ANNUAL REPORT 2019

TUBERCULOSIS & CHEST SERVICE

OF THE

DEPARTMENT OF HEALTH

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PREFACE

Global Epidemiology

Though tuberculosis (TB) is a curable and preventable disease, it continues to be a major global health issue in 2019. Worldwide, TB is one of the top 10 causes of death and the leading cause of death from a single infectious agent, ranking above HIV/AIDS. In 2019, a total of 1.4 million people died from TB (including 208 000 people with HIV). Furthermore, an estimated 10 million people fell ill with tuberculosis (TB), including 5.6 million men, 3.2 million women and 1.2 million children.

TB is present in all countries and age groups. In 2019, the largest number of new TB cases occurred in the WHO South-East Asian region, with 44% 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 87% of new TB cases.

Regarding the drug resistance issue, multidrug-resistant TB (MDR-TB) remains a public health threat. A global total of 206 030 people with multidrug- or rifampicin-resistant TB (MDR/RR-TB) were detected and notified in 2019. There was a 10% increase from 186 883 in 2018. Globally, there were an estimated 465 000 new cases of MDR/RR-TB resistant TB in 2019. Drug resistant TB is now an increasing problem in the worldwide control of TB and in the attempts to end TB.

TB incidence is falling at about 2% per year. Between 2015 and 2019, the cumulative reduction was 9%. This was less than half way to the End TB Strategy milestone of 20% reduction between 2015 and 2020. 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 are a 35% reduction in the number of TB deaths and a 20% reduction in the TB incidence rate. The strategy also includes a 2020 milestone that no TB patients and their households face catastrophic costs as a result of TB disease.

Local epidemiology

In Hong Kong, the number of TB notifications in 2019 was 4 003, and the TB notification rate was 53.32 per 100 000. The corresponding figures in 2018 were 4 268 and 57.28 per 100 000. TB deaths accounted for 0.4% of the total registered deaths in Hong Kong and stayed outside the top ten causes of death in 2019.

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 53.32 per 100 000 in 2019. 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 like hepatotoxicity. More intensive researches and innovations are required to make a breakthrough in this area.

Challenges on TB Control

Ageing Population

The population in Hong Kong rose from 6.97 million to 7.51 million from 2009 to 2019. Of which 12.9% and 17.6% were aged 65 or above in 2009 and 2019 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-tuberculosis treatment. The average age of the TB deaths was 77.0 in 2019 with 80% mortality being 65 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 have 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-tuberculosis treatment. Apart from DM, HIV infection is another risk factor for development of TB. In Hong Kong, the prevalence of HIV co-infection among TB patients remained around 1% (1.0% in 2019). 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 in Hong Kong was low at 0.73% of all culture confirmed TB cases in 2019. There was no case of extensively drug-resistant TB (XDR-TB). However, given the high rate of drug resistant TB in some neighbouring areas, frequent population movement and possible cross border transfer of drug resistance, it may cause impact to our apparently effective control on MDR and XDR-TB. Hence, continuous vigilance on the early diagnosis and treatment of drug-resistant TB is needed.

The Way Forward

Surveillance and early detection of drug resistant TB

The Department of Health of Hong Kong 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-tuberculosis 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. In 2019, there was 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.

On the other hand, the South African programmatic data prompted WHO to revise its recommendations on the use of a standardized shorter regimen. In December 2019, WHO published a rapid communication regarding updates on the recommendation of a shorter, all oral, bedaquiline-containing regimen for a selected group of MDR/RR-TB patients who have no fluoroquinolone resistance and without previous exposure to second-line drugs (including bedaquiline). Whether using a longer or shorter MDR-TB regimen, the second-line injectables such as kanamycin and capreomycin are no longer favoured and are recommended to be replaced by bedaquiline.

In addition, 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.

Management of latent tuberculosis infection

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. Six- to nine-month Isoniazid, 12-week weekly rifapentine plus isoniazid regimen and 4-month rifampicin are the regimens commonly offered for treatment of latent TB infection.

Neonatal BCG vaccination

Neonatal BCG is routinely given in Hong Kong at birth with a high coverage rate of 99.2% in 2019. 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). These 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 been participating in the Tuberculosis Trial Consortium (TBTC) study 31 which is a large phase 3 multicenter open-label randomized clinical trial of rifapentine-containing treatment-shortening regimens for pulmonary TB rolled out in 2016. 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. Health advice on smoking cessation are actively promoted to all patients 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. To echo WHO's endeavor to promote TB awareness and to commemorate the World TB Day, World TB Day 2019 opening ceremony cum health exhibition was jointly held by the Hong Kong Tuberculosis, Chest and Heart Diseases Association, Department of Health and the Hospital Authority on 23 March 2019 in the Dragon Centre in Sham Shui Po, Kowloon. A new Announcement for Public Interest (API) on prevention of TB on television and radio, interviews in mass media, newspaper columns were also conducted. With all these activities, it is hoped that health care workers, the public and all other stakeholders would be able to join hands to fight against this endemic disease.

Part 1: Tuberculosis and Chest Service (TB&CS)

Approximately 80% of notified TB cases are managed in the Government TB&CS. In 2019, a total of 70 900 persons (including 13 272 new patients) attended TB&CS and the total attendance was 607 535. The corresponding figures in 2018 were 78 894 and 646 817. The diagnoses among new patients included active pulmonary TB (15.2%), active TB of other forms (5.7%), inactive TB (2.7%), CXR screening and contact examination (23.9%), bronchitis not specified as acute or chronic (6.1%), acute respiratory infection and pneumonia (3.5%), malignant neoplasm of trachea and bronchus (0.6%) and other respiratory diseases (1.9%). A total of 1 981 hospital admissions were arranged.

Part 2: Pneumoconiosis

The Pneumoconiosis Clinic (the Clinic) 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 the 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 2019, 153 cases with suspected pneumoconiosis or mesothelioma were examined by the Board under the Ordinance, and 68 new cases (52 cases of silicosis, 6 cases of asbestos-related lung disease, 9 cases of mesothelioma and 1 case of both asbestosis and mesothelioma) were confirmed by the Board. Up to the end of 2019, a total of 5 161 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.

Part 1

TUBERCULOSIS

Part 1 - Tuberculosis : Contents

Appendix 1

TB Notifications & Death Rate of Tuberculosis (All Forms)
1947 - 2019

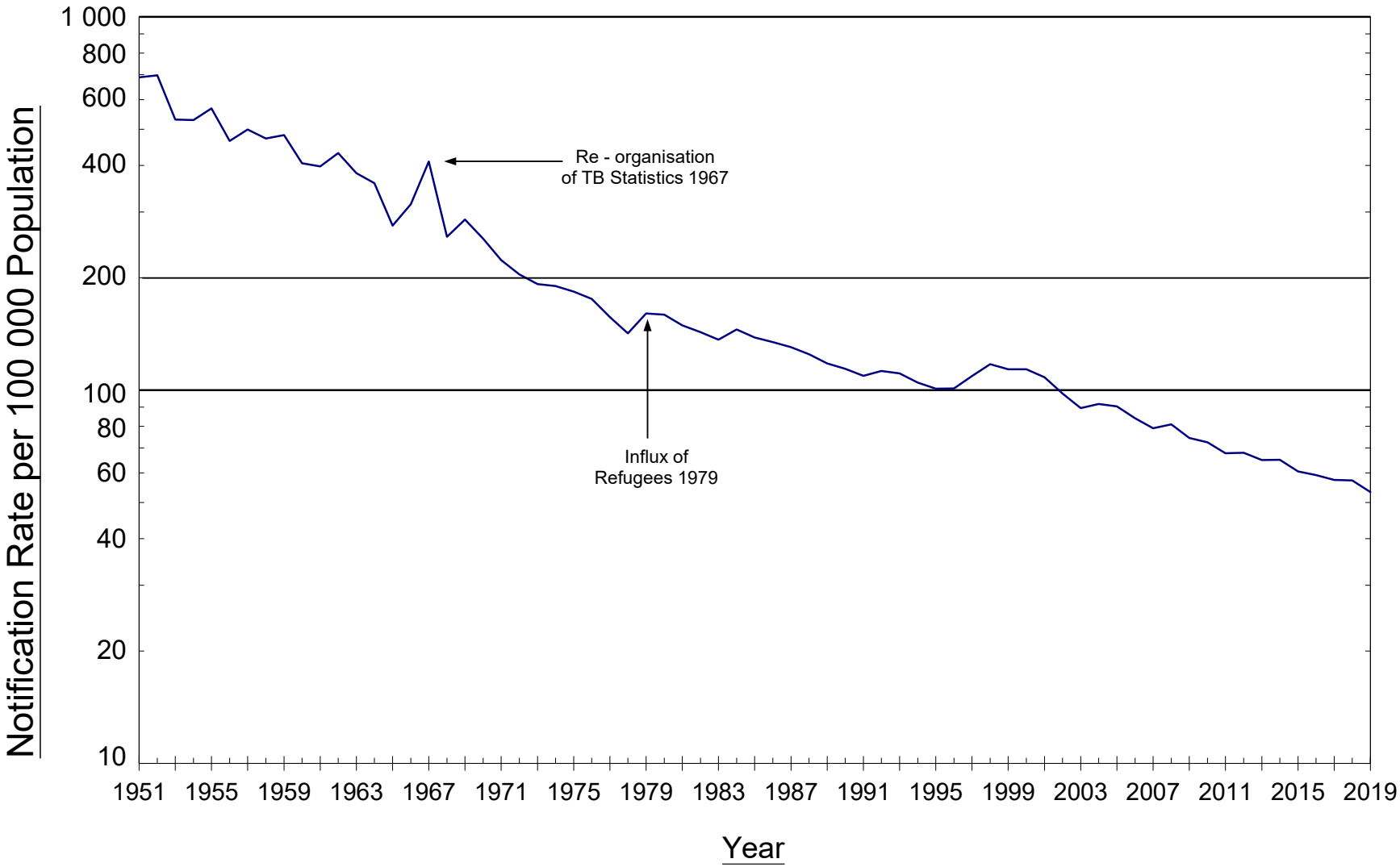
Year	TB Notifications			Notification Rate per 100 000 Pop	TB Deaths	Death Rate per 100 000 Pop	Ratio (Notifications/ Deaths)	Deaths ---------- x 100% Notifications
1947	4 855			277.4	1 861	106.3	2.61	38.33
1948	6 279			348.8	1 961	108.9	3.20	31.23
1949	7 510			404.4	2 611	140.6	2.88	34.77
1950	9 067			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
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

* Figures in brackets denote the number of Vietnamese refugees included.

\# Figures in this column denote the number of Chinese immigrants staying in Hong Kong for less than 7 years.

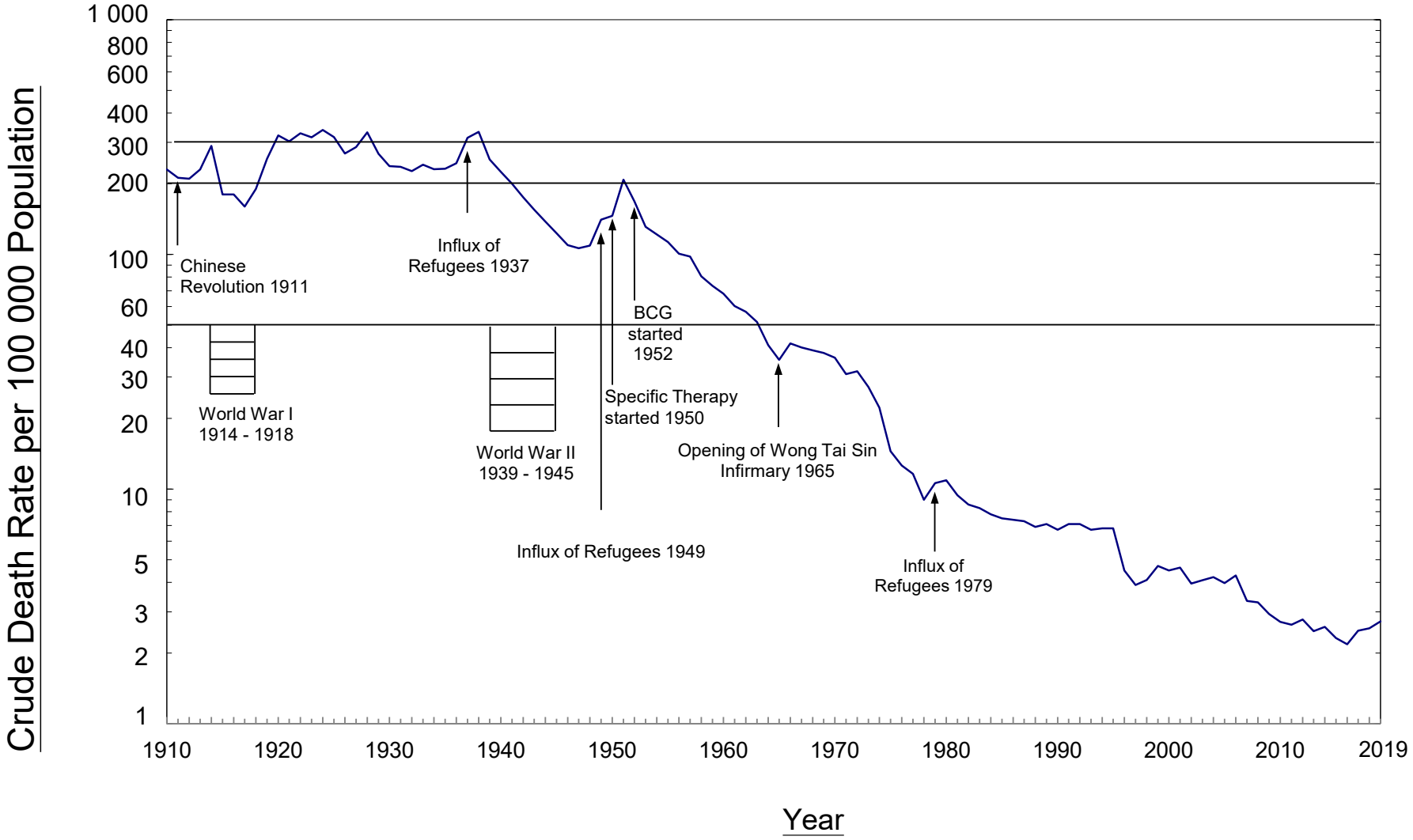
Appendix 2

TB Notification Rate (All Forms) 1951-2019



Appendix 3

Crude Death Rate due to Tuberculosis (All Forms) 1910-2019



Appendix 4(a)

