ANNUAL REPORT 2016

TUBERCULOSIS & CHEST SERVICE

OF THE

DEPARTMENT OF HEALTH

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PREFACE

The global toll of tuberculosis (TB) remained high in 2016. TB was the ninth leading cause of death worldwide and the leading cause from a single infectious agent, ranking above HIV/AIDS. It caused 1.3 million deaths among HIV-negative people and an additional 374 000 deaths among HIV-positive people. There were 10.4 million new TB cases of which 1.0 million were among HIV-positive people. There were an estimated 490 000 new cases of multidrug-resistant TB (MDR-TB) and an additional 110 000 people with rifampicin-resistant TB (RR-TB). Globally, the TB mortality rate was falling at about 3% per year. TB incidence was falling at about 2% per year and 16% of TB cases died from the disease; by 2020, these figures need to improve to 4–5% per year and 10%, respectively, to reach the first (2020) milestones of the End TB Strategy.*

Achievement of end TB goal by 2035 requires:

1. Expanding the scope and reach of interventions for TB care and prevention, with a focus on high-impact, integrated and patient-centered approaches.
2. Eliciting full benefits of health and development policies and systems, through engaging a much wider set of collaborators across government, communities and the private sector.
3. Pursuing new scientific knowledge and innovations that can dramatically change TB prevention and care.

In particular, to sustain progress beyond 2025 and achieve the Sustainable Development Goals (SDG) 2030 and End TB 2035 targets, additional tools must be available by 2025, including a new vaccine that is effective pre- and post-exposure, more effective treatment for latent TB infection, better diagnostics including point-of-care tests, and new drugs and treatment regimens for treatment of active TB disease. Increased investment in research and development are needed for new tools to be available by 2025.

In Hong Kong, the notification rate of TB decreased from a historical peak of 697.2 per 100 000 in 1952 to 59.2 per 100 000 in 2016, thanks to the successful implementation of passive case-finding and directly observed treatment, short course (DOTS), which effectively

*The End TB Strategy, endorsed by WHO's member states at the 2014 World Health Assembly, spans a 20-year timeframe (2016–2035) and calls for a 90% reduction in TB deaths and an 80% reduction in TB incidence by 2030, and a 95% reduction in TB deaths and an 90% reduction in TB incidence by 2035, compared with 2015. The first milestones of the End TB Strategy set for 2020 are a 35% reduction in TB deaths and a 20% reduction in TB incidence. The overall goal is to "End the global TB epidemic", with a global TB incidence falling below 10 new cases per 100 000 population per year by 2035.

control TB transmission right at source. However, the TB notification rate declined more slowly in recent years, the annual decline in crude TB rates being 3.7% per year from 1998 to 2016. The ageing population and the relatively high TB incidence in older people, especially elderly males, might have been one of the major underlying reasons. Tackling the challenge of an ageing population appears to be a key step in further reducing the local TB rates. TB-diabetes mellitus comorbidity might have been another hurdle to the elimination of TB locally as was the case in some other developed countries or regions. Further research and enhanced measures to optimize the treatment of the two diseases may complement DOTS in the control of TB in Hong Kong.

The rates of MDR-TB in Hong Kong remained low in 2016, being 0.74% among all the culture confirmed (sputum and/or other specimens) TB cases. Seven point one percent of the MDR-TB cases were extensively drug-resistant TB (XDR-TB). The Department of Health (DH) of Hong Kong will continue to monitor the trend of TB drug resistant rates as well as the level of drug resistance among the bacillary resistance cases. To effectively address the issue of drug resistant TB in Hong Kong, rapid genotypic drug susceptibility tests for rifampicin, isoniazid, fluoroquinolone and second-line injectables have been utilized to better inform the initial choice of drugs for timely initiation of effective TB treatment. The use of these tests will be further enhanced.

In Hong Kong, there have been increasing use of linezolid and clofazimine, two repurposed agents recommended for treatment of MDR-TB by WHO, in combination with other effective (or likely effective) second line drugs in treating fluoroquinolone (FQ)-resistant MDR-TB and XDR-TB. A number of MDR- and XDR-TB cases have also been put on Delamanid (DLM)-containing regimen (DLM being a novel Class D2 add-on TB drug recommended by WHO), where a regimen containing the minimum number of effective TB drugs cannot be formulated from other groups of anti-TB drugs. Another novel Class D2 drug, bedaquiline, has not been used yet as in 2016 but will soon be added to the armamentarium for the treatment of fluoroquinolone-resistant MDR-TB and XDR-TB patients. On the other hand, the shorter MDR-TB regimens, basically comprising of 4-6 Km-Mfx-Pto-Cfz-Z-$H_{high\text{-}dose}$-E / 5 Mfx-Cfz-Z-E* have not been used in Hong Kong as some of the second-line medicines included in the shorter MDR-TB regimen have been widely used locally in the past and bacillary resistance to these drugs may not be readily excluded at the initiation of second line treatment.

In recent years, public health measures to contain the spread of TB within our community

*Km=Kanamycin; Mfx=Moxifloxacin; Pto=Prothionamide; Cfz=Clofazimine; Z=Pyrazinamide; $H_{high\text{-}dose}$= high-dose Isoniazid; E=Ethambutol

have been enhanced, including stepping up of local enforcement in use of medical surveillance / examination notices, as well as isolation orders under the provisions of the existing legal framework. The detention of non-compliant TB patients, however, is not to be undertaken lightly, and are often taken as a last resort when all other non-coercive measures such as counselling, education and support fail. Where appropriate, cross-jurisdiction notification of drug-resistant and other TB cases of potential public health concern has also been enhanced when such cases leave Hong Kong, in line with established international practices.

The collaboration with overseas health authorities in conducting TB researches for the development and evaluation of new TB regimens continued in 2016. The Tuberculosis Trial Consortium (TBTC) study 31, a randomized, open-label, controlled phase 3 clinical trial of rifapentine-containing treatment shortening regimens for pulmonary tuberculosis was rolled out in early 2016. DH will continue its endeavor to network with overseas health authorities as well as those in the Mainland China in conducting TB researches to inform TB control policies and further improve local TB control.

The World TB Day each year is an important occasion to raise public awareness for TB control. To echo WHO's endeavour to promote TB awareness and to commemorate the World TB Day, as well as to mobilize support from the community and other stakeholders in the fight against TB, an opening ceremony cum health exhibition was jointly held by the Hong Kong Tuberculosis, Chest and Heart Diseases Association, DH and the Hospital Authority at Fashion World, Wonderful Worlds of Whampoa, Kowloon, from 19 to 20 March 2016. A range of other publicity measures including health talks, relaunch of the Announcement for Public Interest (API) on prevention of TB as well as an hour LIVE RTHK radio programme to promote TB awareness were also conducted. It is hoped that with all these activities, health care workers, the public and all other stakeholders will work together in the efforts to combat TB locally.

During the year, there were a total of 81 813 attendees in TB&CS as compared to 82 487 in 2015, and the total attendance was 685 305 in comparison with 672 579 in 2015. Among the 81 813 patients, 19 650 patients were new attendants. The diagnoses among new patients included active pulmonary tuberculosis (10.3%), active tuberculosis of other forms (4.4%), inactive tuberculosis (2.9%), bronchitis not specified as acute or chronic (7.7%), acute respiratory infection (3.3%), malignant neoplasm of trachea and bronchus (0.9%), bronchiectasis (1.7%), asthma (0.4%) and emphysema (0.1%). Among all the attendance, 2 579 hospital admissions were arranged.

Part 1: Tuberculosis

The number of tuberculosis notifications in 2016 was 4 346, making a notification rate of 59.2 per 100 000 population. The corresponding figures in 2015 were 4 418 and 60.5 per 100 000 population respectively.

The number of tuberculosis deaths was 160 in 2016 as compared with 169 in 2015. The corresponding tuberculosis mortality rates were 2.2 and 2.3 per 100 000 population in 2016 and 2015.

Tuberculosis stayed outside the top ten causes of death in 2016. Tuberculosis deaths accounted for 0.3% of the total registered deaths in Hong Kong. The average age of tuberculosis deaths was 77.2.

In 2016, over 98% of the newborns were given direct BCG vaccination at birth. The BCG revaccination programme for primary school children was stopped since the school year starting from September 2000.

HIV testing was done among tuberculosis patients of the TB&CS on a voluntary basis after counselling and consent. The positive rate remained low at 0.8% in 2016. On the other hand, unlinked anonymous screening (UAS) was no longer considered necessary and surveillance of HIV among TB patients mainly depends on voluntary HIV testing.

Part 2: Pneumoconiosis

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 into consideration in adjusting the degree of incapacity as determined by FVC test 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 finding, the new set of reference values was adopted for compensation assessment since 2009.

The Pneumoconiosis Clinic continued to provide a full range of outpatient services to patients with suspected or confirmed pneumoconiosis and mesothelioma. These services covered not only the assessment aspect, but also addressed the patients' diversified needs in terms of treatment, prevention and rehabilitation. The attendance at the clinic was 5 149 in 2016 compared with 5 222 in 2015. In 2016, 146 cases with suspected pneumoconiosis or mesothelioma were examined by the Board under the Ordinance, and 54 new cases (including 44 cases of silicosis and 3 cases of asbestos-related lung disease and 7 cases of mesothelioma) were confirmed by the Board. Up to the end of 2016, a total of 4 951 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.

Publications:

1. Dheda K, Chang KC, Guglielmetti L, Furin J, Schaaf HS, Chesov D, Esmail A, Lange C. Clinical management of adults and children with MDR and XDR-TB. Clin Microbiol Infect. 2016 Oct 15. pii: S1198-743X(16)30467-0. doi: 10.1016/j.cmi.2016.10.008. [Epub ahead of print]
2. Leung CC, Chan K, Yam WC, Lee MP, Chan CK, Wong KH, Ho PL, Mak I, Tam CM. Poor agreement between diagnostic tests for latent tuberculosis infection among HIV-infected persons in Hong Kong. Respirology. 2016 Oct; 21(7): 1322-9.
3. Lee P, Leung CC, Restrepo MI, Takahashi K, Song Y, Porcel JM. Year in review 2015: Lung cancer, pleural

diseases, respiratory infections, bronchiectasis and tuberculosis, bronchoscopic intervention and imaging. Respirology. 2016 Jul;21(5):961-7.
4. Leung CC. Does tuberculosis increase the risk of lung cancer? Int J Tuberc Lung Dis. 2016 Jun;20(6):712.

Addendum

In an effort to make the report more concise, the annexes in Part 3 have been revamped in the current annual report. Basically, data on cohort analysis (corresponding to Annexes 1(a) to 1(g) in the previous reports) have been omitted. Similarly, data on HBsAg sero-prevalence survey among TB patients seen at chest clinics (corresponding to Annex 5 in the previous reports) have also been omitted. The results of these analyses will be published on an ad hoc basis in future reports.

Part 1

TUBERCULOSIS

Part 1 - Tuberculosis Contents

APPENDIX 1

TB Notifications & Death Rate of Tuberculosis (All Forms)
1947 - 2016

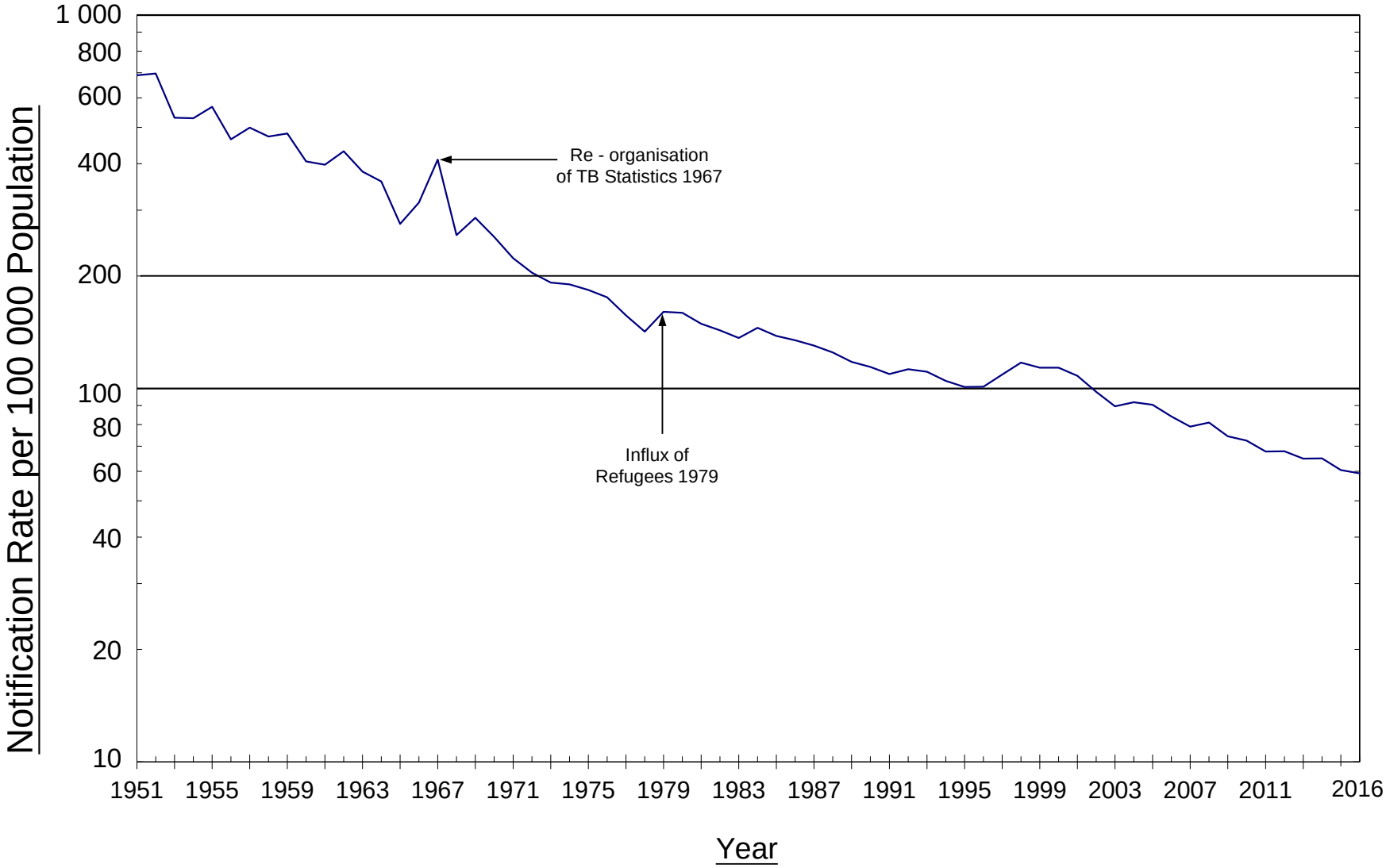
Year	TB Notifications			Notification Rate per 100 000 Pop	TB Deaths	Death Rate per 100 000 Pop	Ratio (Notifications/ Deaths)	Deaths ---------- x 100% Notifications
1947	4 855			277.4	1 861	106.3	2.61	38.33
1948	6 279			348.8	1 961	108.9	3.20	31.23
1949	7 510			404.4	2 611	140.6	2.88	34.77
1950	9 067			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	64.9	178	2.5	26.20	3.82
2014	4 705	(0)	85	65.0	187	2.6	25.16	3.97
2015	4 418	(0)	82	60.5	169	2.3	26.14	3.83
2016	4 346	(0)	100	59.2	160	2.2	27.16	3.68

* 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.

