11.23	10.47	10.79	11.80

Note:

(1) 2003 - 2015: Data from Programme Record Forms; 2016 – 2022: Data from Public Health Laboratory Centre

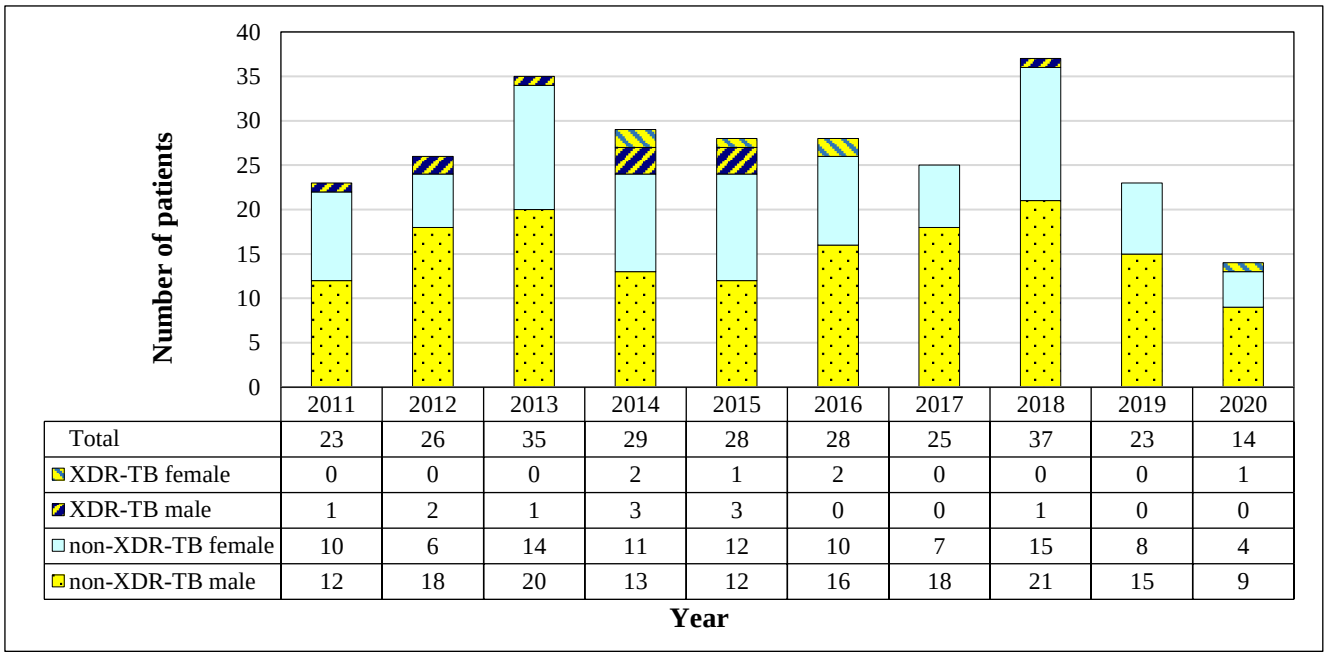
Appendix 19(b2) Trend of Overall anti-TB drug resistance from 2003 to 2022



Appendix 19(c) MDR-TB and XDR-TB from 2011 to 2020

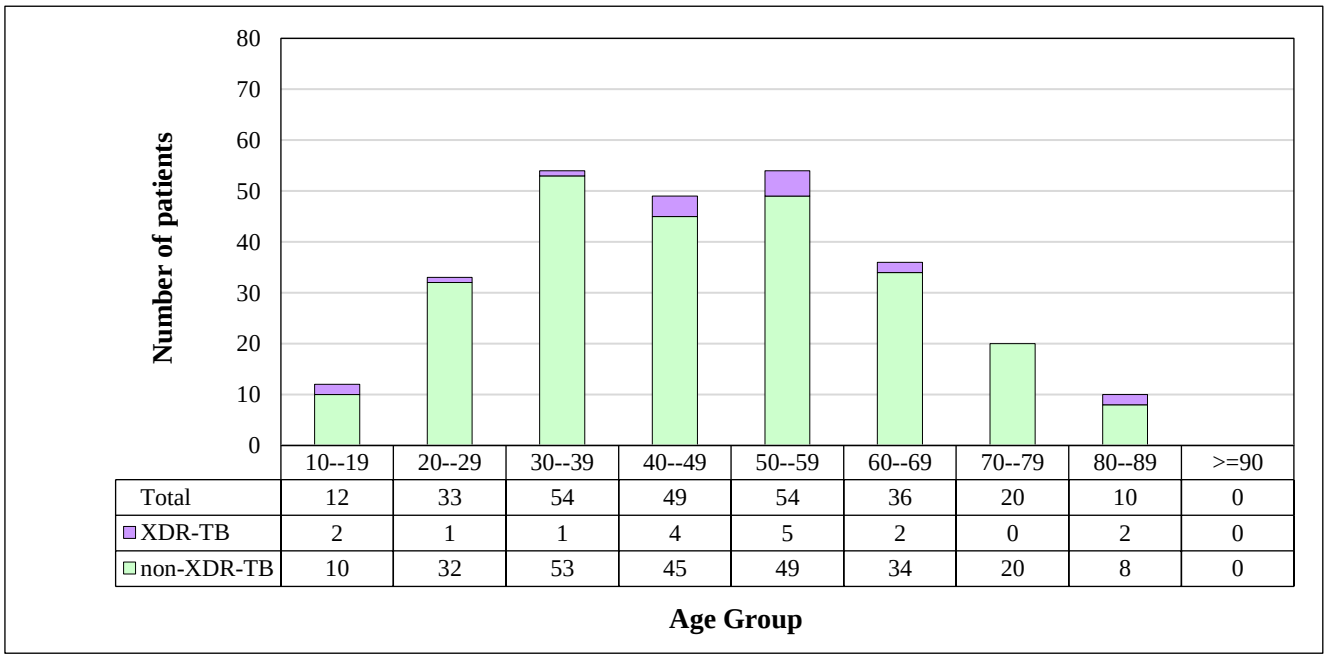
Cases of MDR-TB and XDR-TB are identified from four main sources: (1) Programme forms; (2) MDR-TB registry; (3) Prison registry; (4) TB Reference Laboratory. The year to which the case belongs is defined as the year of starting treatment with second-line anti-TB drugs, or if treatment has not been started (e.g., patients died, or no effective second-line drugs are available for treatment), it is defined as the year of reporting MDR-TB. Since 2014, MDR-TB cases have been counted according to the year of TB notification.

Figure 1: MDR-TB and XDR-TB by Sex and Year



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total	23	26	35	29	28	28	25	37	23	14
XDR-TB female	0	0	0	2	1	2	0	0	0	1
XDR-TB male	1	2	1	3	3	0	0	1	0	0
non-XDR-TB female	10	6	14	11	12	10	7	15	8	4
non-XDR-TB male	12	18	20	13	12	16	18	21	15	9

Figure 2: MDR-TB and XDR-TB by Age from 2011 to 2020



	10--19	20--29	30--39	40--49	50--59	60--69	70--79	80--89	>=90
Total	12	33	54	49	54	36	20	10	0
XDR-TB	2	1	1	4	5	2	0	2	0
non-XDR-TB	10	32	53	45	49	34	20	8	0

Definitions:
- MDR-TB = multidrug-resistant tuberculosis [resistant to at least isoniazid and rifampicin]
- XDR-TB = extensively drug-resistant tuberculosis [resistant to any fluoroquinolone, and at least one of the three injectable second-line drugs (capreomycin, kanamycin, and amikacin), in addition to MDR-TB]
- non-XDR-TB = MDR-TB excluding XDR-TB cases.

Appendix 19(d) Revised Definition of Extensively Drug-resistant Tuberculosis since 2021 [(1)]

WHO proposed a new definition for pre-XDR-TB and the revised definition for XDR-TB from 2021 onwards. For reporting purposes, MDR-TB and RR-TB are often grouped together as MDR/RR-TB. This includes patients with isolates that are resistant to rifampicin only and those that fulfil the definition of MDR-TB.

Definition of pre-XDR-TB and updated definition of XDR-TB

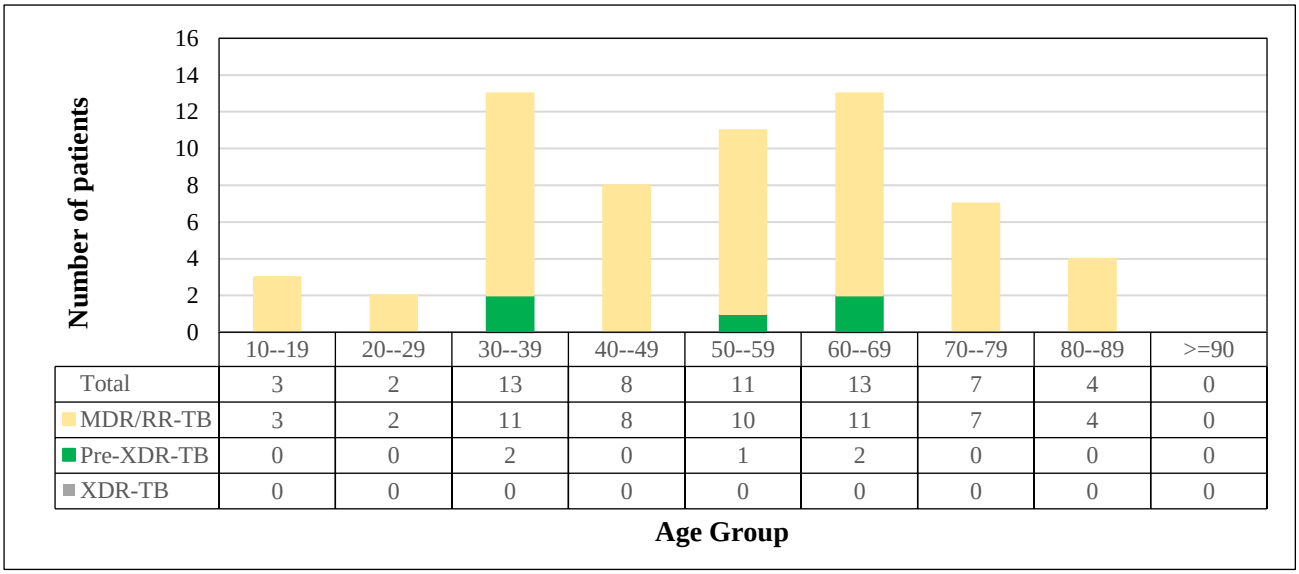
Pre-XDR-TB: TB caused by Mycobacterium tuberculosis strains that fulfill the definition of MDR/RR-TB and that are also resistant to any fluoroquinolone [(2)].

XDR-TB: TB caused by Mycobacterium tuberculosis strains that fulfill the definition of MDR/RR-TB and that are also resistant to any fluoroquinolone [(2)] and at least one additional Group A drug [(3)].

Figure 3: MDR/RR-TB, Pre-XDR-TB and XDR-TB by Sex and Year from 2021 to 2022

Year	MDR/RR-TB		Pre-XDR-TB		XDR-TB		Total
	Female	Male	Female	Male	Female	Male	
2021	9	19	1	2	0	0	31
2022	6	22	0	2	0	0	30

Figure 4: MDR/RR-TB, Pre-XDR-TB and XDR-TB by Age from 2021 to 2022



	10--19	20--29	30--39	40--49	50--59	60--69	70--79	80--89	>=90
Total	3	2	13	8	11	13	7	4	0
MDR/RR-TB	3	2	11	8	10	11	7	4	0
Pre-XDR-TB	0	0	2	0	1	2	0	0	0
XDR-TB	0	0	0	0	0	0	0	0	0

Notes:

(1) Reference: Meeting report of the WHO expert consultation on the definition of extensively drug-resistant tuberculosis 27-29 October 2020.

