

# The TB/HIV Registry

## Surveillance Report on TB/HIV co-infection in Hong Kong (2017)

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## **TB-HIV Registry**

A total of 31 cases with TB-HIV co-infection were reported to the TB-HIV Registry in 2017. The cumulative number of cases reported to the TB-HIV Registry from all sources as in 2017 was 677 (Table 1).

Information on TB as a primary AIDS-defining illness is available in 26 out of 31 cases reported to the TB-HIV Registry in 2017, Of these 26 cases, 14 (53.8%) had TB as a primary AIDS-defining illness (Table 2). The proportion of patients with extra-pulmonary TB was slightly higher than pulmonary TB and a low CD4 count below 200/ $\mu$ L as primary AIDS-defining illness in 2017.

The pre-treatment drug susceptibility pattern among culture-positive (sputum or other specimens) TB-HIV cases for the years 1996-2017 is shown in Table 3. Twenty two patients reported to the TB-HIV Registry had a positive sputum or other specimen culture in 2017. One additional patient had negative culture but molecular test showed *rpoB* gene mutation associated with rifampicin resistance. Nineteen (82.6%) had disease due to *Mycobacterium tuberculosis* with favourable susceptibility pattern. One had bacillary resistance to streptomycin. One had bacillary resistance to streptomycin and isoniazid. Two patients had RR/MDRTB in 2017. Among all the 479 cases reported to TB-HIV Registry with a positive sputum or other specimen culture between 1996 and 2017, 9 (1.9%) had MDRTB. This figure is slightly higher than the MDRTB rate of around 1% in general population. There is no XDR-TB cases detected among the reported TB-HIV cases so far. DH will continue to monitor prevalence of drug resistance in the context of HIV.

Table 4 shows the characteristics of 31 patients seen at chest clinics and/or SPP in 2017. The characteristics of these patients are similar to those of the 2016 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. The median CD4 count was 96 / $\mu$ L at time of TB diagnosis. Extra-pulmonary involvement is common, with nearly 80% of the patients having TB involving one or more extra-pulmonary sites.

**Table 1. Total number of TB-HIV cases reported to TB-HIV Registry, all sources (1996-2017)\***

Year	Number of TB-HIV cases**
1996	22
1997	19
1998	22
1999	25
2000	24
2001	34
2002	22
2003	28
2004	35
2005	42
2006	50
2007	56
2008	50
2009	38
2010	25
2011	28
2012	20
2013	21
2014	25
2015	24
2016	36
2017	31
Total	677

\* Including cases reported from all sources (chest clinics, SPP, HA hospitals and private centres).

\*\* Some of the figures in the table for the previous years have been updated after (1) taking out some mismatched cases and cases with a revised diagnosis (2) adding some cases which were previously unreported.

**Table 2. TB as primary AIDS-defining illness among 491 cases reported to chest clinics and/or SPP (1996-2017)\***

Year	TB as primary AIDS-defining illness					Total
	Yes			No	Information not available	
	Extra-pulmonary	Pulmonary and TB cervical lymph node with CD4 < 200 µL	Subtotal			
1996	1	7	8	1	0	9
1997	2	3	5	2	0	7
1998	6	3	9	3	0	12
1999	7	6	13	3	0	16
2000	3	4	7	5	0	12
2001	4	6	10	7	0	17
2002	4	9	13	2	0	15
2003	1	10	11	5	0	16
2004	5	7	12	11	0	23
2005	8	14	22	7	0	29
2006	9	19	28	7	0	35
2007	10	17	27	8	2	37
2008	14	13	27	6	0	33
2009	9	3	12	6	5	23
2010	4	10	14	5	3	22
2011	6	8	14	8	6	28
2012	4	9	13	5	2	20
2013	7	10	17	1	3	21
2014	7	8	15	9	1	25
2015	7	5	12	8	4	24
2016	8	8	16	17	3	36
2017	8	6	14	12	5	31
Total	134	185	319	138	34	491

\* Some of the figures in the table for the previous years have been updated. Of all the cases reported to the TB-HIV Registry from 1996 to 2017, 491 cases were seen at chest clinics and/or SPP. The table is compiled basing on data of these 491 cases.

