Tracking the characteristics and outcome of HIV/AIDS patients cared for at the Integrated Treatment Centre

- A Report of 1999 to 2005

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www.aids.gov.hk

Content

Preface

AIDS was first recognised in 1981 as a new emerging disease of unknown etiology. It being an infectious disease caused by HIV was soon unveiled 2 years later. In 2006, HIV/AIDS enters its 25 years of known existence, an unprecedented history in medicine given its vast dimensions of impact to individuals and the society.

Enormous scientific developments have been witnessed in the research of HIV/AIDS, notably represented by the advent of highly active antiretroviral therapy (HAART) a decade ago. HAART brought new hope to the patients but as well ongoing challenges to everybody involved in AIDS work. The bottom-line fact is that HIV/AIDS now becomes a chronic manageable condition and no longer invariably fatal. Globally, with the efforts of international health authorities and other agencies, access to effective treatment has been expanded in the last few years in the developing world hardest hit by HIV epidemic, to the extent undreamed of before.

Hong Kong is one of the few places in Asia that provides systematic HIV care starting late 1980s. Being one of the two HIV clinical services in Hong Kong, Integrated Treatment Centre (ITC) of Centre for Health Protection, Department of Health strives to deliver quality client-oriented services over the years. ITC realizes its dual role of effective management of infected patients as well as public health HIV prevention and control. HIV surveillance and intervention are embedded as integral components of HIV care delivery. This, we believe, is increasingly the role that HIV clinic shall play in the future.

This report summarises and presents the features of HIV/AIDS patients managed by the ITC, so as to shed light on the disease pattern and care received in the locality. Information of 7 years since its operation is organized into themes of clinical, epidemiologic and public health significance. We sincerely welcome comments and suggestions, which would be useful for improving care services for the patients and its documentation. We would also like to take this opportunity to express our sincere gratitude to our partners and collaborators for their unfailing support, without which our services would not have been possible.

Integrated Treatment Centre
August 2006

Technical notes for information sources

New case registry

The new case registry (NCR) is an initiative embarked at ITC in 2001 to collect epidemiologic information for all positive patients newly attending the clinic, for supplementing the HIV/AIDS reporting system in Hong Kong. A standard assessment form was designed to collect data. Information of interest under the NCR embraces several key areas: (a) personal particulars and HIV risk factor, (b) where and when infected with HIV, (c) setting leading to HIV diagnosis, (d) impact of the infection, and (e) access to care. Recent HIV infection under NCR is defined as patient (a) with a last negative HIV antibody test within 12 months prior to the first positive result, and/or (b) with seroconversion illness within 12 months prior to the first positive HIV antibody result. Relevant information is elicited through interview by nurse counselor during the first one to two clinic visits. A registry nurse coordinator is responsible for data validation, form censoring and overall coordination of the NCR. The finalized data is entered by a designated research staff into a database constructed using EPI Info (version 6.0), who also cleans and analyzes the data. The dataset is updated at quarterly intervals.

HIV-1 subtype and primary drug resistance

The first available blood sample after HIV diagnosis of newly attending patients were subjected to subtyping and resistance testing. Viral RNA was extracted from serum or plasma and reverse-transcribed into cDNA. The C2-V3 (539bp) region of env gene and p17 (413bp) region of gag gene, PR and RT regions of pol gene (675bp) gene of HIV-1 was amplified by nested polymerase chain reaction (PCR). Purified PCR products were directly sequenced and analysed using an automatic system (ABI Company). The designation of HIV-1 subtype and CRF is based on matching env gene with the reference strains in the Los Alamos National Laboratory (http://www.hiv.lanl.gov/content/hiv-db/HelpDocs/subtypes-more.html#Recombinants%20and%20Circulating%20Recombinant%20Forms).

Genotypic resistance was defined as the presence of one or more major resistance mutation as specified by the consensus mutation figures of International AIDS Society (IAS)-USA (Fall 2005 update). The accumulation of thymidine analogue-associated mutations (TAM) that causes multi-nNRTI resistance is not counted. The list of resistance-related mutations for each antiretroviral drug is at Appendix 4. Assessment

of potential susceptibility or resistance to each drug was performed by use of resistance interpretation Stanford algorithm. The FASTA files of pol gene of strains were uploaded to the Stanford HIVdb database (http://hivdb6.standford.edu). The results, as of interpretation at time of submission, were classified into the following levels of susceptibility: susceptible (susceptible), low-level resistance (potential low-level resistance, low-level resistance) intermediate resistance (intermediate resistance) and high-level resistance (high-level resistance).

