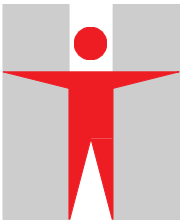
Annual Report
Tuberculosis & Chest Service
2020



Department of Health
Hong Kong Special Administrative Region

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I. Preface

Global Epidemiology

Tuberculosis (TB) is present in all countries and age groups. It is curable and preventable, but it continues to be an important global health problem. In 2020, a total of 1.5 million people died from TB (including 214 000 people with HIV). Worldwide, TB is the 13th leading cause of death and the second leading infectious killer after COVID-19. Furthermore, an estimated 10 million people fell ill with TB including 5.6 million men, 3.3 million women and 1.1 million children.

In 2020, the largest number of new TB cases occurred in the World Health Organization (WHO) South-East Asian Region, with 43% of new cases, followed by the WHO African Region, with 25% of new cases and the WHO Western Pacific with 18%. The 30 high TB burden countries accounted for 86% of new TB cases. Regarding the drug resistance issue, multidrug-resistant TB (MDR-TB) remained a public health threat. Globally, the burden of MDR-TB or RR-TB (MDR/RR-TB) was stable. However, only about one in three people with drug-resistant TB accessed treatment in 2020. The TB outcome data showed a worldwide treatment success rate of MDR/RR-TB patients to be 59% in 2018. In 2020, WHO recommended a new shorter (9-12 months) and fully-oral regimen for patients with MDR-TB. Research has shown that patients find it easier to complete the regimen, compared with the longer regimens that last up to 20 months.

The End TB Strategy defines milestones (for 2020 and 2025) and targets (for 2030 and 2035) for reductions in TB cases and deaths. The targets for 2030 are a 90% reduction in the number of TB deaths and an 80% reduction in the TB incidence rate compared with levels in 2015. The milestones for 2020 were a 35% reduction in the number of TB deaths and a 20% reduction in the TB incidence rate. The strategy also included a 2020 milestone that no TB patients and their households faced catastrophic costs as a result of TB disease. Globally, TB incidence was falling at about 2% per year and between 2015 and 2020 the cumulative reduction was 11%. This was over half way to the End TB Strategy milestone of 20% reduction between 2015 and 2020. Nonetheless, the occurrence of COVID-19 pandemic threatened to affect the progress in reducing the global burden of TB disease.

Local epidemiology

In Hong Kong, the number of TB notifications in 2020 was 3 656, and the TB notification rate was 48.9 per 100 000. The corresponding figures in 2019 were 4 003 and 53.3 per 100 000. TB deaths accounted for 0.39 % of the total registered deaths in Hong Kong and stayed outside the top ten causes of death in 2020.

With the successful implementation of passive case-finding, rapid diagnosis, timely initiation of effective anti-TB treatment and directly observed treatment (DOT) in an ambulatory outpatient setting, the TB notification rate decreased from a historical peak of 697.2 per 100 000 in 1952 to 48.9 per 100 000 in 2020. However, the TB notification rate declined more slowly in recent years. The ageing population and reactivation from this pool of latent infection is accounting for the retarded decline rate of TB. Tackling the challenge of an ageing population appears to be a key step in further reducing the local TB notification and TB death rates. However, the current diagnostic tools show limitations in screening latent TB infection (LTBI) in the elderly while treatment of TB or LTBI in this group is more prone to adverse events such as hepatotoxicity. More intensive researches and innovations are required to make a breakthrough in this area.

Challenges on TB Control

The impact of COVID-19 pandemic

In early 2020, the COVID-19 outbreak was declared a Public Health Emergency of International Concern by the WHO. A lot of the medical resources were shifted to combat this novel coronavirus. WHO estimated that 1.4 million fewer people received care for TB in 2020 than in 2019, which represented a reduction of 21% from 2019. It was further estimated that excess TB death would ensue. Despite this adverse environment, TB & Chest Service (TB&CS) was committed to ensure continuity of essential TB services during the COVID-19 pandemic by maintaining the consultation services and DOT. The lower TB notification rate in 2020 may on one hand reflect the change of health seeking behavior during the COVID-19 pandemic, resulting in a lower TB detection rate. On the other hand, the number of TB death did not increase but was slightly lower than that in 2019 (2.4% lower). The latter was likely related to our continuous efforts with a good medical support to TB patients in spite of the COVID-19 pandemic.

Ageing Population

The population in Hong Kong rose from 6.71 million to 7.43 million from 2000 to 2020. Of which 11.1% and 19.1% were aged 65 or above in 2000 and 2020 respectively. It is projected that more than a quarter of the local population will be 65 or above by 2030. Management of TB in elderly is challenging as they have, in general, more comorbidities and more commonly experience adverse effects such as hepatotoxicity when they are put on anti-TB treatment. The average age of the TB deaths was 76.8 in 2020 with 78% mortality being 65 years old or above.

Co-morbidities of TB patients

Diabetes mellitus (DM) has been recognized as the most common TB comorbidity in Hong Kong. A previous local study showed that DM patients had more extensive disease, more adverse effects from treatment and lower success rates as compared with non-diabetic patients. DM control is an important factor affecting the response to anti-TB treatment. Apart from DM, HIV infection is another risk factor for the development of TB. In Hong Kong, the prevalence of HIV co-infection among TB patients remained low at 0.5% in 2020. In our service, DM screening and HIV testing are routinely offered to TB patients attending chest clinics.

Multidrug-resistant and extensively drug-resistant tuberculosis

With all the efforts, the rate of MDR-TB in Hong Kong was low at 0.49 % of all culture confirmed TB cases in 2020. There was no case of extensively drug-resistant TB (XDR-TB). Owing to the COVID-19 pandemic, the impact of population movement and the potential cross-border transfer of drug-resistant TB were less of a concern in 2020. Yet, continuous vigilance on the early diagnosis and treatment of drug-resistant TB remains important.

Way Forward

Surveillance and early detection of drug-resistant TB

The Department of Health of Hong Kong SAR will continue to monitor the trend of drug resistance rates and enhance the surveillance. To effectively tackle the issue of drug-resistant TB in Hong Kong, molecular tests for rapid diagnosis of TB and detection of drug resistance among sputum smear-positive cases and selected smear-negative cases before the availability of culture-based drug susceptibility results have been applied. The enhanced use of molecular tests together with the joint efforts of microbiologists and clinicians are important for the early detection and control of TB.

Effective anti-tuberculosis treatment

Effective first-line anti-TB treatment under directly observed therapy remains to be the cornerstone of TB control. For drug-resistant TB, the development of new drugs and the introduction of repurposed agents in recent years are bringing new hope to the treatment of MDR-TB and XDR-TB. Since 2019, there has been an increasing use of bedaquiline, linezolid and clofazimine in addition to levofloxacin and cycloserine as the composition of the individualized longer MDR-TB regimen for treatment of MDR-TB. In 2020, WHO recommended a new shorter all-oral bedaquiline-containing regimen of 9-12 months for a selected group of MDR/RR-TB patients who have no fluoroquinolone resistance and without previous exposure to second-line drugs (including bedaquiline) for patients with MDR-TB. However, patient's tolerance of the

short regimen remains a challenge. For patients with MDR/RR-TB and additional fluoroquinolone resistance, a new 6-9 months regimen composed of bedaquiline, pretomanid and linezolid (BPaL) has been conditionally recommended under operational research conditions only.

The in-patient management of MDR- and XDR-TB are supported by the chest units of the Grantham Hospital and Kowloon Hospital which are the two designated hospital units under Hospital Authority (HA) for hospitalization of MDR- and XDR-TB patients. Close liaison with the HA colleagues is maintained and biweekly joint case conferences are conducted to facilitate the management of these difficult cases.

Tuberculosis Preventive Treatment (TPT) for LTBI

Targeted screening of four main high-risk groups is conducted locally. They are household contacts of sputum smear-positive patients, people with silicosis, people living with HIV and patients initiating anti-tumour necrosis factor (TNF) treatment. Tuberculin skin test (TST) and/or the interferon gamma release assays (IGRA) are the screening tests deployed. For TPT, 6-9 months Isoniazid, 12-week weekly rifapentine plus isoniazid regimen given under supervision and 4-month rifampicin are the regimens commonly offered. The completion rate of TPT ranged from 80% to over 90% with a higher completion rate among cases on the shorter TPT regimens.

Neonatal BCG vaccination

Neonatal BCG is routinely given in Hong Kong at birth with a high coverage rate of 99.0% in 2020. On the other hand, the BCG revaccination programme for primary school children has been stopped since the school year starting from September 2000.

Public health function

In recent years, the Department of Health has enhanced its public health function by stepping up its local enforcement measures to contain the spread of TB within our community. For non-compliant TB patients posing public health hazards, we have more liberally enforced medical examination orders or isolation orders with reference to the Prevention and Control of Disease Ordinance (CAP 599). They are often taken as a last resort when all other non-coercive measures such as counselling, education and psychosocial support fail. In managing TB cases leaving Hong Kong and of potential public health concern, cross-jurisdiction notification has also been enhanced.

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 aiming to further improve the TB management. We have participated in the Tuberculosis Trial Consortium (TBTC) study 31 which was a large phase 3 multicenter open-label randomized clinical trial of rifapentine-containing treatment-shortening regimens for pulmonary TB. It was rolled out in 2016 and completed in late 2020. In addition, there was also enhancing network with the health authorities in the Guangdong-Hong Kong-Macao Greater Bay Area.

Health Promotion

Promotion of smoking cessation

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

World TB Day and community support

Measures to raise the public awareness of TB and to mobilize support from the community are of great importance to the success of TB control. It has been achieved through school education and public health talks. Despite the COVID-19 pandemic, a series of activities have still been conducted to echo the World TB Day of 24 March 2020. Activities included updating TB information on TB&CS website, launching an Announcement for Public Interest (API) on TV, radio, and other media and promoting the World TB Day via the RTHK radio programme “Healthpedia” and an article in a health column of a local newspaper.

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

II. Tuberculosis & Chest Service

Approximately 80% of notified TB cases are managed in the Government TB&CS. In 2020, a total of 57 022 persons (including 8 679 new patients) attended chest clinics and the total attendance was 427 969. The corresponding figures in 2019 were 70 900 and 607 535. The drop in attendance was attributed to a change of health seeking behavior and adjustment of services during the COVID-19 pandemic.

The diagnoses among new patients included active pulmonary TB (21.0%), active TB of other forms (8.7%), inactive TB (2.4%), CXR screening and contact examination (35.1%), bronchitis not specified as acute or chronic (2.2%), acute respiratory infection and pneumonia (1.1%), malignant neoplasm of trachea and bronchus (0.5%) and other respiratory symptoms or diseases (10.4%). A total of 1 009 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 2020, 193 cases with suspected pneumoconiosis or mesothelioma were examined by the Board under the Ordinance, and 112 new patients (88 cases of silicosis, 12 cases of asbestos-related lung disease, 12 cases of mesothelioma) were confirmed by the Board. Up to the end of 2020, a total of 5 273 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 1947-2020

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	2.61	38.33
1948	6 279	-	-	348.8	1 961	108.9	3.20	31.23
1949	7 510	-	-	404.4	2 611	140.6	2.88	34.77
1950	9 067	-	-	405.3	3 263	145.9	2.78	35.99
1951	13 886	-	-	689.0	4 190	207.9	3.31	30.17
1952	14 821	-	-	697.2	3 573	168.1	4.15	24.11
1953	11 900	-	-	530.7	2 939	131.1	4.05	24.70
1954	12 508	-	-	528.9	2 876	121.6	4.35	22.99
1955	14 148	-	-	568.1	2 810	112.8	5.03	19.86
1956	12 155	-	-	464.9	2 629	100.6	4.62	21.63
1957	13 665	-	-	499.4	2 675	97.8	5.11	19.58
1958	13 485	-	-	472.5	2 302	80.7	5.86	17.07
1959	14 302	-	-	482.0	2 178	73.4	6.57	15.23
1960	12 425	-	-	405.5	2 085	68.0	5.96	16.78
1961	12 584	-	-	397.2	1 907	60.2	6.60	15.15
1962	14 263	-	-	431.5	1 881	56.9	7.58	13.19
1963	13 031	-	-	380.9	1 762	51.5	7.40	13.52
1964	12 557	-	-	358.3	1 441	41.1	8.71	11.48
1965	9 927	-	-	275.9	1 278	35.5	7.77	12.87
1966	11 427	-	-	314.8	1 515	41.7	7.54	13.26
1967	15 253	-	-	409.7	1 493	40.1	10.22	9.79
1968	9 792	-	-	257.5	1 483	39.0	6.60	15.15
1969	11 072	-	-	286.5	1 470	38.0	7.53	13.28
1970	10 077	-	-	254.5	1 436	36.3	7.02	14.25
1971	9 028	-	-	223.2	1 250	30.9	7.22	13.85
1972	8 420	-	-	204.2	1 312	31.8	6.42	15.58
1973	8 152	-	-	192.2	1 154	27.2	7.06	14.16
1974	8 320	-	-	190.0	974	22.2	8.54	11.71
1975	8 192	-	-	183.6	646	14.5	12.68	7.89
1976	7 928	-	-	175.5	568	12.6	13.96	7.16
1977	7 191	-	-	156.9	532	11.6	13.52	7.40
1978	6 623	-	-	141.9	420	9.0	15.77	6.34
1979	7 907	(498)	-	160.4	523	10.6	15.12	6.61
1980	8 065	(712)	-	159.3	551	10.9	14.64	6.83
1981	7 729	(254)	-	149.1	489	9.4	15.81	6.33
1982	7 527	(112)	-	143.0	454	8.6	16.58	6.03
1983	7 301	(73)	-	136.6	446	8.3	16.37	6.11
1984	7 843	(69)	-	145.3	420	7.8	18.67	5.36
1985	7 545	(59)	580	138.3	409	7.5	18.45	5.42
1986	7 432	(46)	544	134.5	407	7.4	18.26	5.48
1987	7 269	(41)	495	130.3	405	7.3	17.95	5.57
1988	7 021	(121)	433	124.8	388	6.9	18.10	5.53
1989	6 704	(226)	387	117.9	403	7.1	16.64	6.01
1990	6 510	(288)	341	114.1	382	6.7	17.04	5.87
1991	6 283	(281)	293	109.2	409	7.1	15.36	6.51
1992	6 534	(309)	264	112.6	410	7.1	15.94	6.27
1993	6 537	(264)	89	110.8	396	6.7	16.51	6.06
1994	6 319	(230)	87	104.7	409	6.8	15.45	6.47
1995	6 212	(175)	102	100.9	418	6.8	14.86	6.73
1996	6 501	(88)	162	101.0	292	4.5	22.26	4.49
1997	7 072	(34)	156	109.0	252	3.9	28.06	3.56
1998	7 673	(7)	169	117.3	270	4.1	28.42	3.52
1999	7 512	(5)	166	113.7	312	4.7	24.08	4.15
2000	7 578	(7)	152	113.7	299	4.5	25.34	3.95
2001	7 262	(0)	192	108.2	311	4.6	23.35	4.28

Appendix 1 TB Notification & Death Rate of Tuberculosis (All Forms) from 1947-2020 ---*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	24.73	4.04
2003	6 024	(0)	177	89.5	275	4.1	21.91	4.57
2004	6 226	(0)	110	91.8	286	4.2	21.77	4.59
2005	6 160	(0)	77	90.4	271	4.0	22.73	4.40
2006	5 766	(0)	58	84.1	294	4.3	19.61	5.10
2007	5 463	(0)	56	79.0	231	3.3	23.65	4.23
2008	5 635	(0)	67	81.0	229	3.3	24.61	4.06
2009	5 193	(0)	68	74.5	204	2.9	25.46	3.93
2010	5 093	(0)	80	72.5	191	2.7	26.66	3.75
2011	4 794	(0)	81	67.8	187	2.6	25.64	3.90
2012	4 858	(0)	100	67.9	199	2.8	24.41	4.10
2013	4 664	(0)	92	65.0	178	2.5	26.20	3.82
2014	4 705	(0)	85	65.1	187	2.6	25.16	3.97
2015	4 418	(0)	82	60.6	169	2.3	26.14	3.83
2016	4 346	(0)	67	59.2	160	2.2	27.16	3.68
2017	4 250	(0)	78	57.5	184	2.5	23.10	4.33
2018	4 268	(0)	92	57.3	190	2.5	22.46	4.45
2019	4 003	(0)	110	53.3	205	2.7	19.53	5.12
2020	3 656	(0)	83	48.9	200	2.7	18.28	5.47

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.

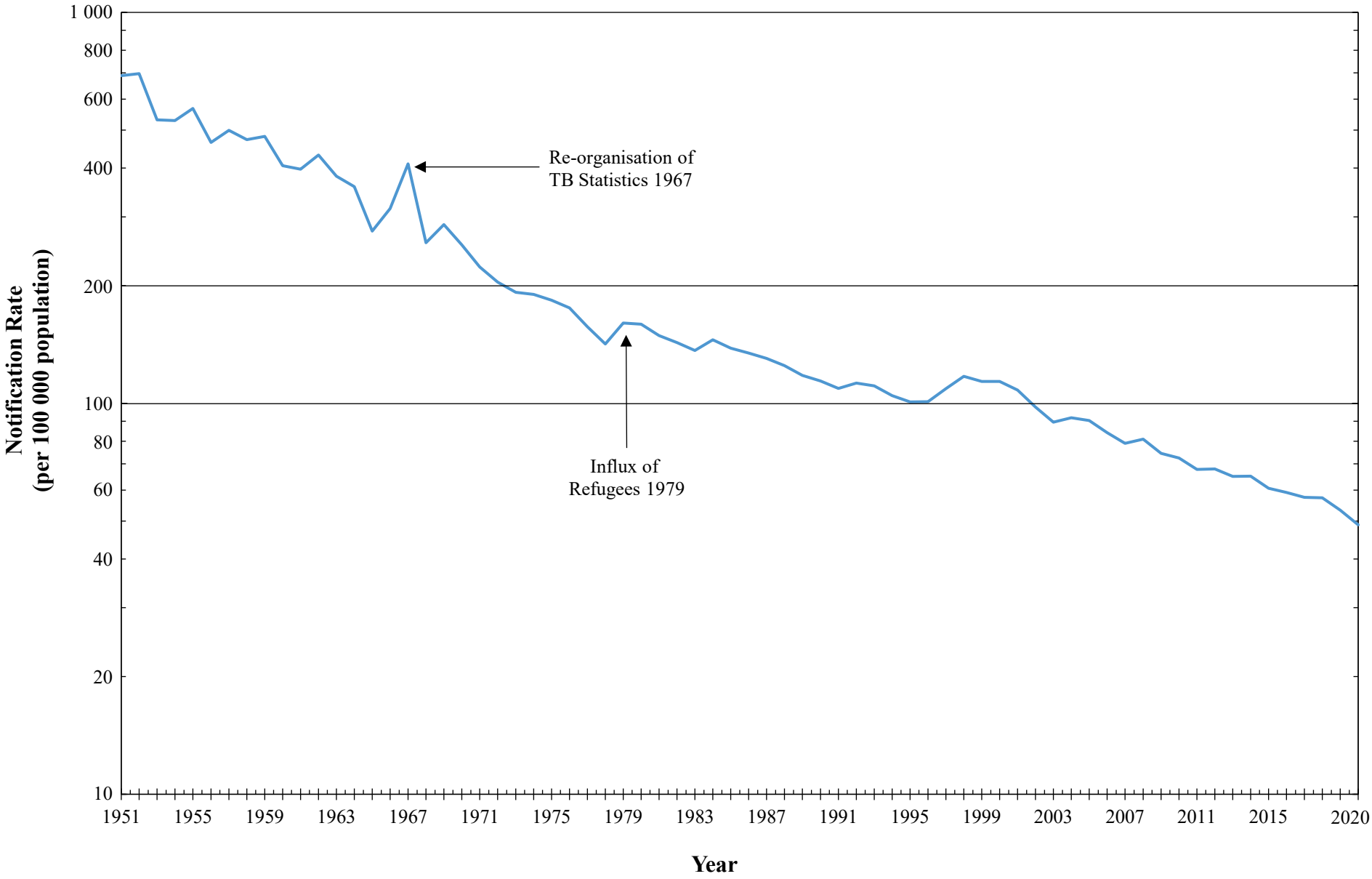
(3) Notification rate per 100 000 population.