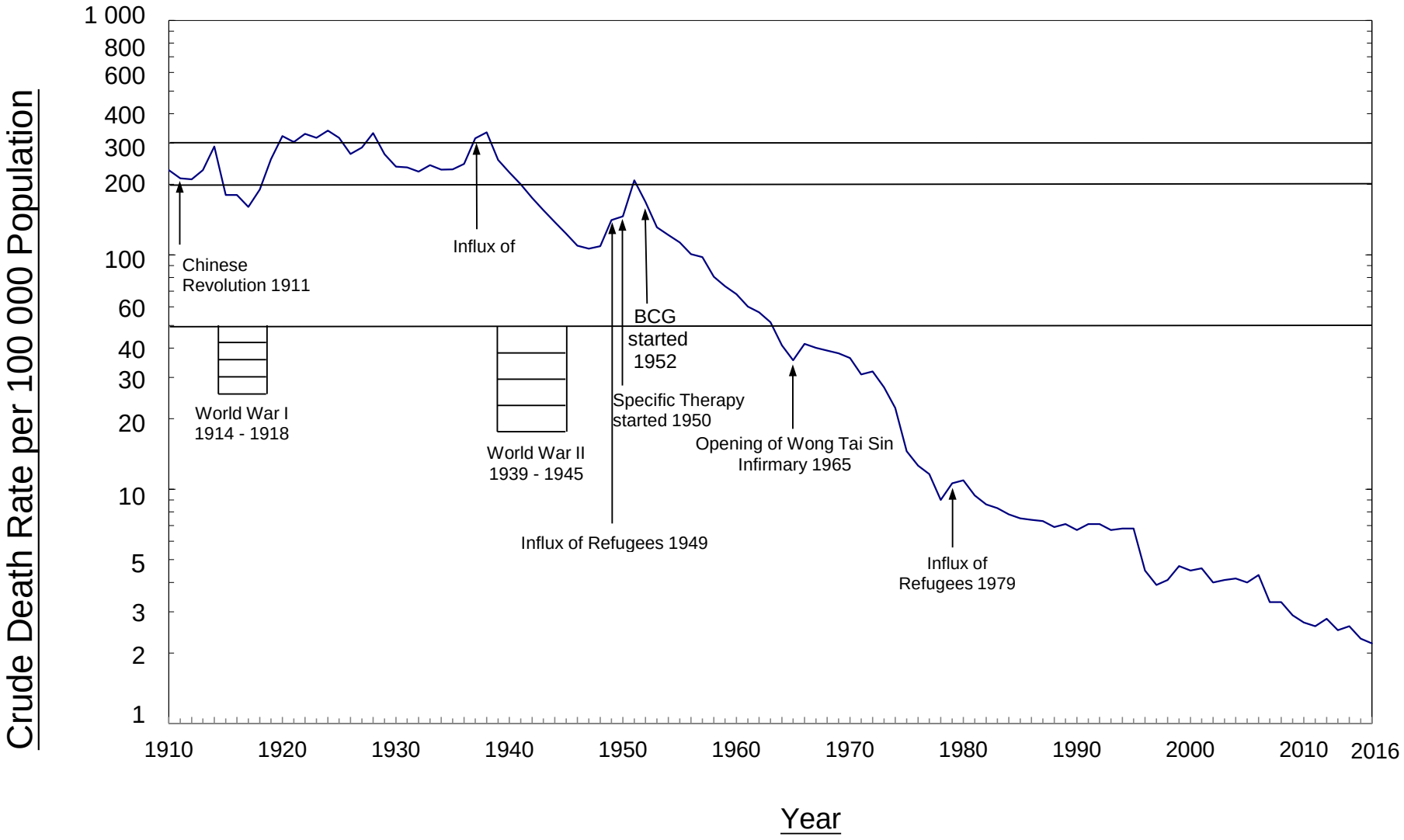
APPENDIX 2

TB Notification Rate (All Forms) 1951-2016



APPENDIX 3

Crude Death Rate due to Tuberculosis (All Forms) 1910-2016



APPENDIX 4 (a)

Tuberculosis Notifications (All Forms) & Rate by Age & Sex 2016

Age Group	Tuberculosis Notifications (All Forms)			Tuberculosis Notifications Rate (per 100 000 population)		
	Male	Female	Total	Male	Female	Total
Under 1	1	0	1	1.38	0.74	1.07
1	0	0	0			
2	1	0	1			
3	0	1	1			
4	0	0	0			
5 - 9	0	3	3	0.00	2.13	1.03
10 - 14	10	6	16	7.56	4.73	6.17
15 - 19	50	33	83	28.33	20.07	24.35
20 - 24	94	85	179	42.67	37.81	40.22
25 - 29	78	129	207	34.26	45.66	40.57
30 - 34	89	145	234	38.20	42.13	40.54
35 - 39	91	144	235	39.91	41.95	41.13
40 - 44	103	124	227	43.90	36.99	39.84
45 - 49	130	119	249	54.12	36.41	43.92
50 - 54	163	110	273	55.65	31.41	42.45
55 - 59	269	132	401	87.68	41.75	64.37
60 - 64	277	119	396	113.48	47.37	79.95
65 - 69	323	113	436	164.38	56.73	110.18
70 - 74	228	65	293	203.21	59.85	132.70
75 - 79	248	89	337	245.06	84.60	163.28
80 - 84	265	84	349	357.62	90.42	208.98
85 & over	277	148	425	469.49	129.48	245.24
Total	**2 697**	**1 649**	**4 346**	**79.90**	**41.63**	**59.24**

Appendix 4 (b)

Pulmonary TB Notifications by Age & Sex 2016**

Age Group	Pulmonary TB			Bacteriologically * Positive Pulmonary TB			Smear Positive Pulmonary TB		
	M	F	T	M	F	T	M	F	T
Under 1	1	1	2	0	1	1	0	1	1
1	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
3	0	1	1	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
5 - 9	0	1	1	0	0	0	0	0	0
10 - 14	4	4	8	2	2	4	0	2	2
15 - 19	37	23	60	30	16	46	18	12	30
20 - 24	75	65	140	53	40	93	26	23	49
25 - 29	63	86	149	38	59	97	12	32	44
30 - 34	66	88	154	40	65	105	21	41	62
35 - 39	73	85	158	49	63	112	31	37	68
40 - 44	81	65	146	63	44	107	45	23	68
45 - 49	112	65	177	82	39	121	51	23	74
50 - 54	135	61	196	93	40	133	67	20	87
55 - 59	210	78	288	152	51	203	88	25	113
60 - 64	228	68	296	180	46	226	106	19	125
65 - 69	276	68	344	204	50	254	99	25	124
70 - 74	188	42	230	155	28	183	75	14	89
75 - 79	195	61	256	156	42	198	68	22	90
80 - 84	216	57	273	179	46	225	76	23	99
85 & over	216	113	329	186	95	281	77	32	109
Total	**2 176**	**1 032**	**3 208**	**1 662**	**727**	**2 389**	**860**	**374**	**1 234**

** Pulmonary TB with or without extrapulmonary TB

* Either smear or culture positive

Appendix 4(c)

Rate of Pulmonary TB Notifications by Age & Sex 2016**

(Rate per 100 000 Population)

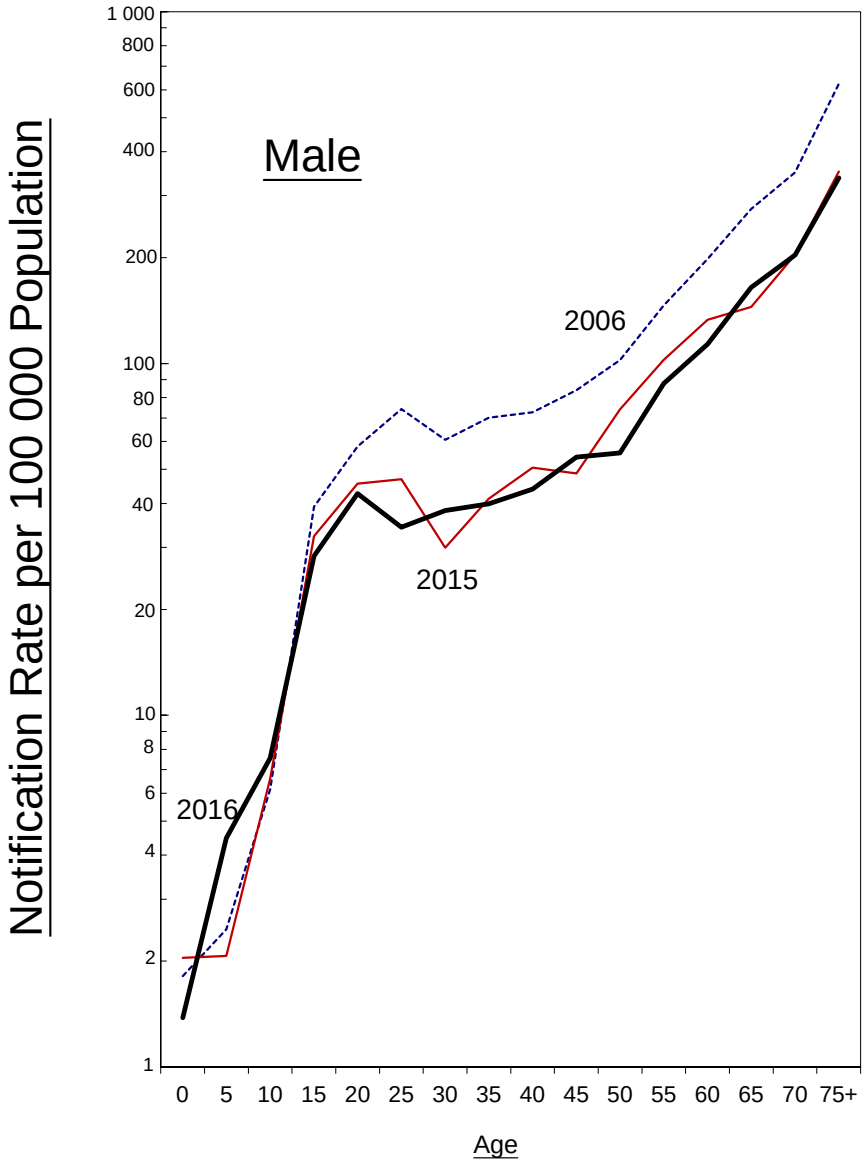
Age Group	Pulmonary TB			Bacteriologically * Positive Pulmonary TB			Smear Positive Pulmonary TB		
	M	F	T	M	F	T	M	F	T
0 - 4	0.7	1.5	1.1	0.0	0.7	0.4	0.0	0.7	0.4
5 - 9	0.0	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0
10 - 14	3.0	3.2	3.1	1.5	1.6	1.5	0.0	1.6	0.8
15 - 19	21.0	14.0	17.6	17.0	9.7	13.5	10.2	7.3	8.8
20 - 24	34.0	28.9	31.5	24.1	17.8	20.9	11.8	10.2	11.0
25 - 29	27.7	30.4	29.2	16.7	20.9	19.0	5.3	11.3	8.6
30 - 34	28.3	25.6	26.7	17.2	18.9	18.2	9.0	11.9	10.7
35 - 39	32.0	24.8	27.7	21.5	18.4	19.6	13.6	10.8	11.9
40 - 44	34.5	19.4	25.6	26.9	13.1	18.8	19.2	6.9	11.9
45 - 49	46.6	19.9	31.2	34.1	11.9	21.3	21.2	7.0	13.1
50 - 54	46.1	17.4	30.5	31.8	11.4	20.7	22.9	5.7	13.5
55 - 59	68.4	24.7	46.2	49.5	16.1	32.6	28.7	7.9	18.1
60 - 64	93.4	27.1	59.8	73.7	18.3	45.6	43.4	7.6	25.2
65 - 69	140.5	34.1	86.9	103.8	25.1	64.2	50.4	12.6	31.3
70 - 74	167.6	38.7	104.2	138.1	25.8	82.9	66.8	12.9	40.3
75 - 79	192.7	58.0	124.0	154.2	39.9	95.9	67.2	20.9	43.6
80 - 84	291.5	61.4	163.5	241.6	49.5	134.7	102.6	24.8	59.3
85 & over	366.1	98.9	189.8	315.3	83.1	162.1	130.5	28.0	62.9
Total	**64.5**	**26.1**	**43.7**	**49.2**	**18.4**	**32.6**	**25.5**	**9.4**	**16.8**

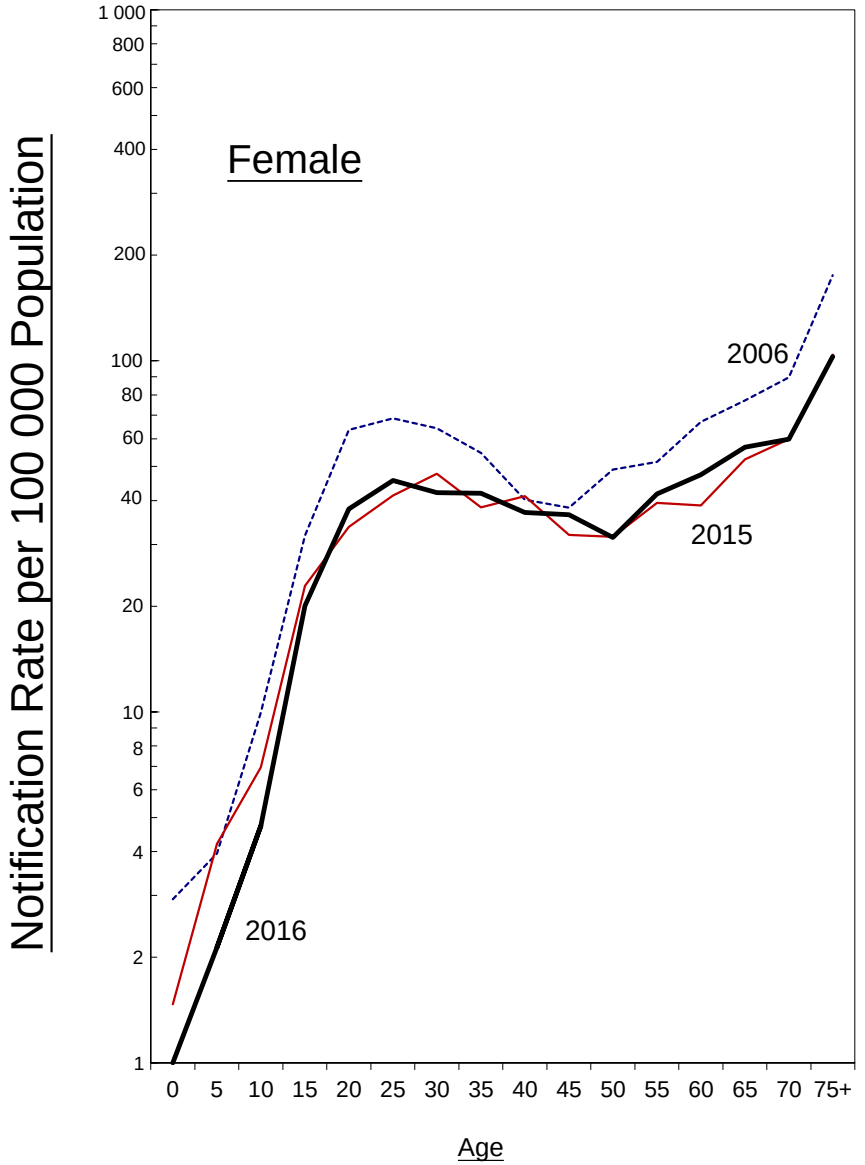
** Pulmonary TB with or without extrapulmonary TB

* Either smear or culture positive

APPENDIX 5

TB Notification Rate by Age & Sex 2006, 2015 & 2016





Appendix 6

Notifications of Tuberculosis by Type by Age & Sex 2016

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	1	0	1
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	2	0	2
3	0	1	1	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	1	1	0	0	0	0	0	0	0	1	1	0	1	1
10-14	4	4	8	0	0	0	0	0	0	0	0	0	7	2	9
15-19	37	23	60	0	0	0	0	0	0	0	1	1	13	9	22
20-24	77	65	142	0	1	1	0	0	0	0	0	0	24	25	49
25-29	63	89	152	1	1	2	0	1	1	0	0	0	19	52	71
30-34	68	91	159	2	1	3	2	0	2	0	3	3	30	57	87
35-39	77	86	163	0	0	0	0	1	1	0	4	4	24	60	84
40-44	82	65	147	0	1	1	1	2	3	0	4	4	24	54	78
45-49	113	65	178	2	0	2	0	1	1	5	2	7	14	52	66
50-54	137	61	198	1	0	1	2	0	2	2	1	3	38	52	90
55-59	217	79	296	4	0	4	5	2	7	4	3	7	55	52	107
60-64	232	69	301	1	0	1	0	1	1	8	4	12	57	48	105
65-69	279	69	348	2	0	2	1	1	2	2	4	6	51	42	93
70-74	189	42	231	0	0	0	1	0	1	2	4	6	43	21	64
75-79	198	62	260	1	1	2	0	2	2	3	5	8	55	29	84
80-84	218	60	278	0	2	2	0	0	0	1	5	6	61	27	88
85 & over	216	114	330	0	5	5	0	0	0	2	2	4	70	35	105
Total*	2 207	1 046	3 253	14	12	26	12	11	23	29	43	72	588	618	1 206 **

* The total add up to greater than the notification number of 4 346 for 2016 as some cases have multiple sites.

