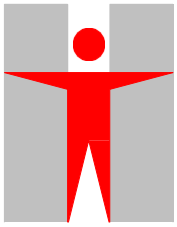
Annual Report
Tuberculosis & Chest Service
2023



Department of Health
Hong Kong Special Administrative Region

CONTENT

CONTENT

CONTENT

I. Preface

Global Epidemiology

Tuberculosis (TB) has been a deadly infectious disease since ancient times. With the continuous advancements in its prevention, diagnosis and treatment over the past century, TB is now a curable and preventable disease. Nevertheless, it remains a major global health threat nowadays. TB reverted to being the world's leading cause of death from a single infectious agent when COVID-19 was no longer a public health emergency in 2023. Globally, there were 1.25 million people died from TB, among which about 161 000 people had HIV-associated TB. An estimated 10.8 million people fell ill with TB. Out of them, around 55% and 33% were men and women respectively. The remaining 12% was children and adolescents. The TB incidence rate was 134 per 100 000 population. Most of them were in the World Health Organization (WHO) regions of South-East Asia (45%), Africa (24%) and the Western Pacific (17%).

In 2015, The WHO End TB Strategy set an aggressive target of reduction in TB incidence by 90%, TB deaths by 95%, and to eliminate catastrophic costs for TB-affected households by 2035. The initial progress achieved has been offset by the impact of COVID-19. Globally, there was a continuous rise in number of newly diagnosed TB cases from 5.8 million in 2020 to 8.2 million in 2023 due to the after-effects of disruptions to TB services during the pandemic.

Although the estimated annual number of multidrug-resistant and rifampicin-resistant TB (MDR/RR-TB) globally was relatively stable from 410 000 in 2020 to 400 000 in 2023, only less than half (44%) of them were diagnosed and treated for MDR/RR-TB. The problem of MDR/RR-TB remains as one of the major global health challenges.

Local epidemiology

Despite having an intermediate burden of TB, the progress of TB control in Hong Kong has been sustained with the city's effective infrastructure and all stakeholders' concerted efforts in the past decades. 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 42.8 per 100 000 in 2023. Even when there was a continuous surge in the number of newly diagnosed TB cases globally from 2020 to 2023 consecutively, an overall gradual decline of TB incidence (from 3 656 in 2020 to 3 228 in 2023 with 12% decline) was maintained locally.

TB death remained outside the top ten causes of death and accounted for only 0.4% or less of the total registered deaths in the past decade.

However, the decline in TB notification rate has been notably stunted in recent years due to the ageing population which harbours a huge pool of latent TB infection (LTBI) accompanied by waning immunity due to senility and comorbidities. To tackle the problem, the local preventive treatment for targeted household contacts with LTBI has been extended to those age under 65. Despite an increased accessibility of diagnostic tools in screening LTBI and the promotion of TB preventive treatment (TPT), clients' limited acceptance and treatment-related adverse events such as hepatotoxicity in particular among the older age group precluded household contacts from widely adopting TPT.

Challenges on TB Control

Ageing Population

The local population rose from 6.73 million to 7.54 million from 2003 to 2023. Of which 11.8% and 21.8% were aged 65 or above in 2003 and 2023 respectively. It is projected that more than a quarter of the local population will be 65 or above by 2030. Not surprisingly, the proportion of TB notifications aged 65 or above rose from 36.1% in 2003 to 51.9% in 2023 and the 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 76.9 in 2023 and 84.4% of fatal cases were aged 65 years or older. Management of TB in elderly is challenging. In general, they are more prone to hepatotoxicity and other adverse effects during anti-TB treatment when compared with the younger age groups because of their higher risk of comorbidities and limited organ reserves. Close monitoring of any side-effects along with cautious adjustment of treatment regimen is of paramount importance during treatment.

Co-morbidities of TB patients

Some well-known comorbidities such as HIV, diabetes mellitus, malnutrition, substance use disorder, cancer and diseases treated with immunosuppressive drugs actually are risk factors which drive the global TB epidemic. They may be associated with less favourable TB treatment outcomes. At the same time, TB and its treatment may also complicate the management of comorbidities. Collaboration with relevant specialties throughout the entire course of anti-TB treatment is essential to achieve treatment success.

Globally, diabetes mellitus (DM) is associated with a 2-3 times risk of TB disease, a twofold risk of death during TB treatment and a fourfold risk of TB relapse after treatment completion. Locally, DM is the commonest TB comorbidity and is found in around 20% of TB patients attending chest clinic.

As demonstrated in a previous local study, they had more extensive TB disease, more adverse effects from treatment and lower success rates as compared with non-diabetic patients.

HIV infection is another globally leading risk factor for developing TB disease. In Hong Kong, the prevalence of HIV co-infection among TB patients has remained below 1% in 2023. Routine screening for DM and HIV is offered to all TB patients attending chest clinics in our service.

Multidrug-resistant and extensively drug-resistant tuberculosis

With all the concerted efforts, the local rate of MDR/RR-TB remained low in 2023, being less than 1 % of all culture-confirmed TB cases in 2023. There was no case of extensively drug-resistant TB (XDR-TB). The treatment success rate of MDR/RR-TB was high at about 80%. Given the high rate of DR-TB in some neighbouring areas with frequent population movement to and fro, our locality is constantly at risk of possible cross-border transfer of DR-TB. Yet, continuous vigilance of early diagnosis and treatment of DR-TB, together with appropriate public health measures are of utmost importance.

In addition to sputum smear analysis by automated systems and novel rapid molecular testing, TB Reference Laboratory of the Department of Health has started drug susceptibility testing by Whole Genome Sequencing (WGS) since August 2023. These advance technologies greatly help early detection of TB as well as the underlying drug resistance if any, and hence facilitates prompt initiation of effective treatment.

To improve the treatment and care of patients with DR-TB, WHO has prioritized a new 6-month regimen (BPaLM/BPaL: Bedaquiline, Pretomanid and Linezolid with/without Moxifloxacin) as the treatment of choice for eligible MDR/RR-TB patients since 2022, 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, limited availability of pretomanid remained an issue to be solved in some regions including Hong Kong in 2023.

Given the potential impact of MDR/RR-TB on public health, close liaison with HA colleagues is maintained regularly. The in-patient management of these challenging cases is supported by the two designated hospital units under the Hospital Authority (HA), namely the TB & Chest Medicine Unit in Grantham Hospital and the Respiratory Medicine Unit in Kowloon Hospital. The joint case conferences are conducted biweekly 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 enhance the systemic collection, analysis and reporting of data related to TB infection and disease locally. 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 TB control in our own locality and to evaluate possible influences from our neighbouring regions. Application of novel molecular tests greatly helps rapid detection of TB as well as the possible underlying drug resistance among sputum smear-positive cases and selected smear-negative cases. With the advancement in WGS support, timely initiation of effective regimen has been made feasible. In addition, WGS data facilitates TB surveillance and cluster investigation by providing useful insight in TB transmission.

Effective anti-tuberculosis treatment

Effective first-line anti-TB treatment under directly observed therapy remains to be the cornerstone of TB control. For DR-TB, results of treating MDR/RR-TB and XDR-TB patients with new drugs and repurposed agents are promising in recent years. 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 December 2022, WHO has further updated the recommendations on treatment of MDR/RR-TB. A 6-month treatment regimen (BPaLM/BPaL) is recommended in place of the 9-month or longer (18-20 months) regimens in MDR/RR-TB patients (except TB involving central nervous system, miliary TB and osteoarticular TB). In addition, the use of the 9-month all-oral regimen is preferred than longer regimen after resistance to fluoroquinolones has been excluded. Longer regimens remain a valid option in all cases in which shorter regimens cannot be implemented due to intolerance, drug-drug interactions, extensively drug-resistant tuberculosis, extensive forms of extrapulmonary TB, or previous failure. Although the 6-month all-oral shorter regimen (BPaLM/BPaL) has been proven safe and effective, the limited accessibility of pretomanid precluded local implementation of the regimen in 2023.

Tuberculosis Preventive Treatment (TPT) for LTBI

Targeted screening for LTBI in 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 employed. For Tuberculosis Preventive Treatment (TPT), six-to-nine-month Isoniazid, 12-doses weekly rifapentine plus isoniazid regimen given

under supervision and 4-month rifampicin are the regimens commonly offered. The overall completion rate of TPT in household contacts in 2023 was 80%.

Neonatal BCG vaccination

BCG vaccination is currently the only available TB vaccine with well 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 sustained over 99% in 2023. BCG vaccine is also recommended for children in HK under 15 years old who have never received it before.

Public health function

With the concerted efforts of all stakeholders, satisfactory anti-TB treatment compliance is achieved in vast majority of TB patients cared by TB&CS. 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. When all other non-coercive measures such as counselling, education and psychosocial support fail, they would be considered as a last resort on a case-by-case basis. TB&CS has optimized use of the statutory enforcement actions as necessary to effectively contain TB transmission within our community. Cross-jurisdiction notification has also been enhanced when managing TB cases leaving Hong Kong.

In addition, TB&CS is also responsible for investigating suspected TB outbreaks in institutions, screening for TB contacts in air flight and enforcing TB reporting. A press release related to TB statistics in school setting has been regularly issued to raise the public awareness of TB and to reinforce the importance of early identification and treatment of TB especially in the setting of educational institution.

Collaboration with other research parties

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 prevention and control of TB. 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 cities of Mainland.

Health Promotion

The negative impact of smoking on TB has been well illustrated in literatures. Studies showed that tobacco smoking increased the risk of TB infection and disease, adversely affected the treatment response and also increased the risk of relapse. In collaboration with the Tobacco and Alcohol Control Office, TB&CS is keen to promote smoking cessation by providing very brief advice on smoking cessation to chest clinic clients with smoking habits.

To echo the World TB Day on 24 March 2023, a series of activities were conducted. These included refreshing TB information on TB&CS website and launching an Announcement for Public Interest (API) on TV, radio and other media. Vigilance against TB was also promoted through a live interview via the RTHK radio programme "Healthpedia" and an article in a health column of a local newspaper.

Public awareness of TB and support from various community stakeholders is indispensable to the success of TB control. In 2023, TB&CS delivered 2 989 health talks in chest clinics or institutions with over twenty thousand participants in total joining the events and more than two hundred clients were enrolled in the support group service.

With all these activities, TB&CS continues our commitment in close collaboration with other health care workers, the public and all other stakeholders to fight against this endemic disease.

II. Tuberculosis & Chest Service

Approximately 80% of notified TB cases are managed in the Government TB&CS. In 2023, a total of 52 547 persons (including 8 656 new patients) attended chest clinics and the total attendance was 468 068. The corresponding figures in 2022 were 51 880 and 408 463. The slight rise in total attendance in 2023 was attributed to the end of COVID-19 pandemic with lifting of all related restrictions.

The diagnoses among new patients included active pulmonary TB (18.9%), active TB of other forms (7.5%), inactive TB (2.3%), CXR screening and contact examination (29.9%), bronchitis not specified as acute or chronic (2.2%), acute respiratory infection and pneumonia (4.3%), malignant neoplasm of trachea and bronchus (0.6%) and other respiratory symptoms or diseases (13.0%). A total of 635 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 2023, 156 cases with suspected pneumoconiosis or mesothelioma were examined by the Board under the Ordinance, and 98 new patients (78 cases of silicosis, 3 cases of asbestos-related lung disease, 17 cases of mesothelioma) were confirmed by the Board. Up to the end of 2023, a total of 5 564 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 2023

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 2023---*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
2023	3 228	(0)	59	42.8	173	2.3	18.7	5.4

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.

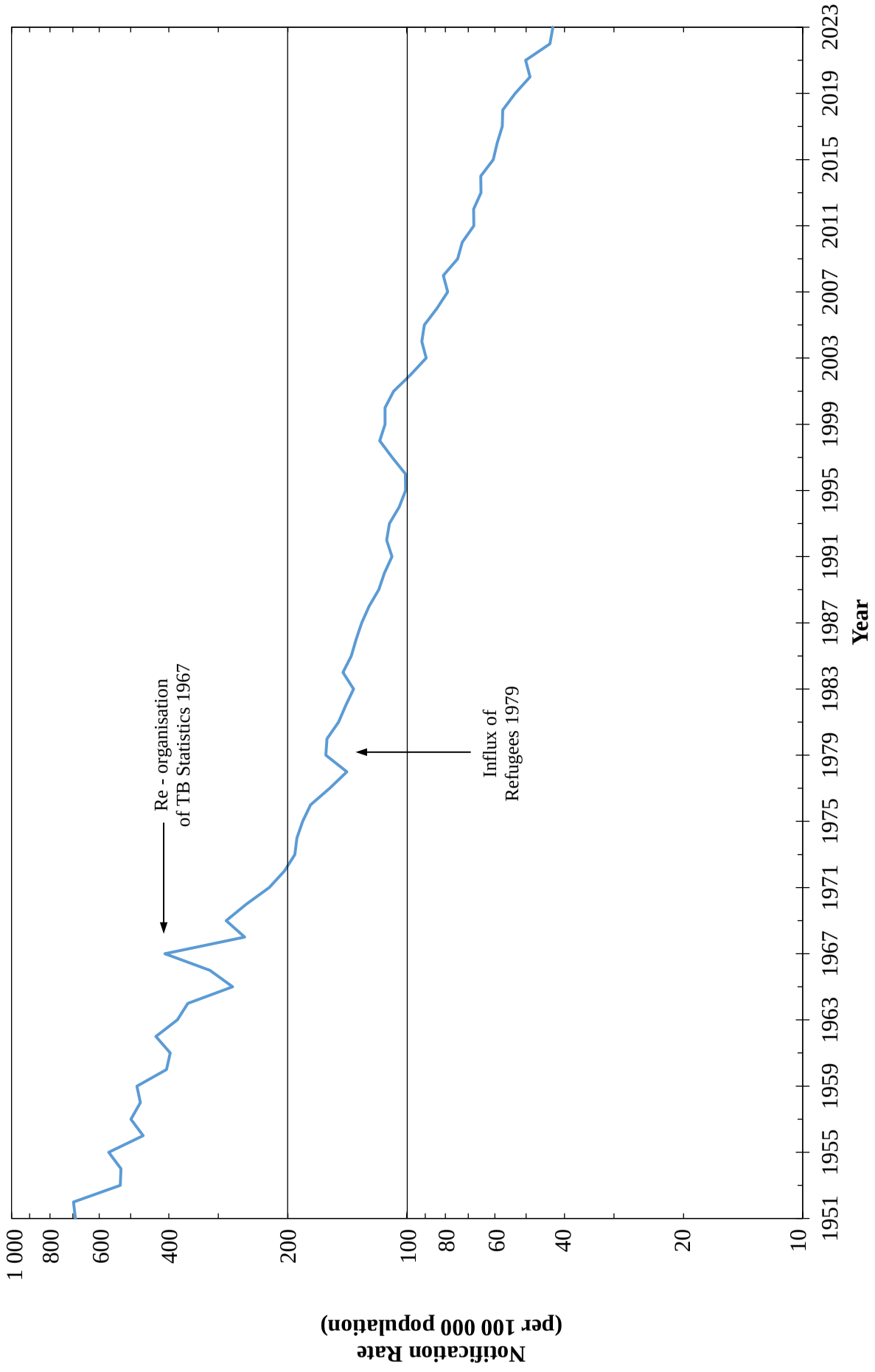
(3) Notification rate per 100 000 population.

