ANNUAL REPORT 2008

TUBERCULOSIS & CHEST SERVICE

OF THE

DEPARTMENT OF HEALTH

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PREFACE

Tuberculosis (TB) is still a major infectious disease worldwide. Effective anti-TB treatment has been available for half a century. However, with the long course of treatment required to cure the disease, non-adherence and emergence of drug resistance were encountered since the earliest days of chemotherapy. Notwithstanding the increasing coverage of Directly Observed Treatment Short course (DOTS), anti-TB drug resistance remains a grave concern. The problem is most acute in areas with HIV co-epidemic or gross social inequities, but increasing movement of populations has rendered it a global crisis affecting all countries. Globally, almost half a million cases of multidrug-resistant TB (MDR-TB) with bacillary resistance to at least isoniazid and rifampicin are estimated to emerge every year. Among them, around 40,000 are extensively drug-resistant TB (XDR-TB), defined as MDR-TB with additional resistance to fluoroquinolones and one or more of the three injectable drugs -- kanamycin, amikacin and capreomycin. XDR-TB carries a very poor prognosis with high treatment failure and mortality rates. The mortality reached >90% among HIV-coinfected patients in a recent report from South Africa. Significant epidemiological clustering was also observed, probably reflecting the prolonged period of infectiousness with ineffective treatment, especially in the nosocomial settings.

With the implementation of effective case-finding and treatment, the notification rate of TB in Hong Kong has shown an overall downward trend in the past 50 years. The rate decreased from a peak of 697 per 100,000 in 1952 to 78.9 per 100,000 in 2007. However, fluctuations did occur from time to time, possibly related to changes in attendance and/ or notification patterns. In 2008, the TB notification rose slightly to 80.8 per 100,000. With ageing of the population, 41.1% of the TB patients are aged 65 or above, likely reflecting both the high past TB burden and waning immunity/ increasing co-morbidities with age. Despite a smaller elderly population among the males, 47.1% of male TB patients in 2008 were aged 65 or above, while the corresponding figure for females was 30.3%. Multiple factors probably underlined such disparity, but smoking likely accounted for a substantial portion of the difference, as suggested by a previous study.

With the effective implementation of DOTS and DOTS-plus in Hong Kong, the overall TB situation and drug resistance problem have been brought under progressive control. However, ageing of the TB epidemic and the global emergence of MDR- and XDR-TB are posing increasing difficulties in the control of TB locally, especially in view of frequent population movement and high rates of drug-resistant TB in some of our neighbouring areas. New initiatives are therefore called for to address these new challenges.

In 2008, a new Prevention and Control of Disease Ordinance (CAP 599) was

introduced to provide for the control and prevention of diseases, and to apply relevant measures of the International Health Regulations promulgated by the World Health Organization. Under the Prevention and Control of Disease Regulation (CAP 599A) of that Ordinance, XDR-TB was included as one of the specified diseases, alongside Severe Acute Respiratory Syndrome, and Influenza A (H2), Influenza A (H5), Influenza A (H7), or Influenza A (H9). As a result, statutory provision has been made for a health officer to prohibit, by order in writing, an XDR-TB patient from leaving Hong Kong.

Collaborative efforts have also been made in the development of new diagnostic tools and drugs/ regimens to meet these new challenges. New interferon-gamma release assays are being compared with the traditional tuberculin skin test in the targeted screening of latent TB infection among close TB contacts, silicosis patients, HIV-infected subjects, and other immuno-compromised individuals including those under treatment with anti-TNF agents. As these new assays are not affected by previous BCG vaccination, they may also play an adjunctive role in the diagnosis of active TB, especially among children with a low background prevalence of latent TB infection. Shorter regimens than those currently available are required to facilitate the treatment of both latent TB infection and active TB disease. Multi-centered clinical trials are underway to explore some of these new treatment-shortening regimens in different parts of the world. In line with our previous involvement in the milestone Hong Kong Chest Service/ British Medical Research Council TB trials that helped to establish the standard 6-month short-course regimen, international collaboration is being actively pursued in the development and evaluation of new TB treatment regimens. It is hoped that some of these researches will translate into effective, safe, and affordable tools suitable for large-scale application to control, and ultimately eliminate, this major killer in the history of mankind.

A number of scientific papers were published by the TB&CS in collaboration with other investigators from different sectors in 2008.[1-15] These articles covered diversified aspects from basic science, epidemiology, clinical care to public health control. Besides contributing to the body of scientific evidence, upon which the global TB control and treatment strategies develop, they also helped to provide some of the necessary data to guide our local TB control programme.

During the year, 100,600 patients attended the TB&CS as compared to 99,290 in 2007, and the total attendance was 763,288 in comparison with 788,557 in 2007. Among the 100,600 patients, 24,012 patients were new attendants, of whom 20.5% were found free of any chest diseases. The diagnoses among other new patients included active pulmonary tuberculosis (11.6%), active tuberculosis of other forms (3.0%), inactive tuberculosis (7.3%), bronchitis not specified as acute or chronic (12.5%), acute respiratory infection (7.8%),

pneumonia (5.2%), malignant neoplasm of trachea and bronchus (1.6%), bronchiectasis (1.4%), asthma (0.7%) and emphysema (0.1%). Among all the attendance, 3,170 hospital admissions were arranged.

Part 1: Tuberculosis

The number of tuberculosis notifications in 2008 was 5,635, making a notification rate of 80.8 per 100,000 population. The corresponding figures in 2007 were 5,463 and 78.9 respectively.

The number of tuberculosis deaths was 229 in 2008 as compared with 231 in 2007. The corresponding tuberculosis mortality rates were both 3.3 per 100,000 population.

Tuberculosis stayed outside the top ten causes of death in 2008. Tuberculosis deaths accounted for 0.6% of the total registered deaths in Hong Kong. The average age of tuberculosis deaths was 74.5.

In 2008, 99.2% 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. Besides this, unlinked anonymous screening (UAS) continued to be carried out among a consecutive sample of TB patients annually.

Part 2: Pneumoconiosis

The Pneumoconiosis Compensation Ordinance was first introduced in 1980 for compensation of workers who acquired pneumoconiosis as a result of occupational exposure to silica and asbestos dusts. 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. The Ordinance was amended in 1993 to replace the lump sum payment with monthly payment. 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 applied for reassessment under the revised scheme, irrespective of whether there was additional degree of incapacity over previous lump-sum compensation. The 1996 amendment also allowed the Pneumoconiosis Medical 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.

The Pneumoconiosis Clinic continued to provide a full range of outpatient services to patients with suspected or confirmed pneumoconiosis. 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 8,501 in 2008 compared with 8,359 in 2007. In 2008, 121 new cases of pneumoconiosis were registered in the TB&CS, and 72 new cases (including 5 cases of asbestos-related lung diseases) were confirmed by the Pneumoconiosis Medical Board. Up to the end of 2008, a total of 5,842 patients had been compensated.

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15. Leung CC, Yam WC, Yew WW, Ho PL, Tam CM, Law WS, Wong MY, Leung M, Tsui D. Comparison of T-Spot.TB and tuberculin skin test among silicotic patients. Eur Respir J. 2008;31):266-72.

Part 1

TUBERCULOSIS

Part 1 - Tuberculosis: Contents

APPENDIX 1

TB Notifications & Death Rate of Tuberculosis (All Forms)
1947 - 2008

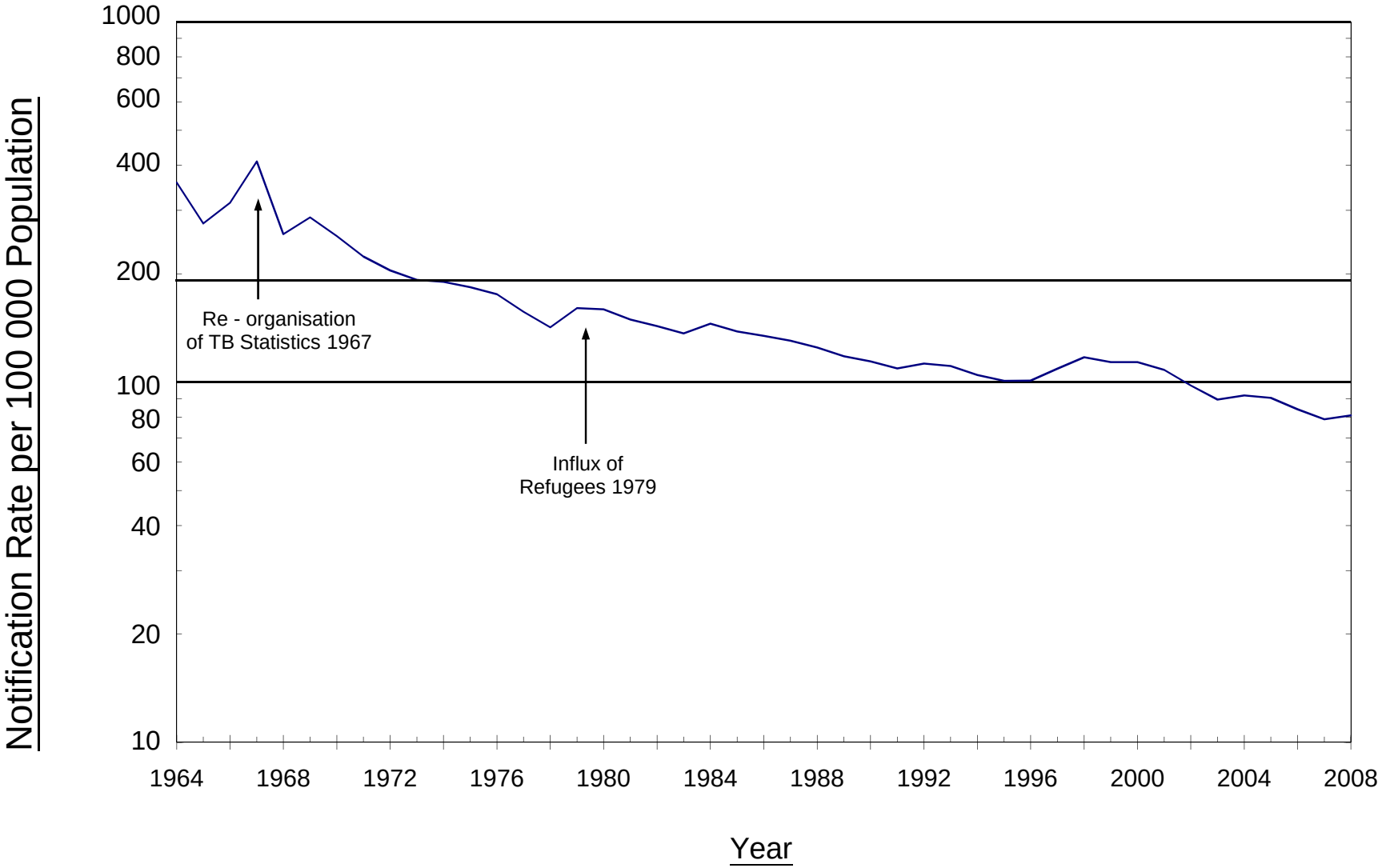
Year	TB Notifications			Notification Rate per 100,000 Pop	TB Deaths	Death Rate per 100,000 Pop	Ratio (Notifications/ Deaths)	Deaths / Notifications x 100%
1947	4855			277.4	1861	106.3	2.61	38.33
1948	6279			348.8	1961	108.9	3.20	31.23
1949	7510			404.4	2611	140.6	2.88	34.77
1950	9067			405.3	3263	145.9	2.78	35.99
1951	13886			689.0	4190	207.9	3.31	30.17
1952	14821			697.2	3573	168.1	4.15	24.11
1953	11900			530.7	2939	131.1	4.05	24.70
1954	12508			528.9	2876	121.6	4.35	22.99
1955	14148			568.1	2810	112.8	5.03	19.86
1956	12155			464.9	2629	100.6	4.62	21.63
1957	13665			499.4	2675	97.8	5.11	19.58
1958	13485			472.5	2302	80.7	5.86	17.07
1959	14302			482.0	2178	73.4	6.57	15.23
1960	12425			405.5	2085	68.0	5.96	16.78
1961	12584			397.2	1907	60.2	6.60	15.15
1962	14263			431.5	1881	56.9	7.58	13.19
1963	13031			380.9	1762	51.5	7.40	13.52
1964	12557			358.3	1441	41.1	8.71	11.48
1965	9927			275.9	1278	35.5	7.77	12.87
1966	11427			314.8	1515	41.7	7.54	13.26
1967	15253			409.7	1493	40.1	10.22	9.79
1968	9792			257.5	1483	39.0	6.60	15.15
1969	11072			286.5	1470	38.0	7.53	13.28
1970	10077			254.5	1436	36.3	7.02	14.25
1971	9028			223.2	1250	30.9	7.22	13.85
1972	8420			204.2	1312	31.8	6.42	15.58
1973	8152			192.2	1154	27.2	7.06	14.16
1974	8320			190.0	974	22.2	8.54	11.71
1975	8192			183.6	646	14.5	12.68	7.89
1976	7928			175.5	568	12.6	13.96	7.16
1977	7191			156.9	532	11.6	13.52	7.40
1978	6623			141.9	420	9.0	15.77	6.34
1979	7907	(498) *		160.4	523	10.6	15.12	6.61
1980	8065	(712)		159.3	551	10.9	14.64	6.83
1981	7729	(254)		149.1	489	9.4	15.81	6.33
1982	7527	(112)		143.0	454	8.6	16.58	6.03
1983	7301	(73)		136.6	446	8.3	16.37	6.11
1984	7843	(69)		145.3	420	7.8	18.67	5.36
1985	7545	(59)	580 #	138.3	409	7.5	18.45	5.42
1986	7432	(46)	544	134.5	407	7.4	18.26	5.48
1987	7269	(41)	495	130.3	405	7.3	17.95	5.57
1988	7021	(121)	433	124.8	388	6.9	18.10	5.53
1989	6704	(226)	387	117.9	403	7.1	16.64	6.01
1990	6510	(288)	341	114.1	382	6.7	17.04	5.87
1991	6283	(281)	293	109.2	409	7.1	15.36	6.51
1992	6534	(309)	264	112.6	410	7.1	15.94	6.27
1993	6537	(264)	89	110.8	396	6.7	16.51	6.06
1994	6319	(230)	87	104.7	409	6.8	15.45	6.47
1995	6212	(175)	102	100.9	418	6.8	14.86	6.73
1996	6501	(88)	162	101.0	292	4.5	22.26	4.49
1997	7072	(34)	156	109.0	252	3.9	28.06	3.56
1998	7673	(7)	169	117.3	270	4.1	28.42	3.52
1999	7512	(5)	166	113.7	312	4.7	24.08	4.15
2000	7578	(7)	152	113.7	299	4.5	25.34	3.95
2001	7262	(0)	192	108.16	311	4.6	23.35	4.28
2002	6602	(0)	186	97.89	267	4.0	24.73	4.04
2003	6024	(0)	177	89.50	275	4.1	21.91	4.57
2004	6226	(0)	110	91.78	286	4.2	21.77	4.59
2005	6160	(0)	77	90.41	271	4.0	22.73	4.40
2006	5766	(0)	58	84.09	294	4.3	19.61	5.10
2007	5463	(0)	56	78.88	231	3.3	23.65	4.23
2008	5635	(0)	67	80.76	229	3.3	24.61	4.06

* 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.

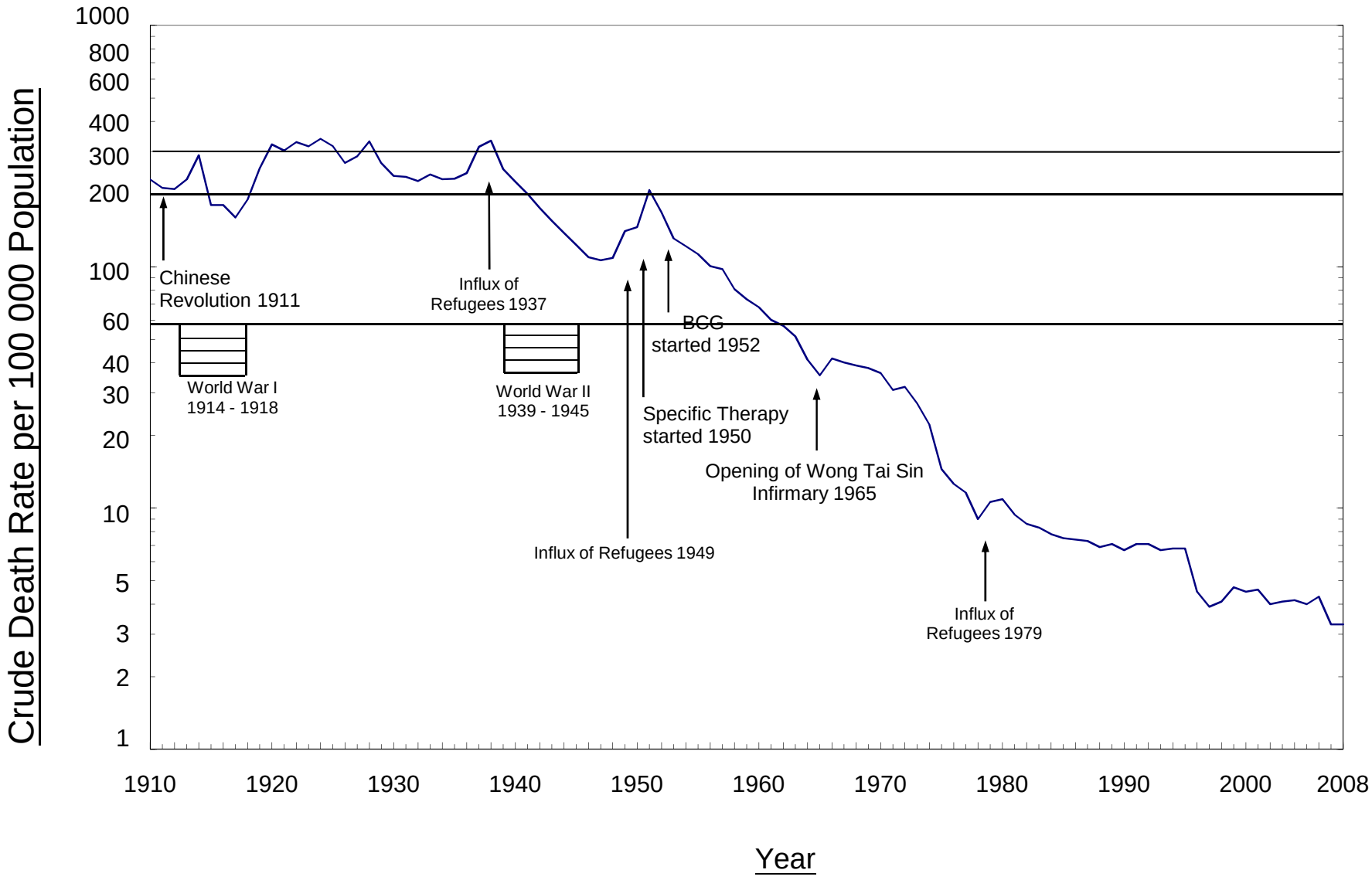
APPENDIX 2

TB Notification Rate (All Forms) 1964-2008



APPENDIX 3

Crude Death Rate due to Tuberculosis (All Forms) 1910-2008



APPENDIX 4 (a)

Tuberculosis Notifications (All Forms) & Rate by Age & Sex 2008

Age Group	Tuberculosis Notifications (All Forms)			Tuberculosis Notifications Rate (per 100,000 population)		
	Male	Female	Total	Male	Female	Total
Under 1	2	0	2	3.48	1.89	2.72
1	2	0	2			
2	0	0	0			
3	0	1	1			
4	0	1	1			
5-9	1	3	4	0.68	2.22	1.42
10-14	12	26	38	5.87	13.36	9.52
15-19	65	71	136	28.46	32.89	30.61
20-24	131	146	277	59.95	60.51	60.24
25-29	137	190	327	59.46	63.38	61.67
30-34	140	184	324	60.61	58.79	59.56
35-39	155	153	308	64.10	45.62	53.36
40-44	197	136	333	70.84	39.37	53.41
45-49	240	154	394	74.70	44.20	58.83
50-54	281	139	420	96.63	46.93	71.55
55-59	309	100	409	134.99	43.71	89.36
60-64	249	94	343	160.85	63.69	113.43
65-69	260	65	325	220.34	60.80	144.51
70-74	358	114	472	309.96	95.24	200.68
75-79	423	110	533	466.37	109.24	278.47
80-84	346	133	479	690.62	180.22	386.60
85 & over	320	187	507	978.59	261.54	486.56
Total	**3628**	**2007**	**5635**	**110.02**	**54.54**	**80.76**

Appendix 4 (b)

Pulmonary TB Notifications by Age & Sex 2008**

Age Group	Pulmonary TB			Bacteriologically * Positive Pulmonary TB			Smear Positive Pulmonary TB		
	M	F	T	M	F	T	M	F	T
Under 1	0	0	0	0	0	0	0	0	0
1	1	0	1	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	1	1	0	0	0	0	0	0
5-9	0	2	2	0	1	1	0	0	0
10-14	8	21	29	2	13	15	0	8	8
15-19	59	61	120	38	35	73	18	16	34
20-24	118	124	242	83	98	181	42	49	91
25-29	121	139	260	80	85	165	42	47	89
30-34	120	141	261	84	79	163	42	43	85
35-39	142	119	261	89	68	157	43	39	82
40-44	177	92	269	117	57	174	62	30	92
45-49	214	104	318	154	69	223	78	35	113
50-54	261	94	355	184	52	236	109	18	127
55-59	282	69	351	226	50	276	128	20	148
60-64	232	67	299	190	47	237	109	20	129
65-69	236	53	289	182	33	215	87	18	105
70-74	336	80	416	268	62	330	115	28	143
75-79	400	91	491	327	67	394	117	21	138
80-84	325	116	441	266	80	346	103	35	138
85 & over	298	170	468	252	126	378	67	35	102
Total	**3330**	**1545**	**4875**	**2542**	**1022**	**3564**	**1162**	**462**	**1624**

** Pulmonary TB with or without extrapulmonary TB

* Either smear or culture positive

Appendix 4 (c)

Rate of Pulmonary TB Notifications by Age & Sex 2008**

(Rate per 100,000 Population)

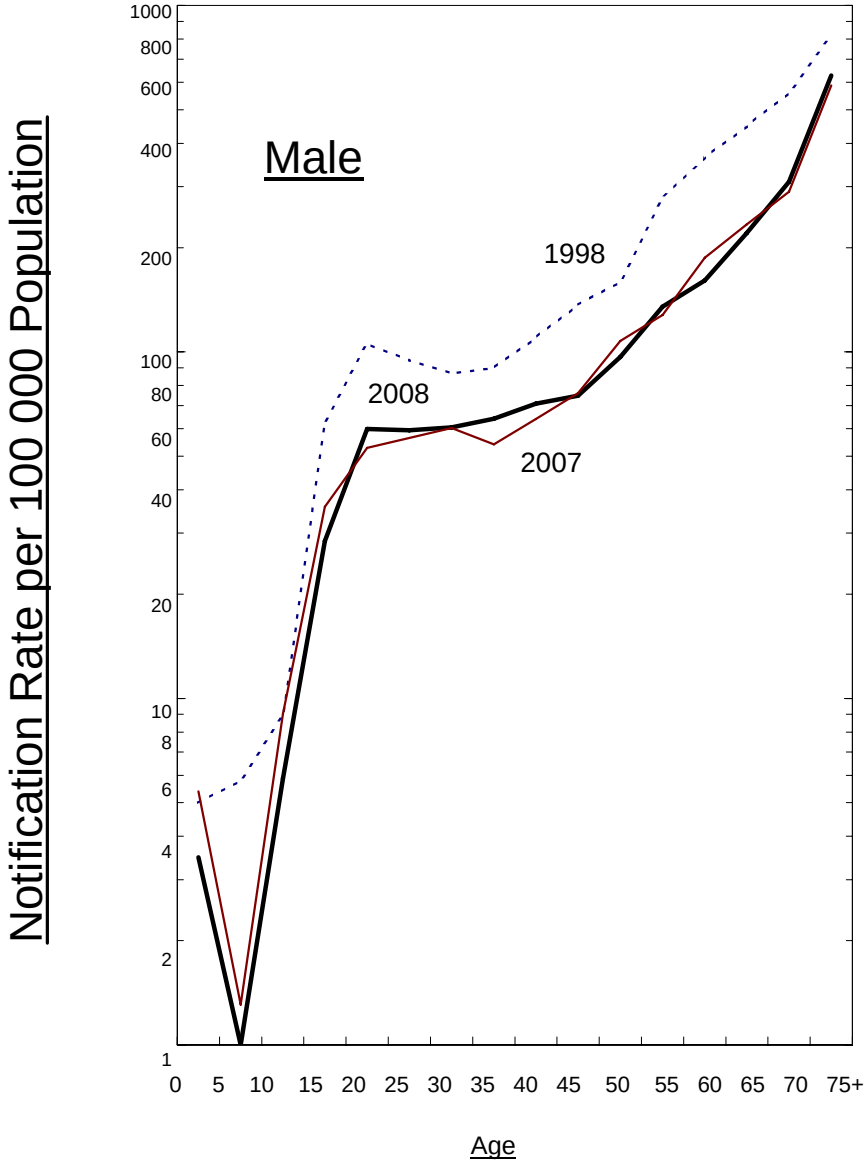
Age Group	Pulmonary TB			Bacteriologically * Positive Pulmonary TB			Smear Positive Pulmonary TB		
	M	F	T	M	F	T	M	F	T
0-4	0.9	1.9	1.4	0.0	0.0	0.0	0.0	0.0	0.0
5-9	0.0	1.5	0.7	0.0	0.7	0.4	0.0	0.0	0.0
10-14	3.9	10.8	7.3	1.0	6.7	3.8	0.0	4.1	2.0
15-19	25.8	28.3	27.0	16.6	16.2	16.4	7.9	7.4	7.7
20-24	54.0	51.4	52.6	38.0	40.6	39.4	19.2	20.3	19.8
25-29	52.5	46.4	49.0	34.7	28.4	31.1	18.2	15.7	16.8
30-34	51.9	45.0	48.0	36.4	25.2	30.0	18.2	13.7	15.6
35-39	58.7	35.5	45.2	36.8	20.3	27.2	17.8	11.6	14.2
40-44	63.6	26.6	43.1	42.1	16.5	27.9	22.3	8.7	14.8
45-49	66.6	29.9	47.5	47.9	19.8	33.3	24.3	10.0	16.9
50-54	89.8	31.7	60.5	63.3	17.6	40.2	37.5	6.1	21.6
55-59	123.2	30.2	76.7	98.7	21.9	60.3	55.9	8.7	32.3
60-64	149.9	45.4	98.9	122.7	31.8	78.4	70.4	13.6	42.7
65-69	200.0	49.6	128.5	154.2	30.9	95.6	73.7	16.8	46.7
70-74	290.9	66.8	176.9	232.0	51.8	140.3	99.6	23.4	60.8
75-79	441.0	90.4	256.5	360.5	66.5	205.9	129.0	20.9	72.1
80-84	648.7	157.2	355.9	530.9	108.4	279.3	205.6	47.4	111.4
85 & over	911.3	237.8	449.1	770.6	176.2	362.8	204.9	49.0	97.9
Total	**101.0**	**42.0**	**69.9**	**77.1**	**27.8**	**51.1**	**35.2**	**12.6**	**23.3**

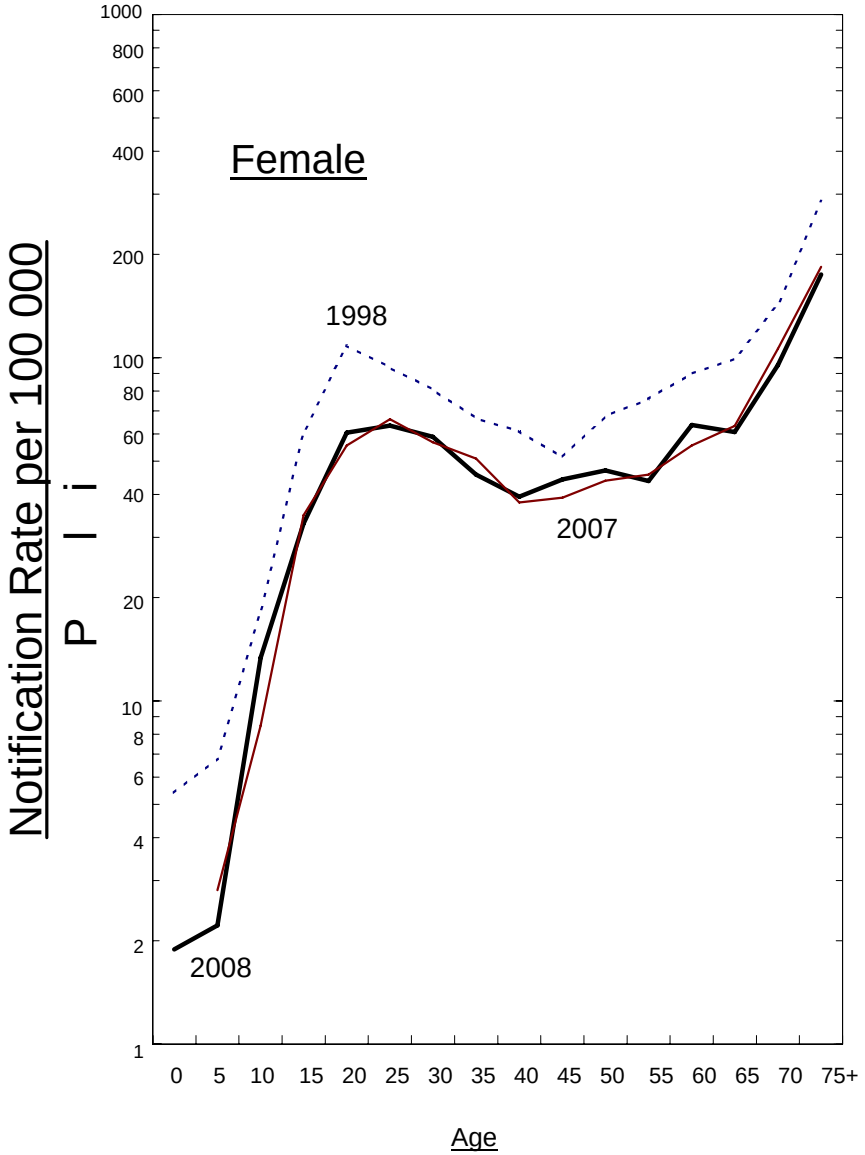
** Pulmonary TB with or without extrapulmonary TB

* Either smear or culture positive

APPENDIX 5

TB Notification Rate by Age & Sex 1998, 2007 & 2008





Appendix 6

Notifications of Tuberculosis by Type by Age & Sex 2008

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	-	-	-	-	-	-	1	-	1	-	-	-	1	-	1
1	1	-	1	-	-	-	-	-	-	-	-	-	1	-	1
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
4	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
5-9	-	1	1	-	1	1	-	-	-	-	1	1	1	-	1
10-14	4	18	22	-	-	-	-	-	-	1	-	1	7	8	15
15-19	41	48	89	1	-	1	-	-	-	-	-	-	23	23	46
20-24	92	92	184	-	2	2	2	2	4	3	-	3	34	50	84
25-29	95	106	201	3	2	5	1	-	1	1	-	1	37	82	119
30-34	104	112	216	-	2	2	1	1	2	1	2	3	34	67	101
35-39	112	97	209	-	2	2	1	1	2	-	3	3	42	50	92
40-44	122	69	191	2	-	2	-	-	-	1	5	6	72	62	134
45-49	161	82	243	2	3	5	1	-	1	1	2	3	75	67	142
50-54	182	68	250	-	-	-	1	2	3	2	4	6	96	65	161
55-59	205	51	256	2	-	2	4	-	4	4	1	5	94	48	142
60-64	162	48	210	3	-	3	1	1	2	2	3	5	81	42	123
65-69	172	39	211	2	-	2	4	-	4	6	-	6	76	26	102
70-74	240	52	292	1	1	2	1	3	4	5	3	8	111	55	166
75-79	272	63	335	1	1	2	-	1	1	8	4	12	142	41	183
80-84	191	72	263	2	5	7	1	1	2	2	7	9	150	48	198
85 & over	189	109	298	-	2	2	1	-	1	6	2	8	124	74	198
Total	2345	1128	3473	19	21	40 (a)	20	12	32 (b)	43	37	80 (c)	1201	809	2010 (d)*

* Including

TB lymph node	441
TB urogenital system	66
TB peritonitis, intestines, mesenteric, appendicitis	110
TB pleuritis, pleural effusion	1301
TB laryngitis	11
TB skin	41
TB other sites	40
Unspecified	0

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

(a) All miliary TB cases has coexisting pulmonary TB; also include 14 cases with coexisting TB of other extrapulmonary sites (among which 2 are meninges/CNS and 2 are bones & joints).

(b) Including 5 cases with coexisting pulmonary TB; also include 3 cases with coexisting TB of other extrapulmonary sites.

(c) Including 15 cases with coexisting pulmonary TB; also include 2 cases with coexisting TB of other extrapulmonary sites

(d) Including 1343 cases with coexisting pulmonary TB; also include 1883 cases with coexisting TB of other extrapulmonary sites.

\# Pulmonary TB only, without extrapulmonary site involvement

(NB: The significantly increased in number of cases of TB pleuritis/pleural effusion in 2008 is probably related to the change in the format of the TB notification form with inclusion of "Pleura" as a separate item.)