* * Including	TB lymph node	438
	TB urogenital system	59
	TB peritonitis, intestines, mesenteric, appendicitis	127
	TB pleuritis, pleural effusion	422
	TB laryngitis	6
	TB skin	46
	Unspecified	98

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

Pulmonary TB only, without extrapulmonary site involvement

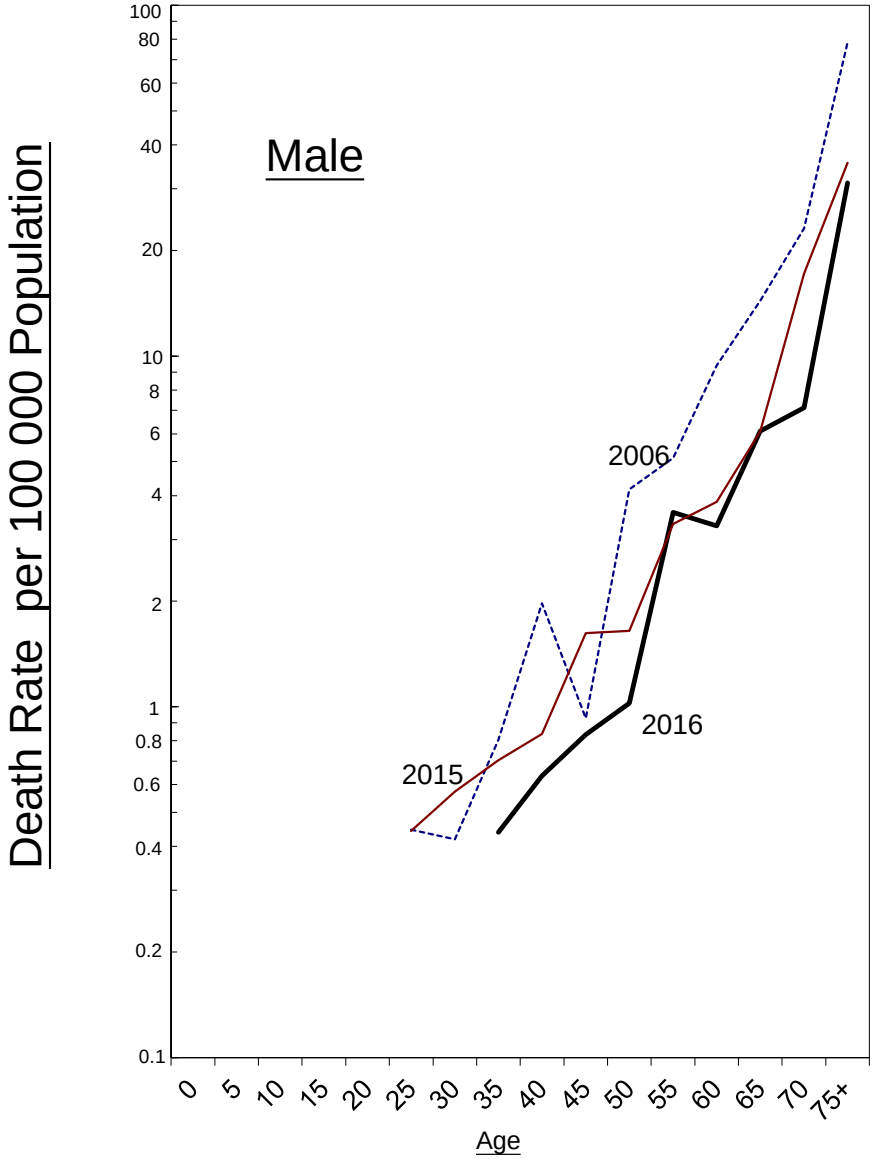
APPENDIX 7

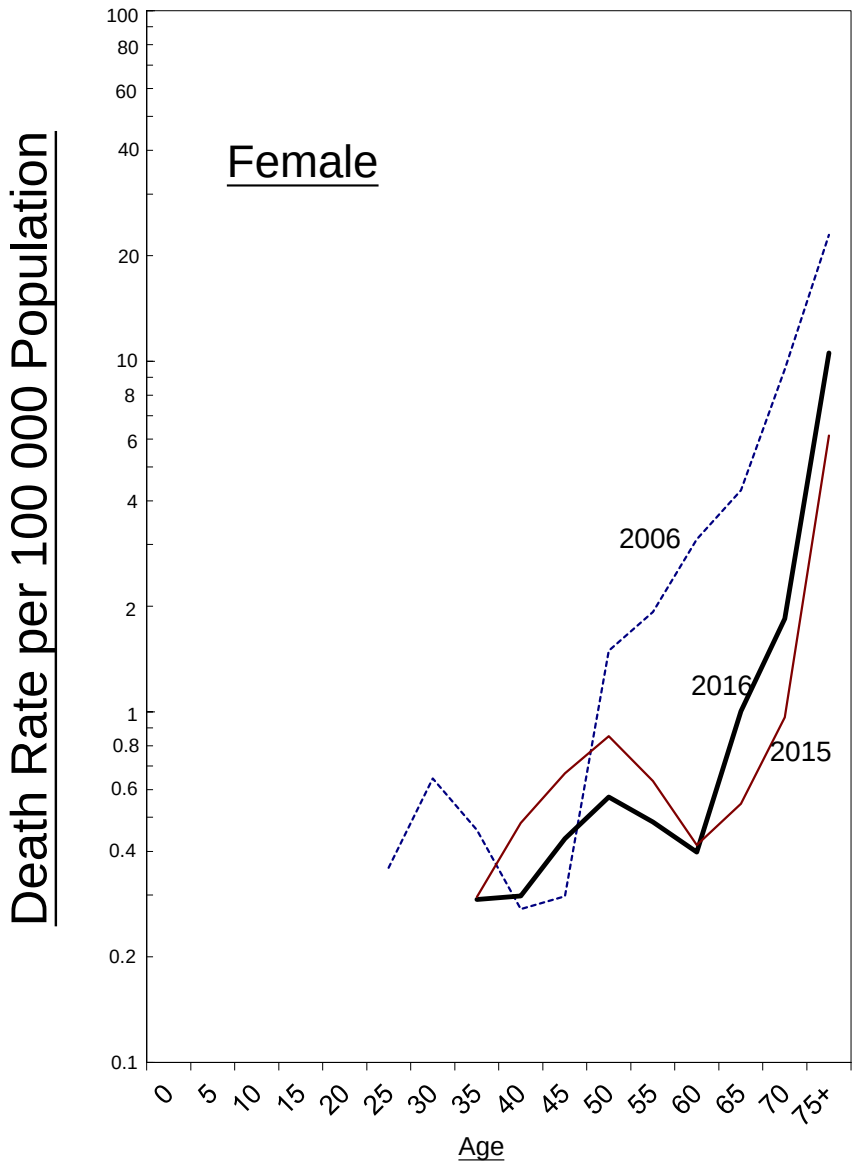
TB Death (All Forms) & Death Rate by Age & Sex 2016

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	0	0	0	0.00	0.00	0.00
30-34	0	0	0	0.00	0.00	0.00
35-39	1	1	2	0.44	0.29	0.35
40-44	0	1	1	0.00	0.30	0.18
45-49	2	0	2	0.83	0.00	0.35
50-54	3	2	5	1.02	0.57	0.78
55-59	11	0	11	3.59	0.00	1.77
60-64	8	1	9	3.28	0.40	1.82
65-69	12	2	14	6.11	1.00	3.54
70-74	8	2	10	7.13	1.84	4.53
75-79	12	5	17	11.86	4.75	8.24
80-84	21	7	28	28.34	7.53	16.77
85 & over	40	21	61	67.80	18.37	35.20
Total	**118**	**42**	**160**	**3.50**	**1.06**	**2.18**

APPENDIX 8

TB Mortality Rate by Age & Sex 2006, 2015 & 2016





Appendix 9

TB Deaths by Type by Age & Sex 2016

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35-39	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
45-49	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0
50-54	3	2	5	0	0	0	0	0	0	0	0	0	0	0	0
55-59	9	0	9	1	0	1	0	0	0	1	0	1	0	0	0
60-64	7	1	8	0	0	0	0	0	0	0	0	0	1	0	1
65-69	10	1	11	0	1	1	0	0	0	1	0	1	1	0	1
70-74	5	2	7	0	0	0	0	0	0	0	0	0	3	0	3
75-79	11	2	13	1	1	2	0	1	1	0	0	0	0	1	1
80-84	19	7	26	0	0	0	0	0	0	0	0	0	2	0	2
85 & over	35	17	52	2	3	5	1	1	2	0	0	0	2	0	2
Total	100	33	133	6	5	11	1	3	4	2	0	2	9	1	10 *

* Breakdown of Deaths from other forms of TB:-	Number
Tuberculosis of intestines, peritoneum and mesenteric glands	8
Sequelae of respiratory and unspecified tuberculosis	2
Total	10

Appendix 10

Tuberculosis Mortality
1950 - 2016

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

Note: * 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 2016

Rank	Causes of Death	Detailed List No.	2016		
		ICD 10th Revision	Male	Female	Total
	All Causes		26 002	20 659	46 662 (1)
1	Malignant neoplasms	C00-C97	8 447	5 762	14 209
2	Pneumonia	J12-J18	4 393	3 899	8 292
3	Diseases of heart	I00-I09, I11 I13, I20-I51	3 396	2 805	6 201
4	Cerebrovascular diseases	I60-I69	1 666	1 558	3 224
5	External causes of morbidity and mortality #	V01-Y89	1 176	637	1 813
6	Nephritis, nephrotic syndrome and nephrosis	N00-N07, N17-N19, N25-N27	840	866	1 706
7	Chronic lower respiratory diseases *	J40-J47	1 256	383	1 639
8	Dementia	F01-F03	549	822	1 371
9	Septicaemia	A40-A41	490	480	970
10	Diabetes mellitus	E10-E14	246	252	498
	Tuberculosis (including late effects of tuberculosis)		118	42	160
	All other causes	Residues of all causes	3 425	3 153	6 579 (1)

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
2006 - 2016

Origin	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
East Kowloon Chest Clinic	86	121	129	100	99	105	101	83	83	105	83
Kowloon Chest Clinic	231	220	184	171	165	122	154	167	127	95	98
Sai Ying Pun Chest Clinic	92	108	86	69	80	71	89	79	70	69	59
Shaukiwan Chest Clinic	104	128	105	80	72	74	65	74	66	72	56
Shaukiwan Pneumoconiosis	15	13	13	16	6	9	10	2	9	0	5
Shek Kip Mei Chest Clinic	96	111	127	92	87	90	101	95	80	89	83
South Kwai Chung Chest Clinic	224	187	200	158	166	146	158	122	127	103	98
Tai Po Chest Clinic	92	79	81	63	71	86	82	93	64	54	63
Wanchai Chest Clinic	191	169	168	170	143	118	110	113	95	89	83
Yan Oi Chest Clinic	238	165	179	172	152	173	144	146	104	105	109
Yaumatei Chest Clinic	204	151	137	139	131	128	132	112	101	92	82
Yuen Chau Kok Chest Clinic	136	122	116	124	131	112	108	110	98	80	80
Yung Fung Shee Chest Clinic	148	120	147	118	131	112	116	86	92	87	75
Castle Peak Hospital (Chest Clinic)	3	4	5	0	0	0	2	0	0	0	0
Cheung Chau Chest Clinic	1	1	2	1	1	1	1	0	0	0	2
Sai Kung Chest Clinic	9	5	9	1	3	6	4	4	2	3	1
Sheung Shui Chest Clinic	61	53	45	42	63	33	21	30	33	22	30
Tung Chung Chest Clinic	15	12	9	7	11	13	9	11	11	9	21
Yuen Long Chest Clinic	69	64	67	73	80	48	39	66	51	67	53
Sub-total	2 015	1 833	1 809	1 596	1 592	1 447	1 446	1 393	1 213	1 141	1 081
Grantham Hospital	176	215	209	214	180	163	138	148	140	166	148
Haven of Hope Hospital	124	124	87	103	65	80	68	77	95	96	86
Kowloon Hospital	142	108	120	84	108	92	97	64	74	105	111
Ruttonjee Hospital	264	218	165	183	170	176	165	127	140	109	122
Wong Tai Sin Hospital	140	90	104	82	105	57	58	86	69	62	47
Other Govt. Institutions (a)	60	66	78	54	64	62	54	51	61	49	53
Other H.A. Hospitals	2 538	2 530	2 648	2 472	2 425	2 364	2 497	2 377	2 578	2 370	2343
Private Practitioners	164	90	83	57	101	100	109	118	129	122	146
Private Hospitals	143	189	332	348	283	253	226	223	206	198	209
Total	5 766	5 463	5 635	5 193	5 093	4 794	4 858	4 664	4 705	4 418	4 346
% of cases from Chest Clinics among the total	34.9	33.6	32.1	30.7	31.3	30.2	29.8	29.9	25.8	25.8	24.9
% from Chest Hospitals (b)	14.7	13.8	12.2	12.8	12.3	11.8	10.8	10.8	11.0	12.2	11.8
% from Other Public Hospitals	45.1	47.5	48.4	48.6	48.9	50.6	52.5	52.1	56.1	54.8	55.1
% from Private Sector	5.3	5.1	7.4	7.8	7.5	7.4	6.9	7.3	7.1	7.2	8.2

Notes : (a) Sources are from 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.