(2) The fluoroquinolones include levofloxacin and moxifloxacin.

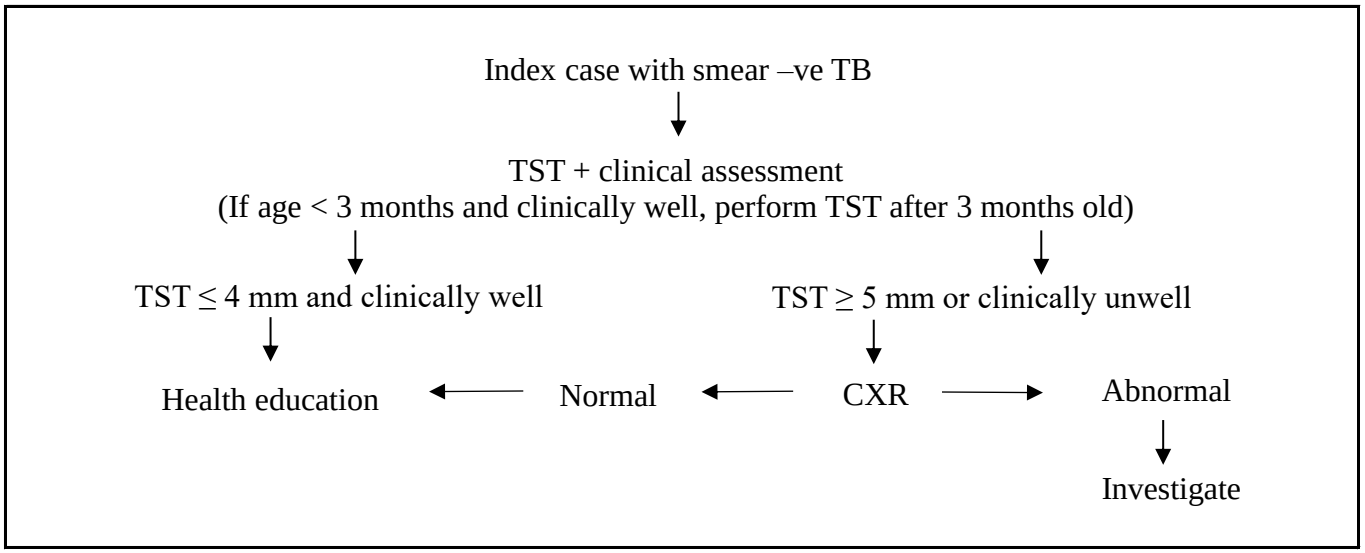
(3) Group A drugs are currently levofloxacin or moxifloxacin, bedaquiline and linezolid; therefore, XDR-TB is MDR/RR-TB that is resistant to a fluoroquinolone and either bedaquiline or linezolid (or both). The Group A drugs may change in the future.

Appendix 20(a) Scheme for Investigation of Close Contacts (Household) in the Tuberculosis & Chest Service, Department of Health (Last updated Jul 2018)

Scenario	Strategy
Index case is smear-negative and the close contact < 5 years old	Tuberculin skin test, with chest X-ray if the test reads 5 mm or more
Index case is smear-negative and the close contact aged 5 years or more	Chest X-ray
Index case is smear-positive and the close contact < 65 years old *	Chest X-ray and tuberculin skin test, with treatment of latent TB infection if appropriate
Index case is smear-positive and the close contact aged 65 years or more	Chest X-ray

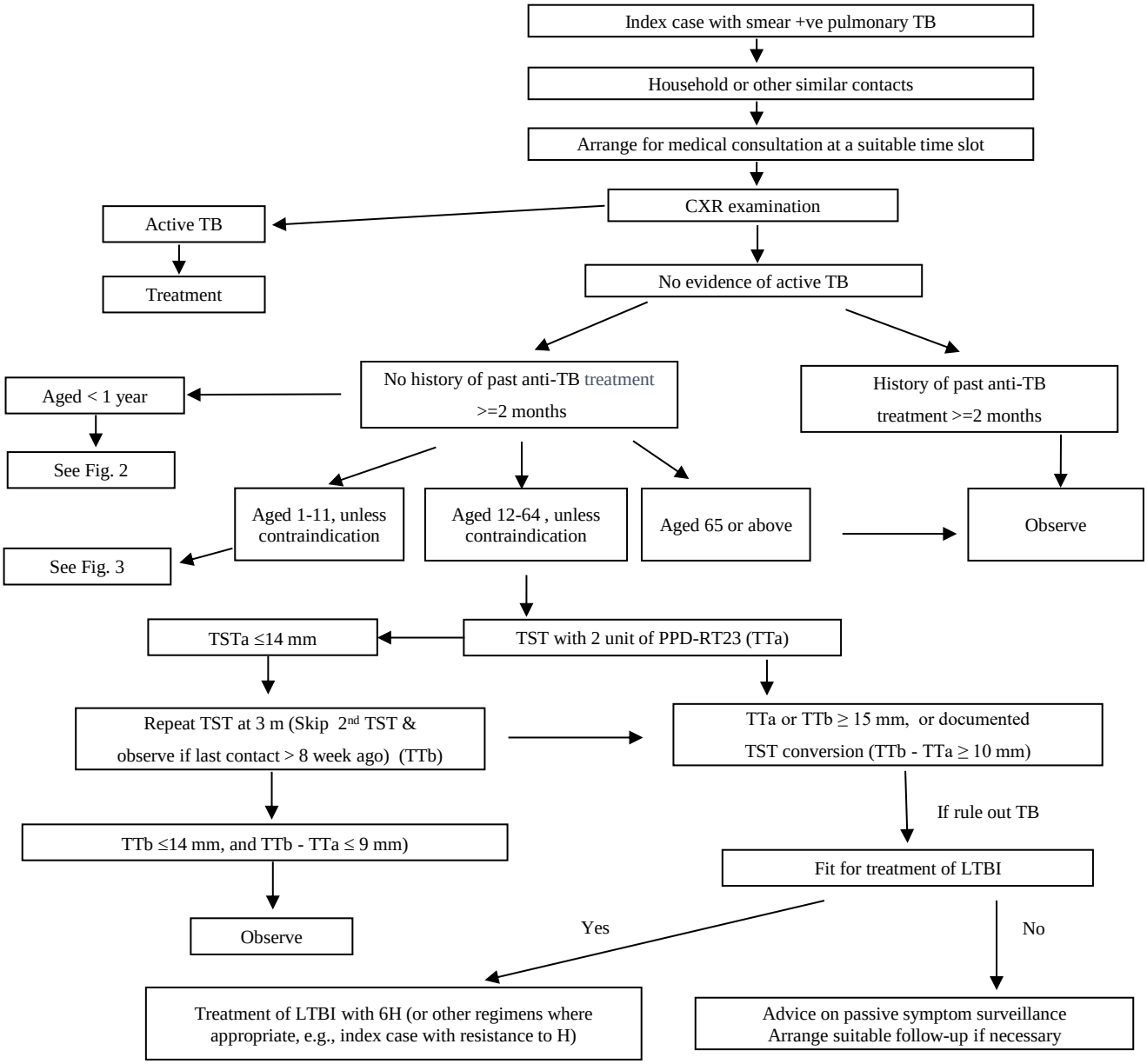
* **For close contacts with risk factors for adverse effects from latent TB infection treatment, (e.g. alcoholic, underlying chronic liver disease, etc.), the decision to screen should be made on a case-by-case basis especially for the aged 35 - 64 group.**

Flow chart for contact investigation of close contacts aged below 5 with smear negative index cases #



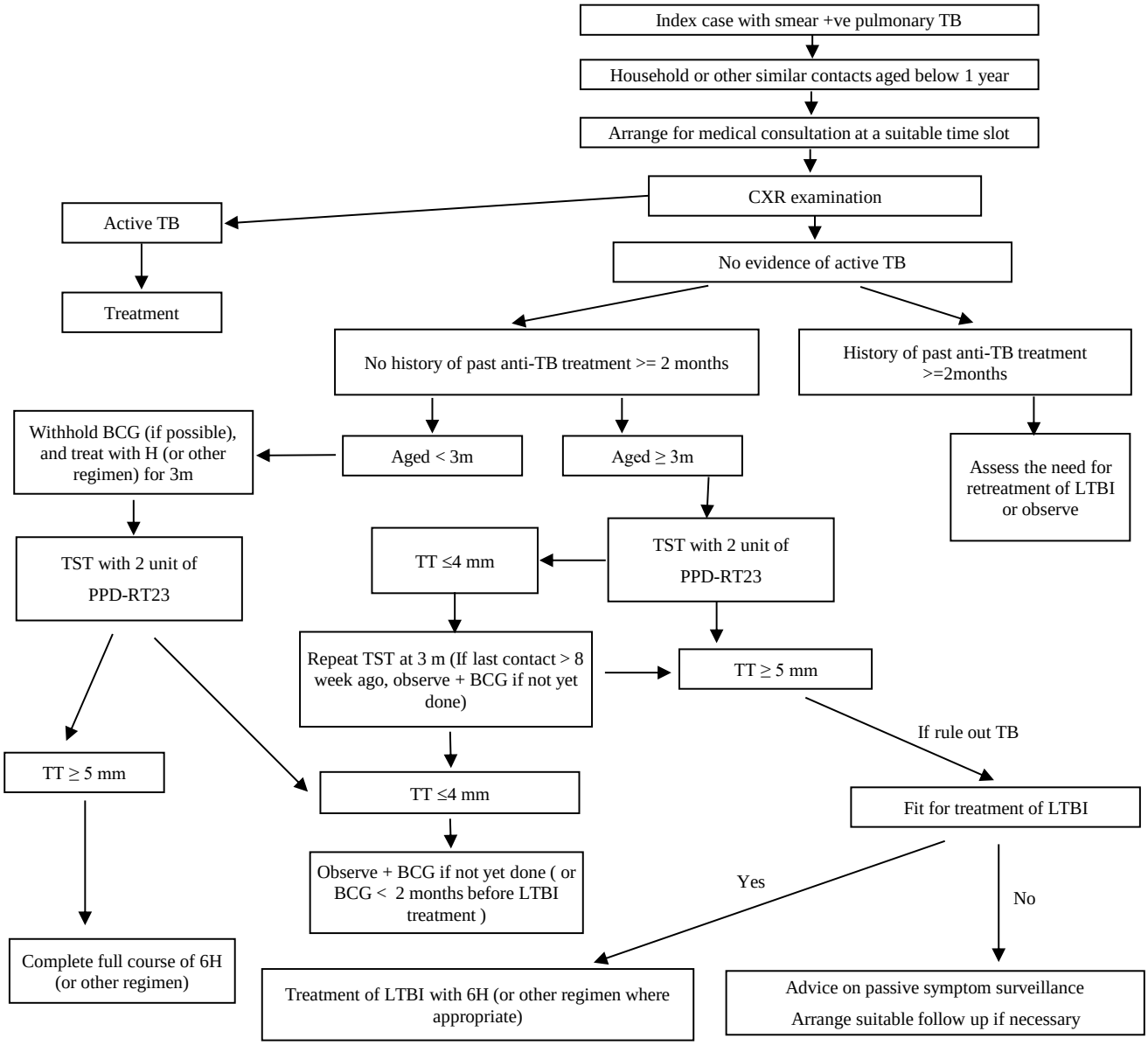
\# If the index case has smear-negative TB and the close contact case is aged below five, the contact case is first evaluated by tuberculin skin test alongside clinical assessment. If the contact case is aged below 3 months and clinically well, the tuberculin test can be postponed until the contact case is 3 months old. If the contact case is clinically well and the tuberculin skin test result is 4 mm or less, health education is all that is required. If the contact case is clinically unwell or the tuberculin skin test result is 5 mm or more, chest X-ray is taken. If chest X-ray is normal, only health education is required. Otherwise, further investigation may be considered.