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

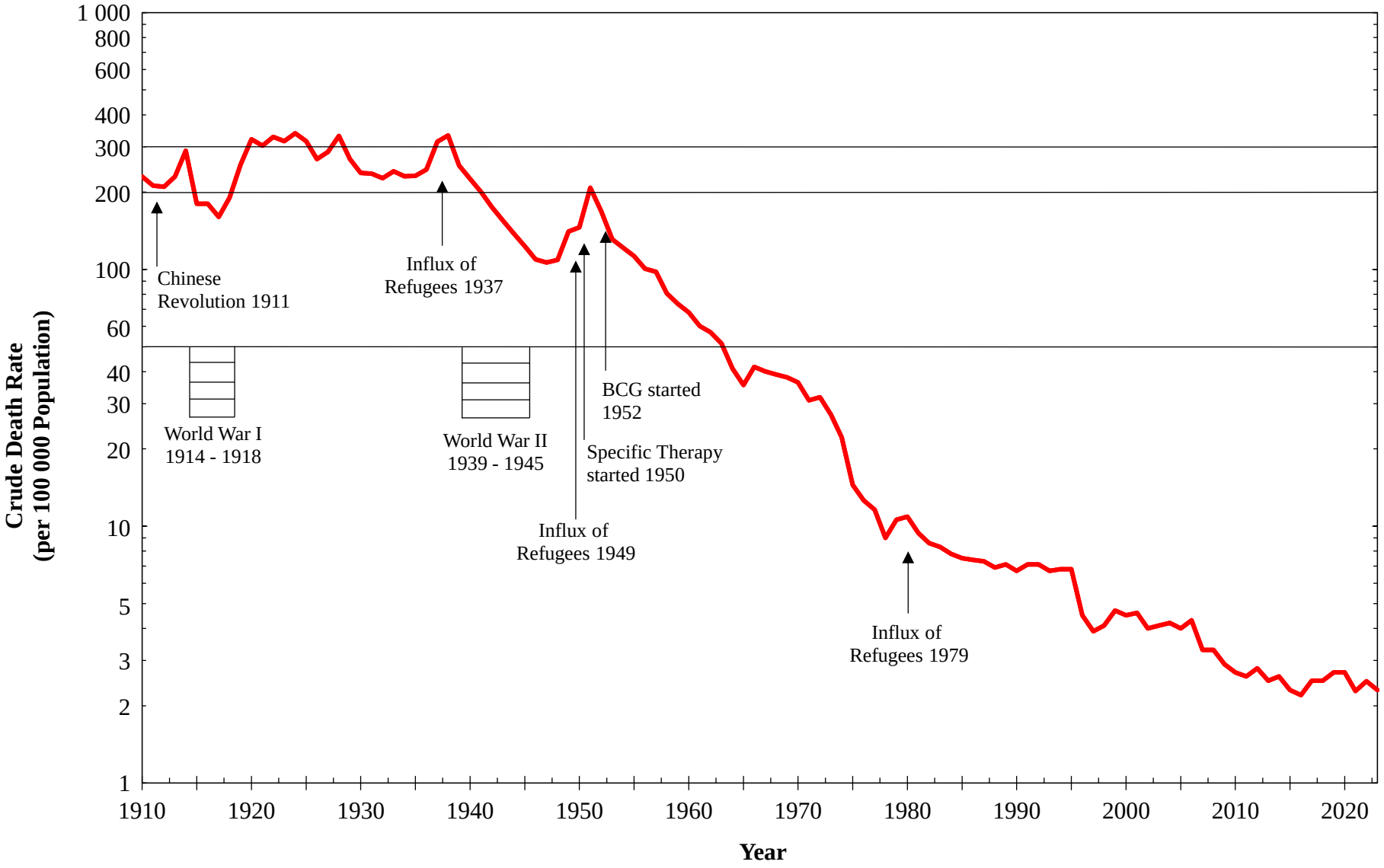
(5) Death rate per 100 000 population.

(6) Ratio of Tuberculosis notifications per death.

Appendix 2 TB Notification Rate (All Forms) from 1951 to 2023



Appendix 3 Crude Death Rate due to Tuberculosis (All forms) from 1910 to 2023



Appendix 4(a) Tuberculosis (All Forms) Notification and Rate by Sex and Age 2023

Age group	TB notifications			Notification rate [(1)]		
	Male	Female	Total	Male	Female	Total
Under 1	0	0	0	0.96	2.05	1.49
1	0	0	0			
2	0	0	0			
3	1	0	1			
4	0	2	2			
5 - 9	2	1	3	1.45	0.76	1.11
10 - 14	4	4	8	2.47	2.69	2.58
15 - 19	8	18	26	5.33	12.73	8.92
20 - 24	22	34	56	13.83	21.34	17.59
25 - 29	34	63	97	16.55	27.78	22.44
30 - 34	42	75	117	18.53	26.24	22.83
35 - 39	44	87	131	18.98	26.13	23.19
40 - 44	60	82	142	25.13	22.69	23.66
45 - 49	86	71	157	36.69	21.35	27.69
50 - 54	106	97	203	43.02	28.42	34.54
55 - 59	149	86	235	56.81	26.10	39.71
60 - 64	270	105	375	88.26	30.82	58.00
65 - 69	292	94	386	105.80	32.14	67.90
70 - 74	272	94	366	132.36	42.86	86.16
75 - 79	216	71	287	177.05	53.75	112.95
80 - 84	197	58	255	254.85	71.34	160.78
85 & over	241	140	381	268.97	95.69	161.51
All age groups	**2 046**	**1 182**	**3 228**	**59.56**	**28.82**	**42.83**

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

Appendix 4(b) Pulmonary Tuberculosis Notification by Sex and Age 2023

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	1	0	1	0	0	0	0	0	0
4	0	1	1	0	0	0	0	0	0
5 - 9	1	0	1	0	0	0	0	0	0
10 - 14	4	3	7	2	1	3	0	0	0
15 - 19	8	16	24	5	8	13	3	3	6
20 - 24	21	28	49	13	14	27	6	6	12
25 - 29	25	45	70	16	34	50	3	13	16
30 - 34	28	57	85	20	41	61	6	25	31
35 - 39	34	55	89	26	39	65	17	20	37
40 - 44	52	55	107	34	34	68	14	19	33
45 - 49	67	53	120	45	26	71	28	16	44
50 - 54	89	56	145	59	39	98	30	16	46
55 - 59	131	51	182	88	34	122	48	14	62
60 - 64	236	70	306	176	47	223	68	13	81
65 - 69	254	58	312	179	33	212	65	8	73
70 - 74	231	65	296	168	51	219	50	16	66
75 - 79	186	55	241	136	41	177	49	10	59
80 - 84	165	44	209	135	29	164	36	9	45
85 & over	205	112	317	170	90	260	36	27	63
All age groups	**1 738**	**824**	**2 562**	**1 272**	**561**	**1 833**	**459**	**215**	**674**

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 2023

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	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
5 - 9	0.7	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
10 - 14	2.5	2.0	2.3	1.2	0.7	1.0	0.0	0.0	0.0
15 - 19	5.3	11.3	8.2	3.3	5.7	4.5	2.0	2.1	2.1
20 - 24	13.2	17.6	15.4	8.2	8.8	8.5	3.8	3.8	3.8
25 - 29	12.2	19.8	16.2	7.8	15.0	11.6	1.5	5.7	3.7
30 - 34	12.4	19.9	16.6	8.8	14.3	11.9	2.6	8.7	6.0
35 - 39	14.7	16.5	15.8	11.2	11.7	11.5	7.3	6.0	6.6
40 - 44	21.8	15.2	17.8	14.2	9.4	11.3	5.9	5.3	5.5
45 - 49	28.6	15.9	21.2	19.2	7.8	12.5	11.9	4.8	7.8
50 - 54	36.1	16.4	24.7	23.9	11.4	16.7	12.2	4.7	7.8
55 - 59	49.9	15.5	30.8	33.5	10.3	20.6	18.3	4.2	10.5
60 - 64	77.1	20.5	47.3	57.5	13.8	34.5	22.2	3.8	12.5
65 - 69	92.0	19.8	54.9	64.9	11.3	37.3	23.6	2.7	12.8
70 - 74	112.4	29.6	69.7	81.8	23.3	51.6	24.3	7.3	15.5
75 - 79	152.5	41.6	94.8	111.5	31.0	69.7	40.2	7.6	23.2
80 - 84	213.5	54.1	131.8	174.6	35.7	103.4	46.6	11.1	28.4
85 & over	228.8	76.6	134.4	189.7	61.5	110.2	40.2	18.5	26.7
All age groups	**50.6**	**20.1**	**34.0**	**37.0**	**13.7**	**24.3**	**13.4**	**5.2**	**8.9**

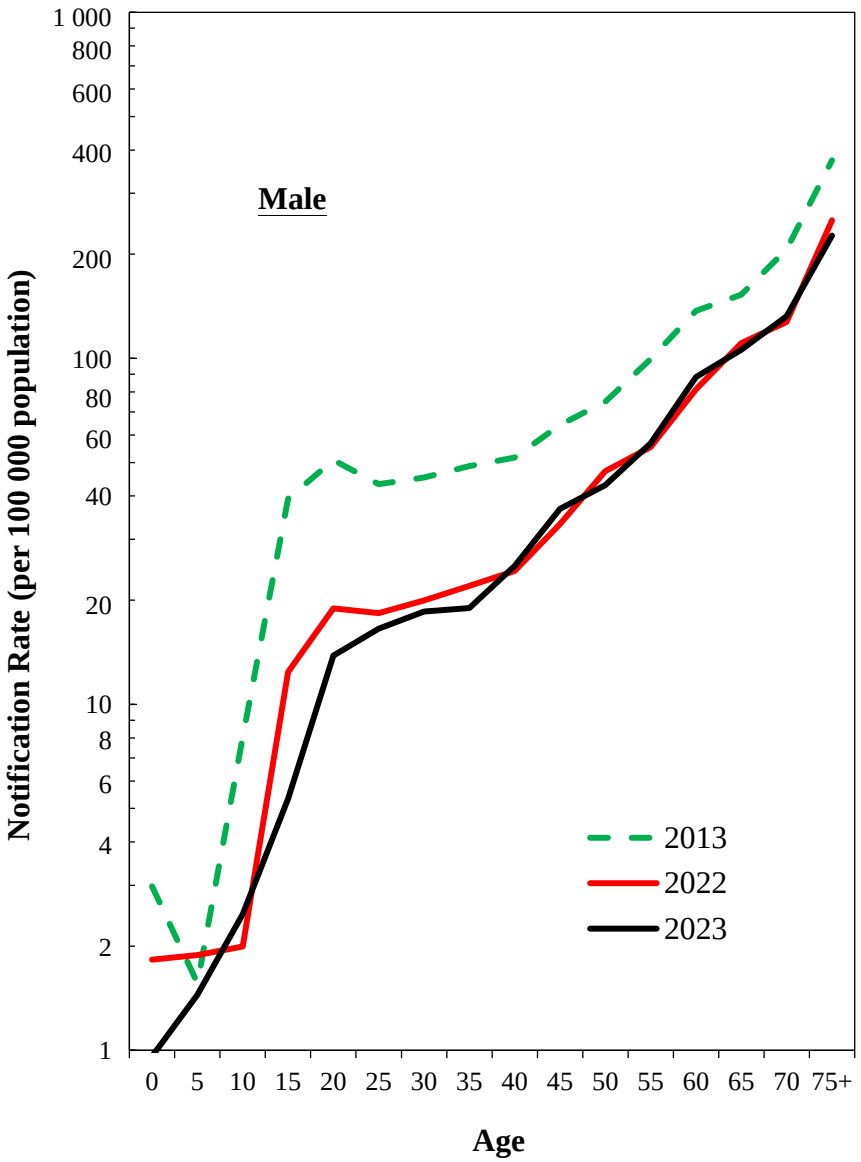
Notes:

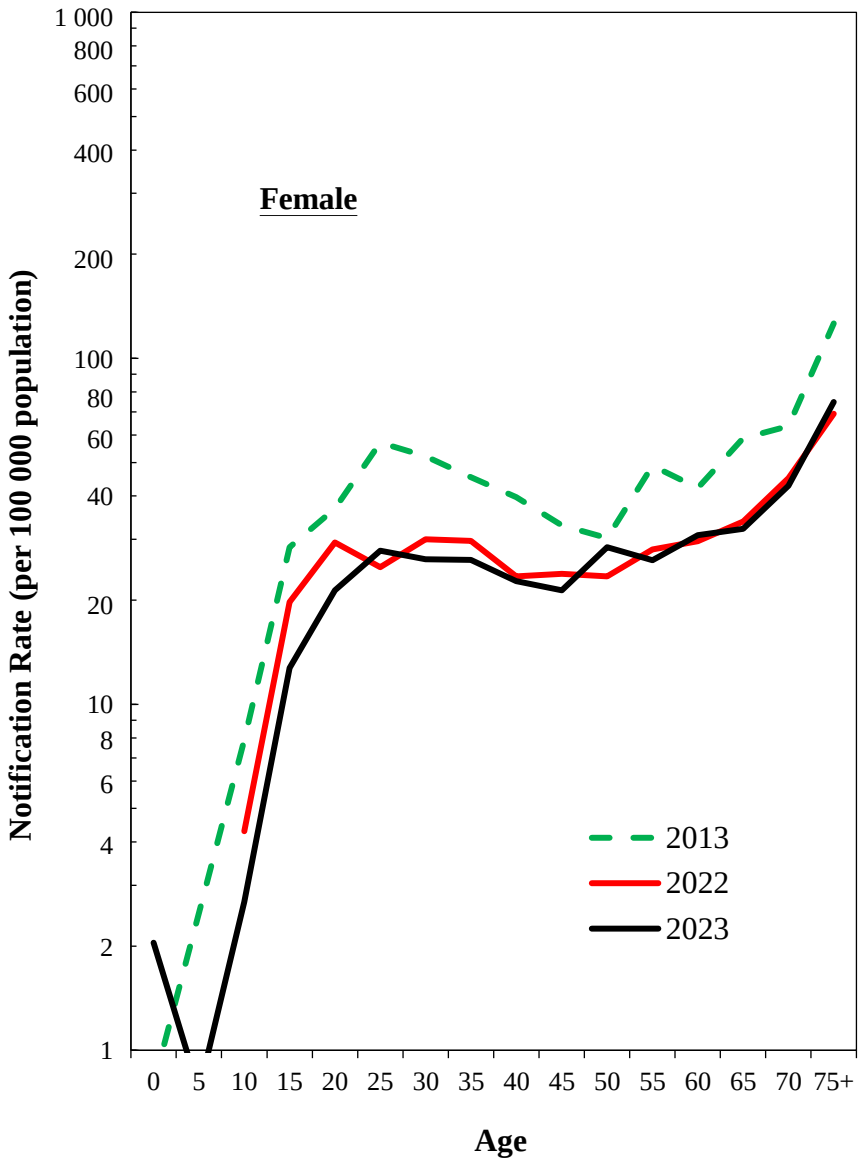
(1) Notification rate per 100 000 population.