Appendix 12 (b)

Breakdown of Origin of TB
Notifications for "Other H.A. Hospitals" 2016

Name of Hospital	No. of TB Notification
Alice Ho Miu Ling Nethersole Hospital	86
Caritas Medical Centre	132
Hong Kong Buddhist Hospital	5
Kwong Wah Hospital	171
North District Hospital	126
North Lantau Hospital	3
Our Lady of Maryknoll Hospital	11
Pamela Youde Nethersole Eastern Hospital	156
Pok Oi Hospital	70
Prince of Wales Hospital	241
Princess Margaret Hospital	231
Queen Elizabeth Hospital	263
Queen Mary Hospital	119
Shatin Hospital	7
Tai Po Hospital	6
Tseung Kwan O Hospital	120
Tuen Mun Hospital	232
Tung Wah Eastern Hospital	7
Tung Wah Group of Hospitals Fung Yiu King Hospital	4
Tung Wah Hospital	9
United Christian Hospital	227
Yan Chai Hospital	117
Total	**2 343**

Appendix 13

Tuberculosis Notifications & Notification Rates

by District Council District 2016

District Council District	Notification	Notification Rate (per 100 000 pop.)
Hong Kong Island	676	53.9
Central & Western	155	63.7
Wanchai	90	50.0
Eastern	277	49.9
Southern	154	56.0
Kowloon	1 555	69.4
Kowloon City	234	55.9
Kwun Tong	458	70.6
Sham Shui Po	322	79.3
Wong Tai Sin	300	70.6
Yau Tsim Mong	241	70.3
NT (East)	980	51.6
Islands	86	54.8
Northern	194	61.5
Sai Kung/Tseung Kwan O	207	44.8
Shatin	348	52.7
Tai Po	145	47.7
NT (West)	1 094	56.3
Kwai Tsing	368	70.7
Tsuen Wan	132	41.4
Tuen Mun	261	53.3
Yuen Long	333	54.2
Marine	0	0.0
Unknown	7	0.0
Others	34	0.0
Total	4 346	**59.2**

Appendix 14

Establishment & Strength of TB & Chest Service

as at 1.12.2016

Post	Establishment	Strength
Consultant Chest Physician i/c	1	1
Consultant Chest Physician	1	1
Senior Medical & Health Officer	7	7
Medical & Health Officer	23	22
Senior Nursing Officer	1	1
Nursing Officer	15	12
Registered Nurse	75	75
Enrolled Nurse	74	69
Senior Dispenser	9	9
Dispenser	9	9
Executive Officer I	1	1
Statistical Officer II	3	3
Personal Secretary I	1	1
Clerical Officer	16	14
Assistant Clerical Officer	20	23
Clerical Assistant	55	53
Office Assistant	9	8
Workman II	43	56
Senior Radiographer	3	3
Radiographer I	8	8
Radiographer II	21	21
Radiographic Technician	4	4
Darkroom Technician	10	7

Appendix 15
Total Attendances at Chest Clinics
2006 - 2016

Clinic/Hospital	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
East Kowloon Chest Clinic	56 737	63 191	59 670	56 566	58 167	55 678	49 894	51 368	52 449	52 874	54 391
Kowloon Chest Clinic	73 627	67 093	62 017	56 658	56 523	47 693	50 666	52 766	52 423	45 953	45 938
Sai Ying Pun Chest Clinic	42 034	42 770	40 126	36 036	34 502	36 441	36 877	33 892	33 274	36 301	36 622
Shaukiwan Chest Clinic	49 667	48 207	50 618	45 028	41 263	41 804	40 600	42 335	44 417	45 789	42 426
Shaukiwan Pneumoconiosis	8 866	8 359	8 501	8 187	7 719	6 869	6 576	6 137	5 433	4 920	4 806
Shek Kip Mei Chest Clinic	57 848	58 679	52 161	54 933	49 216	49 500	47 853	49 164	51 852	48 142	47 816
South Kwai Chung Chest Clinic	79 455	78 238	81 441	82 044	81 923	75 752	78 785	75 062	73 740	78 403	73 985
Tai Po Chest Clinic	35 728	34 769	33 297	35 492	36 215	37 628	39 318	41 316	32 443	30 988	33 357
Wanchai Chest Clinic	58 545	56 790	50 465	50 461	49 609	48 893	46 777	47 901	49 276	43 900	45 326
Yan Oi Chest Clinic	72 144	70 643	66 058	63 411	67 564	63 333	67 804	64 184	60 278	60 770	61 780
Yaumatei Chest Clinic	72 180	69 549	68 587	70 439	68 633	68 164	62 688	61 905	60 937	57 835	58 938
Yuen Chau Kok Chest Clinic	57 680	55 454	57 211	60 481	58 027	65 627	59 542	67 573	60 396	51 136	56 538
Yung Fung Shee Chest Clinic	72 570	73 944	71 767	74 196	80 444	73 038	74 204	75 140	67 274	65 603	73 857
Castle Peak Hospital (ceased operation from 1 April 2015)	241	240	192	146	149	145	146	124	126	38	0
Cheung Chau Chest Clinic	1 589	2 318	1 411	869	1 206	1 286	1 349	1 356	1 273	1 562	1 139
Sai Kung Chest Clinic	2 542	2 280	1 885	1 745	2 277	1 861	1 546	1 542	1 371	1 513	1 385
Sheung Shui Chest Clinic	21 765	22 333	21 909	22 468	22 303	21 775	17 495	15 308	16 827	15 361	14 113
Tung Chung	4 447	4 086	4 263	5 137	4 433	4 447	4 248	4 303	4 091	4 166	5 554
Yuen Long Chest Clinic	29 344	27 960	29 979	29 935	30 729	30 201	27 413	29 929	27 377	26 361	26 427
Hei Ling Chau ATC	472	282	290	344	303	202	190	240	162	127	117
Lai Chi Kok Reception Centre	356	519	412	379	303	330	365	279	250	278	234
Shek Pik Prison Hospital	157	188	232	201	186	94	140	192	184	199	189
Stanley Prison Hospital	603	665	796	719	687	688	529	488	443	360	367
Total	**798 597**	**788 557**	**763 288**	**755 875**	**752 381**	**731 449**	**715 005**	**722 504**	**696 296**	**672 579**	**685 305**

Appendix 16

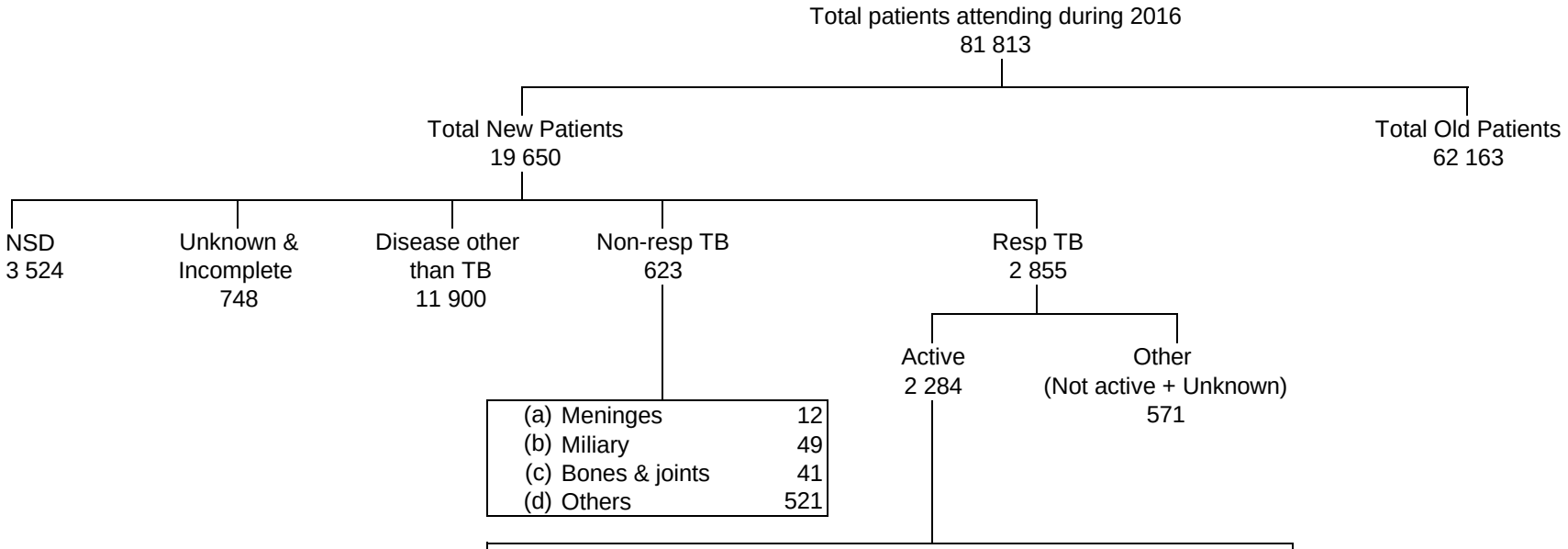
No. of Doctor Sessions, Cases Seen by Doctor and Patient/Doctor Session 2016

Clinic/Hospital	Doctor Sessions	Cases Seen by Doctor	Patient/Doctor Session
Full Time Clinics			
East Kowloon	560	12 567	22
Kowloon	674	14 839	22
Pneumoconiosis	348	4 811	14
Sai Ying Pun	605	10 191	17
Shaukeiwan	567	10 908	19
Shek Kip Mei	577	12 541	22
South Kwai Chung	945	21 436	23
Tai Po	531	8 131	15
Wanchai	748	14 630	20
Yan Oi	866	19 573	23
Yaumatei	845	14 512	17
Yuen Chau Kok	828	16 636	20
Yung Fung Shee	664	15 329	23
Sub-total	**8 758**	**176 104**	**20**
Part Time Clinics			
Cheung Chau	22	257	12
Sai Kung	50	629	13
Sheung Shui	290	3 618	12
Tung Chung	151	2 210	15
Yuen Long	392	6 798	17
Sub-total	**905**	**13 512**	**15**
Institutions Correctional Services Department			
Hei Ling Chau	13	110	8
Lai Chi Kok Reception Center	30	200	7
Shek Pik	13	189	15
Stanley Prison	15	307	20
Sub-total	**71**	**806**	**11**
Total	**9 734**	**190 422**	**20**

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

Appendix 17

Flow Chart of Patients Attending Chest Clinics 2016 *



Bacteriology	Extent	Number
Negative	Minimal	121
	Moderate	36
	Extensive	12
	Not Recorded	139
Positive	Minimal	498
	Moderate	281
	Extensive	146
	Not Recorded	100
Incomplete	Minimal	262
	Moderate	182
	Extensive	99
	Not Recorded	408

Bacteriology	Cavity	Number
Negative	Yes	20
	No	288
Positive	Yes	253
	No	772
Incomplete	Yes	194
	No	757

* A total of 81 813 patients attended, comprising 62 163 old cases and 19 650 new cases. Among new cases, 2 855 had respiratory TB with 2 284 being active, 623 had non-respiratory TB, 11 900 had diseases other than TB, 748 had unknown and incomplete diagnoses, and 3 524 had NSD (no specific diagnosis). Of the 623 new cases with non-respiratory TB, 12 had TB affecting meninges, 49 had miliary TB, 41 had TB affecting bones and joints, and 521 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 2016

Code		Classification	Total
ICD 9	ICD 10		
010	A15.7, A16.7	Primary Tuberculosis Infection	1
011	A15.0-15.3, A16.0-16.3	Pulmonary Tuberculosis	2 031
012	A15.4-15.6, A15.8-15.9, A16.3-16.5, A16.8-16.9	Other Respiratory Tuberculosis	321
013	A17.0-17.1	Tuberculosis of Nervous System	13
014	A18.3	Tuberculosis of Intestines	68
015	A18.0	Tuberculosis of Bones & Joints	51
016	A18.1	Tuberculosis of Genito-urinary System	34
017	A18.2, A18.4-18.8	Tuberculosis of Other Organs	331
018	A19.0-19.2, A19.8-19.9	Miliary Tuberculosis	49
137	B90.0-90.2, B90.8-90.9	Late effects of Tuberculosis	571
160-165	C30-C39, C34.0-34.3, C34.8-34.9	Malignant Neoplasm of Respiratory System	185
212	D14.0-14.4	Benign Neoplasm of Respiratory System	
460-466	J00-J06, J02.0, J02.8-02.9, J03.0, J03.9, J04.0-04.2, J05.0-05.1, J06.8-	Acute Respiratory Infection	643
470-478	J30-39, J30.0-30.4, J39.9	Other Diseases of Upper Resp Tract	21
480-486	J09-J18, J12.9, J15.0-15.2, J15.5-15.9	Pneumonia	
487	J09, J10.0-10.1, J10.8, J11.0-11.1, J11.8	Influenza	16
490-491	J40, J41.0-41.1, J41.8, J42	Bronchitis, (not specified as acute or chronic) & chronic brochitis	1 516
492	J43, J43.0-43.2, J43.8-43.9	Emphysema	11
493	J45, J45.0-45.1, J45.8-45.9, J46	Asthma	82
494	J47	Bronchiectasis	327
495-496	J44, J44.0-44.1, J44.8-44.9	Others	75
501	J61	Asbestosis	3
502	J62, J62.0, J62.8	Silicosis	6
505	J64	Pneumoconiosis, unspecified	
506-508	J63	Others	
510	J86	Pyothorax (Empyema)	3
511	J90	Pleurisy	37
512	J93, J93.0-93.1, J93.8-93.9	Pneumothorax	9
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	
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	2 833
V71	Z00, Z01.6, Z02, Z02.1-02.2, Z02.6-02.9, Z11.1, Z71.1	N.S.D.	3 529
		Diseases Other than TB & Resp System	6 884
Total			19 650

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 Resporary TB in First Attenders at Chest Clinics 2014-2016

Extent *	2014		2015		2016	
	No.	%	No.	%	No.	%
1. Minimal	1 128	43.1	939	39.6	939	39.6
2. Moderate	694	26.5	581	24.5	581	24.5
3. Extensive	303	11.6	258	10.9	258	10.9
4. Not Recorded	495	18.9	596	25.1	596	25.1
Total	2 620	100.0	2 374	100.0	2 374	100.0
No. of first attenders	19 835		19 374		19 650	
% of active TB	13.2		12.3		12.1	

* 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 2016

	Number	%
Smear +	516	22.6
Smear - Culture +	568	24.9
Smear - Culture -	297	13.0
Incomplete	903	39.5
Total	2 284	100.0

APPENDIX 19 (b1)

Rate of Drug-resistant Tuberculosis

Among cases (mainly cases seen at chest clinics) registered during the period January to December 2015

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	2.33	12.79	12.79	1.16	0.00	0.00	13.95	86
	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	2.33	12.79	12.79	1.16	0.00	0.00	13.95	86
20 - 39	New cases	1.21	1.42	4.05	10.12	11.13	1.01	1.01	0.81	13.16	494
	Previously treated cases	0.00	0.00	33.33	33.33	16.67	25.00	0.00	0.00	41.67	12
	Overall	1.19	1.38	4.74	10.67	11.26	1.58	0.99	0.79	13.83	506
40 - 59	New cases	0.72	1.59	5.34	8.66	7.36	2.60	1.15	1.15	11.11	693
	Previously treated cases	5.00	7.50	10.00	22.50	12.50	2.50	7.50	7.50	22.50	40
	Overall	0.95	1.91	5.59	9.41	7.64	2.59	1.50	1.50	11.73	733
60 up	New cases	0.18	0.36	5.20	9.06	8.88	2.96	0.00	0.09	11.84	1115
	Previously treated cases	1.85	1.85	12.96	11.11	12.04	4.63	1.85	1.85	18.52	108
	Overall	0.33	0.49	5.89	9.24	9.16	3.11	0.16	0.25	12.43	1223
All	New cases	0.54	0.92	4.90	9.30	9.05	2.39	0.54	0.54	11.98	2 388
	Previously treated cases	2.50	3.13	13.75	15.63	12.50	5.63	3.13	3.13	21.25	160
	Overall	0.67	1.06	5.46	9.69	9.26	2.59	0.71	0.71	12.56	2 548

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 or 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 TB Reference Laboratory of Department of Health is using the absolute concentration method for drug susceptibility tests.