Appendix 20(b) Figure 1: General schema for targeted screening of household contacts of smear-positive pulmonary TB patients



Targeted screening for active TB and latent TB infection is regularly offered to subjects exposed to smear-positive pulmonary TB patients in the same household or other similar scenarios. Medical consultation is arranged at a suitable time slot, when chest X-ray examination will first be done to exclude active TB for which treatment will be given. Contacts with no evidence of active TB but a history of past anti-TB treatment will be observed, whereas those with no history of past anti-TB treatment will be managed according to their age group. For contacts aged below 1, please refer to Figure 2. For contacts aged 1 to 11, please refer to Figure 3. For contacts aged 12 to 64, tuberculin skin test (TST) is routinely offered, unless there are contraindications. For those aged 65 or above, just observe. TST is done using 2 units of PPD-RT23. If the induration measured after 48 to 72 hours is no more than 14 mm, repeat TST 3 months later, unless the contact has had no further contact with the index case for more than 8 weeks. If the test response of either the first or the second TST is at least 15 mm, or if the difference between the two test responses is at least 10 mm, consider treatment of latent TB infection with daily isoniazid for 6 months (or other regimens where appropriate, for example, when the index case has TB with isoniazid resistance). If treatment of latent TB infection is indicated but the contact case is medically not fit, provide advice on passive symptom surveillance and arrange suitable follow-up if necessary.

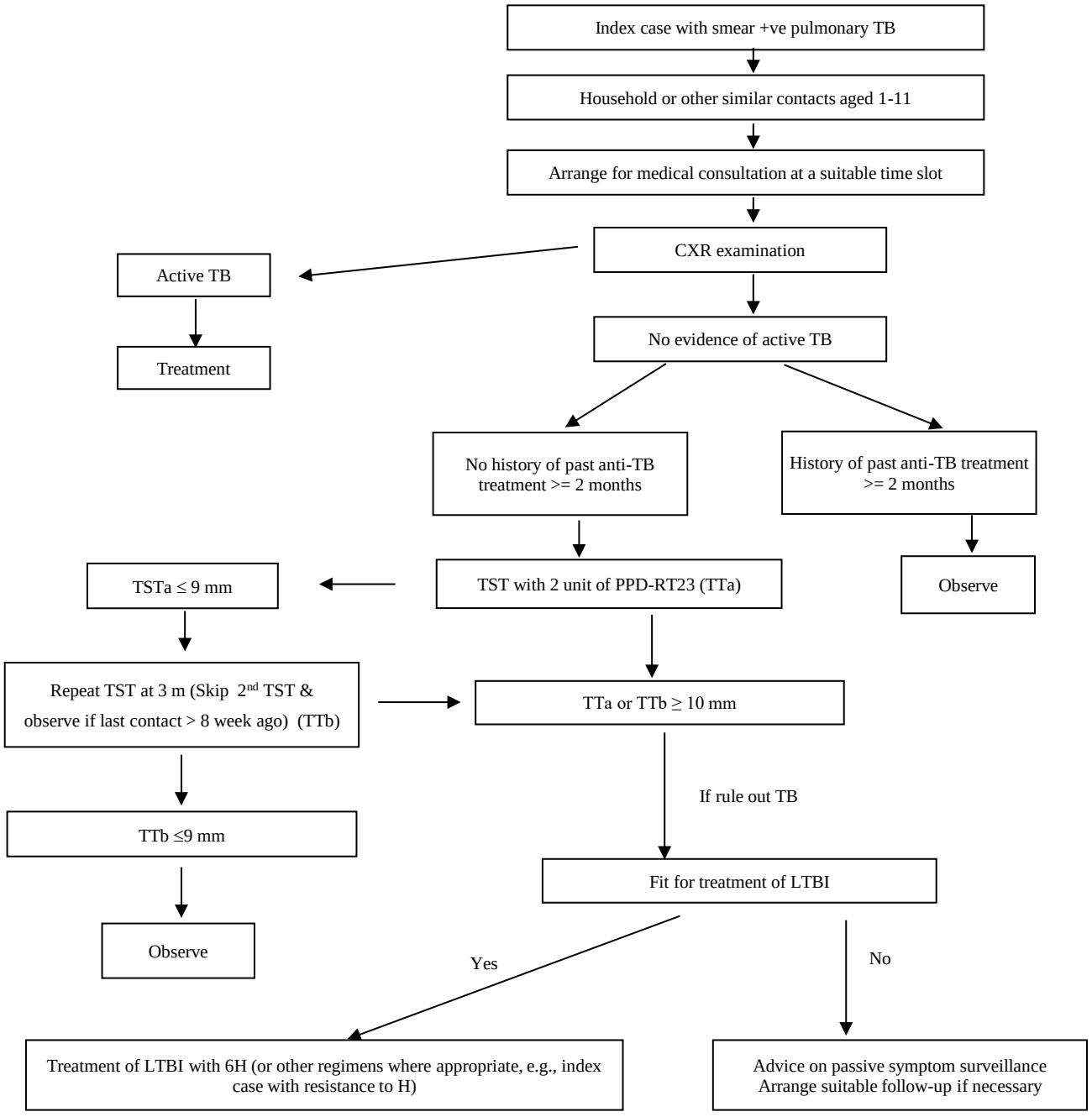
Appendix 20(b) Figure 2: Targeted screening of household contacts aged below one year



Targeted screening for active TB and latent TB infection is regularly offered to subjects aged below 1 year and exposed to smear-positive pulmonary TB patients in the same household or other similar scenarios. Medical consultation is arranged at a suitable time slot, when chest X-ray examination will first be done to exclude active TB for which treatment will be given. For contacts with no evidence of active TB but a history of past anti-TB treatment, the need for retreatment of latent TB infection versus observation will be assessed. For those with neither active TB nor a history of past anti-TB treatment, further management is stratified by their age group. For contacts aged below 3 months, withhold BCG if possible, and treat with isoniazid daily (or other regimens) for 3 months. This is followed by tuberculin skin test (TST) using 2 units of PPD-RT23. If the test response is at least 5 mm, complete a full course of 6-month isoniazid preventive treatment (or other regimens). If the test response is no more than 4 mm, observe and give BCG if it has not yet been given or given less than 2 months before starting treatment for latent TB infection.

For contacts aged 3 months or above, TST is done using 2 units of PPD-RT23. If the test response is no more than 4 mm, repeat TST 3 months later, unless the contact has had no further contact with the index case for more than 8 weeks. If the test response of either the first or second TST is at least 5 mm, consider treatment of latent TB infection with daily isoniazid for 6 months (or other regimens where appropriate). If treatment of latent TB infection is indicated but the contact case is medically not fit, provide advice on passive symptom surveillance and arrange suitable follow-up if judged necessary. If the test response of the second TST (or the single TST done more than 8 weeks ago after last contact) is no more than 4 mm, observe and give BCG if it has not yet been given.

Appendix 20(b) Figure 3: Targeted screening of household contacts aged between 1 to 11



For contacts aged 1 to 11, tuberculin skin test (TST) cut-off is set at 10mm.

Appendix 20(c) Examination of Contacts in the Chest Clinics 2022

Particulars	Smear Positive Index Case		Smear Negative Index Case		Total	
Number of patients (new & old) listed	721		2 225		2 946	
Number of contacts listed	1 586		5 245		6 831	
Number of contacts exam	1 528		4 787		6 315	
Non-respondents	58		458		516	
Result of contact examined						
(a) NSD	1 431	(93.65%)	4 536	(94.76%)	5 967	(94.49%)
(b) Disease other than TB	67	(4.38%)	169	(3.53%)	236	(3.74%)
(c) Inactive respiratory TB	12	(0.79%)	37	(0.77%)	49	(0.78%)
(d) Active respiratory TB						
A (radiologically)	8	(0.52%)	11	(0.23%)	19	(0.30%)
B (bacteriogically)	3	(0.20%)	9	(0.19%)	12	(0.19%)
C (incomplete)	1	(0.07%)	1	(0.02%)	2	(0.03%)
	12	(0.79%)	21	(0.44%)	33	(0.52%)
(e) Non-respiratory TB	0	(0.00%)	6	(0.13%)	6	(0.10%)
(f) Result not yet known	6	(0.39%)	18	(0.38%)	24	(0.38%)
Total of (a) to (f)	1 528	(100.00%)	4 787	(100.00%)	6 315	(100.00%)

Appendix 21(a) Scheme for BCG Administration in Hong Kong 2022

<table>
<tr><th colspan="2">Population Group</th><th>Procedures</th></tr>
<tr><td colspan="2">Newborns</td><td>Direct BCG with intradermal method</td></tr>
<tr><td rowspan="2">Children under the age of 15</td><td>Negative BCG history and negative BCG scar</td><td>Direct BCG with intradermal method (Since September 2000)</td></tr>
<tr><td>BCG history and / or BCG scar</td><td>No action</td></tr>
<tr><td colspan="2">Primary School Children (aged 6 – 10)</td><td>BCG revaccination programme has been stopped since September 2000</td></tr>
</table>

Appendix 21(b) BCG Vaccinations at Birth 2022

Institution		No. of Live-births	BCG Vaccination	% Vaccinated
Hospital under HA Management	P.Y. Nethersole East	1 376	1 361	98.9
	Queen Mary	2 127	2 081	97.8
Private Hospital	Canossa	283	276	97.5
	Gleneagles H.K.	557	547	98.2
	H.K. Adventist	181	172	95.0
	H.K. Sanatorium	1 646	1 634	99.3
	Matilda International	673	644	95.7
	St. Paul's	861	854	99.2
Total (Hong Kong Island)		7 704	7 569	98.2
Hospital under HA Management	Kwong Wah	2 363	2 339	99.0
	Queen Elizabeth	2 905	2 857	98.3
	United Christian	1 783	1 767	99.1
	H.K. Children's (2)	-	77	-
Private Hospital	H.K. Baptist	1 564	1 548	99.0
	St. Teresa's	2 209	2 179	98.6
Total (Kowloon)		10 824	10 767	99.5
Hospital under HA Management	Prince of Wales	3 767	3 769	100.1 (1)
	Princess Margaret	2 422	2 367	97.7
	Tuen Mun	2 988	2 943	98.5
Private Hospital	T.W. Adventist	951	949	99.8
	Union	3 397	3 384	99.6
	CUHK Medical Centre	443	442	99.8
Total (New Territories)		13 968	13 854	99.2
Maternal and Child Health Centres and Private Clinics		-	91	-
Grand Total		32 496	32 281	99.3

Notes:

(1) Including vaccinations of live births transferred from other maternity institutions and vaccinations of live births at the end of 2021

(2) No. of live-births is not available since no maternity service in HKCH.

Appendix 22 Tuberculosis and Chest Beds in Public Services 2022

Hospital		Number of TB and Chest Beds
Hospital Authority	Grantham Hospital	120
	Kowloon Hospital	112
	Ruttonjee Hospital	73
	Haven of Hope Hospital	121
	Wong Tai Sin Hospital	93
	Total (Hospital Authority)	519
Custody	Stanley Prison Hospital	20
Grand Total (2022)		539
Grand Total (2021)		579
Grand Total (2020)		584

Appendix 23 Annual Admissions to Chest Hospitals from Government Chest Clinics from 2013 to 2022

Year	Total admissions
2013	2 823
2014	2 799
2015	2 631
2016	2 579
2017	2 459
2018	2 255
2019	1 981
2020	1 009
2021	919
2022	495

Admissions by Clinic	Total Admissions in 2022
East Kowloon	64
Kowloon	13
Sai Ying Pun	37
Shaukeiwan	38
Shaukeiwan Pneumoconiosis	12
Shek Kip Mei	25
South Kwai Chung	143
Tai Po	21
Wanchai	22
Yan Oi	34
Yaumatei	13
Yuen Chau Kok	26
Yung Fung Shee	19
Cheung Chau	1
NT Chest Clinic (1)	27
Total	**495**

Note:

(1) NT Chest Clinic includes Sai Kung, Sheung Shui, Tung Chung and Yuen Long Chest Clinic.

