

# The TB/HIV Registry

## Surveillance Report on TB/HIV co-infection in Hong Kong (2010)

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## **TB-HIV Registry**

A total of 25 cases with TB-HIV co-infection were reported from various sources to the TB-HIV Registry in 2010. Twenty two (88.0%) were under the care of TB & Chest Service (TB&CS) and/or Special Preventive Programme (SPP), Public Health Services Branch, Department of Health (DH). The remaining three cases were managed at hospital under Hospital Authority for their HIV-associated TB.

**Table 1** shows the total number of TB-HIV cases reported to the TB-HIV Registry for the years 1996-2010. The number of cases reported to the TB-HIV Registry has dropped in 2010 compared to the past few years.

**Table 2** shows the data on TB as primary AIDS-defining illness in the Hong Kong HIV/AIDS reporting system for the years 1996-2010. Out of a total of 79 AIDS cases newly diagnosed in 2010, 20 (25.3%) had TB as a primary AIDS-defining illness, compared to 36 (45.6%) for *Pneumocystis jiroveci* pneumonia. As in 2009, TB was second to *Pneumocystis jiroveci* pneumonia as the most common primary AIDS-defining illness in Hong Kong in 2010.

**Table 3** shows the distribution of ADI criteria among 303 cases reported from chest clinics and SPP for the years 1996-2010 with TB as the primary AIDS-defining illness. In Hong Kong, both pulmonary TB with a CD<sub>4</sub> count below 200/μL and extra-pulmonary TB are included in the AIDS case definition. Relatively more patients have pulmonary TB with a low CD<sub>4</sub> count as primary AIDS-defining illness compared to extra-pulmonary TB.

The pre-treatment drug sensitivity pattern among culture-positive (sputum or other specimens) TB-HIV cases for the years 1996-2010 is shown in **Table 4**. Of the 14 cases with a positive sputum or other specimen culture reported to TB-HIV Registry in 2010, 12 (85.7%) had disease due to *Mycobacterium tuberculosis* with favourable sensitivity pattern. One had bacillary resistance to streptomycin and another had bacillary resistance to both streptomycin and isoniazid. Among all the 337 cases reported to TB-HIV Registry with a positive sputum or other specimen culture between 1996 and 2010, 4 (1.2%) had MDRTB. This figure is comparable to the MDRTB rate in general population. 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 22 patients reported from chest clinics and SPP in 2010. The characteristics of these patients are similar to those of the 2009 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<sub>4</sub> count was generally low at time of TB diagnosis. Extra-pulmonary involvement is common, with nearly half of patients having TB involving one or more extra-pulmonary sites.

**Table 1. Total number of TB-HIV cases reported to TB-HIV Registry (1996-2010)\***

Year	Number of TB-HIV cases**
1996	22
1997	19
1998	22
1999	25
2000	24
2001	34
2002	22
2003	28
2004	35
2005	42
2006	50
2007	56
2008	50
2009	38
2010	25
Total	492

\* 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 (1) taking out some mismatched cases and cases with a revised diagnosis (2) adding some cases which were previously unreported.

**Table 2. TB as primary ADI in Hong Kong HIV/AIDS reporting system, all sources (1996-2010)\***

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	31	96	32.29%
2009	24	76	31.58%
2010	20	79	25.30%
Total	321	1185	27.09%

\* An expanded case definition was adopted in 1995 to include pulmonary TB cases with a CD4 count less than 200/ $\mu$ L.

\*\* TB overtook *Pneumocystis jiroveci* pneumonia as the most common AIDS-defining illness in 2005 and 2007.

**Table 3. Criteria for TB as AIDS-defining illness among 303 cases reported from chest clinics and SPP (1996-2010)\***

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	12
1999	7	6	3	16
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	13	6	33
2009	9	3	6	23***
2010	4	10	5	19****
Total	87	131	78	303

\* Of all the cases reported to the TB-HIV Registry from 1996 to 2010, 303 cases were seen at chest clinics and/or SPP. The table is compiled basing on data of these 303 cases.