(2) Pulmonary TB with or without extrapulmonary TB.

(3) Either smear or culture positive.

Appendix 5 Tuberculosis Notification Rate by Sex and Age 2013, 2022 and 2023





Appendix 6 Notification of TB by TB Types, Sex and Age 2023 [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	0	0	0
3	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
4	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1
5 - 9	1	0	1	0	0	0	0	0	0	0	0	0	1	1	2
10 - 14	3	3	6	1	0	1	0	0	0	0	0	0	0	1	1
15 - 19	7	12	19	0	0	0	0	0	0	0	0	0	1	6	7
20 - 24	19	23	42	0	1	1	1	0	1	0	1	1	2	9	11
25 - 29	20	37	57	2	0	2	0	1	1	2	2	4	10	24	34
30 - 34	24	48	72	0	1	1	1	1	2	1	0	1	16	26	42
35 - 39	29	41	70	0	3	3	2	2	4	0	2	2	13	42	55
40 - 44	39	42	81	3	0	3	0	3	3	1	1	2	18	37	55
45 - 49	58	44	102	1	0	1	0	0	0	1	6	7	26	22	48
50 - 54	78	45	123	2	1	3	0	0	0	3	4	7	24	48	72
55 - 59	111	45	156	4	0	4	2	2	4	4	2	6	30	37	67
60 - 64	208	60	268	0	0	0	4	0	4	6	6	12	54	40	94
65 - 69	222	53	275	5	1	6	1	1	2	3	6	9	63	34	97
70 - 74	203	58	261	5	2	7	5	1	6	5	1	6	54	33	87
75 - 79	163	52	215	3	2	5	1	1	2	7	0	7	44	16	60
80 - 84	148	42	190	0	0	0	0	1	1	3	3	6	45	12	57
85 & over	182	101	283	1	1	2	0	2	2	2	5	7	57	32	89
All age groups	**1 516**	**707**	**2 223**	**27**	**12**	**39**	**17**	**15**	**32**	**38**	**39**	**77**	**458**	**421**	**879**

Notes:

(1) The total number of all age groups in this table add up to greater than the notification number of 3 228 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	28
TB Lymph node	296
TB Peritonitis, intestines, mesenteric, appendicitis	80
TB Pleuritis, pleural effusion	359
TB Skin	30
TB Urogenital system	44
Unspecified	42

Appendix 7 Tuberculosis (All Forms) Deaths and Rate by Sex and Age 2023

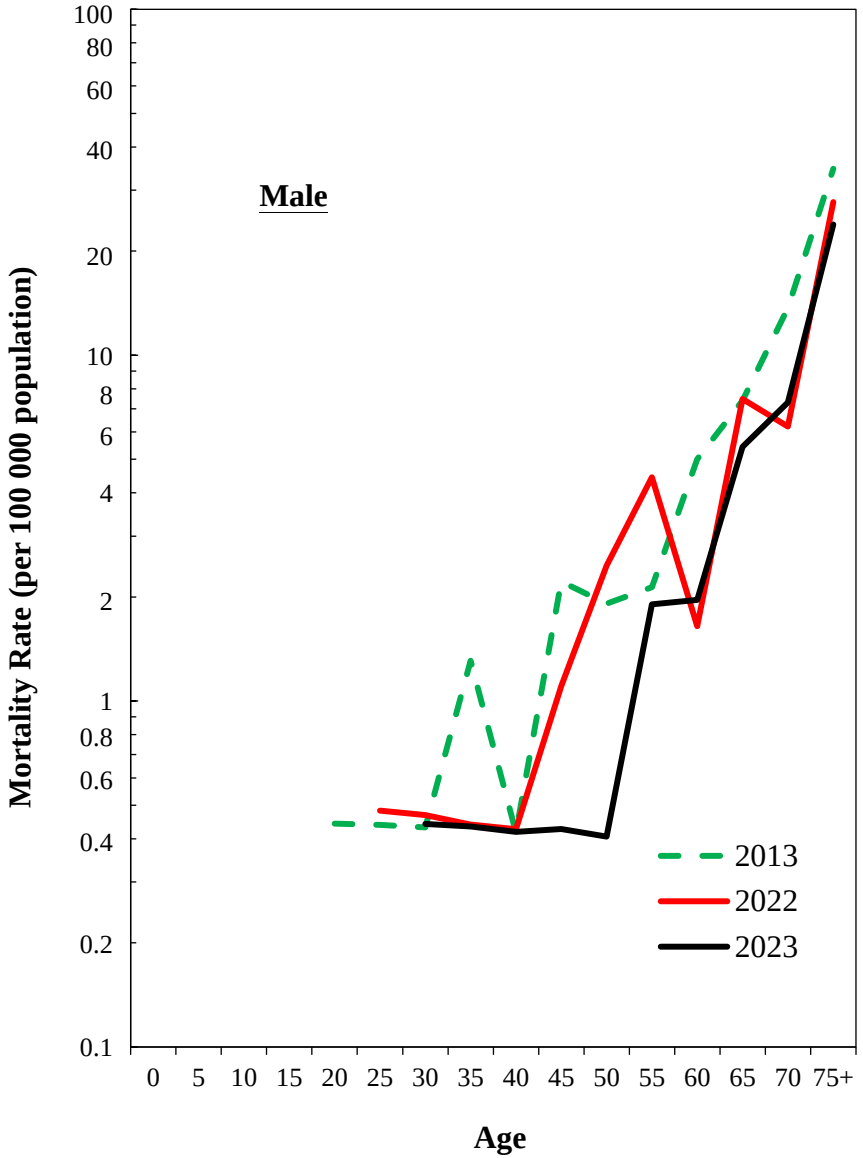
Age group	Tuberculosis (all forms) death [1]			Death rate [2]		
	Male	Female	Total	Male	Female	Total
Under 1	0	0	0	0.00	0.00	0.00
1	0	0	0			
2	0	0	0			
3	0	0	0			
4	0	0	0			
5 - 9	0	0	0	0.00	0.00	0.00
10 - 14	0	0	0	0.00	0.00	0.00
15 - 19	0	1	1	0.00	0.71	0.34
20 - 24	0	1	1	0.00	0.63	0.31
25 - 29	0	0	0	0.00	0.00	0.00
30 - 34	1	0	1	0.44	0.00	0.20
35 - 39	0	0	0	0.00	0.00	0.00
40 - 44	1	0	1	0.42	0.00	0.17
45 - 49	1	2	3	0.43	0.60	0.53
50 - 54	1	2	3	0.41	0.59	0.51
55 - 59	5	4	9	1.91	1.21	1.52
60 - 64	6	2	8	1.96	0.59	1.24
65 - 69	15	2	17	5.43	0.68	2.99
70 - 74	15	6	21	7.30	2.74	4.94
75 - 79	14	6	20	11.48	4.54	7.87
80 - 84	21	10	31	27.17	12.30	19.55
85 & over	34	23	57	37.95	15.72	24.16
All age groups	**114**	**59**	**173**	**3.32**	**1.44**	**2.30**

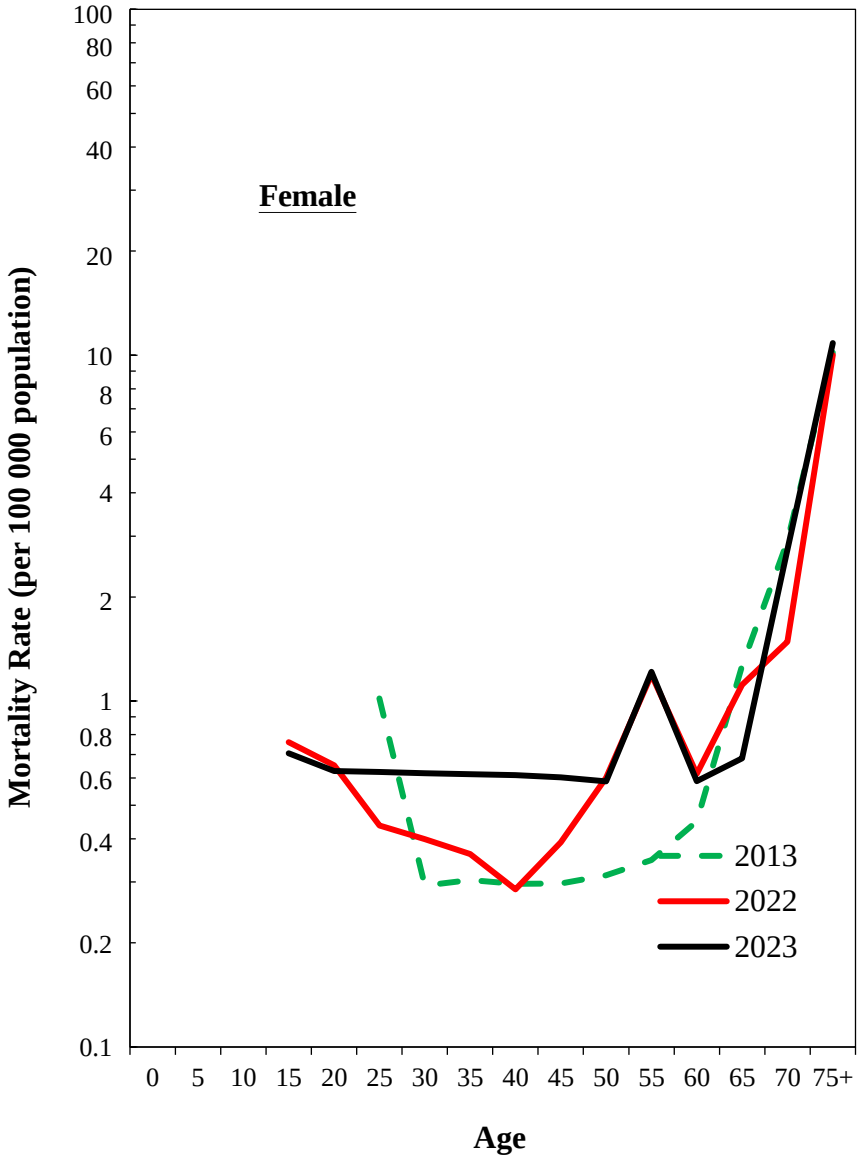
Notes:

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

(2) Death rate per 100 000 population.

Appendix 8 Tuberculosis Mortality Rate by Sex and Age 2013, 2022 and 2023





Appendix 9 Tuberculosis Deaths by TB Types, Sex and Age 2023 (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	1	1	0	0	0	0	0	0	0	0	0	0	0	0
20 - 24	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
25 - 29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 - 34	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
35 - 39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 - 44	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
45 - 49	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0
50 - 54	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0
55 - 59	3	3	6	1	0	1	1	0	1	0	0	0	0	1	1
60 - 64	3	2	5	1	0	1	0	0	0	0	0	0	2	0	2
65 - 69	13	2	15	1	0	1	0	0	0	0	0	0	1	0	1
70 - 74	15	3	18	0	2	2	0	1	1	0	0	0	0	0	0
75 - 79	12	6	18	1	0	1	1	0	1	0	0	0	0	0	0
80 - 84	20	7	27	1	2	3	0	1	1	0	0	0	0	0	0
85 & over	31	17	48	2	4	6	0	0	0	0	1	1	1	1	2
All age groups	**99**	**45**	**144**	**7**	**9**	**16**	**3**	**2**	**5**	**0**	**1**	**1**	**5**	**2**	**7**

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 skin and subcutaneous tissue	1
Total	7

Appendix 10 Tuberculosis Mortality from 1950 to 2023

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 2023 ---*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
2023	0.00	0.00	0.0	0.3	76.9

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 2023

Rank	Causes of Death	Detailed list no. ICD 10th Revision ^	Number of Deaths		
			Male	Female	Total %
	All Causes		31 421	25 353	56 776 (2)
1	Malignant neoplasms	C00-C97	8 489	6 378	14 867
2	Pneumonia	J12-J18	6 166	5 168	11 334
3	Diseases of heart	I00-I09, I11, I13, I20-I51	4 214	3 044	7 258
4	Cerebrovascular diseases	I60-I69	1 568	1 480	3 048
5	Coronavirus disease 2019 #	-	1 456	1 138	2 594
6	External causes of morbidity and mortality @	V01-Y89	1 556	821	2 377
7	Nephritis, nephrotic syndrome and nephrosis	N00-N07, N17-N19, N25-N27	836	920	1 756
8	Dementia	F01-F03	554	983	1 537
9	Septicaemia	A40-A41	680	650	1 330
10	Chronic lower respiratory diseases	J40-J47	1 014	254	1 268
	Tuberculosis (including late effects of tuberculosis)		114	59	173
	All other causes	Residues of all causes	4 774	4 458	9 234 (2)

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 2013 to 2023

Clinic / Hospital	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
East Kowloon Chest Clinic	83	83	105	83	83	83	76	49	60	55	53
Kowloon Chest Clinic	167	127	95	98	98	94	65	74	60	58	59
Sai Ying Pun Chest Clinic	79	70	69	59	61	72	40	47	43	27	35
Shaukiwan Chest Clinic	74	66	72	56	45	67	42	37	33	35	26
Shaukiwan Pneumoconiosis	2	9	0	5	7	2	0	0	0	7	5
Shek Kip Mei Chest Clinic	95	80	89	83	70	66	44	38	32	49	46
South Kwai Chung Chest Clinic	122	127	103	98	99	106	69	79	70	87	60
Tai Po Chest Clinic	93	64	54	63	60	44	35	31	30	23	22
Wanchai Chest Clinic	113	95	89	83	88	71	56	47	53	58	41
Yan Oi Chest Clinic	146	104	105	109	100	75	84	69	70	63	42
Yaumatei Chest Clinic	112	101	92	82	81	91	72	54	42	60	70
Yuen Chau Kok Chest Clinic	110	98	80	80	81	73	75	55	67	59	42
Yung Fung Shee Chest Clinic	86	92	87	75	73	66	46	60	55	43	56
Cheung Chau Chest Clinic	0	0	0	2	1	0	0	0	0	0	0
Sai Kung Chest Clinic	4	2	3	1	2	1	6	1	0	2	2
Sheung Shui Chest Clinic	30	33	22	30	29	31	18	18	13	12	17
Tung Chung Chest Clinic	11	11	9	21	12	17	19	6	7	7	7
Yuen Long Chest Clinic	66	51	67	53	59	48	36	34	35	33	42
Sub-total	1 393	1 213	1 141	1 081	1 049	1 007	783	699	670	678	625
Grantham Hospital	148	140	166	148	128	113	109	113	88	69	75
Haven of Hope Hospital	77	95	96	86	68	69	66	52	57	53	53
Kowloon Hospital	64	74	105	111	111	108	104	104	91	60	83
Ruttonjee Hospital	127	140	109	122	117	113	123	101	77	64	53
Wong Tai Sin Hospital	86	69	62	47	49	63	39	27	39	18	34
Other Govt. Institutions [(1)]	51	61	49	53	58	80	70	70	97	65	66
Other HA Hospitals	2 377	2 578	2 370	2 343	2 309	2 357	2 319	2 200	2 246	1 909	2 007
Private Practitioners	118	129	122	146	141	139	173	131	153	125	89
Private Hospitals	223	206	198	209	220	219	217	159	198	159	143
Total	4 664	4 705	4 418	4 346	4 250	4 268	4 003	3 656	3 716	3 200	3 228
% of cases from Chest Clinics among the total	29.9	25.8	25.8	24.9	24.7	23.6	19.6	19.1	18.0	21.2	19.4
% from Chest Hospitals [(2)]	10.8	11.0	12.2	11.8	11.1	10.9	11.0	10.9	9.5	8.3	9.2
% from Other Govt. Institutions & HA Hospitals	52.1	56.1	54.8	55.1	55.7	57.1	59.7	62.1	63.1	61.7	64.2
% from Private Sector	7.3	7.1	7.2	8.2	8.5	8.4	9.7	7.9	9.4	8.9	7.2