Appendix 24 HIV Surveillance Among TB Patients: Provider-initiated HIV Antibody Testing Among TB Patients in Government Chest Clinics from 2005 to 2022

Year	HIV positive		HIV negative		HIV results unknown or not done		Total	
	Number	%	Number	%	Number	%	Number	%
2005	35	0.7 %	4 174	80.5 %	973	18.8 %	5 182	100 %
2006	33	0.7 %	4 478	90.4 %	445	9.0 %	4 956	100 %
2007	41	0.9 %	4 034	87.8 %	517	11.3 %	4 592	100 %
2008	48	1.0 %	4 073	88.8 %	464	10.1 %	4 585	100 %
2009	40	0.9 %	3 953	88.1 %	496	11.0 %	4 489	100 %
2010	28	0.7 %	3 805	89.5 %	418	9.8 %	4 251	100 %
2011	33	0.8 %	3 623	89.7 %	381	9.4 %	4 037	100 %
2012	22	0.5 %	3 685	90.7 %	357	8.8 %	4 064	100 %
2013	24	0.6 %	3 512	87.6 %	473	11.8 %	4 009	100 %
2014	23	0.6 %	3 322	87.5 %	450	11.9 %	3 795	100 %
2015	24	0.7 %	3 266	90.4 %	322	8.9 %	3 612	100 %
2016	28	0.8 %	3 244	91.3 %	283	8.0 %	3 555	100 %
2017	31	0.9 %	3 225	93.0 %	211	6.1 %	3 467	100 %
2018	23	0.6 %	3 336	93.1 %	225	6.3 %	3 584	100 %
2019	33	1.0 %	3 067	93.1 %	194	5.9 %	3 294	100 %
2020	15	0.5 %	2 798	92.9 %	198	6.6 %	3 011	100 %
2021	29	0.9 %	2 906	92.5 %	205	6.5 %	3 140	100 %
2022	13	0.5 %	2 487	95.1 %	114	4.4 %	2 614	100 %

NB:
Since late 2008, Unlinked Anonymous Screening (UAS) is no longer performed, and surveillance of HIV among TB patients mainly depends on voluntary HIV testing.

Appendix 25 Number of 'Confirmed' cases of TB in Health Care Staff Notified to Labour Department from 2000 to 2022

Year	Number
2000	39
2001	41
2002	29
2003	30
2004	42
2005	30
2006	18
2007	16
2008	25
2009	18
2010	11
2011	17
2012	15
2013	7
2014	7
2015	9
2016	6
2017	9
2018	4
2019	5
2020	3
2021	11
2022	2

'Confirmed' Cases of TB in Health Care Staff Notified to Labour Department (2022) by Age and Job Title

Age group	Doctor	Nurse	Other Allied Health Professional	Other Supporting Staff	Total
20 - 24					
25 - 29		1			1
30 - 34					
35 - 39			1		1
40 - 44					
45 - 49					
50 - 54					
55 - 59					
60 - 64					
65 - 69					
70 - 74					
Total	0	1	1	0	2

Appendix 26 Treatment outcomes of Cohorts of TB Patients

Treatment outcomes for TB cases registered in 2021 calendar year (number of patients) [1]

	Number of cases registered in 2021 [2]		Cured or treatment completed		Treatment failed		Died [3]		Lost to follow-up (defaulted)		Not evaluated [4]	
All new and relapse cases (bacteriologically confirmed or clinically diagnosed, pulmonary or extrapulmonary)	3 687	100.00%	2 736	74.21%	0	0.00%	726	19.69%	75	2.03%	150	4.07%
HIV-positive TB cases, all types	30	100.00%	20	66.67%	0	0.00%	5	16.67%	3	10.00%	2	6.67%

Treatment outcomes for TB cases started on second-line TB treatment in 2020 calendar year (number of patients) [1]

	Number of cases started on second-line TB treatment in 2020		Cured or treatment completed		Treatment failed		Died		Lost to follow-up (defaulted)		Not evaluated [4]	
All confirmed RR-TB / MDR-TB cases	18	100.00%	14	77.78%	0	0.00%	3	16.67%	0	0.00%	1	5.56%
All confirmed XDR-TB cases [5]	1	100.00%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%

Notes:

(1) Treatment outcomes as evaluated in March 2023.

(2) Exclude all rifampicin-resistant (i.e. rifampicin-resistant alone, MDR, Pre-XDR & XDR) cases on second-line treatment

(3) Death (TB-related or non-TB related cause of death) before starting treatment or during the course of treatment.

(4) "Not evaluated" includes "transferred out", "still on treatment" and any other registered cases where the treatment outcomes have not been evaluated.

(5) Excluding all confirmed RR-TB / MDR-TB cases which are not XDR-TB cases.

IV. Pneumoconiosis

Appendix 1 New Cases of Suspected Pneumoconiosis/Mesothelioma attending the Pneumoconiosis Clinic in Hong Kong from 1956 to 2022

Year	New Cases Undergoing Assessment							Cumulative Total of patients Confirmed by the Board	
	Government Workers	Non-government Workers	Total number of Workers	Number of Diseases confirmed by the Board #			Cumulative Total of Workers		
				(b)	(e)	(f)		R1	R2
1956	1	-	1	-	-	-	1	-	-
1957	4	4	8	-	-	-	9	-	-
1958	9	13	22	-	-	-	31	-	-
1959	5	7	12	-	-	-	43	-	-
1960	9	6	15	-	-	-	58	-	-
1961	8	-	8	-	-	-	66	-	-
1962	3	1	4	-	-	-	70	-	-
1963	9	5	14	-	-	-	84	-	-
1964	21	17	38	-	-	-	122	-	-
1965	9	4	13	-	-	-	135	-	-
1966	7	9	16	-	-	-	151	-	-
1967	3	6	9	-	-	-	160	-	-
1968	4	2	6	-	-	-	166	-	-
1969	4	10	14	-	-	-	180	-	-
1970	22	36	58	-	-	-	238	-	-
1971	9	18	27	-	-	-	265	-	-
1972	9	29	38	-	-	-	303	-	-
1973	3	39	42	-	-	-	345	-	-
1974	-	97	97	-	-	-	442	-	-
1975	5	84	89	-	-	-	531	-	-
1976	15	252	267	-	-	-	798	-	-
1977	3	216	219	-	-	-	1 017	-	-
1978	12	207	219	-	-	-	1 236	-	-
1979	2	210	212	-	-	-	1 448	-	-
1980	12	532	544 (a)	-	-	-	1 992	386 (a)	-
1981	8	608	616	-	-	-	2 608	1 332	162
1982	4	511	515	-	-	-	3 123	1 434	634
1983	2	292	294	-	-	-	3 417	1 469	945
1984	1	231	232	-	-	-	3 649	1 477	1 140
1985	1	179	180	-	-	-	3 829	1 479	1 322
1986	3	176	179	(3)	-	(188)	4 008	1 485	1 513
1987	4	166	170	(2)	-	(164)	4 178	1 485	1 679
1988	6	172	178	(4)	-	(194)	4 356	1 488	1 877
1989	-	156	156	(1)	-	(145)	4 512	1 488	2 023
1990	2	147	149	(1)	-	(118)	4 661	1 489	2 142
1991	-	171	171	(1)	-	(8)	4 832	1 489	2 151
1992	2	171	173	(3)	-	(186)	5 005	1 490	2 340
1993	2	247	249	(4)	-	(148)	5 254	1 492	2 492
1994	-	327	327	(7)	-	(271)	5 581	1 493	2 770
1995	9	245	254	(9)	-	(221)	5 835	1 494	3 000
1996	4	193	197	(9)	-	(110)	6 032	1 494	3 119
1997	4	154	158	(7)	-	(116)	6 190	1 494	3 242
1998	2	197	199	(5)	-	(104)	6 389	1 494	3 351
1999	-	291	291	(15)	-	(139)	6 680	1 494	3 505
2000	3	235	238	(11)	-	(103)	6 918	1 494	3 619
2001	6	230	236	(9)	-	(123)	7 154	1 494	3 751
2002	3	212	215	(9)	-	(108)	7 369	1 494	3 868
2003	3	142	145	(6)	-	(74)	7 514	1 494	3 948
2004	3	138	141	(4)	-	(69)	7 655	1 494	4 021
2005	-	134	134	(2)	-	(68)	7 789	1 494	4 091
2006	-	278	278	(7)	-	(109)	8 067	1 494	4 207
2007	-	120	120	(2)	-	(67)	8 187	1 494	4 276
2008	3	118	121	(5)	(1)	(65)	8 308	1 494	4 347
2009	-	167	167	(5)	(15)	(86)	8 475	1 494	4 453
2010	-	152	152	(1)	(12)	(61)	8 627	1 494	4 527

Appendix 1 New Cases of Suspected Pneumoconiosis/Mesothelioma attending the Pneumoconiosis Clinic in Hong Kong from 1956 to 2022 *---cont'd*

Year	New Cases Undergoing Assessment							Cumulative Total of patients Confirmed by the Board	
	Government Workers	Non-government Workers	Total number of Workers	Number of Diseases confirmed by the Board #			Cumulative Total of Workers		
				(b)	(e)	(f)		R1	R2
2011	-	130	130	(9)	(13)	(63)	8 757	1 494	4 612
2012	-	122	122	(3)	(12)	(44)	8 879	1 494	4 671
2013	-	156	156	(2)	(17)*	(51)	9 035	1 494	4 740 *
2014	3	138	141	(2)	(14)	(68)	9 176	1 494	4 824
2015	4	153	157	(0)	(13)	(56)	9 333	1 494	4 893
2016	2	144	146	(4)	(7)	(43)	9 479	1 494	4 947
2017	6	132	138	(2)	(16)	(54)	9 617	1 494	5 019
2018	1	125	126	(2)	(10)	(59)	9 743	1 494	5 090
2019	2	151	153	(7)**	(10)**	(52)	9 896	1 494	5 158 **
2020	2	191	193	(12)	(12)	(88)	10 089	1 494	5 270
2021	1	123	124	(7)**	(20)**	(67)	10 213	1 494	5 363 **
2022	2	141	143 (c)	(3)	(21)	(79)	10 356	1 494 (d)	5 466

Notes:

(a) The Pneumoconiosis Compensation Scheme was initiated in 1980, before that reporting was voluntary.

(b) The figures in this column denote the number of cases of asbestos-related lung disease confirmed by the Board.

(c) Up to the moment that this report is being compiled, 82 of these 143 assessment cases in 2022 had been confirmed to be pneumoconiosis (Silicosis or Asbestosis) by the Pneumoconiosis Medical Board. And the following tables (Appendix 2 to Appendix 8) are compiled based on these 82 cases.

(d) Under Revised Ordinance 1993 : 584 out of 1494 pneumoconiotics had joined the pneumoconiosis ex-gratia scheme up to the year 2022. 18 living pneumoconiotics were each receiving a monthly ex-gratia payment of $7,900.00 in 2022.

(e) The figures in this column denote the number of cases of Mesothelioma confirmed by the Board.

(f) The figures in this column denote the number of cases of Silicosis confirmed by the Board.

R1 Patients having pneumoconiosis with the date of diagnosis before 1 January 1981 who were alive as at 31 December 1980 are eligible for a government funded ex-gratia compensation scheme.

R2 Patients having pneumoconiosis with the date of diagnosis on or after 1 January 1981 are eligible for a levy funded compensation scheme under the Pneumoconiosis (Compensation) Ordinance (the Ordinance). The Ordinance was amended to cover for mesothelioma as well in 2008.

Patients may have more than one disease.

* 1 patient is confirmed with a second disease in that year.