\*\* Information on TB as AIDS-defining illness not available in two patients.

\*\*\* Information on TB as AIDS-defining illness not available in five patients.

\*\*\*\* Information on TB as AIDS-defining illness not available in three patients.

**Table 4. Pre-treatment drug sensitivity pattern among culture positive (sputum and/or other specimens) TB-HIV cases from TB-HIV Registry (1996-2010)\***

Year	Susceptible to SHRE	Any resistance** (non-MDR/XDR)	MDR	XDR	Total number of culture positive cases
1996	7	1	0	0	8
1997	5	1	0	0	6
1998	13	1	0	0	14
1999	16	4	1	0	21
2000	13	2	0	0	15
2001	23	5	0	0	28
2002	11	3	1	0	15
2003	18	3***	0 (+1)***	0	21
2004	20	6	0	0	26
2005	29	5	0	0	34
2006	32	3	0	0	35
2007	30	7	1	0	38
2008	30	3	0	0	33
2009	22	7	0	0	29
2010	12	2	0	0	14
Total	281	53	3 (+1)***	0	337

\* Of all the cases reported to the TB-HIV Registry from 1996 to 2010, 337 had a positive culture (sputum or other specimens). The table is compiled basing on data of these 337 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.

**Table 5: Characteristics of 22 TB-HIV cases reported from chest clinics and SPP in 2010\***

	Number	Proportion
Age distribution		
0 to 19	0	0.00%
20 to 39	10	45.45%
40 to 59	11	50.00%
60+	1	4.55%
Sex distribution		
Male	17	77.27%
Female	5	22.73%
Ethnicity		
Chinese	16	72.73%
Asians, non-Chinese	5	22.73%
African	1	4.55%
Others	0	0.00%
Case category		
New case	20	90.91%
Relapse	2	9.09%
Treatment after default	0	0.00%
Failure of previous treatment	0	0.00%
TB as primary AIDS defining illness**		
Yes	14	73.68%
No	5	26.32%
HIV stage		
A1	0	0.00%
A2	1	4.55%
A3	0	0.00%
B1	0	0.00%
B2	4	18.18%
B3	1	4.55%
C1	0	0.00%
C2	0	0.00%
C3	7	31.82%
Unknown	9	40.91%
CD4 count at time of co-infection (median, IQR)	92 (34-303)/ $\mu$ L	
Viral load at time of co-infection (median, IQR)	120000 (4000-230000) copies/mL	
Anti-retroviral therapy at time of co-infection		
Yes	5	22.73%
No	15	68.18%
Unknown	2	9.09%
Presence of extra-pulmonary TB		
Yes	10	45.45%
No	12	54.55%
Extent of Respiratory TB***		
Minimal	12	63.16%
Moderate	5	26.32%
Extensive	2	10.53%
Sputum bacteriological status (pre-treatment)		
Smear + culture +	6	27.27%
Smear - culture +	4	18.18%
Smear + culture -	2	9.09%
Smear - culture -	9	40.91%
Incomplete	1	4.55%
Drug resistance pattern (pre-treatment)****		
Susceptible to SHRE	12	85.71%
Resistant to streptomycin	1	7.14%
Resistant to isoniazid	0	0.00%
Resistant to streptomycin and isoniazid	1	7.14%
MDR	0	0.00%
XDR	0	0.00%

\* Among 25 cases reported to TB-HIV Registry in 2010, 22 were managed at chest clinics and/or SPP. The table is compiled basing on data of these 22 cases.

\*\* Information on TB as primary AIDS-defining illness unknown in 3 patients.

\*\*\* 19 out of the 22 cases had lung parenchymal lesion on CXR.

\*\*\*\* 14 out of the 22 cases had a positive sputum or other specimen culture.