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

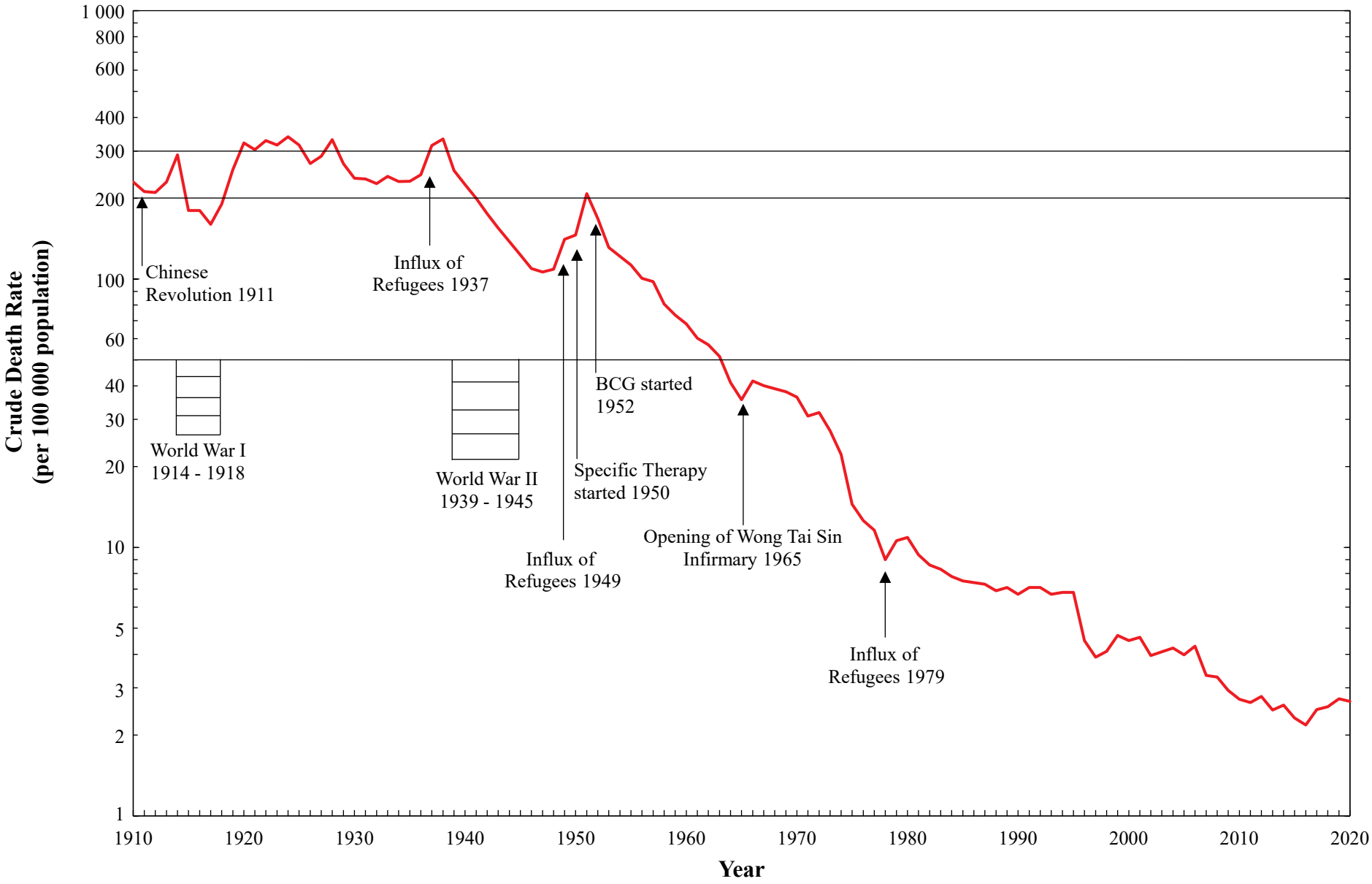
(5) Death rate per 100 000 population.

(6) Ratio of Tuberculosis notifications per death.

Appendix 2 TB Notification Rate (All Forms) from 1951 - 2020



Appendix 3 Crude Death Rate due to Tuberculosis (All Forms) from 1910 - 2020



Appendix 4(a) Tuberculosis (All Forms) Notification and Rate by Sex and Age 2020

Age group	TB notifications			Notification rate[(1)]		
	Male	Female	Total	Male	Female	Total
Under 1	0	0	0	0.79	0.84	0.81
1	1	1	2			
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	5	6	11	3.40	4.32	3.84
15 - 19	28	30	58	20.36	22.56	21.44
20 - 24	53	58	111	29.03	31.66	30.34
25 - 29	74	101	175	33.35	39.13	36.46
30 - 34	53	117	170	22.92	37.14	31.12
35 - 39	83	118	201	34.57	32.39	33.26
40 - 44	79	109	188	33.82	31.49	32.43
45 - 49	90	91	181	36.59	26.37	30.62
50 - 54	143	91	234	57.48	27.82	40.63
55 - 59	187	107	294	62.96	30.75	45.58
60 - 64	290	100	390	97.35	32.55	64.45
65 - 69	270	109	379	118.58	45.76	81.35
70 - 74	248	85	333	146.92	48.93	97.23
75 - 79	187	65	252	202.82	70.19	136.36
80 - 84	199	67	266	247.20	74.78	156.38
85 & over	292	119	411	364.54	86.23	188.45
All age groups	**2 282**	**1 374**	**3 656**	**66.79**	**33.80**	**48.87**

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

Appendix 4(b) Pulmonary Tuberculosis Notification by Sex and Age 2020

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	1	0	1	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
5 - 9	0	0	0	0	0	0	0	0	0
10 - 14	3	5	8	0	2	2	0	2	2
15 - 19	24	24	48	12	14	26	5	4	9
20 - 24	42	50	92	28	36	64	8	21	29
25 - 29	52	77	129	37	50	87	12	18	30
30 - 34	34	80	114	22	55	77	7	30	37
35 - 39	67	72	139	47	49	96	25	24	49
40 - 44	66	64	130	44	38	82	17	20	37
45 - 49	72	54	126	49	28	77	28	14	42
50 - 54	116	60	176	86	29	115	48	11	59
55 - 59	162	67	229	110	38	148	61	19	80
60 - 64	253	72	325	186	45	231	87	21	108
65 - 69	243	76	319	177	52	229	74	16	90
70 - 74	217	59	276	166	39	205	56	17	73
75 - 79	168	46	214	115	34	149	46	15	61
80 - 84	173	47	220	136	35	171	31	9	40
85 & over	268	88	356	201	69	270	57	23	80
All age groups	**1 961**	**941**	**2 902**	**1 416**	**613**	**2 029**	**562**	**264**	**826**

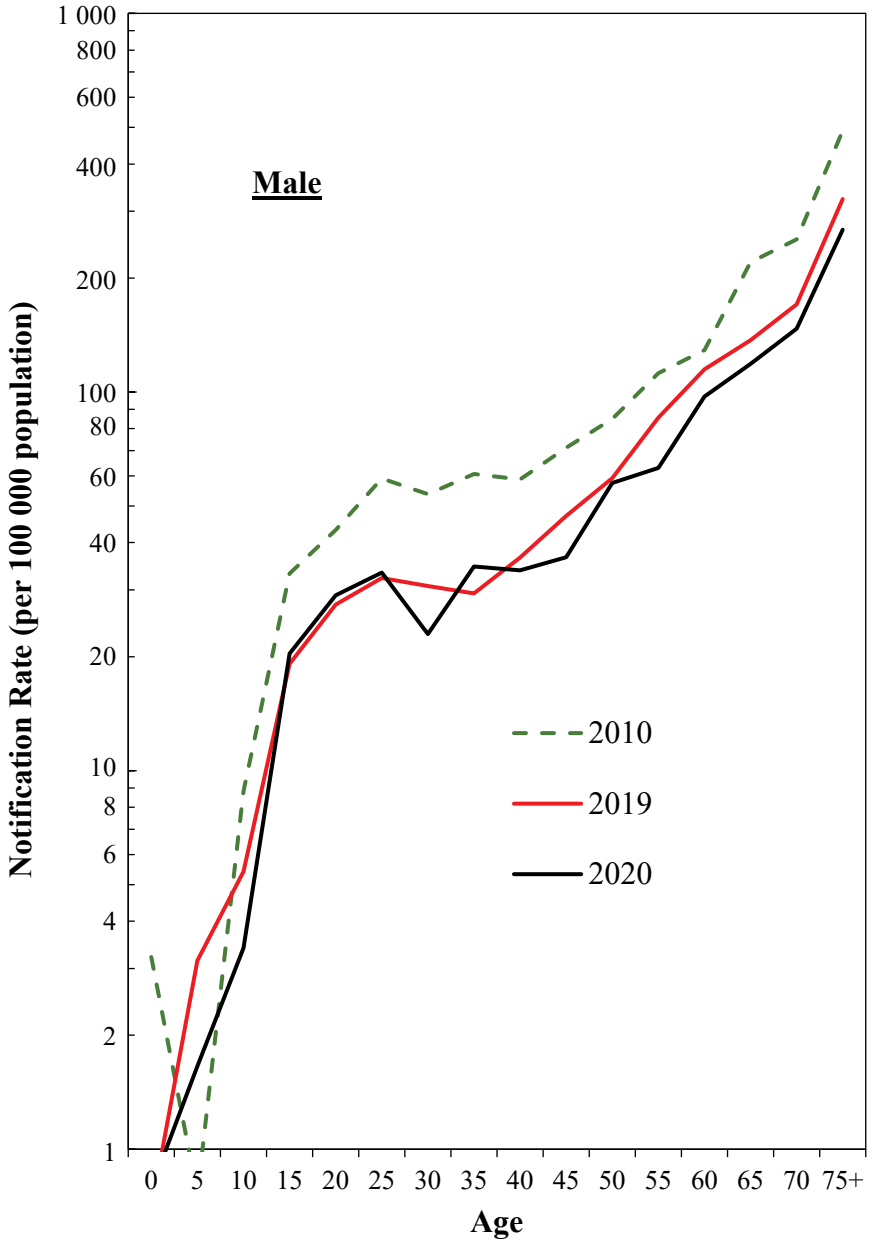
Notes:
(1) Pulmonary TB with or without extrapulmonary TB.
(2) Either smear or culture positive.

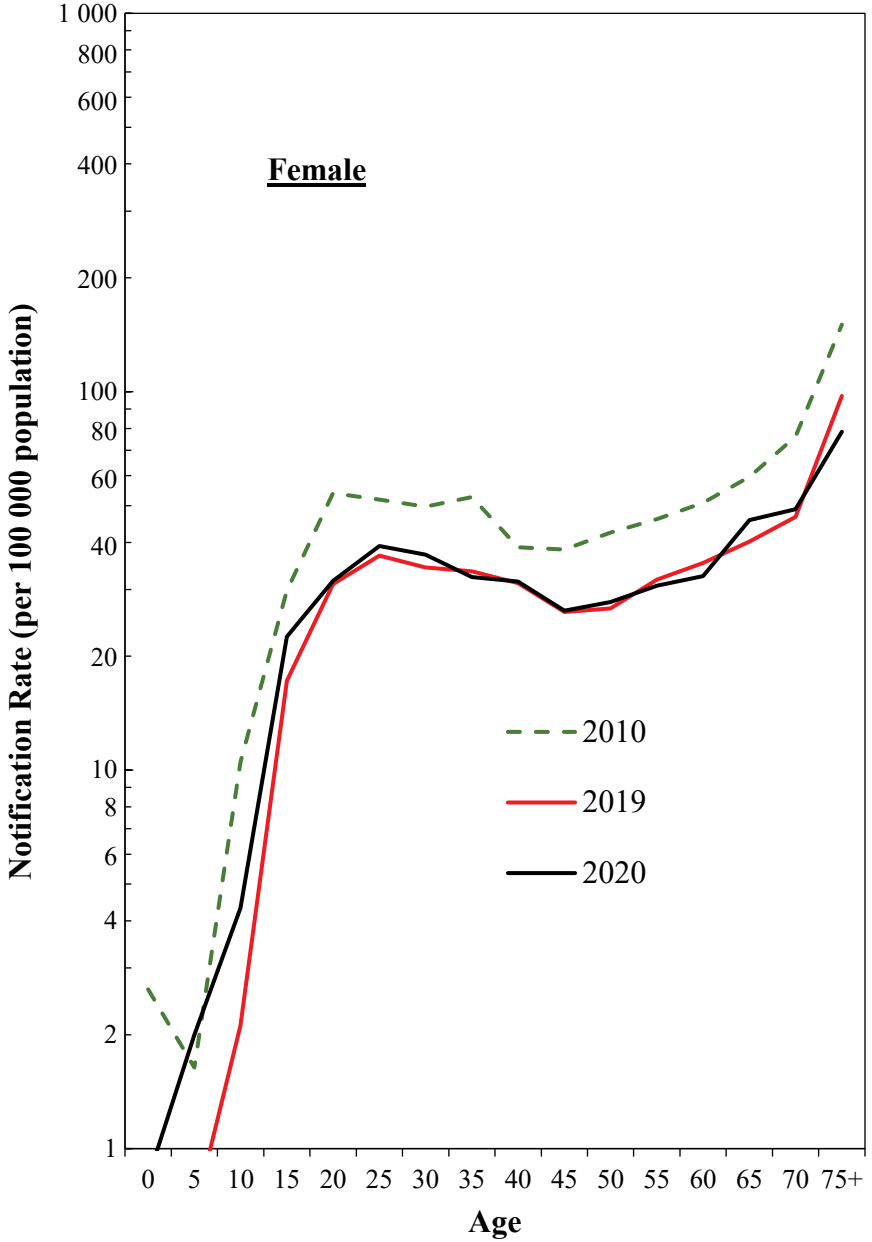
Appendix 4(c) Pulmonary Tuberculosis Notification Rate [1] by Sex and Age 2020

Age group	Pulmonary TB[2]			Bacteriologically[3] Positive Pulmonary TB			Smear Positive Pulmonary TB		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 4	0.8	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
5 - 9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 - 14	2.0	3.6	2.8	0.0	1.4	0.7	0.0	1.4	0.7
15 - 19	17.5	18.0	17.7	8.7	10.5	9.6	3.6	3.0	3.3
20 - 24	23.0	27.3	25.2	15.3	19.7	17.5	4.4	11.5	7.9
25 - 29	23.4	29.8	26.9	16.7	19.4	18.1	5.4	7.0	6.3
30 - 34	14.7	25.4	20.9	9.5	17.5	14.1	3.0	9.5	6.8
35 - 39	27.9	19.8	23.0	19.6	13.5	15.9	10.4	6.6	8.1
40 - 44	28.3	18.5	22.4	18.8	11.0	14.1	7.3	5.8	6.4
45 - 49	29.3	15.6	21.3	19.9	8.1	13.0	11.4	4.1	7.1
50 - 54	46.6	18.3	30.6	34.6	8.9	20.0	19.3	3.4	10.2
55 - 59	54.5	19.3	35.5	37.0	10.9	22.9	20.5	5.5	12.4
60 - 64	84.9	23.4	53.7	62.4	14.6	38.2	29.2	6.8	17.8
65 - 69	106.7	31.9	68.5	77.7	21.8	49.2	32.5	6.7	19.3
70 - 74	128.6	34.0	80.6	98.3	22.5	59.9	33.2	9.8	21.3
75 - 79	182.2	49.7	115.8	124.7	36.7	80.6	49.9	16.2	33.0
80 - 84	214.9	52.5	129.3	168.9	39.1	100.5	38.5	10.0	23.5
85 & over	334.6	63.8	163.2	250.9	50.0	123.8	71.2	16.7	36.7
All age groups	**57.4**	**23.2**	**38.8**	**41.4**	**15.1**	**27.1**	**16.4**	**6.5**	**11.0**

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 2010, 2019 and 2020





Appendix 6 Notification of TB by TB Types, Sex and Age 2020 (1)

Age group	Pulmonary only			Miliary			Meninges/CNS			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	1	0	1	0	1	1	0	1	1	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	2	3	5	0	0	0	0	0	0	1	0	1	2	3	5
15 - 19	23	18	41	0	0	0	0	0	0	0	0	0	5	12	17
20 - 24	34	46	80	0	0	0	1	0	1	2	0	2	16	12	28
25 - 29	43	60	103	1	1	2	0	0	0	1	1	2	30	40	70
30 - 34	25	63	88	1	2	3	3	4	7	2	2	4	25	48	73
35 - 39	50	54	104	2	0	2	1	2	3	1	3	4	29	61	90
40 - 44	49	41	90	2	0	2	0	2	2	0	2	2	29	64	93
45 - 49	59	45	104	0	1	1	4	0	4	0	2	2	30	43	73
50 - 54	96	47	143	4	0	4	2	2	4	2	1	3	41	41	82
55 - 59	146	55	201	3	1	4	1	2	3	3	5	8	36	44	80
60 - 64	224	62	286	2	0	2	2	4	6	4	4	8	59	30	89
65 - 69	217	60	277	3	1	4	4	3	7	4	1	5	43	47	90
70 - 74	191	49	240	1	0	1	3	1	4	3	0	3	52	35	87
75 - 79	138	40	178	1	3	4	1	3	4	3	2	5	46	19	65
80 - 84	148	40	188	2	1	3	1	0	1	5	2	7	46	24	70
85 & over	241	73	314	1	1	2	0	2	2	3	4	7	48	40	88
All age groups	**1 687**	**756**	**2 443**	**23**	**12**	**35**	**23**	**26**	**49**	**34**	**29**	**63**	**537**	**563**	**1 100**

Notes:

(1) The total number of all age groups in this table add up to greater than the notification number of 3 656 as some cases may have multiple extrapulmonary sites.