APPENDIX 19 (b2)

Rate of Drug-resistant Tuberculosis

Among cases (mainly cases seen at chest clinics) with date of starting treatment during the period January to December 2015

	New case		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	2 388	100	160	100	2 548	100
Susceptible to all 4 drugs	2 102	88.02	126	78.75	2 228	87.44
Any resistance	286	11.98	34	21.25	320	12.56
H	117	4.90	22	13.75	139	5.46
R	22	0.92	5	3.13	27	1.06
E	13	0.54	4	2.50	17	0.67
S	222	9.30	25	15.63	247	9.69
Monoresistance	216	9.05	20	12.50	236	9.26
H	49	2.05	8	5.00	57	2.24
R	7	0.29	0	0.00	7	0.27
E	2	0.08	1	0.63	3	0.12
S	158	6.62	11	6.88	169	6.63
Multidrug resistance	13	0.54	5	3.13	18	0.71
H+R	3	0.13	0	0.00	3	0.12
H+R+E	1	0.04	0	0.00	1	0.04
H+R+S	4	0.17	2	1.25	6	0.24
H+R+E+S	5	0.21	3	1.88	8	0.31
Other patterns	57	2.39	9	5.63	66	2.59
H+E	2	0.08	0	0.00	2	0.08
H+S	51	2.14	9	5.63	60	2.35
H+E+S	2	0.08	0	0.00	2	0.08
R+E	0	0.00	0	0.00	0	0.00
R+S	1	0.04	0	0.00	1	0.04
R+E+S	1	0.04	0	0.00	1	0.04
E+S	0	0.00	0	0.00	0	0.00
Number of drugs resistant to:						
0 drug	2 102	88.02	126	78.75	2 228	87.44
1 drug	216	9.05	20	12.50	236	9.26
2 drugs	57	2.39	9	5.63	66	2.59
3 drugs	8	0.34	2	1.25	10	0.39
4 drugs	5	0.21	3	1.88	8	0.31

APPENDIX 19 (c1)

Rate of Drug-resistant Tuberculosis

Among cases registered during the period January to December 2016 *(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	1.49	8.96	7.46	1.49	0.00	0.00	8.96	67
	Previously treated cases	0.00	100.00	100.00	100.00	0.00	0.00	100.00	100.00	100.00	1
	Overall	0.00	1.47	2.94	10.29	7.35	1.47	1.47	1.47	10.29	68
20 - 39	New cases	0.72	1.45	6.51	9.04	8.86	3.07	0.72	0.90	12.66	553
	Previously treated cases	14.29	17.86	17.86	25.00	3.57	7.14	14.29	14.29	25.00	28
	Overall	1.38	2.24	7.06	9.81	8.61	3.27	1.38	1.55	13.25	581
40 - 59	New cases	1.16	1.30	6.94	10.55	8.24	4.34	0.87	0.87	13.44	692
	Previously treated cases	4.08	8.16	14.29	12.24	12.24	2.04	6.12	6.12	20.41	49
	Overall	1.35	1.75	7.42	10.66	8.50	4.18	1.21	1.21	13.90	741
60 up	New cases	0.13	0.33	5.21	8.12	6.80	3.10	0.26	0.20	10.17	1515
	Previously treated cases	0.00	0.54	11.29	11.83	12.37	4.84	0.54	0.54	17.74	186
	Overall	0.12	0.35	5.88	8.52	7.41	3.29	0.29	0.24	10.99	1701
All	New cases	0.50	0.78	5.80	8.91	7.57	3.36	0.50	0.50	11.43	2 827
	Previously treated cases	2.27	4.17	12.88	13.64	11.36	4.55	3.41	3.41	19.32	264
	Overall	0.65	1.07	6.41	9.32	7.89	3.46	0.74	0.74	12.10	3 091

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 or 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 TB Reference Laboratory of Department of Health is using the absolute concentration method for drug susceptibility tests.

APPENDIX 19 (c2)

Rate of Drug-resistant Tuberculosis

Among cases with date of starting treatment during the period January to December 2016

	New case		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	2 827	100	264	100	3 091	100
Susceptible to all 4 drugs	2 504	88.57	213	80.68	2 717	87.90
Any resistance	323	11.43	51	19.32	374	12.10
H	164	5.80	34	12.88	198	6.41
R	22	0.78	11	4.17	33	1.07
E	14	0.50	6	2.27	20	0.65
S	252	8.91	36	13.64	288	9.32
Monoresistance	214	7.57	30	11.36	244	7.89
H	57	2.02	14	5.30	71	2.30
R	6	0.21	1	0.38	7	0.23
E	2	0.07	0	0.00	2	0.06
S	149	5.27	15	5.68	164	5.31
Multidrug resistance	14	0.50	9	3.41	23	0.74
H+R	2	0.07	0	0.00	2	0.06
H+R+E	0	0.00	0	0.00	0	0.00
H+R+S	6	0.21	3	1.14	9	0.29
H+R+E+S	6	0.21	6	2.27	12	0.39
Other patterns	95	3.36	12	4.55	107	3.46
H+E	2	0.07	0	0.00	2	0.06
H+S	89	3.15	11	4.17	100	3.24
H+E+S	2	0.07	0	0.00	2	0.06
R+E	2	0.07	0	0.00	2	0.06
R+S	0	0.00	1	0.38	1	0.03
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	2 504	88.57	213	80.68	2 717	87.90
1 drug	214	7.57	30	11.36	244	7.89
2 drugs	95	3.36	12	4.55	107	3.46
3 drugs	8	0.28	3	1.14	11	0.36
4 drugs	6	0.21	6	2.27	12	0.39

Appendix 19 (d1)

Trend of anti-TB drug resistance (1998-2016) (Data from Programme Forms)

New cases

(Percentages)	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Ethambutol	1.24	1.11	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
Rifampicin	1.17	0.97	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
Isoniazid	6.78	6.22	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
Streptomycin	7.65	9.34	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
MDR-TB	1.06	0.75	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
Total % resistance	10.89	12.61	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

Previously treated cases

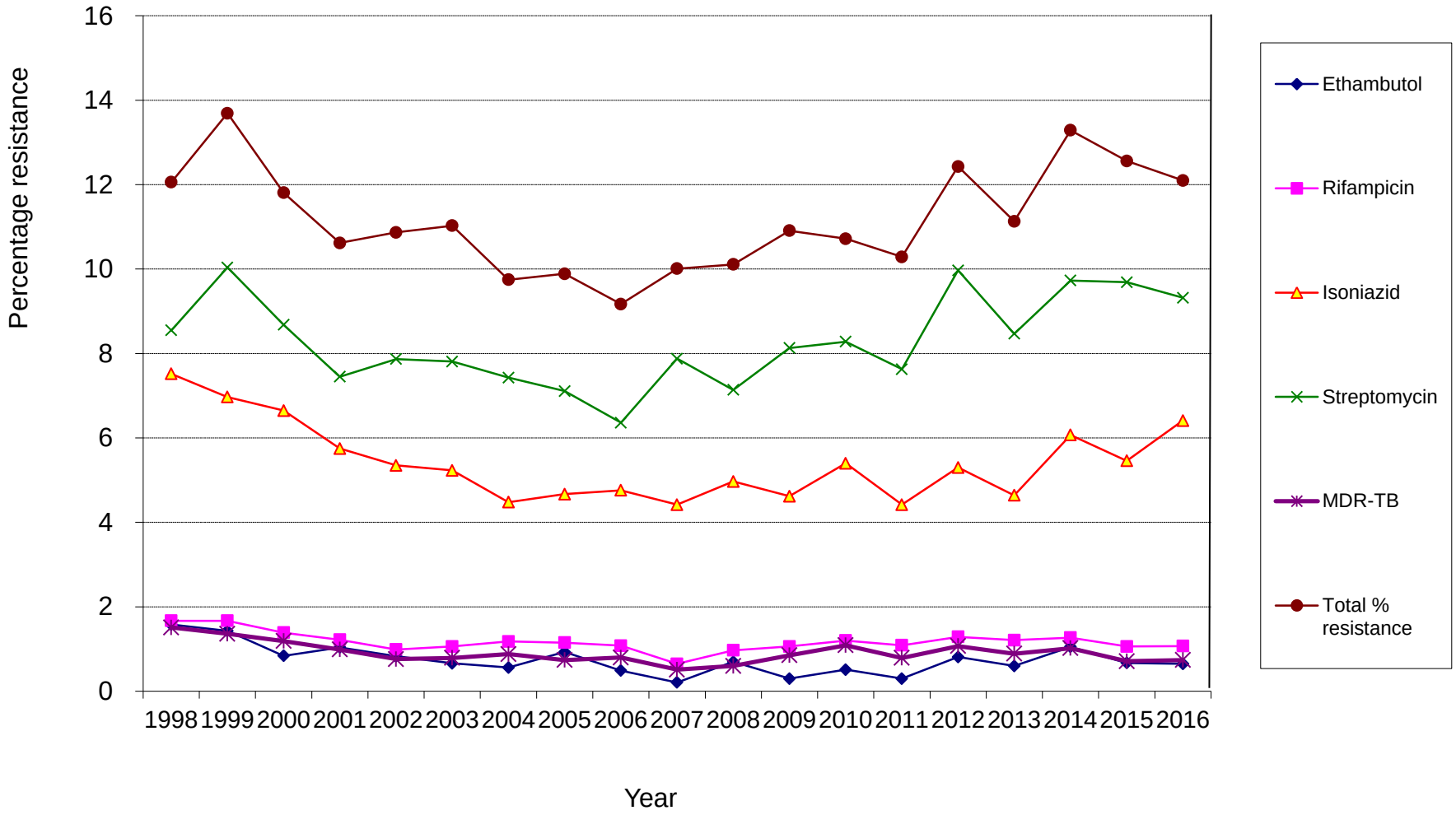
(Percentages)	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Ethambutol	3.51	3.16	2.68	1.85	2.04	2.19	2.14	3.92	1.61	0.90	2.65	0.47	2.56	0.00	1.70	0.99	4.73	2.50	2.27
Rifampicin	4.61	6.09	5.98	3.71	4.59	3.41	4.29	3.64	2.90	2.10	3.53	1.73	4.47	2.84	4.08	2.22	5.09	3.13	4.17
Isoniazid	11.84	11.51	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
Streptomycin	13.82	14.45	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
MDR-TB	4.17	5.19	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
Total % resistance	18.86	20.32	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

Overall

(Percentages)	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Ethambutol	1.58	1.43	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
Rifampicin	1.67	1.67	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
Isoniazid	7.52	6.97	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
Streptomycin	8.55	10.04	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
MDR-TB	1.51	1.36	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
Total % resistance	12.06	13.69	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

Appendix 19 (d2)

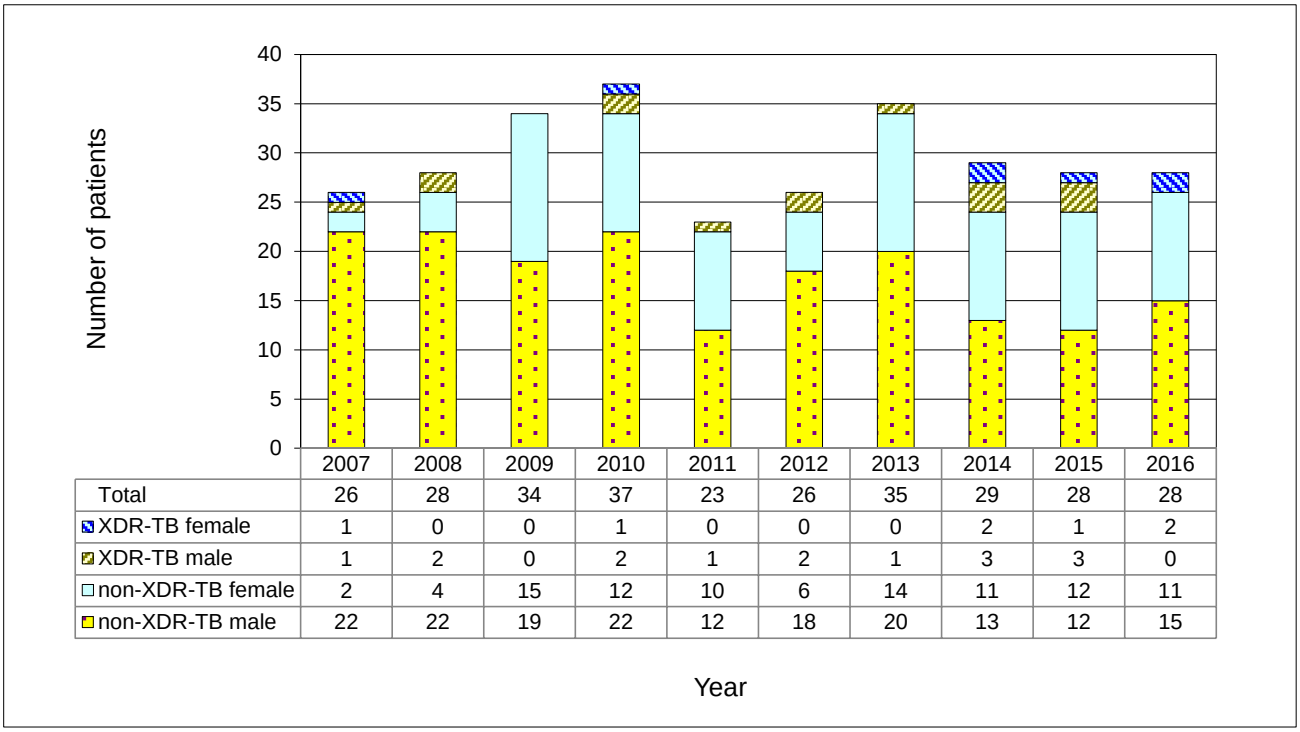
Trend of anti-TB drug resistance (1998-2016) (Overall)



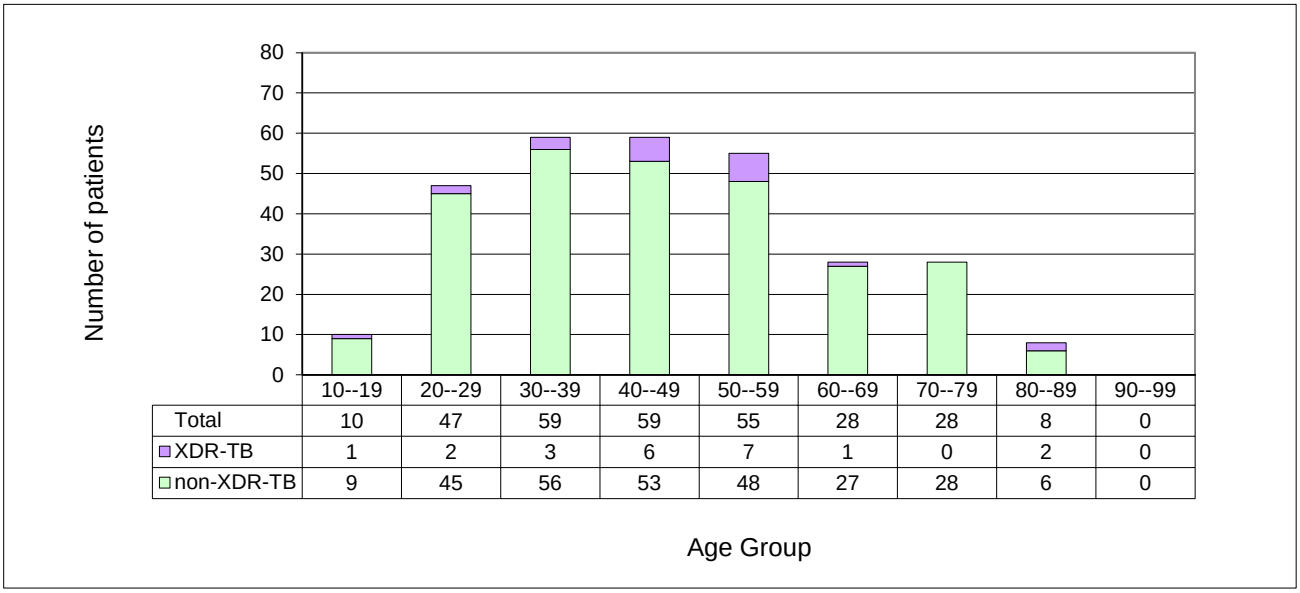
Appendix 19 (e)

MDR-TB and XDR-TB by Sex and Year (Upper Graph) and by Age (Lower Graph) (2007-2016)

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.