Tuberculosis Notifications (All Forms) & Rate by Age & Sex 2019

Age Group	Tuberculosis Notifications (All Forms)			Tuberculosis Notifications Rate (per 100 000 population)		
	Male	Female	Total	Male	Female	Total
Under 1	0	0	0	0.69	0.00	0.36
1	0	0	0			
2	1	0	1			
3	0	0	0			
4	0	0	0			
5-9	5	1	6	3.15	0.67	1.95
10-14	8	3	11	5.41	2.12	3.80
15-19	28	24	52	19.13	17.24	18.21
20-24	56	65	121	27.42	31.06	29.26
25-29	73	98	171	32.26	36.93	34.78
30-34	70	113	183	30.74	34.30	32.85
35-39	70	125	195	29.39	33.51	31.90
40-44	83	106	189	36.56	31.21	33.36
45-49	114	89	203	47.07	26.18	34.87
50-54	151	87	238	59.26	26.76	41.04
55-59	262	109	371	85.54	31.91	57.26
60-64	325	103	428	114.80	35.31	74.46
65-69	298	91	389	136.95	40.19	87.61
70-74	258	73	331	170.52	46.71	107.61
75-79	236	68	304	247.38	71.35	159.41
80-84	212	90	302	270.41	94.74	174.16
85 & over	351	157	508	478.20	118.13	246.24
Total	**2 601**	**1 402**	**4 003**	**75.99**	**34.33**	**53.32**

Appendix 4(b)

Pulmonary TB Notifications by Age & Sex 2019

Age Group	Pulmonary TB			Bacteriologically * Positive Pulmonary TB			Smear Positive Pulmonary TB		
	M	F	T	M	F	T	M	F	T
Under 1	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
5 - 9	4	0	4	0	0	0	0	0	0
10 - 14	5	1	6	5	0	5	1	0	1
15 - 19	25	16	41	17	11	28	4	4	8
20 - 24	41	37	78	28	23	51	9	8	17
25 - 29	57	60	117	38	40	78	21	20	41
30 - 34	60	81	141	37	57	94	19	30	49
35 - 39	56	69	125	40	47	87	17	21	38
40 - 44	69	68	137	51	40	91	22	17	39
45 - 49	97	51	148	66	36	102	41	14	55
50 - 54	127	59	186	91	40	131	52	20	72
55 - 59	216	69	285	161	42	203	87	23	110
60 - 64	276	69	345	208	48	256	99	26	125
65 - 69	247	55	302	178	38	216	71	14	85
70 - 74	218	46	264	160	29	189	56	11	67
75 - 79	209	45	254	172	34	206	61	14	75
80 - 84	176	64	240	143	54	197	37	14	51
85 & over	296	115	411	249	95	344	87	17	104
Total	**2 179**	**905**	**3 084**	**1 644**	**634**	**2 278**	**684**	**253**	**937**

** Pulmonary TB with or without extrapulmonary TB

* Either smear or culture positive

Appendix 4(c)

Rate of Pulmonary TB Notifications by Age & Sex 2019**

(Rate per 100 000 Population)

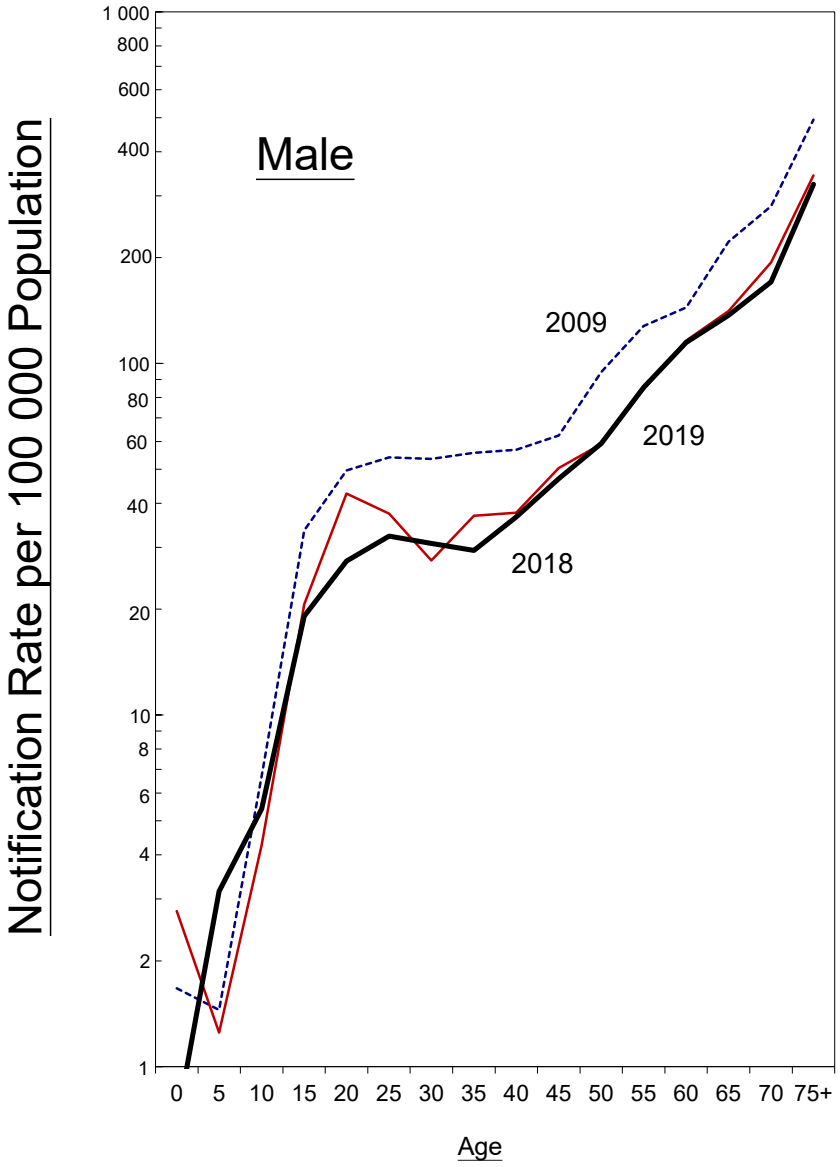
Age Group	Pulmonary TB			Bacteriologically * Positive Pulmonary TB			Smear Positive Pulmonary TB		
	M	F	T	M	F	T	M	F	T
0 - 4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 - 9	2.5	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
10 - 14	3.4	0.7	2.1	3.4	0.0	1.7	0.7	0.0	0.3
15 - 19	17.1	11.5	14.4	11.6	7.9	9.8	2.7	2.9	2.8
20 - 24	20.1	17.7	18.9	13.7	11.0	12.3	4.4	3.8	4.1
25 - 29	25.2	22.6	23.8	16.8	15.1	15.9	9.3	7.5	8.3
30 - 34	26.4	24.6	25.3	16.2	17.3	16.9	8.3	9.1	8.8
35 - 39	23.5	18.5	20.5	16.8	12.6	14.2	7.1	5.6	6.2
40 - 44	30.4	20.0	24.2	22.5	11.8	16.1	9.7	5.0	6.9
45 - 49	40.0	15.0	25.4	27.3	10.6	17.5	16.9	4.1	9.4
50 - 54	49.8	18.1	32.1	35.7	12.3	22.6	20.4	6.2	12.4
55 - 59	70.5	20.2	44.0	52.6	12.3	31.3	28.4	6.7	17.0
60 - 64	97.5	23.7	60.0	73.5	16.5	44.5	35.0	8.9	21.7
65 - 69	113.5	24.3	68.0	81.8	16.8	48.6	32.6	6.2	19.1
70 - 74	144.1	29.4	85.8	105.8	18.6	61.4	37.0	7.0	21.8
75 - 79	219.1	47.2	133.2	180.3	35.7	108.0	63.9	14.7	39.3
80 - 84	224.5	67.4	138.4	182.4	56.8	113.6	47.2	14.7	29.4
85 & over	403.3	86.5	199.2	339.2	71.5	166.7	118.5	12.8	50.4
Total	**63.7**	**22.2**	**41.1**	**48.0**	**15.5**	**30.3**	**20.0**	**6.2**	**12.5**

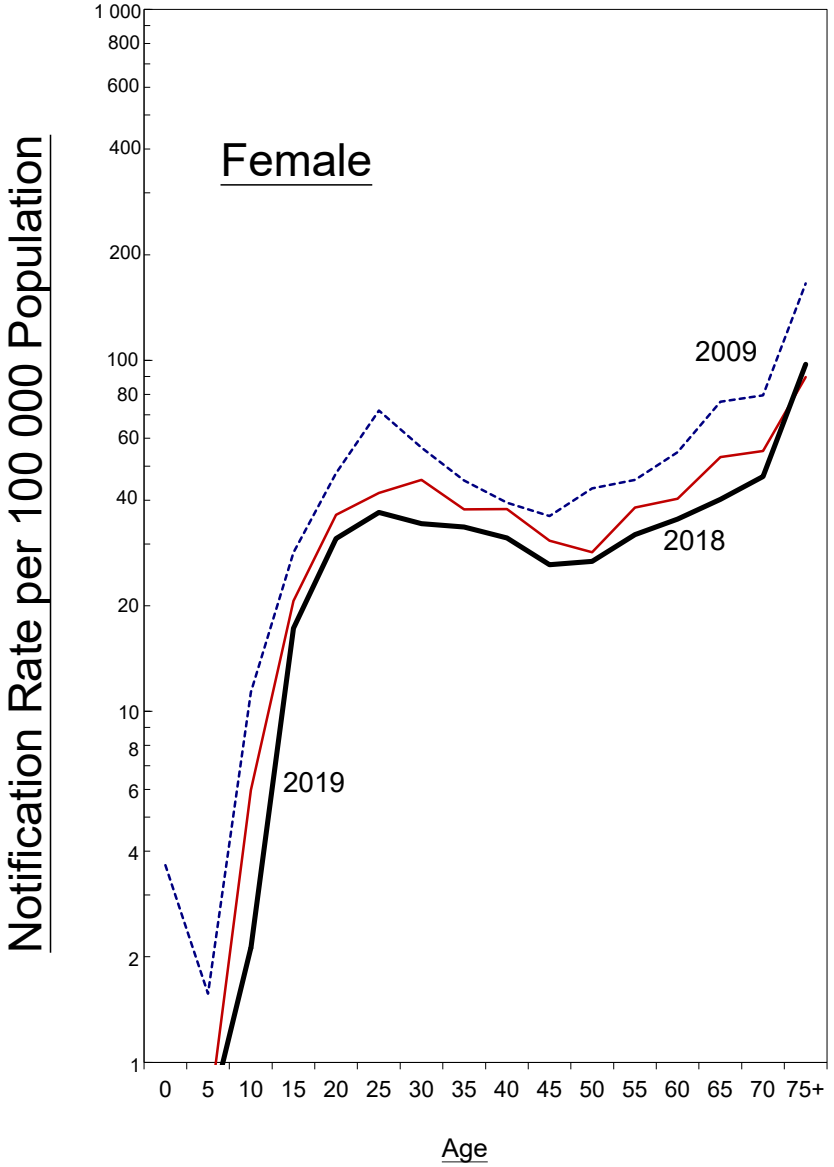
** Pulmonary TB with or without extrapulmonary TB

* Either smear or culture positive

Appendix 5

TB Notification Rate by Age & Sex 2009, 2018 & 2019





Appendix 6

Notifications of Tuberculosis by Type by Age & Sex 2019

Age Group	Pulmonary only #			Miliary			Meninges/CNS			Bones & Joints			Others		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
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	1	0	1	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	3	0	3	0	0	0	0	0	0	0	1	1	2	0	2
10-14	5	0	5	0	0	0	0	0	0	1	0	1	2	3	5
15-19	25	15	40	0	0	0	0	0	0	0	0	0	3	9	12
20-24	38	35	73	1	0	1	1	0	1	1	0	1	17	30	47
25-29	54	56	110	2	0	2	1	1	2	0	2	2	16	39	55
30-34	54	74	128	0	3	3	2	2	4	0	2	2	14	33	47
35-39	49	65	114	2	1	3	0	0	0	1	1	2	18	58	76
40-44	64	64	128	2	1	3	2	0	2	0	1	1	17	40	57
45-49	93	43	136	2	2	4	2	2	4	1	3	4	17	40	57
50-54	120	54	174	1	0	1	1	3	4	0	2	2	29	29	58
55-59	209	64	273	4	3	7	4	0	4	5	0	5	42	42	84
60-64	263	67	330	6	1	7	2	0	2	2	2	4	55	33	88
65-69	240	52	292	0	1	1	1	3	4	5	4	9	52	33	85
70-74	208	46	254	0	1	1	2	2	4	4	3	7	45	23	68
75-79	200	43	243	3	0	3	0	0	0	2	1	3	32	24	56
80-84	168	62	230	2	0	2	1	1	2	1	4	5	41	23	64
85 & over	281	111	392	1	2	3	3	1	4	4	6	10	63	40	103
Total*	2 074	851	2 925	26	15	41	22	15	37	28	32	60	465	499	964 **

* The total add up to greater than the notification number of 4 003 for 2019 as some cases have multiple extrapulmonary sites.