** 1 patient is confirmed with both Asbestosis and Mesothelioma.

Appendix 2 Age Distribution of Pneumoconiosis Patients confirmed in 2022

Age	0	%
<25	0	0
25 - 29	0	0
30 - 34	0	0
35 - 39	0	0
40 - 44	0	0
45 - 49	0	0
50 - 54	2	2
55 - 59	4	5
60 - 64	11	13
65 - 69	38	47
70 - 74	17	21
75+	10	12
Total	**82**	**100**

Appendix 3 Occupation Distribution of Pneumoconiosis Patients confirmed in 2022

Type of Occupation	Number of Cases	%
Construction	61	75
Construction / Quarry	2	2
Others	19	23
Total	82	100

Appendix 4 Pneumoconiosis Patients confirmed in 2022 by Duration of Exposure to Dust

Duration	Number of Cases	%
< 5 years	0	0
5 - 9	1	1
10 - 14	2	2
15 - 19	4	5
20 - 24	5	6
25 - 29	11	13
30 +	59	73
Unknown / Uncertain	0	0
Total	82	100

Appendix 5 Pneumoconiosis Patients confirmed in 2022 by Degree of Incapacity

Degree of Incapacity (%)	No. of New Cases Compensated under Compensation Ordinance
5	30
10	25
15	9
20	4
25	1
30	2
35	0
40	0
45	2
50	0
55	0
60	0
65	0
70	1
75	1
80	2
85	0
90	0
95	0
100	1
(Not Applicable *)	4
Total	82

Note:

* Assessment by Board after Death

Appendix 6 Pneumoconiosis Patients confirmed in 2022 Classified by Radiological Appearance

Type of Opacity		Profusion			Sub-Total
		1	2	3	
Small opacities					
Rounded					
p	(up to 1.5 mm diameter)	40	5	0	45
q	(1.5 to 3.0 mm diameter)	10	6	0	16
r	(3.0 to 10.0 mm diameter)	1	2	1	4
Irregular					
s	(fine irregular or linear)	3	0	0	3
t	(medium irregular)	0	0	0	0
u	(coarse irregular)	0	0	0	0
Sub-total		54	13	1	68
Combined opacities		-	-	-	8
Not Available		-	-	-	6
Total					82

21 out of 82 patients have large opacities as follows:

Large opacities		
A	(Single opacity 1 - 5 cm or multiple opacities > 1 cm each but sum of diameter < 5 cm)	9
B	(Single or multiple opacities with combined area < the equivalent of right upper zone)	12
C	(Single or multiple opacities with combined area > the equivalent of right upper zone)	0
Total		21

Appendix 7 History of Tuberculosis (TB) among Patients with Pneumoconiosis confirmed in 2022

History of TB		Number of Cases	%
History of TB	Bacteriological Positive	18	22
	Bacteriological Negative	8	10
	Not Available	3	4
No History of TB		53	64
Total		82	100

Appendix 8 Pneumoconiosis Patients confirmed in 2022 by Other Particulars

Characteristics		Number of Cases	%
Smoking	Smoker / Ex-smoker	69	84
	Non-smoker	13	16
	Unknown	0	0
	Total	82	100
Still exposed to dust when seen by the Pneumoconiosis Clinic	Yes	23	28
	No	59	72
	Unknown	0	0
	Total	82	100
General Condition	Good	75	91
	Fair	3	4
	Poor	0	0
	Died	4	5
	Total	82	100

ADDENDUM A brief history of compensation for Pneumoconiosis and malignant mesothelioma in Hong Kong

The Pneumoconiosis (Compensation) Ordinance (the Ordinance) was first introduced in 1980 for compensation of workers who acquired pneumoconiosis as a result of occupational exposure to silica and asbestos dusts with the date of diagnosis on or after 1 January 1981. This compensation scheme is funded by a levy which is imposed in respect of construction and quarry operations in Hong Kong. Compensation was paid out in the form of a lump sum according to the assessed degree of incapacity and the expected degree of further deterioration. On the other hand, eligible patients having pneumoconiosis with the date of diagnosis before the enactment of this ordinance who were alive as at 31 December 1980 are eligible for a government funded ex-gratia compensation scheme. The Ordinance was amended in 1993 to replace the lump sum payment with monthly payment payable to patients until their death. Reassessment at 2-yearly interval was also introduced at the same time to update the degree of incapacity for adjustment of the monthly compensation. Previously compensated post-1981 pneumoconiotics could apply for reassessment for compensation for additional incapacity. Further amendments were made in 1996. A flat-rate compensation for pain, suffering, and loss of amenities was payable to all post-1981 pneumoconiotics who had joined the revised scheme in 1993 or afterwards, irrespective of whether there was additional degree of incapacity over previous lump-sum compensation. The 1996 amendment also allowed the Pneumoconiosis Medical Board (the Board) to take other tests (FEV1 and adjusted DLCO) into consideration in adjusting the degree of incapacity (as determined by FVC) by a maximum of 5%. The ex-gratia payment scheme for pre-1981 pneumoconiotics was also reviewed. On top of a flat-rate of monthly payment, additional payments were introduced for those in need of constant care, oxygen and medical appliances. In 2008, the Pneumoconiosis (Compensation) Ordinance was amended to cover compensation for mesothelioma patients when it became the Pneumoconiosis and Mesothelioma (Compensation) Ordinance.

A new set of reference values for spirometry were published for the local population in 2006. A calibration study was subsequently performed in the Pneumoconiosis Clinic, comparing the new reference values with those published in 1982 among normal construction and quarry workers as well as silicosis patients. The new set of reference values was shown to reflect the lung function status of normal heavy manual workers better than the older set. Because of such findings, the new set of reference values has been adopted for compensation assessment since 2009.

V. Other findings

Annex 1(a) TB Among Chinese New Immigrants

Number of all notified TB cases and TB cases who are Chinese new immigrants (with years of arrival in Hong Kong)

	Years of Arrival	2018	2019	2020	2021	2022
Notified TB cases who are Chinese New Immigrants (with years of arrival in Hong Kong)	< 1 year	18	23	8	8	3
	1 and < 2 year	15	20	12	8	2
	2 and < 3 year	16	17	10	20	11
	3 and < 4 year	14	13	18	14	7
	4 and < 5 year	9	11	20	17	12
	5 and < 6 year	13	22	12	17	12
	6 and < 7 year	7	4	3	0	0
	Total	92	110	83	84	47
Yearly notified TB cases		4 268	4 003	3 656	3 716	3 200

The above table shows the number of all notified TB cases in Hong Kong from 2018 to 2022 and the number of TB cases among the Chinese new immigrants (residing in Hong Kong for less than 7 years) according to the number of years they have arrived in Hong Kong.

In Annex 1(b), the tables show the number of notified TB cases among the Chinese new immigrants by age and sex, and the estimated rates. In Annex 1(c), the table shows the number of all notified TB cases in Hong Kong by age and sex, and the rates.

From Annex 1(b), the overall estimated rates (per 100 000 population) among the new immigrants from 2018 to 2022 are 28.3, 35.5, 30.2, 33.3 and 20.0 respectively. The rates are lower than those of the general Hong Kong population. Although Mainland China has been classified by the World Health Organization as among one of the high TB burden countries in the world, the new immigrants coming to Hong Kong are likely to be a "selected" group. Their demographics and health condition may be quite different from and not representative of the whole population in China. For example, they may be younger, more 'fit', or with better socioeconomic condition. Hence, the rate of TB among this group may be lower.

Annex 1(b) TB Notifications and Estimated Rate Among Chinese New Immigrants by Sex and Age from 2018 to 2022

Notified TB cases who are Chinese new immigrants (resided in HK < 7 years)

Age group	2018			2019			2020			2021			2022		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 19	3	1	4	6	1	7	0	4	4	1	1	2	1	1	2
20 - 39	16	31	47	14	25	39	10	25	35	13	23	36	3	12	15
40 - 59	19	10	29	25	19	44	14	15	29	18	11	29	11	7	18
≥ 60	6	6	12	15	5	20	10	5	15	11	6	17	8	4	12
All age groups	44	48	92	60	50	110	34	49	83	43	41	84	23	24	47

Estimated rate of TB (per 100 000 population) among Chinese new immigrants (resided in HK < 7 years)

Age group	2018			2019			2020			2021			2022		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 19	6.9	2.6	4.8	13.6	2.5	8.4	0.0	11.1	5.2	2.7	3.0	2.8	2.8	3.2	3.0
20 - 39	46.2	30.5	34.5	42.1	26.7	30.7	33.8	31.2	31.9	46.4	32.6	36.5	11.1	19.1	16.7
40 - 59	53.7	17.8	31.7	76.6	37.2	52.6	47.7	33.4	39.1	63.9	26.8	41.9	40.4	18.4	27.6
≥ 60	85.7	77.5	81.4	202.6	62.8	130.2	143.4	69.3	105.7	163.5	89.2	126.4	122.6	62.8	93.0
All age groups	36.5	23.4	28.3	51.1	26.0	35.5	32.0	29.1	30.2	42.8	27.1	33.3	23.9	17.3	20.0

Annex 2(a) TB Notifications and Rate (All Cases) by Sex and Age from 2018 to 2022

All TB cases by Sex and Age

Age group	2018			2019			2020			2021			2022		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 19	44	40	84	42	28	70	34	37	71	40	27	67	22	32	54
20 - 39	326	482	808	269	401	670	263	394	657	209	370	579	162	286	448
40 - 59	625	451	1 076	610	391	1 001	499	398	897	544	456	1 000	400	333	733
≥ 60	1 709	591	2 300	1 680	582	2 262	1 486	545	2 031	1 528	542	2 070	1 452	513	1 965
All age groups	2 704	1 564	4 268	2 601	1 402	4 003	2 282	1 374	3 656	2 321	1 395	3 716	2 036	1 164	3 200

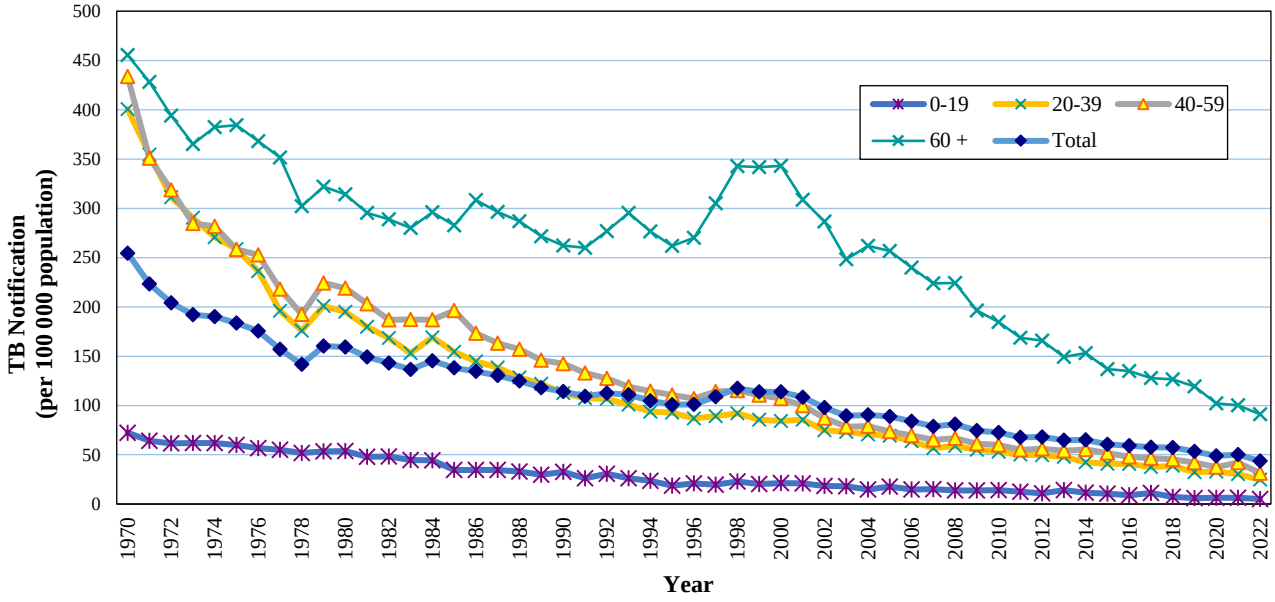
Notification rate of all TB cases (per 100 000 population)