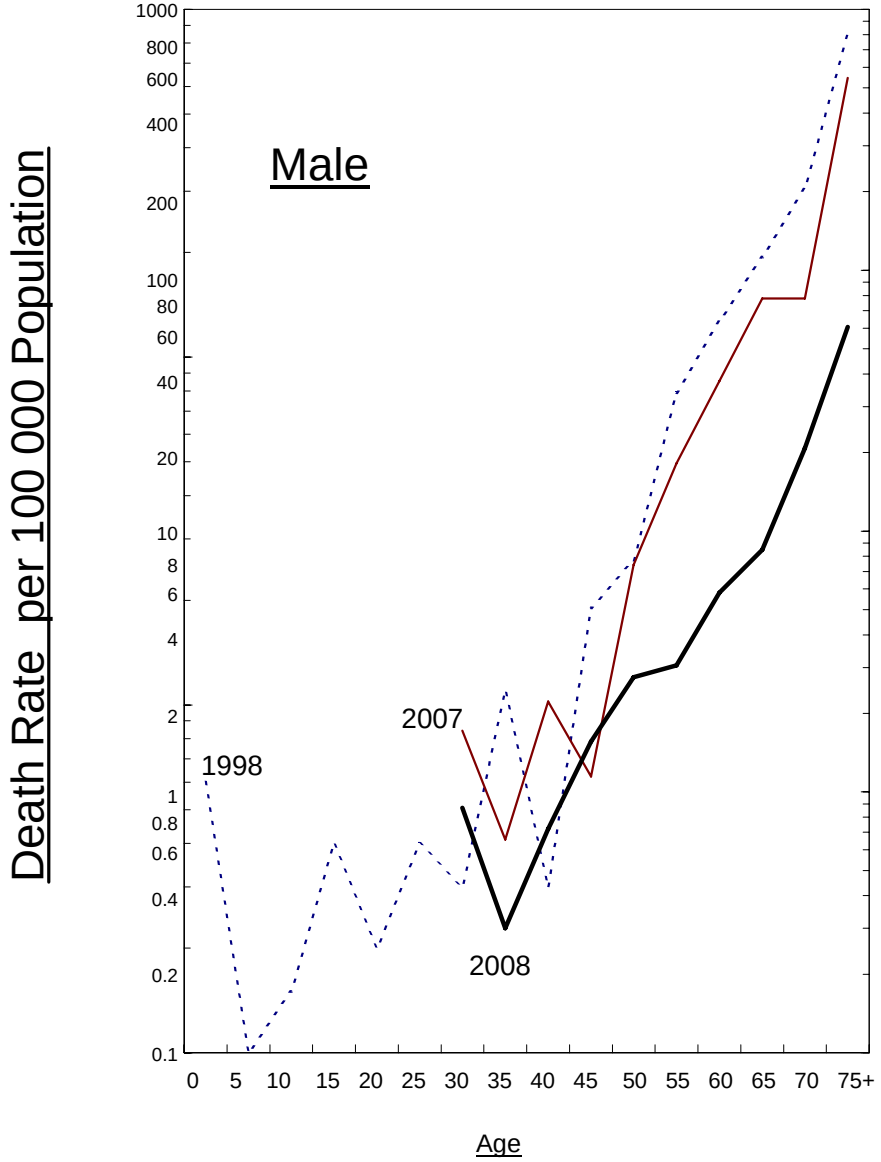
APPENDIX 7

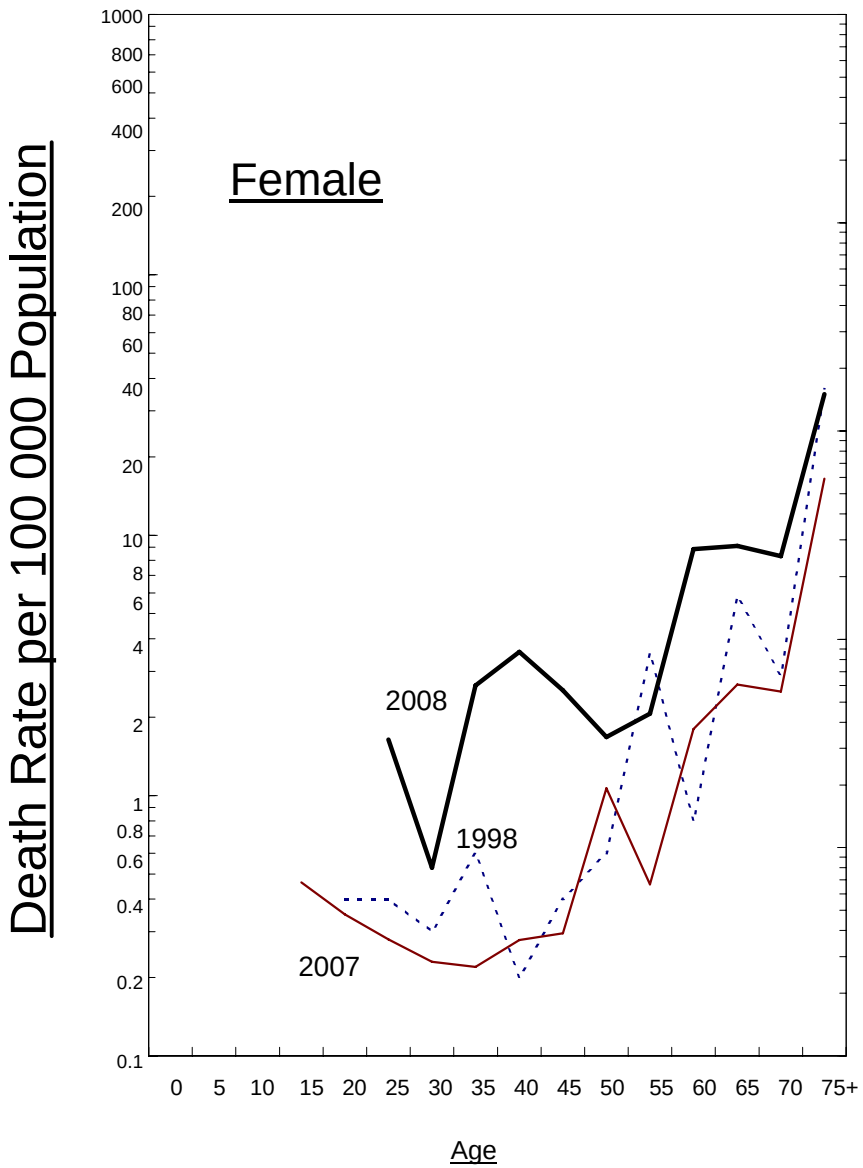
TB Death (All Forms) & Death Rate by Age & Sex 2008

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	1	1	0.00	0.33	0.19
30-34	2	0	2	0.87	0.00	0.37
35-39	0	2	2	0.00	0.60	0.35
40-44	2	3	5	0.72	0.87	0.80
45-49	5	2	7	1.56	0.57	1.05
50-54	8	1	9	2.75	0.34	1.53
55-59	7	1	8	3.06	0.44	1.75
60-64	9	4	13	5.81	2.71	4.30
65-69	10	3	13	8.47	2.81	5.78
70-74	24	3	27	20.78	2.51	11.48
75-79	29	3	32	31.97	2.98	16.72
80-84	37	6	43	73.85	8.13	34.71
85 & over	39	28	67	119.27	39.16	64.30
Total	**172**	**57**	**229**	**5.22**	**1.55**	**3.28**

APPENDIX 8

TB Mortality Rate by Age & Sex 1998, 2007 & 2008





Appendix 9

TB Deaths by Type by Age & Sex 2008

Age Group	Pulmonary only #			Miliary			Meninges			Bones & Joints			Others			
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	
Under 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5-9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10-14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
25-29	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	
30-34	-	-	-	2	-	2	-	-	-	-	-	-	-	-	-	
35-39	-	1	1	-	1	1	-	-	-	-	-	-	-	-	-	
40-44	1	1	2	-	1	1	-	-	-	-	-	-	1	1	2	
45-49	5	2	7	-	-	-	-	-	-	-	-	-	-	-	-	
50-54	7	-	7	-	1	1	-	-	-	-	-	-	1	-	1	
55-59	7	1	8	-	-	-	-	-	-	-	-	-	-	-	-	
60-64	9	3	12	-	-	-	-	-	-	-	-	-	-	1	1	
65-69	9	3	12	-	-	-	-	-	-	-	-	-	1	-	1	
70-74	20	3	23	-	-	-	1	-	1	-	-	-	3	-	3	
75-79	27	3	30	-	-	-	-	-	-	-	-	-	2	-	2	
80-84	31	4	35	3	2	5	-	-	-	-	-	-	3	-	3	
85 & over	38	24	62	1	-	1	-	-	-	-	-	-	-	4	4	
Total	154	46	200	6	5	11	1	-	1	-	-	-	11	6	17	*

* Breakdown of Deaths from other forms of TB:-	Number
Tuberculous of genitourinary system	2
Tuberculosis of intestines, peritoneum & mesenteric glands	5
Late effects of Tuberculosis	10
Total	17

Pulmonary TB only, without extrapulmonary site involvement.

APPENDIX 10

Tuberculosis Mortality
1950 - 2008

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

APPENDIX 11

Top Ten Causes of Death 2008

Rank	Causes of Death	Detailed List No.	2008		
		ICD 10th Revision	Male	Female	Total
	All Causes		23000	18529	41530 (1)
1	Malignant neoplasms	C00-C97	7517	4939	12456
2	Diseases of heart	I00-I09, I11 I13, I20-I51	3442	3335	6777
3	Pneumonia	J12-J18	2925	2561	5486
4	Cerebrovascular diseases	I60-I69	1843	1848	3691
5	Chronic lower respiratory diseases *	J40-J47	1504	599	2103
6	External causes of morbidity and mortality #	V01-Y89	1140	626	1766
7	Nephritis, nephrotic syndrome and nephrosis	N00-N07, N17-N19, N25-N27	692	727	1419
8	Septicaemia	A40-A41	404	393	797
9	Diabetes mellitus	E10-E14	227	321	548
10	Dementia	F01-F03	177	318	495
	Tuberculosis (including late effects of tuberculosis)		172	57	229
	All other causes	Residues of all causes	2957	2805	5763 (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
1998 - 2008

Origin	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
East Kowloon Chest Clinic	225	118	192	173	144	123	121	132	86	121	129
Kowloon Chest Clinic	529	608	477	413	420	432	330	287	231	220	184
Sai Ying Pun Chest Clinic (a)	216	198	196	194	142	133	148	112	92	108	86
Shaukiwan Chest Clinic	199	158	169	158	148	122	138	111	104	128	105
Shaukiwan Pneumoconiosis	50	29	25	23	27	12	29	10	15	13	13
Shek Kip Mei Chest Clinic	282	266	232	208	180	162	157	140	96	111	127
South Kwai Chung Chest Clinic	531	439	342	339	279	300	261	282	224	187	200
Tai Po Chest Clinic	98	92	88	84	96	111	112	101	92	79	81
Wanchai Chest Clinic	461	365	375	384	279	264	223	214	191	169	168
Yan Oi Chest Clinic	419	440	425	396	355	320	290	263	238	165	179
Yaumatei Chest Clinic	389	344	339	373	271	233	203	249	204	151	137
Yuen Chau Kok Chest Clinic	420	395	308	288	223	226	181	148	136	122	116
Yung Fung Shee Chest Clinic	285	331	222	213	218	197	178	174	148	120	147
Castle Peak Hospital (Chest Clinic)							5	3	3	4	5
Cheung Chau Chest Clinic						2	2	3	1	1	2
Sai Kung Chest Clinic	13	8	4	4	11	7	7	4	9	5	9
Sheung Shui Chest Clinic	102	97	103	81	96	59	54	64	61	53	45
Tung Chung Chest Clinic	6	13	26	24	35	22	16	11	15	12	9
Yuen Long Chest Clinic	94	94	111	96	103	75	80	93	69	64	67
Sub-total	4319	3995	3634	3451	3027	2800	2535	2401	2015	1833	1809
Grantham Hospital	316	296	358	259	249	252	257	165	176	215	209
Haven of Hope Hospital	117	105	141	116	147	119	137	127	124	124	87
Kowloon Hospital	339	426	443	322	237	220	205	113	142	108	120
Ruttonjee Hospital	275	324	326	305	236	223	263	256	264	218	165
Wong Tai Sin Hospital	458	431	352	330	263	166	189	184	140	90	104
Other Govt. Institutions (b)	7	42	43	113	107	84	87	84	60	66	78
Other H.A. Hospitals	1244	1682	2081	2176	2133	1937	2301	2543	2538	2530	2648
Private Practitioners	343	157	121	125	130	159	136	156	164	90	83
Private Hospitals	255	54	79	65	73	64	116	131	143	189	332
Total	7673	7512	7578	7262	6602	6024	6226	6160	5766	5463	5635
% of cases from Chest Clinics among the total	56.3	53.2	48.0	47.5	45.8	46.5	40.7	39.0	34.9	33.6	32.1
% from Chest Hospitals (c)	19.6	21.1	21.4	18.3	17.1	16.3	16.9	13.7	14.7	13.8	12.2
% from Other Public Hospitals	16.3	22.9	28.0	31.5	33.9	33.5	38.4	42.6	45.1	47.5	48.4
% from Private Sector	7.8	2.8	2.6	2.6	3.1	3.7	4.0	4.7	5.3	5.1	7.4

Notes : (a) Including notifications from Cheung Chau Chest Clinic (1997-2002)
(b) Sources are from Public Mortuaries, Prison Hospitals, & Army Hospitals.
(c) 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" 2008

Name of Hospital	No. of TB Notification
Alice Ho Miu Ling Nethersole Hospital	100
Caritas Medical Centre	159
Fung Yiu King Hospital	5
Hong Kong Buddhist Hospital	7
Kwai Chung Hospital	1
Kwong Wah Hospital	225
North District Hospital	191
Our Lady of Maryknoll Hospital	24
Pamela Youde Nethersole Eastern Hospital	161
Pok Oi Hospital	48
Prince of Wales Hospital	228
Princess Margaret Hospital	200
Queen Elizabeth Hospital	314
Queen Mary Hospital	129
Shatin Hospital	13
Tai Po Hospital	7
Tseung Kwan O Hospital	103
Tuen Mun Hospital	268
Tung Wah Eastern Hospital	5
Tung Wah Hospital	7
United Christian Hospital	320
Yan Chai Hospital	133
Total	**2648**

Appendix 13

Tuberculosis Notifications & Notification Rates

by District Council District 2008

District Council District	Notification	Notification Rate (per 100,000 pop.)
Hong Kong Island	988	75.7
Central & Western	153	57.9
Wanchai	119	73.5
Eastern	442	73.9
Southern	274	97.3
Kowloon	2064	101.6
Kowloon City	294	81.1
Kwun Tong	594	102.1
Sham Shui Po	449	121.9
Wong Tai Sin	422	99.8
Yau Tsim Mong	305	102.8
NT (East)	1202	67.7
Islands	97	63.5
Northern	235	78.4
Sai Kung/Tseung Kwan O	266	63.7
Shatin	396	64.7
Tai Po	208	71.2
NT (West)	1342	72.0
Kwai Tsing	420	81.0
Tsuen Wan	203	68.2
Tuen Mun	328	65.2
Yuen Long	391	71.9
Marine	0	
Unknown	4	
Others	35	
Total	**5635**	**80.8**

APPENDIX 14

Establishment & Strength of TB & Chest Service

As at 31.12.2008

Post	Establishment	Strength
Consultant Chest Physician i/c	1	1
Consultant Chest Physician	1	1
Senior Medical & Health Officer	7	6
Medical & Health Officer	23	21
Senior Nursing Officer	1	1
Nursing Officer	14	12
Registered Nurse	62	66
Enrolled Nurse	92	83
Senior Dispenser	9	8
Dispenser	1	2
Executive Officer I	1	1
Statistical Officer II	3	3
Research Assistant	1	1
Personal Secretary I	1	1
Clerical Officer	16	14
Assistant Clerical Officer	20	20
Clerical Assistant	54	52
Project Assistant	1	1
Office Assistant	11	11
Workman II	46	44
General Worker	3	3
Senior Radiographer	3	3
Radiographer I	7	4
Radiographer II	21	23
Radiographic Technician	5	5
Darkroom Technician	11	10

APPENDIX 15

Total Attendances at Chest Clinics

1998 - 2008

Clinic/Hospital	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
East Kowloon Chest Clinic	65220	56317	64102	64820	60729	56132	58535	61835	56737	63191	59670
Kowloon Chest Clinic	117678	112291	119624	106321	98403	97223	86502	77337	73627	67093	62017
Sai Ying Pun Chest Clinic	56233	58380	57916	53854	51808	45437	46974	45159	42034	42770	40126
Shaukiwan Chest Clinic	54732	52446	53011	57215	57968	47541	50828	50699	49667	48207	50618
Shaukiwan Pneumoconiosis	10821	12182	11023	10889	9120	8008	8098	9144	8866	8359	8501
Shek Kip Mei Chest Clinic	75610	68971	70941	71134	65572	60461	60382	60789	57848	58679	52161
South Kwai Chung Chest Clinic	113185	108654	99012	90448	85221	78998	75487	80015	79455	78238	81441
Tai Po Chest Clinic (Full Time)	-	-	-	-	7866	33518	30879	35347	35728	34769	33297
Tung Chung (Full Time)	3730	4687	4601	6241	6129	6807	1928	-	-	-	-
Wanchai Chest Clinic	91331	85109	84960	79212	70500	62322	60406	57906	58545	56790	50465
Yan Oi Chest Clinic	70979	78840	79188	72982	66905	66084	70168	72078	72144	70643	66058
Yaumatei Chest Clinic	103198	108226	111959	114499	95700	71378	70294	80708	72180	69549	68587
Yuen Chau Kok Chest Clinic	76626	71273	66192	65190	64748	60339	56322	59328	57680	55454	57211
Yung Fung Shee Chest Clinic	66567	74735	73255	73663	77078	77516	71269	78279	72570	73944	71767
Castle Peak Hospital	1283	1151	868	1010	416	372	373	317	241	240	192
Cheung Chau Chest Clinic	2943	2706	2611	1640	2404	1944	2032	2066	1589	2318	1411
Sai Kung Chest Clinic	1682	1905	2141	1945	2119	2372	2495	2382	2542	2280	1885
Sheung Shui Chest Clinic	18756	21256	22383	24271	24273	22933	23211	22601	21765	22333	21909
Tai Po Chest Clinic (Part Time)	20350	20758	24688	25636	17761	-	-	-	-	-	-
Tung Chung (Part Time)	-	-	-	-	-	-	2802	5173	4447	4086	4263
Yuen Long Chest Clinic	21677	24075	27603	27208	29393	28702	31054	33056	29344	27960	29979
Hei Ling Chau ATC	2664	1855	3726	2474	2302	2352	1670	585	472	282	290
Lai Chi Kok Reception Centre	-	-	-	-	-	-	723	479	356	519	412
Shek Pik Prison Hospital	173	266	241	291	277	203	211	141	157	188	232
Stanley Prison Hospital	7380	9062	10468	10532	11977	8829	7459	527	603	665	796
Total	**982818**	**975145**	**990513**	**961475**	**908669**	**839471**	**820102**	**835951**	**798597**	**788557**	**763288**

Appendix 16

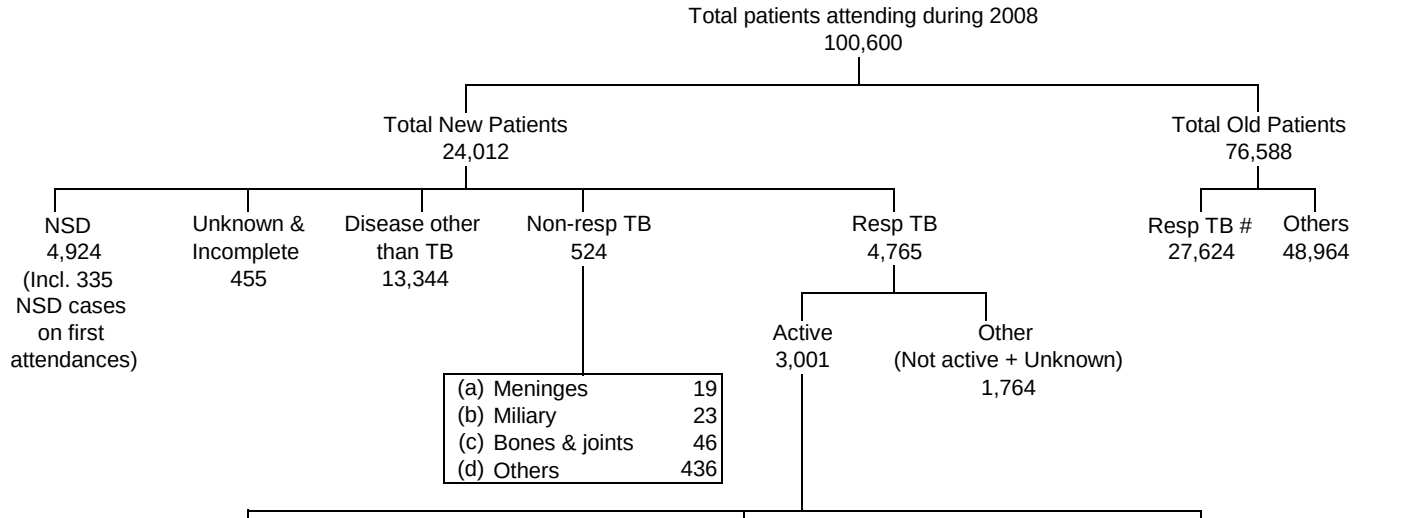
No. of Doctor Sessions, Cases Seen by Doctor and Patient/ Doctor Session 2008

Clinic/Hospital	Doctor Sessions	Cases Seen by Doctor	Patient/Doctor Session
Full Time Clinics			
East Kowloon	561	15312	27
Kowloon	898	23682	26
Pneumoconiosis	489	8256	17
Sai Ying Pun	568	14563	26
Shaukeiwan	489	14025	29
Shek Kip Mei	549	15412	28
South Kwai Chung	983	28018	29
Tai Po	489	9565	20
Wanchai	978	19309	20
Yan Oi	815	22797	28
Yaumatei	940	18426	20
Yuen Chau Kok	751	17385	23
Yung Fung Shee	637	15606	24
Sub-total	**9147**	**222356**	**24**
Part Time Clinics			
Castle Peak	26	192	7
Cheung Chau	25	465	19
Sai Kung	51	700	14
Sheung Shui	291	6022	21
Tung Chung	150	1811	12
Yuen Long	380	7382	19
Sub-total	**923**	**16572**	**18**
Institutions Correctional Ser Dept			
Hei Ling Chau	13	290	22
Lai Chi Kok Reception Center	51	412	8
Shek Pik	13	232	18
Stanley Prison	27	796	29
Sub-total	**104**	**1730**	**17**
Total	**10174**	**240658**	**24**

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

APPENDIX 17

Flow Chart of Patients Attending Chest Clinics 2008 *



Bacteriology	Extent	Number
Negative	1	664
	2	55
	3	18
Positive	1	1135
	2	620
	3	347
Incomplete	1	124
	2	30
	3	8

Bacteriology	Cavity	Number
Negative	Yes	56
	No	681
Positive	Yes	622
	No	1480
Incomplete	Yes	17
	No	145

Previous History of TB	Previous Treatment of TB	Number
No	No	2553
Yes	No	277
Yes	Yes	162
Unknown	Unknown	9

* A total of 100600 patients attended, comprising 76588 old cases and 24012 new cases. Among old cases, 27624 had respiratory TB. Among new cases, 4765 had respiratory TB with 3001 being active, 524 had non-respiratory TB, 13344 had diseases other than TB, 455 had unknown and incomplete diagnoses, and 4924 had NSD (no specific diagnosis). Of the 524 new cases with non-respiratory TB, 19 had TB affecting meninges, 23 had miliary TB, 46 had TB affecting bones and joints, and 436 had TB affecting other sites.

Among the 3001 new cases with active respiratory TB, 2553 had neither previous history of TB nor previous treatment of TB, 277 had previous history of TB but no previous treatment, 162 had previous history of TB with treatment, and 9 had unknown status. In terms of bacteriology (negative, positive, or incomplete) and cavity, 56 were negative with cavity, 681 were negative without cavity, 622 were positive with cavity, 1480 were positive without cavity, 17 were incomplete with cavity, and 145 were incomplete without cavity. In terms of bacteriology and extent of disease (1, 2, or 3), 664 were negative with extent 1, 55 were negative with extent 2, 18 were negative with extent 3, 1135 were positive with extent 1, 620 were positive with extent 2, 347 were positive with extent 3, 124 were incomplete with extent 1, 30 were complete with extent 2, and 8 were incomplete with extent 3.

\# Refer to cases with pulmonary TB only, without coexisting TB of extrapulmonary sites.

APPENDIX 18

Classification of Patients of First Attendance with New Case Card Completed By Clinics According to International Classification of Diseases Code 2008

Code	Classification	Total
010	Primary Tuberculosis Infection	10
011	Pulmonary Tuberculosis	2787
012	Other Respiratory Tuberculosis	204
013	Tuberculosis of Meninges	19
014	Tuberculosis of Intestines	47
015	Tuberculosis of Bones & Joints	46
016	Tuberculosis of Genito-urinary System	35
017	Tuberculosis of Other Organs	354
018	Miliary Tuberculosis	23
137	Late effects of Tuberculosis	1764
160-165	Malignant Neoplasm of Respiratory System	375
212	Benign Neoplasm of Respiratory System	5
460-466	Acute Respiratory Infection	1870
470-478	Other Diseases of Upper Resp Tract	59
480-486	Pneumonia	1260
487	Influenza	0
490-491	Bronchitis, (not specified as acute or chronic) & chronic brochitis	3012
492	Emphysema	22
493	Asthma	169
494	Bronchiectasis	328
495-496	Others	247
501	Asbestosis	0
502	Silicosis	0
505	Pneumoconiosis, unspecified	0
506-508	Others	0
510	Empyema	5
511	Pleurisy	84
512	Pneumothorax	39
513-519	Other Diseases of Respiratory System	377
786	Unknown	2394
V71	N.S.D.	1912
	Diseases Other than TB & Resp System	4969
Total		22416

Appendix 19 (a)

Extent of Active Resporary TB in First Attenders at Chest Clinics 2006-2008

Extent *	2006		2007		2008	
	No.	%	No.	%	No.	%
1. Minimal	2083	60.6	1965	62.5	1923	64.1
2. Moderate	900	26.2	778	24.8	705	23.5
3. Extensive	454	13.2	400	12.7	373	12.4
Total	3437	100.0	3143	100.0	3001	100.0
No. of first attenders	25127		24625		24012	
% of active TB	13.7		12.8		12.5	

* 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 2008

	Number	%
Smear +	1190	39.7
Smear - Culture +	865	28.8
Smear - Culture -	747	24.9
Incomplete	199	6.6
Total	3001	100.0

APPENDIX 19 (b1)

Rate of Drug-resistant Tuberculosis

Among cases (mainly cases seen at chest clinics) registered during the period January to June 2008 (Data from Programme Forms)

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	4.65	6.98	6.98	2.33	0.00	0.00	9.30	43
	Previously treated cases	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1
	Overall	0.00	0.00	4.55	6.82	6.82	2.27	0.00	0.00	9.09	44
20 - 39	New cases	0.65	0.65	3.58	7.49	7.82	1.63	0.33	0.33	9.77	307
	Previously treated cases	0.00	0.00	8.33	8.33	0.00	8.33	0.00	0.00	8.33	12
	Overall	0.63	0.63	3.76	7.52	7.52	1.88	0.31	0.31	9.72	319
40 - 59	New cases	0.27	0.82	3.57	6.32	7.14	1.92	0.00	0.27	9.07	364
	Previously treated cases	4.65	4.65	11.63	11.63	13.95	2.33	4.65	4.65	20.93	43
	Overall	0.74	1.23	4.42	6.88	7.86	1.97	0.49	0.74	10.32	407
60 up	New cases	0.52	0.35	4.54	5.58	6.11	1.57	0.52	0.35	8.20	573
	Previously treated cases	1.00	1.00	8.00	7.00	7.00	3.00	1.00	1.00	11.00	100
	Overall	0.59	0.45	5.05	5.79	6.24	1.78	0.59	0.45	8.62	673
All	New cases	0.47	0.54	4.04	6.29	6.84	1.71	0.31	0.31	8.86	1287
	Previously treated cases	1.92	1.92	8.97	8.33	8.33	3.21	1.92	1.92	13.46	156
	Overall	0.62	0.69	4.57	6.51	7.00	1.87	0.49	0.49	9.36	1443

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 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) registered druing the period January to June 2008 (Data from Programme Forms)

	New case		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	1287	100	156	100	1443	100
Susceptible to all 4 drugs	1173	91.14	135	86.54	1308	90.64
Any resistance	114	8.86	21	13.46	135	9.36
H	52	4.04	14	8.97	66	4.57
R	7	0.54	3	1.92	10	0.69
E	6	0.47	3	1.92	9	0.62
S	81	6.29	13	8.33	94	6.51
Monoresistance	88	6.84	13	8.33	101	7.00
H	26	2.02	6	3.85	32	2.22
R	3	0.23	0	0.00	3	0.21
E	1	0.08	0	0.00	1	0.07
S	58	4.51	7	4.49	65	4.50
Multidrug resistance	4	0.31	3	1.92	7	0.49
H+R	1	0.08	0	0.00	1	0.07
H+R+E	0	0.00	2	1.28	2	0.14
H+R+S	1	0.08	0	0.00	1	0.07
H+R+E+S	2	0.16	1	0.64	3	0.21
Other patterns	22	1.71	5	3.21	27	1.87
H+E	2	0.16	0	0.00	2	0.14
H+S	19	1.48	5	3.21	24	1.66
H+E+S	1	0.08	0	0.00	1	0.07
R+E	0	0.00	0	0.00	0	0.00
R+S	0	0.00	0	0.00	0	0.00
R+E+S	0	0.00	0	0.00	0	0.00
E+S	0	0.00	0	0.00	0	0.00
Number of drugs resistant to:						
0 drug	1173	91.14	135	86.54	1308	90.64
1 drug	88	6.84	13	8.33	101	7.00
2 drugs	22	1.71	5	3.21	27	1.87
3 drugs	2	0.16	2	1.28	4	0.28
4 drugs	2	0.16	1	0.64	3	0.21

APPENDIX 19 (c1)

Rate of Drug-resistant Tuberculosis

Among cases (mainly cases seen at chest clinics) registered during the period January to December 2007 (Data from Programme Forms)

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	0.96	1.92	10.58	9.62	1.92	0.00	0.00	11.54	104
	Previously treated cases	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5
	Overall	0.00	0.92	1.83	10.09	9.17	1.83	0.00	0.00	11.01	109
20 - 39	New cases	0.31	1.10	4.56	7.23	6.60	2.52	0.47	0.79	9.59	636
	Previously treated cases	6.90	10.34	17.24	13.79	3.45	10.34	6.90	10.34	20.69	29
	Overall	0.60	1.50	5.11	7.52	6.47	2.86	0.75	1.20	10.08	665
40 - 59	New cases	0.14	0.27	3.13	7.61	8.02	1.36	0.14	0.14	9.51	736
	Previously treated cases	0.00	2.78	12.96	12.04	8.33	5.56	2.78	2.78	16.67	108
	Overall	0.12	0.59	4.38	8.18	8.06	1.90	0.47	0.47	10.43	844
60 up	New cases	0.00	0.18	3.97	7.21	6.31	2.52	0.00	0.18	8.84	1109
	Previously treated cases	0.52	0.52	6.28	10.47	10.99	2.62	0.52	0.52	14.14	191
	Overall	0.08	0.23	4.31	7.69	7.00	2.54	0.08	0.23	9.62	1300
All	New cases	0.12	0.46	3.79	7.47	7.00	2.17	0.15	0.31	9.32	2585
	Previously treated cases	0.90	2.10	9.31	11.11	9.31	4.20	1.80	2.10	15.32	333
	Overall	0.21	0.65	4.42	7.88	7.27	2.40	0.34	0.51	10.01	2918

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 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 (mainly cases seen at chest clinics) registered druing the period January to December 2007 (Data from Programme Forms)

	New case		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	2585	100	333	100	2918	100
Susceptible to all 4 drugs	2344	90.68	282	84.68	2626	89.99
Any resistance	241	9.32	51	15.32	292	10.01
H	98	3.79	31	9.31	129	4.42
R	12	0.46	7	2.10	19	0.65
E	3	0.12	3	0.90	6	0.21
S	193	7.47	37	11.11	230	7.88
Monoresistance	181	7.00	31	9.31	212	7.27
H	41	1.59	11	3.30	52	1.78
R	1	0.04	0	0.00	1	0.03
E	1	0.04	0	0.00	1	0.03
S	138	5.34	20	6.01	158	5.41
Multidrug resistance	8	0.31	7	2.10	15	0.51
H+R	4	0.15	2	0.60	6	0.21
H+R+E	0	0.00	1	0.30	1	0.03
H+R+S	3	0.12	3	0.90	6	0.21
H+R+E+S	1	0.04	1	0.30	2	0.07
Other patterns	52	2.01	13	3.90	65	2.23
H+E	0	0.00	0	0.00	0	0.00
H+S	49	1.90	12	3.60	61	2.09
H+E+S	0	0.00	1	0.30	1	0.03
R+E	1	0.04	0	0.00	1	0.03
R+S	2	0.08	0	0.00	2	0.07
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	2344	90.68	282	84.68	2626	89.99
1 drug	181	7.00	31	9.31	212	7.27
2 drugs	56	2.17	14	4.20	70	2.40
3 drugs	3	0.12	5	1.50	8	0.27
4 drugs	1	0.04	1	0.30	2	0.07

Appendix 19 (d)

Trend of anti-TB drug resistance (1998-2008) (Data from Programme Forms)