(2) Other types of TB include:

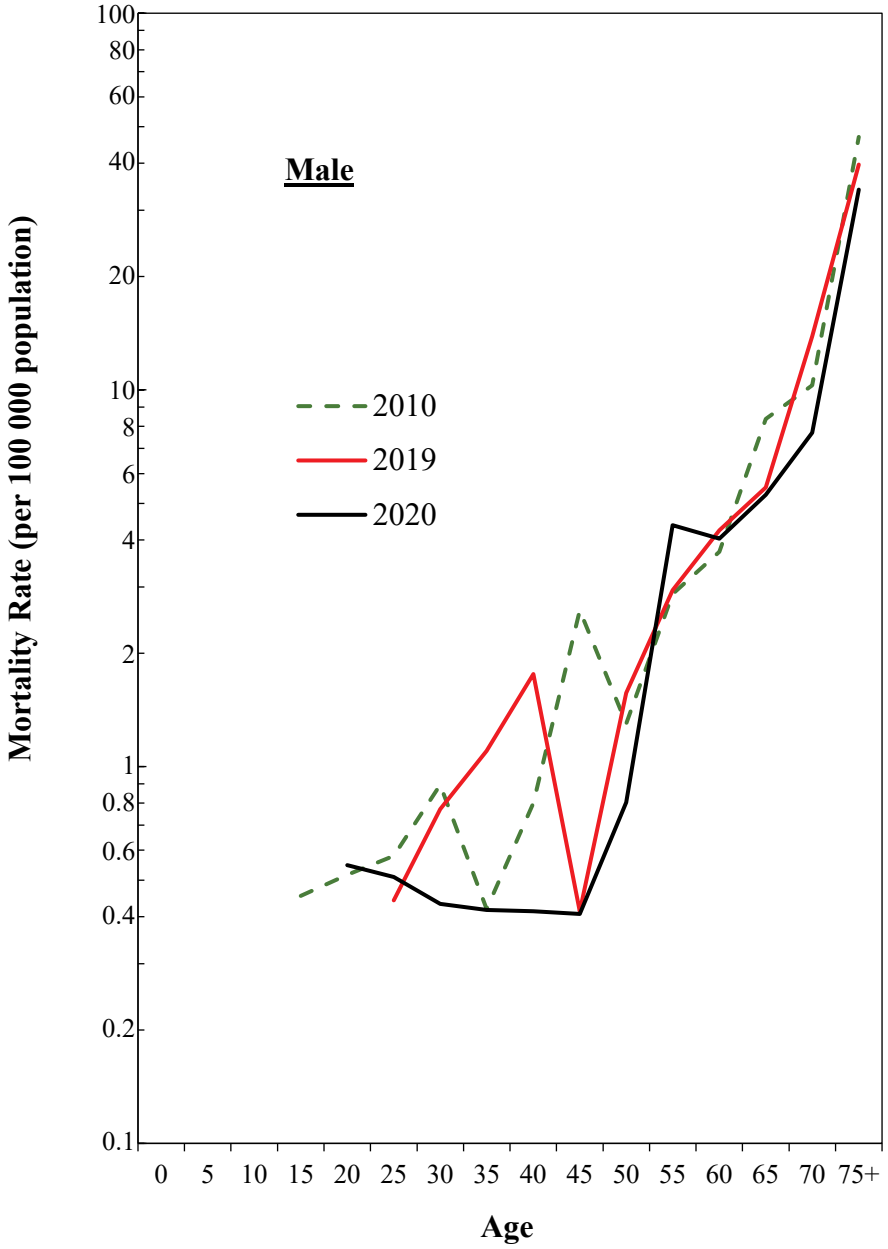
TB Laryngitis	22
TB Lymph node	408
TB Peritonitis, intestines, mesenteric, appendicitis	81
TB Pleuritis, pleural effusion	438
TB Skin	53
TB Urogenital system	60
Unspecified	72

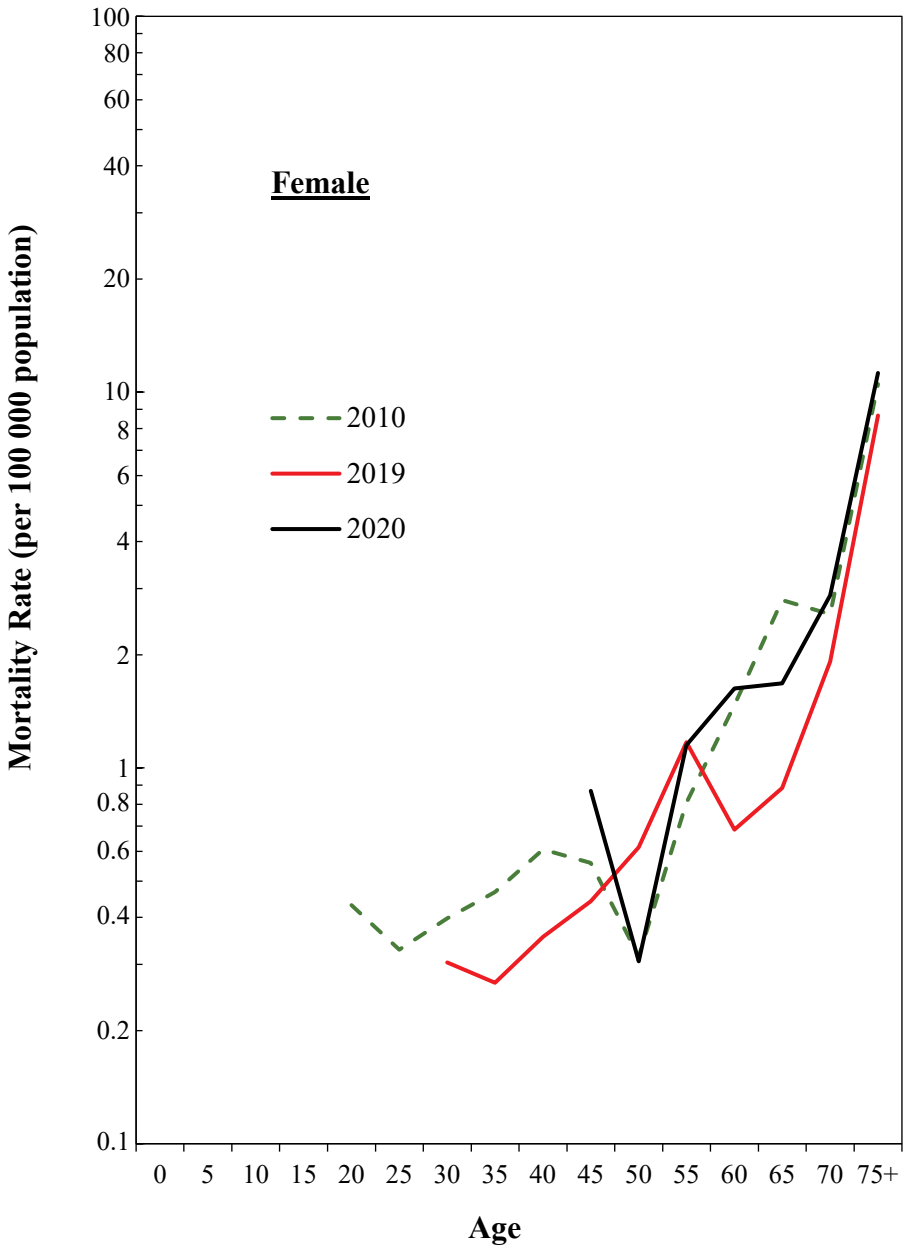
Appendix 7 Tuberculosis (All Forms) Deaths and Rate by Sex and Age 2020

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	0	0	0.00	0.00	0.00
20 - 24	1	0	1	0.55	0.00	0.27
25 - 29	0	0	0	0.00	0.00	0.00
30 - 34	1	0	1	0.43	0.00	0.18
35 - 39	1	0	1	0.42	0.00	0.17
40 - 44	0	0	0	0.00	0.00	0.00
45 - 49	1	3	4	0.41	0.87	0.68
50 - 54	2	1	3	0.80	0.31	0.52
55 - 59	13	4	17	4.38	1.15	2.64
60 - 64	12	5	17	4.03	1.63	2.81
65 - 69	12	4	16	5.27	1.68	3.43
70 - 74	13	5	18	7.70	2.88	5.26
75 - 79	18	4	22	19.52	4.32	11.90
80 - 84	19	6	25	23.60	6.70	14.70
85 & over	49	26	75	61.17	18.84	34.39
All age groups	**142**	**58**	**200**	**4.16**	**1.43**	**2.67**

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 2010, 2019 and 2020





Appendix 9 Tuberculosis Deaths by TB Types, Sex and Age 2020 (1)

Age group	Pulmonary			Miliary			Meninges			Bones & Joints			Others(2)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 - 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 - 19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 - 24	0	0	0	1	0	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	1	0	1	0	0	0	0	0	0	0	0	0
35 - 39	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
40 - 44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 - 49	1	1	2	0	0	0	0	1	1	0	0	0	0	1	1
50 - 54	1	1	2	0	0	0	0	0	0	0	0	0	1	0	1
55 - 59	9	3	12	3	0	3	0	1	1	1	0	1	0	0	0
60 - 64	10	4	14	2	1	3	0	0	0	0	0	0	0	0	0
65 - 69	11	3	14	1	1	2	0	0	0	0	0	0	0	0	0
70 - 74	11	3	14	1	1	2	1	1	2	0	0	0	0	0	0
75 - 79	16	3	19	0	0	0	0	0	0	1	0	1	1	1	2
80 - 84	18	6	24	0	0	0	1	0	1	0	0	0	0	0	0
85 & over	47	21	68	1	1	2	0	0	0	0	0	0	1	4	5
All age groups	**124**	**45**	**169**	**10**	**4**	**14**	**3**	**3**	**6**	**2**	**0**	**2**	**3**	**6**	**9**

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	3
Tuberculosis of other specified organs	5
Sequelae of respiratory and unspecified tuberculosis	1
Total	9

Appendix 10 Tuberculosis Mortality from 1950 - 2020

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	5.28	17.7	24.0
1951	34.22	7.73	4.73	20.0	25.0
1952	34.28	7.05	3.50	18.4	25.0
1953	36.27	9.02	3.51	16.1	26.0
1954	31.26	8.17	2.82	14.9	29.0
1955	28.51	8.61	2.67	14.7	31.0
1956	25.22	7.34	1.99	13.6	32.0
1957	21.20	5.76	1.57	13.8	36.0
1958	19.64	7.04	1.52	11.2	36.5
1959	18.92	5.56	1.16	10.8	37.0
1960	10.55	2.21	0.42	10.9	43.0
1961	11.48	2.62	0.46	10.2	43.0
1962	5.74	1.44	0.24	9.3	46.0
1963	5.51	1.08	0.16	8.9	47.0
1964	4.09	0.90	0.12	8.0	48.0
1965	3.36	0.70	0.09	7.3	49.0
1966	2.71	0.73	0.12	8.1	53.0
1967	2.01	0.33	0.06	7.6	54.5
1968	1.15	0.20	0.04	7.7	56.5
1969	0.95	0.27	0.05	7.8	56.0
1970	0.63	0.00	0.00	6.9	57.5
1971	0.64	0.08	0.01	6.2	57.5
1972	0.30	0.15	0.02	6.2	59.0
1973	0.35	0.09	0.01	5.4	58.0
1974	0.82	0.21	0.02	4.4	58.5
1975	1.39	0.31	0.03	3.0	58.5
1976	0.70	0.00	0.00	2.4	59.5
1977	0.38	0.00	0.00	2.3	61.0
1978	0.48	0.24	0.01	1.8	61.0
1979	0.96	0.19	0.01	2.0	61.0
1980	0.73	0.18	0.01	2.1	62.0
1981	0.41	0.00	0.00	2.0	63.0
1982	0.22	0.00	0.00	1.8	63.0
1983	0.45	0.00	0.00	1.7	63.0
1984	0.24	0.24	0.01	1.6	64.5
1985	0.00	0.00	0.00	1.6	65.5
1986	0.00	0.00	0.00	1.6	68.0
1987	0.00	0.00	0.00	1.5	68.5
1988	0.52	0.26	0.01	1.4	69.0
1989	0.25	0.25	0.01	1.4	69.0
1990	0.52	0.52	0.03	1.3	69.0
1991	0.00	0.00	0.00	1.4	69.0
1992	0.00	0.00	0.00	1.3	68.0
1993	0.25	0.25	0.01	1.3	69.0
1994	0.00	0.00	0.00	1.4	71.0

Appendix 10 Tuberculosis Mortality from 1950 - 2020 --- *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			
1995	0.00	0.00	0.00	1.4	71.1
1996	0.00	0.00	0.00	0.9	70.6
1997	0.00	0.00	0.00	0.8	72.1
1998	0.37	0.00	0.00	0.8	72.6
1999	0.00	0.00	0.00	0.9	72.9
2000	0.00	0.00	0.00	0.9	73.4
2001	0.00	0.00	0.00	0.9	74.3
2002	0.00	0.00	0.00	0.8	74.0
2003	0.36	0.00	0.00	0.8	72.3
2004	0.00	0.00	0.00	0.8	73.4
2005	0.00	0.00	0.00	0.7	74.3
2006	0.00	0.00	0.00	0.8	73.5
2007	0.00	0.00	0.00	0.6	74.2
2008	0.00	0.00	0.00	0.6	74.5
2009	0.00	0.00	0.00	0.5	73.7
2010	0.00	0.00	0.00	0.4	73.1
2011	0.00	0.00	0.00	0.4	77.3 [3]
2012	0.00	0.00	0.00	0.5	75.9
2013	0.00	0.00	0.00	0.4	74.1
2014	0.00	0.00	0.00	0.4	76.0
2015	0.00	0.00	0.00	0.4	75.6
2016	0.00	0.00	0.00	0.3	77.2
2017	0.00	0.00	0.00	0.4	75.4
2018	0.53	0.53	0.02	0.4	74.6
2019	0.00	0.00	0.00	0.4	77.0
2020	0.00	0.00	0.00	0.4	76.8

Notes:
(1) Infant mortality rate per 1 000 Registered Live Births.
(2) Data source: Death Registry, Department of Health.
(3) The average age of TB death is calculated by the exact age of TB death from 2011 onwards. Figures may be slightly different from previous years which were compiled basing on the age groups of TB death.

Appendix 11 Top Ten Causes of Death in Hong Kong 2020

Rank	Causes of Death	Detailed list no. ICD 10th Revision ^	Number of Deaths		
			Male	Female	Total #
	All Causes		27 956	22 694	50 653 (3)
1	Malignant neoplasms	C00-C97	8 634	6 171	14 805
2	Pneumonia	J12-J18	5 105	4 260	9 365
3	Diseases of heart	I00-I09, I11, I13, I20-I51	3 591	2 970	6 561
4	Cerebrovascular diseases	I60-I69	1 637	1 528	3 165
5	External causes of morbidity and mortality @	V01-Y89	1 285	739	2 024
6	Nephritis, nephrotic syndrome and nephrosis	N00-N07, N17-N19, N25-N27	885	836	1 721
7	Dementia	F01-F03	571	910	1 481
8	Chronic lower respiratory diseases *	J40-J47	920	239	1 159
9	Septicaemia	A40-A41	574	530	1 104
10	Diabetes mellitus	E10-E14	311	275	586
	Tuberculosis (including late effects of tuberculosis)		142	58	200
	All other causes	Residues of all causes	4 443	4 236	8 682 (3)

Notes:

^ 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. The disease groups for the purpose of ranking causes of death have also been redefined based on the ICD 10th Revision, and new disease groups have been added. Figures for 2001 may not be comparable with figures for previous years which were compiled based on the ICD 9th Revision.

Figures in brackets refer to number of deaths of unknown sex included.

@ 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.

* Chronic lower respiratory diseases has been included as a disease group for the purpose of ranking the causes of death since 2001.