Age group	2018			2019			2020			2021			2022		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 19	7.3	7.1	7.2	7.0	5.0	6.0	6.0	6.9	6.4	7.3	5.2	6.2	4.1	6.3	5.2
20 - 39	36.0	40.6	38.6	30.0	34.1	32.3	30.0	35.2	32.9	24.8	35.0	30.5	19.9	28.6	24.7
40 - 59	59.8	33.7	45.2	59.2	29.0	42.1	48.7	29.1	37.5	54.0	33.3	42.1	40.7	24.7	31.4
≥ 60	198.2	61.9	126.5	186.8	58.3	119.3	156.9	52.4	102.2	155.5	50.1	100.2	142.2	45.2	91.1
All age groups	79.3	38.7	57.3	76.0	34.3	53.3	66.8	33.8	48.9	68.6	34.6	50.1	60.7	29.2	43.6

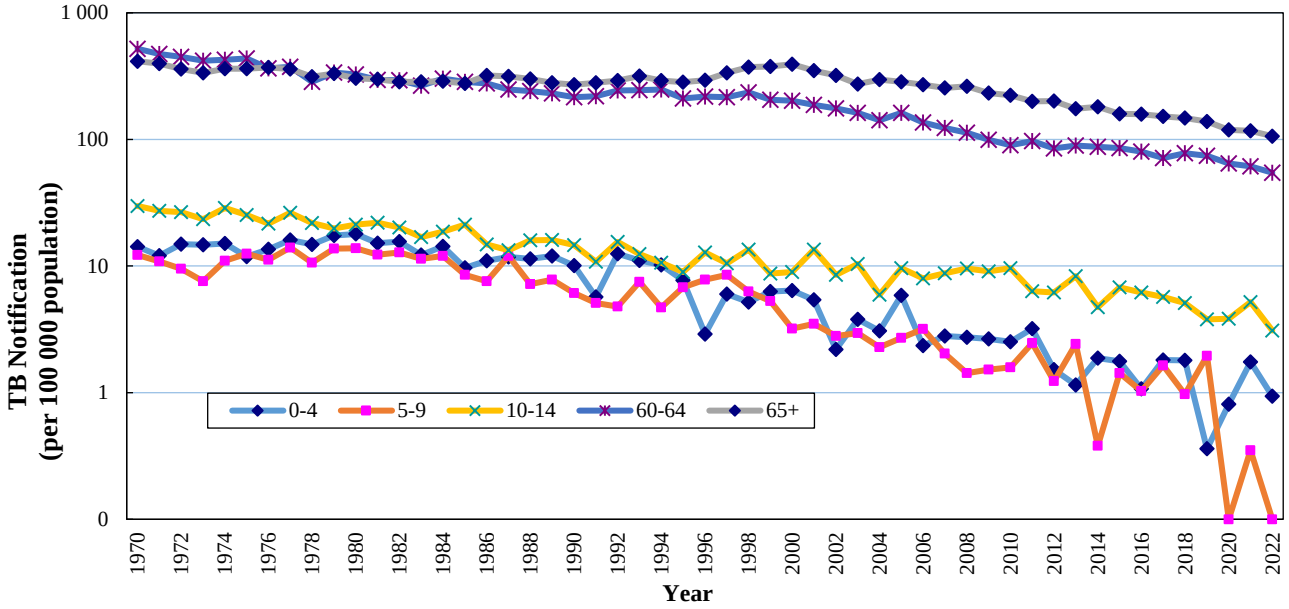
As shown above, the rates of TB among males are in general higher than that among females, and higher in the older age groups. The overall rates (per 100 000 population) from 2018 to 2022 are 57.3, 53.3, 48.9, 50.1 and 43.6 respectively.

Annex 2(b) Trend of age-specific TB Notification Rate from 1970 to 2022

Trend of Age-specific TB Notification Rate (All Gender) from 1970 to 2022



Trend of Age-specific TB Notification Rate (All Gender) from 1970 to 2022



- All the age-specific TB notification rates, particularly those of the younger age groups, show a generally declining trend.
- TB can develop from progressive primary infection, exogenous re-infection, or endogenous reactivation. The trend of progressive primary infection is best reflected by the trends of the younger age groups, in particular that of the 0-4 age group. On the other hand, endogenous reactivation is better reflected by the trends of the older age groups, which generally show slower rates of decline than those of the younger age groups.
- The transient increase in rates for the age group 60+ during the period 1997 to 2000 (top graph) is likely due to strengthened surveillance measures targeting at bacteriologically positive and death cases through laboratory data and data from death certificates.

Annex 3 TB-HIV Registry

A total of 15 cases with TB-HIV co-infection were reported to the TB-HIV Registry in 2022. The cumulative number of cases reported to the TB-HIV Registry from all sources as in 2022 was 808 (Table 1).

Information on TB as a primary AIDS-defining illness is available in 14 out of 15 cases reported to the TB-HIV Registry in 2022. Of these 14 cases, 8 (57.1%) had TB as a primary AIDS-defining illness (Table 2).

The drug susceptibility pattern among culture-positive (sputum or other specimens) TB-HIV cases for the years 1996 to 2022 is shown in Table 3. Eleven patients reported to the TB-HIV Registry had a positive sputum and/or other specimen culture in 2022. Two cases had disease due to Mycobacterium tuberculosis resistant to streptomycin, one case had disease due to Mycobacterium tuberculosis resistant to isoniazid and streptomycin. Among all the 568 cases reported to TB-HIV Registry with a positive sputum or other specimen culture between 1996 and 2022, 9 (1.6%) had MDRTB. There is no XDR-TB case detected among the reported TB-HIV cases so far. DH will continue to monitor prevalence of drug resistance in the context of HIV.

Table 4 shows the characteristics of 15 patients seen at chest clinics and/or Special Preventive Programme (SPP) in 2022. The median CD4 count was 128/μL at time of TB diagnosis. Extra-pulmonary involvement (irrespective of lung involvement) is found in more than half of the patients.

Annex 3 TB-HIV Registry --- *cont'd*

Table 1: Total number of TB-HIV cases reported to TB-HIV Registry, all sources from 1996 to 2022 (1)

Year	Number of TB-HIV cases (2)
1996	22
1997	19
1998	22
1999	25
2000	24
2001	34
2002	22
2003	28
2004	35
2005	42
2006	50
2007	56
2008	50
2009	38
2010	25
2011	28
2012	20
2013	21
2014	25
2015	24
2016	36
2017	31
2018	29
2019	39
2020	18
2021	30
2022	15
Total	808

Notes:

(1) Including cases reported from all sources (chest clinics, SPP, HA hospitals and private centres).

(2) Some of the figures in the table for the previous years have been updated after
- (i) taking out some mismatched cases and cases with a revised diagnosis;
- (ii) adding some cases which were previously unreported.

Annex 3 TB-HIV Registry --- *cont'd*

Table 2: TB as primary AIDS-defining illness among 622 cases reported to chest clinics and/or SPP from 1996 to 2022 (1)

Year	TB as primary AIDS-defining illness					Total
	Yes			No	Information not available	
	Extra-pulmonary	Pulmonary and TB cervical lymph node with CD4 < 200 μL	Subtotal			
1996	1	7	8	1	0	9
1997	2	3	5	2	0	7
1998	6	3	9	3	0	12
1999	7	6	13	3	0	16
2000	3	4	7	5	0	12
2001	4	6	10	7	0	17
2002	4	9	13	2	0	15
2003	1	10	11	5	0	16
2004	5	7	12	11	0	23
2005	8	14	22	7	0	29
2006	9	19	28	7	0	35
2007	10	17	27	8	2	37
2008	14	13	27	6	0	33
2009	9	3	12	6	5	23
2010	4	10	14	5	3	22
2011	6	8	14	8	6	28
2012	4	9	13	5	2	20
2013	7	10	17	1	3	21
2014	7	8	15	9	1	25
2015	7	5	12	8	4	24
2016	8	8	16	17	3	36
2017	8	6	14	12	5	31
2018	5	8	13	11	5	29
2019	13	7	20	19	0	39
2020	3	5	8	9	1	18
2021	10	11	21	7	2	30
2022	4	4	8	6	1	15
Total	169	220	389	190	43	622

Note:

(1) Some of the figures in the table for the previous years have been updated. Of all the cases reported to the TB-HIV Registry from 1996 to 2022, 622 cases were seen at chest clinics and/or SPP. The table is compiled basing on data of these 622 cases.

Annex 3 TB-HIV Registry --- *cont'd*

Table 3: Drug susceptibility pattern among culture positive (sputum and/or other specimens) TB-HIV cases from TB-HIV Registry, all sources from 1996 to 2022

Year	Susceptible to SHRE	Any resistance (non-MDR/XDR)	MDR	XDR	Drug susceptibility unknown	Total number of culture positive cases
1996	7	1	0	0	0	8
1997	5	1	0	0	0	6
1998	13	1	0	0	0	14
1999	16	4	1	0	0	21
2000	13	2	0	0	0	15
2001	23	5	0	0	0	28
2002	11	3	1	0	0	15
2003	18	2	1	0	0	21
2004	20	6	0	0	0	26
2005	29	5	0	0	0	34
2006	32	3	0	0	0	35
2007	30	7	1	0	0	38
2008	30	3	0	0	0	33
2009	22	7	0	0	0	29
2010	12	2	0	0	0	14
2011	12	4	0	0	0	16
2012	13	2	1	0	0	16
2013	13	5	0	0	0	18
2014	11	7	0	0	1	19
2015	14	1	2	0	2	19
2016	27	3	2 (1)	0	0	32
2017	19	2	0 (1)	0	0	21
2018	16	2	0	0	0	18
2019	27	1	0	0	0	28
2020	11	0	0	0	0	11
2021	21	1	0	0	0	22
2022	8	3	0	0	0	11
Total	473	83	9	0	3	568

Note:

(1) Excluding one case with clinical specimen cultured negative but rpo B mutation detected.