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total	26	28	34	37	23	26	35	29	28	28
XDR-TB female	1	0	0	1	0	0	0	2	1	2
XDR-TB male	1	2	0	2	1	2	1	3	3	0
non-XDR-TB female	2	4	15	12	10	6	14	11	12	11
non-XDR-TB male	22	22	19	22	12	18	20	13	12	15



	10--19	20--29	30--39	40--49	50--59	60--69	70--79	80--89	90--99
Total	10	47	59	59	55	28	28	8	0
XDR-TB	1	2	3	6	7	1	0	2	0
non-XDR-TB	9	45	56	53	48	27	28	6	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.

Appendix 20 (a)
Treatment Return 2016

Name of Clinic/Hospital	Service Regimen																										
	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.
		1	2	3	4	5	<6M	at 6M	>6M	NTM	%	hosp.	other cc			Rx by GP	Leave HK	Def. >1x	AMA	<2M	>2M <3M	>3M	%				>2M <3M
	A	B	C	D	E	F	G	H	I	J		K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Full Time Clinics																											
East Kowloon	163	102	1	5	96	52	3	38	163	4	87.4	38	3	4	8	2	4	0	4	3	1	3	3.0	141	5	60	0
Kowloon	171	110	14	7	101	60	4	22	178	1	86.2	39	17	0	13	1	5	0	5	0	1	6	3.0	171	0	29	0
South Kwai Chung	219	116	12	8	191	63	10	37	262	2	87.7	50	8	0	11	0	9	1	7	0	8	5	3.8	199	0	48	0
Sai Ying Pun	91	63	9	7	105	56	4	32	115	7	86.0	52	13	0	9	1	5	0	2	0	0	0	0.0	91	0	51	3
Shaukeiwan	144	86	8	4	79	33	5	37	125	3	87.1	29	14	0	8	2	4	1	1	0	2	4	3.2	119	0	41	0
Shek Kip Mei	85	122	12	4	103	48	5	27	167	7	80.8	41	2	0	14	1	8	4	2	1	1	12	5.8	82	0	73	9
Tai Po	98	89	4	2	49	11	3	20	79	0	83.9	1	5	0	7	2	10	0	0	0	0	0	0.0	126	0	17	0
Wanchai	89	92	18	11	60	35	9	28	103	9	78.0	14	9	0	4	3	20	0	0	0	0	1	0.6	105	0	20	0
Yan Oi	131	155	4	10	109	44	4	47	135	0	88.8	37	9	0	7	2	5	0	8	0	0	1	0.5	198	0	76	0
Yaumatei	168	103	9	8	134	29	3	29	154	4	82.8	23	25	0	13	0	7	1	3	1	1	9	5.0	178	0	4	0
Yuen Chau Kok	162	148	5	6	111	42	5	48	170	5	89.3	25	11	2	16	0	4	0	1	0	0	0	0.0	187	0	27	2
Yung Fung Shee	182	143	2	8	145	51	7	75	196	3	88.9	33	7	2	16	1	6	0	5	0	0	3	1.0	177	0	59	3
Sub-total	1 703	1 329	98	80	1 283	524	62	440	1 847	45	85.9	382	123	8	126	15	87	7	38	5	14	44	2.4	1 774	5	505	17
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	1	0	0	0	3	0	0	1	0	100.0	0	1	0	0	0	0	0	0	0	0	0	0.0	4	0	0	0
Sai Kung	10	5	0	1	7	3	0	1	9	1	90.9	1	4	0	0	0	0	0	0	0	0	0	0.0	10	0	2	0
Sheung Shui	64	45	5	0	68	4	2	18	61	0	84.0	4	10	0	5	0	4	0	0	0	2	4	6.4	76	0	87	0
Tung Chung	25	25	2	1	21	11	1	6	29	1	81.4	11	2	0	2	1	4	0	0	0	0	0	0.0	28	0	20	0
Yuen Long	122	73	5	6	83	23	3	31	103	2	89.9	22	10	0	6	1	1	0	0	0	1	4	3.4	128	0	122	0
Sub-total	223	149	12	8	179	44	6	56	203	4	86.9	38	27	0	13	2	9	0	0	0	3	8	3.7	246	0	231	0
Institutions Correctional Services Department																											
Hei Ling Chau	0	1	1	0	0	0	0	1	1	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0
Stanley Prison	7	10	0	0	4	0	0	15	0	0	100.0	0	0	0	0	0	0	0	0	0	0	0	0.0	6	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	11	1	0	4	0	0	16	1	0	100.0	0	0	0	0	0	0	0	0	0	0	0	0.0	6	0	0	0
Total	1 933	1 489	111	88	1 466	568	68	512	2 051	49	86.1	420	150	8	139	17	96	7	38	5	17	52	2.5	2 026	5	736	17

Appendix 20 (b)
Treatment Return 2016

Other Regimen																											
	No. put	Bought in					Treatment completed					Transfer out to		Interrup		Drop out				Complete defaulter				No. still	Unsup	Incomp	No. def.
Name of Clinic/Hospital	on Rx b/f	1	2	3	4	5	<6M	at6M	>6M	NTM	%	hosp.	other cc	Rx temp	Died	Rx by GP	Leave HK	Def. >1x	AMA	<2M	>2M <3M	>3M	%	onRx c/f	Rx	super. Rx	>2M <3M
	A	B	C	D	E	F	G	H	I	J		K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Full Time Clinics																											
East Kowloon	66	14	2	3	45	8	0	5	47	3	70.3	7	2	0	17	0	0	0	1	0	0	1	1.4	55	5	24	0
Kowloon	22	5	1	2	20	4	0	2	16	2	69.2	7	1	0	5	1	0	0	0	0	0	0	0.0	20	0	7	0
South Kwai Chung	90	6	1	2	47	13	0	2	47	1	77.8	10	2	0	10	0	0	2	1	0	1	1	3.2	82	0	15	0
Sai Ying Pun	57	6	1	1	23	8	0	3	19	1	68.8	8	0	0	5	0	3	1	1	0	0	0	0.0	55	0	15	2
Shaukeiwan	24	8	1	1	16	1	0	3	19	3	78.6	0	1	0	3	0	0	0	0	0	0	0	0.0	22	0	13	0
Shek Kip Mei	104	4	3	1	29	8	0	1	17	1	78.3	6	4	0	3	0	1	1	0	0	0	0	0.0	115	0	21	1
Tai Po	30	12	1	1	16	2	0	1	18	1	61.3	1	2	0	7	0	1	0	2	0	0	1	3.2	28	1	2	0
Wanchai	28	4	0	4	11	3	0	3	11	0	100.0	0	2	0	0	0	0	0	0	0	0	0	0.0	34	0	5	0
Yan Oi	108	6	1	3	23	9	1	16	68	4	82.4	8	1	0	9	0	3	0	1	0	0	1	1.0	38	0	5	0
Yaumatei	38	12	2	3	24	5	1	1	33	1	87.2	4	2	0	2	0	2	1	0	0	0	0	0.0	37	0	3	0
Yuen Chau Kok	42	9	0	2	32	13	3	4	29	0	80.5	10	2	0	8	0	0	0	0	0	0	0	0.0	42	0	18	0
Yung Fung Shee	50	10	2	2	28	5	0	2	14	2	80.0	3	2	0	2	0	0	0	0	0	0	0	0.0	72	0	3	0
Sub-total	659	96	15	25	314	79	5	43	338	19	77.3	64	21	0	71	1	10	5	6	0	1	4	1.0	600	6	131	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	0	0	0	0	1	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0	1	0	1	0
Sai Kung	1	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
Sheung Shui	9	5	1	0	12	1	0	0	6	1	54.5	1	1	0	2	0	1	0	0	0	0	1	9.1	15	0	12	0
Tung Chung	0	0	0	0	5	0	0	0	1	0	33.3	0	1	0	1	0	0	0	0	0	0	1	33.3	1	0	2	0
Yuen Long	13	2	0	4	29	3	2	3	8	2	52.4	1	2	0	3	1	1	0	0	0	0	3	14.3	25	0	28	0
Sub-total	23	7	1	4	47	4	2	3	15	3	51.4	2	5	0	6	1	2	0	0	0	0	5	14.3	42	0	43	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	682	103	16	29	361	83	7	46	353	22	75.6	66	26	0	77	2	12	5	6	0	1	9	1.9	642	6	174	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
							<6M	at 6M	>6M	NTM		hospi-tal	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

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

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

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

* Explanatory Notes :

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

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.

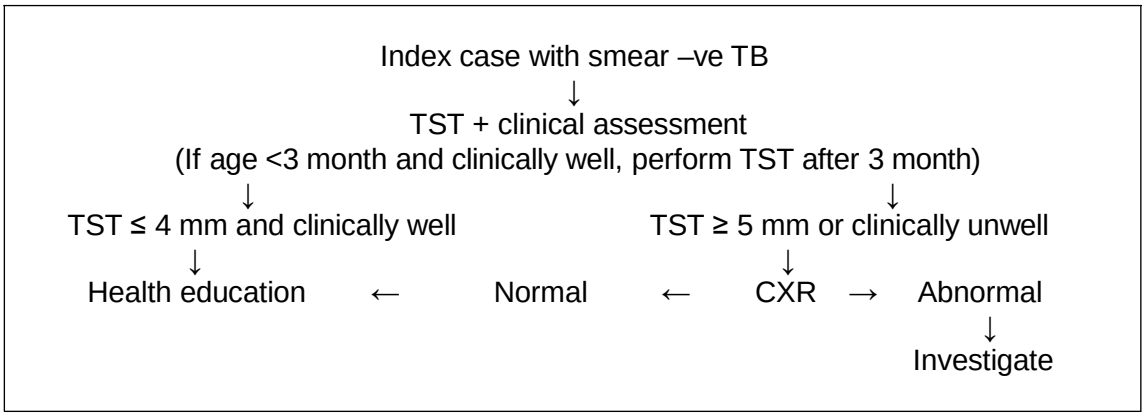
Appendix 21 (a)

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

(Updated 18 May 2015)

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 < 35 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 35 years or more	Chest X-ray, with tuberculin skin test and treatment of latent TB infection after assessment on a case-by-case basis.

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)

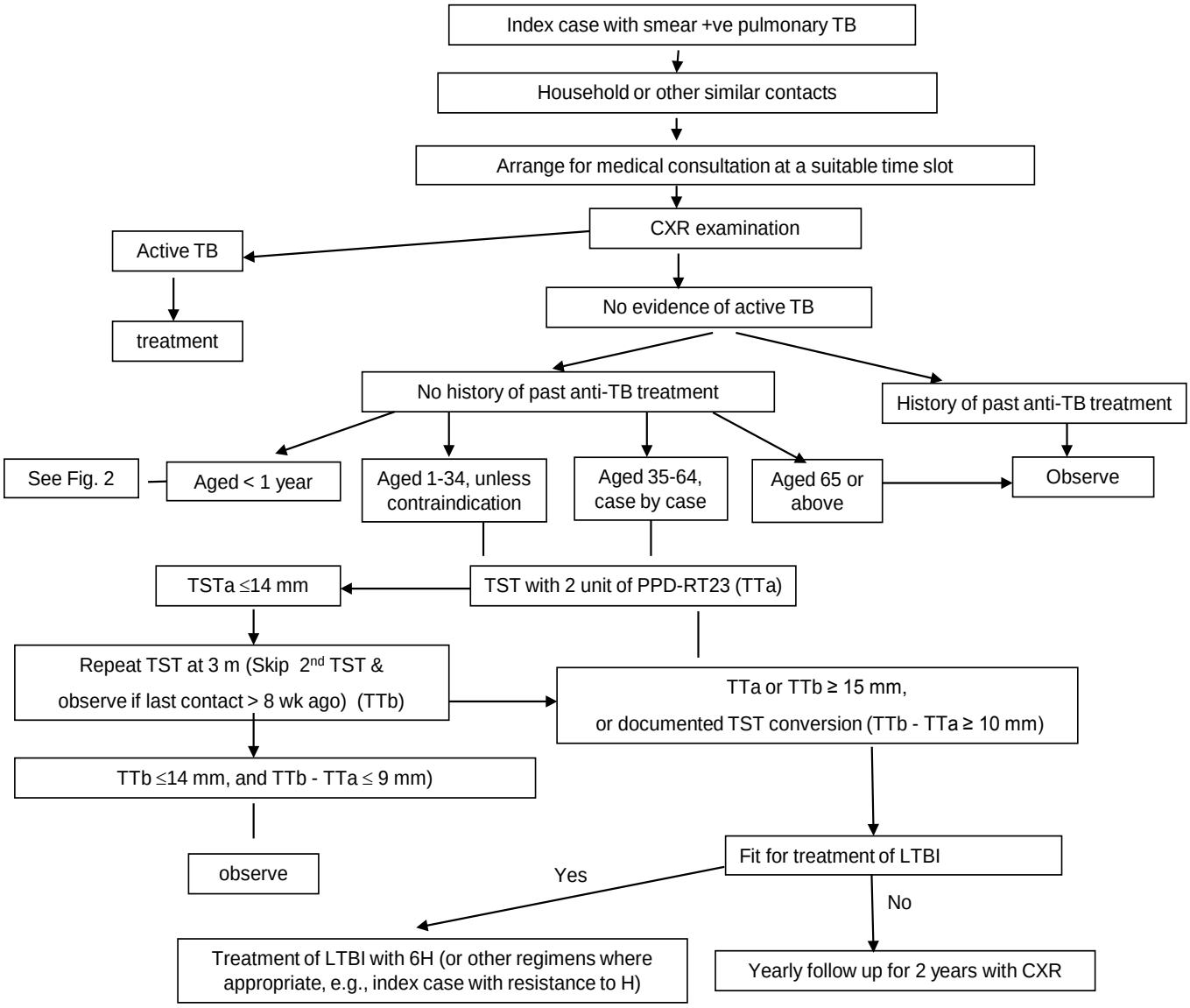


Figure 1: General schema for targeted screening of household contacts of smear-positive pulmonary TB patients

* 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.