Notes:

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

(2) 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) 2023

Name of Hospital	Number of TB Notification
Alice Ho Miu Ling Nethersole Hospital	46
Caritas Medical Centre	126
Cheshire Home, Chung Hom Kok	1
Hong Kong Buddhist Hospital	7
Kwong Wah Hospital	155
North District Hospital	89
North Lantau Hospital	6
Our Lady of Maryknoll Hospital	5
Pamela Youde Nethersole Eastern Hospital	110
Pok Oi Hospital	81
Prince of Wales Hospital	201
Princess Margaret Hospital	187
Queen Elizabeth Hospital	217
Queen Mary Hospital	97
Shatin Hospital	14
Tai Po Hospital	3
Tin Shui Wai Hospital	51
Tseung Kwan O Hospital	108
Tuen Mun Hospital	174
Tung Wah Eastern Hospital	5
Tung Wah Group of Hospitals - Fung Yiu King Hospital	2
Tung Wah Hospital	5
United Christian Hospital	215
Yan Chai Hospital	102
Total	**2 007**

Appendix 13 Tuberculosis Notification and Notification Rate by District Council Districts 2023

District Council Districts [(1)]	Notification	Notification Rate [(2)]
Hong Kong Island	**458**	**38.53**
Central & Western	96	40.80
Wanchai	53	32.12
Eastern	196	37.34
Southern	113	42.90
Kowloon	**1 246**	**55.44**
Kowloon City	173	41.40
Kwun Tong	382	56.85
Sham Shui Po	244	55.25
Wong Tai Sin	222	54.48
Yau Tsim Mong	225	72.93
NT (East)	**716**	**34.60**
Islands	55	27.78
North	144	41.93
Sai Kung/Tseung Kwan O	165	32.63
Shatin	261	37.02
Tai Po	91	28.66
NT (West)	**792**	**39.02**
Kwai Tsing	253	50.70
Tsuen Wan	93	29.59
Tuen Mun	182	33.67
Yuen Long	264	39.07
Unknown	**16**	**-**
All Districts	**3 228**	**42.83**

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	1
Nursing Officer	15	9
Registered Nurse	75	78
Enrolled Nurse	74	65
Senior Dispenser	9	7
Dispenser	9	11
Executive Officer I	1	1
Statistical Officer II	3	3
Personal Secretary I	1	0
Clerical Officer	16	14
Assistant Clerical Officer	20	20
Clerical Assistant	57	50
Office Assistant	7	3
Workman II	43	41
Senior Radiographer	3	2
Radiographer I	9	8
Radiographer II	25	21
Darkroom Technician (DT)	4	1

Note:

(1) Establishment and Strength as at 1.12.2023

Appendix 15 Total Attendance at Chest Clinics from 2013 to 2023

Clinic/Hospital	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
East Kowloon Chest Clinic	51 368	52 449	52 874	54 391	53 160	51 934	44 511	29 457	38 235	29 540	38 207
Kowloon Chest Clinic	52 766	52 423	45 953	45 938	46 887	41 671	39 824	27 042	32 512	25 695	32 034
Sai Ying Pun Chest Clinic	33 892	33 274	36 301	36 622	32 200	33 069	32 981	22 060	24 494	18 579	21 706
Shaukiwan Chest Clinic	42 335	44 417	45 789	42 426	37 176	41 212	36 847	22 732	28 912	22 299	29 201
Shaukiwan Pneumoconiosis	6 137	5 433	4 920	4 806	4 840	4 620	4 415	3 766	3 625	3 350	3 666
Shek Kip Mei Chest Clinic	49 164	51 852	48 142	47 816	47 374	42 544	35 852	26 910	33 024	18 227	28 222
South Kwai Chung Chest Clinic	75 062	73 740	78 403	73 985	67 149	65 577	64 475	47 908	57 156	46 058	51 543
Tai Po Chest Clinic	41 316	32 443	30 988	33 357	32 126	31 641	28 758	17 824	29 430	21 736	27 843
Wanchai Chest Clinic	47 901	49 276	43 900	45 326	42 857	39 552	33 359	24 457	33 697	26 641	25 149
Yan Oi Chest Clinic	64 184	60 278	60 770	61 780	64 016	67 621	67 664	44 535	53 510	42 335	42 448
Yaumatei Chest Clinic	61 905	60 937	57 835	58 938	55 234	50 246	52 632	37 475	51 400	40 027	44 320
Yuen Chau Kok Chest Clinic	67 573	60 396	51 136	56 538	63 228	58 485	53 972	40 180	48 115	36 788	42 583
Yung Fung Shee Chest Clinic	75 140	67 274	65 603	73 857	72 019	70 214	64 832	48 578	57 327	48 031	49 964
Castle Peak Hospital (ceased operation from 1 April 2015)	124	126	38	-	-	-	-	-	-	-	-
Cheung Chau Chest Clinic	1 356	1 273	1 562	1 139	1 781	1 415	1 317	1 046	944	602	571
Sai Kung Chest Clinic	1 542	1 371	1 513	1 385	1 248	1 383	1 304	1 255	932	558	660
Sheung Shui Chest Clinic	15 308	16 827	15 361	14 113	15 539	13 506	12 853	11 488	10 235	7 780	9 173
Tung Chung Chest Clinic	4 303	4 091	4 166	5 554	5 484	4 467	5 247	2 609	3 647	2 606	2 499
Yuen Long Chest Clinic	29 929	27 377	26 361	26 427	26 369	26 911	26 097	18 243	18 456	17 299	17 860
Hei Ling Chau ATC	240	162	127	117	130	121	82	43	41	64	57
Lai Chi Kok Reception Centre	279	250	278	234	245	242	192	113	48	42	99
Shek Pik Prison	192	184	199	189	159	152	113	110	72	74	53
Stanley Prison	488	443	360	367	282	234	208	138	118	132	210
Total	**722 504**	**696 296**	**672 579**	**685 305**	**669 503**	**646 817**	**607 535**	**427 969**	**525 930**	**408 463**	**468 068**

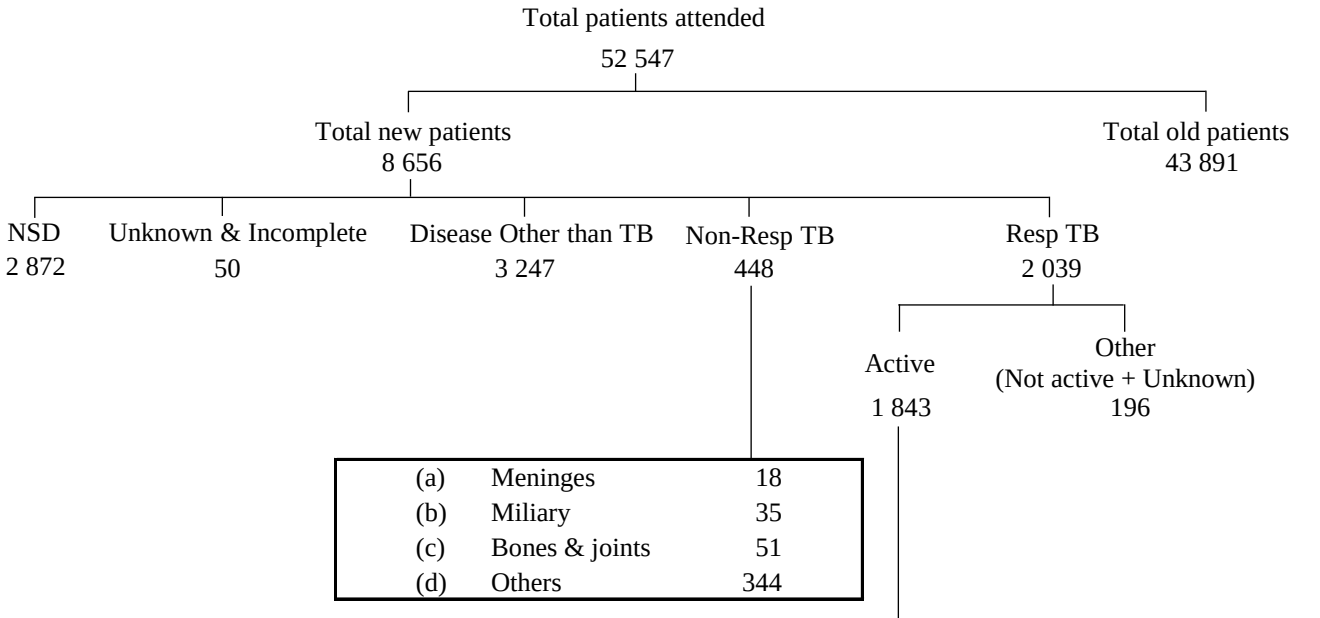
Appendix 16 Number of Doctor Sessions, Cases Seen by Doctor and Patient/Doctor Session 2023

Clinic/Institution	Doctor Sessions [1]	Cases Seen by Doctor	Cases/Doctor Session
Full Time Clinics			
East Kowloon	541	9 124	17
Kowloon	490	6 766	14
Sai Ying Pun	490	6 235	13
Shaukeiwan	490	6 645	14
Pneumoconiosis	490	3 666	7
Shek Kip Mei	490	5 107	10
South Kwai Chung	774	13 149	17
Tai Po	490	4 969	10
Wanchai	490	6 827	14
Yan Oi	780	13 083	17
Yaumatei	573	9 513	17
Yuen Chau Kok	579	10 267	18
Yung Fung Shee	587	10 783	18
Sub-total	**7 264**	**106 134**	**15**
Part Time Clinics			
Cheung Chau	23	188	8
Sai Kung	49	406	8
Sheung Shui	287	2 797	10
Tung Chung	150	783	5
Yuen Long	428	4 982	12
Sub-total	**937**	**9 156**	**10**
Institutions of Correctional Services Department			
Hei Ling Chau	12	57	5
Lai Chi Kok Reception Center	25	99	4
Shek Pik	11	53	5
Stanley Prison	26	210	8
Sub-total	**74**	**419**	**6**
All Clinic/Institution	**8 275**	**115 709**	**14**

Note:

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

Appendix 17 Diagnosis and Characteristics of Patients Attending Chest Clinics 2023



Bacteriology Sputum Culture	Extent	Number
Negative	Minimal	244
	Moderate	102
	Extensive	48
	Not Recorded	67
Positive	Minimal	571
	Moderate	369
	Extensive	262
	Not Recorded	73
Incomplete	Minimal	47
	Moderate	23
	Extensive	13
	Not Recorded	24

Bacteriology Sputum Culture	Cavity	Number
Negative	Yes	69
	No	392
Positive	Yes	363
	No	912
Incomplete	Yes	20
	No	87

A total of 52 547 patients attended, comprising 43 891 old cases and 8 656 new cases. Among new cases, 2 039 had respiratory TB with 1 843 being active, 448 had non-respiratory TB, 3 247 had diseases other than TB, 50 had unknown and incomplete diagnoses, and 2 872 had NSD (no specific diagnosis). Of the 448 new cases with non-respiratory TB, 18 had TB affecting meninges, 35 had miliary TB, 51 had TB affecting bones and joints, and 344 had TB affecting other sites.

Appendix 18(a) Classification of Diseases of First Attenders in 2023 according to International Classification of Diseases Code

Code		Classification	Number of Patients
ICD 9	ICD 10		
010	A15.7, A16.7	Primary Tuberculosis Infection	1
011	A15.0-15.3, A16.0-16.2, J65	Pulmonary Tuberculosis	1 637
012	A15.4-15.6, A15.8-15.9, A16.3-16.5, A16.8-16.9	Other Respiratory Tuberculosis	205
013	A17.0-17.1, A17.8, A17.9	Tuberculosis of Nervous System	18
014	A18.3	Tuberculosis of Intestines	65
015	A18.0, M49.0	Tuberculosis of Bones & Joints	51
016	A18.1	Tuberculosis of Genito-urinary System	37
017	A18.2, A18.4-18.8	Tuberculosis of Other Organs	242
018	A19.0-19.2, A19.8-19.9	Miliary Tuberculosis	35
137	B90.0-90.2, B90.8-90.9	Late effects of Tuberculosis	196
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	2 587
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	49
160-165, 197	C30-39, C34.0-34.3, C34.8-34.9, C78.0, C78.2	Malignant Neoplasm of Respiratory System	50
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	36
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	108
470-478	J30-39, J30.0-30.4, J39.8-39.9	Other Diseases of Upper Resp Tract	4
480-486	J12-18, J12.9, J15.0-15.2, J15.5-15.9, J16-18.9, J22, J69.0	Pneumonia	262
487	J09, J10.0-10.1, J10.8, J11.0-11.1, J11.8	Influenza	1
490-491	J40, J41.0-41.1, J41.8, J42	Bronchitis, (not specified as acute or chronic) & chronic brochitis	188
492	J43, J43.0-43.2, J43.8-43.9	Emphysema	1
493	J45, J45.0-45.1, J45.8-45.9, J46	Asthma	9
494	J47	Bronchiectasis	76
495-496	J44, J44.0-44.1, J44.8-44.9	Chronic obstructive pulmonary disease	3
510, 511	J86, J90	Pyothorax (Empyema), Pleurisy	28
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	918
V71	Z00.0, Z01.6, Z02, Z02.1-02.2, Z02.6-02.9, Z71.1	N.S.D.	329
		Diseases Other than TB & Resp System not classified above	1 519
Total			8 656

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 2021 to 2023

Extent of diseases on Chest X-ray #	2021		2022		2023	
	Number	%	Number	%	Number	%
1. Minimal	1 151	52.7	919	50.8	862	46.8
2. Moderate	561	25.7	473	26.2	494	26.8
3. Extensive	318	14.6	272	15.0	323	17.5
4. Not Recorded	154	7.1	144	8.0	164	8.9
Total	2 184	100.0	1 808	100.0	1 843	100.0
Number of first attenders	9 066		7 811		8 656	
Percentage of active respiratory TB	24.1		23.1		21.3	