New cases

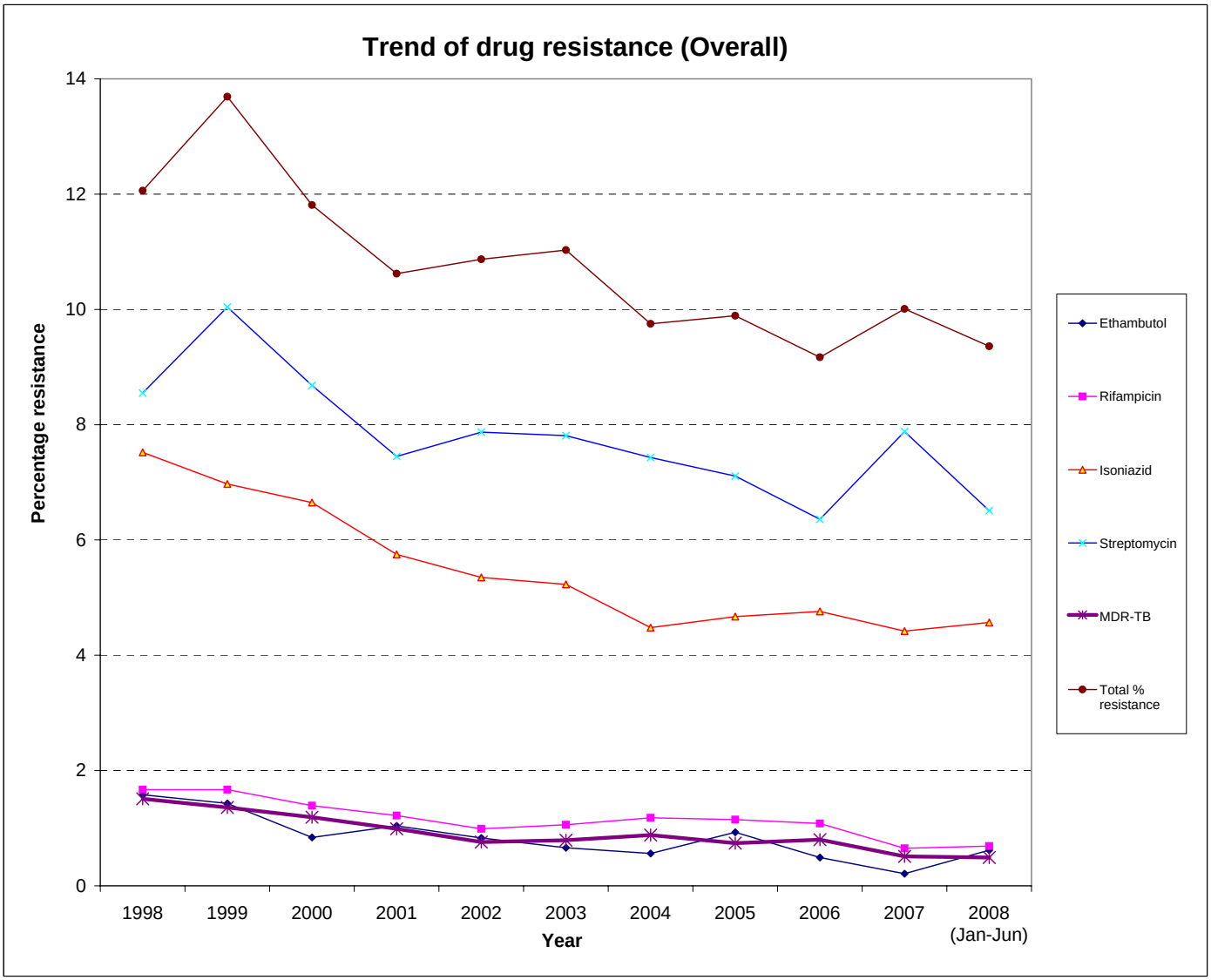
(Percentages)	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008 (Jan-Jun)
Ethambutol	1.24	1.11	0.54	0.96	0.65	0.42	0.34	0.54	0.35	0.12	0.47
Rifampicin	1.17	0.97	0.61	0.83	0.46	0.69	0.75	0.83	0.86	0.46	0.54
Isoniazid	6.78	6.22	5.21	5.02	4.71	4.64	3.65	4.16	4.13	3.79	4.04
Streptomycin	7.65	9.34	7.78	7.39	7.40	7.59	6.90	6.72	6.00	7.47	6.29
MDR-TB	1.06	0.75	0.47	0.55	0.34	0.46	0.48	0.51	0.55	0.31	0.31
Total % resistance	10.89	12.61	10.35	10.39	10.22	10.54	8.84	9.33	8.64	9.32	8.86

Previously treated cases

(Percentages)	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008 (Jan-Jun)
Ethambutol	3.51	3.16	2.68	1.85	2.04	2.19	2.14	3.92	1.61	0.90	1.92
Rifampicin	4.61	6.09	5.98	3.71	4.59	3.41	4.29	3.64	2.90	2.10	1.92
Isoniazid	11.84	11.51	15.26	11.80	9.69	9.00	10.46	8.68	10.00	9.31	8.97
Streptomycin	13.82	14.45	13.81	10.96	10.97	9.25	11.26	10.08	9.35	11.11	8.33
MDR-TB	4.17	5.19	5.36	3.54	3.57	2.92	3.75	2.52	2.90	2.10	1.92
Total % resistance	18.86	20.32	20.41	16.36	16.58	14.11	16.35	14.29	13.55	15.32	13.46

Overall

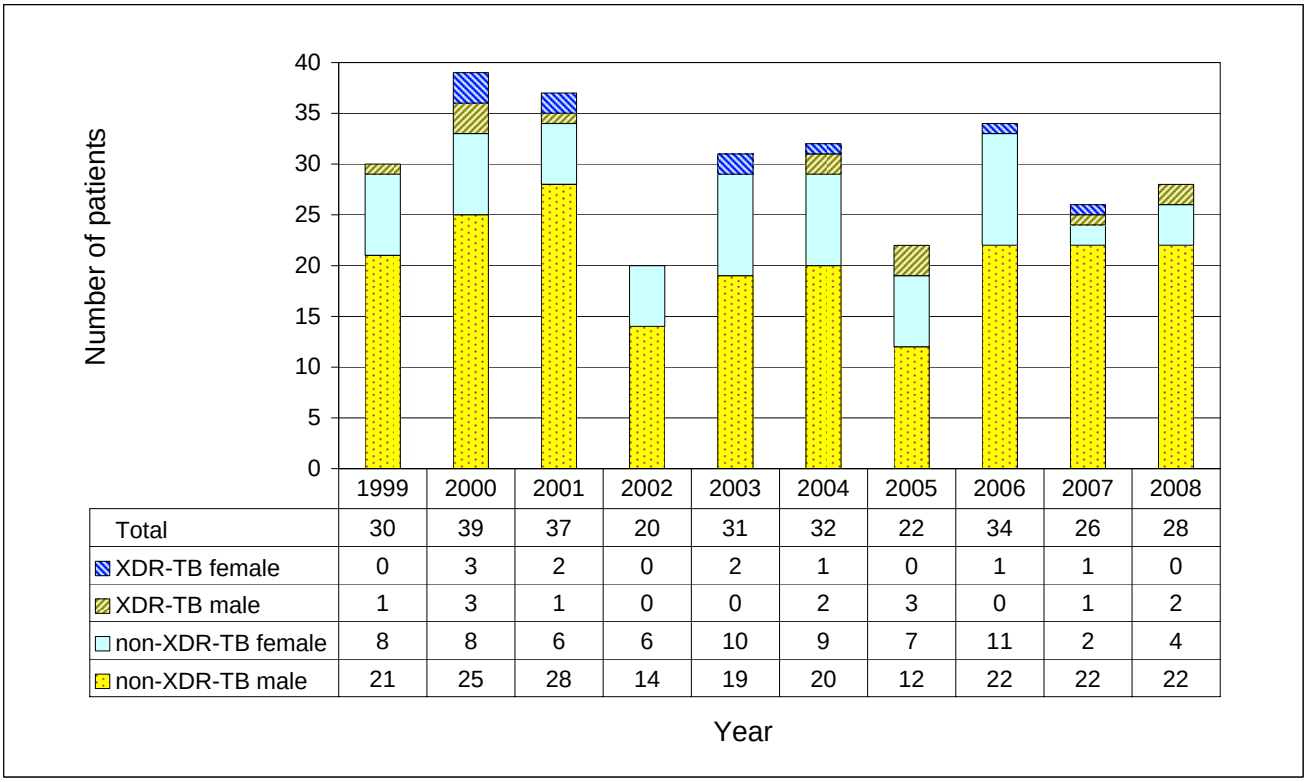
(Percentages)	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008 (Jan-Jun)
Ethambutol	1.58	1.43	0.84	1.04	0.83	0.66	0.56	0.93	0.49	0.21	0.62
Rifampicin	1.67	1.67	1.39	1.22	0.99	1.06	1.18	1.15	1.08	0.65	0.69
Isoniazid	7.52	6.97	6.65	5.75	5.35	5.23	4.48	4.67	4.76	4.42	4.57
Streptomycin	8.55	10.04	8.68	7.45	7.87	7.81	7.43	7.11	6.36	7.88	6.51
MDR-TB	1.51	1.36	1.19	0.99	0.76	0.79	0.88	0.74	0.80	0.51	0.49
Total % resistance	12.06	13.69	11.81	10.62	10.87	11.03	9.75	9.89	9.17	10.01	9.36



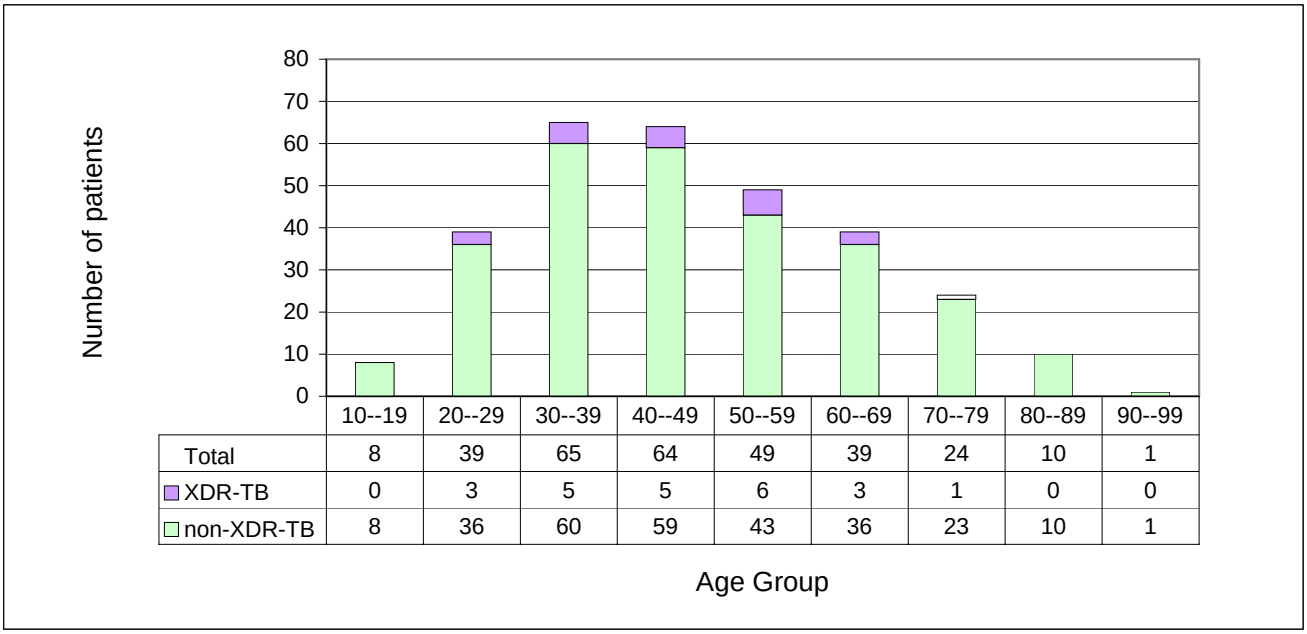
Appendix 19 (e)

MDR-TB and XDR-TB by Sex and Year (Upper Graph) and by Age (Lower Graph) (1999-2008)

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.



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Total	30	39	37	20	31	32	22	34	26	28
XDR-TB female	0	3	2	0	2	1	0	1	1	0
XDR-TB male	1	3	1	0	0	2	3	0	1	2
non-XDR-TB female	8	8	6	6	10	9	7	11	2	4
non-XDR-TB male	21	25	28	14	19	20	12	22	22	22



	10--19	20--29	30--39	40--49	50--59	60--69	70--79	80--89	90--99
Total	8	39	65	64	49	39	24	10	1
XDR-TB	0	3	5	5	6	3	1	0	0
non-XDR-TB	8	36	60	59	43	36	23	10	1

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 2008

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. >2M <3M
		1	2	3	4	5	<6M	at 6M	>6M	%	hosp.	other cc			Rx by GP	Leave HK	Def. >1x	AMA	<2M	>2M <3M	>3M	%				
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Full Time Clinics																										
East Kowloon	165	119	10	7	117	63	5	50	163	88.0	31	26	0	13	1	1	0	3	1	10	0	4.5	177	8	61	0
Kowloon	256	183	13	8	181	58	21	79	213	90.1	42	49	0	16	2	8	0	3	0	0	3	0.9	263	6	72	8
South Kwai Chung	253	256	18	19	188	85	17	73	288	89.1	75	31	0	11	0	6	0	8	2	16	1	4.7	291	0	52	0
Sai Ying Pun	136	77	12	6	91	50	2	49	131	88.2	46	20	0	7	2	7	1	5	0	0	3	1.5	99	0	46	0
Shaukeiwan	192	122	11	7	93	74	8	69	169	88.8	41	20	1	11	1	12	3	5	0	0	1	0.4	158	0	43	1
Shek Kip Mei	107	139	8	14	120	51	10	57	157	88.1	51	24	0	7	0	3	2	10	1	3	5	3.7	109	6	91	0
Tai Po	143	93	5	7	84	34	1	53	118	91.4	9	11	1	7	4	1	2	1	0	0	3	1.6	155	0	7	0
Wanchai	161	163	14	15	81	75	7	104	128	80.3	53	17	0	3	4	39	0	3	0	8	0	2.8	143	1	41	0
Yan Oi	178	225	5	9	158	69	13	90	243	86.5	49	14	0	29	1	9	0	1	1	3	8	3.1	183	0	96	3
Yaumatei	205	161	8	7	139	61	11	80	165	81.1	37	19	0	13	2	21	2	6	4	6	5	5.0	210	7	38	22
Yuen Chau Kok	167	157	6	8	127	28	12	78	172	87.7	24	13	0	18	2	5	1	5	1	0	4	1.8	158	23	6	0
Yung Fung Shee	277	208	14	9	170	44	8	106	216	89.4	34	32	0	16	1	3	0	3	2	4	9	4.2	288	0	67	7
Sub-total	2240	1903	124	116	1549	692	115	888	2163	87.3	492	276	2	151	20	115	11	53	12	50	42	3.0	2234	51	620	41
Hosp Discharge Clinic																										
East Kowloon	0	0	0	0	1	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0	1	0	0	0
Part Time Clinics																										
Castle Peak	3	4	0	0	0	0	0	1	2	100.0	0	0	0	0	0	0	0	0	0	0	0	0.0	4	0	0	0
Cheung Chau	5	2	0	0	1	3	0	4	3	87.5	1	0	0	0	0	0	0	1	0	0	0	0.0	2	0	1	0
Sai Kung	9	9	0	0	4	4	1	4	6	90.9	0	0	0	0	0	1	2	0	0	0	0	0.0	12	0	0	0
Sheung Shui	137	80	6	4	87	22	5	39	98	79.7	17	19	0	11	1	4	0	6	1	0	12	7.6	123	0	117	5
Tung Chung	20	14	0	2	13	16	3	11	15	92.9	7	1	0	0	0	2	0	0	0	0	0	0.0	26	0	0	0
Yuen Long	128	96	4	1	81	39	5	39	112	89.3	34	13	0	6	0	1	0	3	0	0	8	4.7	128	0	132	2
Sub-total	302	205	10	7	186	84	14	98	236	85.4	59	33	0	17	1	8	2	10	1	0	20	5.4	295	0	250	7
Institutions Correctional Services Dept																										
Hei Ling Chau	6	3	16	0	0	0	3	2	1	50.0	1	14	0	0	0	3	0	0	0	0	0	0.0	1	0	0	0
Stanley Prison	29	4	0	0	0	0	7	0	2	40.0	0	14	0	0	3	0	0	0	0	0	0	0.0	7	0	0	0
Shek Pik Prison	26	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0	26	0	0	0
Sub-total	61	7	16	0	0	0	10	2	3	45.5	1	28	0	0	3	3	0	0	0	0	0	0.0	34	0	0	0
Total	2603	2115	150	123	1736	776	139	988	2402	87.0	552	337	2	168	24	126	13	63	13	50	62	3.2	2564	51	870	48

Appendix 20 (b)
Treatment Return 2008

Other Regimen																									
Name of Clinic/Hospital	No. put on Rx b/f	Bought in					Treatment completed				Transfer out to		Interrup Rx temp	Died	Drop out				Complete defaulter				No. still onRx c/f	Unsup Rx	Incomp super. Rx	No. def. >2M <3M
		1	2	3	4	5	<6M	at6M	>6M	%	hosp.	other cc			Rx by GP	Leave HK	Def. >1x	AMA	<2M	>2M <3M	>3M	%				
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Full Time Clinics																										
East Kowloon	77	29	4	3	46	14	1	7	61	80.0	12	4	0	11	0	0	0	6	0	0	0	0.0	71	10	37	0
Kowloon	48	16	2	2	34	13	4	7	33	83.3	13	5	0	5	1	0	0	0	0	0	2	4.2	45	0	21	3
South Kwai Chung	72	12	1	2	36	6	4	3	28	73.8	10	1	0	6	0	0	0	3	0	1	1	4.8	72	0	15	0
Sai Ying Pun	30	5	2	3	32	11	0	1	23	92.3	17	1	0	2	0	0	0	0	0	0	0	0.0	39	0	18	0
Shaukeiwan	32	7	3	2	28	17	1	6	31	92.5	10	2	0	2	0	0	0	0	1	0	0	2.5	36	0	19	0
Shek Kip Mei	72	6	3	8	32	7	0	7	12	67.9	7	0	0	7	0	1	0	0	0	0	1	3.6	93	2	26	0
Tai Po	20	9	1	0	13	2	3	3	10	61.9	3	0	0	4	0	0	0	3	1	0	0	4.8	18	0	2	0
Wanchai	37	19	6	0	23	13	1	6	26	88.9	17	1	0	1	0	1	0	0	1	1	0	5.6	43	0	12	0
Yan Oi	113	5	2	2	16	7	2	2	26	87.5	4	1	0	3	0	0	0	1	0	0	0	0.0	106	0	9	0
Yaumatei	18	13	5	0	35	8	3	2	19	72.4	9	0	0	6	0	1	0	0	0	1	0	3.4	38	1	13	1
Yuen Chau Kok	48	21	4	2	21	4	3	5	30	89.7	7	1	0	3	0	0	0	1	0	0	0	0.0	50	16	1	0
Yung Fung Shee	14	2	2	3	15	6	0	6	11	81.0	3	1	1	3	0	0	0	1	0	0	0	0.0	16	0	5	0
Sub-total	581	144	35	27	331	108	22	55	310	81.7	112	17	1	53	1	3	0	15	3	3	4	2.2	627	29	178	4
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
Part Time Clinics																										
Castle Peak	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
Cheung Chau	1	0	0	0	1	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0	2	0	0	0
Sai Kung	1	0	0	0	0	0	0	0	1	100.0	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0
Sheung Shui	6	1	0	1	6	1	0	0	7	77.8	0	1	0	2	0	0	0	0	0	0	0	0.0	5	0	8	0
Tung Chung	2	0	0	0	1	0	0	0	1	50.0	0	0	0	1	0	0	0	0	0	0	0	0.0	1	0	0	0
Yuen Long	4	2	0	0	5	3	0	1	3	100.0	2	1	0	0	0	0	0	0	0	0	0	0.0	7	0	7	0
Sub-total	14	3	0	1	13	4	0	1	12	81.3	2	2	0	3	0	0	0	0	0	0	0	0.0	15	0	15	0
Institutions Correctional Services Dept																										
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
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
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
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
Total	595	147	35	28	344	112	22	56	322	81.6	114	19	1	56	1	3	0	15	3	3	4	2.2	642	29	193	4

APPENDIX 20 (c)

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

Name of 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
								at 6M	>6M	%	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
	<6M																									

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

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

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

* Explanatory Notes :

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

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) % = (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.)

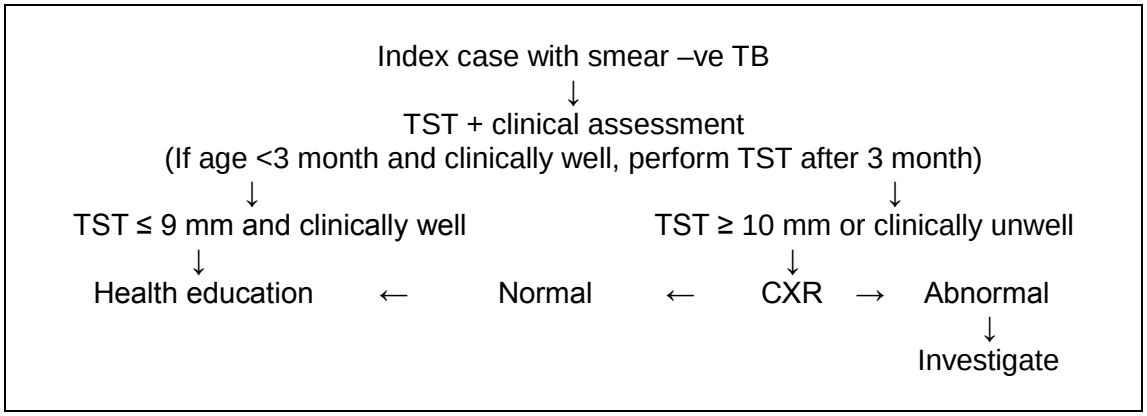
  This item needs to be counted only on the last working day of the month when completing the monthly treatment return.

Appendix 21 (a)

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

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 10 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.

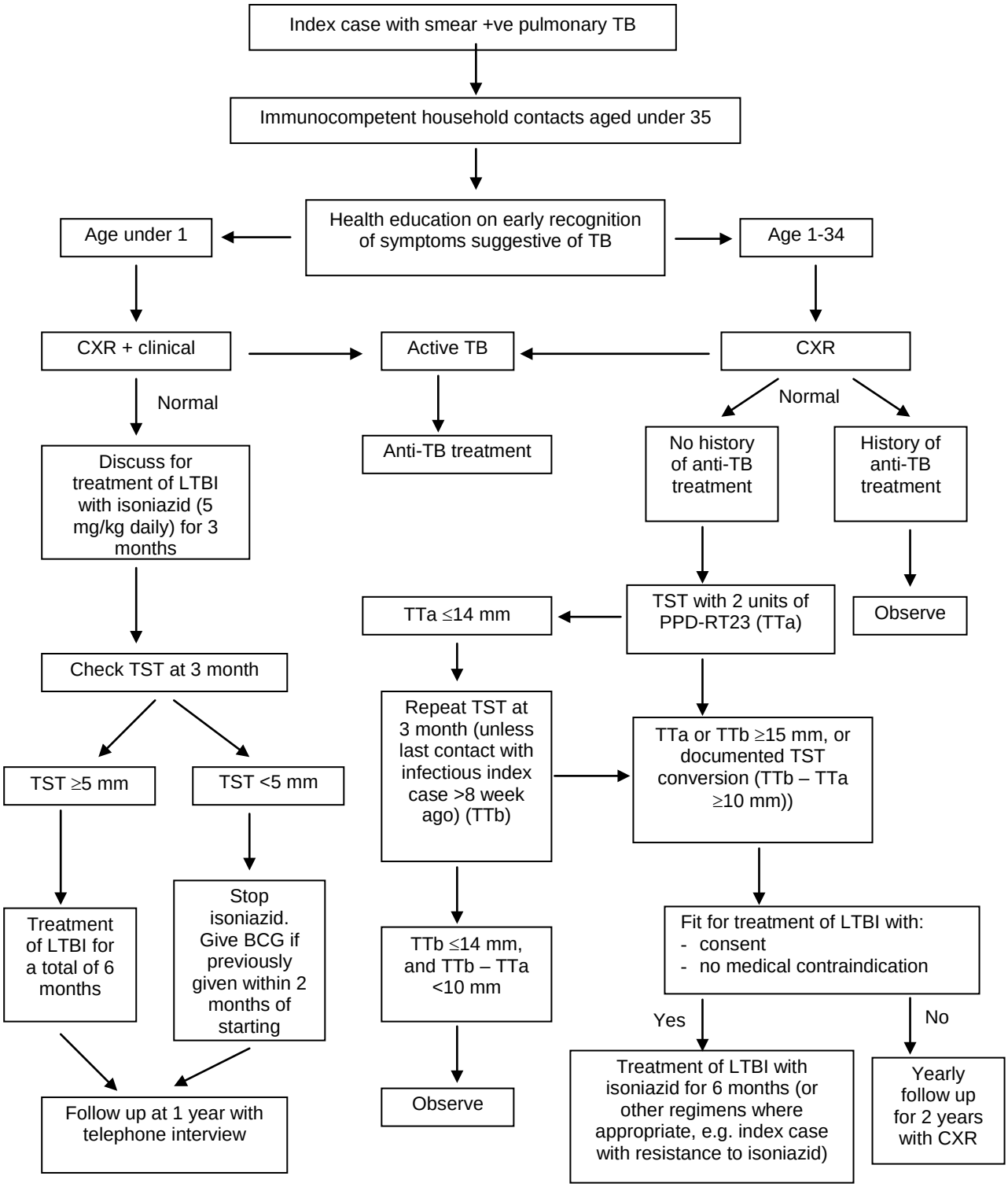
Flow chart for contact investigation of close contacts aged below 5 with smear negative index case *



* 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 9 mm or less, health education is all that is required. If the contact case is clinically unwell or the tuberculin skin test result is 10 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)

Tuberculin Testing (TST) And Treatment Of Latent Tuberculosis Infection (LTBI) Among Immunocompetent Household Contacts Aged Under 35 Of Smear-positive Pulmonary Tuberculosis (TB) Patients *



* After finding an index case with smear-positive pulmonary TB, tuberculin testing should be arranged for immunocompetent household contacts aged under 35. All of them should receive health education on early recognition of symptoms suggestive of TB in addition to chest X-ray examination. If active TB is likely, consider anti-TB treatment. If chest X-ray is normal, further management depends on the age.

For infants (aged under 1) with normal chest X-ray, if clinical assessment is also normal, discuss for treatment of latent TB infection with isoniazid 5 mg per kg daily for three months. Tuberculin skin test (TST) is to be done at 3 months. A TST response of 5 mm or more indicates that treatment of latent TB infection should be given for a total of 6 months. If TST response is below 5 mm, stop isoniazid. Additionally, repeat BCG vaccination if it has been given within 2 months before starting isoniazid. All infants are followed up at one year by telephone interview.

For contacts aged 1-34 with normal chest X-ray, consider observation in the presence of a history of anti-TB treatment. In the absence of such a history, arrange TST with 2 units of PPD-RT23 (TTa). If response to TTa is 14 mm or less, repeat TST 3 months later (TTb) unless TTa is done more than 8 weeks after the last contact with the infectious index case. If response to TTb is 14 mm or less, or the difference between TTb and TTa is less than 10 mm, consider observation. On the other hand, if response to TTa or TTb is at least 15 mm, or TST conversion is documented with a difference of at least 10 mm between TTb and TTa, consider treatment of latent TB infection with isoniazid for 6 months, after obtaining consent and excluding medical contraindications. Other alternative preventive treatment regimens may also be given where appropriate, for example, presence of bacillary resistance to isoniazid in the index case. If the contact is unfit for preventive treatment, arrange yearly follow up with chest X-ray for two years.

APPENDIX 21 (c)

Examination of Contacts in the Chest Clinics 2008

Particulars	Smear Positive Index Cases		Smear Negative Index Cases		Total	
No. of patients (new & old) listed	1494		3704		5198	
No. of contacts listed	3890		9522		13412	
Number of contacts x-rayed	3901	(100.00%)	9561	(100.00%)	13462	(100.00%)
Results						
(a) NSD & Unknown	3474	(89.05%)	8466	(88.55%)	11940	(88.69%)
(b) Disease other than TB	255	(6.54%)	741	(7.75%)	996	(7.40%)
(c) Inactive respiratory TB	103	(2.64%)	234	(2.45%)	337	(2.50%)
(d) Active respiratory TB						
(radiologically)	27	(0.69%)	35	(0.37%)	62	(0.46%)
A (bacteriogically)	8	(0.21%)	7	(0.07%)	15	(0.11%)
B (incomplete)	3	(0.08%)	11	(0.12%)	14	(0.10%)
C	38	(0.97%)	53	(0.55%)	91	(0.68%)
(e) Non-respiratory TB	10	(0.26%)	2	(0.02%)	12	(0.09%)
(f) Result not yet known	21	(0.54%)	65	(0.68%)	86	(0.64%)

APPENDIX 22 (a)

Scheme for BCG Administration in Hong Kong, 2008

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 2008

Institution		No. of Live-births	BCG Vaccination	% Vaccinated
Hospital under HA management	P.Y. Nethersole East	3853	3840	99.7
	Queen Mary	4027	3973	98.7
Private Hospital	Canossa	1839	1824	99.2
	H.K. Adventist	1164	1135	97.5
	H.K. Sanatorium	2050	2024	98.7
	Matilda International	1174	1017	86.6
	St. Paul's	3299	3255	98.7
Total (HK Island)		17406	17068	98.1
Hospital under HA management	Kwong Wah	5515	5452	98.9
	Queen Elizabeth	6140	6214	101.2 *
	United Christian	5223	5201	99.6
Private Hospital	H.K. Baptist	12246	12025	98.2
	St. Teresa's	7342	7255	98.8
Total (Kowloon)		36466	36147	99.1
Hospital under HA management	Alice H.M.L. Nethersole	-	-	-
	Prince of Wales	6638	6611	99.6
	Princess Margaret	4703	4786	101.8 *
	Tuen Mun	5461	5445	99.7
Private Hospital	T.W. Adventist	2520	2480	98.4
	Shatin Int'l Medical Ctr Union	5687	5585	98.2
Total (NT Areas)		25009	24907	99.6
Mother & Child Health Centre		-	164	-
Grand Total		78881	78286	99.2

Note: * Including vaccinations of live births transferred from other maternity institutions and vaccinations of live births at end of 2007

Vaccination Method 2008	Percentage
Intradermal	100.0
Percutaneous	0.0

APPENDIX 23

TB Beds in Public Services, 2008

Hospital		No. of TB Beds
Hospital Authority	Grantham Hospital	154
	Kowloon Hospital	114
	Ruttonjee Hospital	155
	Haven of Hope Hospital	128
	Wong Tai Sin Hospital	85
	Total (Hospital Authority)	636
Custody	Stanley Prison Hospital	20
	Grand Total (2008)	656
	Grand Total (2007)	676
	Grand Total (2006)	667

APPENDIX 24

Annual Admissions to Hospitals from Government Chest Clinics

1997 - 2008

Year	Total Admissions
1997	4597
1998	4709
1999	5012
2000	5408
2001	5317
2002	5183
2003	4603
2004	4986
2005	4435
2006	4571
2007	4038
2008	3170

Admissions by Clinic	Year 2008
East Kowloon	212
Kowloon	222
Sai Ying Pun	333
Shaukeiwan	240
Shaukeiwan Pneumoconiosis	65
Shek Kip Mei	264
South Kwai Chung	401
Tai Po	76
Tung Chung	23
Wanchai	221
Yan Oi	298
Yaumatei	183
Yuen Chau Kok	195
Yung Fung Shee	274
Cheung Chau	12
NT Unit	151
Total	3170

APPENDIX 25

Unlinked Anonymous Screening (UAS)
for HIV in TB & Chest Service (2008)

Age	Male	Female	Total
< 20	21	15	36
20-29	44	59	103
30-39	39	56	95
40-49	83 (1)	41	124 (1)
50-59	93 (1)	42	135 (1)
≥ 60	201	77	278
Unknown Age	8 (2)	4	12 (2)
Unknown Sex/Age	-	-	
Total	489 (4)	294	783 (4)

UAS for HIV in TB & Chest Service (1990 to 2008)

Period	Category	Sample	Number Tested (No. +ve) (% +ve)
1.12.90 - 31.1.91	Outpatient	Blood	1548
5.6.91 - 5.8.91	Inpatient	Blood	485
1.4.92 – 30.6.92	Outpatient	Blood	1469 (2) (0.14%)
1.4.93 – 30.6.93	Outpatient	Blood	1173
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	1003 (2) (0.20%)
Oct 98 – Jan 99	Outpatient	Urine	833 (4) (0.48%)
Sep 99 – Dec 99	Outpatient	Urine	1166 (8) (0.69%)
Sep 00 – Dec 00	Outpatient	Urine	1018 (5) (0.49%)
Oct 01 – Dec 01	Outpatient	Urine	1071 (4) (0.37%)
Oct 02 – Jan 03	Outpatient	Urine	1000 (8) (0.80%)
Nov 03 – Feb 04	Outpatient	Urine	920 (6) (0.65%)
Oct 04 – Feb 05	Outpatient	Urine	1056 (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%)
Nov 08 – Feb 09	Outpatient	Urine	783 (4) (0.51%)

APPENDIX 26

Number of 'Confirmed' cases of TB in health care staff
Notified to Labour Department (1993 – 2008)

Year	Number
1993	0
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

'Confirmed' Cases of TB in Health Care Staff Notified
to Labour Department (2008) by Age and Job Title

Age Group	Doctor	Nurse	Other Allied Health Professional	Other Supporting Staff	Total
20 – 24		2			2
25 – 29					0
30 – 34	1	2	1		4
35 – 39		2	1	3	6
40 – 44		1	1	1	3
45 – 49		2		2	4
50 – 54		1		3	4
55 – 59				1	1
60 – 64	1				1
Total	2	10	3	10	25

Appendix 27
Cohorts of TB Patients

Treatment outcomes for TB cases (including both HIV-negative and HIV-positive cases) registered in 2007 calendar year (number of patients)

	Total number of cases registered	Cured	Completed	Died	Failed	Defaulted	Transferred out	Total evaluated
New pulmonary smear-positive (and/or culture positive)	1481	877	98	157	211	88	47	1478
New pulmonary smear-negative and extrapulmonary (or smear unknown/not done)	3427	0	2076	182	230	119	102	2709
Re-treatment	555	0	341	34	47	29	18	469

NB:
- "Total number of cases registered": The figures in this column may not be equal to the sum of number of cases in the columns "cured" to "transferred out" because some are not evaluated as their case records cannot be traced.
- "Failed": Cases who are still on treatment at 12 month are also classified as "failed". In fact, most of them will be cured some time after 12 month. Regarding the item "new pulmonary smear-positive", among the 211 cases "failed", all of them were still on treatment at 12 month, with 124 sputum smear converted negative at 7 month, 3 sputum smear still positive at 7 month, and 84 unknown.
- Regarding item "new pulmonary smear-positive", the total number of cases registered is 1481, including 1209 cases under DOTS and 272 cases under non-DOTS programme. Among the 1209 DOTS cases, 910 were cured or had treatment completed at 12 month, representing a treatment success rate of 75.27% (910/1209) for "new pulmonary smear-positive cases under DOTS". On the other hand, the overall treatment success rate (for both DOTS and non-DOTS cases counted together) is 65.83% [(877+98)/1481].