Appendix 12(a) Sources of Tuberculosis Notification from 2010 - 2020

Clinic / Hospital	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
East Kowloon Chest Clinic	99	105	101	83	83	105	83	83	83	76	49
Kowloon Chest Clinic	165	122	154	167	127	95	98	98	94	65	74
Sai Ying Pun Chest Clinic	80	71	89	79	70	69	59	61	72	40	47
Shaukiwan Chest Clinic	72	74	65	74	66	72	56	45	67	42	37
Shaukiwan Pneumoconiosis	6	9	10	2	9	0	5	7	2	0	0
Shek Kip Mei Chest Clinic	87	90	101	95	80	89	83	70	66	44	38
South Kwai Chung Chest Clinic	166	146	158	122	127	103	98	99	106	69	79
Tai Po Chest Clinic	71	86	82	93	64	54	63	60	44	35	31
Wanchai Chest Clinic	143	118	110	113	95	89	83	88	71	56	47
Yan Oi Chest Clinic	152	173	144	146	104	105	109	100	75	84	69
Yaumatei Chest Clinic	131	128	132	112	101	92	82	81	91	72	54
Yuen Chau Kok Chest Clinic	131	112	108	110	98	80	80	81	73	75	55
Yung Fung Shee Chest Clinic	131	112	116	86	92	87	75	73	66	46	60
Castle Peak Hospital (Chest Clinic)[1]	0	0	2	0	0	0	-	-	-	-	-
Cheung Chau Chest Clinic	1	1	1	0	0	0	2	1	0	0	0
Sai Kung Chest Clinic	3	6	4	4	2	3	1	2	1	6	1
Sheung Shui Chest Clinic	63	33	21	30	33	22	30	29	31	18	18
Tung Chung Chest Clinic	11	13	9	11	11	9	21	12	17	19	6
Yuen Long Chest Clinic	80	48	39	66	51	67	53	59	48	36	34
Sub-total	1 592	1 447	1 446	1 393	1 213	1 141	1 081	1 049	1 007	783	699
Grantham Hospital	180	163	138	148	140	166	148	128	113	109	113
Haven of Hope Hospital	65	80	68	77	95	96	86	68	69	66	52
Kowloon Hospital	108	92	97	64	74	105	111	111	108	104	104
Ruttonjee Hospital	170	176	165	127	140	109	122	117	113	123	101
Wong Tai Sin Hospital	105	57	58	86	69	62	47	49	63	39	27
Other Govt. Institutions[2]	64	62	54	51	61	49	53	58	80	70	70
Other H.A. Hospitals	2 425	2 364	2 497	2 377	2 578	2 370	2 343	2309	2357	2319	2200
Private Practitioners	101	100	109	118	129	122	146	141	139	173	131
Private Hospitals	283	253	226	223	206	198	209	220	219	217	159
Total	5 093	4 794	4 858	4 664	4 705	4 418	4 346	4 250	4 268	4 003	3 656
% of cases from Chest Clinics among the total	31.3	30.2	29.8	29.9	25.8	25.8	24.9	24.7	23.6	19.6	19.1
% from Chest Hospitals[3]	12.3	11.8	10.8	10.8	11.0	12.2	11.8	11.1	10.9	11.0	10.9
% from Other Public Hospitals	48.9	50.6	52.5	52.1	56.1	54.8	55.1	55.7	57.1	59.7	62.1
% from Private Sector	7.5	7.4	6.9	7.3	7.1	7.2	8.2	8.5	8.4	9.7	7.9

Notes:
(1) Castle Peak Hospital (Chest Clinic) ceased operation from 1 April 2015.
(2) Data sources are from Outpatient Clinics, Public Mortuaries and Prison Hospitals.
(3) Chest Hospitals include Kowloon Hospital, Wong Tai Sin Hospital, Ruttonjee Hospital, Grantham Hospital and Haven of Hope Hospital.

Appendix 12(b) Breakdown of Tuberculosis Notification from H.A. Hospitals 2020

Name of Hospital	Number of TB Notification
Alice Ho Miu Ling Nethersole Hospital	72
Caritas Medical Centre	145
Castle Peak Hospital	0
Hong Kong Buddhist Hospital	4
Hong Kong Children's Hospital	1
Kwong Wah Hospital	158
North District Hospital	103
North Lantau Hospital	5
Our Lady of Maryknoll Hospital	13
Pamela Youde Nethersole Eastern Hospital	154
Pok Oi Hospital	124
Prince of Wales Hospital	213
Princess Margaret Hospital	182
Queen Elizabeth Hospital	226
Queen Mary Hospital	118
Shatin Hospital	6
St. John Hospital	0
Tai Po Hospital	7
Tin Shui Wai Hospital	10
Tseung Kwan O Hospital	102
Tuen Mun Hospital	192
Tung Wah Eastern Hospital	6
Tung Wah Group of Hospitals - Fung Yiu King Hospital	3
Tung Wah Hospital	7
United Christian Hospital	238
Wong Chuk Hang Hospital	1
Yan Chai Hospital	110
Total	**2 200**

Appendix 13 Tuberculosis Notification and Notification Rate by District Council Districts 2020

District Council Districts [1]	Notification	Notification Rate[2]
Hong Kong Island	**580**	**47.35**
Central & Western	123	51.46
Wanchai	66	37.71
Eastern	255	46.97
Southern	136	50.77
Kowloon	**1 356**	**58.88**
Kowloon City	200	47.01
Kwun Tong	406	58.64
Sham Shui Po	265	60.16
Wong Tai Sin	282	67.43
Yau Tsim Mong	203	62.16
NT (East)	**813**	**41.04**
Islands	63	33.76
North	144	45.21
Sai Kung/Tseung Kwan O	183	38.49
Shatin	298	43.23
Tai Po	125	40.17
NT (West)	**885**	**44.89**
Kwai Tsing	282	55.41
Tsuen Wan	113	36.04
Tuen Mun	223	44.33
Yuen Long	267	41.32
Unknown	**22**	**-**
All Districts	**3 656**	**48.87**

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	0
Senior Medical & Health Officer	7	8
Medical & Health Officer	23	19
Senior Nursing Officer	1	1
Nursing Officer	15	11
Registered Nurse	75	74
Enrolled Nurse	74	70
Senior Dispenser	9	9
Dispenser	9	9
Executive Officer I	1	1
Statistical Officer II	3	3
Personal Secretary I	1	0
Clerical Officer	16	15
Assistant Clerical Officer	20	20
Clerical Assistant	56	52
Office Assistant	8	6
Workman II	43	43
Senior Radiographer	3	3
Radiographer I	9	7
Radiographer II	23	22
Radiographic Technician (RT)	2	2
Darkroom Technician (DT)	10	4

Note:
(1) Establishment and Strength as at 1.12.2020

Appendix 15 Total Attendance at Chest Clinics from 2010 - 2020

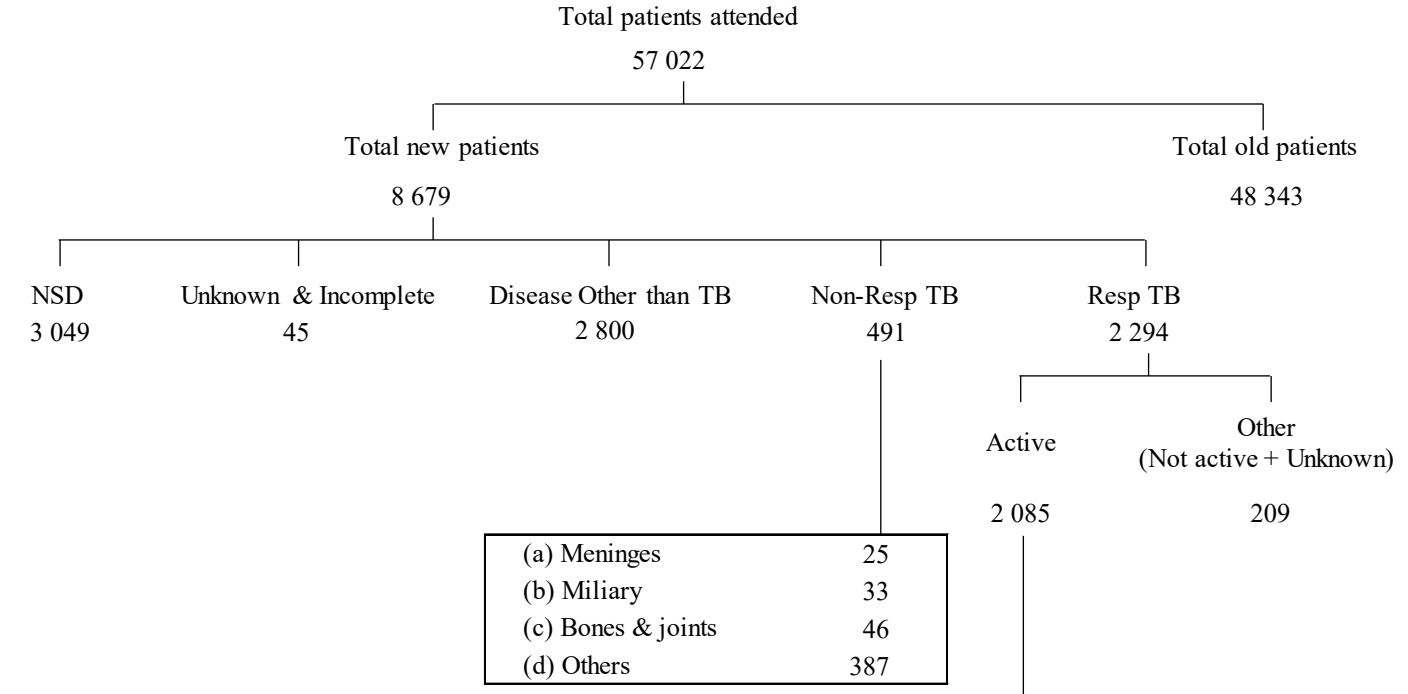
Clinic/Hospital	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
East Kowloon Chest Clinic	58 167	55 678	49 894	51 368	52 449	52 874	54 391	53 160	51 934	44 511	29 457
Kowloon Chest Clinic	56 523	47 693	50 666	52 766	52 423	45 953	45 938	46 887	41 671	39 824	27 042
Sai Ying Pun Chest Clinic	34 502	36 441	36 877	33 892	33 274	36 301	36 622	32 200	33 069	32 981	22 060
Shaukiwan Chest Clinic	41 263	41 804	40 600	42 335	44 417	45 789	42 426	37 176	41 212	36 847	22 732
Shaukiwan Pneumoconiosis	7 719	6 869	6 576	6 137	5 433	4 920	4 806	4 840	4 620	4 415	3 766
Shek Kip Mei Chest Clinic	49 216	49 500	47 853	49 164	51 852	48 142	47 816	47 374	42 544	35 852	26 910
South Kwai Chung Chest Clinic	81 923	75 752	78 785	75 062	73 740	78 403	73 985	67 149	65 577	64 475	47 908
Tai Po Chest Clinic	36 215	37 628	39 318	41 316	32 443	30 988	33 357	32 126	31 641	28 758	17 824
Wanchai Chest Clinic	49 609	48 893	46 777	47 901	49 276	43 900	45 326	42 857	39 552	33 359	24 457
Yan Oi Chest Clinic	67 564	63 333	67 804	64 184	60 278	60 770	61 780	64 016	67 621	67 664	44 535
Yaumatei Chest Clinic	68 633	68 164	62 688	61 905	60 937	57 835	58 938	55 234	50 246	52 632	37 475
Yuen Chau Kok Chest Clinic	58 027	65 627	59 542	67 573	60 396	51 136	56 538	63 228	58 485	53 972	40 180
Yung Fung Shee Chest Clinic	80 444	73 038	74 204	75 140	67 274	65 603	73 857	72 019	70 214	64 832	48 578
Castle Peak Hospital (ceased operation from 1 April 2015)	149	145	146	124	126	38	-	-	-	-	-
Cheung Chau Chest Clinic	1 206	1 286	1 349	1 356	1 273	1 562	1 139	1 781	1 415	1 317	1 046
Sai Kung Chest Clinic	2 277	1 861	1 546	1 542	1 371	1 513	1 385	1 248	1 383	1 304	1 255
Sheung Shui Chest Clinic	22 303	21 775	17 495	15 308	16 827	15 361	14 113	15 539	13 506	12 853	11 488
Tung Chung	4 433	4 447	4 248	4 303	4 091	4 166	5 554	5 484	4 467	5 247	6 043
Yuen Long Chest Clinic	30 729	30 201	27 413	29 929	27 377	26 361	26 427	26 369	26 911	26 097	14 809
Hei Ling Chau ATC	303	202	190	240	162	127	117	130	121	82	43
Lai Chi Kok Reception Centre	303	330	365	279	250	278	234	245	242	192	113
Shek Pik Prison Hospital	186	94	140	192	184	199	189	159	152	113	110
Stanley Prison Hospital	687	688	529	488	443	360	367	282	234	208	138
Total	**752 381**	**731 449**	**715 005**	**722 504**	**696 296**	**672 579**	**685 305**	**669 503**	**646 817**	**607 535**	**427 969**

Appendix 16 Number of Doctor Sessions, Cases Seen by Doctor and Patient/Doctor Session 2020

Clinic/Hospital	Doctor Sessions[(1)]	Cases Seen by Doctor	Patient/Doctor Session
Full Time Clinics			
East Kowloon	518	8 249	16
Kowloon	478	7 890	17
Pneumoconiosis	350	3 766	11
Sai Ying Pun	508	7 180	14
Shaukeiwan	509	6 421	13
Shek Kip Mei	501	5 843	12
South Kwai Chung	928	14 311	15
Tai Po	495	5 081	10
Wanchai	495	7 237	15
Yan Oi	865	14 397	17
Yaumatei	569	9 278	16
Yuen Chau Kok	610	11 598	19
Yung Fung Shee	664	11 275	17
Sub-total	**7 490**	**112 526**	**15**
Part Time Clinics			
Cheung Chau	21	135	6
Sai Kung	50	464	9
Sheung Shui	296	2 953	10
Tung Chung	150	1 042	7
Yuen Long	394	4 781	12
Sub-total	**911**	**9 375**	**10**
Institutions Correctional Services Department			
Hei Ling Chau	12	43	4
Lai Chi Kok Reception Center	29	75	3
Shek Pik	12	109	9
Stanley Prison	14	137	10
Sub-total	**67**	**364**	**5**
All Clinic/Hospital	**8 468**	**122 265**	**14**

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

Appendix 17 Diagnosis and Characteristics of Patients Attending Chest Clinics 2020



Bacteriology Sputum Culture	Extent	Number
Negative	Minimal	275
	Moderate	67
	Extensive	34
	Not Recorded	91
Positive	Minimal	707
	Moderate	448
	Extensive	274
	Not Recorded	64
Incomplete	Minimal	58
	Moderate	19
	Extensive	17
	Not Recorded	31

Bacteriology Sputum Culture	Cavity	Number
Negative	Yes	63
	No	404
Positive	Yes	416
	No	1 077
Incomplete	Yes	15
	No	110

A total of 57 022 patients attended, comprising 48 343 old cases and 8 679 new cases. Among new cases, 2 294 had respiratory TB with 2 085 being active, 491 had non-respiratory TB, 2 800 had diseases other than TB, 45 had unknown and incomplete diagnoses, and 3 049 had NSD (no specific diagnosis). Of the 491 new cases with non-respiratory TB, 25 had TB affecting meninges, 33 had miliary TB, 46 had TB affecting bones and joints, and 387 had TB affecting other sites.

Appendix 18(a) Classification of Diseases of First Attenders in 2020 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	1 823
012	A15.4-15.6, A15.8-15.9, A16.3-16.5, A16.8-16.9	Other Respiratory Tuberculosis	261
013	A17.0-17.1, A17.8, A17.9	Tuberculosis of Nervous System	25
014	A18.3	Tuberculosis of Intestines	51
015	A18.0	Tuberculosis of Bones & Joints	46
016	A18.1	Tuberculosis of Genito-urinary System	23
017	A18.2, A18.4-18.8	Tuberculosis of Other Organs	313
018	A19.0-19.2, A19.8-19.9	Miliary Tuberculosis	33
137	B90.0-90.2, B90.8-90.9	Late effects of Tuberculosis	209
160 - 165	C30-39, C34.0-34.3, C34.8-34.9	Malignant Neoplasm of Respiratory System	46
212	D14.0-14.4	Benign Neoplasm of Respiratory System	0
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	87
470 - 478	J30-39, J30.0-30.4, J39.8-39.9	Other Diseases of Upper Resp Tract	1
480 - 486	J12-18, J12.9, J15.0-15.2, J15.5-15.9	Pneumonia	9
487	J09, J10.0-10.1, J10.8, J11.0-11.1, J11.8	Influenza	2
490 - 491	J40, J41.0-41.1, J41.8, J42	Bronchitis, (not specified as acute or chronic) & chronic brochitis	191
492	J43, J43.0-43.2, J43.8-43.9	Emphysema	3
493	J45, J45.0-45.1, J45.8-45.9, J46	Asthma	9
494	J47	Bronchiectasis	85
495 - 496	J44, J44.0-44.1, J44.8-44.9	Chronic obstructive pulmonary disease	6
501	J61	Asbestosis	5
502	J62, J62.0, J62.8	Silicosis	30
505	J64	Pneumoconiosis, unspecified	0
506 - 508	J63	Others	0
510	J86	Pyothorax (Empyema)	0
511	J90	Pleurisy	11
512	J93, J93.0-93.1, J93.8-93.9	Pneumothorax	1
513 - 519	J95-99, J96.0-96.1, J96.9, J98.4, J99.1, [J99.0* (M05.1†), J99.1*, J99.1* (M33.0-M33.1†), J99.1* (M31.3†), J99.1* (M32.1†), J99.1* (M33.2†), J99.1* (M34.8†)], A31, A31.0, A31.1, A31.8, A31.9, A43	Other Diseases of Respiratory System	62
786	R00-09, R04.0-04.2, R04.8-04.9 R06.0-06.2, R06.5-06.8, R07.0-07.4, R09.1, R09.3	Miscellaneous conditions	688
V71	Z00.0, Z01.6, Z02, Z02.1-02.2, Z02.6-02.9, Z11.1, Z29.2, Z71.1	N.S.D.	3 049
		Diseases Other than TB & Resp System not classified above	1 609
Total			8 679

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 2018 - 2020

Extent of disease on Chest X-ray #	2018		2019		2020	
	Number	%	Number	%	Number	%
1. Minimal	1 031	44.9	1 132	50.8	1 040	49.9
2. Moderate	457	19.9	570	25.6	534	25.6
3. Extensive	321	14.0	324	14.5	325	15.6
4. Not Recorded	486	21.2	201	9.0	186	8.9
Total	2 295	100.0	2 227	100.0	2 085	100.0
Number of first attenders	16 239		13 272		8 679	
Percentage of active TB	14.1		16.8		24.0	

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

Sputum Results in 2020	Number	%
Smear +	561	26.9
Smear - Culture +	916	44.0
Smear - Culture -	453	21.7
Incomplete	155	7.4
Total	**2 085**	**100.0**

Appendix 19(a1) Rate of Drug-resistant Tuberculosis

Among cases registered during the period January to December 2020 (Data from PHLC)

Age Group	Category[@]	% resistance to				% resistance to [*]			MDR-TB %	Total % resistance [#]	Total no. of cases analysed
		E	R	H	S	1 drug	2 drugs	≥ 3drugs			
0 - 19	New cases	0.00	0.00	2.00	8.00	10.00	0.00	2.00	2.00	12.00	50
	Previously treated cases	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	Overall	0.00	0.00	2.00	8.00	10.00	0.00	2.00	2.00	12.00	50
20 - 39	New cases	0.00	0.00	1.39	5.56	6.94	2.55	0.46	0.69	9.95	432
	Previously treated cases	0.00	0.00	0.00	6.25	6.25	0.00	6.25	6.25	12.50	16
	Overall	0.00	0.00	1.34	5.58	6.92	2.46	0.67	0.89	10.04	448
40 - 59	New cases	0.18	0.18	4.11	6.07	10.54	2.32	0.36	0.54	13.21	560
	Previously treated cases	0.00	3.45	3.45	3.45	10.34	3.45	0.00	0.00	13.79	29
	Overall	0.17	0.34	4.07	5.94	10.53	2.38	0.34	0.51	13.24	589
60 up	New cases	0.14	0.14	2.27	4.33	6.87	2.06	0.41	0.34	9.34	1 456
	Previously treated cases	0.00	0.00	4.58	5.34	9.92	1.53	0.00	0.00	11.45	131
	Overall	0.13	0.13	2.46	4.41	7.12	2.02	0.38	0.32	9.51	1 587
All	New cases	0.12	0.12	2.52	5.00	7.77	2.16	0.44	0.48	10.37	2 498
	Previously treated cases	0.00	0.57	3.98	5.11	9.66	1.70	0.57	0.57	11.93	176
	Overall	0.11	0.15	2.62	5.01	7.89	2.13	0.45	0.49	10.47	2 674

Notes:
E = ethambutol; R = rifampicin; H = isoniazid; S = streptomycin
* % resistant to one, two or more than two of the four drugs E, R, H and S
\# Total % resistance: resistant to at least one of the four drugs E, R, H and S
@ New Cases: for cases with no / unknown past history of anti-tuberculosis treatment
Previously treated cases: for cases with past history of anti-tuberculosis treatment
Overall: for all cases

NB:
The figures are based on phenotypic testing results only.