Annex 3 TB-HIV Registry --- *cont'd*

Table 4: Characteristics of 15 TB-HIV cases reported from chest clinics and SPP in 2022

Age distribution	Number	Proportion
0 to 19	0	0.0%
20 to 39	5	33.3%
40 to 59	8	53.3%
60+	2	13.3%
Sex distribution		
Male	12	80.0%
Female	3	20.0%
Ethnicity		
Chinese	9	60.0%
Asians, non-Chinese	6	40.0%
African	0	0.0%
Others	0	0.0%
Case category		
New case	13	86.7%
Relapse	1	6.7%
Treatment after default	1	6.7%
Failure of previous treatment	0	0.0%
Others	0	0.0%
Unknown	0	0.0%
TB as a primary AIDS-defining illness N = 14 (1)		
Yes	8	57.1%
No	6	42.9%
CD4 count at time of co-infection (median, IQR) N = 14 (1)	127.5 (45.0-218.3)/uL	
Anti-retroviral therapy at time of co-infection		
Yes	5	33.3%
No	10	66.7%
Presence of extra-pulmonary TB (irrespective of lung involvement)		
Yes	9	60.0%
No	6	40.0%
Extent of Respiratory TB N = 11 (1)		
Minimal	5	45.5%
Moderate	3	27.3%
Extensive	3	27.3%
Sputum bacteriological status (pre-treatment) N = 13 (1)		
Smear + culture +	4	30.8%
Smear - culture +	6	46.2%
Smear + culture -	0	0.0%
Smear - culture -	3	23.1%
Drug resistance pattern (pre-treatment) (based on sputum and/or other specimen culture) N = 11 (1)		
Susceptible to SHRE	8	72.7%
Resistant to streptomycin alone	2	18.2%
Resistant to streptomycin and isoniazid	1	9.1%
Resistant to rifampicin alone	0	0.0%
MDR	0	0.0%
XDR	0	0.0%

Note:

(1) N = number of cases available for analysis, N = 15 if not specified

Annex 4 Crude and Standardised Death Rate and Notification Rate from 2001 to 2022 (1)

Year	Crude Death Rate	Standardised Death Rate (2)	Crude Notification Rate	Standardised Notification Rate (2)
2001	4.6	4.6	108.2	108.2
2002	4.0	3.8	97.9	96.5
2003	4.1	3.8	89.5	87.1
2004	4.2	4.3	91.8	87.6
2005	4.0	3.4	90.4	85.2
2006	4.3	3.6	84.1	77.9
2007	3.3	2.6	79.0	71.5
2008	3.3	2.5	81.0	72.1
2009	2.9	2.3	74.5	65.6
2010	2.7	2.0	72.5	63.3
2011	2.6	1.8	67.8	57.8
2012	2.8	1.9	67.9	57.8
2013	2.5	1.7	64.9	54.8
2014	2.6	1.7	65.0	53.5
2015	2.3	1.4	60.5	49.5
2016	2.2	1.2	59.2	48.2
2017	2.5	1.5	57.5	46.4
2018	2.5	1.5	57.3	45.2
2019	2.7	1.5	53.3	41.0
2020	2.7	1.4	48.9	38.0
2021	2.3	1.4	50.1	38.7
2022	2.5	1.4	43.6	32.2

Notes:

(1) Death rate and notification rate per 100 000 population.

(2) Age and sex-standardisation, using the mid-2001 population as the standard population.

Annex 5 HBsAg Seroprevalence Survey Among TB Patients Seen at Chest Clinics 2022

In a sample survey conducted by the TB & Chest Service of the Department of Health in 2022 (3-month period from 1.3.2022 to 31.5.2022), the overall HBsAg seropositive rate among TB patients seen at chest clinics was 7.39%.

Sex / Age Group	HBsAg status			HBsAg seropositive rate (%) (1)	Total
	Positive	Negative	Unknown		
Male					
0 - 19	0	4	3	0.00	7
20 - 39	1	34	1	2.86	36
40 - 59	9	63	0	12.50	72
≥ 60	24	212	2	10.17	238
Female					
0 - 19	0	9	1	0.00	10
20 - 39	2	67	1	2.90	70
40 - 59	5	66	0	7.04	71
≥ 60	3	96	1	3.03	100
Total	44	551	9	7.39	604

HBsAg Seroprevalence Survey 2021 - 2022

Sex / Age Group	HBsAg seropositive rate (%)	
	2021	2022
Male		
0 - 19	0.00	0.00
20 - 39	3.92	2.86
40 - 59	11.45	12.50
≥ 60	7.05	10.17
Female		
0 - 19	16.67	0.00
20 - 39	2.30	2.90
40 - 59	8.40	7.04
≥ 60	12.24	3.03
Total	7.87	7.39

Note:

(1) $$\text{HBsAg seropositivity rate} = \frac{\text{No. of HBsAg positive patients}}{(\text{No. of HBsAg positive patients} + \text{No. of HBsAg negative patients})}$$

Supplement

FORM 1

PREVENTION AND CONTROL OF DISEASE ORDINANCE

(Cap. 599)

TUBERCULOSIS NOTIFICATION

Particulars of Infected Person

Name in English:	Name in Chinese:	Age / Sex:	I.D. Card / Passport No.:
Residential Address:			Telephone No.: (Home) : (Mobile) : Patient : Family member : (Office / school / others):
Name and address of workplace / school / other institution:			
Job title / Class attended :			
Hospital / Clinic sent to (if any):			Hospital No.:

Site of TB (please ✓ all applicable)		Sputum (please ✓ and attach laboratory report if available)				Other specimens (specify and ✓ below):	
☐ Lung	☐ Meninges						
☐ Pleura	☐ Bone & Joint						
☐ Lymph node	☐ Urinary system		Smear	Culture	PCR test	Smear	Culture
☐ Miliary	☐ Genital system	Positive					
☐ Other(s) (please specify):		Negative					
		Unknown					
		Not done					

Duration of stay in Hong Kong: _____ Years

History of past treatment for TB
(delete whichever not applicable): Yes / No

If yes, YEAR first receiving treatment: _____

Disposal (please ✓ in front boxes and specify):

☐ Treatment started on: _____ (Date: dd/mm/yyyy)

☐ On observation

☐ Referred to _____ Hospital / Clinic / Private Practitioner

☐ Died on: _____ (Date: dd/mm/yyyy)

(Please DELETE whichever is not applicable)

I will arrange for examination of contacts myself. / Please arrange for examination of contacts.

Further Remarks:

Notified under the Prevention and Control of Disease Regulation by

Dr. _____ of _____Hospital / Clinic / Private Practice
(Full Name in BLOCK Letters)

_____ Ward / Unit / Specialty on _____ / _____ / _____ (Date: dd/mm/yyyy)

Telephone No.: _____ Fax No.: _____ _____
(Signature)

[Part 1: To be completed by DOCTOR requesting TB denotification]

To: Statistics Unit, Wanchai Chest Clinic, 99 Kennedy Road, Hong Kong (Fax: 2572 8921)

Denotification of Previously Notified TB Case

Clinic/ Hospital:		Clinic Hospital number:	
Name of patient:		HKID/ passport number:	
Date notified:		Smear:	Positive / Negative / Unknown
Revised diagnosis or other remarks:		Culture:	Negative / M tuberculosis / Non-tuberculous mycobacteria / Unknown / Others _____
Denotification requested by (Name and signature of doctor):		Tel: Fax:	Date:

++

[Part 2: To be completed by Statistics Unit of TB&CS]

From: Statistics Unit of TB&CS

To: DOCTOR who sent in this request for denotification (Fax no.)

It is confirmed that the above TB denotification request has been received by the Statistics Unit of TB & Chest Service at Wanchai Chest Clinic.

Date:

Chop or signature:

++

[Part 3: To be completed by Statistics Unit of TB&CS]

From: Statistics Unit of TB&CS

To: _____ Chest Clinic (AE Chest Clinic) (Fax no.:)

Please note the above request for denotification for further necessary actions.

++

[Part 4: To be completed by AE Chest Clinic]

We have taken note of the above request for denotification. We have the following comments:

- ☐ No comments
- ☐ Agree with the request for denotification
- ☐ Please ignore the request for denotification, reason:

Signature and name of Chest Clinic doctor:		Chest Clinic:	Date:

Notes for using the Form "TBdenotification/1403" for requesting denotification of a case previously notified as TB

1. If a doctor wants to request for denotification of a previously notified TB case, he fills in Part 1 and fax the form to Wanchai Chest Clinic (Fax: 2572 8921; Attention: Statistics Unit of TB&CS).
2. Upon receiving the request for denotification, Statistics Unit of TB&CS fills in Part 2 and fax back to the doctor for acknowledgment of receiving the request.
3. The Statistics Unit of TB&CS then fills in Part 3, and fax the form to the NO of the relevant Chest Clinic (the AE Chest Clinic) which has been handling this case as AE case, for further necessary actions.
4. The health nurse of AE Chest Clinic, upon receiving the fax, will take note of the denotification for further necessary actions. For example, if there is no evidence to suggest otherwise, the AE Chest Clinic will treat the case now as not a TB case, and discontinue the public health actions which would then become unnecessary. Alternatively, if the AE Chest Clinic, with the input of the doctor i/c of the case (when necessary), is of the opinion that the case should not be denotified, it will continue to carry out the necessary public health actions and inform Statistics Unit of TB&CS to ignore the request for denotification. Thus, the doctor i/c of the AE Chest Clinic fills in Part 4 and tick the appropriate item, and fax the form back to Statistics Unit of TB&CS. If the AE chest clinic does not have any additional information on whether to support or refute the denotification (e.g., patient is not being followed up at chest clinic), the doctor i/c of the AE Chest Clinic may tick the item "No comments".
5. Upon receiving the fax return back from the AE Chest Clinic, the Statistics Unit will act accordingly, e.g., denotify the case or ignore the denotification request.
6. For cases denotified by chest clinic doctors, there is no need to fill in Part 3 and Part 4.

OCCUPATIONAL SAFETY AND HEALTH ORDINANCE
NOTIFICATION OF OCCUPATIONAL DISEASES

To : Commissioner for Labour

PARTICULARS OF PATIENT

Name: _____ HKID/Passport no.: _____

Male/Female* Date of birth: ___ /___ /____ Occupation: _____

Home address: _____

_____

Telephone no. (Home) _____ (Office) _____ (Pager/Mobile) _____

Name and address of employer: _____

_____ Telephone no. (Employer) _____

Workplace address (if different from employer's address): _____

_____

For Internal use:

Code: ____

Code: ____

Code: ____

Code: ____

NOTIFIABLE OCCUPATIONAL DISEASES (*Please put a tick in* □)

□1	Radiation Illness	□18	Lead Poisoning	□35	Chrome Ulceration
□2	Heat Cataract	□19	Manganese Poisoning	□36	Urinary Tract Cancer
□3	Compressed Air Illness	□20	Phosphorus Poisoning	□37	Peripheral Polyneuropathy
□4	Cramp of Hand or Forearm	□21	Arsenic Poisoning	□38	Localised Papillomatous or Keratotic New Skin Growth
□5	Beat Hand	□22	Mercury Poisoning	□39	Occupational Vitiligo
□6	Beat Knee	□23	Carbon Bisulphide Poisoning	□40	Occupational Dermatitis
□7	Beat Elbow	□24	Benzene Poisoning	□41	Chemical Induced Upper Respiratory Tract Inflammation
□8	Tenosynovitis of Hand or Forearm	□25	Poisoning by Nitro-, Amino-, or Chloro- Derivatives of Benzene	□42	Nasal or Paranasal Sinus Cancer
□9	Anthrax	□26	Dinitrophenol Poisoning	□43	Byssinosis
□10	Glanders	□27	Poisoning by Halogen Derivatives of Hydrocarbons	□44	Occupational Asthma
□11	Leptospirosis	□28	Diethylene Dioxide Poisoning	□45	Silicosis
□12	Extrinsic Allergic Alveolitis	□29	Chlorinated Naphthalene Poisoning	□46	Asbestos-Related Diseases
□13	Brucellosis	□30	Poisoning by Oxides of Nitrogen	□47	Occupational Deafness
□14	Tuberculosis in health care workers	□31	Beryllium Poisoning	□48	Carpal Tunnel Syndrome
□15	Parenterally Contracted Viral Hepatitis in health care workers	□32	Cadmium Poisoning	□49	Legionnaires' Disease
□16	Streptococcus suis Infection	□33	Dystrophy of the Cornea	□50	Severe Acute Respiratory Syndrome
□17	Avian Chlamydiosis	□34	Skin Cancer	□51	Avian Influenza A

Diagnosis: Confirm/Suspect* Date of onset of illness: _____ / _____ / _____

Follow-up of patient: Treated/Referred to hospital/Others(specify)*: _____

Other relevant information: _____

Name of notifying medical practitioner: _____

Address of notifying medical practitioner: _____

_____

Telephone no. of notifying medical practitioner: _____

Fax no. of notifying medical practitioner: _____

Date: _____ Signature: _____

**Delete whichever is inapplicable*

*Please return this form by **fax (no. 25812049)** or by **mail** to Occupational Health Service, Labour Department, 15/F Harbour Building, 38 Pier Road, Central, Hong Kong.*

For details of Notifiable Occupational Diseases and their related occupations, please refer to Schedule 2 of the Occupational Safety & Health Ordinance and to the Labour Department publication "Guidance Notes on the Diagnosis of Notifiable Occupational Diseases". Enquiry telephone no. : 2852 4041.

