

# The TB/HIV Registry

## Surveillance Report on TB/HIV co-infection in Hong Kong (2011)

Tuberculosis & Chest Service / Special Preventive Programme  
Public Health Services Branch  
Centre for Health Protection  
Department of Health  
Hong Kong

## **TB-HIV Registry**

A total of 28 cases with TB-HIV co-infection were reported to the TB-HIV Registry in 2011. The cumulative number of cases reported to the TB-HIV Registry as in 2011 was 520 (Table 1).

The number of TB as primary AIDS-defining illness in the Hong Kong HIV/AIDS reporting system for the years 1996-2011 is shown in Table 2. Out of a total of 82 AIDS cases newly diagnosed in 2011, 22 (27.0%) had TB as a primary AIDS-defining illness, compared to 37 (45.0%) for *Pneumocystis jiroveci* pneumonia. As in 2009 and 2010, TB was second to *Pneumocystis jiroveci* pneumonia as the most common primary AIDS-defining illness in Hong Kong in 2011.

Table 3 shows the distribution of ADI criteria among 325 cases reported from chest clinics and SPP for the years 1996-2011 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 1996-2011 is shown in Table 4. Of the 16 cases with a positive sputum or other specimen culture reported to TB-HIV Registry in 2011, 12 (75.0%) had disease due to *Mycobacterium tuberculosis* with favourable sensitivity pattern. Two (12.5%) had bacillary resistance to streptomycin and another two (12.5%) had bacillary resistance to isoniazid. Among all the 353 cases reported to TB-HIV Registry with a positive sputum or other specimen culture between 1996 and 2011, 4 (1.1%) 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 28 patients reported from chest clinics and SPP in 2011. The characteristics of these patients are similar to those of the 2010 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 over sixty percent of patients having TB involving one or more extra-pulmonary sites.

**Table 1. Total number of TB-HIV cases reported to TB-HIV Registry (1996-2011)\***

Year	Number of TB-HIV cases**
1996	22
1997	19
1998	22
1999	25
2000	24
2001	34
2002	22
2003	28
2004	35
2005	42
2006	50
2007	56
2008	50
2009	38
2010	25
2011	28
Total	520

\* 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 (1996-2011)\***

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%
2011	22	82	27.00%
Total	343	1267	27.00%

\* 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 325 cases reported from chest clinics and SPP (1996-2011)\***

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****
2011	6	8	8	22*****
Total	93	139	86	325

\* Of all the cases reported to the TB-HIV Registry from 1996 to 2011, 325 cases were seen at chest clinics and/or SPP. The table is compiled basing on data of these 325 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.

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

**Table 4. Pre-treatment drug sensitivity pattern among culture positive (sputum and/or other specimens) TB-HIV cases from TB-HIV Registry (1996-2011)\***

Year	Susceptible to SHRE	Any resistance** (non-MDR/XDR)	MDR	XDR	Total number of culture positive cases
1996	7	1	0	0	8
1997	5	1	0	0	6
1998	13	1	0	0	14
1999	16	4	1	0	21
2000	13	2	0	0	15
2001	23	5	0	0	28
2002	11	3	1	0	15
2003	18	3***	0 (+1)***	0	21
2004	20	6	0	0	26
2005	29	5	0	0	34
2006	32	3	0	0	35
2007	30	7	1	0	38
2008	30	3	0	0	33
2009	22	7	0	0	29
2010	12	2	0	0	14
2011	12	4	0	0	16
Total	293	57	3 (+1)***	0	353

\* Of all the cases reported to the TB-HIV Registry from 1996 to 2011, 353 had a positive culture (sputum or other specimens). The table is compiled basing on data of these 353 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 28 TB-HIV cases reported from chest clinics and SPP in 2011**

	Number	Proportion
Age distribution		
0 to 19	0	0.00%
20 to 39	9	32.14%
40 to 59	15	53.57%
60+	4	14.29%
Sex distribution		
Male	20	71.43%
Female	8	28.57%
Ethnicity		
Chinese	18	64.29%
Asians, non-Chinese	7	25.00%
African	2	7.14%
Others	1	3.57%
Case category		
New case	26	92.86%
Relapse	1	3.57%
Treatment after default	0	0.00%
Failure of previous treatment	0	0.00%
Others	1	3.57%
TB as primary AIDS defining illness*		
Yes	14	63.64%
No	8	36.36%
CD4 count at time of co-infection (median, IQR)**	127.0 (48.3-302.3)/ $\mu$ L	
Anti-retroviral therapy at time of co-infection		
Yes	7	25.00%
No	20	71.43%
Unknown	1	3.57%
Presence of extra-pulmonary TB		
Yes	18	64.29%
No	10	35.71%
Extent of Respiratory TB***		
Minimal	10	52.63%
Moderate	5	26.32%
Extensive	4	21.05%
Sputum bacteriological status (pre-treatment)		
Smear + culture +	9	32.14%
Smear - culture +	7	25.00%
Smear + culture -	0	0.00%
Smear - culture -	9	32.14%
Incomplete	3	10.71%
Drug resistance pattern (pre-treatment)****		
Susceptible to SHRE	12	75.00%
Resistant to streptomycin	2	12.50%
Resistant to isoniazid	2	12.50%
Resistant to rifampicin	0	0.00%
MDR	0	0.00%
XDR	0	0.00%

\* Information on TB as primary AIDS-defining illness unknown in 6 patients.

\*\* Information on CD4 count unknown in 4 patients.

\*\*\* 19 out of the 28 cases had lung parenchymal lesion on CXR.

\*\*\*\* 16 out of the 28 cases had a positive sputum or other specimen culture.