Appendix 19(a2) Rate of Drug-resistant Tuberculosis

Among cases with date of starting treatment during the period

January to December 2020

	New case		Previously treated cases		Combined	
	N	%	N	%	N	%
Total Number of strains tested	2 498	100	176	100	2 674	100
Susceptible to all 4 drugs	2 239	89.63	155	88.07	2 394	89.53
Any resistance	259	10.37	21	11.93	280	10.47
H	128	5.12	11	6.25	139	5.20
R	15	0.60	2	1.14	17	0.64
E	13	0.52	1	0.57	14	0.52
S	185	7.41	12	6.82	197	7.37
Monoresistance	194	7.77	17	9.66	211	7.89
H	63	2.52	7	3.98	70	2.62
R	3	0.12	1	0.57	4	0.15
E	3	0.12	0	0.00	3	0.11
S	125	5.00	9	5.11	134	5.01
Multidrug resistance	12	0.48	1	0.57	13	0.49
H+R	3	0.12	0	0.00	3	0.11
H+R+E	0	0.00	1	0.57	1	0.04
H+R+S	3	0.12	0	0.00	3	0.11
H+R+E+S	6	0.24	0	0.00	6	0.22
Other patterns	53	2.12	3	1.70	56	2.09
H+E	2	0.08	0	0.00	2	0.07
H+S	49	1.96	3	1.70	52	1.94
H+E+S	2	0.08	0	0.00	2	0.07
R+E	0	0.00	0	0.00	0	0.00
R+S	0	0.00	0	0.00	0	0.00
R+E+S	0	0.00	0	0.00	0	0.00
E+S	0	0.00	0	0.00	0	0.00
Number of drugs resistant to:						
0 drug	2 239	89.63	155	88.07	2 394	89.53
1 drug	194	7.77	17	9.66	211	7.89
2 drugs	54	2.16	3	1.70	57	2.13
3 drugs	5	0.20	1	0.57	6	0.22
4 drugs	6	0.24	0	0.00	6	0.22

Appendix 19(b1) Trend of anti-TB drug resistance from 2001 to 2020 (1)

New cases

(Percentage)	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Ethambutol	0.96	0.65	0.42	0.34	0.54	0.35	0.12	0.45	0.26	0.25	0.33	0.70	0.54	0.65	0.54	0.50	0.73	0.52	0.44	0.52
Rifampicin	0.83	0.46	0.69	0.75	0.83	0.86	0.46	0.64	0.90	0.78	0.88	0.95	1.03	0.85	0.92	0.78	0.89	1.12	0.70	0.60
Isoniazid	5.02	4.71	4.64	3.65	4.16	4.13	3.79	4.33	4.19	4.86	4.18	4.66	4.39	5.33	4.90	5.80	6.17	5.20	5.23	5.12
Streptomycin	7.39	7.40	7.59	6.90	6.72	6.00	7.47	6.89	8.04	7.61	7.32	9.48	8.22	9.36	9.30	8.91	9.11	8.03	7.71	7.41
MDR-TB	0.55	0.34	0.46	0.48	0.51	0.55	0.31	0.30	0.67	0.70	0.63	0.74	0.70	0.68	0.54	0.50	0.63	0.73	0.63	0.48
Total % resistance	10.39	10.22	10.54	8.84	9.33	8.64	9.32	9.41	10.59	9.88	10.08	11.67	10.72	12.47	11.98	11.43	12.28	11.03	10.46	10.37

Previously treated cases

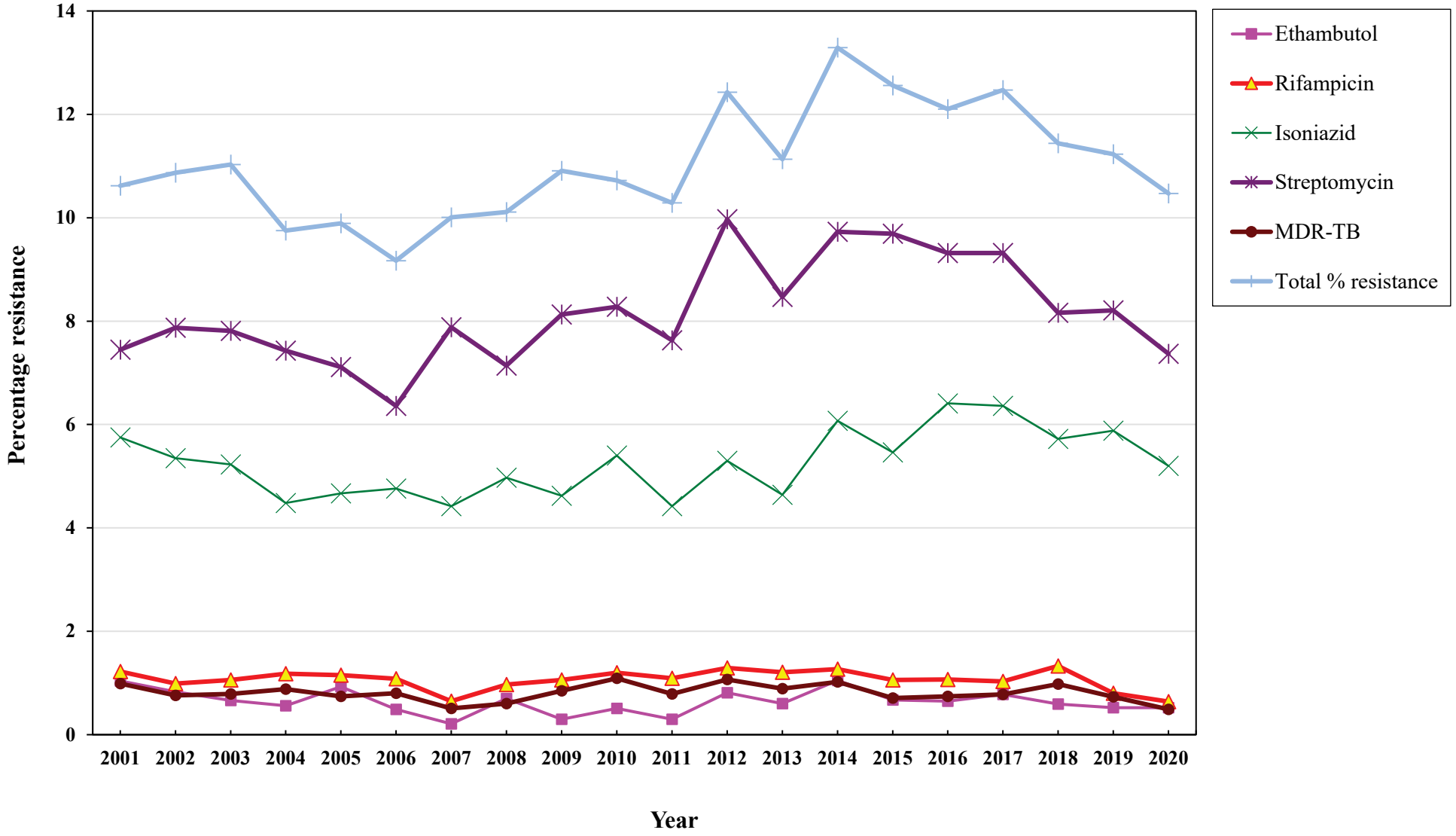
(Percentage)	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Ethambutol	1.85	2.04	2.19	2.14	3.92	1.61	0.90	2.65	0.47	2.56	0.00	1.70	0.99	4.73	2.50	2.27	1.69	1.42	1.68	0.57
Rifampicin	3.71	4.59	3.41	4.29	3.64	2.90	2.10	3.53	1.73	4.47	2.84	4.08	2.22	5.09	3.13	4.17	3.37	4.25	2.23	1.14
Isoniazid	11.80	9.69	9.00	10.46	8.68	10.00	9.31	10.00	6.45	9.58	6.38	10.54	6.17	12.73	13.75	12.88	9.55	12.74	15.64	6.25
Streptomycin	10.96	10.97	9.25	11.26	10.08	9.35	11.11	9.12	8.49	13.42	10.28	13.95	10.62	13.09	15.63	13.64	12.92	9.91	15.64	6.82
MDR-TB	3.54	3.57	2.92	3.75	2.52	2.90	2.10	2.94	1.57	4.15	2.13	3.74	1.98	4.00	3.13	3.41	3.37	4.25	2.23	0.57
Total % resistance	16.36	16.58	14.11	16.35	14.29	13.55	15.32	15.59	12.26	17.25	12.06	18.71	13.58	20.73	21.25	19.32	15.73	16.98	22.91	11.93

Overall

(Percentage)	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Ethambutol	1.04	0.83	0.66	0.56	0.93	0.49	0.21	0.70	0.30	0.51	0.30	0.81	0.60	1.05	0.67	0.65	0.78	0.59	0.52	0.52
Rifampicin	1.22	0.99	1.06	1.18	1.15	1.08	0.65	0.97	1.06	1.20	1.09	1.29	1.21	1.27	1.06	1.07	1.03	1.33	0.80	0.64
Isoniazid	5.75	5.35	5.23	4.48	4.67	4.76	4.42	4.97	4.62	5.40	4.42	5.30	4.64	6.07	5.46	6.41	6.36	5.72	5.88	5.20
Streptomycin	7.45	7.87	7.81	7.43	7.11	6.36	7.88	7.14	8.13	8.28	7.63	9.97	8.47	9.73	9.69	9.32	9.32	8.16	8.21	7.37
MDR-TB	0.99	0.76	0.79	0.88	0.74	0.80	0.51	0.60	0.85	1.09	0.79	1.07	0.89	1.02	0.71	0.74	0.78	0.98	0.73	0.49
Total % resistance	10.62	10.87	11.03	9.75	9.89	9.17	10.01	10.11	10.91	10.72	10.29	12.43	11.13	13.29	12.56	12.10	12.47	11.44	11.23	10.47

Note:
(1) 2001 – 2015: Data from Programme Record Forms; 2016 – 2020: Data from Public Health Laboratory Centre

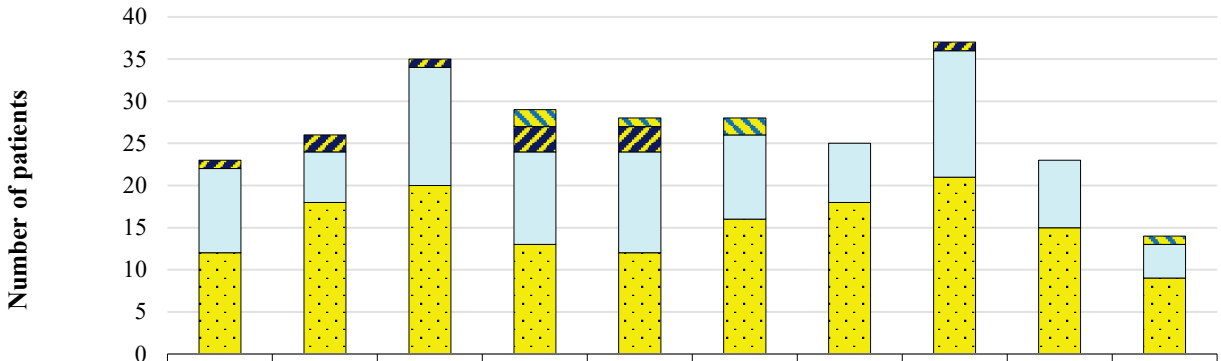
Appendix 19(b2) Trend of Overall anti-TB drug resistance from 2001 to 2020



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.

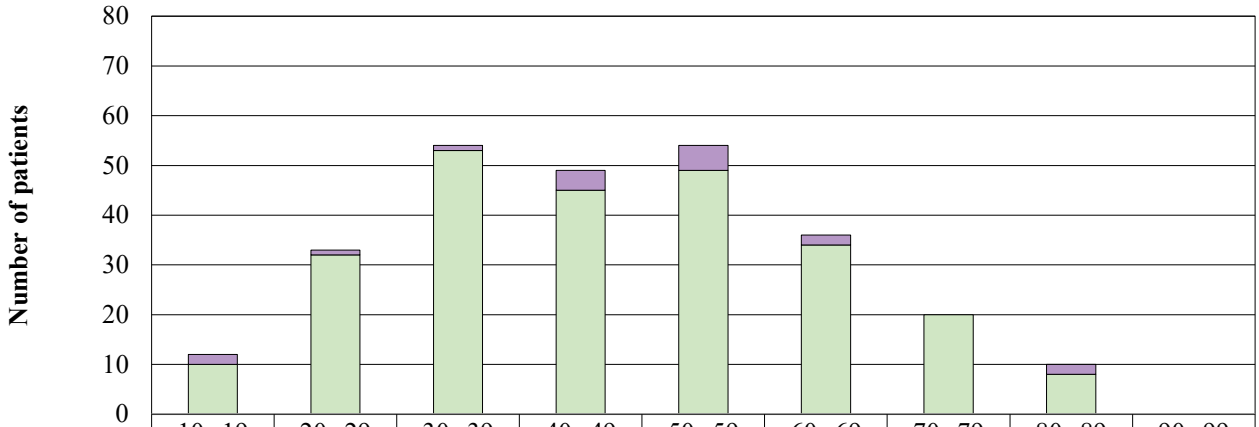
Figure 1: MDR-TB and XDR-TB by Sex and Year



	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

Year

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--99
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

Age Group

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 20(a) Treatment Return 2020 – Service Regimen

Clinic / Hospital	No. put on Rx b/f	Brought in					Treatment completed					Transfer out to		Interrup Rx temp	Died	Drop out				Complete defaulter				No. still onRx c/f	Unsup Rx	Incomp super. Rx	No. def.
		1	2	3	4	5	<6M	at 6M	>6M	NTM	%	hosp.	other cc			Rx by GP	Leave HK	Def. >1x	AMA	<2M	>2M <3M	>3M	%				>2M <3M
	A	B	C	D	E	F	G	H	I	J		K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Full Time Clinics																											
East Kowloon	124	75	5	9	98	38	5	31	118	0	79.3	24	11	0	26	2	4	1	2	1	2	2	2.7	120	0	47	0
Kowloon	160	89	3	12	98	27	1	35	146	1	85.4	7	16	0	17	2	3	2	3	0	0	5	2.4	151	2	27	0
South Kwai Chung	199	138	2	2	148	32	8	39	239	1	85.0	19	12	0	23	3	12	0	5	0	4	1	1.5	155	0	13	0
Sai Ying Pun	68	65	12	4	79	25	4	17	128	0	91.2	27	19	0	6	0	4	0	2	0	1	1	1.3	44	0	32	3
Shaukeiwan	95	74	2	1	55	16	2	24	90	0	88.4	7	7	0	4	1	8	0	0	0	1	1	1.6	98	0	108	0
Shek Kip Mei	21	69	6	3	91	46	3	14	107	0	80.7	5	42	0	15	2	3	1	3	0	2	4	4.0	35	6	39	3
Tai Po	112	59	4	7	59	14	1	27	98	0	90.6	1	11	1	8	1	3	9	0	0	1	0	0.7	94	0	0	0
Wanchai	82	74	5	4	46	13	3	30	77	3	81.7	4	8	1	7	0	14	0	0	0	0	0	0.0	77	1	19	0
Yan Oi	225	122	2	11	106	19	1	27	212	0	86.9	12	7	0	15	0	1	1	7	5	2	6	4.7	189	0	93	0
Yaumatei	177	82	7	8	121	29	2	20	152	2	83.1	9	18	2	10	3	12	2	3	0	2	3	2.4	184	0	0	0
Yuen Chau Kok	176	100	0	5	111	31	2	35	162	1	89.5	19	11	1	12	0	7	1	3	0	0	0	0.0	169	0	23	0
Yung Fung Shee	180	118	4	14	137	35	3	54	218	0	89.8	23	7	0	16	2	4	0	1	1	1	6	2.6	152	3	84	0
Sub-total	***1 619***	***1 065***	***52***	***80***	***1 149***	***325***	***35***	***353***	***1 747***	***8***	***86.1***	***157***	***169***	***5***	***159***	***16***	***75***	***17***	***29***	***7***	***16***	***29***	***2.1***	***1 468***	***12***	***485***	***6***
Hosp Discharge Clinic																											
East Kowloon	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0
Part Time Clinics																											
Cheung Chau	0	0	0	0	1	5	0	1	0	0	50.0	0	0	0	1	0	0	0	0	0	0	0	0.0	4	0	5	0
Sai Kung	9	3	0	1	6	13	1	1	9	0	71.4	0	12	0	2	0	2	0	0	0	0	0	0.0	5	0	9	0
Sheung Shui	61	40	2	1	53	8	0	15	64	0	80.6	4	3	0	6	1	4	0	1	0	2	5	7.1	60	0	54	0
Tung Chung	30	14	1	1	8	5	0	17	18	0	94.6	3	2	0	1	0	0	1	0	0	0	1	2.7	16	0	22	0
Yuen Long	88	67	2	5	63	15	2	21	85	0	84.1	11	5	0	7	1	3	0	0	0	4	5	7.1	96	0	105	0
Sub-total	***188***	***124***	***5***	***8***	***131***	***46***	***3***	***55***	***176***	***0***	***83.4***	***18***	***22***	***0***	***17***	***2***	***9***	***1***	***1***	***0***	***6***	***11***	***6.1***	***181***	***0***	***195***	***0***
Institutions Correctional Services Department																											
Hei Ling Chau	1	4	3	0	0	0	0	0	1	0	25.0	0	3	0	0	0	3	0	0	0	0	0	0.0	1	0	0	0
Stanley Prison	4	8	0	0	0	0	0	0	0	0	0.0	0	8	0	0	0	0	0	0	2	0	0	100.0	2	0	0	0
Shek Pik Prison	0	0	1	0	0	0	1	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0
Sub-total	***5***	***12***	***4***	***0***	***0***	***0***	***1***	***0***	***1***	***0***	***16.7***	***0***	***11***	***0***	***0***	***0***	***3***	***0***	***0***	***2***	***0***	***0***	***33.3***	***3***	***0***	***0***	***0***
Total	**1 812**	**1 201**	**61**	**88**	**1 280**	**371**	**39**	**408**	**1 924**	**8**	**85.7**	**175**	**202**	**5**	**176**	**18**	**87**	**18**	**30**	**9**	**22**	**40**	**2.6**	**1 652**	**12**	**680**	**6**