Notes:

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

Sputum Result in 2023	Number	%
Smear +	437	23.7
Smear - Culture +	813	44.1
Smear - Culture -	440	23.9
Incomplete	153	8.3
Total	**1 843**	**100.0**

Appendix 19(a1) Rate of Drug-resistant Tuberculosis

Among cases registered during the period January to December 2023 (Data from PHLC)

Age Group	Category [@]	% monoresistance to				% resistance to *			MDR-TB %	Total % resistance [#]	Total no. of cases analysed
		E	R	H	S / **Z** ^	1 drug	2 drugs	≥ 3 drugs			
0 - 19	New cases	3.85	0.00	0.00	0.00 / 0.00	3.85	0.00	0.00	0.00	3.85	26
	Previously treated cases	0.00	0.00	0.00	0.00 / 0.00	0.00	0.00	0.00	0.00	0.00	0
	Overall	3.85	0.00	0.00	0.00 / 0.00	3.85	0.00	0.00	0.00	3.85	26
20 - 39	New cases	0.36	0.00	3.60	4.40 / 2.52	7.55	2.16	0.72	0.72	10.43	278
	Previously treated cases	0.00	0.00	0.00	33.33 / 0.00	25.00	0.00	25.00	25.00	50.00	4
	Overall	0.35	0.00	3.55	4.94 / 2.50	7.80	2.13	1.06	1.06	10.99	282
40 - 59	New cases	0.40	0.20	3.63	5.36 / 1.85	8.06	1.81	0.81	1.01	10.69	496
	Previously treated cases	0.00	0.00	0.00	0.00 / 0.00	0.00	22.22	3.70	18.52	25.93	27
	Overall	0.38	0.19	3.44	5.21 / 1.70	7.65	2.87	0.96	1.91	11.47	523
60 up	New cases	0.13	0.33	3.30	5.11 / 1.15	7.06	1.91	0.07	0.07	9.04	1 516
	Previously treated cases	0.00	0.00	6.31	1.32 / 0.00	7.21	2.70	0.90	0.90	10.81	111
	Overall	0.12	0.31	3.50	4.79 / 1.10	7.07	1.97	0.12	0.12	9.16	1 627
All	New cases	0.26	0.26	3.37	5.01 / 1.45	7.30	1.90	0.30	0.35	9.50	2 316
	Previously treated cases	0.00	0.00	4.93	2.30 / 0.00	6.34	6.34	2.11	4.93	14.79	142
	Overall	0.24	0.24	3.46	4.84 / 1.37	7.24	2.16	0.41	0.61	9.80	2 458

Notes:

E = ethambutol; R = rifampicin; H = isoniazid; S = streptomycin; **Z** = pyrazinamide

^ Since mid-August 2023, methodology for MTB drug susceptibility testing (DST) adopted by PHLC has been changed from phenotypic by MGIT to genotypic by WGS
Reporting of DST to first line drugs has also been updated, from E/H/R/S to E/H/R/Z (i.e. S has been replaced by Z while the other three drugs remain the same)
In 2023, the total no. of cases analysed for S and Z are 1 365 and 1 093 respectively.

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

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

@ 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

Appendix 19(a2) Rate of Drug-resistant Tuberculosis

Among cases registered during the period January to December 2023

(Data from PHLC)

	New case		Previously treated cases		Combined	
	N	%	N	%	N	%
Total Number of strains tested	2 316	100	142	100	2 458	100
Total Number of strains tested for H, R, E & S / H, R, E & Z	1 278 / 1 038	100	87 / 55	100	1 365 / 1 093	100
Susceptible to H, R, E & S / H, R, E & Z	1 141 / 953	89.28 / 91.81	78 / 43	89.66 / 78.18	1 219 / 996	89.30 / 91.13
Any resistance	220	9.50	21	14.79	241	9.80
H	129	5.57	19	13.38	148	6.02
R	15	0.65	7	4.93	22	0.90
E	15	0.65	4	2.82	19	0.77
S / Z	103 / 19	8.06 / 1.83	7 / 1	8.05 / 1.82	110 / 20	8.06 / 1.83
Monoresistance	169	7.30	9	6.34	178	7.24
H	78	3.37	7	4.93	85	3.46
R	6	0.26	0	0.00	6	0.24
E	6	0.26	0	0.00	6	0.24
S / Z	64 / 15	5.01 / 1.45	2 / 0	2.30 / 0.00	66 / 15	4.84 / 1.37
Multidrug resistance	8	0.35	7	4.93	15	0.61
H+R	2	0.09	4	2.82	6	0.24
H+R+E	2	0.09	1	0.70	3	0.12
H+R+S / H+R+Z	2 / 0	0.16 / 0.00	0 / 0	0.00 / 0.00	2 / 0	0.15 / 0.00
H+R+E+S / H+R+E+Z	0 / 2	0.00 / 0.19	1 / 1	1.15 / 1.82	1 / 3	0.07 / 0.27
Other patterns	43	1.86	5	3.52	48	1.95
H+E	3	0.13	1	0.70	4	0.16
H+S / H+Z	36 / 2	2.82 / 0.19	4 / 0	4.60 / 0.00	40 / 2	2.93 / 0.18
H+E+S / H+E+Z	1 / 0	0.08 / 0.00	0 / 0	0.00 / 0.00	1 / 0	0.07 / 0.00
R+E	1	0.04	0	0.00	1	0.04
R+S / R+Z	0 / 0	0.00 / 0.00	0 / 0	0.00 / 0.00	0 / 0	0.00 / 0.00
R+E+S / R+E+Z	0 / 0	0.00 / 0.00	0 / 0	0.00 / 0.00	0 / 0	0.00 / 0.00
E+S / E+Z	0 / 0	0.00 / 0.00	0 / 0	0.00 / 0.00	0 / 0	0.00 / 0.00
Number of drugs resistant to:						
0 drug	2 094	90.41	121	85.21	2 215	90.11
1 drug	169	7.30	9	6.34	178	7.24
2 drugs	44	1.90	9	6.34	53	2.16
3 drugs	5	0.22	1	0.70	6	0.24
4 drugs	2	0.09	2	1.41	4	0.16

Appendix 19(b1) Trend of anti-TB drug resistance from 2004 to 2023 [1][2]

New case

(Percentage)	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Ethambutol	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	0.65
Rifampicin	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	0.65
Isoniazid	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	5.57
Streptomycin [3]	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	8.06
Pyrazinamide [3]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.83
MDR-TB	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	0.35
Total % resistance	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	9.50

Previously treated cases

(Percentage)	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Ethambutol	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	2.82
Rifampicin	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	4.93
Isoniazid	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	13.38
Streptomycin [3]	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	8.05
Pyrazinamide [3]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.82
MDR-TB	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	4.93
Total % resistance	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	14.79

Overall

(Percentage)	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Ethambutol	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	0.77
Rifampicin	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	0.90
Isoniazid	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	6.02
Streptomycin [3]	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	8.06
Pyrazinamide [3]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.83
MDR-TB	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	0.61
Total % resistance	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	9.80

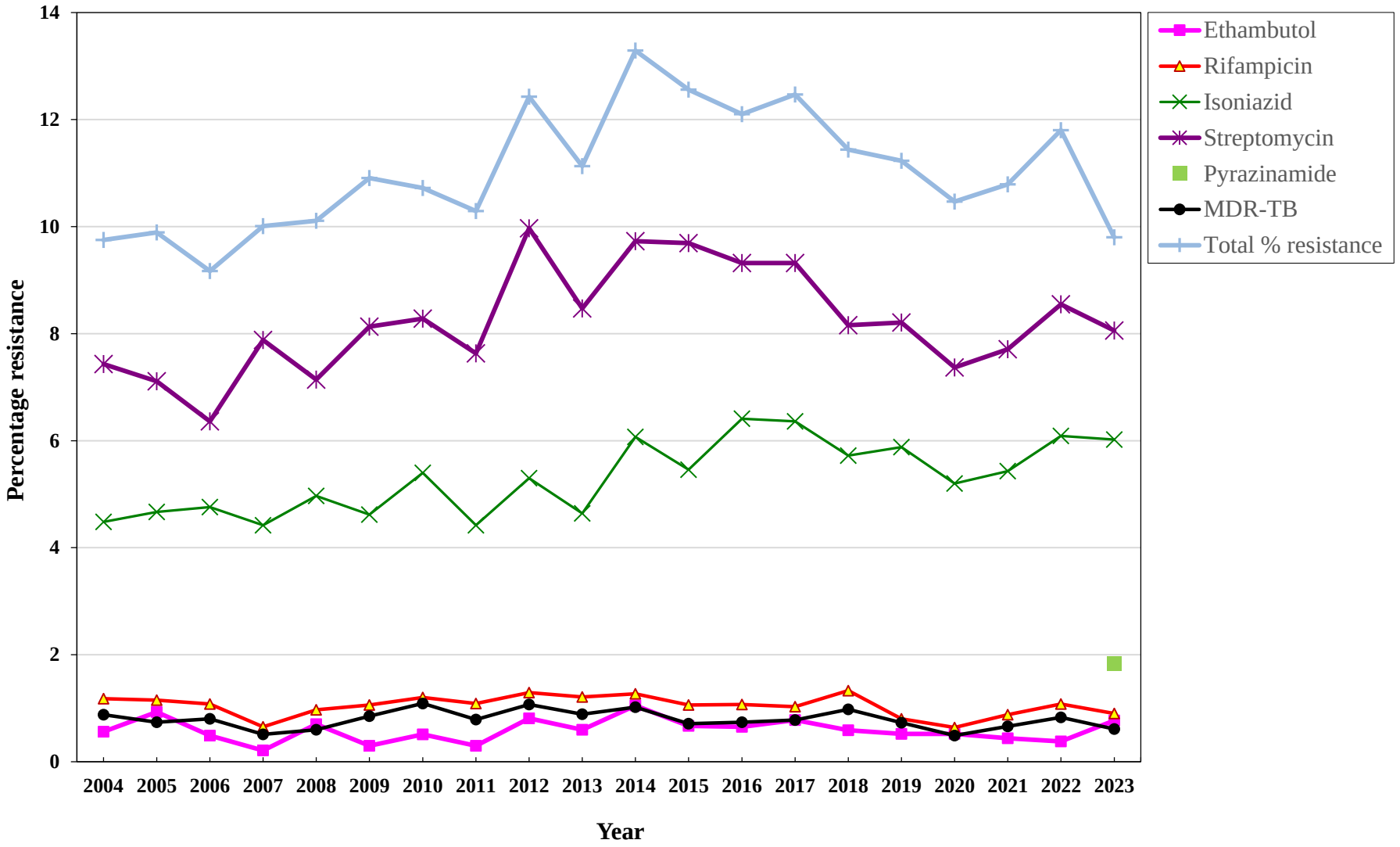
Note:

(1) 2004 - 2015: Data from Programme Record Forms; 2016 - 2023: Data from Public Health Laboratory Centre

(2) Since mid-August 2023, methodology for MTB drug susceptibility testing (DST) adopted by PHLC has been changed from phenotypic by MGIT to genotypic by WGS

(3) Since mid-August 2023, reporting of DST to first line drugs has also been updated, from E/H/R/S to E/H/R/Z (i.e. S has been replaced by Z while the other three drugs remain the same). The total no. of cases analysed for S and Z are 1 365 and 1 093 respectively.

Appendix 19(b2) Trend of Overall anti-TB drug resistance from 2004 to 2023 [(1)(2)]



Remarks:

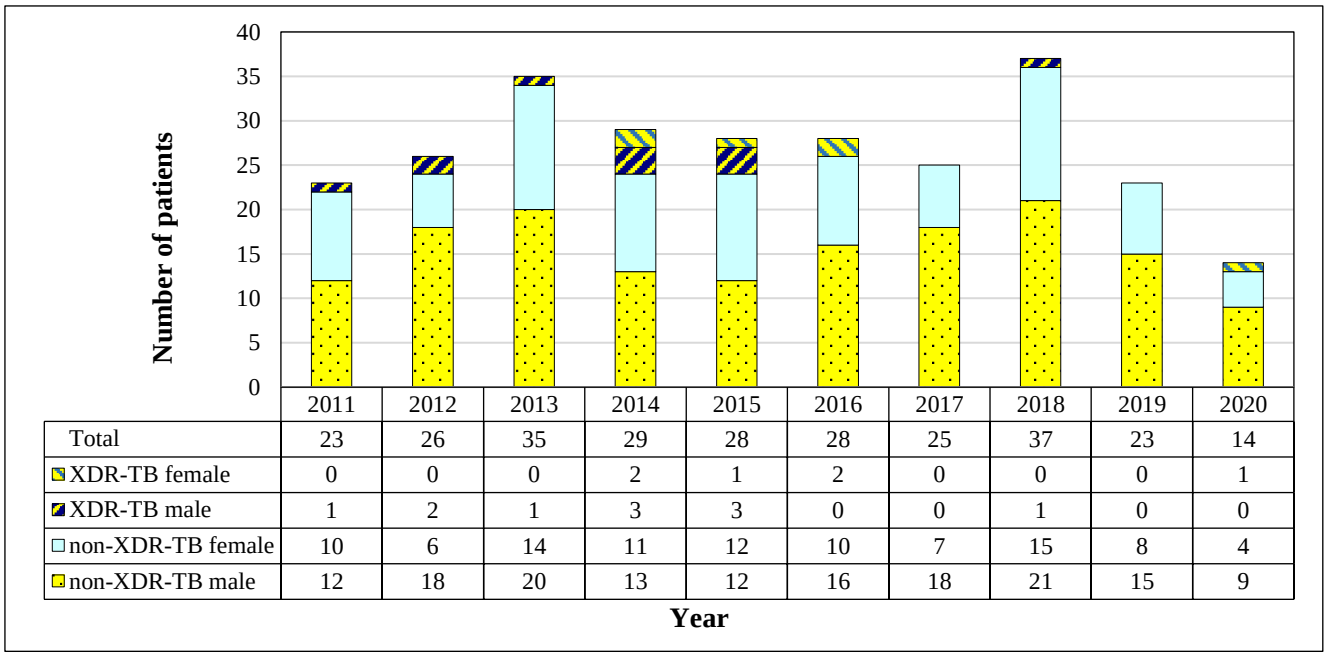
(1) DST to Streptomycin till mid-August 2023