Clinical governance

Since 1999, clinical governance has been pursued for monitoring and evaluating the designated HIV clinical services at ITC. Two methods have been used: firstly periodic chart review and later together with enumeration of clinical governance markers. The latter comprising clinic caseload statistics, risk management indices and clinical effectiveness indicators, which were drawn regularly from a clinical information system that tracks our patient cohort. Different areas of HIV care are covered, including CD4/viral load testing, viral suppression, drug adherence, new AIDS events, default follow up and death. For the yearly data which changes with time, it refers to the point prevalence state as of the end of the year.

Pattern of AIDS-defining illnesses, mortality and hospital admission

This is a stand-alone module purposed to track major morbidity and mortality occurring in HIV/AIDS patients after attending care at ITC. Standardised templates were designed on specific related areas, such as primary and secondary AIDS-defining illnesses, immunologic status, time from HIV diagnosis, death in AIDS/non-AIDS patients, hospital admissions and outcome. Data has been drawn at quarterly and yearly intervals since 2002 (2003 for hospital admissions). The information would be of relevance to quality of care and health resources planning.

A. Presentation profile of newly attending patients (2001-2005)

Box A1. Basic demography

	2001	2002	2003	2004	2005
	No. (%)				
Total	102	141	109	140	172
Sex					
Male	76(74.5%)	116(82.3%)	94(86.2%)	115(82.1%)	141(82.0%)
Female	26(25.5%)	25(17.7%)	15(13.8%)	25(17.9%)	31(18.0%)
Ethnicity					
Chinese	71(69.6%)	109(77.3%)	90(82.6%)	112(80.0%)	127(73.8%)
Non-Chinese	31(30.4%)	32(22.7%)	19(17.4%)	28(20.0%)	45(26.2%)
Age (year)					
<=19	2(2.0%)	2(1.4%)	1(0.9%)	4(2.9%)	1(0.6%)
20-29	28(27.5%)	39(27.7%)	22(20.2%)	32(22.9%)	40(23.3%)
30-39	44(43.1%)	53(37.6%)	49(45.0%)	51(36.4%)	59(34.3%)
40-49	17(16.7%)	26(18.4%)	16(14.7%)	28(20.0%)	43(25.0%)
>=50	11(10.8%)	21(14.9%)	21(19.3%)	25(17.9%)	29(16.9%)
Median (year)	34.82	34.82	36.05	35.85	37.97
HIV risk factor					
Heterosexual	66(64.7%)	86(61.0%)	57(52.3%)	68(48.6%)	77(44.8%)
Men who have sex with men (MSM)	30(29.4%)	41(29.1%)	39(35.8%)	50(35.7%)	73(42.4%)
Injecting drug use	6(5.9%)	9(6.4%)	12(11.0%)	21(15.0%)	21(12.2%)
Other/undetermined	0(0.0%)	5(3.5%)	1(0.9%)	1(0.7%)	1(0.6%)

Box A2. Social attributes and residency in Hong Kong

	2001	2002	2003	2004	2005
	No. (%)				
Total	102	141	109	140	172
Marital status					
Married	45(44.1%)	52(36.9%)	36(33.0%)	51(36.4%)	51(29.7%)
Widowed/separated/divorced	12(11.8%)	16(11.3%)	13(11.9%)	19(13.6%)	25(14.5%)
Single	45(44.1%)	73(51.8%)	60(55.0%)	70(50.0%)	96(55.8%)
Education					
No schooling	5(4.9%)	8(5.7%)	2(1.8%)	5(3.6%)	9(5.2%)
Primary	17(16.7%)	28(19.9%)	20(18.3%)	39(27.9%)	35(20.3%)
Secondary	61(59.8%)	73(51.8%)	71(65.1%)	61(43.6%)	79(45.9%)
Tertiary/university or above	19(18.6%)	32(22.7%)	16(14.7%)	35(25.0%)	49(28.5%)
Occupation					
Labour	42(41.2%)	38(27.0%)	37(33.9%)	34(24.3%)	34(19.8%)
Non-labour	23(22.5%)	38(27.0%)	26(23.9%)	47(33.6%)	57(33.1%)
Others	37(36.3%)	65(46.1%)	46(42.2%)	59(42.1%)	81(47.1%)
Hong Kong resident					
Yes			101(92.7%)	120(85.7%)	151(87.8%)
No			8(7.3%)	20(14.3%)	21(12.2%)
Duration of stay in Hong Kong					
<1 year			12(11.0%)	19(13.6%)	25(14.5%)
1-7 year			15(13.8%)	20(14.3%)	17(9.9%)
>7 years			82(75.2%)	101(72.1%)	130(75.6%)