Treatment outcomes for HIV-positive TB cases registered in 2007 calendar year (number of patients)

	Total number of cases registered	Cured	Completed	Died	Failed	Defaulted	Transferred out	Total evaluated
New pulmonary smear-positive (and/or culture positive)	23	17	0	4	0	1	1	23
New pulmonary smear-negative and extrapulmonary (or smear unknown/not done)	18	0	17	0	0	1	0	18
Re-treatment	1	0	0	0	0	1	0	1

NB: Overall treatment success rate = 82.93% [17/(23+18)]

Final treatment outcomes for MDR-TB cases registered in 2006 calendar year (number of patients)

	Total number of cases registered	Cured	Completed	Died	Failed	Defaulted	Transferred out	Still on treatment	Total evaluated
New cases	17	10	0	3	0	1	3	0	17
Re-treatment cases	17	9	0	3	0	1	4	0	17
Other cases	0	0	0	0	0	0	0	0	0

NB: Treatment success rate for new cases = 58.82% (10/17). Treatment success rate for re-treatment cases = 52.94% (9/17)

Part 2

PNEUMOCONIOSIS

Part 2 - Pneumoconiosis: Contents

APPENDIX 1

New Cases of Suspected Pneumoconiosis attending
the Pneumoconiosis Clinic in Hong Kong 1956 - 2008

Year	Number of New Cases Undergoing Assessment					
	Government Workers	Non-government Workers	Total	Cumulative Total	Cumulative Total Compensated	
					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	1017		
1978	12	207	219	1236		
1979	2	210	212	1448		
1980	12	532 (a)	544	1992	386 (a)	-
1981	8	608	616	2608	1332	162
1982	4	511	515	3123	1434	634
1983	2	292	294	3417	1469	945
1984	1	231	232	3649	1477	1140
1985	1	179	180 (b)	3829	1479	1322
1986	3	176	179 (3)	4008	1485	1513
1987	4	166	170 (2)	4178	1485	1679
1988	6	172	178 (4)	4356	1488	1877
1989	-	156	156 (1)	4512	1488	2023
1990	2	147	149 (1)	4661	1489	2142
1991	-	171	171 (1)	4832	1489	2151
1992	2	171	173 (3)	5005	1490	2340
1993	2	247	249 (4)	5254	1492	2492
1994	-	327	327 (7)	5581	1493	2770
1995	9	245	254 (9)	5835	1494	3000
1996	4	193	197 (9)	6032	1494	3119
1997	4	154	158 (7)	6190	1494	3242
1998	2	197	199 (5)	6389	1494	3351
1999	-	291	291 (15)	6680	1494	3505
2000	3	235	238 (11)	6918	1494	3619
2001	6	230	236 (9)	7154	1494	3751
2002	3	212	215 (9)	7369	1494	3868
2003	3	142	145 (6)	7514	1494	3948
2004	3	138	141 (4)	7655	1494	4021
2005	-	134	134 (2)	7789	1494	4091
2006	-	278	278 (7)	8067	1494	4207
2007	-	120	120 (2)	8187	1494	4276
2008	3	118	121 (c) (5)	8308	1494 (d)	4348

Notes :
(a) The Pneumoconiosis Compensation Scheme was initiated in 1980, before that reporting were voluntary.
(b) The figures in this column denote the number of patient with asbestos-related lung disease.
(c) Up to the moment that this report is being compiled, only 72 of the 121 cases in 2008 had been assesed and confirmed pneumoconiosis by the Pneumoconiosis Medical Board. And the following tables (Appendix 2 to Appendix 8) are compiled basing on the data of these 72 cases.
(d) Under Revised Ordinance 1993 : 583 out of 1494 pneumoconiotics had joined the pneumoconiosis ex-gratia scheme up to the year 2008. 162 living pneumoconiotics were each receiving a monthly ex-gratia payment of $4710.00 in 2008.

APPENDIX 2

Age Distribution of Pneumoconiosis Cases 2008

Age	Number of Cases	%
25 - 29	-	-
30 - 34	-	-
35 - 39	-	-
40 - 44	1	1
45 - 49	4	6
50 - 54	18	25
55 - 59	13	18
60 - 64	12	17
65 - 69	4	6
70 - 74	9	12
75+	11	15
Total	72	100

APPENDIX 3

Occupation Distribution of Confirmed Pneumoconiosis 2008

Type of Occupation	Number of Cases	%
Construction Construction/Quarry Others	51 5 16	71 7 22
Total	72	100

APPENDIX 4

Pneumoconiosis Patients by Duration of Exposure to Dust 2008

Duration	Number of Cases	%
<5 years	1	1
5 - 9	-	-
10 - 14	6	8
15 - 19	11	15
20 - 24	14	20
25 - 29	14	20
30+	21	29
Unknown	5	7
Total	72	100

APPENDIX 5

Pneumoconiosis Patients by Degree of Incapacity 2008

Degree of Incapacity (%)	No. of New Cases Compensated under Compensation Ordinance
5	25
10	26
15	3
20	5
25	2
30	2
35	1
40	-
45	1
50	-
55	1
60	-
70	-
75	-
80	1
100	-
N. A.	5
Total	72

APPENDIX 6

Confirmed Pneumoconiosis Patients
Classified by Radiological Appearance 2008

Type of Opacity	Profusion 1	2	3	Sub-Total
Small opacities				
Rounded				
p (up to 1.5 mm diameter)	12	-	-	12
q (1.5 to 3.0 mm diameter)	30	7	-	37
r (3.0 to 10.0 mm diameter)	7	1	-	8
Irregular				
s (fine irregular or linear)	2	-	-	2
t (medium irregular)	5	-	-	5
u (coarse irregular)	2	-	-	2
Sub-total	58	8	-	66
Combined opacities	-	-	-	-
N. A.	-	-	-	6
Total				72

11 out of the 72 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)	7
B (Single or multiple opacities with combined area < the equivalent of right upper zone)	3
C (Single or multiple opacities with combined area > the equivalent of right upper zone)	1
Total	11

Appendix 7

Pneumoconiosis Patients with Tuberculosis 2008

Type of TB	Number of Cases	%
Bacteriological Positive	15	21
Bacteriological Negative	35	48
No TB	17	24
N.A.	5	7
Total	72	100

Appendix 8

Confirmed Pneumoconiosis Patients by Other Particulars 2008

Characteristics		Number of Cases	%
Smoking	Smoker/Ex-smoker	57	79
	Non-smoker	10	14
	Unknown	5	7
	Total	72	100
Still exposed to dust when seen by the Pneumoconiosis Clinic	Yes	22	31
	No	45	62
	Unknown	5	7
	Total	72	100
General Condition	Good	59	82
	Fair	8	11
	Poor	-	-
	Died	5	7
	Total	72	100

Part 3

ANNEX

Part 3 – Annex: Contents

Annex 1 (a)

Treatment Outcomes up to 2 year of the 2005 Cohort of TB Patients

A total of 6160 cases of TB were notified in the year 2005. "Programme forms" have been completed for 6123 cases. Among them, 4938 were ever seen at chest clinics (ES) while 1185 were never seen at chest clinics (NS). They are categorised as follows:

Categories		ES	%	NS	%	ES/NS	%
(A)	New pulmonary, smear positive	1221	24.7	241	20.3	1462	23.9
(B)	New pulmonary, smear negative	2494	50.5	524	44.2	3018	49.3
(C)	New pulmonary, smear not done/ unknown	103	2.1	133	11.2	236	3.9
(D)	New extra-pulmonary	551	11.2	147	12.4	698	11.4
(E)	Relapse pulmonary, smear positive	157	3.2	24	2.0	181	3.0
(F)	Pulmonary smear-positive retreatment after failure or default	24	0.5	2	0.2	26	0.4
(G)	Other retreatment cases (not included in E and F) [i.e., including relapses (pulmonary, smear negative or unknown or not done; and extrapulmonary) and retreatment after failure or default (pulmonary, smear negative or unknown or not done; and extrapulmonary)]	388	7.9	114	9.6	502	8.2
Total		4938	100.0	1185	100.0	6123	100.0

Analysis has been done on this cohort of patients and the results are shown in the following Annexes:

Annex 1 (b)	Various age groups (0-19), (20-39), (40-59), (60+), and all age groups
	for (i) ES/NS (cases ever or never seen at chest clinics) - sheet 01 to 09
	(ii) ES (cases ever seen at chest clinics) - sheet 01 to 03
	(iii) NS (cases never seen at chest clinics) - sheet 01 to 03
Annex 1 (c)	Pulmonary pretreatment smear positive, pretreatment culture positive, and MDR-TB cases
	for ES/NS (cases ever or never seen at chest clinics) - sheet 01 to 08
Annex 1 (d)	New pulmonary smear positive and retreatment pulmonary smear positive cases
	for ES/NS (cases ever or never seen at chest clinics) - sheet 01 to 02
Annex 1 (e)	Treatment defaulters (outcome at 2 year = defaulting)
	for ES/NS (cases ever or never seen at chest clinics) - sheet 01 to 05
Annex 1 (f)	Sources completing Programme Forms PFA, PFB1, PFB2, PFC, and PFD

Annex 1 (g)	Sample of the set of "Programme Forms" (PFA, PFB1, PFB2, PFC, and PFD) used for the cohort of patients in 2005

Discussion

Annex 1 (b) – Various age groups

Among the total of 6123 patients, 255 (4.2%) were aged between 0 and 19, 1469 (24.0%) between 20 and 39, 1673 (27.3%) between 40 and 59, and 2726 (44.5%) above 60. 64.4% were male. 41.1%, 24.3%, and 18.3% were never smokers, ex-smokers, and current smokers respectively. 81.6% were permanent local residents while 82.1% were of Chinese ethnicity. Most of them (73.4%) presented because of symptoms. 11.6% presented as incidental finding to pre-employment, pre-immigration, other body check or incidental to other illness, while 1.9% were diagnosed through contact tracing.

75.4% of patients had pulmonary TB, 12.2% had extra-pulmonary TB and 12.4% had both. TB pleura and TB lymph node accounted for 8.9% and 8.1% of the site of involvement respectively. Among pulmonary TB patients, 33.5% had pretreatment sputum smear +ve, 70.3% had pretreatment culture +ve and 15.4% had cavitary lesion on their chest radiographs.

With regard to co-morbidity factors for TB, 12.5% of TB patients had diabetes mellitus, 4.3% of patients had coexisting malignancy, 0.8% of patients were immuno-suppressed because of either steroid or cytotoxic therapy. HIV infection was reported for 0.7% of cases. 4.3% of all TB patients were reported to be hepatitis B carrier while 0.3% had chronic active hepatitis.

62.8% of patients were on 6 months short course chemotherapy for TB or other standard regimen based on HREZS. Treatment side effect was reported in 41.2% of patients. 16.9% were GI side effects, 13.2% were skin rash, 4.4% had transient rise in liver enzyme and 6.7% had frank hepatitis.

Among the 4938 patients ever seen in chest clinic, 73.3% received >90% DOT in initial 2 months, while 61.9% received >90% DOT in subsequent 4 months. Treatment completion/cure rates at 6 months, 12 months and 24 months were: 30.5%, 78.4% and 86.3% respectively. Death rates at corresponding periods were 4.3%, 5.5% and 6.0% respectively.

Among the 1185 patients never seen in chest clinic, 2.2% received >90% DOT in initial 2 months, while 1.7% received >90% DOT in subsequent 4 months. Treatment completion/cure rates at 6 months, 12 months and 24 months were: 1.9%, 2.8% and 3.0% respectively. Death rates at corresponding periods were 1.8%, 1.8% and 1.8% respectively. However, a high percentage of the programme forms of this group of patients were not completed.

Annex 1 (c) – Pulmonary pretreatment smear +ve, culture +ve, and MDR-TB cases

Regarding patients with pulmonary TB, 1669 were pretreatment smear +ve, 3776 were pretreatment culture +ve, and 21 were MDR-TB patients.

In the initial 2 months, around 60% of pretreatment smear +ve, culture +ve patients and MDR-TB received >90% DOT. The corresponding percentages were around 50% for all three groups of patients in subsequent 4 months.

Overall sputum smear conversion rate at 2 months were 88.0% for smear +ve patients and 66.7% for MDRTB patients. Culture conversion rate at 2 months were 86.9% for culture +ve patients and 50.0% for MDR-TB patients.

Treatment success rates for smear +ve patients at 6 months, 12 months and 24 months were 19.4%, 65.2% and 73.9% respectively. Those for culture +ve patients were 23.7%, 61.8% and 68.9% respectively. Those for MDR-TB patients were 0.0%, 14.3% and 52.4% respectively. 2 out of 21 MDR-TB patients defaulted treatment at 24 months.

Annex 1 (d) – New and retreatment pulmonary smear +ve cases

Treatment success rates for new pulmonary smear +ve patients at 6 months, 12 months and 24 months were 21.3%, 65.6% and 74.1% respectively. The corresponding treatment success rates for retreatment pulmonary smear +ve patients were 5.8%, 62.3% and 72.0% respectively.

Annex 1 (e) – Treatment defaulters

There were 228 treatment defaulters at 24 months in the 2005 cohort. Majority (72.4%) were aged between 20 to 59, 38.6% worked full time, 3.1% part time, 21.5% retired, and 27.6% unemployed. 82.9% were new case, 11.4% were relapse, 5.7% were retreatment after default cases, and 0.0% were retreatment after failure of previous treatment cases. 28.4% had pretreatment smear +ve and 20.6% had cavitary lesions on the chest radiograph. 53.9% of patients lost contact after default and 11.8% of patients were retreated after default.

Annex 1 (b) - (i) ES/NS (cases ever or never seen at chest clinics) - 01

Age group	0 to 19		20 to 39		40 to 59		60+		All	
	N	%	N	%	N	%	N	%	N	%
Female	118	46.3	780	53.1	575	34.4	707	25.9	2180	35.6
Male	137	53.7	689	46.9	1098	65.6	2019	74.1	3943	64.4
Total	255	100.0	1469	100.0	1673	100.0	2726	100.0	6123	100.0
Marital status										
Single	216	84.7	812	55.3	204	12.2	167	6.1	1399	22.8
Married	2	0.8	486	33.1	1207	72.1	1918	70.4	3613	59.0
Separated	0	0.0	9	0.6	18	1.1	7	0.3	34	0.6
Divorce	0	0.0	11	0.7	60	3.6	25	0.9	96	1.6
Widowed	0	0.0	5	0.3	6	0.4	99	3.6	110	1.8
Not recorded	37	14.5	146	9.9	178	10.6	510	18.7	871	14.2
Total	255	100.0	1469	100.0	1673	100.0	2726	100.0	6123	100.0
Smoking status										
Never	196	76.9	848	57.7	689	41.2	783	28.7	2516	41.1
Ex-smoker	6	2.4	144	9.8	323	19.3	1017	37.3	1490	24.3
Current smoker	12	4.7	304	20.7	449	26.8	354	13.0	1119	18.3
Not recorded	41	16.1	173	11.8	212	12.7	572	21.0	998	16.3
Total	255	100.0	1469	100.0	1673	100.0	2726	100.0	6123	100.0
Institution-related										
Yes	199	78.0	206	14.0	131	7.8	449	16.5	985	16.1
No	45	17.6	1147	78.1	1386	82.8	1932	70.9	4510	73.7
Not recorded	11	4.3	116	7.9	156	9.3	345	12.7	628	10.3
Total	255	100.0	1469	100.0	1673	100.0	2726	100.0	6123	100.0
Institution										
Client	148	-	116	-	55	-	294	-	613	-
Staff	3	-	47	-	41	-	3	-	94	-
Institution type										
Old age home	38	-	23	-	22	-	294	-	377	-
School	149	-	104	-	28	-	116	-	397	-
Hospital	2	-	23	-	23	-	10	-	58	-
Handicapped	4	-	10	-	14	-	6	-	34	-
Prison	1	-	34	-	28	-	3	-	66	-
Others	3	-	10	-	13	-	9	-	35	-
Living situation										
Street-sleeper	1	0.4	2	0.1	8	0.5	5	0.2	16	0.3
Cubicle bed space	0	0.0	2	0.1	4	0.2	16	0.6	22	0.4
Institution	5	2.0	48	3.3	55	3.3	314	11.5	422	6.9
Work quarter	2	0.8	40	2.7	8	0.5	4	0.1	54	0.9
Alone (not above)	0	0.0	89	6.1	178	10.6	316	11.6	583	9.5
With friends	1	0.4	52	3.5	25	1.5	18	0.7	96	1.6
With family	210	82.4	1087	74.0	1218	72.8	1600	58.7	4115	67.2
Not recorded	36	14.1	149	10.1	177	10.6	453	16.6	815	13.3
Residential status										
Permanent resident	199	78.0	1092	74.3	1447	86.5	2258	82.8	4996	81.6
Chinese immigrant	17	6.7	78	5.3	25	1.5	12	0.4	132	2.2
Imported worker	1	0.4	137	9.3	24	1.4	2	0.1	164	2.7
Tourist - 2 way permit Chinese	1	0.4	7	0.5	1	0.1	4	0.1	13	0.2
Other tourist	0	0.0	8	0.5	2	0.1	0	0.0	10	0.2
Vietnamese	1	0.4	6	0.4	2	0.1	0	0.0	9	0.1
Illegal immigrants	0	0.0	10	0.7	2	0.1	2	0.1	14	0.2
Not recorded	36	14.1	131	8.9	170	10.2	448	16.4	785	12.8
Total	255	100.0	1469	100.0	1673	100.0	2726	100.0	6123	100.0

Annex 1 (b) - (i) ES/NS (cases ever or never seen at chest clinics) - 02

Age group	0 to 19		20 to 39		40 to 59		60+		All	
	N	%	N	%	N	%	N	%	N	%
Place of birth										
Hong Kong	147	57.6	810	55.1	797	47.6	378	13.9	2132	34.8
Mainland China	64	25.1	307	20.9	605	36.2	1717	63.0	2693	44.0
Others	9	3.5	224	15.2	103	6.2	125	4.6	461	7.5
Not recorded	35	13.7	128	8.7	168	10.0	506	18.6	837	13.7
Total	255	100.0	1469	100.0	1673	100.0	2726	100.0	6123	100.0
Ethnicity										
Chinese	210	82.4	1124	76.5	1438	86.0	2254	82.7	5026	82.1
Other Asian	8	3.1	206	14.0	61	3.6	25	0.9	300	4.9
Caucasian	0	0.0	2	0.1	2	0.1	0	0.0	4	0.1
Others	0	0.0	3	0.2	0	0.0	0	0.0	3	0.0
Not recorded	37	14.5	134	9.1	172	10.3	447	16.4	790	12.9
Total	255	100.0	1469	100.0	1673	100.0	2726	100.0	6123	100.0
Previous BCG history										
Yes	187	73.3	927	63.1	479	28.6	109	4.0	1702	27.8
No	14	5.5	97	6.6	355	21.2	956	35.1	1422	23.2
Unknown	54	21.2	445	30.3	839	50.1	1661	60.9	2999	49.0
Total	255	100.0	1469	100.0	1673	100.0	2726	100.0	6123	100.0
BCG scar										
Yes	169	-	873	-	439	-	110	-	1591	-
No	48	-	414	-	1004	-	1958	-	3424	-
Evidence of previous BCG										
BCG history +ve or scar +ve	194	76.1	1011	68.8	545	32.6	147	5.4	1897	31.0
Employment status										
Full-time	21	8.2	865	58.9	680	40.6	93	3.4	1659	27.1
Part-time	2	0.8	49	3.3	76	4.5	15	0.6	142	2.3
Retired	0	0.0	3	0.2	111	6.6	1703	62.5	1817	29.7
Unemployed	25	9.8	228	15.5	389	23.3	118	4.3	760	12.4
Housewife	0	0.0	106	7.2	236	14.1	339	12.4	681	11.1
Student	172	67.5	81	5.5	2	0.1	0	0.0	255	4.2
Not recorded	35	13.7	137	9.3	179	10.7	458	16.8	809	13.2
Total	255	100.0	1469	100.0	1673	100.0	2726	100.0	6123	100.0
Occupation										
Blue collar	9	3.5	356	24.2	466	27.9	76	2.8	907	14.8
White collar	9	3.5	384	26.1	150	9.0	16	0.6	559	9.1
Medical	0	0.0	3	0.2	4	0.2	1	0.0	8	0.1
Nursing	0	0.0	8	0.5	4	0.2	0	0.0	12	0.2
Paramedical	0	0.0	8	0.5	1	0.1	0	0.0	9	0.1
Supporting health staff	0	0.0	1	0.1	9	0.5	0	0.0	10	0.2
Not applicable	158	62.0	437	29.7	744	44.5	2091	76.7	3430	56.0
Not recorded	79	31.0	272	18.5	295	17.6	542	19.9	1188	19.4
Total	255	100.0	1469	100.0	1673	100.0	2726	100.0	6123	100.0
First presentation										
Private doctor	35	13.7	356	24.2	246	14.7	127	4.7	764	12.5
Private hospital	3	1.2	28	1.9	22	1.3	19	0.7	72	1.2
GOPC	8	3.1	44	3.0	68	4.1	85	3.1	205	3.3
Chest Clinic	42	16.5	181	12.3	260	15.5	300	11.0	783	12.8
Other DH Clinic	3	1.2	48	3.3	46	2.7	28	1.0	125	2.0
HA Clinic	4	1.6	36	2.5	51	3.0	94	3.4	185	3.0
HA Hospital	123	48.2	622	42.3	798	47.7	1641	60.2	3184	52.0
Mainland	0	0.0	19	1.3	19	1.1	14	0.5	52	0.8
Overseas	2	0.8	9	0.6	5	0.3	8	0.3	24	0.4
Not recorded	35	13.7	126	8.6	158	9.4	410	15.0	729	11.9
Total	255	100.0	1469	100.0	1673	100.0	2726	100.0	6123	100.0

Annex 1 (b) - (i) ES/NS (cases ever or never seen at chest clinics) - 03

Age group	0 to 19		20 to 39		40 to 59		60+		All	
	N	%	N	%	N	%	N	%	N	%
Symptomatic on presentation										
Y	193	75.7	1145	77.9	1326	79.3	2036	74.7	4700	76.8
N	27	10.6	202	13.8	187	11.2	284	10.4	700	11.4
Not recorded	35	13.7	122	8.3	160	9.6	406	14.9	723	11.8
Total	255	100.0	1469	100.0	1673	100.0	2726	100.0	6123	100.0
Chest symptoms	134	-	789	-	952	-	1572	-	3447	-
Systemic symptoms	30	-	164	-	215	-	380	-	789	-
Other site-specific symptoms	48	-	302	-	282	-	261	-	893	-
Reason for presentation										
Symptom	187	73.3	1108	75.4	1272	76.0	1929	70.8	4496	73.4
Contact screening	21	8.2	30	2.0	35	2.1	32	1.2	118	1.9
Pre-employment	3	1.2	68	4.6	15	0.9	2	0.1	88	1.4
Pre-emigration	0	0.0	2	0.1	0	0.0	3	0.1	5	0.1
Other body check	4	1.6	95	6.5	82	4.9	60	2.2	241	3.9
Incidental to other illness	4	1.6	22	1.5	98	5.9	254	9.3	378	6.2
Others	1	0.4	12	0.8	9	0.5	26	1.0	48	0.8
Not recorded	35	13.7	132	9.0	162	9.7	420	15.4	749	12.2
Total	255	100.0	1469	100.0	1673	100.0	2726	100.0	6123	100.0
Contact with TB patients										
Yes	39	15.3	111	7.6	120	7.2	82	3.0	352	5.7
No	181	71.0	1233	83.9	1387	82.9	2199	80.7	5000	81.7
Not recorded	35	13.7	125	8.5	166	9.9	445	16.3	771	12.6
Total	255	100.0	1469	100.0	1673	100.0	2726	100.0	6123	100.0
Contact type										
Household	30	-	70	-	73	-	63	-	236	-
Work	4	-	13	-	10	-	1	-	28	-
Casual	3	-	13	-	19	-	4	-	39	-
Time of contact										
Within 2 year	23	-	46	-	43	-	26	-	138	-
Over 2 year	9	-	37	-	50	-	32	-	128	-
Previous chemoprophylaxis										
Yes	2	-	2	-	4	-	8	-	16	-
Reason for chemoprophylaxis										
Contact	0	-	1	-	0	-	0	-	1	-
Silicosis	2	-	0	-	1	-	1	-	4	-
HIV	0	-	0	-	0	-	0	-	0	-
Old scar on CXR	0	-	0	-	1	-	2	-	3	-
Others	0	-	0	-	1	-	2	-	3	-
Disease Classification										
Pulmonary TB only	171	67.1	1004	68.3	1219	72.9	2220	81.4	4614	75.4
Extrapulmonary TB only	35	13.7	231	15.7	275	16.4	208	7.6	749	12.2
Both	49	19.2	234	15.9	179	10.7	298	10.9	760	12.4
Total	255	100.0	1469	100.0	1673	100.0	2726	100.0	6123	100.0

Annex 1 (b) - (i) ES/NS (cases ever or never seen at chest clinics) - 04

Age group	0 to 19		20 to 39		40 to 59		60+		All	
	N	%	N	%	N	%	N	%	N	%
Extrapulmonary TB										
Pleura	26	10.2	148	10.1	139	8.3	232	8.5	545	8.9
Lymph node	37	14.5	219	14.9	153	9.1	85	3.1	494	8.1
Meninges	3	1.2	6	0.4	13	0.8	8	0.3	30	0.5
Miliary	2	0.8	6	0.4	12	0.7	19	0.7	39	0.6
Abdomen	2	0.8	19	1.3	23	1.4	40	1.5	84	1.4
Bone and joint (not spine)	2	0.8	6	0.4	5	0.3	28	1.0	41	0.7
Spine	1	0.4	13	0.9	8	0.5	14	0.5	36	0.6
Genito-urinary tract	0	0.0	8	0.5	21	1.3	25	0.9	54	0.9
Naso/oro-pharynx	1	0.4	5	0.3	3	0.2	2	0.1	11	0.2
Larynx	0	0.0	2	0.1	3	0.2	3	0.1	8	0.1
Pericardium	0	0.0	2	0.1	2	0.1	4	0.1	8	0.1
Skin	4	1.6	20	1.4	26	1.6	8	0.3	58	0.9
Other sites	2	0.8	14	1.0	20	1.2	24	0.9	60	1.0
Case category										
New case	250	98.0	1387	94.4	1463	87.4	2314	84.9	5414	88.4
Relapse	5	2.0	65	4.4	190	11.4	394	14.5	654	10.7
Treatment after default	0	0.0	17	1.2	20	1.2	16	0.6	53	0.9
Failure of previous treatment	0	0.0	0	0.0	0	0.0	2	0.1	2	0.0
Total	255	100.0	1469	100.0	1673	100.0	2726	100.0	6123	100.0
Disease characteristics (pulmonary cases)										
Pretreatment smear +ve	59	26.8	369	29.8	537	38.4	835	33.2	1800	33.5
Pretreatment culture +ve	132	60.0	758	61.2	942	67.4	1944	77.2	3776	70.3
Extent = 1	102	46.4	660	53.3	687	49.1	1033	41.0	2482	46.2
Extent=1 & cavity=N	*81*	*36.8*	*581*	*46.9*	*595*	*42.6*	*958*	*38.0*	*2215*	*41.2*
Extent=1 & cavity=Y	*21*	*9.5*	*79*	*6.4*	*92*	*6.6*	*75*	*3.0*	*267*	*5.0*
Extent = 2	51	23.2	252	20.4	330	23.6	617	24.5	1250	23.3
Extent=2 & cavity=N	*38*	*17.3*	*169*	*13.7*	*223*	*16.0*	*511*	*20.3*	*941*	*17.5*
Extent=2 & cavity=Y	*13*	*5.9*	*83*	*6.7*	*107*	*7.7*	*106*	*4.2*	*309*	*5.7*
Extent=3	20	9.1	117	9.5	179	12.8	302	12.0	618	11.5
Extent=3 & cavity=N	*12*	*5.5*	*49*	*4.0*	*93*	*6.7*	*217*	*8.6*	*371*	*6.9*
Extent=3 & cavity=Y	*8*	*3.6*	*68*	*5.5*	*86*	*6.2*	*85*	*3.4*	*247*	*4.6*
Extent=not specified	47	21.4	209	16.9	202	14.4	566	22.5	1024	19.1
Extent=ns & cavity=N	*47*	*21.4*	*208*	*16.8*	*201*	*14.4*	*563*	*22.4*	*1019*	*19.0*
Extent=ns & cavity=Y	*0*	*0.0*	*1*	*0.1*	*1*	*0.1*	*3*	*0.1*	*5*	*0.1*
Cavity=N	178	80.9	1007	81.3	1112	79.5	2249	89.3	4546	84.6
Cavity=Y	42	19.1	231	18.7	286	20.5	269	10.7	828	15.4
Mode of diagnosis										
Bacteriological	163	63.9	941	64.1	1155	69.0	2204	80.9	4463	72.9
Histological	19	7.5	158	10.8	197	11.8	152	5.6	526	8.6
Clinical-radiological	56	22.0	300	20.4	224	13.4	236	8.7	816	13.3
Clinical only	0	0.0	2	0.1	5	0.3	1	0.0	8	0.1
Not recorded	17	6.7	68	4.6	92	5.5	133	4.9	310	5.1
Total	255	100.0	1469	100.0	1673	100.0	2726	100.0	6123	100.0
Histology										
Typical (with caseation)	9	-	54	-	74	-	38	-	175	-
Granulomatous inflammation	21	-	156	-	187	-	168	-	532	-
Other	6	-	43	-	38	-	33	-	120	-
Ziehl-Neelzen staining										
Positive	22	-	121	-	157	-	121	-	421	-

Annex 1 (b) - (i) ES/NS (cases ever or never seen at chest clinics) - 05

Age group	0 to 19		20 to 39		40 to 59		60+		All	
	N	%	N	%	N	%	N	%	N	%
Risk factors for TB										
Yes	4	1.6	94	6.4	432	25.8	981	36.0	1511	24.7
Diabetes mellitus	0	0.0	25	1.7	243	14.5	495	18.2	763	12.5
Lung cancer	0	0.0	1	0.1	14	0.8	56	2.1	71	1.2
Other malignancies	1	0.4	5	0.3	45	2.7	137	5.0	188	3.1
On cytotoxic drugs	0	0.0	2	0.1	6	0.4	3	0.1	11	0.2
On steroid	0	0.0	11	0.7	13	0.8	13	0.5	37	0.6
Chronic renal failure	0	0.0	1	0.1	21	1.3	29	1.1	51	0.8
HIV	0	0.0	23	1.6	14	0.8	4	0.1	41	0.7
Silicosis	0	0.0	0	0.0	11	0.7	20	0.7	31	0.5
Alcoholism	1	0.4	11	0.7	58	3.5	63	2.3	133	2.2
Drug abuser	0	0.0	12	0.8	45	2.7	17	0.6	74	1.2
Gastrectomy	0	0.0	0	0.0	4	0.2	18	0.7	22	0.4
General debilitation	2	0.8	1	0.1	7	0.4	273	10.0	283	4.6
Others	0	0.0	9	0.6	22	1.3	33	1.2	64	1.0
Factors affecting treatment choices										
Yes	11	4.3	107	7.3	255	15.2	636	23.3	1009	16.5
Hepatitis-B carrier	4	1.6	63	4.3	118	7.1	78	2.9	263	4.3
Chronic active hepatitis	0	0.0	1	0.1	7	0.4	8	0.3	16	0.3
Impaired renal function	0	0.0	2	0.1	16	1.0	80	2.9	98	1.6
Chronic renal failure	0	0.0	0	0.0	7	0.4	18	0.7	25	0.4
Impaired vision	2	0.8	11	0.7	55	3.3	374	13.7	442	7.2
Impaired heaering	0	0.0	5	0.3	13	0.8	48	1.8	66	1.1
Known drug reaction	0	0.0	0	0.0	6	0.4	2	0.1	8	0.1
Known drug resistance	0	0.0	3	0.2	6	0.4	6	0.2	15	0.2
Gout	0	0.0	0	0.0	6	0.4	49	1.8	55	0.9
Idiopathic thromb. purpura	5	2.0	1	0.1	2	0.1	3	0.1	6	0.1
Others	0	0.0	24	1.6	44	2.6	77	2.8	150	2.4
6-month short course treatment										
Yes	91	35.7	489	33.3	329	19.7	274	10.1	1183	19.3
2HRZE+4HR	86	33.7	444	30.2	283	16.9	211	7.7	1024	16.7
2HRZS+4HR	0	0.0	5	0.3	9	0.5	17	0.6	31	0.5
Other standard regimen based on HRZES										
Yes	110	43.1	615	41.9	828	49.5	1108	40.6	2661	43.5
Treatment side effects										
Yes	73	28.6	545	37.1	770	46.0	1137	41.7	2525	41.2
GI upset	44	17.3	265	18.0	295	17.6	430	15.8	1034	16.9
Skin rash	15	5.9	140	9.5	263	15.7	389	14.3	807	13.2
Visual	6	2.4	29	2.0	63	3.8	99	3.6	197	3.2
Transient rise liver enzyme	3	1.2	46	3.1	88	5.3	133	4.9	270	4.4
Hepatitis	5	2.0	70	4.8	125	7.5	209	7.7	409	6.7
Vestibular	0	0.0	5	0.3	22	1.3	18	0.7	45	0.7
Arthropathy	2	0.8	20	1.4	32	1.9	68	2.5	122	2.0
Fever-chill	3	1.2	22	1.5	30	1.8	34	1.2	89	1.5
Dizziness	4	1.6	38	2.6	42	2.5	86	3.2	170	2.8
Thrombocytopenia	0	0.0	3	0.2	10	0.6	13	0.5	26	0.4
Leucopenia	0	0.0	8	0.5	4	0.2	6	0.2	18	0.3
Flush face	0	0.0	4	0.3	11	0.7	3	0.1	18	0.3
Others	3	1.2	39	2.7	55	3.3	90	3.3	187	3.1
Consequence of side effects										
Rx temporarily withheld	33	12.9	254	17.3	424	25.3	723	26.5	1434	23.4
Desensitiation or drug trial	11	4.3	135	9.2	240	14.3	419	15.4	805	13.1
Change in dosage/frequency	5	2.0	97	6.6	138	8.2	209	7.7	449	7.3
Change of drugs	14	5.5	147	10.0	286	17.1	561	20.6	1008	16.5