(2) DST to Pyrazinamide since mid-August 2023

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

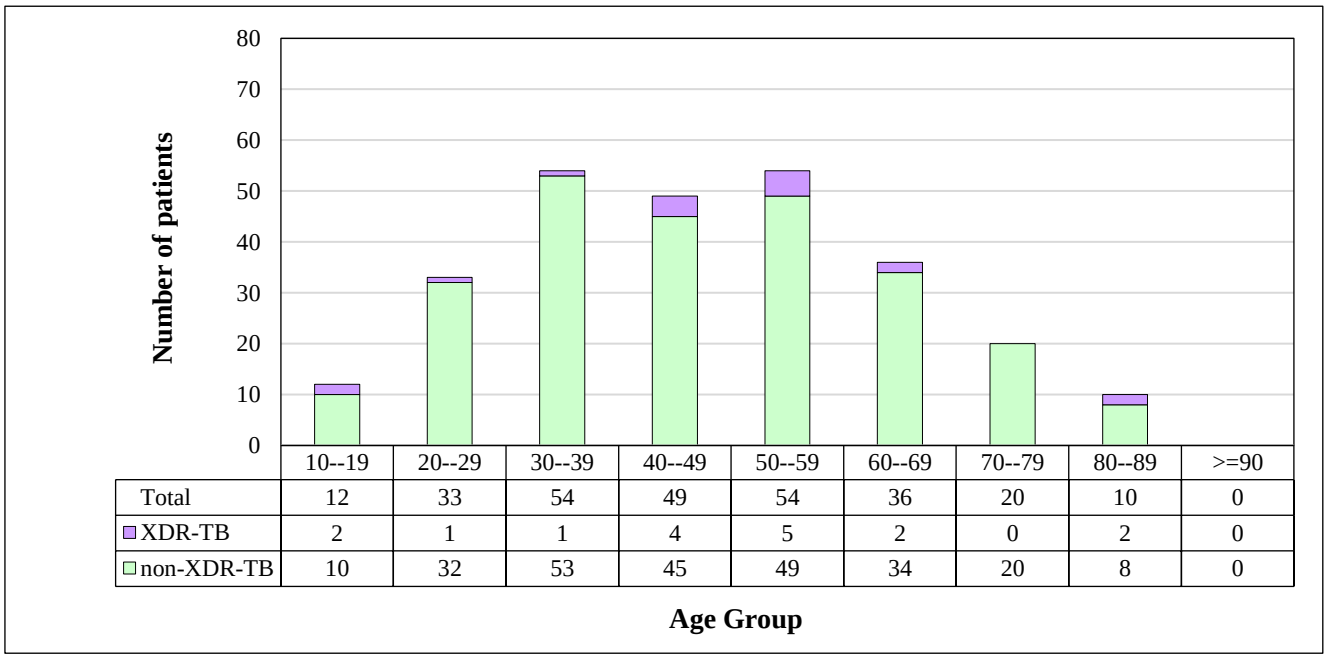
Cases of MDR-TB and XDR-TB are identified from four main sources: (1) Programme forms; (2) MDR-TB registry; (3) Prison registry; (4) TB Reference Laboratory. The year to which the case belongs is defined as the year of starting treatment with second-line anti-TB drugs, or if treatment has not been started (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

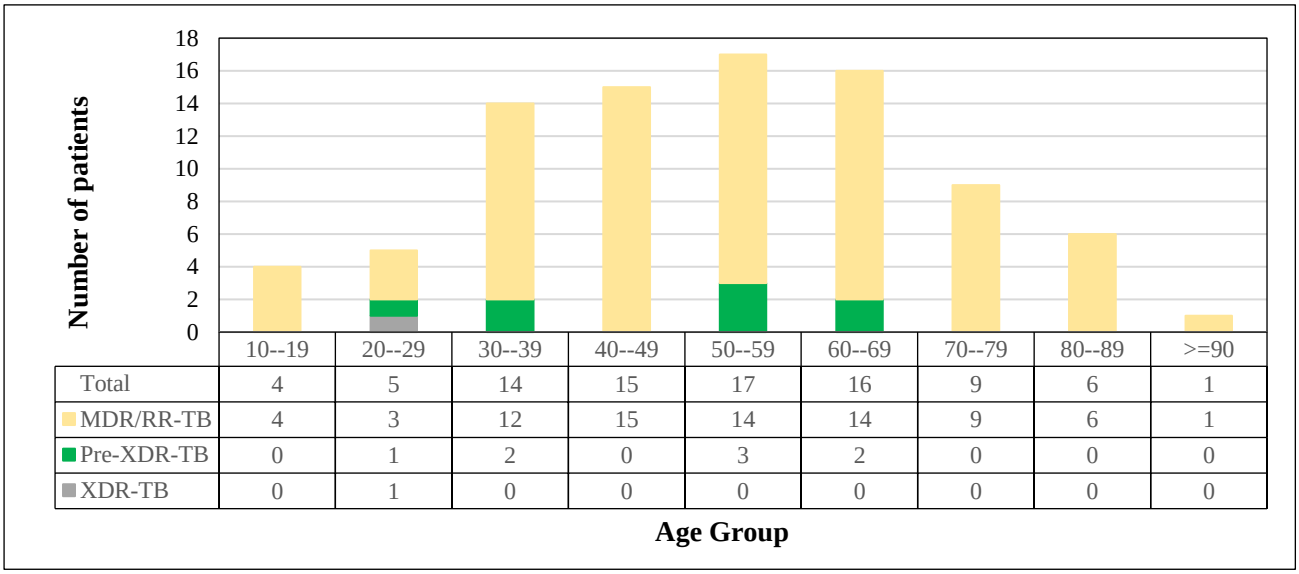
Pre-XDR-TB: TB caused by Mycobacterium tuberculosis strains that fulfill the definition of MDR/RR-TB and that are also resistant to any fluoroquinolone [(2)].

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 2023

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
2023	5	17	0	3	0	1	26

Figure 4: MDR/RR-TB, Pre-XDR-TB and XDR-TB by Age from 2021 to 2023



	10--19	20--29	30--39	40--49	50--59	60--69	70--79	80--89	>=90
Total	4	5	14	15	17	16	9	6	1
MDR/RR-TB	4	3	12	15	14	14	9	6	1
Pre-XDR-TB	0	1	2	0	3	2	0	0	0
XDR-TB	0	1	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.

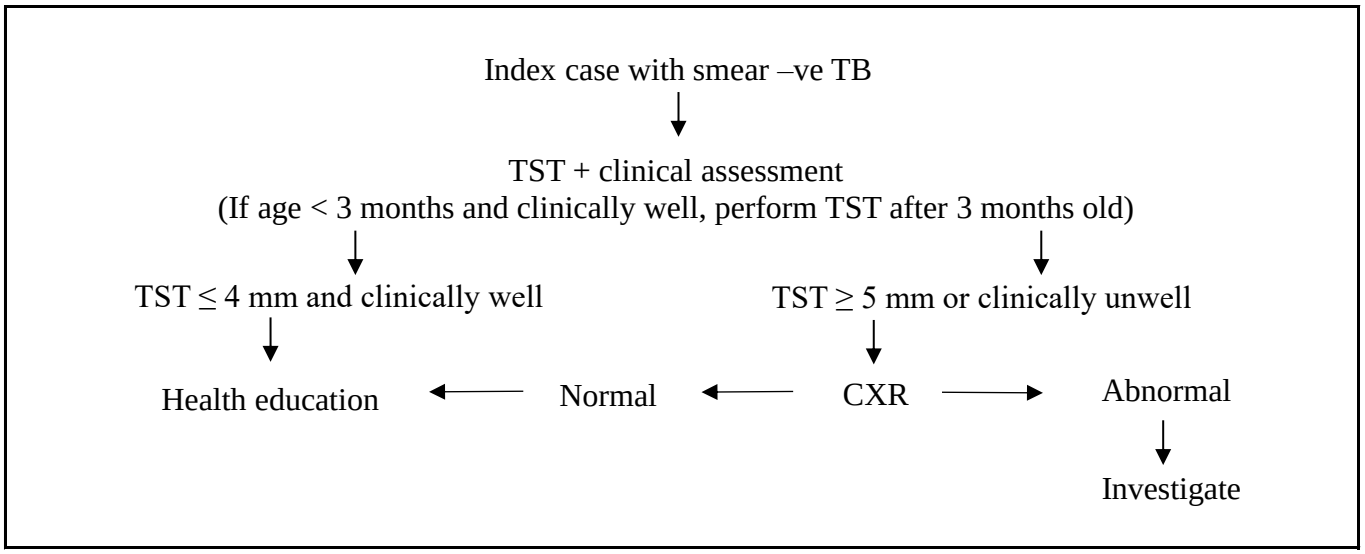
(3) Group A drugs are currently levofloxacin or moxifloxacin, bedaquiline and linezolid; therefore, XDR-TB is MDR/RR-TB that is resistant to a fluoroquinolone and either bedaquiline or linezolid (or both). The Group A drugs may change in the future.

Appendix 20(a) Scheme for Investigation of Close Contacts (Household) in the Tuberculosis & Chest Service, Department of Health (Last updated 2023)

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 / IGRA, 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

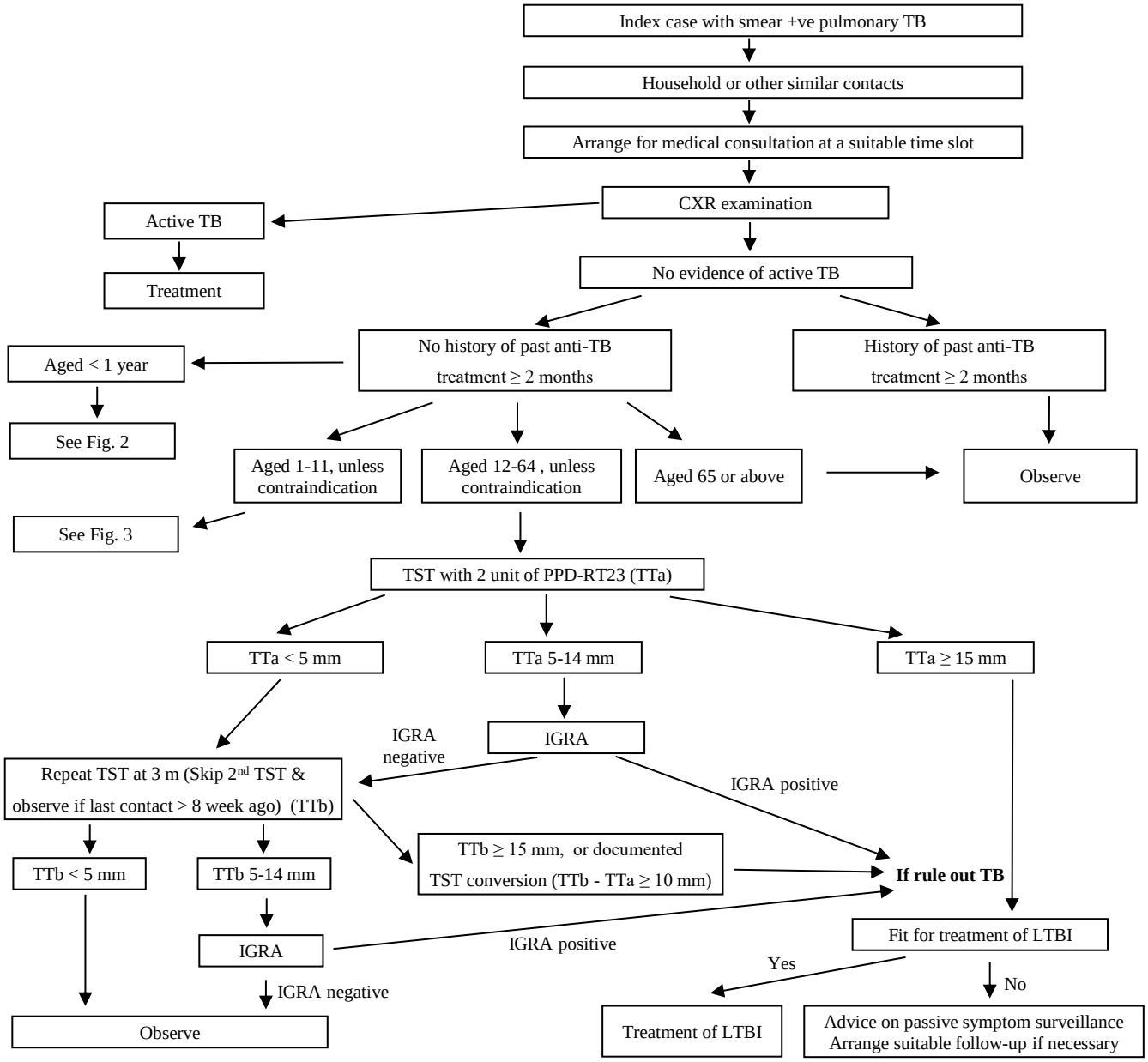
* **For close contacts with risk factors for adverse effects from latent TB infection treatment, (e.g. alcoholic, underlying chronic liver disease, etc.), the decision to screen should be made on a case-by-case basis especially for the aged 35 - 64 group.**

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



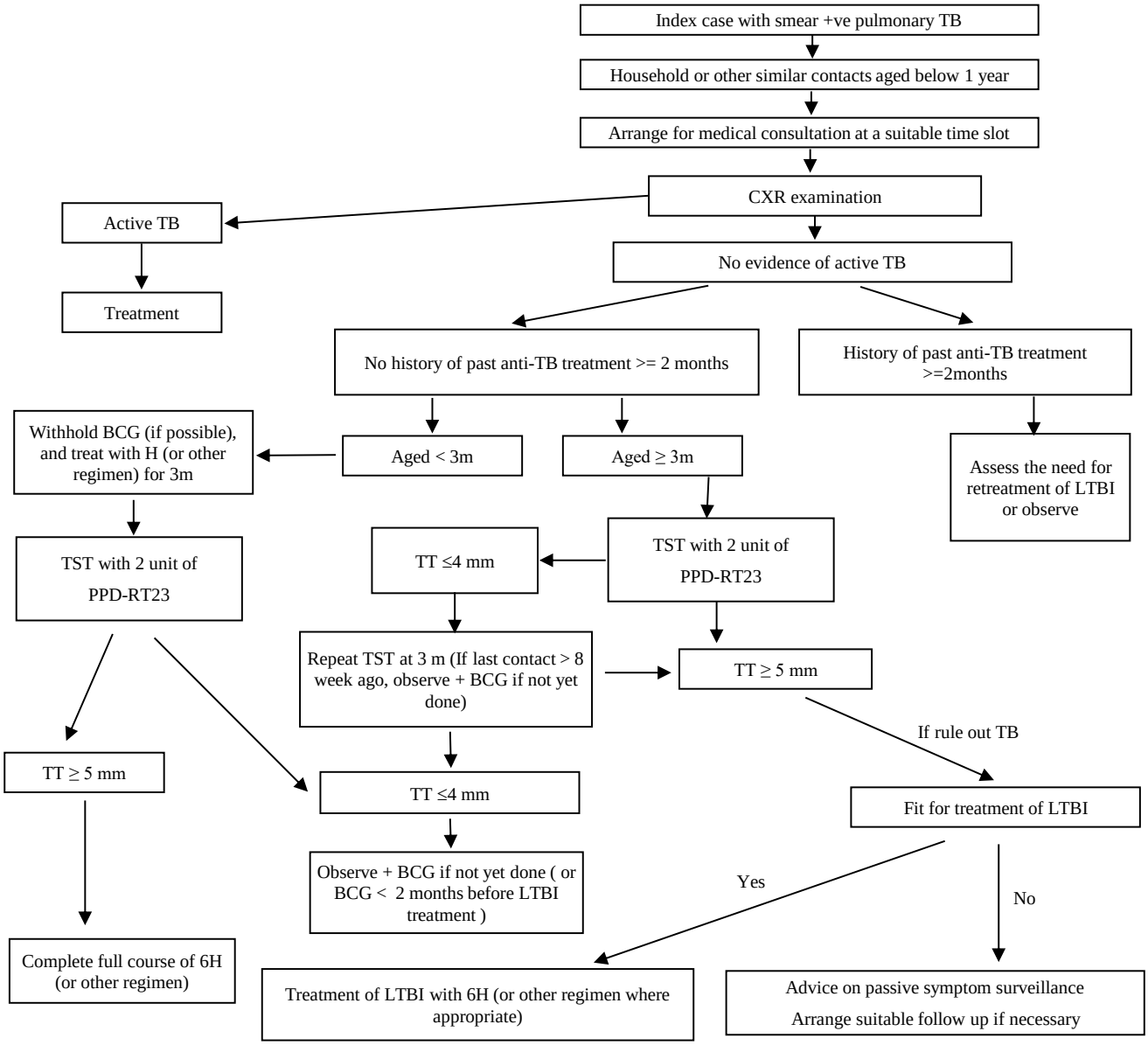
\# If the index case has smear-negative TB and the close contact case is aged below five, the contact case is first evaluated by tuberculin skin test alongside clinical assessment. If the contact case is aged below 3 months and clinically well, the tuberculin test can be postponed until the contact case 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 (Last updated 2023)



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 (LTBI). If either TST result is borderline (i.e. 5-14mm), test for IGRA will be arranged. Proceed to second TST or observe after first or second negative IGRA respectively. Consider treatment of LTBI if IGRA is positive. 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.