Box A3. HIV diagnosis and referral for care

	2001	2002	2003	2004	2005
	No. (%)				
Total	102	141	109	140	172
Primary setting leading to first diagnosis					
HIV disease/symptoms	27(26.5%)	49(34.8%)	25(22.9%)	47(33.6%)	66(38.4%)
STD screening/treatment	29(28.4%)	37(26.2%)	30(27.5%)	34(24.3%)	24(14.0%)
HIV screening at PCRS	18(17.6%)	19(13.5%)	14(12.8%)	15(10.7%)	23(13.4%)
HIV screening for self behavioural risk	9(8.8%)	11(7.8%)	10(9.2%)	14(10.0%)	26(15.1%)
Others	19(18.6%)	25(17.7%)	30(27.5%)	30(21.4%)	33(19.2%)
Source of referral					
SPP VCT clinics	25(24.5%)	23(16.3%)	17(15.6%)	19(13.6%)	19(11.0%)
Other VCT services	23(22.5%)	40(28.4%)	41(37.6%)	46(32.9%)	47(27.3%)
Public hospital/clinic	40(39.2%)	60(42.6%)	38(34.9%)	60(42.9%)	78(45.3%)
Private hospital/ clinic/laboratories	9(8.8%)	16(11.3%)	12(11.0%)	14(10.0%)	24(14.0%)
Others	5(4.9%)	2(1.4%)	1(0.9%)	1(0.7%)	4(2.3%)

Box A4. Sexually transmitted diseases and sexual debut

	2001	2002	2003	2004	2005
	No. (%)				
Total	102	141	109	140	172
Ever history of STD					
Male					
Yes	35(46.1%)	54(46.6%)	49(53.3%)	58(50.9%)	60(42.9%)
No	41(53.9%)	62(53.4%)	43(46.7%)	56(49.1%)	80(57.1%)
Female					
Yes	5(19.2%)	8(32.0%)	5(33.3%)	9(36.0%)	11(35.5%)
No	21(80.8%)	17(68.0%)	10(66.7%)	16(64.0%)	20(64.5%)
Age at first sex (year)					
not a/v	0(0.0%)	2(1.4%)	0(0.0%)	0(0.0%)	5(2.9%)
<=19	51(50.0%)	67(47.5%)	49(45.0%)	67(47.9%)	80(46.5%)
20-29	48(47.1%)	67(47.5%)	54(49.5%)	68(48.6%)	79(45.9%)
30-39	3(2.9%)	4(2.8%)	6(5.5%)	4(2.9%)	7(4.1%)
40-49	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	1(0.6%)
>=50	0(0.0%)	1(0.7%)	0(0.0%)	1(0.7%)	0(0.0%)
Median (year)	19.5	20	20	20	20