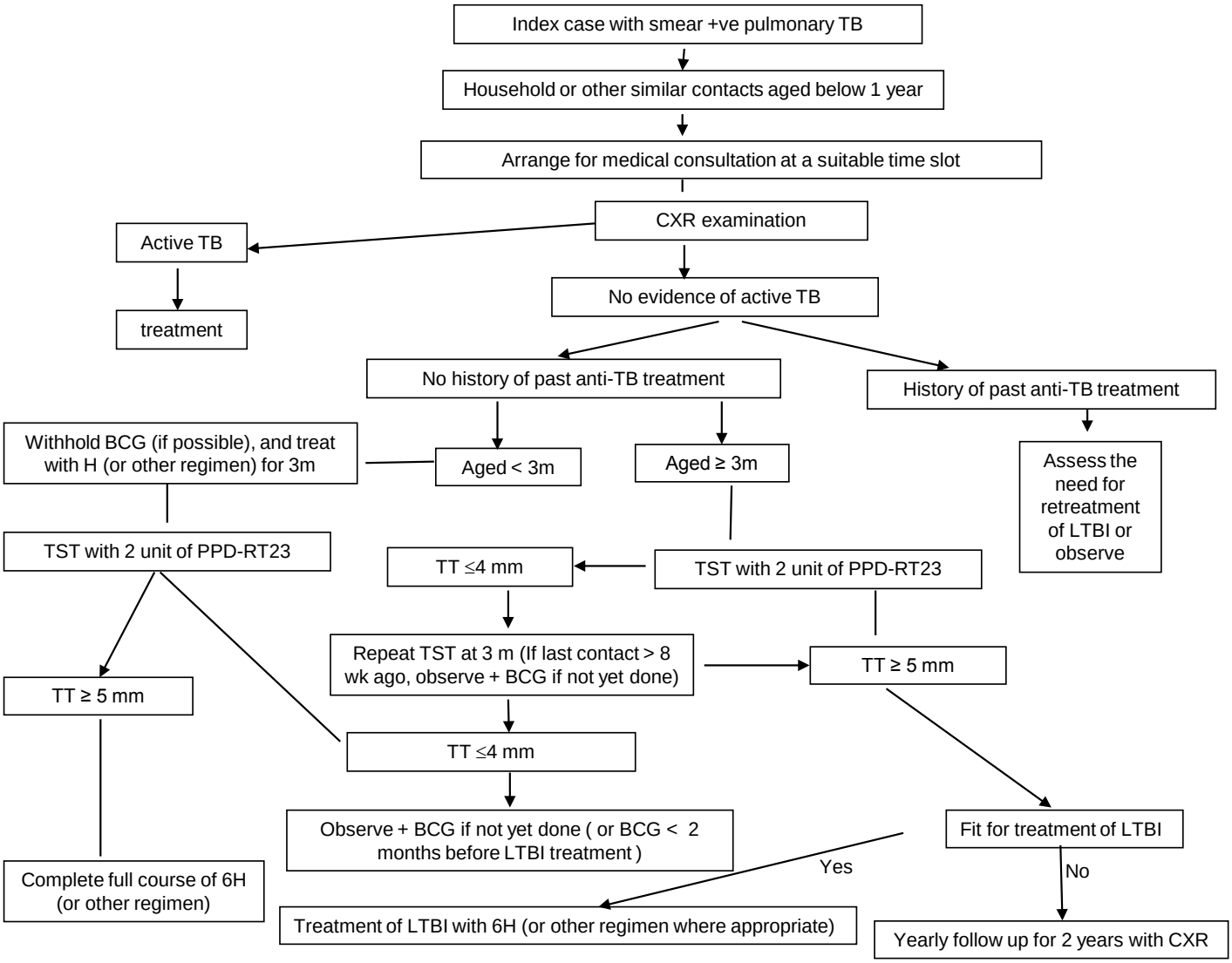


Figure 2: Targeted screening of household contacts aged below one year

* 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 2016

Particulars	Smear Positive Index Cases	Smear Negative Index Cases	Total
No. of patients (new & old) listed	1 179	3 031	4 210
No. of contacts listed	2 733	7 220	9 953
Number of contacts x-rayed	2 733 (100.00%)	7 171 (100.00%)	9 904 (100.00%)
Results			
(a) NSD & Unknown	2 498 (91.40%)	6 762 (94.30%)	9 260 (93.50%)
(b) Disease other than TB	131 (4.79%)	263 (3.67%)	394 (3.98%)
(c) Inactive respiratory TB	39 (1.43%)	52 (0.73%)	91 (0.92%)
(d) Active respiratory TB			
A (radiologically)	11 (0.40%)	14 (0.20%)	25 (0.25%)
B (bacteriogically)	8 (0.29%) > 20 (0.73%)	13 (0.18%) > 28 (0.39%)	21 (0.21%) > 48 (0.48%)
C (incomplete)	1 (0.04%)	1 (0.01%)	2 (0.02%)
(e) Non-respiratory TB	2 (0.07%)	1 (0.01%)	3 (0.03%)
(f) Result not yet known	43 (1.57%)	65 (0.91%)	108 (1.09%)

Appendix 22 (a)

Scheme for BCG Administration in Hong Kong 2016

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 2016

Institution		No. of Live-births	BCG Vaccination	% Vaccinated
Hospital under HA management	P.Y. Nethersole East	2 797	2 516	90.0
	Queen Mary	3 951	3 837	97.1
Private Hospital	Canossa	582	573	98.5
	H.K. Adventist	366	363	99.2
	H.K. Sanatorium	3 493	3 448	98.7
	Matilda International	1 105	1 004	90.9
	St. Paul's	1 184	1 175	99.2
Total (HK Island)		13 478	12 916	95.8
Hospital under HA management	Kwong Wah	5 020	5 003	99.7
	Queen Elizabeth	6 487	6 385	98.4
	United Christian	4 314	4 285	99.3
Private Hospital	H.K. Baptist	2 617	2 571	98.2
	St. Teresa's	4 884	4 814	98.6
	Precious Blood	848	834	98.3
Total (Kowloon)		24 170	23 892	98.8
Hospital under HA management	Alice H.M.L. Nethersole	-	-	-
	Prince of Wales	7 425	7 408	99.8
	Princess Margaret	4 952	4 893	98.8
	Tuen Mun	5 824	5 765	99.0
Private Hospital	T.W. Adventist	1 152	1 140	99.0
	Shatin Int'l Medical Ctr Union	3 853	3 795	98.5
Total (NT Areas)		23 206	23 001	99.1
Mother & Child Health Centre		-	126	-
Grand Total		60 854	59 935	98.5

Appendix 23

TB Beds in Public Services 2016

Hospital		No. of TB Beds
Hospital Authority	Grantham Hospital	106
	Kowloon Hospital	114
	Ruttonjee Hospital	134
	Haven of Hope Hospital	129
	Wong Tai Sin Hospital	92
	Total (Hospital Authority)	575
Custody	Stanley Prison Hospital	20
Grand Total (2016)		595
Grand Total (2015)		590
Grand Total (2014)		609

Appendix 24

Annual Admissions to Hospitals from Government Chest Clinics

2005 - 2016

Year	Total Admissions
2005	4 435
2006	4 571
2007	4 038
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

Admissions by Clinic	Year 2016
East Kowloon	204
Kowloon	136
Sai Ying Pun	303
Shaukeiwan	194
Shaukeiwan Pneumoconiosis	40
Shek Kip Mei	105
South Kwai Chung	414
Tai Po	38
Tung Chung	31
Wanchai	158
Yan Oi	394
Yaumatei	172
Yuen Chau Kok	129
Yung Fung Shee	147
Cheung Chau	2
NT Unit	112
Total	2 579

Appendix 25

HIV Surveillance Among TB Patients

Provider-initiated HIV Antibody Testing Among TB Patients in Government Chest Clinics (2005 – 2016)

Year	HIV positive		HIV negative		HIV results unknown or not done		Total	
	Number	%	Number	%	Number	%	Number	%
2005	35	0.7%	4 174	80.5%	973	18.8%	5 182	100%
2006	33	0.7%	4 478	90.4%	445	9.0%	4 956	100%
2007	41	0.9%	4 034	87.8%	517	11.3%	4 592	100%
2008	48	1.0%	4 073	88.8%	464	10.1%	4 585	100%
2009	40	0.9%	3 953	88.1%	496	11.0%	4 489	100%
2010	28	0.7%	3 805	89.5%	418	9.8%	4 251	100%
2011	33	0.8%	3 623	89.7%	381	9.4%	4 037	100%
2012	22	0.5%	3 685	90.7%	357	8.8%	4 064	100%
2013	24	0.6%	3 512	87.6%	473	11.8%	4 009	100%
2014	23	0.6%	3 322	87.5%	450	11.9%	3 795	100%
2015	24	0.7%	3 266	90.4%	322	8.9%	3 612	100%
2016	28	0.8%	3 244	91.3%	283	8.0%	3 555	100%

Unlinked Anonymous Screening (UAS) for HIV in TB & Chest Service

Period	Category	Sample	Number Tested (No. +ve) (% +ve)	
1.12.90 - 31.1.91	Outpatient	Blood	1 548	
5.6.91 - 5.8.91	Inpatient	Blood	485	
1.4.92 – 30.6.92	Outpatient	Blood	1 469	(2) (0.14%)
1.4.93 – 30.6.93	Outpatient	Blood	1 173	
Sep 95 – Nov 95	Outpatient	Urine	895	(2) (0.22%)
Sep 96 – Dec 96	Outpatient	Urine	998	(4) (0.40%)
Oct 97 – Jan 98	Outpatient	Urine	1 003	(2) (0.20%)
Oct 98 – Jan 99	Outpatient	Urine	833	(4) (0.48%)
Sep 99 – Dec 99	Outpatient	Urine	1 166	(8) (0.69%)
Sep 00 – Dec 00	Outpatient	Urine	1 018	(5) (0.49%)
Oct 01 – Dec 01	Outpatient	Urine	1 071	(4) (0.37%)
Oct 02 – Jan 03	Outpatient	Urine	1 000	(8) (0.80%)
Nov 03 – Feb 04	Outpatient	Urine	920	(6) (0.65%)
Oct 04 – Feb 05	Outpatient	Urine	1 056	(9) (0.85%)
Nov 05 – Jan 06	Outpatient	Urine	841	(7) (0.83%)
Nov 06 – Feb 07	Outpatient	Urine	841	(5) (0.59%)
Nov 07 – Feb 08	Outpatient	Urine	887	(11) (1.24%)

Since late 2008, 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 (1994 – 2016)

Year	Number
1994	1
1995	2
1996	2
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

'Confirmed' Cases of TB in Health Care Staff Notified
to Labour Department (2016) by Age and Job Title

Age Group	Doctor	Nurse	Other Allied Health Professional	Other Supporting Staff	Total
20 – 24	-	-	-	-	0
25 – 29	-	2	-	-	2
30 – 34	-	-	-	-	0
35 – 39	-	2	-	-	2
40 – 44	-	1	-	-	1
45 – 49	-	-	-	-	0
50 – 54	-	-	-	-	0
55 – 59	-	-	-	-	0
60 – 64	-	-	-	-	0
65 – 69	-	-	-	1	1
70 – 74	-	-	-	-	0
Total	0	5	0	1	6

Appendix 27
Cohorts of TB Patients

Treatment outcomes for TB cases registered in 2015 calendar year (number of patients)

	Number of cases registered in 2015 *		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)	4 257	100.00%	2 772	65.12%	0	0.00%	739	17.36%	126	2.96%	620	14.56%
Previously treated patients (excluding relapse cases) ***	13	100.00%	7	53.85%	0	0.00%	2	15.38%	4	30.77%	0	0.00%
HIV-positive TB cases, all types	24	100.00%	10	41.67%	0	0.00%	1	4.17%	1	4.17%	12	50.00%

NB:
* Excludes cases moved to second-line treatment (i.e., excluding rifampicin-resistant cases).
** "Not evaluted" includes "transferred out", "still on treatment" and any other registered cases where the treatment outcome has not been evaluated.
*** "Previously treated patients (excluding relapse cases)" include "treatment after default" and "failure of previous treatment" cases.

Treatment outcomes for TB cases started on second-line TB treatment in 2014 calendar year (number of patients)

	Number of cases started on second-line TB treatment in 2014		Cured or treatment completed		Treatment failed		Died		Lost to follow-up (defaulted)		Not evaluated ****	
All confirmed RR-TB/ MDR-TB cases	26	100.00%	22	84.62%	0	0.00%	1	3.85%	2	7.69%	1	3.85%
All confirmed XDR-TB cases *****	4	100.00%	4	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%

NB:
**** "Not evaluted" 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 1

New Cases of Suspected Pneumoconiosis/Mesothelioma attending the Pneumoconiosis Clinic in Hong Kong 1956 - 2016

Year	Number of New Cases Undergoing Assessment						
	Government Workers	Non-government Workers	Total	(b) (e)	Cumulative Total	Cumulative Total Confirmed by the Board	
						R1	R2
1956	1	-	1		1		
1957	4	4	8		9		
1958	9	13	22		31		
1959	5	7	12		43		
1960	9	6	15		58		
1961	8	-	8		66		
1962	3	1	4		70		
1963	9	5	14		84		
1964	21	17	38		122		
1965	9	4	13		135		
1966	7	9	16		151		
1967	3	6	9		160		
1968	4	2	6		166		
1969	4	10	14		180		
1970	22	36	58		238		
1971	9	18	27		265		
1972	9	29	38		303		
1973	3	39	42		345		
1974	-	97	97		442		
1975	5	84	89		531		
1976	15	252	267		798		
1977	3	216	219		1 017		
1978	12	207	219		1 236		
1979	2	210	212		1 448		
1980	12	532 (a)	544		1 992	386 (a)	-
1981	8	608	616		2 608	1 332	162
1982	4	511	515		3 123	1 434	634
1983	2	292	294		3 417	1 469	945
1984	1	231	232		3 649	1 477	1 140
1985	1	179	180		3 829	1 479	1 322
1986	3	176	179	(3)	4 008	1 485	1 513
1987	4	166	170	(2)	4 178	1 485	1 679
1988	6	172	178	(4)	4 356	1 488	1 877
1989	-	156	156	(1)	4 512	1 488	2 023
1990	2	147	149	(1)	4 661	1 489	2 142
1991	-	171	171	(1)	4 832	1 489	2 151
1992	2	171	173	(3)	5 005	1 490	2 340
1993	2	247	249	(4)	5 254	1 492	2 492
1994	-	327	327	(7)	5 581	1 493	2 770
1995	9	245	254	(9)	5 835	1 494	3 000
1996	4	193	197	(9)	6 032	1 494	3 119
1997	4	154	158	(7)	6 190	1 494	3 242
1998	2	197	199	(5)	6 389	1 494	3 351
1999	-	291	291	(15)	6 680	1 494	3 505
2000	3	235	238	(11)	6 918	1 494	3 619
2001	6	230	236	(9)	7 154	1 494	3 751
2002	3	212	215	(9)	7 369	1 494	3 868
2003	3	142	145	(6)	7 514	1 494	3 948
2004	3	138	141	(4)	7 655	1 494	4 021
2005	-	134	134	(2)	7 789	1 494	4 091
2006	-	278	278	(7)	8 067	1 494	4 207
2007	-	120	120	(2)	8 187	1 494	4 276
2008	3	118	121	(5) (2)	8 308	1 494	4 348
2009	-	167	167	(5) (17)	8 475	1 494	4 456
2010	-	152	152	(1) (12)	8 627	1 494	4 530
2011	-	130	130	(9) (13)	8 757	1 494	4 615
2012	-	122	122	(3) (12)	8 879	1 494	4 674
2013	-	156	156	(2) (17)	9 035	1 494	4 744
2014	3	138	141	(2) (14)	9 176	1 494	4 828
2015	4	153	157	(0) (13)	9 333	1 494	4 897
2016	2	144	146 (c)	(3) (7)	9 479	1 494 (d)	4 951

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 patients with asbestos-related lung disease confirmed by the Board.

(c) Up to the moment that this report is being compiled, 47 of these 146 assessment cases in 2016 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 47 cases.

(d) Under Revised Ordinance 1993 : 584 out of 1 494 pneumoconiotics had joined the pneumoconiosis ex-gratia scheme up to the year 2016. 54 living pneumoconiotics were each receiving a monthly ex-gratia payment of $6,620.00 in 2016.

(e) The figures in this column denote the number of patients with Mesothelioma 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.