Appendix 20(b) Treatment Return 2020 – Other Regimens

Clinic / Hospital	No. put on Rx b/f	Brought in					Treatment completed					Transfer out to		Interrup Rx temp	Died	Drop out				Complete defaulter				No. still onRx c/f	Unsup Rx	Incomp super. Rx	No. def.
		1	2	3	4	5	<6M	at 6M	>6M	NTM	%	hosp.	other cc			Rx by GP	Leave HK	Def. >1x	AMA	<2M	>2M <3M	>3M	%				>2M <3M
	A	B	C	D	E	F	G	H	I	J		K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Full Time Clinics																											
East Kowloon	48	20	1	3	23	10	0	8	31	1	84.8	7	3	0	5	0	0	0	0	0	0	1	2.2	49	1	17	0
Kowloon	23	9	5	0	8	11	0	2	20	0	88.0	4	5	0	3	0	0	0	0	0	0	0	0.0	22	0	5	0
South Kwai Chung	79	10	2	0	31	8	1	4	28	0	71.1	3	2	0	11	0	0	0	2	0	0	0	0.0	79	0	7	0
Sai Ying Pun	68	2	1	3	22	1	0	1	21	0	84.6	2	0	0	4	0	0	0	0	0	0	0	0.0	69	0	13	1
Shaukeiwan	21	9	0	0	29	12	0	1	22	0	82.1	6	0	0	5	0	0	0	0	0	0	0	0.0	37	0	30	0
Shek Kip Mei	129	10	2	1	16	14	0	5	28	0	86.8	1	17	1	4	0	0	0	1	0	0	0	0.0	115	4	6	1
Tai Po	13	1	0	1	11	0	1	1	11	0	92.3	0	1	0	1	0	0	1	0	0	0	0	0.0	10	0	0	0
Wanchai	32	0	0	0	16	2	1	0	13	3	72.2	1	5	0	1	0	0	0	0	0	1	0	5.6	25	1	3	0
Yan Oi	41	12	1	3	31	6	1	4	35	0	81.3	2	3	0	4	0	0	0	2	0	1	2	6.3	40	0	15	0
Yaumatei	25	4	1	0	28	5	0	0	17	3	58.6	3	5	1	7	0	1	2	1	0	0	0	0.0	23	0	0	0
Yuen Chau Kok	24	15	0	1	21	5	0	6	27	0	82.5	5	1	0	6	0	1	0	0	0	0	0	0.0	20	0	10	0
Yung Fung Shee	80	7	1	2	17	5	1	0	12	0	66.7	3	2	0	4	1	0	0	0	0	1	0	5.6	88	0	4	0
Sub-total	***583***	***99***	***14***	***14***	***253***	***79***	***5***	***32***	***265***	***7***	***79.4***	***37***	***44***	***2***	***55***	***1***	***2***	***3***	***6***	***0***	***3***	***3***	***1.6***	***577***	***6***	***110***	***2***
Hosp Discharge Clinic																											
East Kowloon	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0
Part Time Clinics																											
Cheung Chau	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0
Sai Kung	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0
Sheung Shui	6	3	0	0	8	5	1	0	7	0	77.8	1	2	0	1	0	1	0	0	0	0	0	0.0	9	0	6	0
Tung Chung	9	0	0	0	4	0	0	1	8	0	100.0	0	0	0	0	0	0	1	0	0	0	0	0.0	3	0	4	0
Yuen Long	20	3	3	0	11	3	0	2	17	0	73.1	3	0	0	3	0	0	0	1	0	1	2	11.5	11	0	17	0
Sub-total	***35***	***6***	***3***	***0***	***23***	***8***	***1***	***3***	***32***	***0***	***79.5***	***4***	***2***	***0***	***4***	***0***	***1***	***1***	***1***	***0***	***1***	***2***	***6.8***	***23***	***0***	***27***	***0***
Institutions Correctional Services Department																											
Hei Ling Chau	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0
Stanley Prison	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0
Shek Pik Prison	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0
Sub-total	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0.0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0.0***	***0***	***0***	***0***	***0***
Total	**618**	**105**	**17**	**14**	**276**	**87**	**6**	**35**	**297**	**7**	**79.4**	**41**	**46**	**2**	**59**	**1**	**3**	**4**	**7**	**0**	**4**	**5**	**2.2**	**600**	**6**	**137**	**2**

Explanatory Notes for Appendix 20 – Treatment Return (Service Regimen / Other Regimens *)

Clinic / Hospital	b/f	Brought in					Treatment completed					Transfer out to		Interrup. Rx Temp	Died	Drop out				Complete defaulter				No. Still On Rx c/f	Unsup. Rx	Incomp. Super. Rx	No. Def >2M, <3M
							<6M	at 6M	>6M	NTM	%	hospital	Other cc			Rx by GP	Leave HK	Def. >1x	AMA	<2M	>2M, <3M	>3M	%				
	A	B*	C*	D*	E*	F*	G	H	I	J		K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z

% = H + I / A + B + C + D + E + F - G – K - L - M - Q - W

V = S + T + U / A + B + C + D + E + F - G - K - L - M - Q - W

W = (A + B + C + D + E + F) – (G + H + I + K + L + M + N + O + P + Q + R + S + T + U)

* Explanatory Notes:

Service regimen	Upon starting treatment, the regimen contains any combination of drugs including H (isoniazid), R (rifampicin), Z (pyrazinamide), E (ethambutol), and S (streptomycin)
Other regimens	Upon starting treatment, the regimen contains second-line drugs apart from H, R, Z, E or S.
Item B	New cases with treatment started in chest clinics.
Item C	Retreatment cases, with treatment newly started. Previous treatment either not completed, or even if claimed to be completed, without documentation in the available clinic record.
Item D	Relapse cases, with treatment newly started. Previous treatment is completed with documentation in the available clinic record.
Item E	Treatment cases transferred in from hospitals, private doctors, etc. without treatment started previously at any chest clinics for this episode of tuberculosis.
Item F	Other transferred in treatment cases, with treatment given previously in any chest clinics for this episode of tuberculosis.

Explanatory Notes for Appendix 20 – Treatment Return --- *cont'd*

Appendix 20 (a): Service regimen: For treatment cases who, upon starting anti-TB drugs, were given any combination of drugs including H (isoniazid), R (rifampicin), Z (pyrazinamide), E (ethambutol), and S (streptomycin).

Appendix 20 (b): Other regimens: For treatment cases who, upon starting anti-TB drugs, were given also second line drugs apart from H, R, Z, E or S.

Number put on treatment b/f:

(A) No. put on Rx b/f: Total number of treatment cases c/f from last month's balance.

Brought in:

Items (B), (C), (D) & (E) will be using a new treatment number, while item (F) will be using the same previous treatment number, as follows:

(B) (1) Newly started treatment in your chest clinic.

(C) (2) Retreatment cases, with treatment newly started, including:

- Cases previously classified under items (O), (P), (Q), (R), (S), (T) or (U) in the most recent episode of treatment, with treatment restarted now after treatment has been interrupted for over 2 months;
- Cases claiming to have anti-TB treatment completed previously in chest clinic or chest hospital, but the clinic record is not available, e.g., because it has been destroyed;
- Cases claiming to have anti-TB treatment completed previously from sources other than chest clinic or chest hospital.

(D) (3) Relapse case:

- Cases having treatment completed previously (even if this is completed less than 2 months ago) in either chest clinic or chest hospital as indicated in the clinic record which is still available, e.g., cases classified under items (H) or (I) in the most recent episode.

(E) (4) Transfer in from hospitals, general practitioners (GPs), or prison:

- Cases previously unknown to any one chest clinic for this episode of treatment.

(F) (5) Cases using the same previous treatment number:

- Cases previously known to chest clinic for this episode of treatment, and now being transferred in from other chest clinics, hospitals, GPs, or prison, e.g., cases previously classified under items (K) or (L);
- Cases previously classified under items (O), (P), (Q), (R), or (S) in the most recent episode of treatment, with treatment restarted now after treatment has been interrupted for less than 2 months;
- Cases previously classified under item (M), and resuming treatment now.

Treatment completed:

(G) < 6m: Treatment stopped permanently by doctor prematurely, e.g., revised diagnosis.

(H) at 6m: Treatment stopped permanently by doctor at or within 2 weeks of 6 month from DOS.

(I) > 6m: Treatment stopped permanently by doctor at 7 month or more.

(J) NTM = Non-tuberculous mycobacteria cases

Column following (J): % = (H+ I) / (A+B+C+D+E+F-G-K-L-M-Q-W)

Transfer out to:

(K) hosp: Admission to hospital.

(L) other cc: Transfer out to other chest clinics.

Interrup. Rx temp.:

(M) Treatment interrupted by doctor temporarily, e.g., due to side effects of drug such as impaired LFT.

Died:

(N) Treatment cases who died.

Drop out:

(O) Rx by GP: Changed to be treated by GP.

(P) Leave HK: Treatment cases known to be going back to Philippines, China, or other countries for good as stated in the clinic record (whether AMA has been signed or not).

(Q) Def. > 1x: Defaulted treatment and NFA in conference with MO for more than one time.

(R) AMA: Treatment cases who have signed AMA, excluding those who are to be classified under items (O) or (P).

Complete defaulter:

(S) < 2m: Defaulted treatment for less than 2 months, and NFA in conference with MO for the first time.

(T) > 2m, < 3m: Defaulted treatment for more than 2 months but less than 3 months, and NFA in conference with MO for the first time.

(U) > 3m: Defaulted treatment for more than 3 months, and NFA in conference with MO for the first time.

(V) % = (S + T + U) / (A + B + C + D + E + F – G – K – L –M – Q – W)

No. still no Rx c/f:

(W) Number of treatment cases in hand at the end of the month =

(A + B + C + D + E + F) – (G + H + I + K + L + M + N + O + P + Q + R + S + T +U)

Unsup. Rx:

(X) Treatment cases with all anti-TB drugs supplied (not even taken one dose at chest clinic) and unsupervised. Count under this item if this happens within the first 2 months of treatment.

Incomp. Super. Rx:

(Y) Treatment incompletely supervised, including:

- Treatment supervised by non-clinic staff, e.g., CNS, old aged home staff, staff in prison.
- Drug supplied to patient or relatives.

Count under this item if this happens within the first 2 months of treatment.

No. def. >2m, <3m:

(Z) Number of defaulters who have defaulted treatment for more than 2 months but less than 3 months, but not yet NFA in conference with MO. (NB: No case being counted under this item in the last month will be counted again under this item for the subsequent months.)

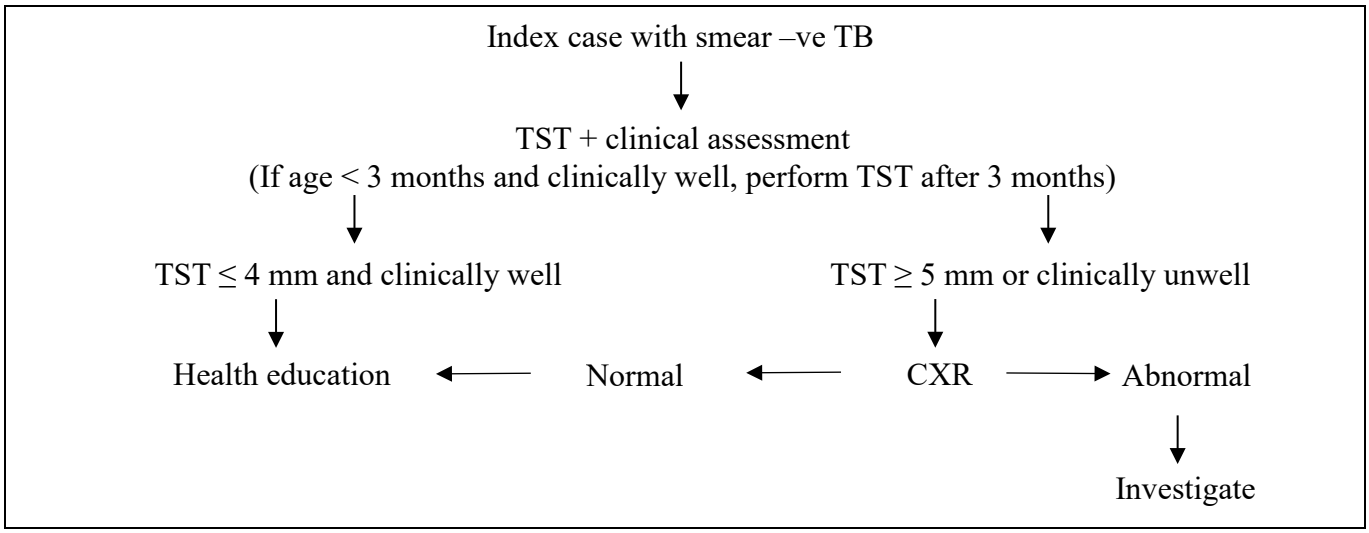
This item needs to be counted only on the last working day of the month when completing the monthly treatment return.

Appendix 21(a) Scheme for Investigation of Close Contacts (Household) in the Tuberculosis & Chest Service, Department of Health (Last updated Jul 2018)

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

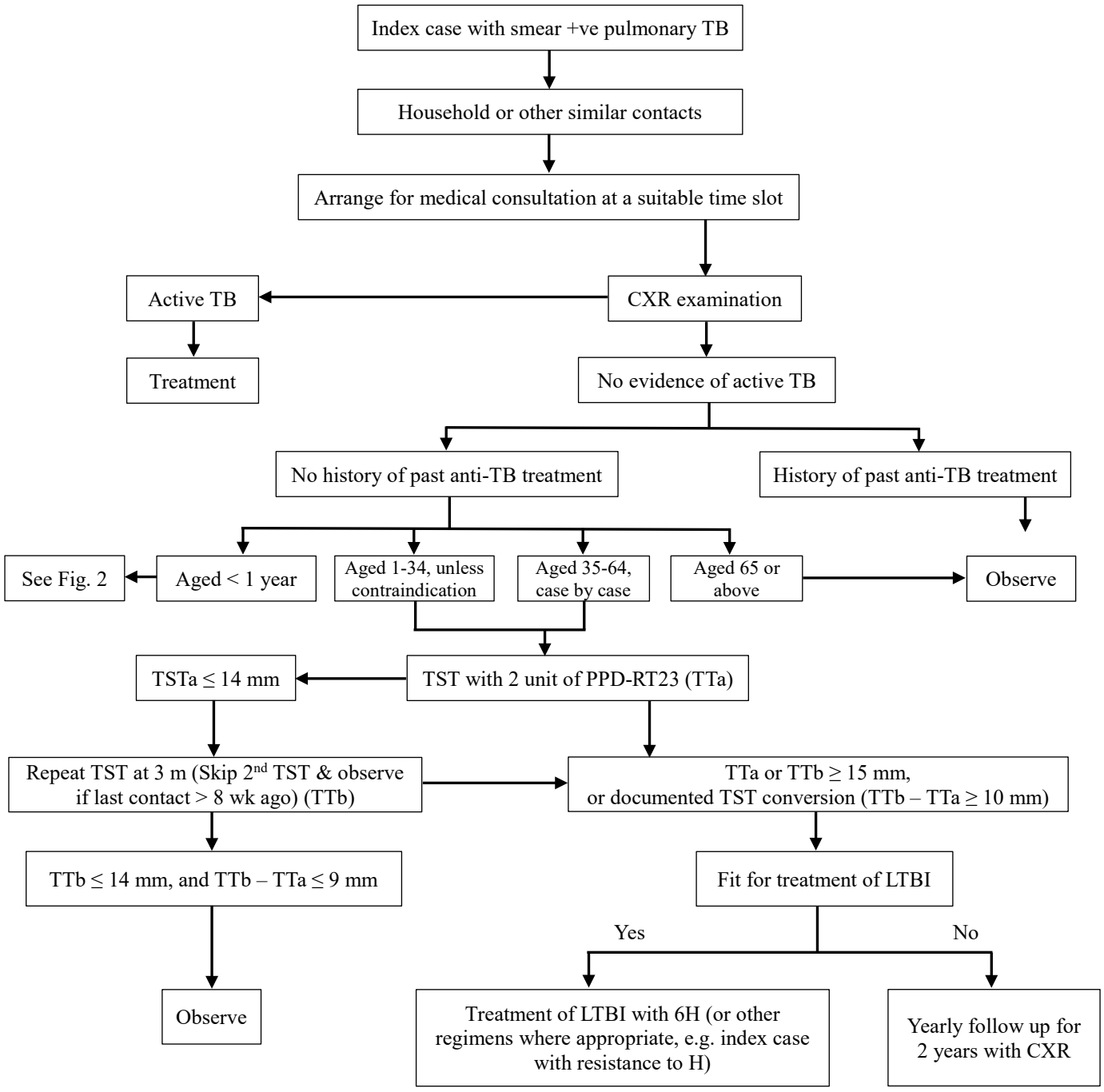
* **For close contacts with risk factors for adverse effects from latent TB infection treatment, (e.g. alcoholic, underlying chronic liver disease, etc.), the decision to screen should be made on a case-by-case basis especially for the aged 35 - 64 group.**