Box A5. Suspected source person of contracting HIV

	2001	2002	2003	2004	2005
	No. (%)				
Total	102	141	109	140	171
Male					
Spouse/regular sex partner	8(10.5%)	15(12.9%)	22(23.4%)	15(13.0%)	22(15.7%)
Commercial sex partner	29(38.2%)	41(35.3%)	18(19.1%)	24(20.9%)	23(16.4%)
Non-regular, non-commercial sex parnter	29(38.2%)	40(34.5%)	30(31.9%)	48(41.7%)	48(34.3%)
Other/undetermined	10(13.2%)	20(17.2%)	24(25.5%)	28(24.3%)	47(33.6%)
Female					
Spouse/regular sex partner	20(76.9%)	17(68.0%)	8(53.3%)	16(64.0%)	24(77.4%)
Commercial sex partner	2(7.7%)	2(8.0%)	3(20.0%)	1(4.0%)	3(9.7%)
Non-regular, non-commercial sex parnter	2(7.7%)	2(8.0%)	4(26.7%)	0(0.0%)	2(6.5%)
Other/undetermined	2(7.7%)	4(16.0%)	0(0.0%)	8(32.0%)	2(6.5%)
Heterosexual male					
Spouse/regular sex partner	4(9.5%)	6(9.7%)	11(26.2%)	10(21.7%)	6(13.3%)
Commercial sex partner	28(66.7%)	40(64.5%)	18(42.9%)	23(50.0%)	21(46.7%)
Non-regular, non-commercial sex parnter	6(14.3%)	13(21.0%)	8(19.0%)	10(21.7%)	7(15.6%)
Other/undetermined	4(9.5%)	3(4.8%)	5(11.9%)	3(6.5%)	11(24.4%)
Men who have sex with men					
Spouse/regular sex partner	4(13.3%)	9(22.0%)	11(28.2%)	5(10.0%)	16(21.9%)
Commercial sex partner	1(3.3%)	1(2.4%)	0(0.0%)	1(2.0%)	2(2.7%)
Non-regular, non-commercial sex parnter	23(76.7%)	26(63.4%)	22(56.4%)	38(76.0%)	40(54.8%)
Other/undetermined	2(6.7%)	5(12.2%)	6(15.4%)	6(12.0%)	15(20.5%)

Box A6. Suspected place of contracting HIV

	2001	2002	2003	2004	2005
	No. (%)				
Total	102	141	109	140	172
All					
Hong Kong	55(53.9%)	75(53.2%)	64(58.7%)	74(52.9%)	99(57.6%)
Mainland China	25(24.5%)	31(22.0%)	25(22.9%)	33(23.6%)	24(14.0%)
Other places	22(21.6%)	35(24.8%)	20(18.3%)	33(23.6%)	49(28.5%)
Heterosexual male					
Hong Kong	19(45.2%)	22(36.1%)	18(42.9%)	19(41.3%)	26(59.1%)
Mainland China	17(40.5%)	25(41.0%)	14(33.3%)	15(32.6%)	11(25.0%)
Other places	6(14.3%)	14(23.0%)	10(23.8%)	12(26.1%)	7(15.9%)
Men who have sex with men					
Hong Kong	19(63.3%)	32(78.0%)	35(89.7%)	39(79.6%)	52(71.2%)
Mainland China	2(6.7%)	1(2.4%)	0(0.0%)	1(2.0%)	4(5.5%)
Other places	9(30.0%)	8(19.5%)	4(10.3%)	9(18.4%)	17(23.3%)

Box A7. Recent infection within one year of HIV diagnosis

	2001	2002	2003	2004	2005
	No. (%)				
Total	102	141	109	140	172
**Recent infection*					
Yes	8(7.9%)	19(13.7%)	13(12.1%)	19(13.6%)	31(18.1%)
No	93(92.1%)	120(86.3%)	94(87.9%)	121(86.4%)	140(81.9%)
Negative HIV antibody within 1 year					
Yes	4(3.9%)	15(10.6%)	11(10.1%)	15(10.7%)	18(10.5%)
No	98(96.1%)	126(89.4%)	98(89.9%)	125(89.3%)	154(89.5%)
Seroconversion illness within 1 year					
Yes	4(3.9%)	6(4.3%)	6(5.5%)	12(8.6%)	20(11.6%)
No	98(96.1%)	135(95.7%)	103(94.5%)	128(91.4%)	152(88.4%)

*(a) a last negative HIV antibody test within 12 months prior to the first positive result, and/or
(b) seroconversion illness within 12 months prior to the first positive HIV antibody result.

Box A8. Demographics of recent HIV infection by year of attendance

	2001	2002	2003	2004	2005
	No. (%)				
Total	8	19	13	19	31
Sex					
Male	6(75%)	17(89.5%)	9(69.2%)	18(94.7%)	28(90.3%)
Female	2(25%)	2(10.5%)	4(30.8%)	1(5.3%)	3(9.7%)
Ethnicity					
Chinese	6(75%)	17(89.5%)	9(69.2%)	18(94.7%)	22(71.0%)
Non-Chinese	2(25%)	2(10.5%)	4(30.8%)	1(5.3%)	9(29.0%)
Age (year)					
<=19	1(12.5%)	0(0.0%)	0(0.0%)	1(5.3%)	0(0.0%)
20-29	3(37.5%)	7(36.8%)	2(15.4%)	3(15.8%)	8(25.8%)
30-39	3(37.5%)	6(31.6%)	9(69.2%)	7(36.8%)	12(38.7%)
40-49	1(12.5%)	2(10.5%)	1(7.7%)	3(15.8%)	9(29.0%)
>=50	0(0.0%)	4(21.1%)	1(7.7%)	5(26.3%)	2(6.5%)
Median (year)	30.21	31.95	34.59	38.75	34.56
HIV risk factor					
Heterosexual	5(62.5%)	8(42.1%)	5(38.5%)	9(47.4%)	6(19.4%)
Men who have sex with men (MSM)	3(37.5%)	10(52.6%)	8(61.5%)	10(52.6%)	23(74.2%)
Other/undetermined	0(0.0%)	1(5.3%)	0(0.0%)	0(0.0%)	2(6.5%)