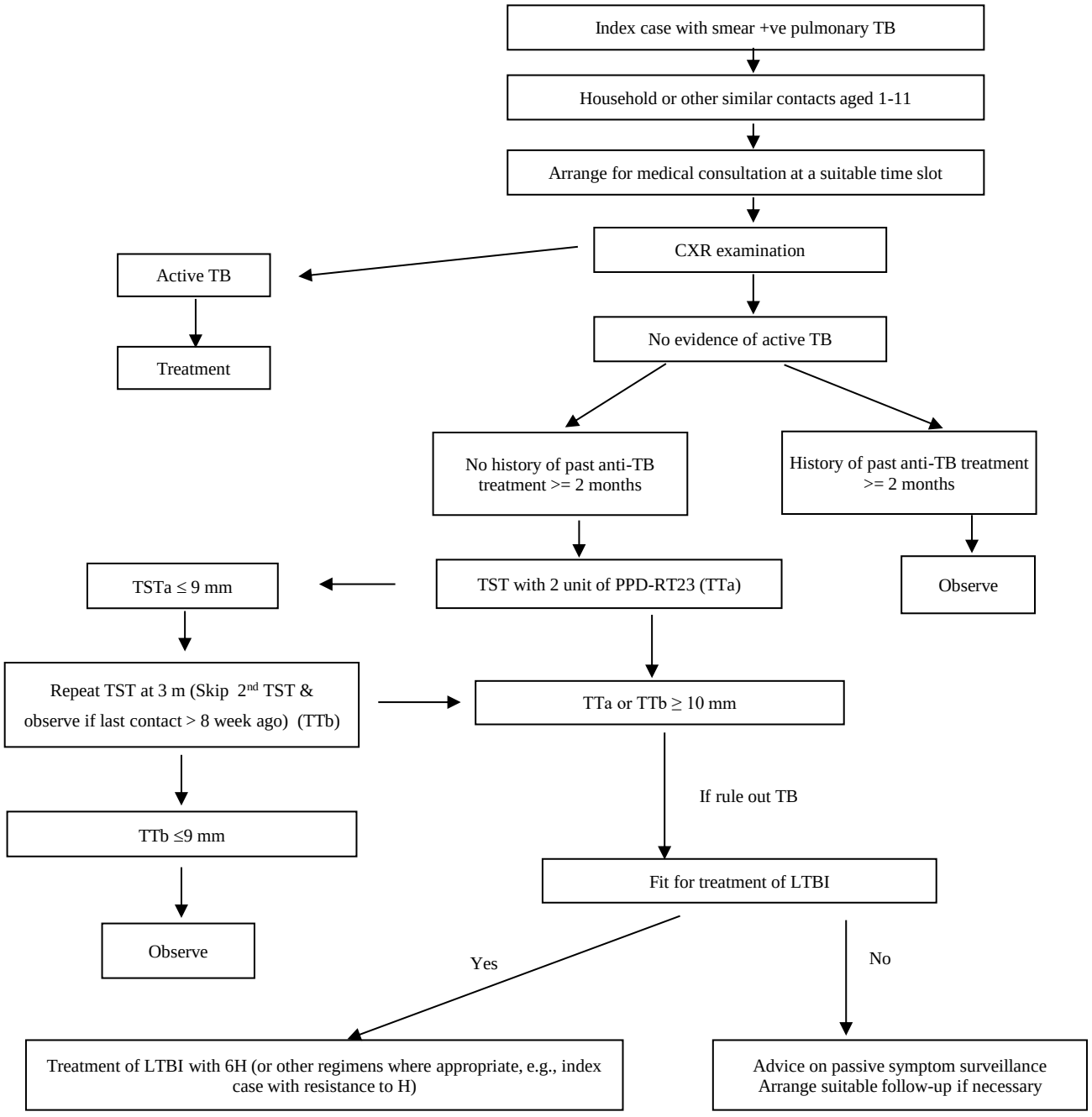
Appendix 20(b) Figure 2: Targeted screening of household contacts aged below one year



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 2023

Particulars	Smear Positive Index Case			Smear Negative Index Case			Total		
Number of patients (new & old) listed	677			2 221			2 898		
Number of contacts listed	1 436			5 016			6 452		
Number of contacts exam	1 351			4 499			5 850		
Non-respondents	85			517			602		
Result of contact examined									
(a) NSD	1 238	(91.64%)		4 196	(93.27%)		5 434	(92.89%)	
(b) Disease other than TB	80	(5.92%)		228	(5.07%)		308	(5.26%)	
(c) Inactive respiratory TB	8	(0.59%)		44	(0.98%)		52	(0.89%)	
(d) Active respiratory TB									
A (radiologically)	11	(0.81%)		2	(0.04%)		13	(0.22%)	
B (bacteriogically)	8	(0.59%)	22 (1.63%)	8	(0.18%)	10 (0.22%)	16	(0.27%)	32 (0.55%)
C (incomplete)	3	(0.22%)		0	(0.00%)		3	(0.05%)	
(e) Non-respiratory TB	1	(0.07%)		4	(0.09%)		5	(0.09%)	
(f) Result not yet known	2	(0.15%)		17	(0.38%)		19	(0.32%)	
Total of (a) to (f)	1 351	(100.00%)		4 499	(100.00%)		5 850	(100.00%)	

Appendix 21(a) Scheme for BCG Administration in Hong Kong 2023

Population Group		Procedures
Newborns		Direct BCG with intradermal method
Children under the age of 15	Negative BCG history and negative BCG scar	Direct BCG with intradermal method (Since September 2000)
	BCG history and / or BCG scar	No action
Primary School Children (aged 6 – 10)		BCG revaccination programme has been stopped since September 2000

Appendix 21(b) BCG Vaccinations at Birth 2023

Institution		No. of Live-births	BCG Vaccination	% Vaccinated
Hospital under HA Management	P.Y. Nethersole East	1 401	1 384	98.8
	Queen Mary	2 294	2 232	97.3
Private Hospital	Canossa	267	261	97.8
	Gleneagles H.K.	641	631	98.4
	H.K. Adventist	134	130	97.0
	H.K. Sanatorium	1 921	1 911	99.5
	Matilda International	536	516	96.3
	St. Paul's	811	803	99.0
Total (Hong Kong Island)		8 005	7 868	98.3
Hospital under HA Management	Kwong Wah	2 462	2 447	99.4
	Queen Elizabeth	3 512	3 482	99.1
	United Christian	1 816	1 785	98.3
	H.K. Children's (2)	-	59	-
Private Hospital	H.K. Baptist	1 354	1 345	99.3
	St. Teresa's	1 851	1 813	97.9
Total (Kowloon)		10 995	10 931	99.4
Hospital under HA Management	Prince of Wales	3 862	3 857	99.9
	Princess Margaret	2 420	2 370	97.9
	Tuen Mun	2 973	2 959	99.5
Private Hospital	T.W. Adventist	681	664	97.5
	Union	3 386	3 335	98.5
	CUHK Medical Centre	906	894	98.7
Total (New Territories)		14 228	14 079	99.0
Maternal and Child Health Centres and Private Clinics		-	77	-
Grand Total		33 228	32 955	99.2

Notes:

(1) Including vaccinations of live births transferred from other maternity institutions and vaccinations of live births at the end of 2022

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

Appendix 22 Tuberculosis and Chest Beds in Public Services 2023

Hospital		Number of TB and Chest Beds
Hospital Authority	Grantham Hospital	120
	Kowloon Hospital	107
	Ruttonjee Hospital	58
	Haven of Hope Hospital	135
	Wong Tai Sin Hospital	93
	Total (Hospital Authority)	513
Custody	Stanley Prison Hospital	20
Grand Total (2023)		533
Grand Total (2022)		539
Grand Total (2021)		579

Appendix 23 Annual Admissions to Chest Hospitals from Government Chest Clinics from 2014 to 2023

Year	Total admissions
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
2023	635

Admissions by Clinic	Total Admissions in 2023
East Kowloon	97
Kowloon	34
Sai Ying Pun	72
Shaukeiwan	64
Shaukeiwan Pneumoconiosis	30
Shek Kip Mei	25
South Kwai Chung	105
Tai Po	8
Wanchai	24
Yan Oi	34
Yaumatei	41
Yuen Chau Kok	52
Yung Fung Shee	28
Cheung Chau	1
NT Chest Clinic (1)	20
Total	**635**

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 2023

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 %
2023	19	0.7 %	2 527	96.1 %	84	3.2 %	2 630	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 2001 to 2023

Year	Number
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
2023	6

'Confirmed' Cases of TB in Health Care Staff Notified to Labour Department (2023) by Age and Job Title

Age group	Doctor	Nurse	Other Allied Health Professional	Other Supporting Staff	Total
20 - 24		1			1
25 - 29		1			1
30 - 34				1	1
35 - 39		1		1	2
40 - 44					
45 - 49					
50 - 54					
55 - 59				1	1
60 - 64					
65 - 69					
70 - 74					
Total	0	3	0	3	6

Appendix 26 Treatment outcomes of Cohorts of TB Patients

Treatment outcomes for TB cases registered in 2022 calendar year (number of patients) [1]

	Number of cases registered in 2022 [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)	3 171	100.00%	2 355	74.27%	0	0.00%	628	19.80%	72	2.27%	116	3.66%
HIV-positive TB cases, all types	15	100.00%	9	60.00%	0	0.00%	3	20.00%	2	13.33%	1	6.67%

Treatment outcomes for TB cases started on second-line TB treatment in 2021 calendar year (number of patients) [1]

	Number of cases started on second-line TB treatment in 2021		Cured or treatment completed		Treatment failed		Died		Lost to follow-up (defaulted)		Not evaluated [4]	
All confirmed RR-TB / MDR-TB cases	30	100.00%	27	90.00%	0	0.00%	3	10.00%	0	0.00%	0	0.00%
All confirmed XDR-TB cases [5]	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%

Notes:

(1) Treatment outcomes as evaluated in March 2024.

(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 2023

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 2023 ---*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	(3)	(21)	(79)	10 356	1 494	5 466
2023	-	156	156 (c)	(3)	(17)	(78)	10 512	1 494 (d)	5 564

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, 81 of these 156 assessment cases in 2023 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 81 cases.

(d) Under Revised Ordinance 1993 : 584 out of 1494 pneumoconiotics had joined the pneumoconiosis ex-gratia scheme up to the year 2023. 16 living pneumoconiotics were each receiving a monthly ex-gratia payment of $8,070.00 in 2023.

(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 2023

Age	0	%
<25	0	0
25 - 29	0	0
30 - 34	0	0
35 - 39	0	0
40 - 44	0	0
45 - 49	1	1
50 - 54	0	0
55 - 59	4	5
60 - 64	14	17
65 - 69	28	35
70 - 74	19	23
75+	15	19
Total	**81**	**100**

Appendix 3 Occupation Distribution of Pneumoconiosis Patients confirmed in 2023

Type of Occupation	Number of Cases	%
Construction	58	72
Construction / Quarry	1	1
Others	22	27
Total	81	100

Appendix 4 Pneumoconiosis Patients confirmed in 2023 by Duration of Exposure to Dust

Duration	Number of Cases	%
< 5 years	1	1
5 - 9	0	0
10 - 14	3	4
15 - 19	4	5
20 - 24	10	12
25 - 29	10	12
30 +	53	66
Unknown / Uncertain	0	0
Total	81	100

Appendix 5 Pneumoconiosis Patients confirmed in 2023 by Degree of Incapacity

Degree of Incapacity (%)	No. of New Cases Compensated under Compensation Ordinance
5	30
10	22
15	10
20	4
25	4
30	0
35	2
40	2
45	1
50	0
55	0
60	1
65	0
70	0
75	0
80	1
85	0
90	0
95	0
100	2
(Not Applicable *)	2
Total	81

Note:

* Assessment by Board after Death

Appendix 6 Pneumoconiosis Patients confirmed in 2023 Classified by Radiological Appearance

Type of Opacity		Profusion			Sub-Total
		1	2	3	
Small opacities					
Rounded					
p	(up to 1.5 mm diameter)	56	7	0	63
q	(1.5 to 3.0 mm diameter)	4	7	0	11
r	(3.0 to 10.0 mm diameter)	0	0	0	0
Irregular					
s	(fine irregular or linear)	2	1	0	3
t	(medium irregular)	0	0	0	0
u	(coarse irregular)	0	0	0	0
Sub-total		62	15	0	77
Combined opacities		-	-	-	2
Not Available		-	-	-	2
Total					81

12 out of 81 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)	5
B	(Single or multiple opacities with combined area < the equivalent of right upper zone)	7
C	(Single or multiple opacities with combined area > the equivalent of right upper zone)	0
Total		12

Appendix 7 History of Tuberculosis (TB) among Patients with Pneumoconiosis confirmed in 2023

History of TB		Number of Cases	%
History of TB	Bacteriological Positive	15	19
	Bacteriological Negative	2	2
	Not Available	8	10
No History of TB		56	69
Total		81	100