* * Including

TB lymph node	390
TB urogenital system	50
TB peritonitis, intestines, mesenteric, appendicitis	65
TB pleuritis, pleural effusion	351
TB laryngitis	14
TB skin	47
Unspecified	85

(Note: some cases have more than one site of extrapulmonary TB)

\# Pulmonary TB only, without extrapulmonary site involvement

Appendix 7

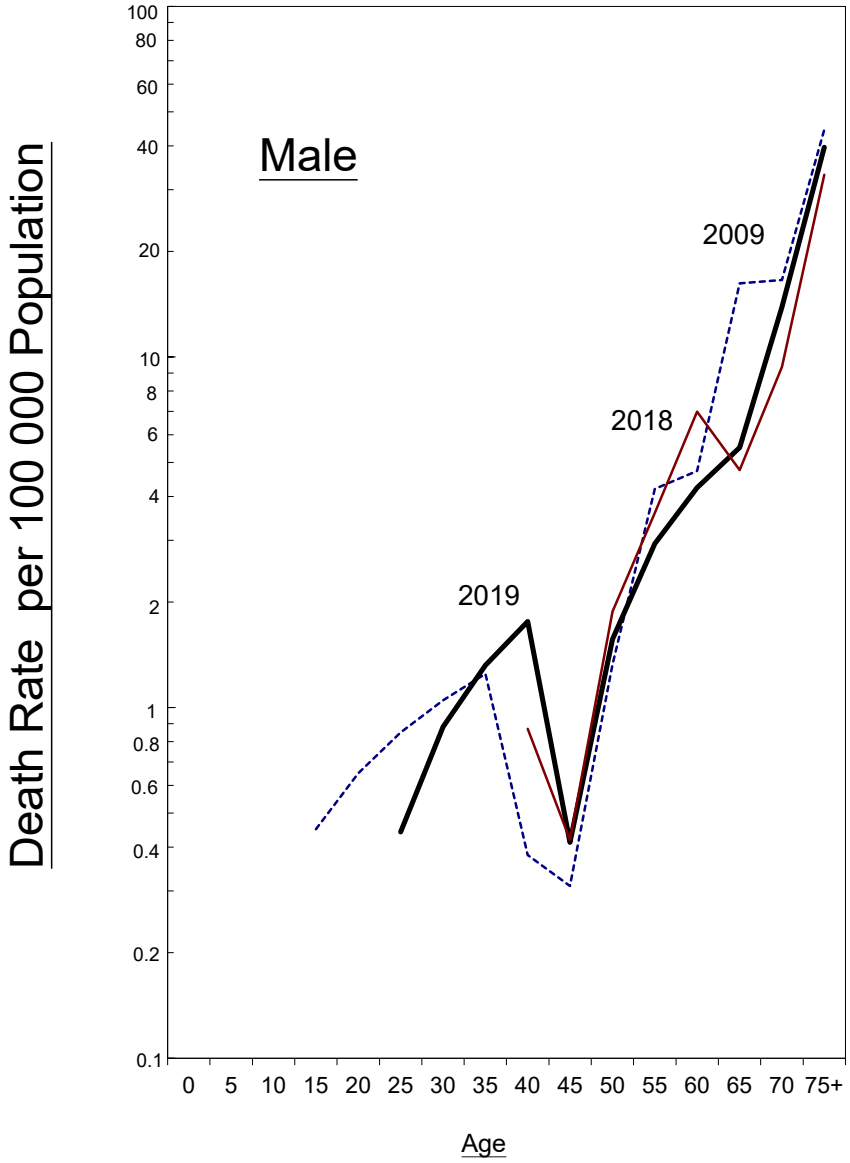
TB Death (All Forms) & Death Rate by Age & Sex 2019*

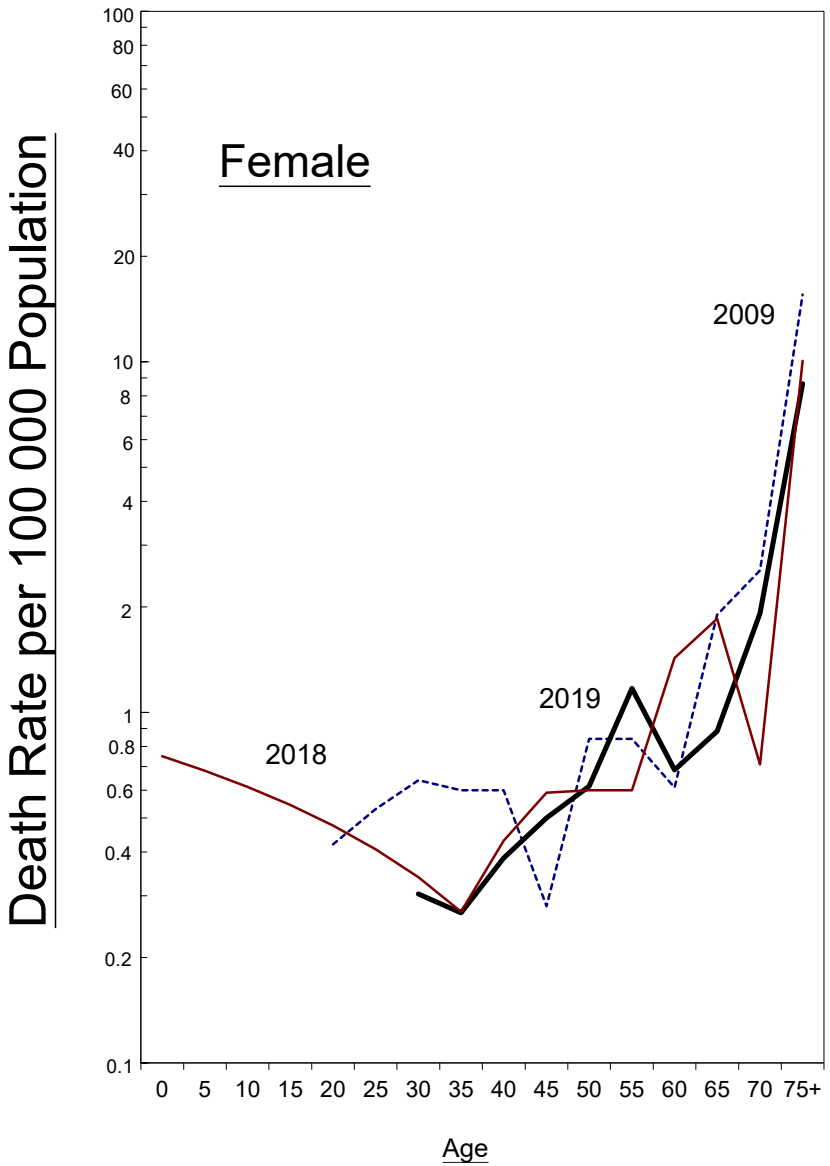
Age Group	Tuberculosis Death (All Forms)			Death Rate (per 100,000 population)		
	Male	Female	Total	Male	Female	Total
Under 1	0	0	0	0.00	0.00	0.00
1	0	0	0			
2	0	0	0			
3	0	0	0			
4	0	0	0			
5-9	0	0	0	0.00	0.00	0.00
10-14	0	0	0	0.00	0.00	0.00
15-19	0	0	0	0.00	0.00	0.00
20-24	0	0	0	0.00	0.00	0.00
25-29	1	0	1	0.44	0.00	0.20
30-34	0	1	1	0.00	0.30	0.18
35-39	0	1	1	0.00	0.27	0.16
40-44	4	0	4	1.76	0.00	0.71
45-49	1	0	1	0.41	0.00	0.17
50-54	4	2	6	1.57	0.62	1.03
55-59	9	4	13	2.94	1.17	2.01
60-64	12	2	14	4.24	0.69	2.44
65-69	12	2	14	5.51	0.88	3.15
70-74	21	3	24	13.88	1.92	7.80
75-79	11	4	15	11.53	4.20	7.87
80-84	24	7	31	30.61	7.37	17.88
85 & over	63	17	80	85.83	12.79	38.78
Total	**162**	**43**	**205**	**4.73**	**1.05**	**2.73**

* Data source : DH Death Registry 2019

Appendix 8

TB Mortality Rate by Age & Sex 2009, 2018 & 2019





Appendix 9

TB Deaths by Type by Age & Sex 2019*

Age Group	Pulmonary			Miliary			Meninges			Bones & Joints			Others		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
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	0	0	0	0	0	0	0	0	0	0	0	0
25-29	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
35-39	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
40-44	3	0	3	1	0	1	0	0	0	0	0	0	0	0	0
45-49	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
50-54	3	1	4	1	0	1	0	1	1	0	0	0	0	0	0
55-59	7	2	9	1	2	3	1	0	1	0	0	0	0	0	0
60-64	9	1	10	1	0	1	1	0	1	0	0	0	1	1	2
65-69	10	0	10	2	0	2	0	0	0	0	0	0	0	2	2
70-74	17	2	19	1	0	1	1	1	2	0	0	0	2	0	2
75-79	8	4	12	2	0	2	0	0	0	0	0	0	1	0	1
80-84	20	6	26	2	0	2	0	1	1	0	0	0	2	0	2
85 & over	60	12	72	3	2	5	0	1	1	0	1	1	0	1	1
Total	139	29	168	14	5	19	3	4	7	0	1	1	6	4	10 **

* Data source : DH Death Registry 2019

** Breakdown of Deaths from other forms of TB:-

	Number
Tuberculosis of intestines, peritoneum and mesenteric glands	3
Tuberculosis of other specified organs	1
Sequelae of respiratory and unspecified tuberculosis	6
Total	10

Appendix 10

Tuberculosis Mortality
1950 - 2019

Year	% of TB Death below 5 years*	% of TB Death below 1 year*	Infant Mort. Rate from TB per 1 000 Registered Live Births*	% of TB Deaths among Total Registered Deaths*	Average Age of TB Death*
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
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 **
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

* Data source : DH Death Registry 2019

** 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 2019

Rank	Causes of Death	Detailed List No.	2019		
		ICD 10th Revision	Male	Female	Total
	All Causes		27 096	21 608	48 706 (2)
1	Malignant neoplasms	C00-C97	8 645	6 226	14 871
2	Pneumonia	J12-J18	5 026	4 245	9 271
3	Diseases of heart	I00-I09, I11 I13, I20-I51	3 409	2 687	6 096
4	Cerebrovascular diseases	I60-I69	1 543	1 427	2 970
5	External causes of morbidity and mortality #	V01-Y89	1 219	629	1 848
6	Nephritis, nephrotic syndrome and nephrosis	N00-N07, N17-N19, N25-N27	810	857	1 667
8	Dementia	F01-F03	545	945	1 490
7	Chronic lower respiratory diseases *	J40-J47	1 042	331	1 373
9	Septicaemia	A40-A41	598	467	1 065
10	Diabetes mellitus	E10-E14	249	244	493
	Tuberculosis (including late effects of tuberculosis)		162	43	205
	All other causes	Residues of all causes	3 848	3 507	7 357 (2)

Notes : 1. Figures in brackets denote number of deaths of unknown sex included.

2. 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.

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

\# 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.

Appendix 12(a)

Origin of Tuberculosis Notifications
2009 - 2019

Origin	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
East Kowloon Chest Clinic	100	99	105	101	83	83	105	83	83	83	76
Kowloon Chest Clinic	171	165	122	154	167	127	95	98	98	94	65
Sai Ying Pun Chest Clinic	69	80	71	89	79	70	69	59	61	72	40
Shaukiwan Chest Clinic	80	72	74	65	74	66	72	56	45	67	42
Shaukiwan Pneumoconiosis	16	6	9	10	2	9	0	5	7	2	0
Shek Kip Mei Chest Clinic	92	87	90	101	95	80	89	83	70	66	44
South Kwai Chung Chest Clinic	158	166	146	158	122	127	103	98	99	106	69
Tai Po Chest Clinic	63	71	86	82	93	64	54	63	60	44	35
Wanchai Chest Clinic	170	143	118	110	113	95	89	83	88	71	56
Yan Oi Chest Clinic	172	152	173	144	146	104	105	109	100	75	84
Yaumatei Chest Clinic	139	131	128	132	112	101	92	82	81	91	72
Yuen Chau Kok Chest Clinic	124	131	112	108	110	98	80	80	81	73	75
Yung Fung Shee Chest Clinic	118	131	112	116	86	92	87	75	73	66	46
Castle Peak Hospital (Chest Clinic)	0	0	0	2	0	0	0	-	-	-	-
Cheung Chau Chest Clinic	1	1	1	1	0	0	0	2	1	0	0
Sai Kung Chest Clinic	1	3	6	4	4	2	3	1	2	1	6
Sheung Shui Chest Clinic	42	63	33	21	30	33	22	30	29	31	18
Tung Chung Chest Clinic	7	11	13	9	11	11	9	21	12	17	19
Yuen Long Chest Clinic	73	80	48	39	66	51	67	53	59	48	36
Sub-total	1 596	1 592	1 447	1 446	1 393	1 213	1 141	1 081	1 049	1 007	783
Grantham Hospital	214	180	163	138	148	140	166	148	128	113	109
Haven of Hope Hospital	103	65	80	68	77	95	96	86	68	69	66
Kowloon Hospital	84	108	92	97	64	74	105	111	111	108	104
Ruttonjee Hospital	183	170	176	165	127	140	109	122	117	113	123
Wong Tai Sin Hospital	82	105	57	58	86	69	62	47	49	63	39
Other Govt. Institutions (a)	54	64	62	54	51	61	49	53	58	80	70
Other H.A. Hospitals	2 472	2 425	2 364	2 497	2 377	2 578	2 370	2 343	2309	2357	2319
Private Practitioners	57	101	100	109	118	129	122	146	141	139	173
Private Hospitals	348	283	253	226	223	206	198	209	220	219	217
Total	5 193	5 093	4 794	4 858	4 664	4 705	4 418	4 346	4 250	4 268	4 003
% of cases from Chest Clinics among the total	30.7	31.3	30.2	29.8	29.9	25.8	25.8	24.9	24.7	23.6	19.6
% from Chest Hospitals (b)	12.8	12.3	11.8	10.8	10.8	11.0	12.2	11.8	11.1	10.9	11.0
% from Other Public Hospitals	48.6	48.9	50.6	52.5	52.1	56.1	54.8	55.1	55.7	57.1	59.7
% from Private Sector	7.8	7.5	7.4	6.9	7.3	7.1	7.2	8.2	8.5	8.4	9.7

Notes : (a) Sources are from Outpatient Clinics, Public Mortuaries, Prison Hospitals, & Army Hospitals.
(b) Chest Hospitals include Kowloon Hospital, Wong Tai Sin Hospital, Ruttonjee Hospital, Grantham Hospital and Haven of Hope Hospital.
(c) Castle Peak Hospital (Chest Clinic) ceased operation from 1 April 2015.

Appendix 12(b)

Breakdown of Origin of TB Notifications for "Other H.A. Hospitals" 2019

Name of Hospital	No. of TB Notification
Alice Ho Miu Ling Nethersole Hospital	79
Caritas Medical Centre	149
Castle Peak Hospital	0
Hong Kong Buddhist Hospital	9
Kwong Wah Hospital	151
North District Hospital	111
North Lantau Hospital	6
Our Lady of Maryknoll Hospital	14
Pamela Youde Nethersole Eastern Hospital	156
Pok Oi Hospital	89
Prince of Wales Hospital	215
Princess Margaret Hospital	224
Queen Elizabeth Hospital	260
Queen Mary Hospital	116
Shatin Hospital	10
Tai Po Hospital	7
Tin Shui Wai Hospital	15
Tseung Kwan O Hospital	112
Tuen Mun Hospital	223
Tung Wah Eastern Hospital	3
Tung Wah Group of Hospitals Fung Yiu King Hospital	1
Tung Wah Hospital	2
United Christian Hospital	241
Yan Chai Hospital	126
Total	**2 319**

Appendix 13

Tuberculosis Notifications & Notification Rates by District Council District 2019

District Council District	Notification	Notification Rate (per 100 000 pop.)
Hong Kong Island	616	49.4
Central & Western	118	48.5
Wanchai	80	44.4
Eastern	262	47.6
Southern	156	57.4
Kowloon	1 420	61.8
Kowloon City	220	51.6
Kwun Tong	449	64.7
Sham Shui Po	262	61.9
Wong Tai Sin	286	68.1
Yau Tsim Mong	203	60.9
NT (East)	881	44.4
Islands	81	42.9
Northern	146	45.9
Sai Kung/Tseung Kwan O	217	45.7
Shatin	316	45.6
Tai Po	121	39.0
NT (West)	1 039	52.5
Kwai Tsing	337	66.0
Tsuen Wan	115	36.5
Tuen Mun	264	52.5
Yuen Long	323	49.7
Marine	0	-
Unknown	0	-
Others	47	-
Total	**4 003**	**53.3**