Box A9. Self perception of risk of contracting HIV before diagnosis

	2001	2002	2003	2004	2005
	No. (%)				
By gender					
Male total	76	116	94	115	141
High risk	9(11.8%)	12(10.3%)	9(9.6%)	10(8.7%)	20(14.2%)
Moderate risk	12(15.8%)	11(9.5%)	11(11.7%)	12(10.4%)	25(17.7%)
Low risk	17(22.4%)	52(44.8%)	47(50.0%)	47(40.9%)	63(44.7%)
No risk	32(42.1%)	29(25.0%)	20(21.3%)	23(20.0%)	14(9.9%)
Don't know	6(7.9%)	12(10.3%)	7(7.4%)	23(20.0%)	19(13.5%)
Female total	26	25	15	25	31
High risk	2(7.7%)	1(4.0%)	1(6.7%)	2(8.0%)	3(9.7%)
Moderate risk	0(0.0%)	0(0.0%)	1(6.7%)	1(4.0%)	4(12.9%)
Low risk	3(11.5%)	4(16.0%)	6(40.0%)	6(24.0%)	13(41.9%)
No risk	19(73.1%)	14(56.0%)	4(26.7%)	6(24.0%)	6(19.4%)
Don't know	2(7.7%)	6(24.0%)	3(20.0%)	10(40.0%)	5(16.1%)
By HIV risk factor					
Heterosexual total	66	86	57	68	77
High risk	5(7.6%)	6(7.0%)	3(5.3%)	4(5.9%)	7(9.1%)
Moderate risk	3(4.5%)	5(5.8%)	4(7.0%)	3(4.4%)	8(10.4%)
Low risk	11(16.7%)	30(34.9%)	28(49.1%)	25(36.8%)	32(41.6%)
No risk	41(62.1%)	31(36.0%)	16(28.1%)	18(26.5%)	14(18.2%)
Don't know	6(9.1%)	14(16.3%)	6(10.5%)	18(26.5%)	16(20.8%)
MSM total	30	41	39	50	73
High risk	6(20.0%)	5(12.2%)	4(10.3%)	7(14.0%)	13(17.8%)
Moderate risk	8(26.7%)	6(14.6%)	8(20.5%)	10(20.0%)	18(24.7%)
Low risk	8(26.7%)	22(53.7%)	22(56.4%)	19(38.0%)	34(46.6%)
No risk	8(26.7%)	7(17.1%)	2(5.1%)	8(16.0%)	4(5.5%)
Don't know	0(0.0%)	1(2.4%)	3(7.7%)	6(12.0%)	4(5.5%)
Injecting drug user total	6	9	12	21	21
High risk	0(0.0%)	1(11.1%)	3(25.0%)	1(4.8%)	3(14.3%)
Moderate risk	1(16.7%)	0(0.0%)	0(0.0%)	0(0.0%)	3(14.3%)
Low risk	1(16.7%)	4(44.4%)	3(25.0%)	9(42.9%)	10(47.6%)
No risk	2(33.3%)	2(22.2%)	5(41.7%)	2(9.5%)	2(9.5%)
Don't know	2(33.3%)	2(22.2%)	1(8.3%)	9(42.9%)	3(14.3%)