Annex 1 (b) - (i) ES/NS (cases ever or never seen at chest clinics) - 06

Age group	0 to 19		20 to 39		40 to 59		60+		All	
	N	%	N	%	N	%	N	%	N	%
Treatment supervision										
Under DOT at chest clinic, hospital, CNS or other health staff (initial 2 months)										
>90%	165	64.7	892	60.7	1047	62.6	1543	56.6	3647	59.6
>75%	21	8.2	162	11.0	151	9.0	130	4.8	464	7.6
>50%	12	4.7	94	6.4	111	6.6	96	3.5	313	5.1
>25%	13	5.1	51	3.5	54	3.2	58	2.1	176	2.9
≤25%	1	0.4	42	2.9	38	2.3	64	2.3	145	2.4
Not recorded	43	16.9	228	15.5	272	16.3	835	30.6	1378	22.5
Under DOT at chest clinic, hospital, CNS or other health staff (subsequent 4 months)										
>90%	138	54.1	720	49.0	885	52.9	1336	49.0	3079	50.3
>75%	29	11.4	195	13.3	186	11.1	131	4.8	541	8.8
>50%	17	6.7	119	8.1	107	6.4	83	3.0	326	5.3
>25%	16	6.3	80	5.4	96	5.7	83	3.0	275	4.5
≤25%	9	3.5	83	5.7	88	5.3	117	4.3	297	4.9
Not recorded	46	18.0	272	18.5	311	18.6	976	35.8	1605	26.2
Under supervision by relatives (initial 2 months)										
>90%	4	1.6	2	0.1	3	0.2	15	0.6	24	0.4
>75%	0	0.0	0	0.0	1	0.1	2	0.1	3	0.0
>50%	0	0.0	5	0.3	3	0.2	2	0.1	10	0.2
>25%	2	0.8	5	0.3	9	0.5	16	0.6	32	0.5
≤25%	170	66.7	991	67.5	1100	65.8	1457	53.4	3718	60.7
Not recorded	79	31.0	466	31.7	557	33.3	1234	45.3	2336	38.2
Under supervision by relatives (subsequent 4 months)										
>90%	4	1.6	3	0.2	3	0.2	18	0.7	28	0.5
>75%	4	1.6	3	0.2	7	0.4	8	0.3	22	0.4
>50%	2	0.8	9	0.6	3	0.2	8	0.3	22	0.4
>25%	1	0.4	6	0.4	12	0.7	10	0.4	29	0.5
≤25%	162	63.5	957	65.1	1061	63.4	1347	49.4	3527	57.6
Not recorded	82	32.2	491	33.4	587	35.1	1335	49.0	2495	40.7
Supplied for unsupervised treatment (initial 2 months)										
<5%	161	63.1	864	58.8	995	59.5	1480	54.3	3500	57.2
<10%	17	6.7	78	5.3	87	5.2	76	2.8	258	4.2
<15%	10	3.9	50	3.4	76	4.5	45	1.7	181	3.0
<25%	3	1.2	74	5.0	57	3.4	51	1.9	185	3.0
<50%	8	3.1	78	5.3	88	5.3	69	2.5	243	4.0
≥50%	9	3.5	34	2.3	55	3.3	67	2.5	165	2.7
Not recorded	47	18.4	291	19.8	315	18.8	938	34.4	1591	26.0
Supplied for unsupervised treatment (subsequent 4 months)										
<5%	131	51.4	730	49.7	860	51.4	1295	47.5	3016	49.3
<10%	26	10.2	102	6.9	114	6.8	91	3.3	333	5.4
<15%	15	5.9	59	4.0	70	4.2	43	1.6	187	3.1
<25%	7	2.7	91	6.2	86	5.1	62	2.3	246	4.0
<50%	11	4.3	76	5.2	80	4.8	56	2.1	223	3.6
≥50%	16	6.3	103	7.0	131	7.8	135	5.0	385	6.3
Not recorded	49	19.2	308	21.0	332	19.8	1044	38.3	1733	28.3
Defaulted (initial 2 months)										
<5%	190	74.5	1024	69.7	1208	72.2	1646	60.4	4068	66.4
<10%	7	2.7	27	1.8	26	1.6	26	1.0	86	1.4
<15%	0	0.0	26	1.8	13	0.8	18	0.7	57	0.9
<25%	1	0.4	26	1.8	19	1.1	17	0.6	63	1.0
<50%	2	0.8	25	1.7	18	1.1	14	0.5	59	1.0
≥50%	2	0.8	25	1.7	14	0.8	16	0.6	57	0.9
Not recorded	53	20.8	316	21.5	375	22.4	989	36.3	1733	28.3
Defaulted (subsequent 4 months)										
<5%	177	69.4	956	65.1	1148	68.6	1530	56.1	3811	62.2
<10%	11	4.3	45	3.1	35	2.1	20	0.7	111	1.8
<15%	6	2.4	26	1.8	21	1.3	12	0.4	65	1.1
<25%	4	1.6	41	2.8	25	1.5	10	0.4	80	1.3
<50%	0	0.0	30	2.0	21	1.3	13	0.5	64	1.0
≥50%	3	1.2	36	2.5	23	1.4	21	0.8	83	1.4
Not recorded	54	21.2	335	22.8	400	23.9	1120	41.1	1909	31.2

Annex 1 (b) - (i) ES/NS (cases ever or never seen at chest clinics) - 07

Age group	0 to 19		20 to 39		40 to 59		60+		All	
	N	%	N	%	N	%	N	%	N	%
Outcome at 6 months										
Cured/ treatment completed	117	45.9	534	36.4	428	25.6	451	16.5	1530	25.0
Still on treatment	94	36.9	625	42.5	909	54.3	1243	45.6	2871	46.9
Died	0	0.0	5	0.3	19	1.1	211	7.7	235	3.8
Transferred	4	1.6	63	4.3	33	2.0	21	0.8	121	2.0
Defaulted	2	0.8	61	4.2	56	3.3	57	2.1	176	2.9
Failure	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Revised dx/ others	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Not recorded	38	14.9	181	12.3	228	13.6	743	27.3	1190	19.4
Total	255	100.0	1469	100.0	1673	100.0	2726	100.0	6123	100.0
Among those cured/ treatment completed										
Bacteriological conversion	55	47.0	294	55.1	224	52.3	297	65.9	870	56.9
Radiological improvement	106	90.6	472	88.4	343	80.1	335	74.3	1256	82.1
Other clinical improvement	29	24.8	95	17.8	103	24.1	72	16.0	299	19.5
No evidence of response	2	1.7	17	3.2	18	4.2	29	6.4	66	4.3
Among those still on treatment										
Reasons for still on treatment:										
Retreatment case	1	1.1	35	5.6	108	11.9	142	11.4	286	10.0
Extrapulmonary disease	45	47.9	257	41.1	238	26.2	162	13.0	702	24.5
Extensive disease	26	27.7	110	17.6	151	16.6	173	13.9	460	16.0
Interrupted treatment	13	13.8	147	23.5	231	25.4	389	31.3	780	27.2
Drug resistance	6	6.4	41	6.6	49	5.4	48	3.9	144	5.0
Poor response	9	9.6	45	7.2	70	7.7	57	4.6	181	6.3
Others	13	13.8	121	19.4	313	34.4	577	46.4	1024	35.7
Among those died - causes of death:										
TB-related cause	0	-	0	0.0	2	10.5	21	10.0	23	9.8
Not TB-related	0	-	2	40.0	12	63.2	139	65.9	153	65.1
Unknown	0	-	2	40.0	4	21.1	41	19.4	47	20.0
Among those transferred, new sources of care:										
GP	0	0.0	12	19.0	3	9.1	2	9.5	17	14.0
Chest Clinic	0	0.0	1	1.6	1	3.0	0	0.0	2	1.7
Hospital	0	0.0	2	3.2	10	30.3	7	33.3	19	15.7
Outside HK	4	100.0	47	74.6	19	57.6	10	47.6	80	66.1
Not recorded	0	0.0	1	1.6	0	0.0	2	9.5	3	2.5
Among those defaulted										
Never found	2	100.0	51	83.6	35	62.5	34	59.6	122	69.3
Retreated after default	0	0.0	3	4.9	2	3.6	0	0.0	5	2.8
Treatment stopped by doctor	0	0.0	2	3.3	10	17.9	10	17.5	22	12.5
Not recorded	0	0.0	5	8.2	9	16.1	13	22.8	27	15.3

Annex 1 (b) - (i) ES/NS (cases ever or never seen at chest clinics) - 08

Age group	0 to 19		20 to 39		40 to 59		60+		All	
	N	%	N	%	N	%	N	%	N	%
Outcome at 12 months										
Cured/ treatment completed	200	78.4	1058	72.0	1192	71.2	1452	53.3	3902	63.7
Still on treatment	10	3.9	88	6.0	131	7.8	198	7.3	427	7.0
Died	0	0.0	6	0.4	25	1.5	261	9.6	292	4.8
Transferred	4	1.6	64	4.4	25	1.5	23	0.8	116	1.9
Defaulted	4	1.6	90	6.1	92	5.5	67	2.5	253	4.1
Failure	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Revised dx/ others	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Not recorded	37	14.5	163	11.1	208	12.4	725	26.6	1133	18.5
Total	255	100.0	1469	100.0	1673	100.0	2726	100.0	6123	100.0
Among those cured/ treatment completed										
Bacteriological conversion	106	53.0	575	54.3	718	60.2	1032	71.1	2431	62.3
Radiological improvement	170	85.0	846	80.0	924	77.5	1111	76.5	3051	78.2
Other clinical improvement	79	39.5	384	36.3	395	33.1	358	24.7	1216	31.2
No evidence of response	1	0.5	26	2.5	27	2.3	62	4.3	116	3.0
After treatment completed:										
No relapse	170	85.0	872	82.4	1048	87.9	1270	87.5	3360	86.1
Loss to follow up	17	8.5	129	12.2	75	6.3	68	4.7	289	7.4
Died	0	0.0	0	0.0	1	0.1	27	1.9	28	0.7
TB-related	*0*		*0*		*0*		*3*		*3*	
Not TB-related	*0*		*0*		*1*		*16*		*17*	
Unknown	*0*		*0*		*0*		*6*		*6*	
Relapse	1	0.5	0	0.0	3	0.3	2	0.1	6	0.2
Bacteriological	*0*		*0*		*1*		*2*		*3*	
Histological	*1*		*0*		*1*		*0*		*2*	
Clinico-radiological	*0*		*0*		*1*		*0*		*1*	
Not recorded	12	6.0	57	5.4	65	5.5	85	5.9	219	5.6
Among those still on treatment										
Reasons for still on treatment:										
Retreatment case	0	0.0	5	5.7	13	9.9	11	5.6	29	6.8
Extrapulmonary disease	2	20.0	24	27.3	25	19.1	24	12.1	75	17.6
Extensive disease	2	20.0	11	12.5	22	16.8	18	9.1	53	12.4
Interrupted treatment	1	10.0	43	48.9	48	36.6	119	60.1	211	49.4
Drug resistance	3	30.0	17	19.3	22	16.8	26	13.1	68	15.9
Poor response	5	50.0	15	17.0	15	11.5	8	4.0	43	10.1
Others	1	10.0	26	29.5	65	49.6	88	44.4	180	42.2
Among those died - causes of death:										
TB-related cause	0	-	0	0.0	2	8.0	22	8.4	24	8.2
Not TB-related	0	-	4	66.7	17	68.0	180	69.0	201	68.8
Unknown	0	-	2	33.3	6	24.0	51	19.5	59	20.2
Among those transferred, new sources of care:										
GP	1	25.0	9	14.1	4	16.0	1	4.3	15	12.9
Chest Clinic	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Hospital	0	0.0	4	6.3	2	8.0	6	26.1	12	10.3
Outside HK	3	75.0	47	73.4	17	68.0	13	56.5	80	69.0
Not recorded	0	0.0	4	6.3	2	8.0	3	13.0	9	7.8
Among those defaulted										
Never found	4	100.0	67	74.4	50	54.3	33	49.3	154	60.9
Retreated after default	0	0.0	4	4.4	10	10.9	4	6.0	18	7.1
Treatment stopped by doctor	0	0.0	6	6.7	11	12.0	12	17.9	29	11.5
Not recorded	0	0.0	13	14.4	21	22.8	18	26.9	52	20.6

Annex 1 (b) - (i) ES/NS (cases ever or never seen at chest clinics) - 09

Age group	0 to 19		20 to 39		40 to 59		60+		All	
	N	%	N	%	N	%	N	%	N	%
Outcome at 24 months										
Cured/ treatment completed	211	82.7	1140	77.6	1314	78.5	1630	59.8	4295	70.1
Still on treatment	1	0.4	2	0.1	7	0.4	4	0.1	14	0.2
Died	0	0.0	8	0.5	29	1.7	279	10.2	316	5.2
Transferred	3	1.2	67	4.6	21	1.3	18	0.7	109	1.8
Defaulted	3	1.2	85	5.8	80	4.8	60	2.2	228	3.7
Failure	0	0.0	0	0.0	1	0.1	0	0.0	1	0.0
Revised dx/ others	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Not recorded	37	14.5	167	11.4	221	13.2	735	27.0	1160	18.9
Total	255	100.0	1469	100.0	1673	100.0	2726	100.0	6123	100.0
Among those cured/ treatment completed										
Bacteriological conversion	121	57.3	647	56.8	830	63.2	1204	73.9	2802	65.2
Radiological improvement	183	86.7	932	81.8	1056	80.4	1300	79.8	3471	80.8
Other clinical improvement	89	42.2	471	41.3	512	39.0	501	30.7	1573	36.6
No evidence of response	1	0.5	21	1.8	34	2.6	54	3.3	110	2.6
After treatment completed:										
No relapse	150	71.1	785	68.9	1038	79.0	1262	77.4	3235	75.3
Loss to follow up	34	16.1	251	22.0	161	12.3	173	10.6	619	14.4
Died	0	0.0	2	0.2	8	0.6	88	5.4	98	2.3
TB-related	*0*		*1*		*1*		*8*		*10*	
Not TB-related	*0*		*1*		*4*		*61*		*66*	
Unknown	*0*		*0*		*2*		*18*		*20*	
Relapse	1	0.5	4	0.4	6	0.5	5	0.3	16	0.4
Bacteriological	*0*		*2*		*2*		*3*		*7*	
Histological	*1*		*1*		*3*		*0*		*5*	
Clinico-radiological	*0*		*1*		*1*		*1*		*3*	
Clinical only	*0*		*0*		*0*		*0*		*0*	
Not recorded	26	12.3	98	8.6	101	7.7	102	6.3	327	7.6
Among those still on treatment										
Reasons for still on treatment:										
Retreatment case	0	-	0	-	1	-	2	-	3	21.4
Extrapulmonary disease	0	-	0	-	0	-	1	-	1	7.1
Extensive disease	0	-	0	-	1	-	0	-	1	7.1
Interrupted treatment	0	-	0	-	3	-	3	-	6	42.9
Drug resistance	1	-	1	-	0	-	1	-	3	21.4
Poor response	0	-	0	-	1	-	2	-	3	21.4
Others	0	-	1	-	3	-	2	-	6	42.9
Among those died - causes of death:										
TB-related cause	0	-	0	0.0	3	10.3	22	7.9	25	7.9
Not TB-related	0	-	6	75.0	18	62.1	190	68.1	214	67.7
Unknown	0	-	2	25.0	7	24.1	57	20.4	66	20.9
Among those transferred, new sources of care:										
GP	0	0.0	7	10.4	2	9.5	2	11.1	11	10.1
Chest Clinic	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Hospital	0	0.0	4	6.0	1	4.8	4	22.2	9	8.3
Outside HK	3	100.0	53	79.1	14	66.7	9	50.0	79	72.5
Not recorded	0	0.0	3	4.5	4	19.0	3	16.7	10	9.2
Among those defaulted										
Never found	2	66.7	53	62.4	40	50.0	28	46.7	123	53.9
Retreated after default	0	0.0	6	7.1	12	15.0	9	15.0	27	11.8
Treatment stopped by doctor	1	33.3	15	17.6	9	11.3	7	11.7	32	14.0
Not recorded	0	0.0	11	12.9	19	23.8	16	26.7	46	20.2

Annex 1 (b) - (ii) ES (cases ever seen at chest clinics) - 01

Age group	0 to 19		20 to 39		40 to 59		60+		All	
	N	%	N	%	N	%	N	%	N	%
Female	101	47.0	671	52.2	491	33.8	485	24.4	1748	35.4
Male	114	53.0	614	47.8	963	66.2	1499	75.6	3190	64.6
Total	215	100.0	1285	100.0	1454	100.0	1984	100.0	4938	100.0
First presentation										
Private doctor	34	15.8	349	27.2	240	16.5	117	5.9	740	15.0
Private hospital	3	1.4	28	2.2	22	1.5	15	0.8	68	1.4
GOPC	7	3.3	44	3.4	66	4.5	83	4.2	200	4.1
Chest Clinic	42	19.5	181	14.1	257	17.7	293	14.8	773	15.7
Other DH Clinic	3	1.4	25	1.9	34	2.3	25	1.3	87	1.8
HA Clinic	4	1.9	31	2.4	47	3.2	83	4.2	165	3.3
HA Hospital	119	55.3	590	45.9	751	51.7	1346	67.8	2806	56.8
Mainland	0	0.0	19	1.5	19	1.3	9	0.5	47	1.0
Overseas	2	0.9	8	0.6	5	0.3	6	0.3	21	0.4
Not recorded	1	0.5	10	0.8	13	0.9	7	0.4	31	0.6
Total	215	100.0	1285	100.0	1454	100.0	1984	100.0	4938	100.0
Symptomatic on presentation										
Y	187	87.0	1089	84.7	1263	86.9	1728	87.1	4267	86.4
N	27	12.6	190	14.8	177	12.2	251	12.7	645	13.1
Not recorded	1	0.5	6	0.5	14	1.0	5	0.3	26	0.5
Total	215	100.0	1285	100.0	1454	100.0	1984	100.0	4938	100.0
Chest symptoms	130	-	748	-	908	-	1339	-	3125	-
Systemic symptoms	29	-	154	-	207	-	334	-	724	-
Other site-specific symptoms	47	-	294	-	270	-	243	-	854	-
Reason for presentation										
Symptom	181	84.2	1063	82.7	1214	83.5	1635	82.4	4093	82.9
Contact screening	21	9.8	30	2.3	35	2.4	31	1.6	117	2.4
Pre-employment	3	1.4	67	5.2	15	1.0	2	0.1	87	1.8
Pre-emigration	0	0.0	1	0.1	0	0.0	2	0.1	3	0.1
Other body check	4	1.9	77	6.0	74	5.1	55	2.8	210	4.3
Incidental to other illness	4	1.9	21	1.6	91	6.3	230	11.6	346	7.0
Others	1	0.5	11	0.9	8	0.6	19	1.0	39	0.8
Not recorded	1	0.5	15	1.2	17	1.2	10	0.5	43	0.9
Total	215	100.0	1285	100.0	1454	100.0	1984	100.0	4938	100.0
Disease Classification										
Pulmonary TB only	147	68.4	863	67.2	1062	73.0	1577	79.5	3649	73.9
Extrapulmonary TB only	22	10.2	200	15.6	223	15.3	150	7.6	595	12.0
Both	46	21.4	222	17.3	169	11.6	257	13.0	694	14.1
Total	215	100.0	1285	100.0	1454	100.0	1984	100.0	4938	100.0
6-month short course treatment										
Yes	88	40.9	480	37.4	327	22.5	268	13.5	1163	23.6
2HRZE+4HR	84	39.1	435	33.9	282	19.4	208	10.5	1009	20.4
2HRZS+4HR	0	0.0	5	0.4	9	0.6	17	0.9	31	0.6
Other standard regimen based on HRZES										
Yes	109	50.7	609	47.4	826	56.8	1099	55.4	2643	53.5

Annex 1 (b) - (ii) ES (cases ever seen at chest clinics) - 02

Age group	0 to 19		20 to 39		40 to 59		60+		All	
	N	%	N	%	N	%	N	%	N	%
Treatment supervision										
Under DOT at chest clinic, hospital, CNS or other health staff (initial 2 months)										
>90%	165	76.7	878	68.3	1044	71.8	1534	77.3	3621	73.3
>75%	21	9.8	162	12.6	151	10.4	129	6.5	463	9.4
>50%	12	5.6	94	7.3	111	7.6	96	4.8	313	6.3
>25%	13	6.0	51	4.0	54	3.7	58	2.9	176	3.6
≤25%	0	0.0	41	3.2	38	2.6	64	3.2	143	2.9
Not recorded	4	1.9	59	4.6	56	3.9	103	5.2	222	4.5
Under DOT at chest clinic, hospital, CNS or other health staff (subsequent 4 months)										
>90%	138	64.2	708	55.1	883	60.7	1330	67.0	3059	61.9
>75%	29	13.5	194	15.1	186	12.8	130	6.6	539	10.9
>50%	17	7.9	119	9.3	107	7.4	83	4.2	326	6.6
>25%	16	7.4	80	6.2	96	6.6	83	4.2	275	5.6
≤25%	8	3.7	82	6.4	88	6.1	116	5.8	294	6.0
Not recorded	7	3.3	102	7.9	94	6.5	242	12.2	445	9.0
Under supervision by relatives (initial 2 months)										
>90%	0	0.0	2	0.2	3	0.2	14	0.7	19	0.4
>75%	0	0.0	0	0.0	1	0.1	2	0.1	3	0.1
>50%	0	0.0	5	0.4	3	0.2	2	0.1	10	0.2
>25%	2	0.9	5	0.4	9	0.6	16	0.8	32	0.6
≤25%	170	79.1	990	77.0	1100	75.7	1457	73.4	3717	75.3
Not recorded	43	20.0	283	22.0	338	23.2	493	24.8	1157	23.4
Under supervision by relatives (subsequent 4 months)										
>90%	0	0.0	3	0.2	3	0.2	17	0.9	23	0.5
>75%	4	1.9	3	0.2	7	0.5	8	0.4	22	0.4
>50%	2	0.9	9	0.7	3	0.2	8	0.4	22	0.4
>25%	1	0.5	6	0.5	12	0.8	10	0.5	29	0.6
≤25%	162	75.3	956	74.4	1061	73.0	1347	67.9	3526	71.4
Not recorded	46	21.4	308	24.0	368	25.3	594	29.9	1316	26.7
Supplied for unsupervised treatment (initial 2 months)										
<5%	161	74.9	863	67.2	995	68.4	1480	74.6	3499	70.9
<10%	17	7.9	78	6.1	87	6.0	76	3.8	258	5.2
<15%	10	4.7	50	3.9	76	5.2	45	2.3	181	3.7
<25%	3	1.4	74	5.8	57	3.9	51	2.6	185	3.7
<50%	8	3.7	78	6.1	88	6.1	69	3.5	243	4.9
≥50%	9	4.2	33	2.6	55	3.8	66	3.3	163	3.3
Not recorded	7	3.3	109	8.5	96	6.6	197	9.9	409	8.3
Supplied for unsupervised treatment (subsequent 4 months)										
<5%	131	60.9	729	56.7	860	59.1	1295	65.3	3015	61.1
<10%	26	12.1	102	7.9	114	7.8	91	4.6	333	6.7
<15%	15	7.0	59	4.6	70	4.8	43	2.2	187	3.8
<25%	7	3.3	91	7.1	86	5.9	62	3.1	246	5.0
<50%	11	5.1	76	5.9	80	5.5	56	2.8	223	4.5
≥50%	16	7.4	102	7.9	130	8.9	134	6.8	382	7.7
Not recorded	9	4.2	126	9.8	114	7.8	303	15.3	552	11.2
Defaulted (initial 2 months)										
<5%	189	87.9	1023	79.6	1208	83.1	1646	83.0	4066	82.3
<10%	7	3.3	27	2.1	26	1.8	26	1.3	86	1.7
<15%	0	0.0	26	2.0	13	0.9	18	0.9	57	1.2
<25%	1	0.5	25	1.9	19	1.3	17	0.9	62	1.3
<50%	2	0.9	25	1.9	18	1.2	14	0.7	59	1.2
≥50%	2	0.9	25	1.9	14	1.0	16	0.8	57	1.2
Not recorded	14	6.5	134	10.4	156	10.7	247	12.4	551	11.2
Defaulted (subsequent 4 months)										
<5%	176	81.9	955	74.3	1148	79.0	1530	77.1	3809	77.1
<10%	11	5.1	45	3.5	35	2.4	20	1.0	111	2.2
<15%	6	2.8	26	2.0	21	1.4	12	0.6	65	1.3
<25%	4	1.9	41	3.2	25	1.7	10	0.5	80	1.6
<50%	0	0.0	30	2.3	21	1.4	13	0.7	64	1.3
≥50%	3	1.4	36	2.8	23	1.6	21	1.1	83	1.7
Not recorded	15	7.0	152	11.8	181	12.4	378	19.1	726	14.7

Annex 1 (b) - (ii) ES (cases ever seen at chest clinics) - 03

Age group	0 to 19		20 to 39		40 to 59		60+		All	
	N	%	N	%	N	%	N	%	N	%
Outcome at 6 months										
Cured/ treatment completed	113	52.6	522	40.6	425	29.2	448	22.6	1508	30.5
Still on treatment	94	43.7	620	48.2	907	62.4	1238	62.4	2859	57.9
Died	0	0.0	3	0.2	19	1.3	192	9.7	214	4.3
Transferred	4	1.9	63	4.9	31	2.1	21	1.1	119	2.4
Defaulted	2	0.9	60	4.7	56	3.9	56	2.8	174	3.5
Failure	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Revised dx/ others	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Not recorded	2	0.9	17	1.3	16	1.1	29	1.5	64	1.3
Total	215	100.0	1285	100.0	1454	100.0	1984	100.0	4938	100.0
Outcome at 12 months										
Cured/ treatment completed	196	91.2	1041	81.0	1184	81.4	1448	73.0	3869	78.4
Still on treatment	10	4.7	85	6.6	129	8.9	198	10.0	422	8.5
Died	0	0.0	4	0.3	25	1.7	242	12.2	271	5.5
Transferred	4	1.9	64	5.0	23	1.6	23	1.2	114	2.3
Defaulted	4	1.9	89	6.9	92	6.3	66	3.3	251	5.1
Failure	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Revised dx/ others	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Not recorded	1	0.5	2	0.2	1	0.1	7	0.4	11	0.2
Total	215	100.0	1285	100.0	1454	100.0	1984	100.0	4938	100.0
Outcome at 24 months										
Cured/ treatment completed	207	96.3	1121	87.2	1306	89.8	1626	82.0	4260	86.3
Still on treatment	1	0.5	2	0.2	6	0.4	4	0.2	13	0.3
Died	0	0.0	6	0.5	29	2.0	260	13.1	295	6.0
Transferred	3	1.4	66	5.1	19	1.3	18	0.9	106	2.1
Defaulted	3	1.4	84	6.5	80	5.5	59	3.0	226	4.6
Failure	0	0.0	0	0.0	1	0.1	0	0.0	1	0.0
Revised dx/ others	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Not recorded	1	0.5	6	0.5	13	0.9	17	0.9	37	0.7
Total	215	100.0	1285	100.0	1454	100.0	1984	100.0	4938	100.0

Annex 1 (b) - (iii) NS (cases never seen at chest clinics) - 01

Age group	0 to 19		20 to 39		40 to 59		60+		All	
	N	%	N	%	N	%	N	%	N	%
Female	17	42.5	109	59.2	84	38.4	222	29.9	432	36.5
Male	23	57.5	75	40.8	135	61.6	520	70.1	753	63.5
Total	40	100.0	184	100.0	219	100.0	742	100.0	1185	100.0
First presentation										
Private doctor	1	2.5	7	3.8	6	2.7	10	1.3	24	2.0
Private hospital	0	0.0	0	0.0	0	0.0	4	0.5	4	0.3
GOPC	1	2.5	0	0.0	2	0.9	2	0.3	5	0.4
Chest Clinic	0	0.0	0	0.0	3	1.4	7	0.9	10	0.8
Other DH Clinic	0	0.0	23	12.5	12	5.5	3	0.4	38	3.2
HA Clinic	0	0.0	5	2.7	4	1.8	11	1.5	20	1.7
HA Hospital	4	10.0	32	17.4	47	21.5	295	39.8	378	31.9
Mainland	0	0.0	0	0.0	0	0.0	5	0.7	5	0.4
Overseas	0	0.0	1	0.5	0	0.0	2	0.3	3	0.3
Not recorded	34	85.0	116	63.0	145	66.2	403	54.3	698	58.9
Total	40	100.0	184	100.0	219	100.0	742	100.0	1185	100.0
Symptomatic on presentation										
Y	6	15.0	56	30.4	63	28.8	308	41.5	433	36.5
N	0	0.0	12	6.5	10	4.6	33	4.4	55	4.6
Not recorded	34	85.0	116	63.0	146	66.7	401	54.0	697	58.8
Total	40	100.0	184	100.0	219	100.0	742	100.0	1185	100.0
Chest symptoms	4	-	41	-	44	-	233	-	322	-
Systemic symptoms	1	-	10	-	8	-	46	-	65	-
Other site-specific symptoms	1	-	8	-	12	-	18	-	39	-
Reason for presentation										
Symptom	6	15.0	45	24.5	58	26.5	294	39.6	403	34.0
Contact screening	0	0.0	0	0.0	0	0.0	1	0.1	1	0.1
Pre-employment	0	0.0	1	0.5	0	0.0	0	0.0	1	0.1
Pre-emigration	0	0.0	1	0.5	0	0.0	1	0.1	2	0.2
Other body check	0	0.0	18	9.8	8	3.7	5	0.7	31	2.6
Incidental to other illness	0	0.0	1	0.5	7	3.2	24	3.2	32	2.7
Others	0	0.0	1	0.5	1	0.5	7	0.9	9	0.8
Not recorded	34	85.0	117	63.6	145	66.2	410	55.3	706	59.6
Total	40	100.0	184	100.0	219	100.0	742	100.0	1185	100.0
Disease Classification										
Pulmonary TB only	24	60.0	141	76.6	157	71.7	643	86.7	965	81.4
Extrapulmonary TB only	13	32.5	31	16.8	52	23.7	58	7.8	154	13.0
Both	3	7.5	12	6.5	10	4.6	41	5.5	66	5.6
Total	40	100.0	184	100.0	219	100.0	742	100.0	1185	100.0
6-month short course treatment										
Yes	3	7.5	9	4.9	2	0.9	6	0.8	20	1.7
2HRZE+4HR	2	5.0	9	4.9	1	0.5	3	0.4	15	1.3
2HRZS+4HR	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Other standard regimen based on HRZES										
Yes	1	2.5	6	3.3	2	0.9	9	1.2	18	1.5

Annex 1 (b) - (iii) NS (cases never seen at chest clinics) - 02

Age group	0 to 19		20 to 39		40 to 59		60+		All	
	N	%	N	%	N	%	N	%	N	%
Treatment supervision										
Under DOT at chest clinic, hospital, CNS or other health staff (initial 2 months)										
>90%	0	0.0	14	7.6	3	1.4	9	1.2	26	2.2
>75%	0	0.0	0	0.0	0	0.0	1	0.1	1	0.1
>50%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
>25%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
≤25%	1	2.5	1	0.5	0	0.0	0	0.0	2	0.2
Not recorded	39	97.5	169	91.8	216	98.6	732	98.7	1156	97.6
Under DOT at chest clinic, hospital, CNS or other health staff (subsequent 4 months)										
>90%	0	0.0	12	6.5	2	0.9	6	0.8	20	1.7
>75%	0	0.0	1	0.5	0	0.0	1	0.1	2	0.2
>50%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
>25%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
≤25%	1	2.5	1	0.5	0	0.0	1	0.1	3	0.3
Not recorded	39	97.5	170	92.4	217	99.1	734	98.9	1160	97.9
Under supervision by relatives (initial 2 months)										
>90%	4	10.0	0	0.0	0	0.0	1	0.1	5	0.4
>75%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
>50%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
>25%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
≤25%	0	0.0	1	0.5	0	0.0	0	0.0	1	0.1
Not recorded	36	90.0	183	99.5	219	100.0	741	99.9	1179	99.5
Under supervision by relatives (subsequent 4 months)										
>90%	4	10.0	0	0.0	0	0.0	1	0.1	5	0.4
>75%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
>50%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
>25%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
≤25%	0	0.0	1	0.5	0	0.0	0	0.0	1	0.1
Not recorded	36	90.0	183	99.5	219	100.0	741	99.9	1179	99.5
Supplied for unsupervised treatment (initial 2 months)										
<5%	0	0.0	1	0.5	0	0.0	0	0.0	1	0.1
<10%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<15%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<25%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<50%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
≥50%	0	0.0	1	0.5	0	0.0	1	0.1	2	0.2
Not recorded	40	100.0	182	98.9	219	100.0	741	99.9	1182	99.7
Supplied for unsupervised treatment (subsequent 4 months)										
<5%	0	0.0	1	0.5	0	0.0	0	0.0	1	0.1
<10%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<15%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<25%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<50%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
≥50%	0	0.0	1	0.5	1	0.5	1	0.1	3	0.3
Not recorded	40	100.0	182	98.9	218	99.5	741	99.9	1181	99.7
Defaulted (initial 2 months)										
<5%	1	2.5	1	0.5	0	0.0	0	0.0	2	0.2
<10%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<15%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<25%	0	0.0	1	0.5	0	0.0	0	0.0	1	0.1
<50%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
≥50%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Not recorded	39	97.5	182	98.9	219	100.0	742	100.0	1182	99.7
Defaulted (subsequent 4 months)										
<5%	1	2.5	1	0.5	0	0.0	0	0.0	2	0.2
<10%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<15%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<25%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<50%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
≥50%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Not recorded	39	97.5	183	99.5	219	100.0	742	100.0	1183	99.8