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



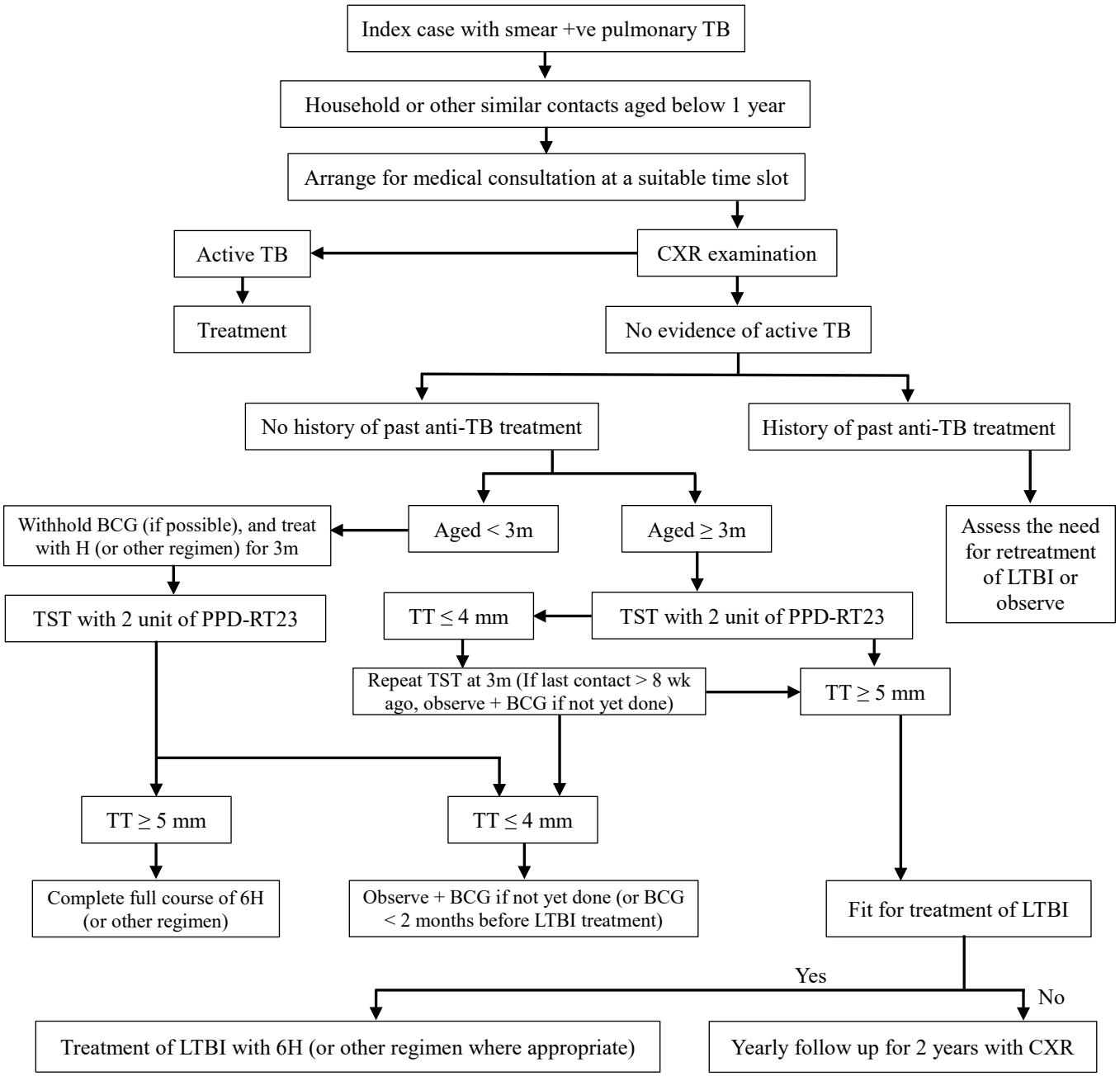
If the index case has smear-negative TB and the close contact case is aged below five, the contact case is first evaluated by tuberculin skin test alongside clinical assessment. If the contact case is aged below 3 months and clinically well, the tuberculin test can be postponed until the contact case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

Appendix 21(b) Figure 1: General schema for targeted screening of household contacts of smear-positive pulmonary TB patients



Targeted screening for active TB and latent TB infection is regularly offered to subjects exposed to smear-positive pulmonary TB patients in the same household or other similar scenarios. Medical consultation is arranged at a suitable time slot, when chest X-ray examination will first be done to exclude active TB for which treatment will be given. Contacts with no evidence of active TB but a history of past anti-TB treatment will be observed, whereas those with no history of past anti-TB treatment will be managed according to their age group. For contacts aged below 1, please refer to figure 2. For contacts aged 1 to 34, tuberculin skin test (TST) is routinely offered, unless there are contraindications. For those aged 35 to 64, TST is offered on a case-by-case basis. For those aged 65 or above, just observe. TST is done using 2 units of PPD-RT23. If the induration measured after 48 to 72 hours is no more than 14 mm, repeat TST 3 months later, unless the contact has had no further contact with the index case for more than 8 weeks. If the test response of either the first or the second TST is at least 15 mm, or if the difference between the two test responses is at least 10 mm, consider treatment of latent TB infection with daily isoniazid for 6 months (or other regimens where appropriate, for example, when the index case has TB with isoniazid resistance). If treatment of latent TB infection is indicated but the contact case is medically not fit, consider yearly follow up for 2 years with chest X-ray.

Appendix 21(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, consider yearly follow up for 2 years with chest X-ray. 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 21(c) Examination of Contacts in the Chest Clinics 2020

Particulars	Smear Positive Index Case		Smear Negative Index Case		Total	
Number of patients (new & old) listed	821		2 627		3 448	
Number of contacts listed	1 837		6 191		8 028	
Number of contacts x-rayed	1 837	(100.00%)	6 191	(100.00%)	8 028	(100.00%)
Results						
(a) NSD & Unknown	1 707	(92.92%)	5 808	(93.81%)	7 515	(93.61%)
(b) Disease other than TB	80	(4.35%)	299	(4.83%)	379	(4.72%)
(c) Inactive respiratory TB	18	(0.98%)	35	(0.57%)	53	(0.66%)
(d) Active respiratory TB						
A (radiologically)	16	(0.87%)	10	(0.16%)	26	(0.32%)
B (bacteriogically)	9	(0.49%)	10	(0.16%)	19	(0.24%)
C (incomplete)	3	(0.16%)	0	(0.00%)	3	(0.04%)
	28	(1.52%)	20	(0.32%)	48	(0.60%)
(e) Non-respiratory TB	3	(0.16%)	0	(0.00%)	3	(0.04%)
(f) Result not yet known	1	(0.05%)	29	(0.47%)	30	(0.37%)

Appendix 22(a) Scheme for BCG Administration in Hong Kong 2020

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 stopped since September 2000

Appendix 22(b) BCG Vaccinations at Birth 2020

Institution		No. of Live-births	BCG Vaccination	% Vaccinated
Hospital under HA Management	P.Y. Nethersole East	1 758	1 688	96.0
	Queen Mary	2 780	2 750	98.9
Private Hospital	Canossa	417	406	97.4
	Gleneagles H.K. Hospital	568	558	98.2
	H.K. Adventist	280	270	96.4
	H.K. Sanatorium	2 004	1 988	99.2
	Matilda International	849	797	93.9
	St. Paul's	1 250	1 240	99.2
Total (Hong Kong Island)		9 906	9 697	97.9
Hospital under HA Management	Kwong Wah	3 251	3 218	99.0
	Queen Elizabeth	4 243	4 213	99.3
	United Christian	2 839	2 790	98.3
Private Hospital	H.K. Baptist	1 688	1 670	98.9
	St. Teresa's	3 848	3 792	98.5
	Precious Blood	580	568	97.9
Total (Kowloon)		16 449	16 251	98.8
Hospital under HA Management	Prince of Wales	4 676	4 697	100.4 (1)
	Princess Margaret	3 184	3 161	99.3
	Tuen Mun	4 148	4 131	99.6
Private Hospital	T.W. Adventist	1 244	1 237	99.4
	Union Hospital	3 418	3 382	98.9
Total (New Territories)		16 670	16 608	99.6
Maternal and Child Health Centres and Private Clinics		-	89	-
Grand Total		43 025	42 645	99.1

Note:

(1) Including vaccinations of live births transferred from other maternity institutions and vaccinations of live births at the end of 2019

Appendix 23 Tuberculosis and Chest Beds in Public Services 2020

Hospital		Number of TB and Chest Beds
Hospital Authority	Grantham Hospital	120
	Kowloon Hospital	111
	Ruttonjee Hospital	113
	Haven of Hope Hospital	130
	Wong Tai Sin Hospital	90
	Total (Hospital Authority)	564
Custody	Stanley Prison Hospital	20
Grand Total (2020)		584
Grand Total (2019)		582
Grand Total (2018)		599

Appendix 24 Annual Admissions to Chest Hospitals from Government Chest Clinics 2011 - 2020

Year	Total Admissions
2011	3 142
2012	2 940
2013	2 823
2014	2 799
2015	2 631
2016	2 579
2017	2 459
2018	2 255
2019	1 981
2020	1 009

Admissions by Clinic	Total Admissions in 2020
East Kowloon	132
Kowloon	38
Sai Ying Pun	97
Shaukeiwan	58
Shaukeiwan Pneumoconiosis	12
Shek Kip Mei	16
South Kwai Chung	242
Tai Po	12
Wanchai	26
Yan Oi	127
Yaumatei	69
Yuen Chau Kok	82
Yung Fung Shee	53
Cheung Chau	1
NT Chest Clinic (1)	44
Total	1 009

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

Appendix 25 HIV Surveillance Among TB Patients: Provider-initiated HIV Antibody Testing Among TB Patients in Government Chest Clinics from 2005 - 2020

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	92.9%	194	5.9%	3 301	100%
2020	15	0.5%	2 798	92.9%	198	6.6%	3 011	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 26 Number of 'Confirmed' cases of TB in Health Care Staff Notified to Labour Department 1998 - 2020

Year	Number
1998	39
1999	57
2000	39
2001	41
2002	29
2003	30
2004	42
2005	30
2006	18
2007	16
2008	25
2009	18
2010	11
2011	17
2012	15
2013	7
2014	7
2015	9
2016	6
2017	9
2018	4
2019	5
2020	3

'Confirmed' Cases of TB in Health Care Staff Notified to Labour Department (2020) by Age and Job Title

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

Appendix 27 Treatment outcomes of Cohorts of TB Patients

Treatment outcomes for TB cases registered in 2019 calendar year (number of patients) [1]

	Number of cases registered in 2019 [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)	3 977	100.00%	2 885	72.54%	0	0.00%	706	17.75%	115	2.89%	271	6.81%
HIV-positive TB cases, all types	39	100.00%	27	69.23%	0	0.00%	2	5.13%	5	12.82%	5	12.82%

Treatment outcomes for TB cases started on second-line TB treatment in 2018 calendar year (number of patients) [1]

	Number of cases started on second-line TB treatment in 2018		Cured or treatment completed		Treatment failed		Died [3]		Lost to follow-up (defaulted)		Not evaluated [4]	
All confirmed RR-TB / MDR-TB cases	47	100.00%	28	59.57%	0	0.00%	5	10.64%	2	4.26%	12	25.53%
All confirmed XDR-TB cases [5]	1	100.00%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%

Notes:
(1) Treatment outcomes as at March 2021
(2) Exclude cases moved to second-line treatment (i.e. excluding rifampicin-resistant cases).
(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 1956 - 2020

Year	New Cases Undergoing Assessment								
	Government Workers	Non-government Workers	Total number of Workers	Number of Diseases confirmed by the Board #			Cumulative Total of Workers	Cumulative Total of patients Confirmed by the Board	
				(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)	(2)	(65)	8 308	1 494	4 348
2009	-	167	167	(5)	(17)	(86)	8 475	1 494	4 456
2010	-	152	152	(1)	(12)	(61)	8 627	1 494	4 530

Appendix 1 New Cases of Suspected Pneumoconiosis/Mesothelioma attending the Pneumoconiosis Clinic in Hong Kong 1956 - 2020 --- *cont'd*

Year	New Cases Undergoing Assessment								
	Government Workers	Non-government Workers	Total number of Workers	Number of Diseases confirmed by the Board #			Cumulative Total of Workers	Cumulative Total of patients Confirmed by the Board	
				(b)	(e)	(f)		R1	R2
2011	-	130	130	(9)	(13)	(63)	8 757	1 494	4 615
2012	-	122	122	(3)	(12)	(44)	8 879	1 494	4 674
2013	-	156	156	(2)	(17)*	(51)	9 035	1 494	4 743*
2014	3	138	141	(2)	(14)	(68)	9 176	1 494	4 827
2015	4	153	157	(0)	(13)	(56)	9 333	1 494	4 896
2016	2	144	146	(4)	(7)	(43)	9 479	1 494	4 950
2017	6	132	138	(2)	(16)	(54)	9 617	1 494	5 022
2018	1	125	126	(2)	(10)	(59)	9 743	1 494	5 093
2019	2	151	153	(7)**	(10)**	(52)	9 896	1 494	5 161**
2020	2	191	193 (c)	(12)	(12)	(88)	10 089	1 494(d)	5 273

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, 100 of these 193 assessment cases in 2020 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 100 cases.

(d) Under Revised Ordinance 1993 : 584 out of 1494 pneumoconiotics had joined the pneumoconiosis ex-gratia scheme up to the year 2020. 29 living pneumoconiotics were each receiving a monthly ex-gratia payment of $7,520.00 in 2020.

(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 2020

Age	Number of Cases	%
< 25	0	0
25 - 29	0	0
30 - 34	0	0
35 - 39	0	0
40 - 44	0	0
45 - 49	2	2
50 - 54	0	0
55 - 59	12	12
60 - 64	30	30
65 - 69	30	30
70 - 74	14	14
75+	12	12
Total	**100**	**100**

Appendix 3 Occupation Distribution of Pneumoconiosis Patients confirmed in 2020

Type of Occupation	Number of Cases	%
Construction	56	56
Construction / Quarry	5	5
Others	39	39
Total	100	100

Appendix 4 Pneumoconiosis Patients confirmed in 2020 by Duration of Exposure to Dust

Duration	Number of Cases	%
< 5 years	1	1
5 - 9	2	2
10 - 14	1	1
15 - 19	8	8
20 - 24	15	15
25 - 29	12	12
30 +	60	60
Unknown	1	1
Total	100	100

Appendix 5 Pneumoconiosis Patients confirmed in 2020 by Degree of Incapacity

Degree of Incapacity (%)	No. of New Cases Compensated under Compensation Ordinance
5	40
10	30
15	9
20	5
25	1
30	2
35	0
40	1
45	0
50	0
55	0
60	2
65	1
70	1
75	0
80	2
85	0
90	0
95	0
100	0
(Not Applicable*)	6
Total	100

Note:
* Assessment by Board after Death

Appendix 6 Pneumoconiosis Patients confirmed in 2020 Classified by Radiological Appearance

Type of Opacity		Profusion 1	Profusion 2	Profusion 3	Sub-Total
Small opacities					
Rounded					
p	(up to 1.5 mm diameter)	49	10	0	59
q	(1.5 to 3.0 mm diameter)	10	15	0	25
r	(3.0 to 10.0 mm diameter)	0	1	0	1
Irregular					
s	(fine irregular or linear)	9	0	0	9
t	(medium irregular)	0	1	0	1
u	(coarse irregular)	0	0	0	0
Sub-total		68	27	0	95
Combined opacities		-	-	-	5
N. A.		-	-	-	0
Total					100

17 out of the 100 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)	10
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		17

Appendix 7 History of Tuberculosis among Patients with Pneumoconiosis confirmed in 2020

History of TB		Number of Cases	%
History of TB	Bacteriological Positive	23	23
	Bacteriological Negative	2	2
	Not Available	5	5
No History of TB		70	70
Total		100	100

Appendix 8 Pneumoconiosis Patients confirmed in 2020 by Other Particulars

Characteristics		Number of Cases	%
Smoking	Smoker/Ex-smoker	80	80
	Non-smoker	20	20
	Unknown	0	0
	Total	100	100
Still exposed to dust when seen by the Pneumoconiosis Clinic	Yes	31	31
	No	69	69
	Unknown	0	0
	Total	100	100
General Condition	Good	91	91
	Fair	3	3
	Poor	0	0
	Died	6	6
	Total	100	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	2016	2017	2018	2019	2020
Notified TB cases who are Chinese New Immigrants (with years of arrival in Hong Kong)	< 1 year	12	13	18	23	8
	1 and < 2 year	7	11	15	20	12
	2 and < 3 year	10	13	16	17	10
	3 and < 4 year	14	12	14	13	18
	4 and < 5 year	7	10	9	11	20
	5 and < 6 year	13	16	13	22	12
	6 and < 7 year	4	3	7	4	3
	Total	67	78	92	110	83
Yearly notified TB cases		4 418	4 346	4 250	4 003	3 656

The above table shows the number of all notified TB cases in Hong Kong from 2016 to 2020 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 2016 to 2020 are 20.8, 23.9, 28.3, 35.5 and 30.2 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.

As shown from Annex 1(c), 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 2016 to 2020 are 59.2, 57.5, 57.3, 53.3 and 48.9 respectively.