Appendix 14

Establishment & Strength of TB & Chest Service
as at 1.12.2019

Post	Establishment	Strength
Consultant Chest Physician i/c	1	1
Consultant Chest Physician	1	0
Senior Medical & Health Officer	7	6
Medical & Health Officer	23	23
Senior Nursing Officer	1	1
Nursing Officer	15	12
Registered Nurse	75	76
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	13
Assistant Clerical Officer	20	22
Clerical Assistant	56	56
Office Assistant	8	6
Workman II	43	43
Senior Radiographer	3	3
Radiographer I	8	8
Radiographer II	22	21
Radiographic Technician	3	3
Darkroom Technician	10	4

Appendix 15
Total Attendances at Chest Clinics
2009 - 2019

Clinic/Hospital	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
East Kowloon Chest Clinic	56 566	58 167	55 678	49 894	51 368	52 449	52 874	54 391	53 160	51 934	44 511
Kowloon Chest Clinic	56 658	56 523	47 693	50 666	52 766	52 423	45 953	45 938	46 887	41 671	39 824
Sai Ying Pun Chest Clinic	36 036	34 502	36 441	36 877	33 892	33 274	36 301	36 622	32 200	33 069	32 981
Shaukiwan Chest Clinic	45 028	41 263	41 804	40 600	42 335	44 417	45 789	42 426	37 176	41 212	36 847
Shaukiwan Pneumoconiosis	8 187	7 719	6 869	6 576	6 137	5 433	4 920	4 806	4 840	4 620	4 415
Shek Kip Mei Chest Clinic	54 933	49 216	49 500	47 853	49 164	51 852	48 142	47 816	47 374	42 544	35 852
South Kwai Chung Chest Clinic	82 044	81 923	75 752	78 785	75 062	73 740	78 403	73 985	67 149	65 577	64 475
Tai Po Chest Clinic	35 492	36 215	37 628	39 318	41 316	32 443	30 988	33 357	32 126	31 641	28 758
Wanchai Chest Clinic	50 461	49 609	48 893	46 777	47 901	49 276	43 900	45 326	42 857	39 552	33 359
Yan Oi Chest Clinic	63 411	67 564	63 333	67 804	64 184	60 278	60 770	61 780	64 016	67 621	67 664
Yaumatei Chest Clinic	70 439	68 633	68 164	62 688	61 905	60 937	57 835	58 938	55 234	50 246	52 632
Yuen Chau Kok Chest Clinic	60 481	58 027	65 627	59 542	67 573	60 396	51 136	56 538	63 228	58 485	53 972
Yung Fung Shee Chest Clinic	74 196	80 444	73 038	74 204	75 140	67 274	65 603	73 857	72 019	70 214	64 832
Castle Peak Hospital (ceased operation from 1 April 2015)	146	149	145	146	124	126	38	-	-	-	-
Cheung Chau Chest Clinic	869	1 206	1 286	1 349	1 356	1 273	1 562	1 139	1 781	1 415	1 317
Sai Kung Chest Clinic	1 745	2 277	1 861	1 546	1 542	1 371	1 513	1 385	1 248	1 383	1 304
Sheung Shui Chest Clinic	22 468	22 303	21 775	17 495	15 308	16 827	15 361	14 113	15 539	13 506	12 853
Tung Chung	5 137	4 433	4 447	4 248	4 303	4 091	4 166	5 554	5 484	4 467	5 247
Yuen Long Chest Clinic	29 935	30 729	30 201	27 413	29 929	27 377	26 361	26 427	26 369	26 911	26 097
Hei Ling Chau ATC	344	303	202	190	240	162	127	117	130	121	82
Lai Chi Kok Reception Centre	379	303	330	365	279	250	278	234	245	242	192
Shek Pik Prison Hospital	201	186	94	140	192	184	199	189	159	152	113
Stanley Prison Hospital	719	687	688	529	488	443	360	367	282	234	208
Total	**755 875**	**752 381**	**731 449**	**715 005**	**722 504**	**696 296**	**672 579**	**685 305**	**669 503**	**646 817**	**607 535**

Appendix 16

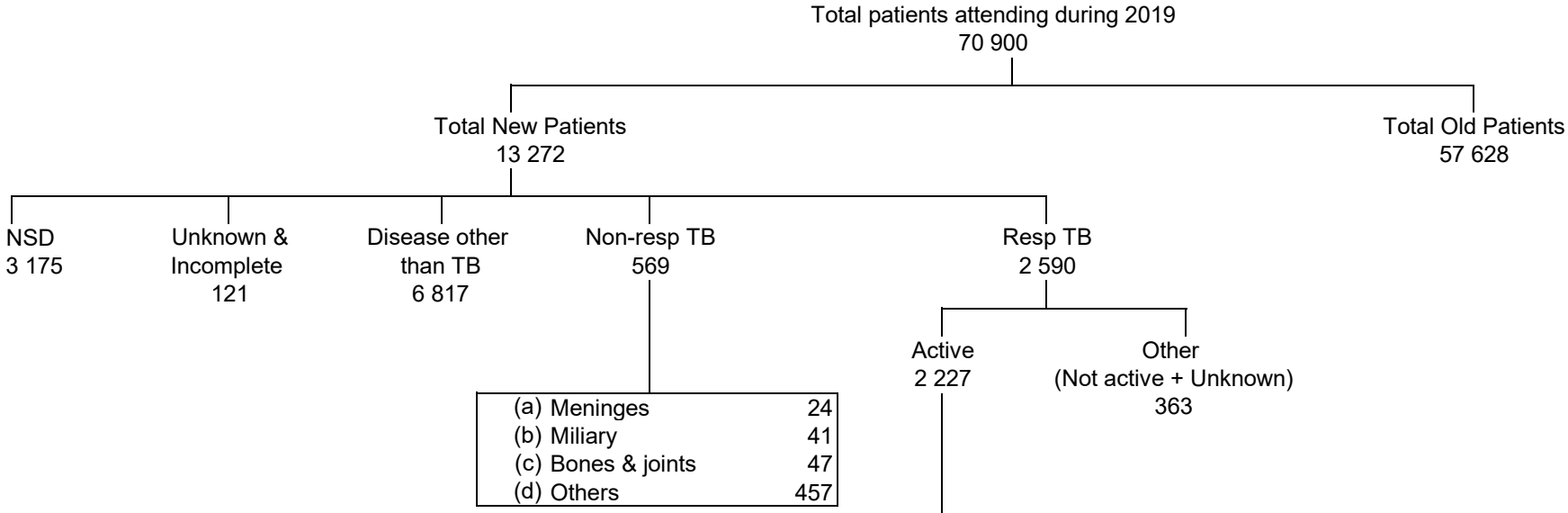
No. of Doctor Sessions, Cases Seen by Doctor and Patient/Doctor Session 2019

Clinic/Hospital	Doctor Sessions	Cases Seen by Doctor	Patient/Doctor Session
Full Time Clinics			
East Kowloon	499	10 640	21
Kowloon	551	10 776	20
Pneumoconiosis	348	4 420	13
Sai Ying Pun	604	10 014	17
Shaukeiwan	504	8 737	17
Shek Kip Mei	521	6 118	12
South Kwai Chung	945	18 481	20
Tai Po	495	6 862	14
Wanchai	521	9 407	18
Yan Oi	863	18 386	21
Yaumatei	713	12 744	18
Yuen Chau Kok	802	15 427	19
Yung Fung Shee	656	13 732	21
Sub-total	**8 022**	**145 744**	**18**
Part Time Clinics			
Cheung Chau	18	161	9
Sai Kung	50	573	11
Sheung Shui	290	3 148	11
Tung Chung	150	1 480	10
Yuen Long	392	5 851	15
Sub-total	**900**	**11 213**	**12**
Institutions Correctional Services Department			
Hei Ling Chau	13	82	7
Lai Chi Kok Reception Center	26	131	5
Shek Pik	12	113	9
Stanley Prison	13	208	16
Sub-total	**64**	**534**	**8**
Total	**8 986**	**157 491**	**18**

Note: Doctor Session - one doctor of a half-day session

Appendix 17

Flow Chart of Patients Attending Chest Clinics 2019



Bacteriology Sputum Culture	Extent	Number
Negative	Minimal	275
	Moderate	87
	Extensive	32
	Not Recorded	62
Positive	Minimal	768
	Moderate	450
	Extensive	275
	Not Recorded	46
Incomplete	Minimal	89
	Moderate	33
	Extensive	17
	Not Recorded	93

Bacteriology Sputum Culture	Cavity	Number
Negative	Yes	50
	No	406
Positive	Yes	394
	No	1 145
Incomplete	Yes	34
	No	198

* A total of 70 900 patients attended, comprising 57 628 old cases and 13 272 new cases. Among new cases, 2 590 had respiratory TB with 2 227 being active, 569 had non-respiratory TB, 6 817 had diseases other than TB, 121 had unknown and incomplete diagnoses, and 3 175 had NSD (no specific diagnosis). Of the 569 new cases with non-respiratory TB, 24 had TB affecting meninges, 41 had miliary TB, 47 had TB affecting bones and joints, and 457 had TB affecting other sites.

Appendix 18

Classification of Patients of First Attendance with New Case Card Completed by Clinics According to International Classification of Diseases Code 2019

Code		Classification	Total
ICD 9	ICD 10		
010	A15.7, A16.7	Primary Tuberculosis Infection	2
011	A15.0-15.3, A16.0-16.2	Pulmonary Tuberculosis	2 023
012	A15.4-15.6, A15.8-15.9, A16.3-16.5, A16.8-16.9	Other Respiratory Tuberculosis	254
013	A17.0-17.1	Tuberculosis of Nervous System	24
014	A18.3	Tuberculosis of Intestines	51
015	A18.0	Tuberculosis of Bones & Joints	47
016	A18.1	Tuberculosis of Genito-urinary System	25
017	A18.2, A18.4-18.8	Tuberculosis of Other Organs	319
018	A19.0-19.2, A19.8-19.9	Miliary Tuberculosis	41
137	B90.0-90.2, B90.8-90.9	Late effects of Tuberculosis	363
160-165	C30-39, C34.0-34.3, C34.8-34.9	Malignant Neoplasm of Respiratory System	72
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	423
470-478	J30-39, J30.0-30.4, J39.8-39.9	Other Diseases of Upper Resp Tract	12
480-486	J12-18, J12.9, J15.0-15.2, J15.5-15.9	Pneumonia	35
487	J09, J10.0-10.1, J10.8, J11.0-11.1, J11.8	Influenza	11
490-491	J40, J41.0-41.1, J41.8, J42	Bronchitis, (not specified as acute or chronic) & chronic brochitis	810
492	J43, J43.0-43.2, J43.8-43.9	Emphysema	9
493	J45, J45.0-45.1, J45.8-45.9, J46	Asthma	23
494	J47	Bronchiectasis	134
495-496	J44, J44.0-44.1, J44.8-44.9	Others	15
501	J61	Asbestosis	5
502	J62, J62.0, J62.8	Silicosis	28
505	J64	Pneumoconiosis, unspecified	2
506-508	J63	Others	0
510	J86	Pyothorax (Empyema)	0
511	J90	Pleurisy	24
512	J93, J93.0-93.1, J93.8-93.9	Pneumothorax	4
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†)]	Other Diseases of Respiratory System	0
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	Unknown	1 840
V71	Z00.0, Z01.6, Z02, Z02.1-02.2, Z02.6-02.9, Z11.1, Z71.1	N.S.D.	3 175
		Diseases Other than TB & Resp System	3 501
Total			13 272

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

Appendix 19 (a)

Extent of Active Respiratory TB in First Attenders at Chest Clinics 2017-2019

Extent *	2017		2018		2019	
	No.	%	No.	%	No.	%
1. Minimal	777	35.0	1 031	44.9	1 132	50.8
2. Moderate	472	21.3	457	19.9	570	25.6
3. Extensive	238	10.7	321	14.0	324	14.5
4. Not Recorded	730	32.9	486	21.2	201	9.0
Total	2 217	100.0	2 295	100.0	2 227	100.0
No. of first attenders	19 715		16 239		13 272	
% of active TB	11.2		14.1		16.8	

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

Percentage on Sputum Results of Active TB in First Attenders at Chest Clinics 2019

	Number	%
Smear +	590	26.5
Smear - Culture +	926	41.6
Smear - Culture -	441	19.8
Incomplete	270	12.1
Total	2 227	100.0

APPENDIX 19 (b1)

Rate of Drug-resistant Tuberculosis

Among cases registered during the period January to December 2019 *(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	≥ 3 drugs			
0 - 19	New cases	0.00	0.00	2.13	4.26	6.38	0.00	2.13	2.13	8.51	47
	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	2.13	4.26	6.38	0.00	2.13	2.13	8.51	47
20 - 39	New cases	0.00	0.24	2.68	5.37	8.29	3.17	1.22	1.71	12.68	410
	Previously treated cases	0.00	0.00	0.00	22.22	22.22	11.11	22.22	33.33	55.56	9
	Overall	0.00	0.24	2.63	5.73	8.59	3.34	1.67	2.39	13.60	419
40 - 59	New cases	0.32	0.00	1.94	3.88	6.14	2.91	0.97	0.81	10.02	619
	Previously treated cases	0.00	0.00	2.70	8.11	10.81	5.41	2.70	2.70	18.92	37
	Overall	0.30	0.00	1.98	4.12	6.40	3.05	1.07	0.91	10.52	656
60 up	New cases	0.00	0.00	2.41	5.49	7.90	1.91	0.31	0.25	10.12	1621
	Previously treated cases	0.00	0.00	7.52	6.02	13.53	8.27	0.00	0.00	21.80	133
	Overall	0.00	0.00	2.79	5.53	8.32	2.39	0.29	0.23	11.00	1754
All	New cases	0.07	0.04	2.34	5.08	7.53	2.30	0.63	0.63	10.46	2 697
	Previously treated cases	0.00	0.00	6.15	7.26	13.41	7.82	1.68	2.23	22.91	179
	Overall	0.07	0.03	2.57	5.22	7.89	2.64	0.70	0.73	11.23	2 876

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 (b2)

Rate of Drug-resistant Tuberculosis

Among cases with date of starting treatment during the period January to December 2019

	New case		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	2 697	100	179	100	2 876	100
Susceptible to all 4 drugs	2 415	89.54	138	77.09	2 553	88.77
Any resistance	282	10.46	41	22.91	323	11.23
H	141	5.23	28	15.64	169	5.88
R	19	0.70	4	2.23	23	0.80
E	12	0.44	3	1.68	15	0.52
S	208	7.71	28	15.64	236	8.21
Monoresistance	203	7.53	24	13.41	227	7.89
H	63	2.34	11	6.15	74	2.57
R	1	0.04	0	0.00	1	0.03
E	2	0.07	0	0.00	2	0.07
S	137	5.08	13	7.26	150	5.22
Multidrug resistance	17	0.63	4	2.23	21	0.73
H+R	2	0.07	1	0.56	3	0.10
H+R+E	3	0.11	0	0.00	3	0.10
H+R+S	10	0.37	1	0.56	11	0.38
H+R+E+S	2	0.07	2	1.12	4	0.14
Other patterns	62	2.30	13	7.26	75	2.61
H+E	2	0.07	1	0.56	3	0.10
H+S	57	2.11	12	6.70	69	2.40
H+E+S	2	0.07	0	0.00	2	0.07
R+E	1	0.04	0	0.00	1	0.03
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	2 415	89.54	138	77.09	2 553	88.77
1 drug	203	7.53	24	13.41	227	7.89
2 drugs	62	2.30	14	7.82	76	2.64
3 drugs	15	0.56	1	0.56	16	0.56
4 drugs	2	0.07	2	1.12	4	0.14