Annex 1 (b) - (iii) NS (cases never seen at chest clinics) - 03

Age group	0 to 19		20 to 39		40 to 59		60+		All	
	N	%	N	%	N	%	N	%	N	%
Outcome at 6 months										
Cured/ treatment completed	4	10.0	12	6.5	3	1.4	3	0.4	22	1.9
Still on treatment	0	0.0	5	2.7	2	0.9	5	0.7	12	1.0
Died	0	0.0	2	1.1	0	0.0	19	2.6	21	1.8
Transferred	0	0.0	0	0.0	2	0.9	0	0.0	2	0.2
Defaulted	0	0.0	1	0.5	0	0.0	1	0.1	2	0.2
Failure	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Revised dx/ others	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Not recorded	36	90.0	164	89.1	212	96.8	714	96.2	1126	95.0
Total	40	100.0	184	100.0	219	100.0	742	100.0	1185	100.0
Outcome at 12 months										
Cured/ treatment completed	4	10.0	17	9.2	8	3.7	4	0.5	33	2.8
Still on treatment	0	0.0	3	1.6	2	0.9	0	0.0	5	0.4
Died	0	0.0	2	1.1	0	0.0	19	2.6	21	1.8
Transferred	0	0.0	0	0.0	2	0.9	0	0.0	2	0.2
Defaulted	0	0.0	1	0.5	0	0.0	1	0.1	2	0.2
Failure	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Revised dx/ others	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Not recorded	36	90.0	161	87.5	207	94.5	718	96.8	1122	94.7
Total	40	100.0	184	100.0	219	100.0	742	100.0	1185	100.0
Outcome at 24 months										
Cured/ treatment completed	4	10.0	19	10.3	8	3.7	4	0.5	35	3.0
Still on treatment	0	0.0	0	0.0	1	0.5	0	0.0	1	0.1
Died	0	0.0	2	1.1	0	0.0	19	2.6	21	1.8
Transferred	0	0.0	1	0.5	2	0.9	0	0.0	3	0.3
Defaulted	0	0.0	1	0.5	0	0.0	1	0.1	2	0.2
Failure	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Revised dx/ others	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Not recorded	36	90.0	161	87.5	208	95.0	718	96.8	1123	94.8
Total	40	100.0	184	100.0	219	100.0	742	100.0	1185	100.0

Annex 1 (c) - ES/NS (cases ever or never seen at chest clinics) - 01

Group (Pulmonary cases)	PreRx smear +ve		PreRx culture +ve		MDR-TB	
	N	%	N	%	N	%
Ever seen at chest clinics						
Yes	1402	84.0	3008	79.7	20	95.2
No	267	16.0	768	20.3	1	4.8
Total	1669	100.0	3776	100.0	21	100.0
Age group						
0 to 19	58	3.5	132	3.5	2	9.5
Female	24		59		2	
Male	34		73		0	
20 to 39	348	20.9	758	20.1	7	33.3
Female	174		382		4	
Male	174		376		3	
40 to 59	508	30.4	942	24.9	7	33.3
Female	122		236		1	
Male	386		706		6	
60+	755	45.2	1944	51.5	5	23.8
Female	149		431		0	
Male	606		1513		5	
Total	1669	100.0	3776	100.0	21	100.0
Female	469	28.1	1108	29.3	7	33.3
Male	1200	71.9	2668	70.7	14	66.7
Marital status						
Single	385	23.1	805	21.3	6	28.6
Married	1027	61.5	2256	59.7	14	66.7
Separated	12	0.7	21	0.6	0	0.0
Divorce	41	2.5	74	2.0	1	4.8
Widowed	31	1.9	79	2.1	0	0.0
Not recorded	173	10.4	541	14.3	0	0.0
Total	1669	100.0	3776	100.0	21	100.0
Smoking status						
Never	589	35.3	1325	35.1	8	38.1
Ex-smoker	490	29.4	1055	27.9	6	28.6
Current smoker	378	22.6	771	20.4	6	28.6
Not recorded	212	12.7	625	16.6	1	4.8
Total	1669	100.0	3776	100.0	21	100.0
Institution-related						
Yes	217	13.0	584	15.5	5	23.8
No	1330	79.7	2823	74.8	16	76.2
Not recorded	122	7.3	369	9.8	0	0.0
Total	1669	100.0	3776	100.0	21	100.0
Institution						
Client	142	-	366	-	5	-
Staff	20	-	37	-	0	-
Institution type						
Old age home	80	-	243	-	0	-
School	84	-	230	-	1	-
Hospital	12	-	26	-	0	-
Handicapped	6	-	16	-	0	-
Prison	18	-	36	-	4	-
Others	11	-	21	-	0	-

Annex 1 (c) - ES/NS (cases ever or never seen at chest clinics) - 02

Group (Pulmonary cases)	PreRx smear +ve		PreRx culture +ve		MDR-TB	
	N	%	N	%	N	%
Living situation						
Street-sleeper	9	0.5	12	0.3	0	0.0
Cubicle bed space	10	0.6	16	0.4	0	0.0
Institution	86	5.2	262	6.9	3	14.3
Work quarter	10	0.6	21	0.6	0	0.0
Alone (not above)	226	13.5	428	11.3	2	9.5
With friends	35	2.1	60	1.6	1	4.8
With family	1143	68.5	2481	65.7	15	71.4
Not recorded	150	9.0	496	13.1	0	0.0
Residential status						
Permanent resident	1432	85.8	3123	82.7	17	81.0
Chinese immigrant	30	1.8	68	1.8	1	4.8
Imported worker	39	2.3	80	2.1	0	0.0
Tourist - 2 way permit Chinese	6	0.4	9	0.2	0	0.0
Other tourist	4	0.2	6	0.2	2	9.5
Vietnamese	3	0.2	5	0.1	0	0.0
Illegal immigrants	6	0.4	8	0.2	1	4.8
Not recorded	149	8.9	477	12.6	0	0.0
Total	1669	100.0	3776	100.0	21	100.0
Place of birth						
Hong Kong	609	36.5	1229	32.5	8	38.1
Mainland China	777	46.6	1783	47.2	9	42.9
Others	128	7.7	253	6.7	4	19.0
Not recorded	155	9.3	511	13.5	0	0.0
Total	1669	100.0	3776	100.0	21	100.0
Ethnicity						
Chinese	1439	86.2	3146	83.3	17	81.0
Other Asian	83	5.0	149	3.9	4	19.0
Caucasian	2	0.1	2	0.1	0	0.0
Others	0	0.0	2	0.1	0	0.0
Not recorded	145	8.7	477	12.6	0	0.0
Total	1669	100.0	3776	100.0	21	100.0
Previous BCG history						
Yes	456	27.3	898	23.8	5	23.8
No	408	24.4	960	25.4	8	38.1
Unknown	805	48.2	1918	50.8	8	38.1
Total	1669	100.0	3776	100.0	21	100.0
BCG scar						
Yes	438	-	736	-	6	-
No	62	-	2226	-	15	-
Employment status						
Full-time	441	26.4	889	23.5	7	33.3
Part-time	43	2.6	85	2.3	1	4.8
Retired	542	32.5	1328	35.2	5	23.8
Unemployed	258	15.5	476	12.6	4	19.0
Housewife	174	10.4	373	9.9	3	14.3
Student	63	3.8	135	3.6	1	4.8
Not recorded	148	8.9	490	13.0	0	0.0
Total	1669	100.0	3776	100.0	21	100.0

Annex 1 (c) - ES/NS (cases ever or never seen at chest clinics) - 03

Group (Pulmonary cases)	PreRx smear +ve		PreRx culture +ve		MDR-TB	
	N	%	N	%	N	%
Occupation						
Blue collar	262	15.7	517	13.7	5	23.8
White collar	130	7.8	272	7.2	3	14.3
Medical	3	0.2	6	0.2	0	0.0
Nursing	4	0.2	7	0.2	0	0.0
Paramedical	1	0.1	3	0.1	0	0.0
Supporting health staff	1	0.1	2	0.1	0	0.0
Not applicable	1018	61.0	2270	60.1	13	61.9
Not recorded	250	15.0	699	18.5	0	0.0
Total	1669	100.0	3776	100.0	21	100.0
First presentation						
Private doctor	213	12.8	403	10.7	2	9.5
Private hospital	22	1.3	38	1.0	1	4.8
GOPC	65	3.9	133	3.5	1	4.8
Chest Clinic	168	10.1	481	12.7	3	14.3
Other DH Clinic	21	1.3	64	1.7	2	9.5
HA Clinic	36	2.2	93	2.5	2	9.5
HA Hospital	999	59.9	2094	55.5	7	33.3
Mainland	14	0.8	28	0.7	0	0.0
Overseas	4	0.2	7	0.2	3	14.3
Not recorded	127	7.6	435	11.5	0	0.0
Total	1669	100.0	3776	100.0	21	100.0
Symptomatic on presentation						
Y	1463	87.7	2997	79.4	19	90.5
N	81	4.9	351	9.3	2	9.5
Not recorded	125	7.5	428	11.3	0	0.0
Total	1669	100.0	3776	100.0	21	100.0
Chest symptoms	1274	-	2537	-	14	-
Systemic symptoms	324	-	573	-	5	-
Other site-specific symptoms	80	-	223	-	0	-
Reason for presentation						
Symptom	1406	84.2	2848	75.4	19	90.5
Contact screening	12	0.7	53	1.4	0	0.0
Pre-employment	4	0.2	26	0.7	0	0.0
Pre-emigration	1	0.1	3	0.1	0	0.0
Other body check	24	1.4	109	2.9	1	4.8
Incidental to other illness	82	4.9	261	6.9	1	4.8
Others	8	0.5	31	0.8	0	0.0
Not recorded	132	7.9	445	11.8	0	0.0
Total	1669	100.0	3776	100.0	21	100.0

Annex 1 (c) - ES/NS (cases ever or never seen at chest clinics) - 04

Group (Pulmonary cases)	PreRx smear +ve		PreRx culture +ve		MDR-TB	
	N	%	N	%	N	%
Contact with TB patients						
Yes	70	4.2	188	5.0	1	4.8
No	1465	87.8	3125	82.8	20	95.2
Not recorded	134	8.0	463	12.3	0	0.0
Total	1669	100.0	3776	100.0	21	100.0
Contact type						
Household	47	-	125	-	0	-
Work	0	-	7	-	0	-
Casual	14	-	28	-	0	-
Time of contact						
Within 2 year	25	-	67	-	0	-
Over 2 year	31	-	75	-	1	-
Previous chemoprophylaxis						
Yes	4	-	11	-	0	-
Reason for chemoprophylaxis						
Contact	0	-	0	-	0	-
Silicosis	2	-	4	-	0	-
HIV	0	-	0	-	0	-
Old scar on CXR	0	-	2	-	0	-
Others	1	-	2	-	0	-
Disease Classification						
Pulmonary TB only	1544	92.5	3380	89.5	20	95.2
Both pulm & extrapulm	125	7.5	396	10.5	1	4.8
Total	1669	100.0	3776	100.0	21	100.0
Case category						
New case	1462	87.6	3311	87.7	13	61.9
Relapse	181	10.8	425	11.3	5	23.8
Treatment after default	25	1.5	38	1.0	3	14.3
Failure of previous treatment	1	0.1	2	0.1	0	0.0
Total	1669	100.0	3776	100.0	21	100.0
Disease characteristics (pulmonary cases)						
Extent = 1	490	29.4	1559	41.3	10	47.6
Extent=1 & cavity=N	*365*	*21.9*	*1364*	*36.1*	*9*	*42.9*
Extent=1 & cavity=Y	*125*	*7.5*	*195*	*5.2*	*1*	*4.8*
Extent = 2	572	34.3	1013	26.8	7	33.3
Extent=2 & cavity=N	*369*	*22.1*	*738*	*19.5*	*4*	*19.0*
Extent=2 & cavity=Y	*203*	*12.2*	*275*	*7.3*	*3*	*14.3*
Extent=3	414	24.8	551	14.6	4	19.0
Extent=3 & cavity=N	*204*	*12.2*	*315*	*8.3*	*0*	*0.0*
Extent=3 & cavity=Y	*210*	*12.6*	*236*	*6.3*	*4*	*19.0*
Extent=not specified	193	11.6	653	17.3	0	0.0
Extent=ns & cavity=N	*188*	*11.3*	*648*	*17.2*	*0*	*0.0*
Extent=ns & cavity=Y	*5*	*0.3*	*5*	*0.1*	*0*	*0.0*
Cavity=N	1126	67.5	3065	81.2	13	61.9
Cavity=Y	543	32.5	711	18.8	8	38.1
6-month short course treatment						
Yes	207	12.4	645	17.1	0	0.0
2HRZE+4HR	169	10.1	561	14.9	0	0.0
2HRZS+4HR	4	0.2	12	0.3	0	0.0
Other standard regimen based on HRZES						
Yes	864	51.8	1631	43.2	2	9.5

Annex 1 (c) - ES/NS (cases ever or never seen at chest clinics) - 05

Group (Pulmonary cases)	PreRx smear +ve		PreRx culture +ve		MDR-TB	
	N	%	N	%	N	%
Treatment supervision						
Under DOT at chest clinic, hospital, CNS or other health staff (initial 2 months)						
>90%	1074	64.3	2224	58.9	14	66.7
>75%	114	6.8	278	7.4	1	4.8
>50%	90	5.4	202	5.3	3	14.3
>25%	49	2.9	109	2.9	1	4.8
≤25%	34	2.0	80	2.1	1	4.8
Not recorded	308	18.5	883	23.4	1	4.8
Under DOT at chest clinic, hospital, CNS or other health staff (subsequent 4 months)						
>90%	920	55.1	1897	50.2	10	47.6
>75%	139	8.3	315	8.3	2	9.5
>50%	89	5.3	181	4.8	1	4.8
>25%	77	4.6	179	4.7	1	4.8
≤25%	84	5.0	183	4.8	5	23.8
Not recorded	360	21.6	1021	27.0	2	9.5
Under supervision by relatives (initial 2 months)						
>90%	10	0.6	13	0.3	0	0.0
>75%	1	0.1	3	0.1	0	0.0
>50%	4	0.2	7	0.2	0	0.0
>25%	8	0.5	21	0.6	0	0.0
≤25%	1060	63.5	2230	59.1	15	71.4
Not recorded	586	35.1	1502	39.8	6	28.6
Under supervision by relatives (subsequent 4 months)						
>90%	12	0.7	20	0.5	0	0.0
>75%	3	0.2	15	0.4	0	0.0
>50%	5	0.3	14	0.4	1	4.8
>25%	8	0.5	14	0.4	1	4.8
≤25%	1022	61.2	2125	56.3	12	57.1
Not recorded	619	37.1	1588	42.1	7	33.3
Supplied for unsupervised treatment (initial 2 months)						
<5%	1026	61.5	2136	56.6	13	61.9
<10%	60	3.6	145	3.8	0	0.0
<15%	45	2.7	103	2.7	1	4.8
<25%	46	2.8	113	3.0	0	0.0
<50%	78	4.7	151	4.0	1	4.8
≥50%	46	2.8	106	2.8	2	9.5
Not recorded	368	22.0	1022	27.1	4	19.0
Supplied for unsupervised treatment (subsequent 4 months)						
<5%	905	54.2	1852	49.0	13	61.9
<10%	88	5.3	202	5.3	0	0.0
<15%	48	2.9	105	2.8	0	0.0
<25%	57	3.4	139	3.7	1	4.8
<50%	58	3.5	123	3.3	0	0.0
≥50%	120	7.2	251	6.6	2	9.5
Not recorded	393	23.5	1104	29.2	5	23.8
Defaulted (initial 2 months)						
<5%	1159	69.4	2455	65.0	14	66.7
<10%	26	1.6	56	1.5	0	0.0
<15%	17	1.0	33	0.9	2	9.5
<25%	20	1.2	43	1.1	1	4.8
<50%	16	1.0	38	1.0	0	0.0
≥50%	11	0.7	33	0.9	0	0.0
Not recorded	420	25.2	1118	29.6	4	19.0
Defaulted (subsequent 4 months)						
<5%	1088	65.2	2304	61.0	13	61.9
<10%	34	2.0	70	1.9	1	4.8
<15%	16	1.0	36	1.0	0	0.0
<25%	26	1.6	54	1.4	1	4.8
<50%	20	1.2	35	0.9	0	0.0
≥50%	24	1.4	54	1.4	2	9.5
Not recorded	461	27.6	1223	32.4	4	19.0

Annex 1 (c) - ES/NS (cases ever or never seen at chest clinics) - 06

Group (Pulmonary cases)	PreRx smear +ve		PreRx culture +ve		MDR-TB	
	N	%	N	%	N	%
Outcome at 6 months						
Cured/ treatment completed	323	19.4	895	23.7	0	0.0
Still on treatment	965	57.8	1790	47.4	15	71.4
Died	58	3.5	169	4.5	2	9.5
Transferred	35	2.1	62	1.6	2	9.5
Defaulted	29	1.7	96	2.5	2	9.5
Failure	0	0.0	0	0.0	0	0.0
Not recorded	259	15.5	764	20.2	0	0.0
Total	1669	100.0	3776	100.0	21	100.0
Outcome at 12 months						
Cured/ treatment completed	1088	65.2	2335	61.8	3	14.3
Still on treatment	161	9.6	293	7.8	11	52.4
Died	75	4.5	212	5.6	2	9.5
Transferred	34	2.0	61	1.6	3	14.3
Defaulted	60	3.6	146	3.9	2	9.5
Failure	0	0.0	0	0.0	0	0.0
Not recorded	251	15.0	729	19.3	0	0.0
Total	1669	100.0	3776	100.0	21	100.0

Annex 1 (c) - ES/NS (cases ever or never seen at chest clinics) - 07

Group (Pulmonary cases)	PreRx smear +ve		PreRx culture +ve		MDR-TB	
	N	%	N	%	N	%
Outcome at 24 months						
Cured/ treatment completed	1233	73.9	2602	68.9	11	52.4
Still on treatment	5	0.3	7	0.2	1	4.8
Died	83	5.0	232	6.1	2	9.5
Transferred	27	1.6	51	1.4	3	14.3
Defaulted	57	3.4	134	3.5	2	9.5
Failure	1	0.1	1	0.0	1	4.8
Not recorded	263	15.8	749	19.8	1	4.8
Total	1669	100.0	3776	100.0	21	100.0
Among those cured/ treatment completed						
Bacteriological conversion	1206	97.8	2486	95.5	11	100.0
Radiological improvement	1165	94.5	2356	90.5	10	90.9
Other clinical improvement	309	25.1	687	26.4	1	9.1
No evidence of response	3	0.2	11	0.4	0	0.0
After treatment completed:						
No relapse	937	76.0	1952	75.0	9	81.8
Loss to follow up	172	13.9	363	14.0	0	0.0
Died	25	2.0	68	2.6	0	0.0
TB-related	*1*		*8*		*0*	
Not TB-related	*17*		*45*		*0*	
Unknown	*6*		*13*		*0*	
Relapse	5	0.4	9	0.3	0	0.0
Bacteriological	*2*		*4*		*0*	
Histological	*3*		*4*		*0*	
Clinico-radiological	*0*		*1*		*0*	
Not recorded	94	7.6	210	8.1	0	0.0
Among those still on treatment						
Reasons for still on treatment:						
Retreatment case	0	-	2	-	0	-
Extrapulmonary disease	0	-	0	-	0	-
Extensive disease	0	-	0	-	0	-
Interrupted treatment	2	-	4	-	1	-
Drug resistance	2	-	2	-	1	-
Poor response	1	-	2	-	0	-
Others	1	-	3	-	0	-
Among those died - causes of death:						
TB-related cause	7	8.4	17	7.3	0	0.0
Not TB-related	50	60.2	159	68.5	2	100.0
Unknown	22	26.5	48	20.7	0	0.0
Among those transferred, new sources of care:						
GP	3	11.1	4	7.8	0	0.0
Chest Clinic	0	0.0	0	0.0	0	0.0
Hospital	2	7.4	3	5.9	0	0.0
Outside HK	21	77.8	39	76.5	3	100.0
Not recorded	1	3.7	5	9.8	0	0.0
Among those defaulted						
Never found	31	54.4	71	53.0	1	50.0
Retreated after default	11	19.3	21	15.7	0	0.0
Treatment stopped by doctor	8	14.0	20	14.9	1	50.0
Not recorded	7	12.3	22	16.4	0	0.0

Annex 1 (c) - ES/NS (cases ever or never seen at chest clinics) - 08

Group (Pulmonary cases)	PreRx smear +ve		PreRx culture +ve		MDR-TB	
	N	%	N	%	N	%
Drug susceptibility pattern						
Streptomycin - R	99	7.5	202	7.2	11	55.0
Streptomycin - S	1229	92.5	2595	92.8	9	45.0
Isoniazid - R	72	5.4	138	4.9	21	100.0
Isoniazid - S	1254	94.6	2658	95.1	0	0.0
Rifampicin - R	18	1.4	33	1.2	21	100.0
Rifampicin - S	1311	98.6	2766	98.8	0	0.0
Ethambutol - R	9	0.7	24	0.9	11	55.0
Ethambutol - S	1319	99.3	2774	99.1	9	45.0
Pyrazinamide - R	3	9.4	8	12.9	5	35.7
Pyrazinamide - S	29	90.6	54	87.1	9	64.3
Ofloxacin - R	3	7.0	3	3.8	3	17.6
Ofloxacin - S	40	93.0	77	96.3	14	82.4
Smear conversion rates						
1. Smear at 2 month = N (a)	854				8	
2. Smear at 2 month = P (b)	117				4	
2. Sm 2m (P); Sm 3m (N) (c)	60				1	
2. Sm 2m (P); Sm 3m (P) (d)	29				2	
2. Sm 2m (P); Sm 3m (U) (e)	28				1	
3. Smear at 2 month = U (f)	698				9	
3. Sm 2m (U); Sm 3m (N) (g)	237				5	
3. Sm 2m (U); Sm 3m (P) (h)	13				1	
3. Sm 2m (U); Sm 3m (U) (i)	448				3	
Overall percentage of smear conversion at 2m = (a)/ [(a)+(b)]	88.0		-		66.7	
Overall percentage of smear conversion at 3m = [(a)+(c)+(g)]/ [(a)+(c)+(d)+(g)+(h)]	96.5		-		82.4	
Culture conversion rates						
1. Culture at 2 month = N (a)			1552		6	
2. Culture at 2 month = P (b)			233		6	
2. Cu 2m (P); Cu 3m (N) (c)			103		1	
2. Cu 2m (P); Cu 3m (P) (d)			30		3	
2. Cu 2m (P); Cu 3m (U) (e)			100		2	
3. Culture at 2 month = U (f)			1961		9	
3. Cu 2m (U); Cu 3m (N) (g)			529		3	
3. Cu 2m (U); Cu 3m (P) (h)			19		1	
3. Cu 2m (U); Cu 3m (U) (i)			1413		5	
Overall percentage of culture conversion at 2m = (a)/ [(a)+(b)]	-		86.9		50.0	
Overall percentage of culture conversion at 3m = [(a)+(c)+(g)]/ [(a)+(c)+(d)+(g)+(h)]	-		97.8		71.4	

Annex 1 (d) - ES/NS (cases ever or never seen at chest clinics) - 01

Group	New pulmonary smear +ve		ReRx pulmonary smear +ve	
	N	%	N	%
Ever seen at chest clinics				
Yes	1221	83.5	181	87.4
No	241	16.5	26	12.6
Total	1462	100.0	207	100.0
Age group				
0 to 19	58	4.0	0	0.0
Female	24		0	
Male	34		0	
20 to 39	325	22.2	23	11.1
Female	165		9	
Male	160		14	
40 to 59	443	30.3	65	31.4
Female	114		8	
Male	329		57	
60+	636	43.5	119	57.5
Female	137		12	
Male	499		107	
Total	1462	100.0	207	100.0
Female	440	30.1	29	14.0
Male	1022	69.9	178	86.0
Disease Classification				
Pulmonary TB only	1352	92.5	192	92.8
Both pulmon and extrapulm	110	7.5	15	7.2
Total	1462	100.0	207	100.0
6-month short course treatment				
Yes	195	13.3	12	5.8
2HRZE+4HR	161	11.0	8	3.9
2HRZS+4HR	4	0.3	0	0.0
Other standard regimen based on HRZES				
Yes	751	51.4	113	54.6
Outcome at 6 months				
Cured/ treatment completed	311	21.3	12	5.8
Still on treatment	817	55.9	148	71.5
Died	52	3.6	6	2.9
Transferred	28	1.9	7	3.4
Defaulted	22	1.5	7	3.4
Failure	0	0.0	0	0.0
Not recorded	232	15.9	27	13.0
Total	1462	100.0	207	100.0
Outcome at 12 months				
Cured/ treatment completed	959	65.6	129	62.3
Still on treatment	139	9.5	22	10.6
Died	68	4.7	7	3.4
Transferred	28	1.9	6	2.9
Defaulted	44	3.0	16	7.7
Failure	0	0.0	0	0.0
Not recorded	224	15.3	27	13.0
Total	1462	100.0	207	100.0

Annex 1 (d) - ES/NS (cases ever or never seen at chest clinics) - 02

Group	New pulmonary smear +ve		ReRx pulmonary smear +ve	
	N	%	N	%
Outcome at 24 months				
Cured/ treatment completed	1084	74.1	149	72.0
Still on treatment	3	0.2	2	1.0
Died	75	5.1	8	3.9
Transferred	22	1.5	5	2.4
Defaulted	42	2.9	15	7.2
Failure	0	0.0	1	0.5
Not recorded	236	16.1	27	13.0
Total	1462	100.0	207	100.0
Among those cured/ treatment completed				
Bacteriological conversion	1062	98.0	144	96.6
Radiological improvement	1032	70.6	133	64.3
Other clinical improvement	267	18.3	42	20.3
No evidence of response	1	0.1	2	1.0
After treatment completed:				
No relapse	826	56.5	111	53.6
Loss to follow up	148	10.1	24	11.6
Died	21	1.4	4	1.9
TB-related	*1*		*0*	
Not TB-related	*14*		*3*	
Unknown	*6*		*1*	
Relapse	5	0.3	0	0.0
Bacteriological	*2*		*0*	
Histological	*3*		*0*	
Clinico-radiological	*0*		*0*	
Not recorded	84	5.7	10	4.8
Among those still on treatment				
Reasons for still on treatment:				
Retreatment case	0	-	0	-
Extrapulmonary disease	0	-	0	-
Extensive disease	0	-	0	-
Interrupted treatment	1	-	1	-
Drug resistance	0	-	2	-
Poor response	1	-	0	-
Others	1	-	0	-
Among those died - causes of death:				
TB-related cause	7	9.3	0	0.0
Not TB-related	44	58.7	6	75.0
Unknown	24	32.0	2	25.0
Among those transferred, new sources of care:				
GP	3	13.6	0	0.0
Chest Clinic	0	0.0	0	0.0
Hospital	2	9.1	0	0.0
Outside HK	16	72.7	5	100.0
Not recorded	1	4.5	0	0.0
Among those defaulted				
Never found	24	57.1	7	46.7
Retreated after default	6	14.3	5	33.3
Treatment stopped by doctor	6	14.3	2	13.3
Not recorded	6	14.3	1	6.7

Annex 1 (e) - Treatment defaulters - 01

Ever seen at chest clinics	N	%
Yes	226	99.1
No	2	0.9
Total	228	100.0

Age group

0 to 19	3	1.3
Female	1	
Male	2	
20 to 39	85	37.3
Female	32	
Male	53	
40 to 59	80	35.1
Female	13	
Male	67	
60+	60	26.3
Female	11	
Male	49	
Total	228	100.0
Female	57	25.0
Male	171	75.0

Marital status

Single	75	32.9
Married	134	58.8
Separated	3	1.3
Divorce	9	3.9
Widowed	1	0.4
Not recorded	6	2.6
Total	228	100.0

Smoking status

Never	60	26.3
Ex-smoker	50	21.9
Current smoker	110	48.2
Not recorded	8	3.5
Total	228	100.0

Institution-related

Yes	18	7.9
No	205	89.9
Not recorded	5	2.2
Total	228	100.0

Institution

Client	14	-
Staff	2	-

Institution type

Old age home	6	-
School	3	-
Hospital	1	-
Handicapped	0	-
Prison	6	-
Others	2	-

Annex 1 (e) - Treatment defaulters - 02

Living situation	N	%
Street-sleeper	3	1.3
Cubicle bed space	1	0.4
Institution	10	4.4
Work quarter	6	2.6
Alone (not above)	50	21.9
With friends	6	2.6
With family	147	64.5
Not recorded	5	2.2

Residential status		
Permanent resident	207	90.8
Chinese immigrant	3	1.3
Imported worker	10	4.4
Tourist - 2 way permit Chinese	0	0.0
Other tourist	2	0.9
Vietnamese	2	0.9
Illegal immigrants	0	0.0
Not recorded	4	1.8
Total	228	100.0

Place of birth		
Hong Kong	106	46.5
Mainland China	92	40.4
Others	27	11.8
Not recorded	3	1.3
Total	228	100.0

Ethnicity		
Chinese	198	86.8
Other Asian	24	10.5
Caucasian	0	0.0
Others	1	0.4
Not recorded	5	2.2
Total	228	100.0

Employment status		
Full-time	88	38.6
Part-time	7	3.1
Retired	49	21.5
Unemployed	63	27.6
Housewife	14	6.1
Student	3	1.3
Not recorded	4	1.8
Total	228	100.0

Occupation		
Blue collar	50	21.9
White collar	17	7.5
Medical	0	0.0
Nursing	0	0.0
Paramedical	0	0.0
Supporting health staff	0	0.0
Not applicable	138	60.5
Not recorded	23	10.1
Total	228	100.0

Annex 1 (e) - Treatment defaulters - 03

First presentation	N	%
Private doctor	28	12.3
Private hospital	1	0.4
GOPC	14	6.1
Chest Clinic	45	19.7
Other DH Clinic	13	5.7
HA Clinic	6	2.6
HA Hospital	115	50.4
Mainland	1	0.4
Overseas	0	0.0
Not recorded	5	2.2
Total	228	100.0

Symptomatic on presentation

Y	180	78.9
N	43	18.9
Not recorded	5	2.2
Total	228	100.0

Chest symptoms	125	-
Systemic symptoms	25	-
Other site-specific symptoms	44	-

Reason for presentation

Symptom	172	75.4
Contact screening	7	3.1
Pre-employment	5	2.2
Pre-emigration	0	0.0
Other body check	15	6.6
Incidental to other illness	20	8.8
Others	4	1.8
Not recorded	5	2.2
Total	228	100.0

Contact with TB patients

Yes	15	6.6
No	208	91.2
Not recorded	5	2.2
Total	228	100.0

Contact type

Household	9	-
Work	1	-
Casual	3	-

Time of contact

Within 2 year	8	-
Over 2 year	4	-

Annex 1 (e) - Treatment defaulters - 04

Previous chemoprophylaxis	N	%
Yes	1	-

Reason for chemoprophylaxis

Contact	0	-
Silicosis	0	-
HIV	0	-
Old scar on CXR	0	-
Others	1	-

Disease Classification

Pulmonary TB only	175	76.8
Extrapulmonary TB only	24	10.5
Both	29	12.7
Total	228	100.0

Case category

New case	189	82.9
Relapse	26	11.4
Treatment after default	13	5.7
Failure of previous treatment	0	0.0
Total	228	100.0

Disease characteristics (pulmonary cases)

Pretreatment smear +ve	58	28.4
Pretreatment culture +ve	134	65.7
Extent = 1	114	55.9
Extent=1 & cavity=N	*100*	*49.0*
Extent=1 & cavity=Y	*14*	6.9
Extent = 2	55	27.0
Extent=2 & cavity=N	*37*	*18.1*
Extent=2 & cavity=Y	*18*	*8.8*
Extent=3	22	10.8
Extent=3 & cavity=N	*12*	*5.9*
Extent=3 & cavity=Y	*10*	*4.9*
Extent=not specified	13	6.4
Extent=ns & cavity=N	*13*	*6.4*
Extent=ns & cavity=Y	*0*	*0.0*
Cavity=N	162	79.4
Cavity=Y	42	20.6

6-month short course treatment

Yes	23	10.1
2HRZE+4HR	20	8.8
2HRZS+4HR	0	0.0

Other standard regimen based on HRZES

Yes	85	37.3

Among those defaulted

Never found	123	53.9
Retreated after default	27	11.8
Treatment stopped by doctor	32	14.0
Not recorded	46	20.2

Annex 1 (e) - Treatment defaulters - 05

Treatment supervision	N	%
Under DOT at chest clinic, hospital, CNS or other health staff (initial 2 months)		
>90%	63	27.6
>75%	27	11.8
>50%	35	15.4
>25%	17	7.5
≤25%	39	17.1
Not recorded	47	20.6
Under DOT at chest clinic, hospital, CNS or other health staff (subsequent 4 months)		
>90%	24	10.5
>75%	9	3.9
>50%	29	12.7
>25%	13	5.7
≤25%	55	24.1
Not recorded	98	43.0
Under supervision by relatives (initial 2 months)		
>90%	0	0.0
>75%	0	0.0
>50%	1	0.4
>25%	0	0.0
≤25%	125	54.8
Not recorded	102	44.7
Under supervision by relatives (subsequent 4 months)		
>90%	1	0.4
>75%	0	0.0
>50%	0	0.0
>25%	1	0.4
≤25%	98	43.0
Not recorded	128	56.1
Supplied for unsupervised treatment (initial 2 months)		
<5%	110	48.2
<10%	14	6.1
<15%	9	3.9
<25%	9	3.9
<50%	18	7.9
≥50%	4	1.8
Not recorded	64	28.1
Supplied for unsupervised treatment (subsequent 4 months)		
<5%	91	39.9
<10%	7	3.1
<15%	5	2.2
<25%	10	4.4
<50%	8	3.5
≥50%	6	2.6
Not recorded	101	44.3
Defaulted (initial 2 months)		
<5%	75	32.9
<10%	11	4.8
<15%	19	8.3
<25%	12	5.3
<50%	22	9.6
≥50%	28	12.3
Not recorded	61	26.8
Defaulted (subsequent 4 months)		
<5%	36	15.8
<10%	3	1.3
<15%	3	1.3
<25%	13	5.7
<50%	22	9.6
≥50%	54	23.7
Not recorded	97	42.5

Annex 1 (f) Sources completing Programme Forms

Sources completing Programme Forms	PFA	PFB1	PFB2	PFC	PFD
Chest Clinics	3227	4698	4892	4909	4599
Hospital Authority	2098	53	47	26	19
Private Practitioners/ Private Hospitals	3	0	0	0	0
Correctional Services and Others	55	16	17	18	6
Not Recorded	740	1356	1167	1170	1499
Total	6123	6123	6123	6123	6123

Breakdown for Hospital Authority:

Alice Ho Miu Ling Nethersole Hospital	0	0	0	0	0
Caritas Medical Centre	0	0	0	0	0
Castle Peak Hospital	1	3	3	3	2
Duchess of Kent Children Hospital	0	0	0	0	0
Fung Yiu King Hospital	0	0	0	0	0
Grantham Hospital	170	0	0	1	0
Haven of Hope Hospital	125	5	5	1	0
Kowloon Hospital	111	1	1	0	0
Kwong Wah Hospital	126	8	8	6	6
North District Hospital	121	1	1	1	1
Nam Long Hospital	0	0	0	0	0
Our Lady of Maryknoll Hospital	16	0	0	0	0
Pamela Youde Nethersole Eastern Hospital	5	0	0	0	0
Pok Oi Hospital	7	0	0	0	0
Prince of Wales Hospital	134	0	0	0	0
Princess Margaret Hospital	123	0	0	0	0
Queen Elizabeth Hospital	217	9	8	2	2
Queen Mary Hospital	49	5	3	2	0
Ruttonjee Hospital	250	13	13	8	6
Shatin Hospital	0	0	0	0	0
Tai Po Hospital	8	0	0	0	0
Tseung Kwan O Hosital	55	1	1	0	0
Tuen Mun Hospital	258	1	1	1	1
Tung Wah Eastern Hospital	0	0	0	0	0
Tung Wah Hospital	3	1	1	1	1
United Christian Hospital	121	5	2	0	0
Wong Tai Sin Hospital	197	0	0	0	0
Wong Chuk Hang Hospital	1	0	0	0	0
Yan Chai Hospital	0	0	0	0	0
Total	2098	53	47	26	19

HKID/ Passport/ Birth certificate no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ Clinic/ Hospital no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Name: _ DOS: _ _/_ _/_ _ _ _

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

Part (A) Basic information

TB notified: N / Y : Date: _ _ / _ _ / _ _ _ _ Sex: M / F Age: _ _ years Date of birth : _ _ / _ _ / _ _ _ _

Marital status: 1.single/ 2.married/ 3.separated/ 4.divorce/ 5.widowed Smoking status: 1.never/ 2.ex-smoker/ 3.current smokers

Institution-related: N / Y : 1.Client / 2.Staff Type: 1.Old age home/ 2.School/ 3. Hospital/ 4.Handicapped/ 5.Prison/ 6.Others

Name of institution: _____

Living situation: 1.street-sleeper/ 2.cubicle bed space/ 3.institution/ 4.work quarter/ 5.alone (but not 1. to 4.)/ 6.with friends/ 7.with family

Resident status: 1.PermanentResident/ 2.ChineseNewImmigrant(inHK<7yr)/ 3.ImportedWorker/ 4.Tourist-2wayPermitChinese/ 5.OtherTourist/ 6.Vietnamese/ 7.IllegalImmigrants

Place of birth: 1.Hong Kong / 2.Mainland/ 3.Others _____

Ethnicity: 1.Chinese/ 2.Other Asian/ 3.Caucasian/ 4.Other _____

Previous BCG history: N / Y / Unknown BCG scar: N / Y

Employment status (including self-employment) at DOS: 1.Full-time/ 2.Part-time/ 3.Retired/ 4.Unemployed/ 5.Housewife/ 6.Student

Occupation (current or last): 1.Blue collar/ 2.White collar/ 3.Medical/ 4.Nursing/ 5.Paramedical/ 6.Supporting health staff/ 7.Not applicable

Job title: _____

Part (B) Information on this episode of TB:

First presentation to: 1. Private doctor / 2.Private Hospital / 3.GOPC / 4.Chest Clinic / 5.Other DH Clinic / 6 .HA Clinic / 7. HA Hospital / 8. Mainland / 9.Overseas

Symptomatic on presentation: N / Y: 1.Chest symptoms / 2.Systemic Symptoms / 3.Other site-specific symptoms

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

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

Previous chemoprophylaxis: N / Y : reason: 1. Contact / 2. Silicosis / 3. HIV / 4. Old scar on CXR / 5. Others _____

Drugs & duration: _____

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

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

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

5. Others, specify: _____

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

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

Extra-pulmonary tuberculosis:

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

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

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

(After completion, this form should be sent to Consultant Chest Physician i/c, Wanchai Chest Clinic, 99 Kennedy Road, Hong Kong. Fax: (852) 28346627)
(If patient is transferred, a copy of this completed form should also be sent to the new source of care for information.)