Appendix 2

Age Distribution of Pneumoconiosis Patients confirmed in 2016

Age	Number of Cases	%
<25	-	-
25 - 29	-	-
30 - 34	-	-
35 - 39	-	-
40 - 44	-	-
45 - 49	-	-
50 - 54	1	2
55 - 59	4	9
60 - 64	16	34
65 - 69	19	40
70 - 74	4	9
75+	3	6
Total	47	100

Appendix 3

Occupation Distribution of Pneumoconiosis Patients confirmed in 2016

Type of Occupation	Number of Cases	%
Construction	34	72
Construction/Quarry	2	4
Others	11	24
Total	47	100

Appendix 4

Pneumoconiosis Patients confirmed in 2016 by Duration of Exposure to Dust

Duration	Number of Cases	%
< 5 years	-	-
5 - 9	-	-
10 - 14	1	2
15 - 19	4	9
20 - 24	8	17
25 - 29	7	14
30+	23	49
Unknown	4	9
Total	47	100

Appendix 5

Pneumoconiosis Patients confirmed in 2016 by Degree of Incapacity

Degree of Incapacity (%)	No. of New Cases Compensated under Compensation Ordinance
5	11
10	12
15	9
20	1
25	1
30	2
35	0
40	2
45	1
50	2
55	-
60	2
65	-
70	-
75	-
80	-
85	-
90	-
95	-
100	-
Not available / Not applicable	4
Total	47

Appendix 6

Pneumoconiosis Patients confirmed in 2016
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)	25	0	0	25
q	(1.5 to 3.0 mm diameter)	11	2	0	13
r	(3.0 to 10.0 mm diameter	0	0	0	0
Irregular					
s	(fine irregular or linear)	2	0	0	2
t	(medium irregular)	1	0	0	1
u	(coarse irregular)	0	0	0	0
Sub-total		39	2	0	41
Combined opacities		-	-	-	1
Not available / Not applicable		-	-	-	5
Total					47

8 out of the 47 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)	6
B	(Single or multiple opacities with combined area < the equivalent of right upper zone)	2
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 2016

History of TB		Number of Cases	%
History of TB	Bacteriological Positive	6	13
	Bacteriological Negative	1	2
	Not Available	7	15
No History of TB		33	70
Total		47	100

Appendix 8

Pneumoconiosis Patients confirmed in 2016 by Other Particulars

Characteristics		Number of Cases	%
Smoking	Smoker/Ex-smoker	36	77
	Non-smoker	7	15
	Unknown	4	8
	Total	47	100
Still exposed to dust when seen by the Pneumoconiosis Clinic	Yes	9	19
	No	34	72
	Unknown	4	9
	Total	47	100
General Condition	Good	38	81
	Fair	5	11
	Poor	0	0
	Died	4	8
	Total	47	100

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	2012	2013	2014	2015	2016
Notified TB cases who are Chinese New Immigrants (with years of arrival in Hong Kong)	< 1 year	24	18	12	10	12
	1 ≤ and < 2 year	14	9	15	14	7
	2 ≤ and < 3 year	15	11	12	12	10
	3 ≤ and < 4 year	19	14	14	16	14
	4 ≤ and < 5 year	7	14	12	10	7
	5 ≤ and < 6 year	6	16	7	7	13
	6 ≤ and < 7 year	15	10	13	13	4
	Total	100	92	85	82	67
Overall notified TB cases		4 858	4 664	4 705	4 418	4 346

The above table shows the number of all notified TB cases in Hong Kong from 2012 to 2016 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 2012 to 2016 are 67.9, 64.9, 65.0, 60.5 and 59.2 respectively.

From Annex 1 (b), the overall estimated rates (per 100 000) among the new immigrants from 2012 to 2016 are 31.4, 29.7, 26.9, 26.2 and 20.8 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 (2012-2016)

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

	2012	2012	2012	2013	2013	2013	2014	2014	2014	2015	2015	2015	2016	2016	2016
Age group	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-19	4	4	8	7	3	10	5	2	7	3	3	6	4	2	6
20-39	19	50	69	12	43	55	20	30	50	9	35	44	8	24	32
40-59	10	10	20	9	14	23	12	12	24	10	16	26	7	14	21
60+	1	2	3	2	2	4	2	2	4	5	1	6	6	2	8
Total	34	66	100	30	62	92	39	46	85	27	55	82	25	42	67

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

	2012	2012	2012	2013	2013	2013	2014	2014	2014	2015	2015	2015	2016	2016	2016
Age group	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-19	7.9	8.5	8.2	15.9	7.3	11.8	11.6	5.0	8.4	7.3	8.0	7.6	9.4	5.1	7.4
20-39	70.1	39.9	45.2	42.9	35.0	36.5	68.6	24.1	32.5	30.1	28.9	29.2	25.1	21.1	22.0
40-59	45.1	25.1	32.2	39.4	32.3	34.7	49.9	25.6	33.8	39.7	32.4	34.9	23.2	26.0	25.0
60+	38.6	48.2	44.5	66.7	42.8	52.2	59.8	40.0	48.0	132.4	18.8	65.9	123.7	32.5	72.7
Total	33.2	30.5	31.4	30.7	29.3	29.7	39.1	21.2	26.9	27.1	25.8	26.2	22.9	19.8	20.8

Annex 1 (c)

TB Notification and Rates (All Cases) By Age & Sex (2012-2016)

All TB cases by age and sex

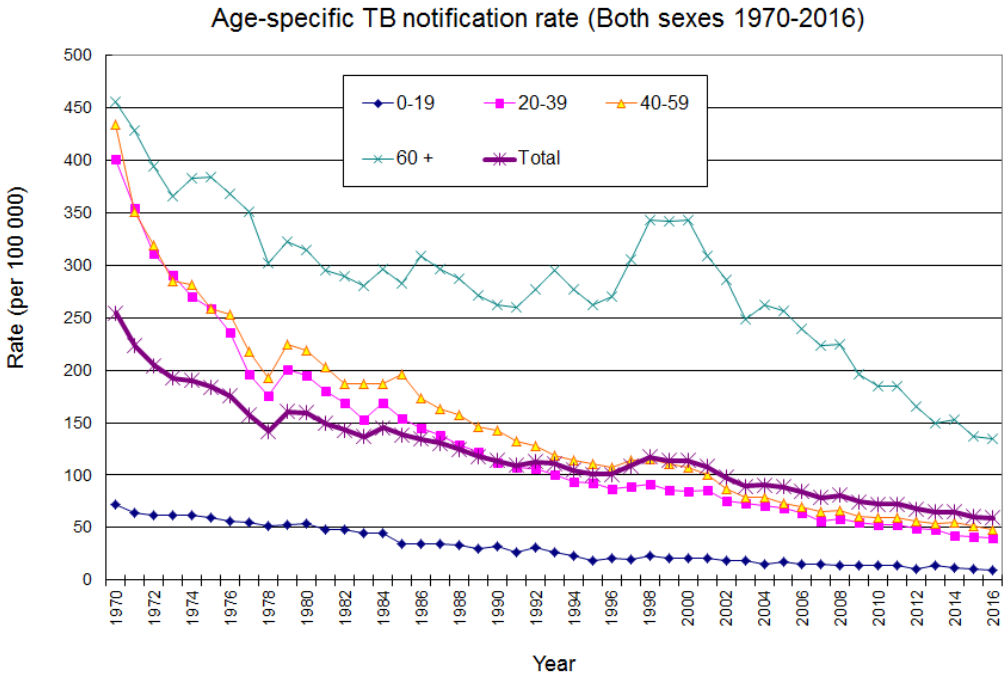
	2012	2012	2012	2013	2013	2013	2014	2014	2014	2015	2015	2015	2016	2016	2016
Age group	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-19	74	59	133	100	71	171	83	55	138	75	52	127	62	43	105
20-39	458	593	1 051	428	580	1 008	400	493	893	370	490	860	352	503	855
40-59	828	511	1 339	813	489	1 302	806	532	1 338	774	477	1 251	665	485	1 150
60+	1 726	609	2 335	1 565	618	2 183	1 709	627	2 336	1 607	573	2 180	1 618	618	2 236
Total	3 086	1 772	4 858	2 906	1 758	4 664	2 998	1 707	4 705	2 826	1 592	4 418	2 697	1 649	4 346

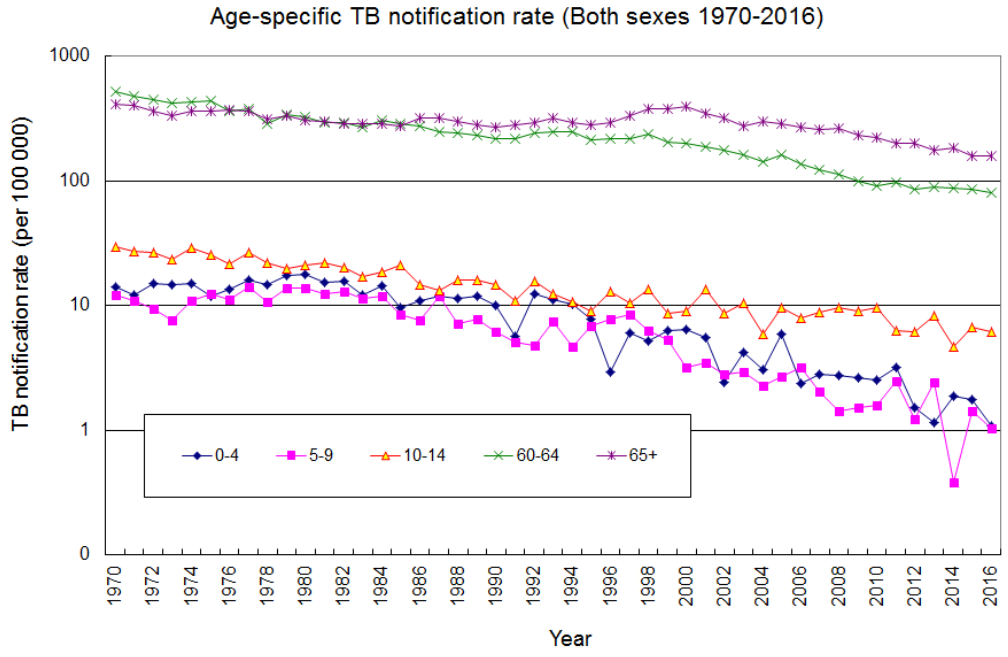
Rate of TB (all notified cases) (per 100 000)

	2012	2012	2012	2013	2013	2013	2014	2014	2014	2015	2015	2015	2016	2016	2016
Age group	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-19	11.6	9.9	10.8	16.1	12.2	14.2	13.5	9.5	11.6	12.2	9.0	10.7	10.3	7.6	9.0
20-39	50.1	49.3	49.7	47.1	48.3	47.8	44.1	41.1	42.4	40.8	40.9	40.8	38.7	42.1	40.6
40-59	74.8	39.6	55.9	73.5	37.5	54.0	73.3	40.3	55.3	71.0	35.9	51.7	61.9	36.5	47.9
60+	257.8	82.4	165.7	224.9	80.4	149.1	235.8	78.2	153.0	212.6	68.5	136.9	205.6	70.9	134.8
Total	92.7	46.3	67.9	87.2	45.6	64.9	89.6	43.8	65.0	83.9	40.4	60.5	79.9	41.6	59.2

Annex 2

Trend of age-specific TB notification rates (1970-2016)





- 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 36 cases with TB-HIV co-infection were reported to the TB-HIV Registry in 2016. The cumulative number of cases reported to the TB-HIV Registry from all sources as in 2016 was 646 (Table 1).

Information on TB as a primary AIDS-defining illness is available in 33 out of 36 cases reported to the TB-HIV Registry in 2016. Of these 33 cases, 16 (48.5%) had TB as a primary AIDS-defining illness (Table 2). The proportion of patients with pulmonary TB and a low CD4 count below 200/µL as primary AIDS-defining illness was similar to that with extra-pulmonary TB for 2016.

The pre-treatment drug susceptibility pattern among culture-positive (sputum or other specimens) TB-HIV cases for the years 1996-2016 is shown in Table 3. Thirty patients reported to the TB-HIV Registry had a positive sputum or other specimen culture in 2016. Twenty seven (90.0%) had disease due to *Mycobacterium tuberculosis* with favourable susceptibility pattern. Two patients had (6.7%) had bacillary resistance to isoniazid and 1 patient (3.3%) had bacillary resistance to streptomycin. There was no MDR- or XDR-TB patients among the reported TB-HIV cases in 2016. Among all the 456 cases reported to TB-HIV Registry with a positive sputum or other specimen culture between 1996 and 2016, 7 (1.5%) had MDR-TB. This figure is slightly higher than the MDR-TB rate of around 1% in general population. DH will continue to monitor prevalence of drug resistance in the context of HIV.

Table 4 shows the characteristics of 36 patients seen at chest clinics and/or SPP in 2016. The characteristics of these patients are similar to those of the 2015 cohort, namely, there were greater proportions of young males and non-Chinese Asians among TB-HIV co-infected patients as compared to non-HIV infected TB patients. CD4 count was relatively low (median 87) at the time of TB diagnosis. Extra-pulmonary involvement was common, with over three-quarter 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 (1996-2016)*

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
Total	646

* 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 460 cases reported to chest clinics and/or SPP (1996-2016)*

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
Total	126	179	305	126	29	460

* 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 2016, 460 cases were seen at chest clinics and/or SPP. The table is compiled basing on data of these 460 cases.

Table 3. Pre-treatment drug sensitivity pattern among culture positive (sputum and/or other specimens) TB-HIV cases from TB-HIV Registry, all sources (1996-2016)*

Year	Susceptible to SHRE	Any resistance** (non-MDR/XDR)	MDR	XDR	Total number of culture positive cases
1996	7	1	0	0	8
1997	5	1	0	0	6
1998	13	1	0	0	14
1999	16	4	1	0	21
2000	13	2	0	0	15
2001	23	5	0	0	28
2002	11	3	1	0	15
2003	18	3***	0 (+1)***	0	21
2004	20	6	0	0	26
2005	29	5	0	0	34
2006	32	3	0	0	35
2007	30	7	1	0	38
2008	30	3	0	0	33
2009	22	7	0	0	29
2010	12	2	0	0	14
2011	12	4	0	0	16
2012	13	2	1	0	16
2013	13	5	0	0	18
2014	11	7	0	0	19****
2015	15	1	1 (+1)*****	0	20****
2016	27	3	0	0	30
Total	372	75	5 (+2)	0	456

* Of all the cases reported to the TB-HIV Registry from 1996 to 2016, 456 had a positive culture (sputum or other specimens). The table is compiled basing on data of these 456 cases.
** Any pattern of drug resistance except MDR (i.e. resistant to at least both H and R) and XDR (i.e resistance to any fluoroquinolones, and at least one of the injectable drugs, in addition to MDR).
*** One of these patients had extremely poor treatment adherence, developed acquired resistance during anti-TB treatment and became MDR-TB.
**** Drug susceptibility result unknown in one patient in 2014 and two patients in 2015.
***** One patient's pre-treatment sputum culture showed MTB with favourable drug susceptibility pattern; sputum culture at 3 month showed MDRTB, which might represent mixed population or acquired drug resistance

Annex 3 (d)

Table 4 Characteristics of 36 TB-HIV cases reported from chest clinics and SPP in 2016

Age distribution	Number	Proportion
0 to 19	0	0.0%
20 to 39	12	33.3%
40 to 59	18	50.0%
60+	6	16.7%
Sex distribution		
Male	28	77.8%
Female	8	22.2%
Ethnicity		
Chinese	21	58.3%
Asians, non-Chinese	11	30.6%
African	4	11.1%
Others	0	0.0%
Case category		
New case	33	91.7%
Relapse	2	5.6%
Treatment after default	1	2.8%
Failure of previous treatment	0	0.0%
Others	0	0.0%
TB as a primary AIDS defining illness*		
Yes	16	48.5%
No	17	51.5%
CD4 count at time of co-infection (median, IQR)**	87 (32-299) /µL	
Anti-retroviral therapy at time of co-infection***		
Yes	11	31.4%
No	24	68.6%
Presence of extra-pulmonary TB		
Yes	28	77.8%
No	8	22.2%
Extent of Respiratory TB****		
Minimal	8	36.4%
Moderate	6	27.3%
Extensive	8	36.4%
Sputum bacteriological status (pre-treatment)		
Smear + culture +	14	38.9%
Smear - culture +	11	30.6%
Smear + culture -	0	0.0%
Smear - culture -	6	16.7%
Incomplete/sputum test not performed	5	13.9%
Drug resistance pattern (pre-treatment)*****		
Susceptible to SHRE	27	90.0%
Resistant to streptomycin alone	1	3.3%
Resistant to isoniazid alone	2	6.7%
Resistant to rifampicin alone	0	0.0%
MDR	0	0.0%
XDR	0	0.0%

* Information on TB as primary AIDS-defining illness unknown in three patients.
** Information on CD4 count unknown in three patients.
*** Information on anti-retroviral therapy at time of co-infection unknown in one patient.
**** 22 out of 36 cases had lung parenchymal lesion on CXR.
***** 30 of 36 cases had a positive sputum and/or other specimen culture.

Annex 4

Crude and Standardised Death Rate and Notification Rate 1981 - 2016
(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

* Age and sex-standardisation, using the mid-1981 population as the standard population.

NB. The rates have been updated based on the updated population figures from the

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)