Box A10. Access to HIV care and baseline CD4

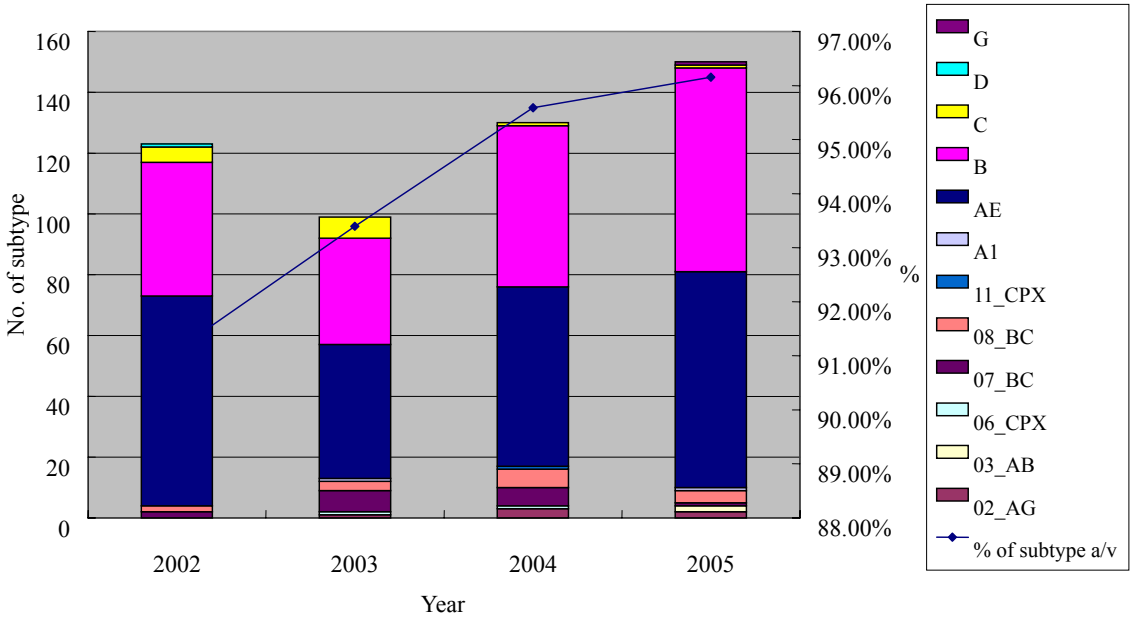
	2001	2002	2003	2004	2005
	No. (%)				
Total	102	141	108	139	172
Time lag from diagnosis to designated HIV care (month)					
0-6	98(96.1%)	129(91.5%)	101(93.5%)	127(91.4%)	152(88.4%)
>6-12	0(0.0%)	3(2.1%)	2(1.9%)	1(0.7%)	7(4.1%)
>12-24	0(0.0%)	4(2.8%)	2(1.9%)	1(0.7%)	3(1.7%)
>24-60	3(2.9%)	4(2.8%)	3(2.8%)	5(3.6%)	5(2.9%)
>60	1(1.0%)	1(0.7%)	0(0.0%)	5(3.6%)	5(2.9%)
Mean	2.74	3.04	2.00	7.77	5.41
SD	12.18	9.95	5.16	30.34	17.96
Median	0.43	0.50	0.50	0.53	0.56
Inter-quartile range	0.40	0.72	0.60	0.73	0.78
Total	95	135	102	131	159
Baseline CD4 at HIV diagnosis (/μl)					
<50	22(23.2%)	29(21.5%)	19(18.6%)	24(18.3%)	35(22.0%)
50-199	12(12.6%)	27(20.0%)	19(18.6%)	30(22.9%)	36(22.6%)
200-349	22(23.2%)	35(25.9%)	30(29.4%)	34(26.0%)	31(19.5%)
350-499	21(22.1%)	25(18.5%)	15(14.7%)	22(16.8%)	24(15.1%)
>=500	18(18.9%)	19(14.1%)	19(18.6%)	21(16.0%)	33(20.8%)
Mean	303.73	261.54	288.56	276.27	299.72
SD	233.80	204.71	232.20	232.87	343.48
Median	313	253	233.5	251	223
Inter-quartile range	405	350	332.5	325	396

Box A11. HIV status of spouse or regular partner and likely primary source for infected couples