HKID/ Passport/ Birth certificate no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ Clinic/ Hospital no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Name: _ DOS: _ _/_ _/_ _ _ _

PFB1 – To be completed at 6 month from DOS (for TB patients)

Part (E) Mode of TB diagnosis: 1. Bacteriological/ 2.Histological/ 3.Clinical-radiological/ 4.Clinical only (choose 1 item, priority from left to right)

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

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

- Histological result from (site) _____: 1 Typical (with caseation) / 2.Granulomatous inflammation / 3.other
  Ziehl-Neelzen staining: P / N / U
- **If pre-treatment culture is positive for MTB, is the ST favourable? (i.e., sensitive to HRES)**: N / Y / U (ST not done)

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

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

Part (F) Risk factors for TB: N / Y (If Y, please circle whichever applicable)

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

Part (G) Factors affecting treatment choices: N / Y (If Y, please circle whichever applicable)

1. Hepatitis-B carrier
2. Chronic active hepatitis
3. Impaired renal function
4. Chronic renal failure (require dialysis, etc.)
5. Impaired vision
6. Impaired hearing
7. Known drug reaction
8. Known drug resistance
9. Gout
10. Idiopathic thrombocytopenic purpura
11. Other(1), specify_____
12. Other(2), specify_____
13. Other(3), specify_____

Part (H) Other co-morbidities: N / Y : 1. _____ 2. _____ 3. _____

Part (I) Treatment regimen:

6-month short course treatment: N / Y: 1. [2HRZE+4HR] / 2. [2HRZS+4HR]

If neither of the above 2 regimens, please complete the following two questions:

Other standard regimens based on HRZES (at least HRZ in initial and HR in continuation phase): N / Y

Drugs that have been used (for at least over 1 month): 1 Isoniazid (H) / 2 Rifampicin (R) / 3 Ethambutol (E) / 4 Streptomycin (S) / 5 Pyrazinamide (Z) / 6 Ofloxacin / 7 Levofloxacin / 8 Ethionamide / 9 Prothionamide / 10 Kanamycin / 11 Cycloserine / 12 PAS /

12 Other(1) _____ / 13 Other(2) _____ / 14 Other (3) _____

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

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

(After completion, this form should be sent to Consultant Chest Physician i/c, Wanchai Chest Clinic, 99 Kennedy Road, Hong Kong. Fax: (852) 28346627)
(If patient is transferred, a copy of this completed form should also be sent to the new source of care for information.)

HKID/ Passport/ Birth certificate no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ Clinic/ Hospital no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Name: _ DOS: _ _/_ _/_ _ _ _

PFB2 – To be completed at 6 month from DOS (for TB patients)

Part (J) Treatment side effects: N / Y (If Y, please circle)

1.GI upset/ 2.skin rash/ 3.visual/ 4.transient rise of liver enzyme/ 5. hepatitis/ 6.vestibular/ 7.arthropathy/ 8.fever-chill/ 9.dizziness/ 10.thrombocytopenia/ 11.leucopenia/ 12.flush face/ 13.other(1) _____ / 14.other(2) _____ /15.other(3) _____

Treatment temporarily withheld for side effects: N / Y

Desensitisation or drug trial required: N / Y

Change in dosage or frequency required: N / Y

Change of drugs required: N / Y

Part (K) Treatment Supervision:

Proportion of doses:	Initial 2 month	Subsequent 4 months (up to 6 month from DOS)
Under DOT at chest clinic, hospital, CNS or other health staff	>90% >75% >50% >25% ≤25%	>90% >75% >50% >25% ≤25%
Under supervison by relatives	>90% >75% >50% >25% ≤25%	>90% >75% >50% >25% ≤25%
Supplied for unsupervised treatment	<5% <10% <15% < 25% <50% ≥50%	<5% <10% <15% < 25% <50% ≥50%
Defaulted	<5% <10% <15% < 25% <50% ≥50%	<5% <10% <15% < 25% <50% ≥50%

Part (L) Outcome at 6 months (please √, circle and/ or fill in the spaces provided as appropriate)

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

Status at completion:

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

(2) Treatment incomplete □

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

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

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

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

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

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

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

- New diagnosis: _____

(7) Others □, specify: _____

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

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

(After completion, this form should be sent to Consultant Chest Physician i/c, Wanchai Chest Clinic, 99 Kennedy Road, Hong Kong. Fax: (852) 28346627)
(If patient is transferred, a copy of this completed form should also be sent to the new source of care for information.)

HKID/ Passport/ Birth certificate no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ Clinic/ Hospital no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Name: _ DOS: _ _/_ _/_ _ _ _

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

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

	Sputum		**Other type of specimen:** 1.gastric aspirate/ 2.pleural fluid/ 3.bronchial washing/ 4.urine/ 5.biopsy or others, specify: _____	
	5-6 months	7-12 months	5-6 months	7-12 months
Smear	P / N / U	P / N / U	P / N / U	P / N / U
Culture	P / N / U / NTM	P / N / U / NTM	P / N / U / NTM	P / N / U / NTM

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

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

(a) Status at completion:

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

(b) After treatment completed:

No relapse □

Loss to follow-up □ Last visit date (mm/yyyy): ____/_____

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

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

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

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

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

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

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

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

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

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

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

- New diagnosis: _____

(7) Others □ , specify: _____

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

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

(After completion, this form should be sent to Consultant Chest Physician i/c, Wanchai Chest Clinic, 99 Kennedy Road, Hong Kong. Fax: (852) 28346627)

(If patient is transferred, a copy of this completed form should also be sent to the new source of care for information.)

HKID/ Passport/ Birth certificate no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ Clinic/ Hospital no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Name: _ DOS: _ _/_ _/_ _ _ _

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

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

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

(a) Status at completion:

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

(b) After treatment completed:

No relapse □

Loss to follow-up □ Last visit date (mm/yyyy): ____/_____

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

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

- 1.Bacteriological / 2.Histological / 3.Clinical-radiological / 4.Clinical only (choose 1 item, priority from left to right)

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

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

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

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

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

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

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

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

- New diagnosis: _____

(7) Others □, specify: _____

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

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

(After completion, this form should be sent to Consultant Chest Physician i/c, Wanchai Chest Clinic, 99 Kennedy Road, Hong Kong. Fax: (852) 28346627)

(If patient is transferred, a copy of this completed form should also be sent to the new source of care for information.)

Annex 2 (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	2004	2005	2006	2007	2008
Notified TB cases who are Chinese New Immigrants (with years of arrival in Hong Kong)	≤1 year	27	14	8	14	9
	≤2 year	19	11	4	12	8
	≤3 year	13	11	10	8	17
	≤4 year	11	7	8	9	6
	≤5 year	9	9	10	7	14
	≤6 year	11	13	7	3	6
	≤7 year	20	12	11	3	7
	Total	110	77	58	56	67
Overall notified TB cases		6226	6160	5766	5463	5635

The above table shows the number of all notified TB cases in Hong Kong from 2004 to 2008 and the number of TB cases among the Chinese new immigrants (staying in Hong Kong less than 7 years) according to the number of years they have arrived in Hong Kong. The numbers are in general higher in the first year of arrival. This phenomenon has also been observed in the immigrants of some other countries. The exact reason is unknown although some postulate that the stress experienced by the new immigrants upon arrival may be a factor.

In Annex 2 (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 2 (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 2 (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 2004 to 2008 are 91.8, 90.4, 84.1, 78.9 and 80.8 respectively.

From Annex 2 (b), the overall estimated rates (per 100,000) among the new immigrants from 2004 to 2008 are 30.7, 21.5, 16.2, 16.8 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 2 (b)

TB Notification and Estimated Rates Among Chinese New Immigrants By Age & Sex (2004-2008)

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

	2004	2004	2004	2005	2005	2005	2006	2006	2006	2007	2007	2007	2008	2008	2008
Age group	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-19	4	12	16	3	6	9	6	4	10	2	6	8	2	1	3
20-39	8	56	64	4	38	42	5	25	30	6	26	32	6	36	42
40-59	8	12	20	5	14	19	4	10	14	5	9	14	9	12	21
60+	5	5	10	3	4	7	2	2	4	0	2	2	1	0	1
Total	25	85	110	15	62	77	17	41	58	13	43	56	18	49	67

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

	2004	2004	2004	2005	2005	2005	2006	2006	2006	2007	2007	2007	2008	2008	2008
Age group	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-19	5.3	16.3	10.8	4.4	9.0	6.7	9.0	6.2	7.6	3.2	10.1	6.6	3.3	1.7	2.6
20-39	34.9	42.5	41.4	16.0	26.0	24.5	19.0	17.1	17.4	24.3	18.7	19.6	28.4	26.8	27.0
40-59	94.2	36.8	48.7	50.4	47.6	48.3	31.5	34.4	33.5	37.4	33.9	35.1	64.3	44.3	51.1
60+	198.3	42.8	70.3	121.4	40.9	57.1	79.6	21.9	34.4	0.0	32.1	23.6	47.2	0.0	13.3
Total	22.9	34.1	30.7	14.2	24.6	21.5	15.7	16.5	16.2	12.7	18.6	16.8	18.5	21.8	20.8

Annex 2 (c)

TB Notification and Rates (All Cases) By Age & Sex (2004-2008)

All TB cases by age and sex

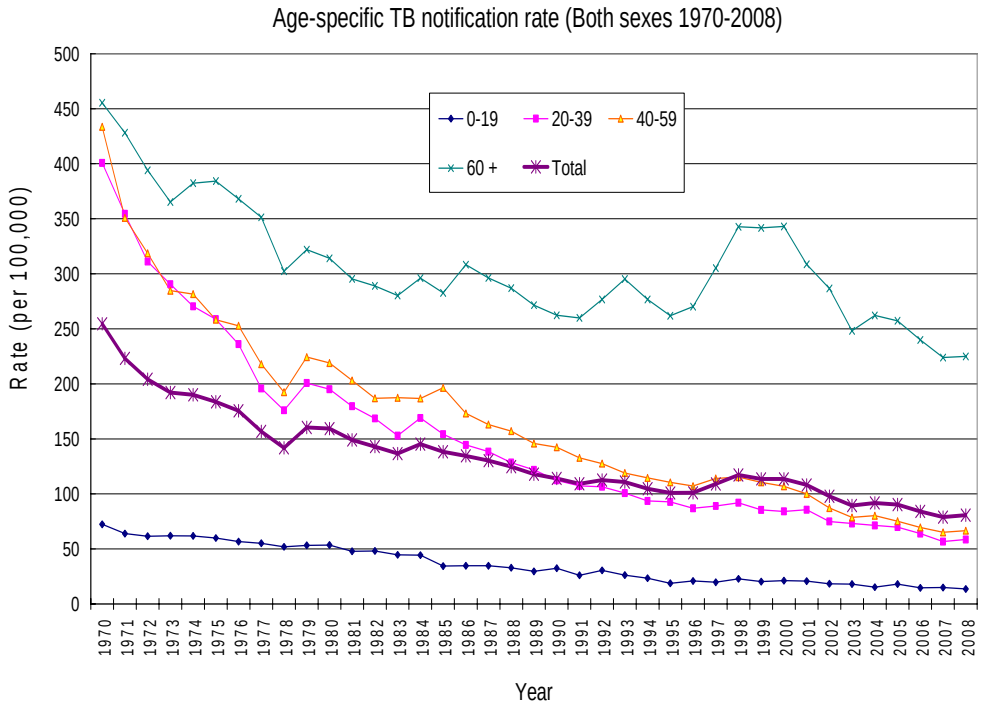
	2004	2004	2004	2005	2005	2005	2006	2006	2006	2007	2007	2007	2008	2008	2008
Age group	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-19	96	124	220	137	118	255	106	97	203	108	96	204	82	102	184
20-39	696	823	1519	690	782	1472	616	728	1344	520	674	1194	563	673	1236
40-59	1208	527	1735	1105	575	1680	1077	513	1590	1014	491	1505	1027	529	1556
60+	1988	764	2752	2041	712	2753	1960	669	2629	1853	707	2560	1956	703	2659
Total	3988	2238	6226	3973	2187	6160	3759	2007	5766	3495	1968	5463	3628	2007	5635

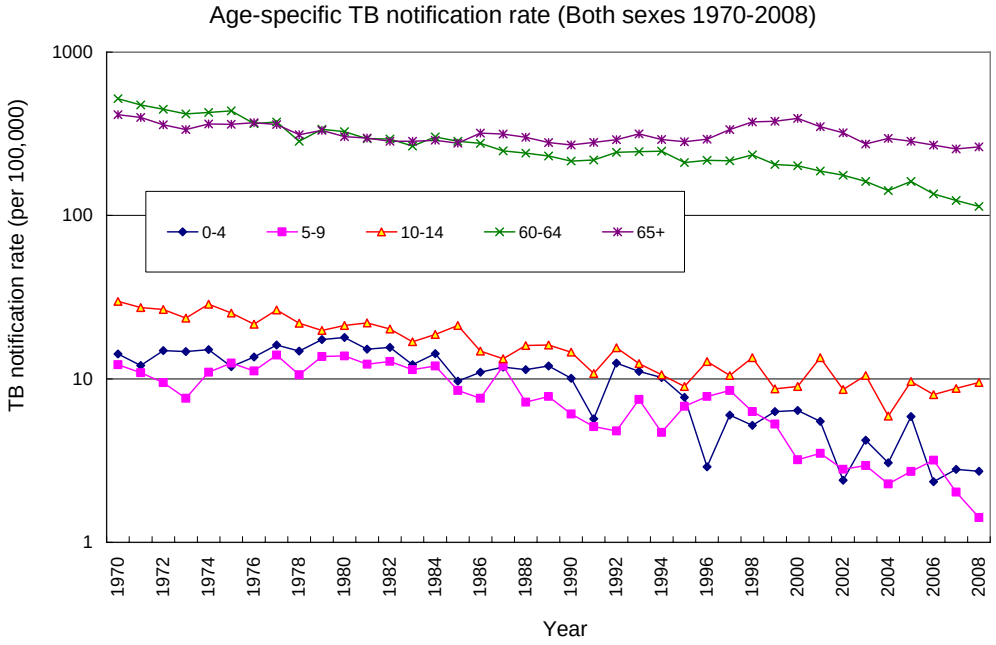
Rate of TB (all notified cases) (per 100,000)

	2004	2004	2004	2005	2005	2005	2006	2006	2006	2007	2007	2007	2008	2008	2008
Age group	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-19	13.0	17.7	15.3	19.1	17.2	18.2	15.0	14.5	14.8	15.4	14.5	15.0	11.8	15.7	13.7
20-39	72.2	70.6	71.3	73.0	67.4	69.9	65.8	62.4	63.9	56.0	57.1	56.6	61.1	56.6	58.5
40-59	113.7	47.9	80.2	101.4	50.2	75.2	97.3	43.6	69.6	91.1	41.0	65.1	91.8	43.4	66.6
60+	396.3	139.4	262.1	400.3	127.2	257.3	376.3	116.3	239.9	341.1	117.8	223.9	348.2	113.4	225.0
Total	122.1	63.6	91.8	121.7	61.6	90.4	115.0	56.0	84.1	106.3	54.1	78.9	110.0	54.5	80.8

Annex 3

Trend of age-specific TB notification rates (1970-2008)





- 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 4(a)

TB-HIV Registry

A total of 44 cases with TB-HIV co-infection were reported from various sources to the TB-HIV Registry in 2008. Thirty-four (77.3%) were under the care of TB & Chest Service (TB&CS) and/or Special Preventive Programme (SPP), Public Health Services Branch, Department of Health (DH). Most of the remaining cases attended dual follow up at chest clinics and one of the hospitals under Hospital Authority (HA).

Table 1 shows the total number of TB-HIV cases reported to the TB-HIV Registry for the years 1996-2008.

Table 2 shows the data on TB as primary AIDS-defining illness in the Hong Kong HIV/AIDS reporting system for the years 1996-2008. Out of a total of 96 AIDS cases newly diagnosed in 2008, 32 (33.3%) had TB as a primary AIDS-defining illness, compared to 37 (38.5%) for *Pneumocystis jiroveci* pneumonia (previously named Pneumocystis carinii pneumonia). TB was second to *Pneumocystis jiroveci* pneumonia as the most common primary AIDS-defining illness in Hong Kong in 2008.

Table 3 shows the distribution of ADI criteria among 262 cases reported from chest clinics and SPP for the years 1996-2008 with TB as the primary AIDS-defining illness. In Hong Kong, both pulmonary TB with a CD_4 count below 200/µL and extra-pulmonary TB are included in the AIDS case definition. The relative proportion of extra-pulmonary TB as primary AIDS-defining illness has somewhat increased in 2008 compared to past few years.

The pre-treatment drug sensitivity pattern among culture-positive (sputum or other specimens) TB-HIV cases for the years 1996-2008 is shown in **Table 4**. Of the 33 cases with a positive sputum or other specimen culture reported to TB-HIV Registry in 2008, 30 (90.9%) had disease due to Mycobacterium tuberculosis with favourable sensitivity pattern. Three had bacillary resistance to at least one anti-TB drug (but not MDR or XDRTB). One case had bacillary resistance to streptomycin, isoniazid and ofloxacin; another case had initial mono-resistance to rifampicin, while the third case has initial bacillary resistance to streptomycin and developed acquired resistance to rifampicin during anti-TB treatment. Among all the 294 cases reported to TB-HIV Registry with a positive sputum or other specimen culture between 1996 and 2008, 4 (1.4%) had MDRTB. This figure is slightly higher than the MDRTB rate in general population, but the absolute number of MDRTB associated with HIV infection was small. There is no XDR-TB cases detected among the reported TB-HIV cases. DH will continue to monitor prevalence of drug resistance in the context of HIV.

Table 5 shows the characteristics of 34 patients reported from chest clinics and SPP in 2008. The characteristics of these patients are similar to that of the 2007 cohort, namely, there are greater proportions of young males and non-Chinese Asians among TB-HIV co-infected patients as compared to non-HIV infected TB patients. CD_4 count was generally low at time of TB diagnosis. Extra-pulmonary involvement is common, with about two-thirds of patients having TB involving one or more extra-pulmonary sites.

Annex 4(b)

Table 1. Total number of TB-HIV cases reported to TB-HIV Registry (1996-2008)*

Year	Number of TB-HIV cases**
1996	22
1997	19
1998	22
1999	25
2000	24
2001	34
2002	21
2003	26
2004	34
2005	42
2006	44
2007	47
2008	44
Total	404

* Including cases reported from chest clinics, SPP, HA hospitals and private centres.
** Some of the figures in the table for the previous years have been updated after taking out some mismatched cases and cases with a revised diagnosis.

Table 2. TB as primary ADI in Hong Kong HIV/AIDS reporting system, all sources (1996-2008)*

Year	Number of cases with TB as primary AIDS-defining illness	Total number of reported AIDS cases	% of reported AIDS cases with TB as primary AIDS-defining illness
Pre-1996	21	175	12.00%
1996	21	70	30.00%
1997	17	64	26.56%
1998	18	63	28.57%
1999	13	61	21.31%
2000	19	67	28.36%
2001	17	60	28.33%
2002	9	53	16.98%
2003	15	56	26.79%
2004	13	49	26.53%
2005	25	64	39.06%**
2006	26	73	35.62%
2007	32	79	40.51%**
2008	32	96	33.30%
Total	278	1030	27.00%

* An expanded case definition was adopted in 1995 to include pulmonary TB cases with a CD4 count less than 200/μL.
** TB overtook *Pneumocystis jiroveci* pneumonia as the most common AIDS-defining illness.

Annex 4(c)

Table 3. Criteria for TB as AIDS-defining illness among 262 cases reported from chest clinics and SPP (1996-2008)*

Year	TB as AIDS-defining illness			Total
	Yes		No	
	Extra-pulmonary	Pulmonary and TB cervical lymph node with CD4 < 200 µL		
1996	1	7	1	9
1997	2	3	2	7
1998	6	3	3	1
1999	7	6	3	216
2000	3	4	5	12
2001	4	6	7	17
2002	4	9	2	15
2003	1	10	5	16
2004	5	7	11	23
2005	8	14	7	29
2006	9	19	7	35
2007	10	17	8	37**
2008	14	14	6	34
Total	74	119	67	262

* Of all the cases reported to the TB-HIV Registry from 1996 to 2008, 262 cases were seen at chest clinics and/or SPP. The table is compiled basing on data of these 262 cases.
** Information on TB as AIDS-defining illness not available in two patients.

Table 4. Pre-treatment drug sensitivity pattern among culture positive (sputum and/or other specimens) TB-HIV cases from TB-HIV Registry (1996-2008)*

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
Total	247	44	3 (+1)***	0	294

* Of all the cases reported to the TB-HIV Registry from 1996 to 2008, 294 had a positive culture (sputum or other specimens). The table is compiled basing on data of these 294 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.

Annex 4(d)

Table 5: Chracteristics of 34 TB cases reported from chest clinics and SPP in 2008*

	Number	Proportion
Age distribution		
0 to 19	0	0.00%
20 to 39	10	29.41%
40 to 59	16	47.06%
60+	8	23.53%
Sex distribution		
Male	30	88.23%
Female	4	11.76%
Ethnicity		
Chinese	25	73.53%
Asians, non-Chinese	9	26.47%
Caucasians	0	0.00%
Others	0	0.00%
Case category		
New case	33	97.06%
Relapse	1	2.94%
Treatment after default	0	0.00%
Failure of previous treatment	0	0.00%
TB as primary AIDS defining illness		
Yes	28	82.35%
No	6	17.65%
HIV stage		
A1	0	0.00%
A2	3	8.82%
A3	0	0.00%
B1	0	0.00%
B2	0	0.00%
B3	0	0.00%
C1	0	0.00%
C2	1	2.94%
C3	17	50.00%
Unknown	13	38.24%
CD4 count at time of co-infection (median, range)	74 (9-732)/μL	
Viral load at time of co-infection (median, range)	250000 (75-6400000) copies/mL	
Anti-retroviral therapy at time of co-infection		
Yes	3	8.82%
No	27	79.41%
Unknown	4	11.76%
Presence of extra-pulmonary TB		
Yes	23	67.65%
No	11	32.35%
Extent of Respiratory TB**		
Minimal	12	46.15%
Moderate	6	23.08%
Extensive	8	30.77%
Sputum bacteriological status (pre-treatment)		
Smear + culture +	10	29.41%
Smear - culture +	11	32.35%
Smear + culture -	0	0.00%
Smear - culture -	7	20.59%
Incomplete	6	17.65%
Drug resistance pattern (pre-treatment)***		
Susceptible to SHRE	23	88.46%
Resistant to at least any one drug of SHRE	3	11.54%
Resistant to streptomycin	1****	
Resistant to SHO	1	
Mono-resistance to rifampicin	1	
MDR	0	0.00%
XDR	0	0.00%

* Among 44 cases reported to HIV Registry in 2008, 34 were managed at chest clinics and/or SPP. The table is compiled basing on data of these 34 cases.
** 26 out of the 34 cases had lung parenchymal lesion on CXR.
*** 26 out of the 34 cases had a positive sputum or other specimen culture.
**** Developed acquired resistance to rifampicin during treatment.

Annex 5

HBsAg Seroprevalence Survey
Among TB Patients Seen at Chest Clinics (2008)

In a sample survey conducted by the TB & Chest Service of the Department of Health in 2008 (2-month period from 1.3.2008 to 31.5.2008), the overall HBsAg seropositive rate among TB patients seen at chest clinics was 8.93%.

Sex/Age group	HBsAg status			HBsAg seropositive rate (%)*	Total
	Positive	Negative	Unknown		
Male					
0-19	0	14	3	0.00	17
20-39	6	115	6	4.96	127
40-59	30	164	4	15.46	198
≥60	26	293	17	8.15	336
Female					
0-19	1	11	1	8.33	13
20-39	8	127	6	5.93	141
40-59	12	110	2	9.84	124
≥60	9	104	2	7.96	115
Total	92	938	41	8.93	1071

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

HBsAg Seroprevalence Survey 2007-2008

Sex/Age group	HBsAg seropositive rate (%)	
	2007	2008
Male		
0-19	0.00	0.00
20-39	8.63	4.96
40-59	17.76	15.46
≥60	11.08	8.15
Female		
0-19	3.33	8.33
20-39	5.41	5.93
40-59	12.17	9.84
≥60	4.72	7.96
Total	10.52	8.93

Annex 6

Crude and Standardised Death Rate and Notification Rate 1981 - 2008

(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	78.9	58.4
2008	3.3	1.8	80.8	59.2

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

Part 4

SUPPLEMENT

Part 4 – Supplement: Contents

Supplement

GUIDELINES ON THE MANAGEMENT OF MULTIDRUG-RESISTANT AND EXTENSIVELY DRUG-RESISTANT TUBERCULOSIS IN HONG KONG

December 2008

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Summary points:

1. Multidrug-resistant tuberculosis (MDR-TB) is defined as disease caused by bacillary strains showing resistance to at least both isoniazid and rifampicin *in vitro*. Extensively drug-resistant TB (XDR-TB) is MDR-TB with additional resistance to any fluoroquinolone and at least one of the second-line injectable drugs: kanamycin, amikacin and capreomycin.
2. MDR-TB and XDR-TB present an increasing threat to global tuberculosis control.
3. A multidrug-resistant tuberculosis registry has been set up within the Tuberculosis and Chest Service of Department of Health.
4. Health care workers are requested to notify MDR-TB and XDR-TB cases to the Tuberculosis and Chest Service using a standard notification form for these diseases.
5. MDR-TB is more difficult to treat when compared to drug-susceptible disease, thus resulting in a significantly lower treatment success rate. XDR-TB is even more difficult to treat.
6. The regimen used to treat MDR-TB should comprise 5 to 6 drugs to which the organism is or likely to be susceptible for the initial 6 months, and then 3 to 4 drugs subsequently. Extended regimens, consisting of multiple second-line and even third-line anti-TB drugs, given for prolonged periods are needed to treat XDR-TB.
7. A single drug should never be added to a failing regimen.
8. Surgical resection of a major pulmonary focus may be a useful adjunct for selected cases with sufficiently localised disease not responding well to drug treatment.
9. Periodic follow up screening may be indicated for MDR-TB and XDR-TB contacts with normal chest radiograph findings on initial screening.
10. Measures to prevent nosocomial spread of MDR-TB and XDR-TB include an effective triage system, isolation of infectious patients, minimisation of patients' duration of stay in the health care settings, advice on personal hygiene, and the use of face masks.

Background

Tuberculosis (TB) is still an infectious disease of public health importance today globally and locally. Of particular concern is the occurrence of multidrug-resistant TB (MDR-TB) and extensively drug-resistant TB (XDR-TB). MDR-TB is TB with bacillary resistance to at least isoniazid and rifampicin. XDR-TB is defined as MDR-TB with additional bacillary resistance to any fluoroquinolone and at least one of the second-line injectable drugs: kanamycin, amikacin and capreomycin. Data from the World Health Organisation (WHO)/ International Union Against Tuberculosis And Lung Diseases (IUATLD) Global Project on Drug Resistance Surveillance have identified several hot spots for MDR-TB and XDR-TB.[1] Inner Mongolia and Heilongjiang in China have a relatively high MDR-TB rate among new cases, while in Hong Kong and United States the MDR-TB rates are on a decline. WHO estimated that around 490,000 MDR-TB and 40,000 XDR-TB cases emerge every year. Drug resistance develops through selection pressure. Most commonly the development of multidrug-resistance occurs when there is a large bacillary population, when an inadequate drug regimen is prescribed, or when there is a combined failure of both the patient and provider to ensure that an adequate regimen is taken.[2] With appropriate combination chemotherapy that is reliably taken, clinically significant resistance will not develop.[3] Use of directly observed treatment, short course (DOTS) has been shown to reduce the transmission of TB and the incidence of drug-resistant disease. Efficiently-run TB control programmes based on DOTS policy is essential for preventing the emergence of MDR-TB and XDR-TB.

MDR-TB is more difficult to treat when compared to drug-susceptible disease, thus resulting in a significantly lower treatment success rate. Treatment cost is also much higher, and patients with MDR-TB may remain infectious for a longer period of time. For the control of MDR-TB, “DOTS-PLUS” strategy is recommended.[4] This strategy incorporates continuous drug-resistance surveillance, culture and drug susceptibility testing for TB patients, and tailoring of individual drug regimen through the use of first and second-line drugs.

At present, the rate of TB notification in Hong Kong is still high in comparison with other developed countries, viz around 80 per 100,000.[5] The rate of MDR-TB ranges from 0.3 to 0.6 per 100,000 populations for the years 1997 to 2006. In general, around 10% of MDR-TB cases are XDR-TB. Overall, MDR-TB and XDR-TB cases comprise around 1% and 0.1% of the total bacteriologically-positive TB notifications respectively. Nevertheless, it is necessary for doctors to remain vigilant, and continue to update knowledge and measures for the control of drug-resistant TB.

The Tuberculosis Control Coordinating Committee has published guidelines on the

management of patients with TB regarding both clinical and public health aspects.[6, 7, 8, 9] The treatment of MDR-TB involves the use of second-line drugs which are much more expensive, generally less efficacious, and have potentially more adverse effects than the first-line drugs. Suboptimal management of MDR-TB may result in further drug resistance. Clinical expertise and good laboratory support are essential for the successful management of patients with MDR-TB. It is therefore recommended that MDR-TB be managed solely by, or in close consultation with TB specialists. In this paper, general recommendation is provided regarding diagnosis, reporting, principles of treatment, contact screening, infection control and preventive measures in MDR-TB. It should be stressed that each case should be managed according to the individual circumstances, with the help of the necessary expertise.

Diagnosis of Multidrug-resistant Tuberculosis and Extensively Drug-resistant Tuberculosis

It has been recommended that drug susceptibility testing of all pretreatment positive culture isolates should be done.[1] When the results of drug susceptibility testing are available, diagnosis of drug-resistant TB can be made readily, and the treatment regimen may be modified accordingly as needed.

In addition, early diagnosis of drug-resistant TB, particularly MDR-TB and XDR-TB, is highly desirable. Delay in the diagnosis of these diseases may result in progressive lung destruction, higher bacillary load, and continuing disease transmission. To enable early diagnosis, a high index of suspicion is required. A history of incomplete treatment for TB, close contact with MDR-TB patients, HIV infection, drug addiction, alcoholism, and migration from an area endemic for drug resistance are some useful clues. In our locality, a recent study showed that Chinese non-permanent residents, living on financial assistance, history of frequent travel and young age are additional risk factors.[10] For retreatment cases, the number and details of previous treatment lots as well as documentation of non-adherence should be obtained. A careful investigation of prior anti-TB treatment may help in identifying the likely pattern of drug resistance.