Appendix 19 (c1)

Trend of anti-TB drug resistance (2000-2019)*

New cases

(Percentages)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Ethambutol	0.54	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
Rifampicin	0.61	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
Isoniazid	5.21	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
Streptomycin	7.78	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
MDR-TB	0.47	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
Total % resistance	10.35	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

Previously treated cases

(Percentages)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Ethambutol	2.68	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
Rifampicin	5.98	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
Isoniazid	15.26	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
Streptomycin	13.81	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
MDR-TB	5.36	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
Total % resistance	20.41	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

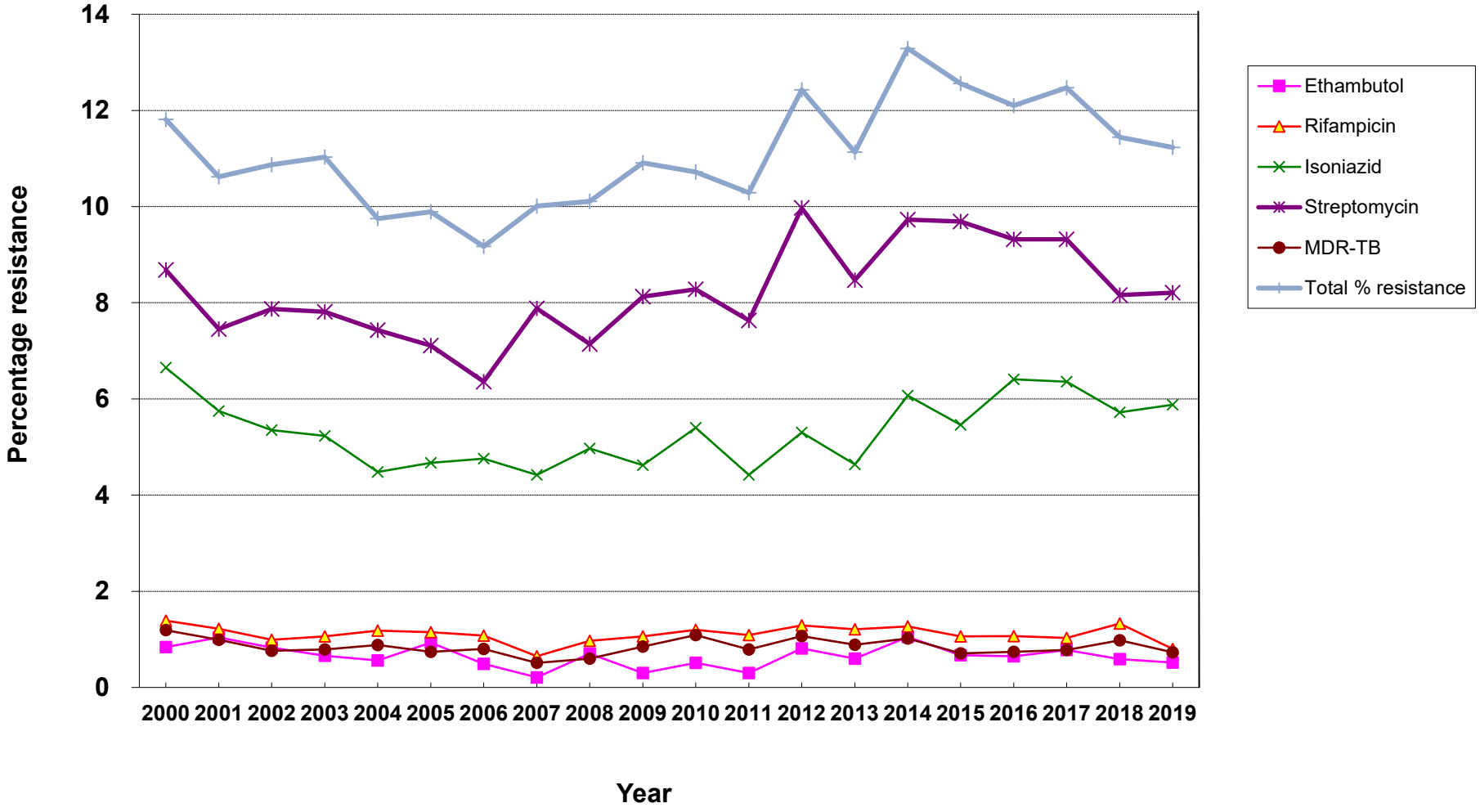
Overall

(Percentages)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Ethambutol	0.84	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
Rifampicin	1.39	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
Isoniazid	6.65	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
Streptomycin	8.68	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
MDR-TB	1.19	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
Total % resistance	11.81	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

*2000 - 2015: Data from Programme Record Forms; 2016 - 2019: Data from Public Health Laboratory Centre

Appendix 19 (c2)

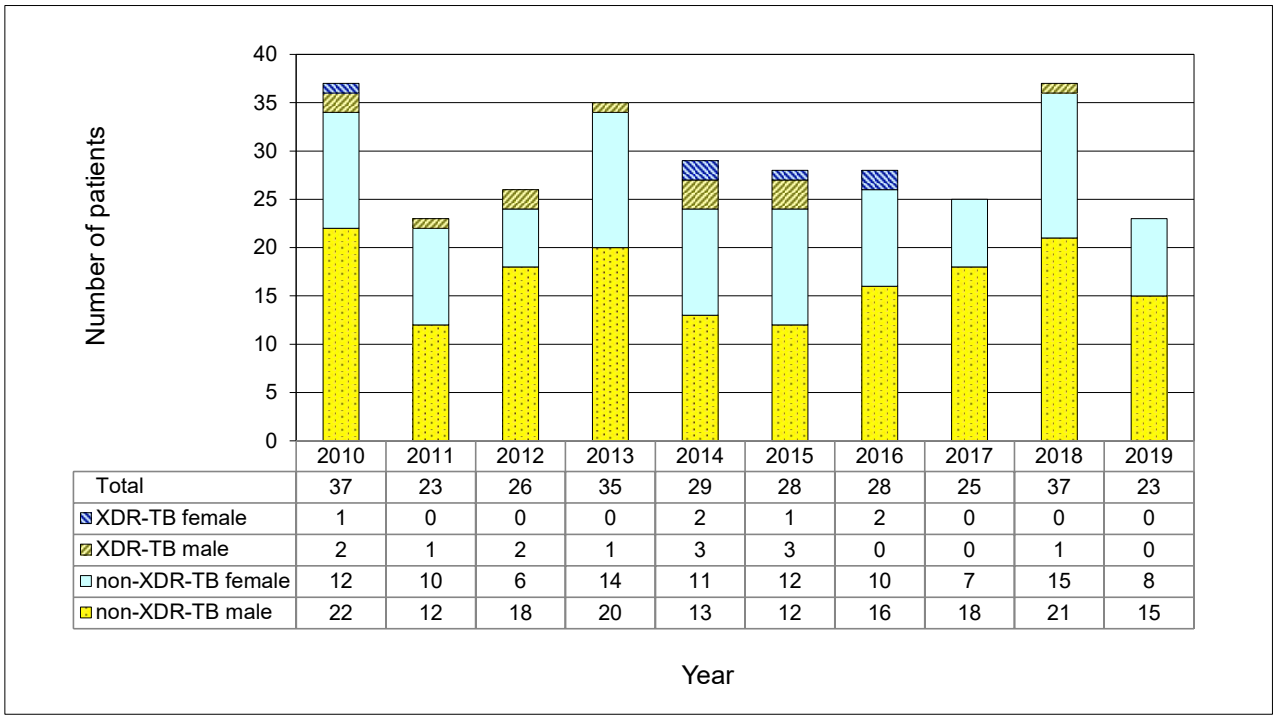
Trend of anti-TB drug resistance (2000-2019) (Overall)



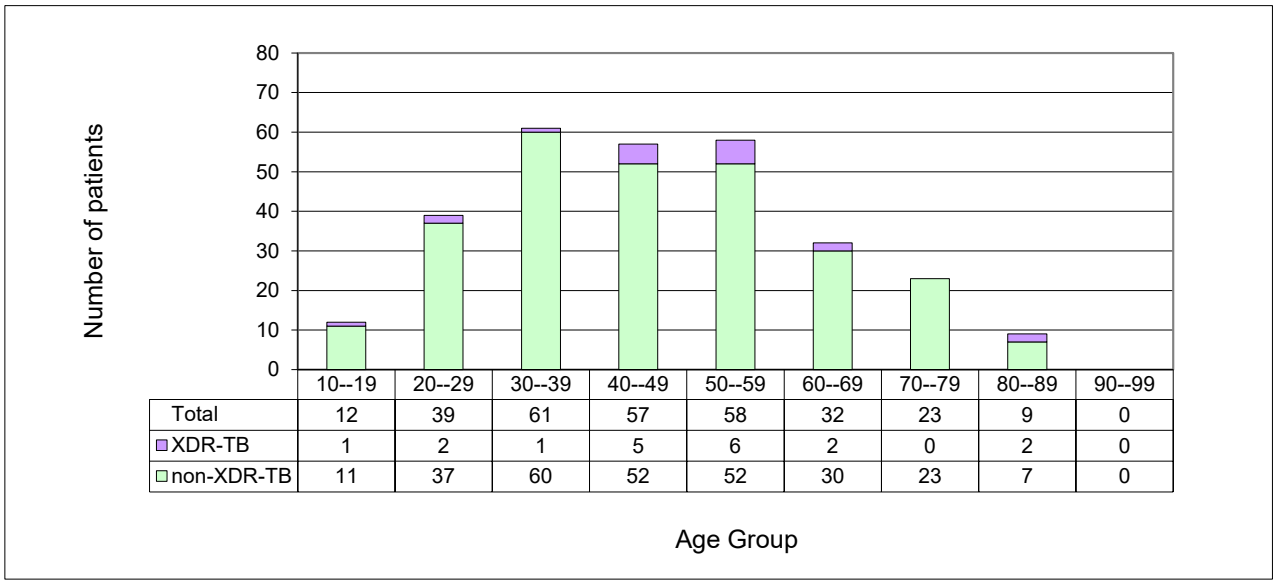
Appendix 19 (d)

MDR-TB and XDR-TB by Sex and Year (Upper Graph) and by Age (Lower Graph) (2010-2019)

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., patient died, or no effective second-line drugs are available for treatment), it is defined as the year of reporting MDR-TB.



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total	37	23	26	35	29	28	28	25	37	23
XDR-TB female	1	0	0	0	2	1	2	0	0	0
XDR-TB male	2	1	2	1	3	3	0	0	1	0
non-XDR-TB female	12	10	6	14	11	12	10	7	15	8
non-XDR-TB male	22	12	18	20	13	12	16	18	21	15



	10--19	20--29	30--39	40--49	50--59	60--69	70--79	80--89	90--99
Total	12	39	61	57	58	32	23	9	0
XDR-TB	1	2	1	5	6	2	0	2	0
non-XDR-TB	11	37	60	52	52	30	23	7	0

Definitions: MDR-TB = multidrug-resistant tuberculosis [resistant to at least isoniazid and rifampicin]

XDR-TB = extensively drug-resistant tuberculosis [resistant to any fluoroquinolone, and at least one of the three injectable second-line drugs (capreomycin, kanamycin, and amikacin), in addition to MDR-TB]

NB: In the above graphs, non-XDR-TB refers to MDR-TB excluding XDR-TB cases.

Since 2014, MDR-TB cases have been counted according to the year of TB notification

Appendix 20 (a)
Treatment Return 2019

Service Regimen																												
Name of Clinic/Hospital	No. put on Rx b/f	Bought 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. >2M <3M
		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	%				
	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	165	100	4	8	101	52	6	41	166	6	84.8	38	14	1	14	0	5	3	3	1	1	7	3.7	124	4	64	0
Kowloon	157	95	14	6	107	30	4	35	141	1	82.2	13	17	0	22	1	6	1	4	0	1	3	1.9	160	0	51	0
South Kwai Chung	191	132	1	5	181	36	2	48	222	0	88.8	27	12	0	18	2	6	2	2	0	5	1	2.0	199	5	23	0
Sai Ying Pun	80	59	8	7	80	43	2	16	125	3	86.5	37	6	1	6	2	10	0	1	0	0	0	0.0	68	0	22	3
Shaukeiwan	118	68	7	7	60	16	4	28	112	1	94.6	12	15	0	1	0	6	2	0	0	0	0	0.0	95	1	28	0
Shek Kip Mei	65	73	5	4	75	22	3	19	139	2	81.0	9	15	0	18	0	8	1	1	0	5	3	4.1	21	0	61	4
Tai Po	102	74	2	1	64	13	2	28	95	0	93.2	2	8	0	7	1	0	0	0	0	0	1	0.8	112	0	3	0
Wanchai	61	69	4	3	69	40	0	42	78	2	84.5	15	7	0	6	0	11	0	2	0	1	0	0.7	82	0	16	0
Yan Oi	212	138	7	8	152	37	8	29	220	2	86.2	19	8	0	17	2	9	5	3	0	0	7	2.4	225	21	82	0
Yaumatei	181	84	18	9	119	40	3	25	158	2	80.6	17	22	1	16	4	11	4	2	0	0	9	4.0	177	1	42	0
Yuen Chau Kok	172	119	1	6	117	23	2	41	157	2	86.8	17	15	0	11	0	10	0	7	0	0	0	0.0	176	0	43	0
Yung Fung Shee	175	153	4	10	151	34	4	73	210	1	91.3	26	7	0	15	0	4	0	2	0	0	5	1.6	180	5	77	0
Sub-total	1 679	1 164	75	74	1 276	386	40	425	1 823	22	86.6	232	146	3	151	12	86	18	27	1	13	36	1.9	1 619	37	512	7
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	2	0	0	0	0	1	0	0	1	0	100.0	1	1	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0
Sai Kung	10	8	0	1	4	0	1	2	7	0	81.8	0	2	0	0	1	1	0	0	0	0	0	0.0	9	0	1	0
Sheung Shui	69	35	1	0	48	13	3	13	58	0	79.8	8	5	0	8	0	1	0	2	0	6	1	7.9	61	0	50	0
Tung Chung	24	20	0	2	24	8	1	15	21	0	87.8	3	3	0	3	0	1	0	0	0	0	1	2.4	30	0	26	0
Yuen Long	139	63	1	1	63	19	1	18	137	0	84.7	11	3	0	12	0	4	0	2	0	6	4	5.5	88	0	112	0
Sub-total	244	126	2	4	139	41	6	48	224	0	83.7	23	14	0	23	1	7	0	4	0	12	6	5.5	188	0	189	0
Institutions Correctional Services Department																												
Hei Ling Chau	4	5	2	0	0	0	0	3	0	0	42.9	1	1	1	0	0	4	0	0	0	0	0	0.0	1	0	0	0
Stanley Prison	3	9	0	0	0	0	0	0	0	0	0.0	0	1	0	0	3	0	0	3	1	0	0	14.3	4	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	7	14	2	0	0	0	0	3	0	0	21.4	1	2	1	0	3	4	0	3	1	0	0	7.1	5	0	0	0
Total	1 930	1 304	79	78	1 415	427	46	476	2 047	22	86.0	256	162	4	174	16	97	18	34	2	25	42	2.4	1 812	37	701	7