**Table 3. Pre-treatment drug sensitivity pattern among culture positive (sputum and/or other specimens) TB-HIV cases from TB-HIV Registry, all sources (1996-2017)\***

Year	Susceptible to SHRE	Any resistance** (non-MDR/XDR)	RR/MDR	XDR	Total number of culture positive cases
1996	7	1	0	0	8
1997	5	1	0	0	6
1998	13	1	0	0	14
1999	16	4	1	0	21
2000	13	2	0	0	15
2001	23	5	0	0	28
2002	11	3	1	0	15
2003	18	3***	0 (+1)***	0	21
2004	20	6	0	0	26
2005	29	5	0	0	34
2006	32	3	0	0	35
2007	30	7	1	0	38
2008	30	3	0	0	33
2009	22	7	0	0	29
2010	12	2	0	0	14
2011	12	4	0	0	16
2012	13	2	1	0	16
2013	13	5	0	0	18
2014	11	7	0	0	19****
2015	15	1	1 (+1)*****	0	20*****
2016	27	3	0	0	30
2017	19	2	2*****	0	23
Total	391	77	7 (+2)	0	479

\* Of all the cases reported to the TB-HIV Registry from 1996 to 2017, 479 had a positive culture (sputum or other specimens). The table is compiled basing on data of these 479 cases.

\*\* Any pattern of drug resistance except MDR (i.e. resistant to at least both H and R) and XDR (i.e. resistance to any fluoroquinolones, and at least one of the injectable drugs, in addition to MDR).

\*\*\* One of these patients had extremely poor treatment adherence, developed acquired resistance during anti-TB treatment and became MDR-TB.

\*\*\*\* Drug susceptibility result unknown in one patient in 2014 and two patients in 2015.

\*\*\*\*\* One patient's pre-treatment sputum culture showed MTB with favourable drug susceptibility pattern; sputum culture at 3 month showed MDRTB, which might represent mixed population or acquired drug resistance.

\*\*\*\*\* One case had negative sputum culture but molecular test showed rpoB gene mutation associated with rifampicin resistance.

**Table 4: Characteristics of 31 TB-HIV cases reported from chest clinics and SPP in 2017**

	Number	Proportion
Age distribution		
0 to 19	0	0.0%
20 to 39	9	29.0%
40 to 59	17	54.8%
60+	5	16.1%
Sex distribution		
Male	23	74.3%
Female	8	25.8%
Ethnicity		
Chinese	22	71.0%
Asians, non-Chinese	8	25.8%
African	0	0.0%
Others	1	3.2%
Case category		
New case	26	83.9%
Relapse	2	6.5%
Treatment after default	0	0.0%
Failure of previous treatment	0	0.0%
Others	1	3.2%
Unknown	2	6.5%
TB as a primary AIDS defining illness*		
Yes	14	53.8%
No	12	46.2%
CD4 count at time of co-infection (median, IQR)**	96 (35-363) / $\mu$ L	
Anti-retroviral therapy at time of co-infection		
Yes	9	29.0%
No	22	71.0%
Presence of extra-pulmonary TB		
Yes	25	80.6%
No	6	19.4%
Extent of Respiratory TB***		
Minimal	11	55.0%
Moderate	2	10.0%
Extensive	7	35.0%
Sputum bacteriological status (pre-treatment)		
Smear + culture +	8	25.8%
Smear - culture +	8	25.8%
Smear + culture -	0	0.0%
Smear - culture -	11	35.5%
Incomplete/sputum test not performed	4	12.9%
Drug resistance pattern (pre-treatment)****		
Susceptible to SHRE	19	82.6%
Resistant to streptomycin alone	1	4.3%
Resistant to streptomycin and isoniazid	1	4.3%
Resistant to rifampicin alone	1	4.3%
MDR	1	4.3%
XDR	0	0.0%

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

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

\*\*\* 20 out of 31 cases had lung parenchymal lesion on CXR.

\*\*\*\* 23 of 31 cases had a positive sputum and/or other specimen culture.