Appendix 8 Pneumoconiosis Patients confirmed in 2023 by Other Particulars

Characteristics		Number of Cases	%
Smoking	Smoker / Ex-smoker	68	84
	Non-smoker	13	16
	Unknown	0	0
	Total	81	100
Still exposed to dust when seen by the Pneumoconiosis Clinic	Yes	23	28
	No	57	71
	Unknown	1	1
	Total	81	100
General Condition	Good	77	96
	Fair	2	2
	Poor	0	0
	Died	2	2
	Total	81	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	2019	2020	2021	2022	2023
Notified TB cases who are Chinese New Immigrants (with years of arrival in Hong Kong)	< 1 year	23	8	8	3	1
	1 and < 2 year	20	12	8	2	14
	2 and < 3 year	17	10	20	11	7
	3 and < 4 year	13	18	14	7	4
	4 and < 5 year	11	20	17	12	8
	5 and < 6 year	22	12	17	12	8
	6 and < 7 year	4	3	0	0	17
	Total	110	83	84	47	59
Yearly notified TB cases		4 003	3 656	3 716	3 200	3 228

The above table shows the number of all notified TB cases in Hong Kong from 2019 to 2023 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 2019 to 2023 are 35.5, 30.2, 33.3, 20.0 and 27.0 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 2019 to 2023

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

Age group	2019			2020			2021			2022			2023		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 19	6	1	7	0	4	4	1	1	2	1	1	2	0	4	4
20 - 39	14	25	39	10	25	35	13	23	36	3	12	15	9	11	20
40 - 59	25	19	44	14	15	29	18	11	29	11	7	18	10	11	21
≥ 60	15	5	20	10	5	15	11	6	17	8	4	12	8	6	14
All age groups	60	50	110	34	49	83	43	41	84	23	24	47	27	32	59

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

Age group	2019			2020			2021			2022			2023		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 19	13.6	2.5	8.4	0.0	11.1	5.2	2.7	3.0	2.8	2.8	3.2	3.0	0.0	13.9	6.5
20 - 39	42.1	26.7	30.7	33.8	31.2	31.9	46.4	32.6	36.5	11.1	19.1	16.7	35.1	19.2	24.1
40 - 59	76.6	37.2	52.6	47.7	33.4	39.1	63.9	26.8	41.9	40.4	18.4	27.6	40.4	31.3	35.1
≥ 60	202.6	62.8	130.2	143.4	69.3	105.7	163.5	89.2	126.4	122.6	62.8	93.0	112.9	83.5	98.1
All age groups	51.1	26.0	35.5	32.0	29.1	30.2	42.8	27.1	33.3	23.9	17.3	20.0	29.9	25.0	27.0

Annex 2(a) TB Notifications and Rate (All Cases) by Sex and Age from 2019 - 2023

All TB cases by Sex and Age

Age group	2019			2020			2021			2022			2023		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 19	42	28	70	34	37	71	40	27	67	22	32	54	15	25	40
20 - 39	269	401	670	263	394	657	209	370	579	162	286	448	142	259	401
40 - 59	610	391	1 001	499	398	897	544	456	1 000	400	333	733	401	336	737
≥ 60	1 680	582	2 262	1 486	545	2 031	1 528	542	2 070	1 452	513	1 965	1 488	562	2 050
All age groups	2 601	1 402	4 003	2 282	1 374	3 656	2 321	1 395	3 716	2 036	1 164	3 200	2 046	1 182	3 228

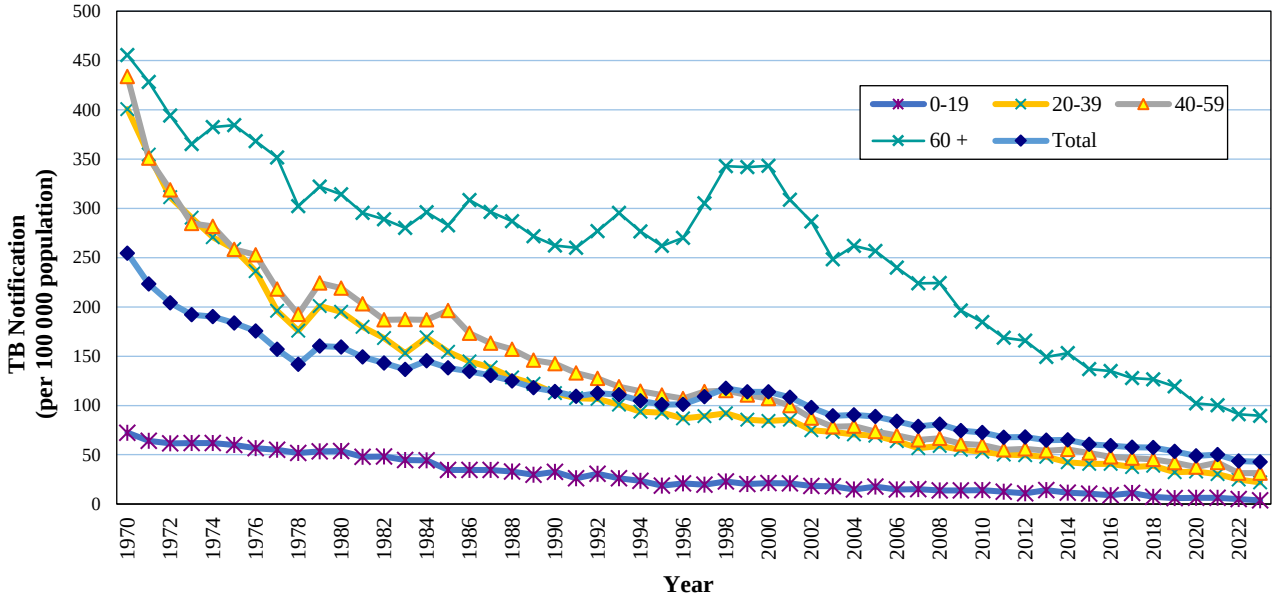
Notification rate of all TB cases (per 100 000 population)

Age group	2019			2020			2021			2022			2023		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 19	7.0	5.0	6.0	6.0	6.9	6.4	7.3	5.2	6.2	4.1	6.3	5.2	2.7	4.8	3.7
20 - 39	30.0	34.1	32.3	30.0	35.2	32.9	24.8	35.0	30.5	19.9	28.6	24.7	17.3	25.8	21.9
40 - 59	59.2	29.0	42.1	48.7	29.1	37.5	54.0	33.3	42.1	40.7	24.7	31.4	40.8	24.6	31.4
≥ 60	186.8	58.3	119.3	156.9	52.4	102.2	155.5	50.1	100.2	142.2	45.2	91.1	138.3	46.4	89.6
All age groups	76.0	34.3	53.3	66.8	33.8	48.9	68.6	34.6	50.1	60.7	29.2	43.6	59.6	28.8	42.8

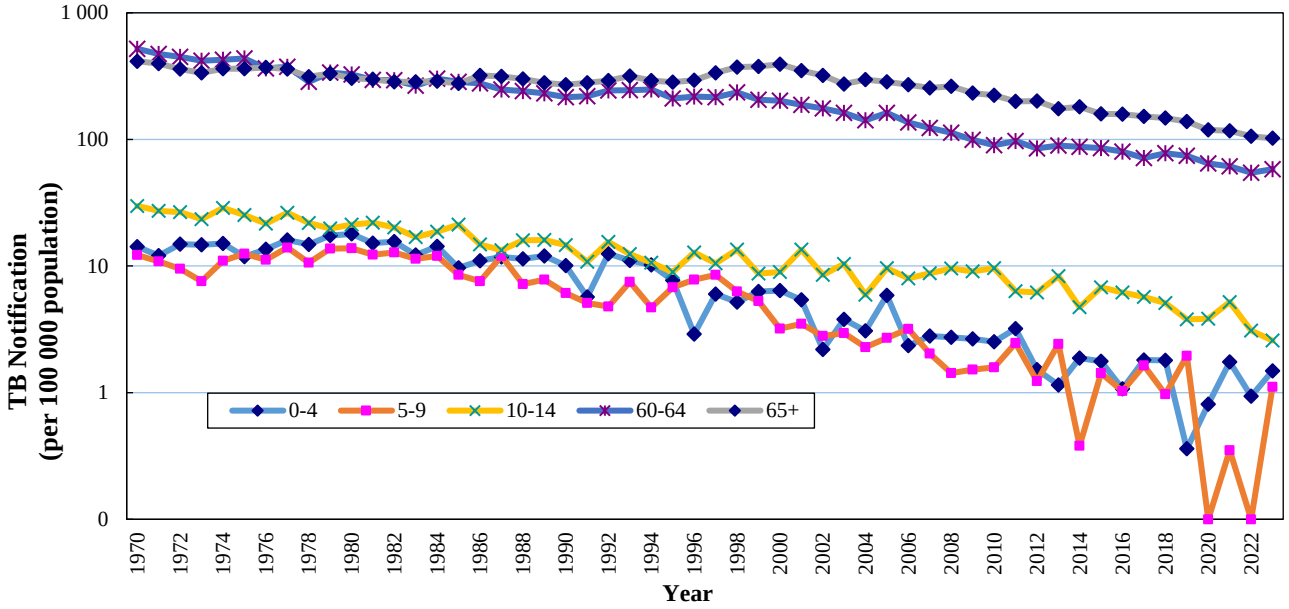
As shown above, the rates of TB among males are in general higher than that among females, and higher in the older age groups. The overall rates (per 100 000 population) from 2019 to 2023 are 53.3, 48.9, 50.1, 43.6 and 42.8 respectively.

Annex 2(b) Trend of age-specific TB Notification Rate from 1970 to 2023

Trend of Age-specific TB Notification Rate (All Gender) from 1970 to 2023



Trend of Age-specific TB Notification Rate (All Gender) from 1970 to 2023



- 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

Table 1 shows the annual number of cases reported to TB-HIV registry from all sources (1996 – 2023). A total of 20 cases with TB-HIV co-infection were reported to the TB-HIV Registry in 2023. Out of these 20 cases, 14 (70%) 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 2023 is shown in Table 3. Nineteen (95%) out of 20 patients reported to the TB-HIV Registry in 2023 had a positive sputum and/or other specimen culture. Four cases had diseases due to Mycobacterium tuberculosis resistant to one or more first-line anti-TB drugs. Among these four cases, one of them had Mycobacterium tuberculosis resistant to both isoniazid and rifampicin, i.e. Multidrug-resistant TB (MDR-TB), and none of them was XDR/RR-TB case. There were a total of 587 notifications to TB-HIV Registry with a positive sputum or other specimen culture between 1996 and 2023, 10 (1.7%) of them had MDR-TB. DH will continue to monitor prevalence of drug resistance in the context of HIV.

Table 4 shows the characteristics of 20 patients seen at chest clinics and/or Special Preventive Programme (SPP) in 2023. Majority of them were Chinese men. All of them were new TB cases. Three-quarter of them were found to have tuberculosis disease at the same episode of diagnosing HIV infection so they were not receiving anti-retroviral therapy at the time of TB/HIV co-infection. The median CD4 count was 140.5/μL at time of TB diagnosis. Extra-pulmonary involvement (irrespective of lung involvement) is found in about half of the patients.

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

Table 1: Annual number of TB-HIV cases reported to TB-HIV Registry, all sources from 1996 to 2023 (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
2023	20

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 reported to chest clinics and/or SPP from 1996 to 2023 (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
2023	7	7	14	6	0	20

Note:

(1) Some of the figures in the table for the previous years have been updated.

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 2023

Year	Susceptible to HRES/HREZ [2]	Any resistance (non-MDR/XDR)	MDR	XDR	Drug susceptibility unknown	Total number of culture positive cases [3]
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
2023	15 [2]	3	1	0	0	19
Total	488	86	10	0	3	587

Note:

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

(2) Routine drug susceptibility test (DST) for first line anti-TB drugs was changed from HRES to HREZ since mid-August 2023. (i.e. DST to streptomycin has been replaced by DST to pyrazinamide)

(3) Repeated notifications for same cases in different year(s) (e.g. due to treatment after default, relapse, etc) are not excluded

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

Table 4: Characteristics of 20 TB-HIV cases reported from chest clinics and SPP in 2023

Age distribution	Number	Proportion
0 to 19	1	5.0%
20 to 39	3	15.0%
40 to 59	13	65.0%
60+	3	15.0%
Sex distribution		
Male	17	85.0%
Female	3	15.0%
Ethnicity		
Chinese	15	75.0%
Asians, non-Chinese	5	25.0%
African	0	0.0%
Others	0	0.0%
Case category		
New case	20	100.0%
Relapse	0	0.0%
Treatment after default	0	0.0%
Failure of previous treatment	0	0.0%
Others	0	0.0%
Unknown	0	0.0%
TB as a primary AIDS-defining illness		
Yes	14	70.0%
No	6	30.0%
CD4 count at time of co-infection (median, IQR)	140.5 (64.5-318.3)/uL	
Anti-retroviral therapy at time of co-infection		
Yes	4	20.0%
No	16	80.0%
Presence of extra-pulmonary TB (irrespective of lung involvement)		
Yes	9	45.0%
No	11	55.0%
Extent of Respiratory TB N = 18 (1)		
Minimal	12	66.7%
Moderate	3	16.7%
Extensive	3	16.7%
Sputum bacteriological status (pre-treatment)		
Smear + culture +	10	50.0%
Smear - culture +	7	35.0%
Smear + culture -	0	0.0%
Smear - culture -	3	15.0%
Drug resistance pattern (pre-treatment) (based on sputum and/or other specimen culture) N = 19 (1)		
Susceptible to HRES / HREZ (2)	15	78.9%
Resistant to streptomycin alone	1	5.3%
Resistant to isoniazid alone	1	5.3%
Resistant to streptomycin and isoniazid	1	5.3%
Resistant to rifampicin alone	0	0.0%
MDR	1	5.3%
XDR	0	0.0%

Note:

(1) N = number of cases available for analysis, N = 20 if not specified

(2) Routine drug susceptibility test (DST) for first line anti-TB drugs was changed from HRES to HREZ since mid-August 2023. (i.e. DST to streptomycin has been replaced by DST to pyrazinamide)

Annex 4 Crude and Standardised Death Rate and Notification Rate from 2001 to 2023 (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
2023	2.3	1.3	42.8	30.5

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 2023

In a sample survey conducted by the TB & Chest Service of the Department of Health in 2023 (3-month period from 1.3.2023 to 31.5.2023), the overall HBsAg seropositive rate among TB patients seen at chest clinics was 7.42%.

Sex / Age Group	HBsAg status			HBsAg seropositive rate (%) (1)	Total
	Positive	Negative	Unknown		
Male					
0 - 19	0	4	1	0.00	5
20 - 39	0	40	1	0.00	41
40 - 59	11	88	0	11.11	99
≥ 60	27	288	5	8.57	320
Female					
0 - 19	0	7	0	0.00	7
20 - 39	2	58	1	3.33	61
40 - 59	5	82	1	5.75	88
≥ 60	11	132	1	7.69	144
Total	56	699	10	7.42	765

HBsAg Seroprevalence Survey 2022 - 2023

Sex / Age Group	HBsAg seropositive rate (%)	
	2022	2023
Male		
0 - 19	0.00	0.00
20 - 39	2.86	0.00
40 - 59	12.50	11.11
≥ 60	10.17	8.57
Female		
0 - 19	0.00	0.00
20 - 39	2.90	3.33
40 - 59	7.04	5.75
≥ 60	3.03	7.69
Total	7.39	7.42

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. *for chest clinics: 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. *for Correctional Services Department: 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.]*