Appendix 20 (b)
Treatment Return 2019

Other Regimen																												
Name of Clinic/Hospital	No. put on Rx b/f	Bought 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. >2M <3M
		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	%				
	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	46	26	0	2	21	13	5	6	27	0	73.3	10	0	0	9	0	1	0	0	0	0	2	4.4	48	1	23	0
Kowloon	22	8	1	3	21	7	0	3	20	2	74.2	5	3	0	4	0	0	0	0	1	0	1	6.5	23	0	11	0
South Kwai Chung	72	6	0	2	44	8	0	6	30	0	80.0	6	2	0	8	0	0	0	0	0	1	0	2.2	79	0	12	0
Sai Ying Pun	53	2	1	2	23	8	0	0	10	0	76.9	5	3	0	3	0	0	0	0	0	0	0	0.0	68	0	2	2
Shaukeiwan	25	4	0	0	26	5	0	3	20	2	85.2	7	5	0	2	0	0	0	0	0	0	0	0.0	21	1	13	0
Shek Kip Mei	126	15	2	1	23	8	0	2	28	0	78.9	5	3	0	7	0	1	0	0	0	0	0	0.0	129	0	9	1
Tai Po	13	2	0	1	8	5	0	3	11	0	93.3	1	0	0	1	0	0	0	0	0	0	0	0.0	13	0	0	0
Wanchai	29	5	1	0	18	6	1	3	9	4	60.0	4	2	0	1	1	2	0	0	0	0	0	0.0	32	0	4	0
Yan Oi	56	7	0	0	41	6	2	2	34	3	64.3	7	3	0	7	1	2	1	1	0	1	5	10.7	41	0	10	0
Yaumatei	31	2	3	4	25	8	3	1	27	2	70.0	2	2	0	6	0	2	1	0	0	0	2	5.0	25	1	8	0
Yuen Chau Kok	23	13	0	0	22	1	0	3	23	2	76.5	0	1	0	5	0	1	0	0	0	0	0	0.0	24	0	11	0
Yung Fung Shee	86	5	2	0	20	7	1	1	23	1	75.0	7	0	0	3	0	0	0	1	1	0	2	9.4	80	1	10	0
Sub-total	582	95	10	15	292	82	12	33	262	16	74.5	59	24	0	56	2	9	2	2	2	2	12	4.0	583	4	113	3
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	1	0	0	0	1	0	0	0	2	0	100.0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0
Sai Kung	1	0	0	0	0	1	0	0	0	0	0.0	0	0	0	1	0	0	0	0	0	0	0	0.0	1	0	0	0
Sheung Shui	13	4	1	3	7	1	0	1	8	0	69.2	2	1	1	2	0	0	0	0	0	2	0	15.4	12	0	5	0
Tung Chung	0	0	1	1	6	0	0	0	2	1	66.7	0	1	0	0	0	0	1	0	0	0	0	0.0	3	0	4	0
Yuen Long	28	6	1	1	23	2	0	2	18	1	71.4	5	1	0	3	0	0	0	1	0	2	1	10.7	27	0	14	0
Sub-total	43	10	3	5	37	4	0	3	30	2	70.2	7	3	1	6	0	0	1	1	0	4	1	10.6	43	0	23	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	625	105	13	20	329	86	12	36	292	18	74.0	66	27	1	62	2	9	3	3	2	6	13	4.7	626	4	136	3

Appendix 20 (c)

Explanatory Notes for Appendices 20(a) & 20(b)

Name of clinic/hospital	Service regimen / Other regimens *																									
	b/f	Brought in					Treatment completed					Transfer out to		Interrup. Rx temp.	Died	Drop out				Complete defaulter				Number still on Rx c/f	Unsup. Rx	Incomp. Super. Rx	No. Def. >2m, <3m
												hospi-tal	other cc			Rx by GP	Leave HK	Def. >1x	AMA	<2M	>2M, <3M	>3M	%				
							<6M	at 6M	>6M	NTM	%																
	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

$$\% = \frac{H + I}{A + B + C + D + E + F - G - K - L - M - Q - W} \Rightarrow$$

$$V = \frac{S + T + U}{A + B + C + D + E + F - G - K - L - M - Q - W} \Rightarrow$$

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

* 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.

Appendix 20 (d)

Explanatory Notes For Appendices 20(a) and 20(b)

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 on 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 month of treatment.

Incomp. super. Rx:
(Y) - Treatment incompletely supervised, including:
  - Treatment supervised by non-clinic staff, e.g., CNS, old aged home staff, Vietnamese camp, 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 cases who have been 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)

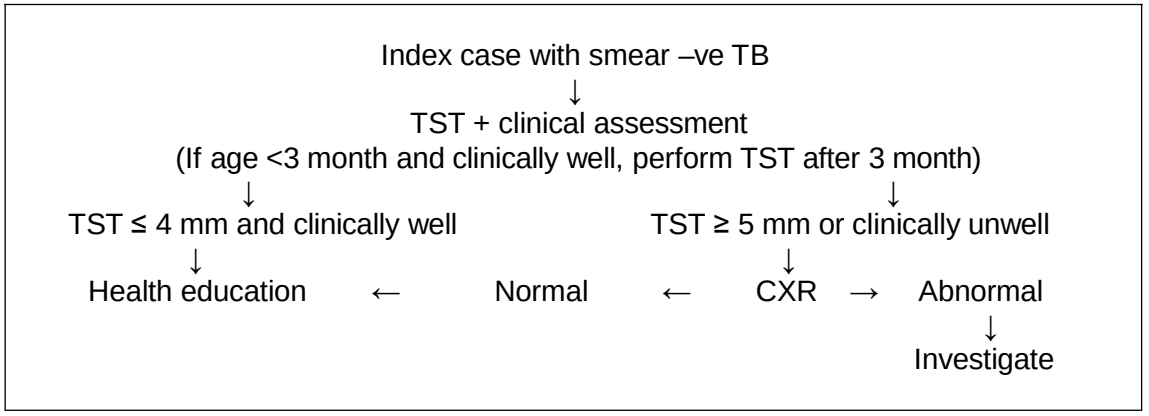
Scheme for Investigation of Close Contacts (Household) in the Tuberculosis & Chest Service, Department of Health

(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 case *



* 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)

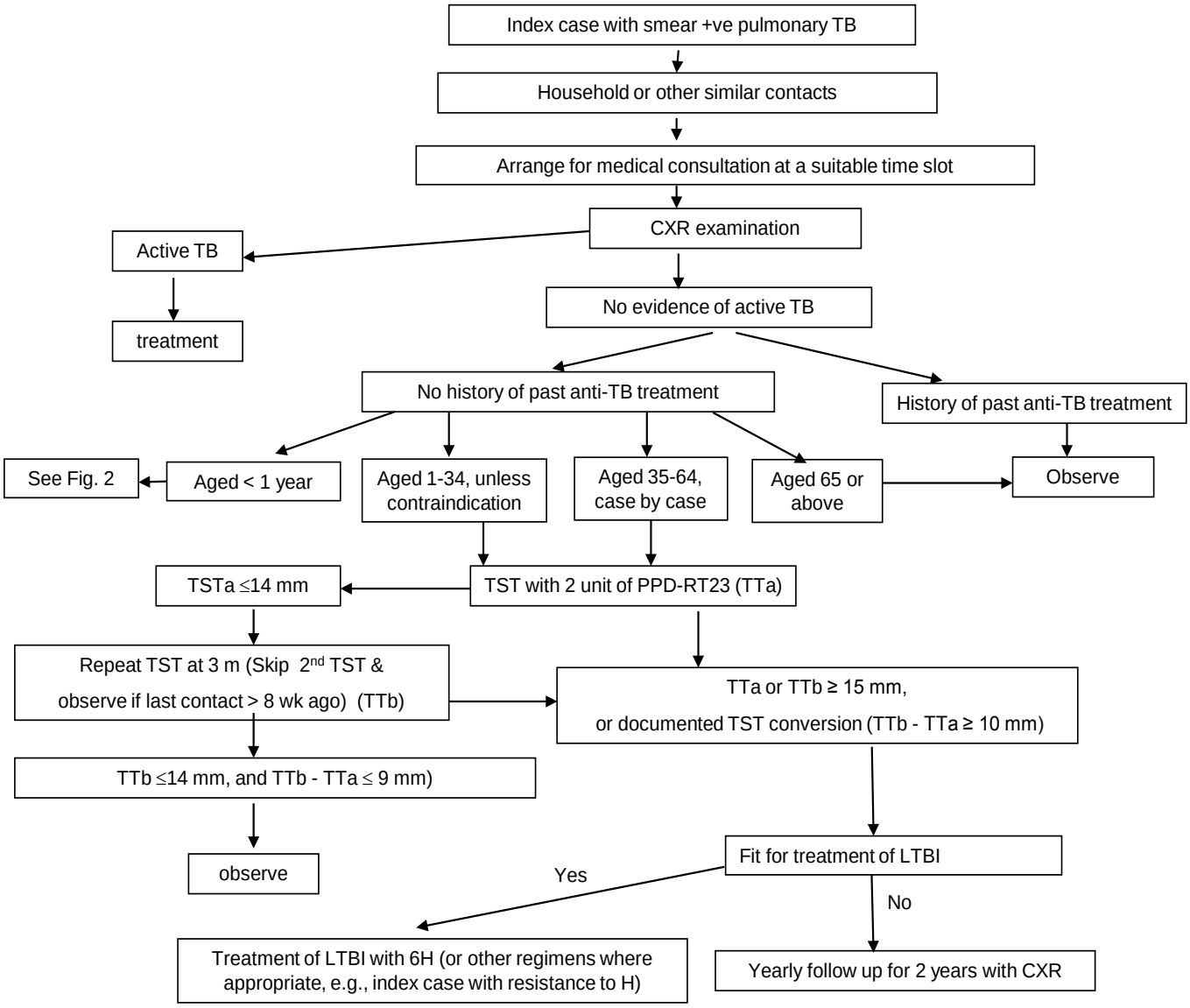


Figure 1: General schema for targeted screening of household contacts of smear-positive pulmonary TB patients

* 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 App 21b2. 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.

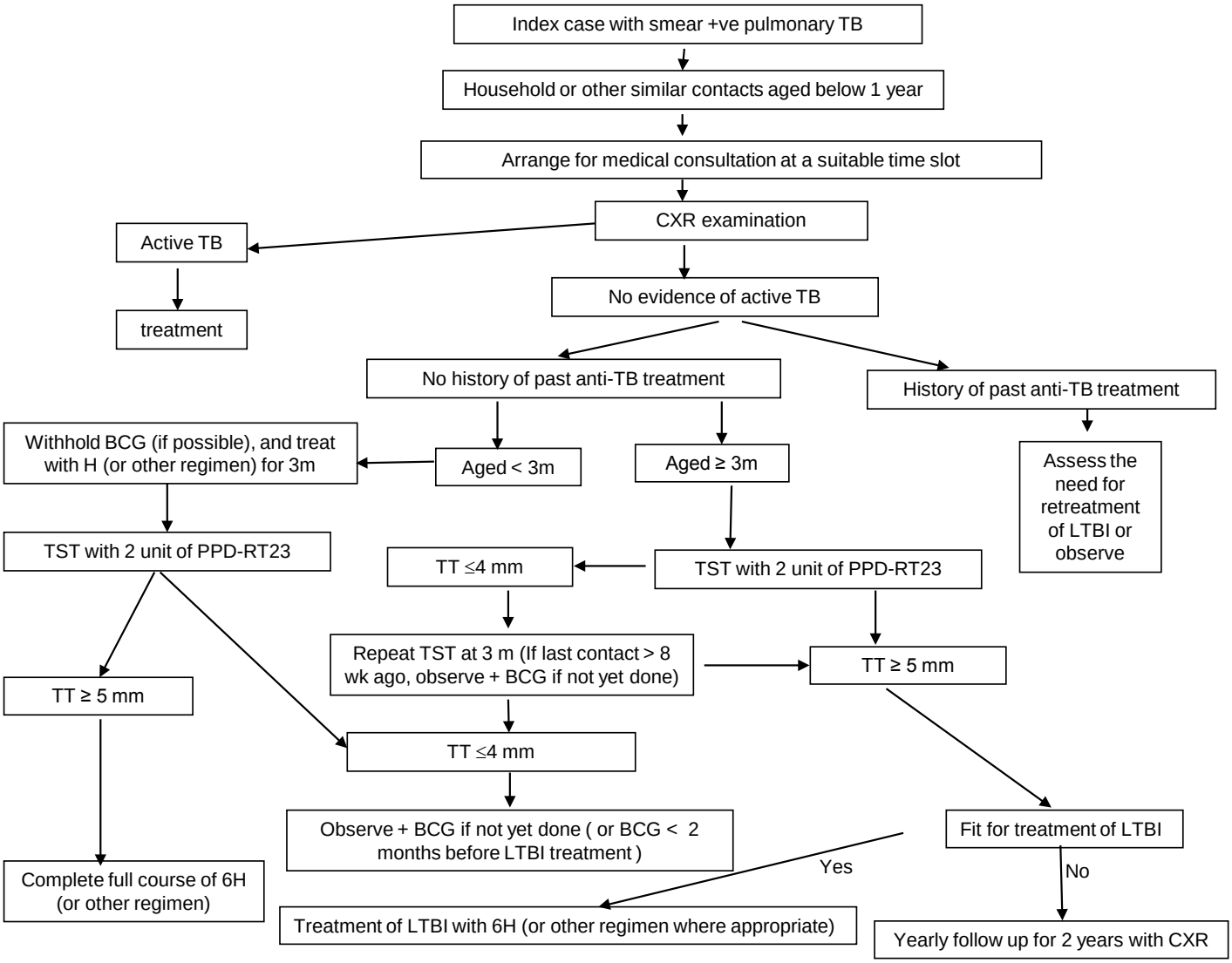


Figure 2: Targeted screening of household contacts aged below one year

* 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 2019

Particulars	Smear Positive Index Cases	Smear Negative Index Cases	Total
No. of patients (new & old) listed	939	2 860	3 799
No. of contacts listed	2 262	6 835	9 097
Number of contacts x-rayed	2 262 (100.00%)	6 835 (100.00%)	9 097 (100.00%)
Results			
(a) NSD & Unknown	2 098 (92.75%)	6 539 (95.67%)	8 637 (94.94%)
(b) Disease other than TB	84 (3.71%)	197 (2.88%)	281 (3.09%)
(c) Inactive respiratory TB	27 (1.19%)	30 (0.44%)	57 (0.63%)
(d) Active respiratory TB			
A (radiologically)	9 (0.40%)	9 (0.13%)	18 (0.20%)
B (bacteriogically)	9 (0.40%) > 23 (1.02%)	11 (0.16%) > 28 (0.41%)	20 (0.22%) > 51 (0.56%)
C (incomplete)	5 (0.22%)	8 (0.12%)	13 (0.14%)
(e) Non-respiratory TB	2 (0.09%)	2 (0.03%)	4 (0.04%)
(f) Result not yet known	28 (1.24%)	39 (0.57%)	67 (0.74%)

