

# The TB/HIV Registry

Surveillance Report  
on TB/HIV co-infection in Hong Kong  
(2008)

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## **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<sub>4</sub> 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<sub>4</sub> 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.

**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/ $\mu$ L.

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

**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.

**Table 5: Characteristics 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)/ $\mu$ L	
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.