Annex 1(b) TB Notifications and Estimated Rate Among Chinese New Immigrants by Sex and Age from 2016 - 2020

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

Age group	2016			2017			2018			2019			2020		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 19	4	2	6	5	1	6	3	1	4	6	1	7	0	4	4
20 - 39	8	24	32	9	27	36	16	31	47	14	25	39	10	25	35
40 - 59	7	14	21	9	20	29	19	10	29	25	19	44	14	15	29
≥ 60	6	2	8	6	1	7	6	6	12	15	5	20	10	5	15
All age groups	25	42	67	29	49	78	44	48	92	60	50	110	34	49	83

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

Age group	2016			2017			2018			2019			2020		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 19	9.4	5.1	7.4	11.6	2.6	7.3	6.9	2.6	4.8	13.6	2.5	8.4	0.0	11.1	5.2
20 - 39	25.1	21.1	22.0	27.0	25.1	25.5	46.2	30.5	34.5	42.1	26.7	30.7	33.8	31.2	31.9
40 - 59	23.2	26.0	25.0	26.7	35.7	32.3	53.7	17.8	31.7	76.6	37.2	52.6	47.7	33.4	39.1
≥ 60	123.7	32.5	72.7	98.2	14.2	53.2	85.7	77.5	81.4	202.6	62.8	130.2	143.4	69.3	105.7
All age groups	22.9	19.8	20.8	24.9	23.3	23.9	36.5	23.4	28.3	51.1	26.0	35.5	32.0	29.1	30.2

Annex 1(c) TB Notifications and Rate (All Cases) by Sex and Age from 2016 - 2020

All TB cases by Sex and Age

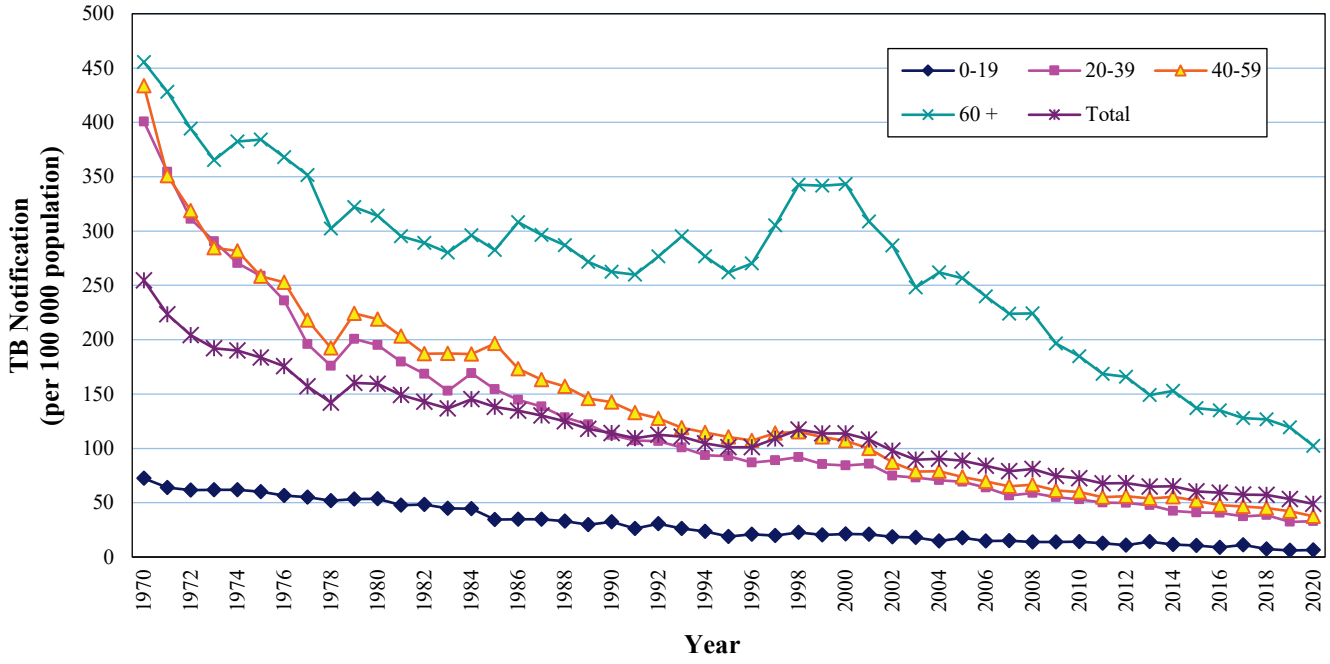
Age group	2016			2017			2018			2019			2020		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 19	62	43	105	74	56	130	44	40	84	42	28	70	34	37	71
20 - 39	352	503	855	317	468	785	326	482	808	269	401	670	263	394	657
40 - 59	665	485	1 150	656	459	1 115	625	451	1 076	610	391	1 001	499	398	897
≥ 60	1 618	618	2 236	1 627	593	2 220	1 709	591	2 300	1 680	582	2 262	1 486	545	2 031
All age groups	2 697	1 649	4 346	2 674	1 576	4 250	2 704	1 564	4 268	2 601	1 402	4 003	2 282	1 374	3 656

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

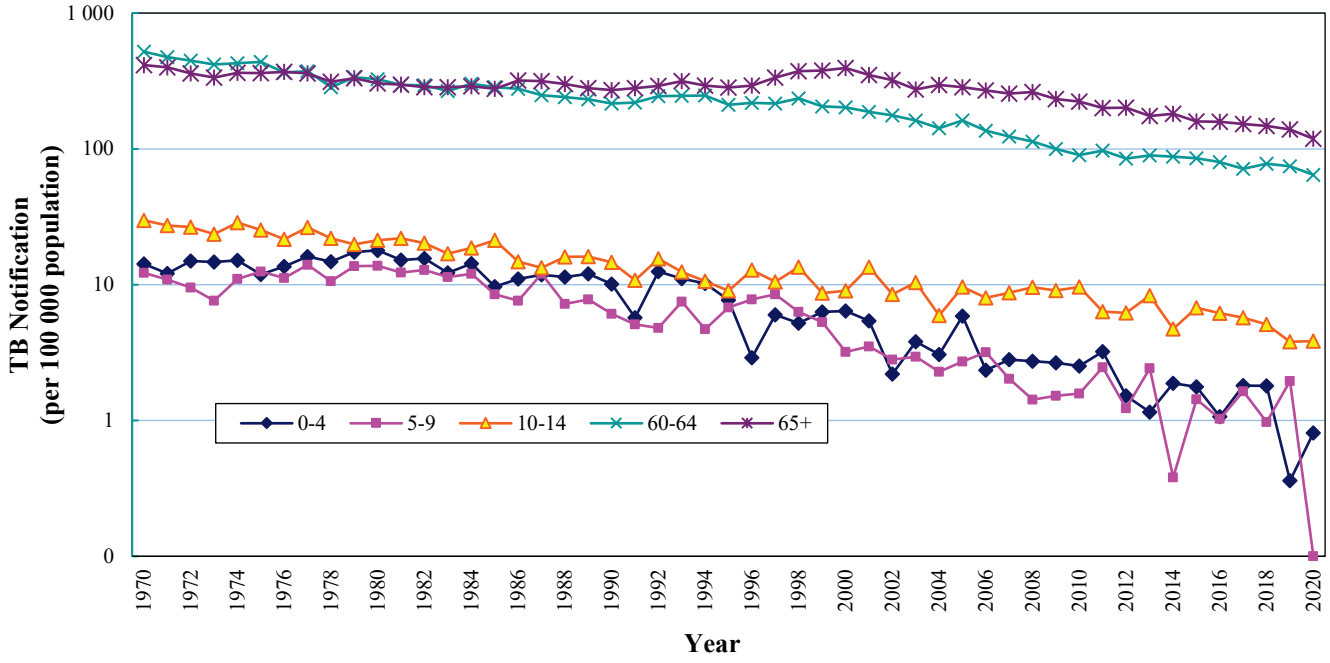
Age group	2016			2017			2018			2019			2020		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 19	10.3	7.6	9.0	12.3	10.0	11.2	7.3	7.1	7.2	7.0	5.0	6.0	6.0	6.9	6.4
20 - 39	38.7	42.1	40.6	34.9	39.3	37.4	36.0	40.6	38.6	30.0	34.1	32.3	30.0	35.2	32.9
40 - 59	61.9	36.5	47.9	61.8	34.4	46.6	59.8	33.7	45.2	59.2	29.0	42.1	48.7	29.1	37.5
≥ 60	205.6	70.9	134.8	197.4	65.0	127.8	198.2	61.9	126.5	186.8	58.3	119.3	156.9	52.4	102.2
All age groups	79.9	41.6	59.2	78.8	39.4	57.5	79.3	38.7	57.3	76.0	34.3	53.3	66.8	33.8	48.9

Annex 2 Trend of age-specific TB Notification Rate from 1970 - 2020

Trend of Age-specific TB Notification Rate (All Gender) from 1970 - 2020



Trend of Age-specific TB Notification Rate (All Gender) from 1970 - 2020



- 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(a) TB-HIV Registry

A total of 18 cases with TB-HIV co-infection were reported to the TB-HIV Registry in 2020. The cumulative number of cases reported to the TB-HIV Registry from all sources as in 2020 was 763 (Table 1).

Information on TB as a primary AIDS-defining illness is available in 17 out of 18 cases reported to the TB-HIV Registry in 2020. Of these 17 cases, 8 (47.1%) had TB as a primary AIDS-defining illness (Table 2).

The drug susceptibility pattern among culture-positive (sputum or other specimens) TB-HIV cases for the years 1996-2020 is shown in Table 3. Eleven patients reported to the TB-HIV Registry had a positive sputum and/or other specimen culture in 2020. All had disease due to Mycobacterium tuberculosis with favourable susceptibility pattern. Among all the 535 cases reported to TB-HIV Registry with a positive sputum or other specimen culture between 1996 and 2020, 9 (1.7%) had MDRTB. There is no XDR-TB case detected among the reported TB-HIV cases so far. DH will continue to monitor prevalence of drug resistance in the context of HIV.

Table 4 shows the characteristics of 18 patients seen at chest clinics and/or SPP in 2020. The median CD4 count was 71 /μL at time of TB diagnosis which is lower than the median count in 2019. Extra-pulmonary involvement (irrespective of lung involvement) is found in more than two-third of patients.

Annex 3(b) TB-HIV Registry --- *cont'd*

Table 1: Total number of TB-HIV cases reported to TB-HIV Registry, all sources from 1996–2020 (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
Total	763

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(c) TB-HIV Registry --- *cont'd*

Table 2. TB as primary AIDS-defining illness among 577 cases reported to chest clinics and/or SPP from 1996-2020[(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
Total	155	205	360	177	40	577

Table 3 Drug susceptibility pattern among culture positive (sputum and/or other specimens) TB-HIV cases from TB-HIV Registry, all sources from 1996 - 2020

Year	Susceptible to SHRE	Any resistance (non-MDR/XDR)	MDR	XDR	Drug susceptibility unknown	Total number of culture positive cases
1996	7	1	0	0	0	8
1997	5	1	0	0	0	6
1998	13	1	0	0	0	14
1999	16	4	1	0	0	21
2000	13	2	0	0	0	15
2001	23	5	0	0	0	28
2002	11	3	1	0	0	15
2003	18	2	1	0	0	21
2004	20	6	0	0	0	26
2005	29	5	0	0	0	34
2006	32	3	0	0	0	35
2007	30	7	1	0	0	38
2008	30	3	0	0	0	33
2009	22	7	0	0	0	29
2010	12	2	0	0	0	14
2011	12	4	0	0	0	16
2012	13	2	1	0	0	16
2013	13	5	0	0	0	18
2014	11	7	0	0	1	19
2015	14	1	2	0	2	19
2016	27	3	0	0	0	30
2017	19	2	2 [(2)]	0	0	23
2018	16	2	0 [(2)]	0	0	18
2019	27	1	0	0	0	28
2020	11	0	0	0	0	11
Total	444	79	9	0	3	535

Notes:

(1) Some of the figures in the table for the previous years have been updated. Of all the cases reported to the TB-HIV Registry from 1996 to 2020, 577 cases were seen at chest clinics and/or SPP. The table is compiled basing on data of these 577 cases.

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

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

Table 4 Characteristics of 18 TB-HIV cases reported from chest clinics and SPP in 2020

Age distribution	Number	Proportion
0 to 19	0	0.0%
20 to 39	5	27.8%
40 to 59	12	66.7%
60+	1	5.6%
Sex distribution		
Male	12	66.7%
Female	6	33.3%
Ethnicity		
Chinese	12	66.7%
Asians, non-Chinese	6	33.3%
African	0	0.0%
Others	0	0.0%
Case category		
New case	13	72.2%
Relapse	4	22.2%
Treatment after default	1	5.6%
Failure of previous treatment	0	0.0%
Others	0	0.0%
Unknown	0	0.0%
TB as a primary AIDS-defining illness (1)		
Yes	8	47.1%
No	9	52.9%
CD4 count at time of co-infection (median, IQR) (2)	71 (33-197)/uL	
Anti-retroviral therapy at time of co-infection		
Yes	10	55.6%
No	8	44.4%
Presence of extra-pulmonary TB (irrespective of lung involvement)		
Yes	15	83.3%
No	3	16.7%
Extent of Respiratory TB (3)		
Minimal	2	18.2%
Moderate	3	27.3%
Extensive	6	54.6%
Sputum bacteriological status (pre-treatment) (4)		
Smear + culture +	6	46.2%
Smear - culture +	1	7.7%
Smear + culture -	0	0.0%
Smear - culture -	6	46.2%
Drug resistance pattern (pre-treatment) (based on sputum and/or other specimen culture) (5)		
Susceptible to SHRE	11	100.0%
Resistant to streptomycin alone	0	0.0%
Resistant to rifampicin alone	0	0.0%
MDR	0	0.0%
XDR	0	0.0%

Notes:
(1) Information on TB as primary AIDS-defining illness unknown in 1 patient.
(2) Information on CD4 count unknown in 1 patient.
(3) Chest X-ray finding not available in 1 patient. Of the remaining 17 patients, 11 had lung parenchymal lesion on CXR.
(4) Sputum test results not available in 5 patients.
(5) 11 of 18 cases had a positive sputum and/or other specimen culture.

Annex 4 Crude and Standardised Death Rate and Notification Rate 1981 - 2020 (1)

Year	Crude Death Rate	Standardized Death Rate (2)	Crude Notification Rate	Standardised Notification Rate (2)
1981	9.4	9.4	149.1	149.1
1982	8.6	8.4	140.3	142.1
1983	8.3	7.2	136.6	135.2
1984	7.8	7.9	145.3	142.7
1985	7.5	6.9	138.3	134.6
1986	7.4	6.6	134.5	134.6
1987	7.3	6.3	130.3	124.2
1988	6.9	5.8	124.8	122.1
1989	7.1	5.9	117.9	111.4
1990	6.7	5.7	114.1	107.7
1991	7.1	5.6	109.2	100.5
1992	7.1	5.5	112.6	107.9
1993	6.7	5.1	110.8	100.2
1994	6.8	5.0	104.7	88.9
1995	6.8	4.8	100.9	88.9
1996	4.5	3.1	101.0	88.7
1997	3.9	2.6	109.0	93.1
1998	4.1	2.8	117.3	98.6
1999	4.7	3.1	113.7	93.9
2000	4.5	2.8	113.7	93.4
2001	4.6	2.8	108.2	88.6
2002	4.0	2.4	97.9	78.9
2003	4.1	2.5	89.5	72.3
2004	4.2	2.4	91.8	71.1
2005	4.0	2.2	90.4	70.5
2006	4.3	2.4	84.1	63.3
2007	3.3	1.8	79.0	58.5
2008	3.3	1.7	81.0	59.3
2009	2.9	1.5	74.5	54.1
2010	2.7	1.4	72.5	52.0
2011	2.6	1.3	67.8	48.4
2012	2.8	1.4	67.9	47.2
2013	2.5	1.2	64.9	46.1
2014	2.6	1.3	65.0	44.2
2015	2.3	1.0	60.5	41.2
2016	2.2	0.9	59.2	39.4
2017	2.5	1.1	57.5	38.3
2018	2.5	1.1	57.3	37.1
2019	2.7	1.1	53.3	33.2
2020	2.7	1.1	48.9	31.1

Notes:
(1) Death rate and notification rate per 100 000 population.
(2) Age and sex-standardisation, using the mid-1981 population as the standard population.

Annex 5 HBsAg Seroprevalence Survey Among TB Patients Seen at Chest Clinics 2020

In a sample survey conducted by the TB & Chest Service of the Department of Health in 2020 (3-month period from 1.3.2020 to 31.5.2020), the overall HBsAg seropositive rate among TB patients seen at chest clinics was 8.24%.

Sex / Age Group	HBsAg status			HBsAg seropositive rate (%) (1)	Total
	Positive	Negative	Unknown		
Male					
0 - 19	0	13	0	0.00	13
20 - 39	3	51	3	5.56	57
40 - 59	16	95	3	14.41	114
≥ 60	21	213	5	8.97	239
Female					
0 - 19	0	7	2	0.00	9
20 - 39	3	79	1	3.66	83
40 - 59	9	83	4	9.78	96
≥ 60	5	94	1	5.05	100
Total	57	635	19	8.24	711

HBsAg Seroprevalence Survey 2019 - 2020

Sex / Age Group	HBsAg seropositive rate (%)	
	2019	2020
Male		
0 - 19	0.00	0.00
20 - 39	8.96	5.56
40 - 59	15.89	14.41
≥ 60	8.11	8.97
Female		
0 - 19	0.00	0.00
20 - 39	1.08	3.66
40 - 59	6.52	9.78
≥ 60	5.17	5.05
Total	8.14	8.24

Note:

(1) HBsAg seropositivity rate = number of HBsAg positive patients / (number of HBsAg positive patients + number 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: _ _/_ _/_ _ _ _

PFA1 - 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)
(<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: 1minimal (total area< RUL)/ 2moderate (> RUL)/ 3advanced (> 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): _____

Body weight ____ kg; body height / arm span ____ cm

Drug	Dosage and route	Dose interval (e.g. 3/7, 6/7)

Remark:

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: _ _/_ _/_ _ _ _

< *PFA2 : for chest clinic use only* >

PFA2 - 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 (F) Urine test:

Sugar: positive /negative /not done

Protein: positive /negative /not done

Part (G) Visual acuity test and colour blindness test:

Please stick
the results of visual acuity test and blindness test
here

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: _ _/_ _/_ _ _ _

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

Part (H) Mode of TB diagnosis: 1a. Bacteriological (based on positive smear and/or culture) 1b Bacteriological (based on molecular test result)/ 2.Histological/ 3.Clinical-radiological/ 4.Clinical only (choose 1 item, priority from left to right)

Bacteriological examination for MTB: P (positive), N (negative) , U (not done), NTM (Non-tuberculous Mycobacteria)

	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

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

  If unfavourable ST, please mark S (sensitive) or R (resistant) for all ST done:

Isoniazid (H)	: S / R	Pyrazinamide	: S / R	Cycloserine	: S / R
Rifampicin (R)	: S / R	Ofloxacin	: S / R	Other (1) _____	: S / R
Ethambutol (E)	: S / R	Ethionamide	: S / R	Other (2) _____	: S / R
Streptomycin (S)	: S / R	Kanamycin	: S / R		

The ST result is based on phenotypic/genotypic test.

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

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

Died □ Cause: 1.TB-related/ 2.Not TB-related/ 3.Unknown Date of death (mm/yyyy): ____/_____

Relapse □ Date relapse (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 (mm/yyyy): ____/_____

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

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

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

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

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

(6) Wrong/ revised diagnosis □ Last treatment date (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 (J) Outcome at 24 months (please √, circle and/ or fill in the spaces provided as appropriate)

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

Died ☐ Cause: 1.TB-related/ 2.Not TB-related/ 3.Unknown Date of death (mm/yyyy): ____/_____

Relapse ☐ Date relapse (mm/yyyy): ____/_____

- 1.Bacteriological / 2.Histological / 3.Clinical-radiological / 4.Clinical only (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 (mm/yyyy): ____/_____

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

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

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

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

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

(6) Wrong/ revised diagnosis ☐ Last treatment date (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. *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.*
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