Appendix 22 (a)

Scheme for BCG Administration in Hong Kong 2019

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

Notes: (1) Freeze dried BCG from Statens Serum Institut of Denmark being used

(2) Any child with symptoms and/or BCG complications should be seen by a doctor

Appendix 22 (b)

BCG Vaccinations at Birth 2019

Institution		No. of Live-births	BCG Vaccination	% Vaccinated
Hospital under HA management	P.Y. Nethersole East	2 428	2 417	99.5
	Queen Mary	3 623	3 544	97.8
Private Hospital	Canossa	559	553	98.9
	Gleneagles H.K. Hospital	294	289	98.3
	H.K. Adventist	290	278	95.9
	H.K. Sanatorium	2 946	2 901	98.5
	Matilda International	793	738	93.1
	St. Paul's	1 392	1 384	99.4
Total (HK Island)		12 325	12 104	98.2
Hospital under HA management	Kwong Wah	4 004	3 990	99.7
	Queen Elizabeth	5 559	5 474	98.5
	United Christian	3 473	3 454	99.5
Private Hospital	H.K. Baptist	1 871	1 861	99.5
	St. Teresa's	4 389	4 319	98.4
	Precious Blood	660	651	98.6
Total (Kowloon)		19 956	19 749	99.0
Hospital under HA management	Alice H.M.L. Nethersole	-	-	-
	Prince of Wales	5 981	6 017	100.6 *
	Princess Margaret	4 146	4 105	99.0
	Tuen Mun	5 024	5 013	99.8
Private Hospital	T.W. Adventist	1 455	1 441	99.0
	Shatin Int'l Medical Ctr Union	3 963	3 914	98.8
Total (NT Areas)		20 569	20 490	99.6
Mother & Child Health Centre		-	89	-
Grand Total		52 850	52 432	99.2

Note: * Including vaccinations of live births transferred from other maternity institutions and vaccinations of live births at end of 2018

Appendix 23

TB and Chest Beds in Public Services 2019

Hospital		No. of TB and Chest Beds
Hospital Authority	Grantham Hospital	121
	Kowloon Hospital	107
	Ruttonjee Hospital	134
	Haven of Hope Hospital	129
	Wong Tai Sin Hospital	71
	Total (Hospital Authority)	562
Custody	Stanley Prison Hospital	20
Grand Total (2019)		582
Grand Total (2018)		599
Grand Total (2017)		598

Appendix 24

Annual Admissions to Hospitals from Government Chest Clinics 2008 - 2019

Year	Total Admissions
2008	3 170
2009	3 345
2010	3 330
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

Admissions by Clinic	Year 2019
East Kowloon	239
Kowloon	79
Sai Ying Pun	218
Shaukeiwan	139
Shaukeiwan Pneumoconiosis	46
Shek Kip Mei	27
South Kwai Chung	258
Tai Po	60
Tung Chung	19
Wanchai	79
Yan Oi	191
Yaumatei	120
Yuen Chau Kok	261
Yung Fung Shee	169
Cheung Chau	2
NT Unit	74
Total	1 981

Appendix 25

HIV Surveillance Among TB Patients

Provider-initiated HIV Antibody Testing Among TB Patients in Government Chest Clinics (2005 – 2019)

Year	HIV positive		HIV negative		HIV results unknown or not done		Total	
	Number	%	Number	%	Number	%	Number	%
2005	35	0.7%	4174	80.5%	973	18.8%	5182	100%
2006	33	0.7%	4478	90.4%	445	9.0%	4956	100%
2007	41	0.9%	4034	87.8%	517	11.3%	4592	100%
2008	48	1.0%	4073	88.8%	464	10.1%	4585	100%
2009	40	0.9%	3953	88.1%	496	11.0%	4489	100%
2010	28	0.7%	3805	89.5%	418	9.8%	4251	100%
2011	33	0.8%	3623	89.7%	381	9.4%	4037	100%
2012	22	0.5%	3685	90.7%	357	8.8%	4064	100%
2013	24	0.6%	3512	87.6%	473	11.8%	4009	100%
2014	23	0.6%	3322	87.5%	450	11.9%	3795	100%
2015	24	0.7%	3266	90.4%	322	8.9%	3612	100%
2016	28	0.8%	3244	91.3%	283	8.0%	3555	100%
2017	31	0.9%	3225	93.0%	211	6.1%	3467	100%
2018	23	0.6%	3336	93.1%	225	6.3%	3584	100%
2019	33	1.0%	3067	92.9%	194	5.9%	3301	100%

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 (1997 – 2019)

Year	Number
1997	10
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

'Confirmed' Cases of TB in Health Care Staff Notified
to Labour Department (2019) by Age and Job Title

Age Group	Doctor	Nurse	Other Allied Health Professional	Other Supporting Staff	Total
20 – 24					
25 – 29					
30 – 34	1	1			2
35 – 39		1			1
40 – 44					
45 – 49				1	1
50 – 54					
55 – 59					
60 – 64					
65 – 69				1	1
70 – 74					
Total	1	2	0	2	5

Appendix 27
Cohorts of TB Patients

Treatment outcomes for TB cases registered in 2018 calendar year (number of patients)*

	Number of cases registered in 2018 **		Cured or treatment completed		Treatment failed		Died		Lost to follow-up (defaulted)		Not evaluated ***	
All new and relapse cases (bacteriologicaly confirmed or clinically diagnosed, pulmonary or extrapulmonary)	4 191	100.00%	3 109	74.18%	1	0.02%	664	15.84%	136	3.25%	281	6.70%
HIV-positive TB cases, all types	26	100.00%	16	61.54%	0	0.00%	1	3.85%	1	3.85%	8	30.77%

NB:
* Treatment outcomes as at March 2020
**Excludes cases moved to second-line treatment (i.e., excluding rifampicin-resistant cases) and HIV-positive cases.
*** "Not evaluated" includes "transferred out", "still on treatment" and any other registered cases where the treatment outcome has not been evaluated.

Treatment outcomes for TB cases started on second-line TB treatment in 2017 calendar year (number of patients)*

	Number of cases started on second-line TB treatment in 2017		Cured or treatment completed		Treatment failed		Died		Lost to follow-up (defaulted)		Not evaluated ****	
All confirmed RR-TB/ MDR-TB cases	29	100.00%	24	82.76%	0	0.00%	0	0.00%	1	3.45%	4	13.79%
All confirmed XDR-TB cases *****	0	0.00%	0	0.00%	0	0.00%	0	#DIV/0!	0	0.00%	0	0.00%

NB:
**** "Not evaluated" includes "transferred out", "still on treatment" and any other registered cases where the treatment outcome has not been evaluated.
***** Excluding all confirmed RR-TB/ MDR-TB cases which are not XDR-TB cases.

Part 2

PNEUMOCONIOSIS

Part 2 - Pneumoconiosis : Contents

Appendix No.

Appendix 1
New Cases of Suspected Pneumoconiosis/Mesothelioma attending
the Pneumoconiosis Clinic in Hong Kong 1956 - 2019

Year	Number of New Cases Undergoing Assessment							Cumulative Total	Cumulative Total of patients Confirmed by the Board		
	Government Workers	Non-government Workers	Total	Number of cases confirmed by the Board					R1		R2
				(b)	(e)	(f)					
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					1017			
1978	12	207	219					1236			
1979	2	210	212					1448			
1980	12	532	544 (a)					1992	386 (a)		-
1981	8	608	616					2608	1332		162
1982	4	511	515					3123	1434		634
1983	2	292	294					3417	1469		945
1984	1	231	232					3649	1477		1140
1985	1	179	180					3829	1479		1322
1986	3	176	179	(3)		(188)		4008	1485		1513
1987	4	166	170	(2)		(164)		4178	1485		1679
1988	6	172	178	(4)		(194)		4356	1488		1877
1989	-	156	156	(1)		(145)		4512	1488		2023
1990	2	147	149	(1)		(118)		4661	1489		2142
1991	-	171	171	(1)		(8)		4832	1489		2151
1992	2	171	173	(3)		(186)		5005	1490		2340
1993	2	247	249	(4)		(148)		5254	1492		2492
1994	-	327	327	(7)		(271)		5581	1493		2770
1995	9	245	254	(9)		(221)		5835	1494		3000
1996	4	193	197	(9)		(110)		6032	1494		3119
1997	4	154	158	(7)		(116)		6190	1494		3242
1998	2	197	199	(5)		(104)		6389	1494		3351
1999	-	291	291	(15)		(139)		6680	1494		3505
2000	3	235	238	(11)		(103)		6918	1494		3619
2001	6	230	236	(9)		(123)		7154	1494		3751
2002	3	212	215	(9)		(108)		7369	1494		3868
2003	3	142	145	(6)		(74)		7514	1494		3948
2004	3	138	141	(4)		(69)		7655	1494		4021
2005	-	134	134	(2)		(68)		7789	1494		4091
2006	-	278	278	(7)		(109)		8067	1494		4207
2007	-	120	120	(2)		(67)		8187	1494		4276
2008	3	118	121	(5)	(2)	(65)		8308	1494		4348
2009	-	167	167	(5)	(17)	(86)		8475	1494		4456
2010	-	152	152	(1)	(12)	(61)		8627	1494		4530
2011	-	130	130	(9)	(13)	(63)		8757	1494		4615
2012	-	122	122	(3)	(12)	(44)		8879	1494		4674
2013	-	156	156	(2)	(17)*	(51)		9035	1494		4743*
2014	3	138	141	(2)	(14)	(68)		9176	1494		4827
2015	4	153	157	(0)	(13)	(56)		9333	1494		4896
2016	2	144	146	(4)	(7)	(43)		9479	1494		4950
2017	6	132	138	(2)	(16)	(54)		9617	1494		5022
2018	1	125	126	(2)	(10)	(59)		9743	1494		5093
2019	2	151	153 (c)	(7)**	(10)**	(52)		9896	1494	(d)	5161**

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, 59 of these 153 assessment cases in 2019 had been confirmed to be pneumoconiosis by the Pneumoconiosis Medical Board. And the following tables (Appendix 2 to Appendix 8) are compiled based on these 59 cases.

(d) Under Revised Ordinance 1993 : 584 out of 1494 pneumoconiotics had joined the pneumoconiosis ex-gratia scheme up to the year 2019. 29 living pneumoconiotics were each receiving a monthly ex-gratia payment of $7.450.00 in 2019.

(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 elligible for a levy funded compensation scheme under the Pneumoconiosis (Compensation) Ordinance (the Ordinance). The Ordinace was amended to cover for mesothelioma as well in 2008.

* 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 2019

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	1	2
50 - 54	2	4
55 - 59	8	14
60 - 64	16	27
65 - 69	15	25
70 - 74	5	8
75+	12	20
Total	59	100

Appendix 3

Occupation Distribution of Pneumoconiosis Patients confirmed in 2019

Type of Occupation	Number of Cases	%
Construction	34	58
Construction/Quarry	2	3
Others	23	39
Total	59	100

Appendix 4

Pneumoconiosis Patients confirmed in 2019 by Duration of Exposure to Dust

Duration	Number of Cases	%
< 5 years	0	0
5 - 9	2	3
10 - 14	3	5
15 - 19	5	8
20 - 24	4	7
25 - 29	12	20
30+	32	55
Unknown	1	2
Total	59	100

Appendix 5

Pneumoconiosis Patients confirmed in 2019 by Degree of Incapacity

Degree of Incapacity (%)	No. of New Cases Compensated under Compensation Ordinance
5	16
10	20
15	8
20	6
25	1
30	0
35	0
40	1
45	2
50	2
55	0
60	0
65	0
70	1
75	0
80	0
85	0
90	0
95	0
100	1
N. A.	1
Total	59

Appendix 6

Pneumoconiosis Patients confirmed in 2019
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)	36	1	0	37
q	(1.5 to 3.0 mm diameter)	11	3	0	14
r	(3.0 to 10.0 mm diameter)	0	0	1	1
Irregular					
s	(fine irregular or linear)	4	0	0	4
t	(medium irregular)	0	2	0	2
u	(coarse irregular)	0	0	0	0
Sub-total		51	6	1	58
Combined opacities		-	-	-	0
N. A.		-	-	-	1
Total					59

8 out of the 59 patients have large opacities as follows :

Large opacities		
A	(Single opacity 1 - 5 cm or multiple opacities > 1 cm each but sum of diameter < 5 cm)	5
B	(Single or multiple opacities with combined area < the equivalent of right upper zone)	3
C	(Single or multiple opacities with combined area > the equivalent of right upper zone)	0
Total		8

Appendix 7

History of Tuberculosis (TB) among Patients with Pneumoconiosis confirmed in 2019

History of TB		Number of Cases	%
History of TB	Bacteriological Positive	11	19
	Bacteriological Negative	3	5
	Not Available	3	5
No History of TB		42	71
Total		59	100

Appendix 8

Pneumoconiosis Patients confirmed in 2019 by Other Particulars

Characteristics		Number of Cases	%
Smoking	Smoker/Ex-smoker	46	78
	Non-smoker	12	20
	Unknown	1	2
	Total	59	100
Still exposed to dust when seen by the Pneumoconiosis Clinic	Yes	20	34
	No	38	64
	Unknown	1	2
	Total	59	100
General Condition	Good	59	95
	Fair	2	3
	Poor	0	0
	Died	1	2
	Total	59	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.

Part 3

ANNEX

Part 3 – Annex : Contents

Annex No.

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	2015	2016	2017	2018	2019
Notified TB cases who are Chinese New Immigrants (with years of arrival in Hong Kong)	< 1 year	10	12	13	18	23
	1 ≤ and < 2 year	14	7	11	15	20
	2 ≤ and < 3 year	12	10	13	16	17
	3 ≤ and < 4 year	16	14	12	14	13
	4 ≤ and < 5 year	10	7	10	9	11
	5 ≤ and < 6 year	7	13	16	13	22
	6 ≤ and < 7 year	13	4	3	7	4
	Total	82	67	78	92	110
Overall notified TB cases		4 705	4 418	4 346	4 250	4 003

The above table shows the number of all notified TB cases in Hong Kong from 2015 to 2019 and the number of TB cases among the Chinese new immigrants (staying 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.