The Public Health Laboratory Centre (PHLC) of Department of Health (DH) may be contacted for consideration of drug susceptibility testing for first-line as well as second-line anti-TB drugs. Under appropriate circumstances, PHLC may also be contacted for consideration of either rapid drug susceptibility tests, or drug susceptibility tests concomitantly with mycobacteria identification tests.

Furthermore, most rifampicin-resistant isolates have been reported to have a mutated *rpo*B

gene, and the mutations are concentrated on a short, less than 100-bp stretch of the gene.[11] In Hong Kong, a study found that the rate of resistant rifampicin strain that harbours *rpo* gene mutation was 93%.[12] On the other hand, the prevalence of MDR-TB in Hong Kong is not high. Clinical risk factors for MDR-TB should be considered before ordering rapid genetic tests for rifampicin resistance. In selected patients with known risk factors for MDR-TB, especially those with a known history of poor adherence in previous treatment, genetic testing for rifampicin resistance in M. tuberculosis can be useful, and the positive predictive value of the test in this subgroup of patients can be high.

Reporting of Multidrug-resistant Tuberculosis Cases

Timely notification of TB cases, drug-susceptible and drug-resistant alike, is crucial to the effective control and prevention of the disease. It is also important for public health surveillance and for initiation of contact screening. In addition to the usual TB notification registry, a MDR-TB registry has been set up within the TB&CS since May 1995 and the procedures have been updated in 2007 (MDR_Flow_protocol0709) (Appendix 1) to include reporting of MDR-TB (including XDR-TB) cases from sources outside TB&CS. Whenever a currently active and previously unreported case of MDR-TB (or XDR-TB) is diagnosed, health care workers are requested to notify the case to Wanchai Chest Clinic using the MDR-TB notification form (MDR_Noti_Form0709) (Appendix 2). In order to track progress of patients with MDR-TB and XDR-TB, a set of special programme forms have been designed (TB-PFMDR-X(1)/10-2004 and TB-PFMDR-X(2)/10-2004) (Appendix 3). These forms are to be filled in every 6 months after the completion of the usual set of programme record forms (PFA, B1, B2, C and D) (Appendix 3) from 2.5 year to 5 year from date of starting treatment (DOS). The forms can be downloaded from the DH TB website (http://www.info.gov.hk/tb_chest). [NB: PFA at pretreatment, PFB1 & PFB2 at 6 month, PFBC at 12m, PFBD at 24m, and PFMDR-X at 30m, 36m, 42m, 48m, 54m, and 60m.]

Treatment

For MDR-TB patients with known susceptibility pattern, the treatment regimen should comprise 5 to 6 drugs to which the organism is or is likely to be susceptible for the initial 6 months, followed by 3 to 4 drugs subsequently. The inclusion of an injectable agent (an aminoglycoside or capreomycin) for the initial 6 months and a fluoroquinolone all through are generally recommended.[13] Daily regime should be used, except perhaps for the injectables. Drugs showing *in vitro* resistance are generally excluded, with the possible exception of use of isoniazid in cases of low level resistance. The possibility of cross-resistance between drugs should be noted.[3,14]

Apart from first-line anti-TB drugs, available drugs for treatment of MDR-TB/XDR-TB include the fluoroquinolones (e.g. ofloxacin, levofloxacin, ciprofloxacin), aminoglycosides (e.g. kanamycin, amikacin), prothionamide/ ethionamide, cycloserine, para-aminosalicylic acid, capreomycin, and even clofazimine. These drugs vary in terms of anti-TB activity, convenience of administration, potential toxicity and cross-resistance. Drugs that have not been used to treat the patient before are preferred, and so are bactericidal drugs rather than bacteriostatic drugs.

There is controversy on the best approach in managing MDR-TB patients before drug susceptibility results for the second-line drugs become available. Each case should be judged on individual grounds. Recourse to the empirical use of several second-line drugs is often necessary while waiting for the definitive results. If it is considered necessary to treat a suspected MDR-TB patient before drug susceptibility test results are available, it may be advisable to employ an expanded regimen and give both the essential first-line drugs plus at least three second-line drugs that have not been used previously. A single drug should never be added to a failing regimen, because doing so may select organisms in the bacterial population that are resistant to the newly added drug (addition phenomenon). A combination of two or three drugs to which the organism is or is likely to be susceptible should be added.

Admission of patients with MDR-TB to special care centres including Grantham Hospital or Kowloon Hospital for newly diagnosed cases, or to the respective chest hospitals for old cases, is recommended particularly during the initial period. This will facilitate detailed assessment, stabilization and optimization of drug regime, reinforcement of health education and treatment adherence during subsequent outpatient follow up after discharge. Arrangement for hospital admission can be made through government chest clinics, or direct telephone/ facsimile contact of the hospital units.

All patients with MDR-TB should be given directly observed treatment (DOT), as far as practicable. Failure to comply with treatment is the main cause of poor treatment outcome and emergence of drug-resistant organisms. Therefore, every effort should be made to ensure that patients complete the full course of regular treatment.

For patients who have problems with drug adherence, the reasons for defaulting treatment should be carefully explored and addressed promptly. All efforts should be made to seek co-operation from treatment defaulters. The management of treatment defaulters can be problematic. Team approach is the strategy. Counseling by specially trained TB workers and medical social workers form an integral part of management of these patients.

Close monitoring of progress during anti-TB treatment is mandatory, in particular the general condition, body weight, chest radiograph and bacteriological status. Sputum specimens should be sent monthly for acid fast bacilli (AFB) smear and culture examination, until they are converted negative for three consecutive months, and then the persistent negative status is further confirmed with sputum culture examination every three months until the cessation of therapy. Sputum culture conversion in the early months of treatment correlates with a higher probability of cure in MDR-TB patients.[15]

Caution should be exercised in the interpretation of chest radiograph when initial radiographic improvement is observed. Sometimes this may be a temporary phenomenon due to control of the drug-susceptible bacterial subpopulation when a suboptimal regimen is employed.

Caution is to be exercised in the use of second-line drugs as they are often associated with significant adverse effects. Renal function should be checked regularly when an aminoglycoside is given. Liver function should be monitored regularly in patients with risk factors for hepatitis. The patient should also be regularly assessed for other potential adverse reactions from the drugs given. Cycloserine should only be used with caution and when its benefit is perceived to outweigh its potential adverse effects. Linezolid may be a useful drug for cases with extensive drug resistance, but it is relatively toxic and must be used with caution.[16]

The total duration of therapy for MDR-TB has not been clearly established; most will recommend a total duration of 18 months at least, or 18 months after culture being converted negative. However, local experience suggests that, with combination drug treatment and the inclusion of fluoroquinolones to which the bacilli are still susceptible, the total duration may be shortened to 12 to 15 months, or one year after sputum culture conversion.[17] A longer duration may however be required for patients with diabetes mellitus, silicosis, slow sputum culture conversion, extensive drug resistance or extensive radiographic disease.

The treatment of XDR-TB is even more difficult, as there are fewer remaining classes of drugs to which the tubercle bacilli are susceptible. Extended regimens, consisting of multiple second-line and even third-line anti-TB drugs, given for prolonged periods are needed to treat XDR-TB. Only around 40% of XDR-TB cases can be cured. XDR-TB cases should be solely managed by TB specialists as for the MDR-TB cases.

Surgery

For selected cases of MDR-TB with predominantly localised disease that is not responding well to treatment with an “adequate” chemotherapy regimen, surgical resection of a major pulmonary focus may be a useful adjunct. The remaining lung tissue should be relatively devoid of disease and there should be sufficient drug activity to diminish the mycobacterial burden to facilitate healing of the bronchial stump.[3] The opinion and expertise of thoracic surgeons should be sought under these circumstances. In recent years, there has also been a revival of interest in the use of artificial pneumothroax.[18]

Contact Examination

Good public health measures are mandatory for the prevention of emergence and transmission of drug-resistant organisms. Contact screening, together with notification, surveillance, health education and infection control are the most important public health measures undertaken by DH. The general principles for screening of close contacts also apply to those of MDR-TB cases.[19] In addition, for MDR-TB contacts with normal chest radiograph findings on initial screening, periodic screening afterwards, say every 6 to 12 months may be indicated, depending on the infectiousness of the index case as assessed from the updated findings on chest radiograph and sputum bacteriological status. The contacts should also be educated on symptoms suspicious of TB and advised to return for consultation if such symptoms develop. The health staff of chest clinics may be contacted for arranging contact screening if the latter has not been undertaken by general medical doctors.

If a contact is found to have developed active pulmonary TB, it is important to correlate with the drug susceptibility pattern of the index case. Special public health measures may have to be taken if transmission of MDR-TB or XDR-TB among contacts is suspected. To achieve effective public health control of the infection, close communication should be maintained with the relevant parties including DH. Restriction fragment length polymorphism (RFLP) analysis (DNA fingerprinting) may be considered.

Infection Control Measures

The patient should be provided health education on measures to prevent the spread of the disease. For examples, these include (1) good personal hygiene (like no spitting, and covering mouth and nose during coughing and sneezing in public area), (2) avoid going to overcrowded areas, and (3) put on surgical masks if there is a need to go to crowded public areas including public transport vehicles.

Measures should be taken to prevent nosocomial spread of MDR-TB in clinics, hospitals and

other health care settings. These include an effective triage system, isolation of infectious MDR-TB patients in a negative pressure room until assessed to be non-infectious, minimization of the MDR-TB patients' duration of stay in the health care settings, advice on personal hygiene and the use of face masks, etc.

Other Issues

In its Global MDR-TB & XDR-TB Response Plan (2007-2008), the World Health Organization (WHO) warned that XDR-TB raised the possibility that the current TB epidemic of mostly drug susceptible TB would be replaced with a form of TB with severely restricted treatment options.[20] In Hong Kong, the overall treatment success rates for MDR-TB and XDR-TB have been estimated to be 63% and 38% respectively. Special management is necessary for chronic MDR-TB/XDRTB cases not responding well to treatment, and those who failed treatment (failure-failure cases). These patients can remain infectious and pose a public health risk. WHO advises MDR-TB patients not to travel by air until proven by adequate laboratory confirmation (i.e. culture) to be non-infectious.[21] An RFLP study in PHLC has shown some case clustering and within household transmission of XDR-TB. Some form of isolation may be necessary. This can be in the form of voluntary isolation in a singleton flat in a remote area, or as inpatient for sanatorial care. The patient and his/ her household members should be advised and emphasized repeatedly on observation of personal hygiene, putting on a face mask when necessary, maintenance of good indoor ventilation, as well as other measures including special arrangement of the home setting and layout of rooms. The use of incentives and enablers may be desirable through liaison with medical social workers. Incentives like special diet allowance should be used with close monitoring to ensure that they are used optimally. Compassionate re-housing may have to be considered.

The Prevention and Control of Disease Ordinance (PCDO)(Cap.599) has been newly enacted on 14 July 2008. It aims to provide for the prevention and control of infectious diseases and to enable our compliance with the requirement of the International Health Regulations (2005) promulgated by the World Health Organization. Provisions for prevention of cross-boundary spread of infectious diseases are included. Under its subsidiary legislation, the Prevention and Control of Disease Regulation (PCDR)(Cap.599A), XDR-TB is included as a specified disease such that health officers are empowered to prohibit XDR-TB from leaving Hong Kong unless written permission is given. Under the legal framework, sometimes compulsory coercive actions have to be exercised to protect public health. These include measures such as detaining an XDR-TB patient at the airport before he intends to travel by air, or detaining TB patients for isolation or medical examination in hospital. In fact, compulsive measures for TB patients have been in practice in United States[22] and United Kingdom[23]

since 1990. However the use of such legal power must be viewed as a last resort, and justified only after all voluntary measures to isolate such a patient have failed, and the isolation order should be of a limited duration and subject to review.[24]

Conclusions

MDR-TB and XDR-TB presents an increasing threat to global TB control. Treatment success rate for these diseases is relatively low. In addition, the cheapest MDR-TB treatment regimen is 100 times more expensive than the best first line regimen. It should be much more cost effective to prevent emergence of MDR-TB and XDR-TB in the first place, through implementation of the DOTS strategy. Effective implementation of the DOTS strategy saves lives through decreased TB transmission, decreased risk of emergence of drug resistance, and decreased risk for individual patient of treatment failure, TB relapse, and death. The routine use of DOTS in the treatment of all cases of TB cannot be overemphasised.

Many crucial issues in MDR-TB and XDR-TB management remain unresolved. The existing data on MDR-TB and XDR-TB treatment come mainly from retrospective cohort analyses.[14] Randomised or controlled clinical trials have not been performed to answer questions concerning best treatment regimens and optimal treatment protocols for patients with various patterns of drug resistance. There is a need for further clinical research on MDR-TB and XDR-TB treatment. There is also the need for new anti-TB drugs to be developed and tested. Currently, a number of new drugs as well as new vaccines for TB are under different phases of research and development.[25, 26, 27] Fluoroquinolones are currently among the most valuable drugs in the medical treatment of MDR-TB because of their bactericidal and sterilising activities and excellent oral bioavailability.[17,28] As Hong Kong has a relatively high TB prevalence, careful use of fluoroquinolones is highly desirable, not only in the context of TB, but also in other medical conditions including community-acquired pneumonia to prevent escalation of fluoroquinolone resistance. Clearly the loss of this important group of compounds will have adverse consequences on our battle against TB.

To control MDR-TB and XDR-TB, specific surveillance programmes like the MDR-TB registry, drug resistance surveillance and treatment outcome monitoring are indispensable. These are all in place in Hong Kong and they should provide useful information for close monitoring, evaluation, and planning of targeted control measures. Today, TB is still an infectious disease of public health importance globally and locally. The control of TB demands long term work. Continuous multi-sectoral co-operation/ collaboration is necessary.

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Protocol for the management flow and reporting of multidrug-resistant TB (MDR-TB) cases to an MDR-TB Registry

The purpose of setting up an MDR-TB registry is to keep close surveillance of this high risk group of patients for assessment, management and evaluation of control measures.

1. Chest Clinics
   - If a case is newly diagnosed as having MDR-TB in the chest clinics, the case should be notified to Consultant Chest Physician i/c at Wanchai Chest Clinic (WCC) using the MDR-TB notification form (MDR_Noti_Form0709).
   - Under most circumstances, the case of MDR-TB will be admitted to hospital for management. For newly diagnosed cases from Kowloon Chest Clinic, Shek Kip Mei Chest Clinic, and Yaumatei Chest Clinic, they should be admitted to Kowloon Hospital. For cases from other chest clinics, they should be admitted to Grantham Hospital. MDR-TB cases which are old cases of certain chest hospitals will in general be admitted to the same hospital for management if admission is required.

2. General Hospitals and Chest Hospitals other than Grantham Hospital (GH) and Kowloon Hospital (KH)
   - If a case is diagnosed as having MDR-TB in these hospitals, the case should be transferred to GH or KH for further management and GH and KH will be responsible for reporting the case to the MDR-TB registry at WCC.
   - However, if somehow the case is not to be transferred to GH or KH, but is to be managed in the respective hospital or is to be discharged, the case should be notified to the MDR-TB registry at WCC. Even if the case is to be discharged and referred to chest clinics, it should still be notified to WCC as the patient may default for follow up at chest clinic.

3. GH and KH
   - If a case of MDR-TB is diagnosed in GH or KH, or recently diagnosed and transferred to GH or KH but has not yet been notified to the MDR-TB registry at WCC, the case should be notified to WCC using MDR_Noti_Form0709.

4. TB Reference Laboratory of DH
   - When a new case has been found to have specimen with drug susceptibility tests showing MDR-TB by the TB Reference Laboratory, the case should be notified to WCC together with the information on the source of care requesting the bacteriological examination. Upon receiving the information, WCC will see whether the case has been notified or not to the MDR-TB Registry, and if not, will trace the source of care for any necessary reporting.

Note:
After notifying the MDR-TB case to WCC (using the form MDR_Noti_Form0709), a copy of the form should be filed in the hospital record (as well as filing with discharge summary upon transferring case to chest clinic) or chest clinic record for future reference and to avoid duplicate notification. Re-notification of the case is required if a new episode of treatment is to be initiated for the same patient.

Appendix 2

MEMO

From	*To* Consultant Chest Physician i/c
Ref. *in*	*(Attn.:* Statistics Unit, Wanchai Chest Clinic *)*
Tel. No.	*Your Ref.* *in*
Fax. No.	*dated* *Fax. No.* 28346627
Date	*Total Pages*

Notification of case to MDR-TB Registry at Wanchai Chest Clinic

I would like to notify a case of Multidrug-resistant TB as follows:

Name:

Sex: M [0] / F [1] **DOB** (dd/mm/yyyy): / /

HKID / Passport / Travel document number *:

Ethnicity: Chinese / Asians (pl specify:_____) / Others: _____

Residence: Permanent / New immigrant (in HK< 7 yrs) / Imported worker/ Tourist (2-way permit /other*) / Illegal immigrant / unknown

Chest clinic /Hospital admission /HA clinic number *:

Site of MDRTB : Pulmonary [1] / Extrapulmonary (EP) [2] / Both [3] (Specify EP site:)

Pretreatment ST pattern:

	(S) [0]	(R) [1]		(S) [0]	(R) [1]
H (Isoniazid)	☐	☐	E (Ethambutol)	☐	☐
R (Rifampicin)	☐	☐	S (Streptomycin)	☐	☐

HIV status: -ve [0] / +ve [1] / not checked [9] / status cannot be disclosed

Past TB Rx >=1 month prior to development of MDRTB N [0] / Y [1] / unknown [9]

Date of start of second line treatment: / /

Case referred to (if applicable): Chest Clinic (name):
Grantham / Kowloon / Other Chest Hospital:
Others:

Remarks:

Signature:

Name of doctor:

** Delete as appropriate*

Note :

1. ***Please enclose a copy of the laboratory sensitivity report.***

2 A copy of this form should preferably be filed in the patient's medical record for future reference. *MDR_Noti_Form0709*

HKID/ Passport/ Birth certificate no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ Clinic/ Hospital no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Name: _ DOS: _ _/_ _/_ _ _ _

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

Part (A) Basic information

TB notified: N / Y : Date: _ _ / _ _ / _ _ _ _ Sex: M / F Age: _ _ years Date of birth : _ _ / _ _ / _ _ _ _

Marital status: 1.single/ 2.married/ 3.separated/ 4.divorce/ 5.widowed Smoking status: 1.never/ 2.ex-smoker/ 3.current smokers

Institution-related: N / Y : 1.Client / 2.Staff Type: 1.Old age home/ 2.School/ 3. Hospital/ 4.Handicapped/ 5.Prison/ 6.Others

Name of institution: _____

Living situation: 1.street-sleeper/ 2.cubicle bed space/ 3.institution/ 4.work quarter/ 5.alone (but not 1. to 4.)/ 6.with friends/ 7.with family

Resident status: 1.PermanentResident/ 2.ChineseNewImmigrant(inHK<7yr)/ 3.ImportedWorker/ 4.Tourist-2wayPermitChinese/ 5.OtherTourist/ 6.Vietnamese/ 7.IllegalImmigrants

Place of birth: 1.Hong Kong / 2.Mainland/ 3.Others _____

Ethnicity: 1.Chinese/ 2.Other Asian/ 3.Caucasian/ 4.Other _____

Previous BCG history: N / Y / Unknown BCG scar: N / Y

Employment status (including self-employment) at DOS: 1.Full-time/ 2.Part-time/ 3.Retired/ 4.Unemployed/ 5.Housewife/ 6.Student

Occupation (current or last): 1.Blue collar/ 2.White collar/ 3.Medical/ 4.Nursing/ 5.Paramedical/ 6.Supporting health staff/ 7.Not applicable

Job title: _____

Part (B) Information on this episode of TB:

First presentation to: 1. Private doctor / 2.Private Hospital / 3.GOPC / 4.Chest Clinic / 5.Other DH Clinic / 6 .HA Clinic / 7. HA Hospital / 8. Mainland / 9.Overseas

Symptomatic on presentation: N / Y: 1.Chest symptoms / 2.Systemic Symptoms / 3.Other site-specific symptoms

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

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

Previous chemoprophylaxis: N / Y : reason: 1. Contact / 2. Silicosis / 3. HIV / 4. Old scar on CXR / 5. Others _____

Drugs & duration: _____

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

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

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

5. Others, specify: _____

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

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

Extra-pulmonary tuberculosis:

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

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

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

(After completion, this form should be sent to Consultant Chest Physician i/c, Wanchai Chest Clinic, 99 Kennedy Road, Hong Kong. Fax: (852) 28346627)
(If patient is transferred, a copy of this completed form should also be sent to the new source of care for information.)

HKID/ Passport/ Birth certificate no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ Clinic/ Hospital no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Name: _ DOS: _ _/_ _/_ _ _ _

PFB1 – To be completed at 6 month from DOS (for TB patients)

Part (E) Mode of TB diagnosis: 1. Bacteriological/ 2.Histological/ 3.Clinical-radiological/ 4.Clinical only (choose 1 item, priority from left to right)

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

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

- Histological result from (site) _____: 1 Typical (with caseation) / 2.Granulomatous inflammation / 3.other
  Ziehl-Neelzen staining: P / N / U
- **If pre-treatment culture is positive for MTB, is the ST favourable? (i.e., sensitive to HRES)**: N / Y / U (ST not done)

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

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

Part (F) Risk factors for TB: N / Y (If Y, please circle whichever applicable)

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

Part (G) Factors affecting treatment choices: N / Y (If Y, please circle whichever applicable)

1. Hepatitis-B carrier
2. Chronic active hepatitis
3. Impaired renal function
4. Chronic renal failure (require dialysis, etc.)
5. Impaired vision
6. Impaired hearing
7. Known drug reaction
8. Known drug resistance
9. Gout
10. Idiopathic thrombocytopenic purpura
11. Other(1), specify_____
12. Other(2), specify_____
13. Other(3), specify_____

Part (H) Other co-morbidities: N / Y : 1. _____ 2. _____ 3. _____

Part (I) Treatment regimen:

6-month short course treatment: N / Y: 1. [2HRZE+4HR] / 2. [2HRZS+4HR]

If neither of the above 2 regimens, please complete the following two questions:

Other standard regimens based on HRZES (at least HRZ in initial and HR in continuation phase): N / Y

Drugs that have been used (for at least over 1 month): 1 Isoniazid (H) / 2 Rifampicin (R) / 3 Ethambutol (E) / 4 Streptomycin (S) / 5 Pyrazinamide (Z) / 6 Ofloxacin / 7 Levofloxacin / 8 Ethionamide / 9 Prothionamide / 10 Kanamycin / 11 Cycloserine / 12 PAS /

12 Other(1) _____ / 13 Other(2) _____ / 14 Other (3) _____

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

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

(After completion, this form should be sent to Consultant Chest Physician i/c, Wanchai Chest Clinic, 99 Kennedy Road, Hong Kong. Fax: (852) 28346627)
(If patient is transferred, a copy of this completed form should also be sent to the new source of care for information.)

HKID/ Passport/ Birth certificate no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ Clinic/ Hospital no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Name: _ DOS: _ _/_ _/_ _ _ _

PFB2 – To be completed at 6 month from DOS (for TB patients)

Part (J) Treatment side effects: N / Y (If Y, please circle)

1.GI upset/ 2.skin rash/ 3.visual/ 4.transient rise of liver enzyme/ 5. hepatitis/ 6.vestibular/ 7.arthropathy/ 8.fever-chill/ 9.dizziness/ 10.thrombocytopenia/ 11.leucopenia/ 12.flush face/ 13.other(1) _____ / 14.other(2) _____ /15.other(3) _____

Treatment temporarily withheld for side effects: N / Y

Desensitisation or drug trial required: N / Y

Change in dosage or frequency required: N / Y

Change of drugs required: N / Y

Part (K) Treatment Supervision:

Proportion of doses:	Initial 2 month	Subsequent 4 months (up to 6 month from DOS)
Under DOT at chest clinic, hospital, CNS or other health staff	>90% >75% >50% >25% ≤25%	>90% >75% >50% >25% ≤25%
Under supervison by relatives	>90% >75% >50% >25% ≤25%	>90% >75% >50% >25% ≤25%
Supplied for unsupervised treatment	<5% <10% <15% < 25% <50% ≥50%	<5% <10% <15% < 25% <50% ≥50%
Defaulted	<5% <10% <15% < 25% <50% ≥50%	<5% <10% <15% < 25% <50% ≥50%

Part (L) Outcome at 6 months (please √, circle and/ or fill in the spaces provided as appropriate)

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

Status at completion:

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

(2) Treatment incomplete □

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

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

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

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

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

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

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

- New diagnosis: _____

(7) Others □, specify: _____

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

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

(After completion, this form should be sent to Consultant Chest Physician i/c, Wanchai Chest Clinic, 99 Kennedy Road, Hong Kong. Fax: (852) 28346627)

(If patient is transferred, a copy of this completed form should also be sent to the new source of care for information.)

HKID/ Passport/ Birth certificate no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ Clinic/ Hospital no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Name: _ DOS: _ _/_ _/_ _ _ _

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

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

	Sputum		**Other type of specimen:** 1.gastric aspirate/ 2.pleural fluid/ 3.bronchial washing/ 4.urine/ 5.biopsy or others, specify: _____	
	5-6 months	7-12 months	5-6 months	7-12 months
Smear	P / N / U	P / N / U	P / N / U	P / N / U
Culture	P / N / U / NTM	P / N / U / NTM	P / N / U / NTM	P / N / U / NTM

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

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

(a) Status at completion:

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

(b) After treatment completed:

No relapse □

Loss to follow-up □ Last visit date (mm/yyyy): ____/_____

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

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

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

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

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

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

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

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

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

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

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

- New diagnosis: _____

(7) Others □ , specify: _____

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

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

(After completion, this form should be sent to Consultant Chest Physician i/c, Wanchai Chest Clinic, 99 Kennedy Road, Hong Kong. Fax: (852) 28346627)

(If patient is transferred, a copy of this completed form should also be sent to the new source of care for information.)

HKID/ Passport/ Birth certificate no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ Clinic/ Hospital no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Name: _ DOS: _ _/_ _/_ _ _ _

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

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

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

(a) Status at completion:

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

(b) After treatment completed:

No relapse □

Loss to follow-up □ Last visit date (mm/yyyy): ____/_____

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

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

- 1.Bacteriological / 2.Histological / 3.Clinical-radiological / 4.Clinical only (choose 1 item, priority from left to right)

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

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

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

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

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

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

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

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

- New diagnosis: _____

(7) Others □, specify: _____

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

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

(After completion, this form should be sent to Consultant Chest Physician i/c, Wanchai Chest Clinic, 99 Kennedy Road, Hong Kong. Fax: (852) 28346627)

(If patient is transferred, a copy of this completed form should also be sent to the new source of care for information.)

HKID/ Passport/ Birth certificate no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ Clinic/ Hospital no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Name: _ DOS: _ _/_ _/_ _ _ _

Date of start of 2nd line anti-TB treatment: _ _/_ _/_ _ _ _

PF-MDR(X), supplementary record forms for MDRTB patients (Page 1 of 2)

(X = multiples of 6, ranging from 30 to 60) (That is, this form is to be completed for MDR-TB patients every 6 months from 2½ year to 5 year of DOS)

PF-MDR (_____) [That is, this form has been completed at (_____) months from DOS]

A. Treatment outcome (please √, circle and/ or fill in the spaces provided as appropriate)

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

(a) Status at completion:

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

(b) After treatment completed:

No relapse □

Loss to follow-up □ Last visit date (mm/yyyy): ____/_____

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

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

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

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

- Still on treatment (including those whose treatment only temporarily withheld, e.g., due to side effects), reason: 1.retreatment/ 2.extrapulm./ 3.extensive/ 4.interrupted treatment/ 5.drug resistance/ 6.poor response/ 7.others (specify): _____
- Died □ Cause: 1.TB-related/ 2.Not TB-related/ 3.Unknown Date of death (mm/yyyy): ____/_____

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

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

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

- Never found □ Last visit date (mm/yyyy): ____/_____
- Retreated after default □ Date treatment re-started (mm/yyyy): ____/_____
- Treatment stopped by doctor □ Last treatment date (mm/yyyy): ____/_____
- Reason(s) for defaulting treatment in the last 6 months (if applicable):
  1 No reason/ 2 Denial of disease/ 3 Seeking treatment from others/ 4 Treatment side effect/
  5 Frequent travel outside Hong Kong/ 6 Other reason (1): _____ /
  7 Other reason (2): _____

(5) Failure- failure (persistent positive bacteriology despite treatment with 2nd line drugs and treatment stopped; cases with treatment stopped and planned not to be given again despite disease not yet cured are included in this category) □

B. Bacteriological examination in the past 6 months: P (positive), N (negative) , U (not done), NTM (Non-tuberculous Mycobacteria)

	Sputum		**Other type of specimen:** 1.gastric aspirate/ 2.pleural fluid/ 3.bronchial washing/ 4.urine/ 5.biopsy/ 6.others: _____	
	First 3 months	Subsequent 3 months	First 3 months	Subsequent 3 months
Smear	P / N / U	P / N / U	P / N / U	P / N / U
Culture	P / N / U / NTM	P / N / U / NTM	P / N / U / NTM	P / N / U / NTM

C. Was treatment given in the past 6 months: Yes / No / Unknown If yes:

1. Drugs that have been used (for at least over 1 month): 1 Ethambutol (E) / 2 Pyrazinamide (Z) / 3 Ofloxacin / 4 Levofloxacin / 5 Ethionamide / 6 Prothionamide / 7 Kanamycin / 8 Cycloserine / 9 PAS / 10 Other (1) _____ / 11 Other (2) _____ / 12 Other (3) _____
2. Was treatment temporarily withheld for side effects: N / Y

D. Treatment side effects in the past 6 months: N / Y (If Y, please circle one or more of the followings:)

1.GI upset/ 2.skin rash/ 3.visual/ 4.transient rise of liver enzyme/ 5. hepatitis/ 6.vestibular/ 7.arthropathy/ 8.fever-chill/ 9.dizziness/ 10.thrombocytopenia/ 11.leucopenia/ 12.flush face/ 13.suicidal ideation/ 14.sleep disturbance/ 15.depression/ 16.psychotic reaction/ 17.renal function impairment/ 18.other (1) _____ /19.other (2) _____

HKID/ Passport/ Birth certificate no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ Clinic/ Hospital no.: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Name: _ DOS: _ _/_ _/_ _ _ _

Date of start of 2nd line anti-TB treatment: _ _/_ _/_ _ _ _

PF-MDR (X), supplementary record forms for MDRTB patients (Page 2 of 2)

(X = multiples of 6, ranging from 30 to 60) (That is, this form is to be completed for MDR-TB patients every 6 months from 2½ year to 5 year of DOS)

PF-MDR (_____) [That is, this form has been completed at (_____) months from DOS]

E. Treatment supervision in the past 6 months *(no need to be completed if no treatment given)***:**

Category	Proportion of doses:
Under DOT at chest clinic, hospital, CNS or other health staff	>90% >75% >50% >25% ≤25%
Under supervision by relatives	>90% >75% >50% >25% ≤25%
Supplied for unsupervised treatment	<5% <10% <15% < 25% <50% ≥50%
Defaulted	<5% <10% <15% < 25% <50% ≥50%

F. Home and working environment in the past 6 months *(no need to be completed if treatment success)***:**

		Home	**Workplace**
Is the patient living alone?		Yes/ No	Not applicable
Total number of close contacts	examined:		
	not examined:		
Total number of close contacts aged <5	examined:		
	not examined:		
Among the above, number of close contacts with immunocompromised condition and state the condition (s)		Number: Condition:	Number: Condition:
Result of active case finding in the last six months		NA/ ND/ positive/ negative	NA/ ND/ positive/ negative
Does the patient have a single room?		Yes/ No	Yes/ No

(*NA= not applicable; ND= Not done; positive=active TB case detected during contact examination; negative=no active case detected)*

G. Hospitalization for management of MDRTB in the past 6 months

Episode	Period (dd/mm/yy – dd/mm/yy)	Duration (weeks)	Hospital	Indication(s)* (Please refer to key)
1				
2				
3				
4				

**Key: (more than one option can be chosen)*

1. Establishment of 2nd line drug regimen

2. Treatment complication: a. hepatitis; b. skin reaction; c. psychiatric symptom; d. others (please state)

3. Disease complication: a. Haemoptysis; b. pneumothorax; c. chronic respiratory failure; d. others (please state)

4. Other comorbidities: a. poor DM control; b. concomitant pneumonia; c. acute exacerbation of COPD; d. others (please state)

5. Modification of 2nd line drug regimen

6. Poor compliance

7. Other public health or social reasons

H. Public financial assistance and special housing needs in the past 6 months *(no need to be completed if treatment success)*

1. Is the patient receiving public financial assistance? Yes / No / Unknown

2. Which of the following forms of financial assistance is the patient receiving? (If applicable)

CSSA □ Diet allowance □ Normal disability allowance □ High disability allowance □

Special grant for renting □ Special grant for rehousing to a public housing unit for one person □

Special grant for rehousing to a bigger housing unit with provision of a single room for the patient □

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

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

(After completion, this form should be sent to Consultant Chest Physician i/c, Wanchai Chest Clinic, 99 Kennedy Road, Hong Kong. Fax: (852) 28346627)

(If patient is transferred, a copy of this completed form should also be sent to the new source of care for information.

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		Smear	Culture	PCR test	Smear	Culture
☐ Pleura	☐ Bone & Joint	Positive					
☐ Lymph node	☐ Urinary system	Negative					
☐ Miliary	☐ Genital system	Unknown					
☐ Other(s) (please specify):		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)

To: Statistics Unit, Wanchai Chest Clinic
99 Kennedy Road, Hong Kong
(Fax: 28346627)

Date:

Denotification of previously notified TB cases

Clinic:

Name:

ID number: Clinic number:

Date notified:

Revised Diagnosis:

Smear: positive / negative / unknown

Culture: negative / M. tuberculosis / atypical mycobacteria / unknown

Denotification request by: _____

To Statistics Unit: Please confirm receiving TB de-notification form of the following patient:

Name: _____ Clinic no.: _____

HKID no.: _____ Chest Clinic: _____

It is confirmed that the TB de-notification form of the above named has been received by the Statistics Unit, TB&CS.

Chop or signature: _____ Date: _____

(Form TBCS/DE/0405)

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)