LD483 (Rev. 8.2.2005)

GUM LABEL of patient	DOS: _ _/_ _/_ _ _ _
	(for chest clinic use only) AE no.: _____ Cat.: _____ Tx no.: _____ DOA: _ _/_ _/_ _ _ _

PFA - To be completed at around DOS (for TB patients) *[DOS = date of starting treatment (or, if patient defaulted>2 months before starting anti-TB treatment, put down the date of diagnosis)]*

Part (A) Information on this episode of TB:

Reason for presentation: 1. Symptom / 2. Contact Screening / 3. Pre-employment / 4. Pre-emigration / 5. Other body check / 6. Incidental to other illness / 7. Others: _____

Contact with TB patients: N / Y: 1. Household / 2. Work / 3. Casual
1. within 2 year / 2. over 2 year

Part (B) Case category (choose 1 item only):

1. New case (< 1m previous Rx)
2. Relapse case.
3. Treatment after default.
4. Failure of previous treatment.

Date of last treatment (mm/yyyy): ____/_____ Duration of last treatment: ____ months

Part (C) Disease classification: (please circle ≥1 item)

1. Pulmonary tuberculosis
   Extent of disease: 1. minimal (total area< RUL) / 2. moderate (> RUL) / 3. advanced (> 1 lung) Cavity: N / Y

Extra-pulmonary tuberculosis:

2. Pleura
3. Lymph node
4. Meninges
5. Miliary
6. Abdomen
7. Bone and joint (other than spine)
8. Spine
9. Genito-urinary tract
10. Naso/oro-pharynx
11. Larynx
12. Pericardium
13. Skin
14. Other site(1), specify _____
15. Other site(2), specify _____
16. Other site(3), specify _____

Part (D) Risk Factors/co-morbidities N/Y (If Y, please circle whichever applicable)

1. Diabetes mellitus
2. Lung cancer
3. Other malignancies
4. On cytotoxic drugs
5. On steroid
6. Chronic renal failure
7. **HIV: - ve / + ve / unknown / pending**
8. Silicosis
9. Alcoholism
10. Drug abuser
11. Gastrectomy
12. General debilitation (e.g., due to old age, immobility, stroke, etc.)
13. On biologics
14. Other(1), specify_____
15. Other(2), specify_____

Part (E) Starting regimen (choose 1 item only): *[Starting regimen = the regimen that the attending physician uses at initiation of anti-TB treatment]*

1. Standard regimen, defined as HRZ ±E or S (irrespective of dosing frequency)

2. Non-standard regimen, defined as regimens other than HRZ ±E or S

Reason for using non-standard regimen: 1. Known or suspected drug resistance / 2. Known drug intolerance / 3. Potential drug-drug interaction / 4. Known medical conditions affecting choice of regimen (e.g. liver disease, poor vision, etc), specify _____ / 5. Others, specify (e.g. old age): _____

Completed by: _____ (name) Tel: _____ Fax: _____

Institution: 1.Chest Clinic/ 2.Chest Hospital/ 3.General Hospital/ 4.Private Practice. ; Name (and ward) of institution: _____

[After completion, this form should be sent to:

1. *<u>for chest clinics</u>: General Office, Tung Chung Chest Clinic, 1/F, Tung Chung Health Centre, Block 1, 6 Fu Tung Street, Tung Chung, Lantau Island. Fax: (852)2109 2240.*
2. *<u>for Correctional Services Department</u>: Statistics Unit, Tuberculosis and Chest Service Headquarters, 1/F, Wanchai Polyclinic, 99 Kennedy Road, Hong Kong. Fax: (852)2572 8921.]*

GUM LABEL of patient	DOS: _ _/_ _/_ _ _ _
	(for chest clinic use only) AE no.: _____ Cat.: _____ Tx no.: _____ DOA: _ _/_ _/_ _ _ _

PFB – To be completed at 6 month from DOS (for TB patients)

Part (F) Mode of TB diagnosis: (Choose 1 item, priority from left to right)

1a. Bacteriological (based on positive smear and/or culture) 1b. Bacteriological (based on molecular test result) /

2. Histological / 3. Clinical-radiological / 4. Clinical only

Bacteriological examination for MTB:

	Sputum			**Other type of specimen:** 1. gastric aspirate / 2. pleural fluid / 3. bronchial washing / 4. urine/ 5. biopsy or others, specify: _____
	Pre-treatment	2 months	3 months	Pre-treatment
Smear	P / N / U	P / N / U	P / N / U	P / N / U
Culture	P / N / U / NTM	P / N / U / NTM	P / N / U / NTM	P / N / U / NTM
PCR	P / N / U			P / N / U
rpoB mutation (if PCR positive)	P / N / U			P / N / U

- Abbreviations P (= positive), N (= negative) , U = (not done), NTM (= Non-tuberculous Mycobacteria)

- **If pre-treatment culture is positive for MTB, is the ST favourable? (i.e., sensitive to HR)**: N / Y / U (ST not done)

Completed by: _____ (name) Tel: _____ Fax: _____

Institution: 1.Chest Clinic/ 2.Chest Hospital/ 3.General Hospital/ 4.Private Practice. ; Name (and ward) of institution: _____

[After completion, this form should be sent to:

1. *<u>for chest clinics</u>: General Office, Tung Chung Chest Clinic, 1/F, Tung Chung Health Centre, Block 1, 6 Fu Tung Street, Tung Chung, Lantau Island. Fax: (852)2109 2240.*
2. *<u>for Correctional Services Department</u>: Statistics Unit, Tuberculosis and Chest Service Headquarters, 1/F, Wanchai Polyclinic, 99 Kennedy Road, Hong Kong. Fax: (852)2572 8921.]*

GUM LABEL of patient	DOS: _ _/_ _/_ _ _ _
	(for chest clinic use only) AE no.: _____ Cat.: _____ Tx no.: _____ DOA: _ _/_ _/_ _ _ _

PFC – To be completed at 12 month from DOS (for TB patients)

Part (G) Outcome at 12 months (please √, circle and/ or fill in the spaces provided as appropriate)

(1) Cured/ treatment completed □ Date treatment completed (dd/mm/yyyy): ____/____/_____

(a) Status at completion:

- Bacteriological conversion □
- Radiological improvement □
- Other clinical improvement □
- No available evidence of response □

(b) After treatment completed:

- No relapse □
- Loss to follow-up □ Last visit date (dd/mm/yyyy): ____/____/_____
- Died □ Cause: 1. TB-related / 2. Not TB-related / 3. Unknown Date of death (dd/mm/yyyy): ____/____/_____
- Relapse □ Date of relapse (dd/mm/yyyy): ____/____/_____

1. Bacteriological / 2. Histological / 3. Clinical-radiological (choose 1 item, priority from left to right)

(2) Treatment incomplete (including death while on treatment) □

- Still on treatment, reason: 1. retreatment / 2. extrapulm. / 3. extensive / 4. interrupted treatment / 5. drug resistance / 6. poor response / 7. non-standard regimen / 8. DM or on immunosuppressives etc / 9. others, specify: _____
- Died □ Cause: 1. TB-related / 2. Not TB-related / 3. Unknown Date of death (dd/mm/yyyy): ____/____/_____

(3) Transferred □ to: 1. GP / 2. Chest Clinic / 3. Hospital / 4. Outside HK Details: _____

Last treatment date (dd/mm/yyyy): ____/____/_____

(4) Defaulted (defaulted treatment for a continuous period > 2m) □

- Never found □ Last visit date (dd/mm/yyyy): ____/____/_____
- Retreated after default □ Treatment re-started date (dd/mm/yyyy): ____/____/_____
- Treatment stopped by doctor □ Last treatment date (dd/mm/yyyy): ____/____/_____

(5) Failure (persistent positive bacteriology and treatment stopped) □

(6) Wrong / revised diagnosis □ Last treatment date (dd/mm/yyyy): ____/____/_____

- New diagnosis: _____

Completed by: _____ (name) Tel: _____ Fax: _____

Institution: 1.Chest Clinic/ 2.Chest Hospital/ 3.General Hospital/ 4.Private Practice. ; Name (and ward) of institution: _____

[After completion, this form should be sent to:

1. *<u>for chest clinics</u>: General Office, Tung Chung Chest Clinic, 1/F, Tung Chung Health Centre, Block 1, 6 Fu Tung Street, Tung Chung, Lantau Island. Fax: (852)2109 2240.*
2. *<u>for Correctional Services Department</u>: Statistics Unit, Tuberculosis and Chest Service Headquarters, 1/F, Wanchai Polyclinic, 99 Kennedy Road, Hong Kong. Fax: (852)2572 8921.]*

GUM LABEL of patient	DOS: _ _/_ _/_ _ _ _
	(for chest clinic use only) AE no.: _____ Cat.: _____ Tx no.: _____ DOA: _ _/_ _/_ _ _ _

PFD – To be completed at 24 month from DOS (for TB patients)

Part (H) Outcome at 24 months (please √, circle and/ or fill in the spaces provided as appropriate)

(1) Cured/ treatment completed □ Date treatment completed (dd/mm/yyyy): ____/ ____/_____

(a) Status at completion:

- Bacteriological conversion □
- Radiological improvement □
- Other clinical improvement □
- No available evidence of response □

(b) After treatment completed:

- No relapse □
- Loss to follow-up □ Last visit date (dd/mm/yyyy): ____/____/_____
- Died □ Cause: 1. TB-related / 2. Not TB-related / 3. Unknown Date of death (dd/mm/yyyy): ____/____/_____
- Relapse □ Date of relapse (dd/mm/yyyy): ____/____/_____

1. Bacteriological / 2. Histological / 3. Clinical-radiological (choose 1 item, priority from left to right)

(2) Treatment incomplete (including death while on treatment) □

- Still on treatment, reason: 1. retreatment / 2. extrapulm. / 3. extensive / 4. interrupted treatment / 5. drug resistance / 6. poor response / 7. non-standard regimen / 8. DM or on immunosuppressives etc / 9. others, specify: _____
- Died □ Cause: 1. TB-related / 2. Not TB-related / 3. Unknown Date of death (dd/mm/yyyy): ____/____/_____

(3) Transferred □ to: 1. GP / 2. Chest Clinic / 3. Hospital / 4. Outside HK Details: _____

Last treatment date (dd/mm/yyyy): ____/____/_____

(4) Defaulted (defaulted treatment for a continuous period > 2m) □

- Never found □ Last visit date (dd/mm/yyyy): ____/____/_____
- Retreated after default □ Treatment re-started date (dd/mm/yyyy): ____/____/_____
- Treatment stopped by doctor □ Last treatment date (dd/mm/yyyy): ____/____/_____

(5) Failure (persistent positive bacteriology and treatment stopped) □

(6) Wrong / revised diagnosis □ Last treatment date (dd/mm/yyyy): ____/____/_____

- New diagnosis: _____

Completed by: _____ (name) Tel: _____ Fax: _____

Institution: 1.Chest Clinic/ 2.Chest Hospital/ 3.General Hospital/ 4.Private Practice. ; Name (and ward) of institution: _____

[After completion, this form should be sent to:

1. *<u>for chest clinics</u>: General Office, Tung Chung Chest Clinic, 1/F, Tung Chung Health Centre, Block 1, 6 Fu Tung Street, Tung Chung, Lantau Island. Fax: (852)2109 2240.*
2. *<u>for Correctional Services Department</u>: Statistics Unit, Tuberculosis and Chest Service Headquarters, 1/F, Wanchai Polyclinic, 99 Kennedy Road, Hong Kong. Fax: (852)2572 8921.]*