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) from 2015 to 2019 are 60.5, 59.2, 57.5, 57.3 and 53.3 respectively.

From Annex 1(b), the overall estimated rates (per 100 000) among the new immigrants from 2015 to 2019 are 26.2, 20.8, 23.9, 28.3 and 35.5 respectively. The rates are lower than those of the general Hong Kong population. Although Mainland China has been classified by the World Health Organization as among one of the high TB burden countries in the world, the new immigrants coming to Hong Kong are likely to be a “selected” group. Their demographics and health condition may be quite different from and not representative of the whole population in China. For example, they may be younger, more ‘fit’, or with better socioeconomic condition. Hence, the rate of TB among this group may be lower.

Annex 1(b)

TB Notification and Estimated Rates Among Chinese New Immigrants By Age & Sex (2015-2019)

Notified TB cases who are Chinese new immigrants (coming to HK < 7 years), by age and sex

	2015	2015	2015	2016	2016	2016	2017	2017	2017	2018	2018	2018	2019	2019	2019
Age group	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-19	3	3	6	4	2	6	5	1	6	3	1	4	6	1	7
20-39	9	35	44	8	24	32	9	27	36	16	31	47	14	25	39
40-59	10	16	26	7	14	21	9	20	29	19	10	29	25	19	44
60+	5	1	6	6	2	8	6	1	7	6	6	12	15	5	20
Total	27	55	82	25	42	67	29	49	78	44	48	92	60	50	110

Estimated rate of TB (per 100 000) among Chinese new immigrants (coming to HK < 7 years)

	2015	2015	2015	2016	2016	2016	2017	2017	2017	2018	2018	2018	2019	2019	2019
Age group	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-19	7.3	8.0	7.6	9.4	5.1	7.4	11.6	2.6	7.3	6.9	2.6	4.8	13.6	2.5	8.4
20-39	30.1	28.9	29.2	25.1	21.1	22.0	27.0	25.1	25.5	46.2	30.5	34.5	42.1	26.7	30.7
40-59	39.7	32.4	34.9	23.2	26.0	25.0	26.7	35.7	32.3	53.7	17.8	31.7	76.6	37.2	52.6
60+	132.4	18.8	65.9	123.7	32.5	72.7	98.2	14.2	53.2	85.7	77.5	81.4	202.6	62.8	130.2
Total	27.1	25.8	26.2	22.9	19.8	20.8	24.9	23.3	23.9	36.5	23.4	28.3	51.1	26.0	35.5

Annex 1(c)

TB Notification and Rates (All Cases) By Age & Sex (2015-2019)

All TB cases by age and sex

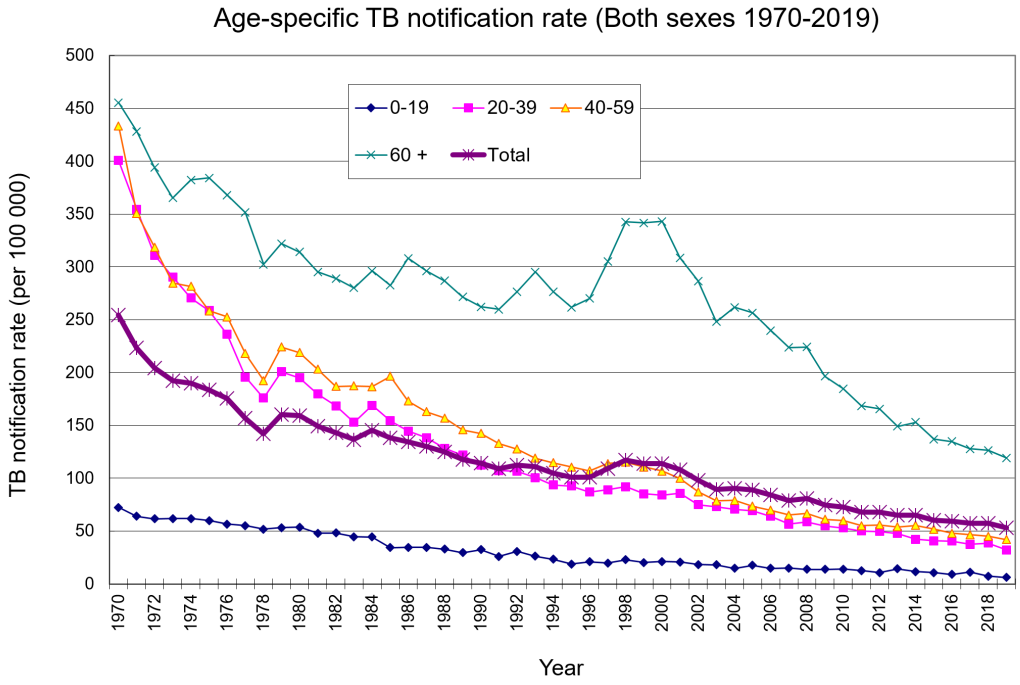
	2015	2015	2015	2016	2016	2016	2017	2017	2017	2018	2018	2018	2019	2019	2019
Age group	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-19	75	52	127	62	43	105	74	56	130	44	40	84	42	28	70
20-39	370	490	860	352	503	855	317	468	785	326	482	808	269	401	670
40-59	774	477	1 251	665	485	1 150	656	459	1 115	625	451	1 076	610	391	1 001
60+	1 607	573	2 180	1 618	618	2 236	1 627	593	2 220	1 709	591	2 300	1 680	582	2 262
Total	2 826	1 592	4 418	2 697	1 649	4 346	2 674	1 576	4 250	2 704	1 564	4 268	2 601	1 402	4 003

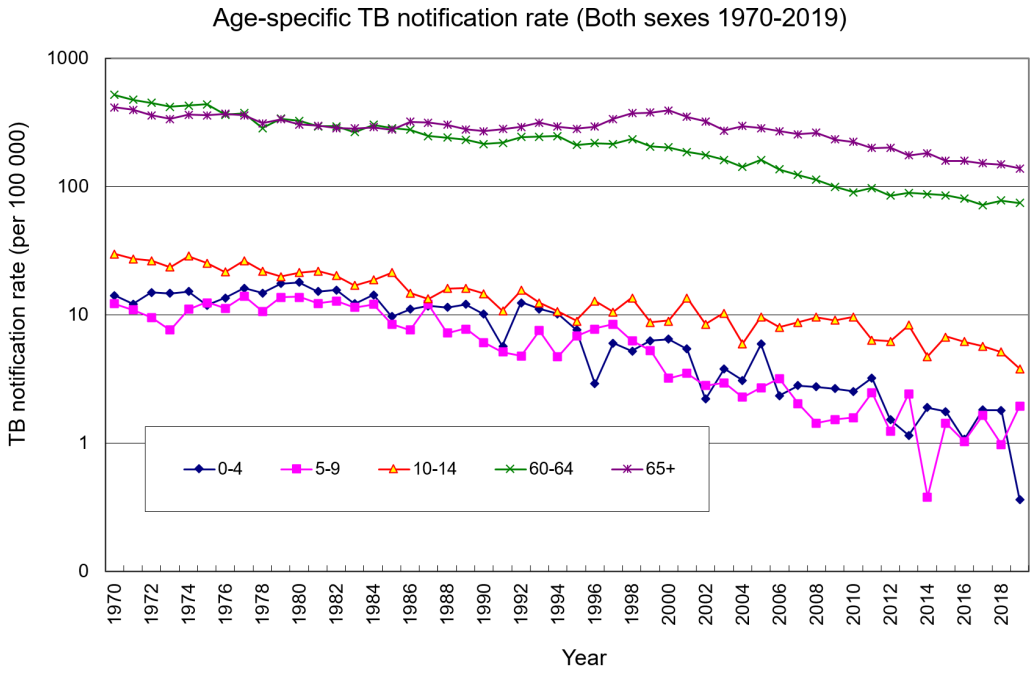
Rate of TB (all notified cases) (per 100 000)

	2015	2015	2015	2016	2016	2016	2017	2017	2017	2018	2018	2018	2019	2019	2019
Age group	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-19	12.2	9.0	10.7	10.3	7.6	9.0	12.3	10.0	11.2	7.3	7.1	7.2	7.0	5.0	6.0
20-39	40.8	40.9	40.8	38.7	42.1	40.6	34.9	39.3	37.4	36.0	40.6	38.6	30.0	34.1	32.3
40-59	71.0	35.9	51.7	61.9	36.5	47.9	61.8	34.4	46.6	59.8	33.7	45.2	59.2	29.0	42.1
60+	212.6	68.5	136.9	205.6	70.9	134.8	197.4	65.0	127.8	198.2	61.9	126.5	186.8	58.3	119.3
Total	83.9	40.4	60.5	79.9	41.6	59.2	78.8	39.4	57.5	79.3	38.7	57.3	76.0	34.3	53.3

Annex 2

Trend of age-specific TB notification rates (1970-2019)





- All the age-specific TB notification rates, particularly those of the younger age groups, show a generally declining trend.
- TB cases 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 39 cases with TB-HIV co-infection were reported to the TB-HIV Registry in 2019. The cumulative number of cases reported to the TB-HIV Registry from all sources as in 2019 was 745 (Table 1).

Information on TB as a primary AIDS-defining illness is available in all the 39 cases reported to the TB-HIV Registry in 2019. Of these 39 cases, 20 (51.3%) 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 1996-2019 is shown in Table 3. Twenty-eight patients reported to the TB-HIV Registry had a positive sputum and/or other specimen culture in 2019. Twenty-seven (96.4%) had disease due to *Mycobacterium tuberculosis* with favourable susceptibility pattern. One had bacillary resistance to streptomycin. Among all the 524 cases reported to TB-HIV Registry with a positive sputum or other specimen culture between 1996 and 2019, 9 (1.7%) had MDRTB. There is no XDR-TB cases 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 39 patients seen at chest clinics and/or SPP in 2019. The characteristics of these patients are similar to those of the 2018 cohort. The median CD4 count was 135.5 /μL at time of TB diagnosis. Extra-pulmonary involvement (irrespective of lung involvement) is common, with over two-thirds of the patients having TB involving one or more extra-pulmonary sites.

Annex 3 (b)

Table 1. Total number of TB-HIV cases reported to TB-HIV Registry, all sources (1996-2019)*

Year	Number of TB-HIV cases**
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
Total	745

* Including cases reported from all sources (chest clinics, SPP, HA hospitals and private centres).
** Some of the figures in the table for the previous years have been updated after (1) taking out some mismatched cases and cases with a revised diagnosis (2) adding some cases which were previously unreported.

Annex 3 (c)

Table 2. TB as primary AIDS-defining illness among 559 cases reported to chest clinics and/or SPP (1996-2019)*

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
Total	152	200	352	168	39	559

* 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 2019, 559 cases were seen at chest clinics and/or SPP. The table is compiled basing on data of these 559 cases.

Table 3. Drug sensitivity pattern among culture positive (sputum and/or other specimens) TB-HIV cases from TB-HIV Registry, all sources (1996-2019)

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*	0	0	23
2018	16	2	0*	0	0	18
2019	27	1	0	0	0	28
Total	433	79	9	0	3	524

* excluding one case with clinical specimen cultured negative but rpo B mutation detected

Annex 3 (d)

Table 4: Characteristics of 39 TB-HIV cases reported from chest clinics and SPP in 2019

	Number	Proportion
Age distribution		
0 to 19	0	0.0%
20 to 39	8	20.5%
40 to 59	26	66.7%
60+	5	12.8%
Sex distribution		
Male	33	84.6%
Female	6	15.4%
Ethnicity		
Chinese	28	71.8%
Asians, non-Chinese	8	20.5%
African	3	7.7%
Others	0	0.0%
Case category		
New case	32	82.1%
Relapse	2	5.1%
Treatment after default	0	0.0%
Failure of previous treatment	0	0.0%
Others	0	0.0%
Unknown	5	12.8%
TB as a primary AIDS defining illness		
Yes	20	51.3%
No	19	48.7%
CD4 count at time of co-infection (median, IQR)*	135.5 (38.3-251) /μL	
Anti-retroviral therapy at time of co-infection		
Yes	15	38.5%
No	24	61.5%
Presence of extra-pulmonary TB (irrespective of lung involvement)		
Yes	28	71.8%
No	11	28.2%
Extent of Respiratory TB**		
Minimal	13	48.1%
Moderate	7	25.9%
Extensive	7	25.9%
Sputum bacteriological status#		
Smear + culture +	11	34.4%
Smear - culture +	16	50.0%
Smear + culture -	0	0.0%
Smear - culture -	5	15.6%
Drug resistance pattern (based on sputum and/or other specimen culture)##		
Susceptible to SHRE	27	96.4%
Resistant to streptomycin alone	1	3.6%
Resistant to rifampicin alone	0	0.0%
MDR	0	0.0%
XDR	0	0.0%

* Information on CD4 count unknown in 1 patient.
** Chest X-ray finding not available in 2 patients. Of the remaining 37 patients, 27 had lung parenchymal lesion suggestive of TB on CXR.
# Sputum test results not available in 7 patients,
28 of 39 cases had a positive sputum and/or other specimen culture.

Annex 4

Crude and Standardised Death Rate and Notification Rate 1981 - 2019
(per 100 000 population)

Year	Crude Death Rate	Standardised Death Rate *	Crude Notification Rate	Standardised Notification Rate *
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

* 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 (2019)

In a sample survey conducted by the TB & Chest Service of the Department of Health in 2019 (2-month period from 1.3.2019 to 31.5.2019), the overall HBsAg seropositive rate among TB patients seen at chest clinics was 8.14%.

Sex/Age group	HBsAg status			HBsAg seropositive rate (%)*	Total
	Positive	Negative	Unknown		
Male					
0-19	0	5	2	0.00	7
20-39	6	61	0	8.96	67
40-59	24	127	4	15.89	155
≥60	27	306	9	8.11	342
Female					
0-19	0	3	1	0.00	4
20-39	1	92	3	1.08	96
40-59	6	86	1	6.52	93
≥60	6	110	3	5.17	119
Total	70	790	23	8.14	883

* *HBsAg seropositivity rate = number of HBsAg positive patients/ (number of HBsAg positive patients + number of HBsAg negative patients)*

HBsAg Seroprevalence Survey 2018-2019

Sex/Age group	HBsAg seropositive rate (%)	
	2018	2019
Male		
0-19	8.33	0.00
20-39	7.06	8.96
40-59	14.71	15.89
≥60	11.20	8.11
Female		
0-19	0.00	0.00
20-39	4.59	1.08
40-59	7.97	6.52
≥60	7.59	5.17
Total	9.61	8.14

Part 4

SUPPLEMENT

Part 4 – Supplement : Contents

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.*
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.]*