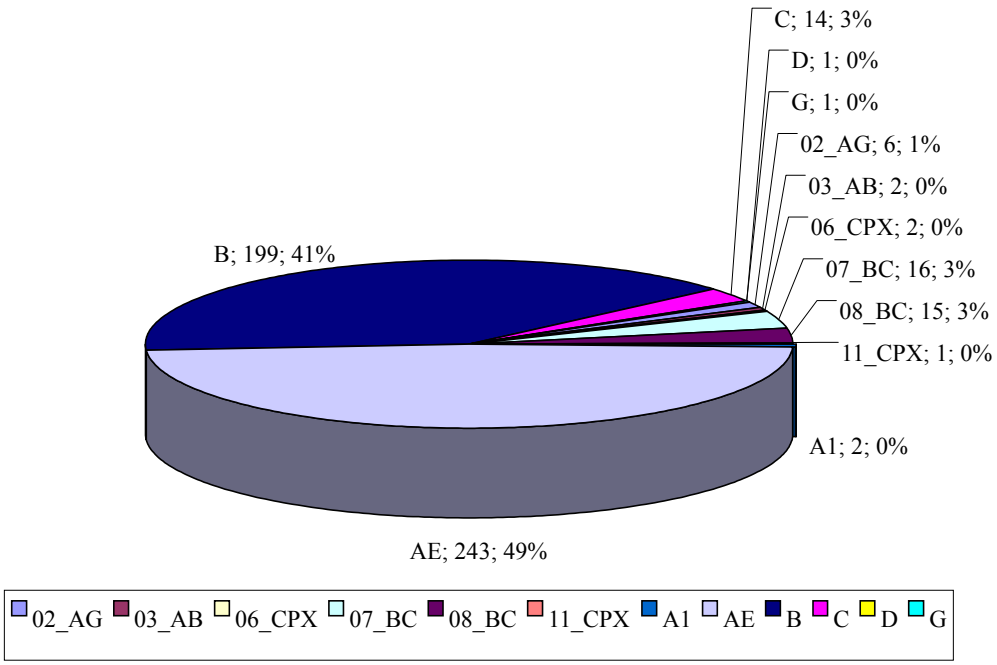
	2001	2002	2003	2004	2005
	No. (%)				
HIV status of spouse/regular partner total	102	141	109	140	172
Positive	29(28.4%)	35(24.8%)	28(25.7%)	26(18.6%)	48(27.9%)
Negative	22(21.6%)	31(22.0%)	21(19.3%)	41(29.3%)	30(17.4%)
Unknown	31(30.4%)	49(34.8%)	38(34.9%)	58(41.4%)	58(33.7%)
Not applicable	20(19.6%)	26(18.4%)	22(20.2%)	15(10.7%)	36(20.9%)
Likely primary source of HIV for positive couple					
Male total	16	24	23	17	33
Client	7(43.8%)	11(45.8%)	9(39.1%)	5(29.4%)	13(39.4%)
Spouse/regular partner	2(12.5%)	7(29.2%)	9(39.1%)	7(41.2%)	7(21.2%)
Undetermined	5(31.3%)	6(25.0%)	4(17.4%)	5(29.4%)	12(36.4%)
Both from others	2(12.5%)	0(0.0%)	1(4.3%)	0(0.0%)	1(3.0%)
Female total	13	11	5	9	15
Client	0(0.0%)	0(0.0%)	0(0.0%)	1(11.1%)	1(6.7%)
Spouse/regular partner	13(100.0%)	10(90.9%)	4(80.0%)	6(66.7%)	13(86.7%)
Undetermined	0(0.0%)	1(9.1%)	1(20.0%)	1(11.1%)	1(6.7%)
Both from others	0(0.0%)	0(0.0%)	0(0.0%)	1(11.1%)	0(0.0%)
Heterosexual male total	21	24	11	16	26
Client	7(33.3%)	10(41.7%)	4(36.4%)	3(18.8%)	8(30.8%)
Spouse/regular partner	14(66.7%)	13(54.2%)	5(45.5%)	10(62.5%)	15(57.7%)
Undetermined	0(0.0%)	1(4.2%)	2(18.2%)	2(12.5%)	3(11.5%)
Both from others	0(0.0%)	0(0.0%)	0(0.0%)	1(6.3%)	0(0.0%)
MSM total	8	9	16	8	20
Client	0(0.0%)	0(0.0%)	4(25.0%)	1(12.5%)	5(25.0%)
Spouse/regular partner	1(12.5%)	4(44.4%)	8(50.0%)	3(37.5%)	4(20.0%)
Undetermined	5(62.5%)	5(55.6%)	3(18.8%)	4(50.0%)	10(50.0%)
Both from others	2(25.0%)	0(0.0%)	1(6.3%)	0(0.0%)	1(5.0%)

B. Epidemiologic significance per HIV-1 subtype and primary drug resistance (2002-2005)

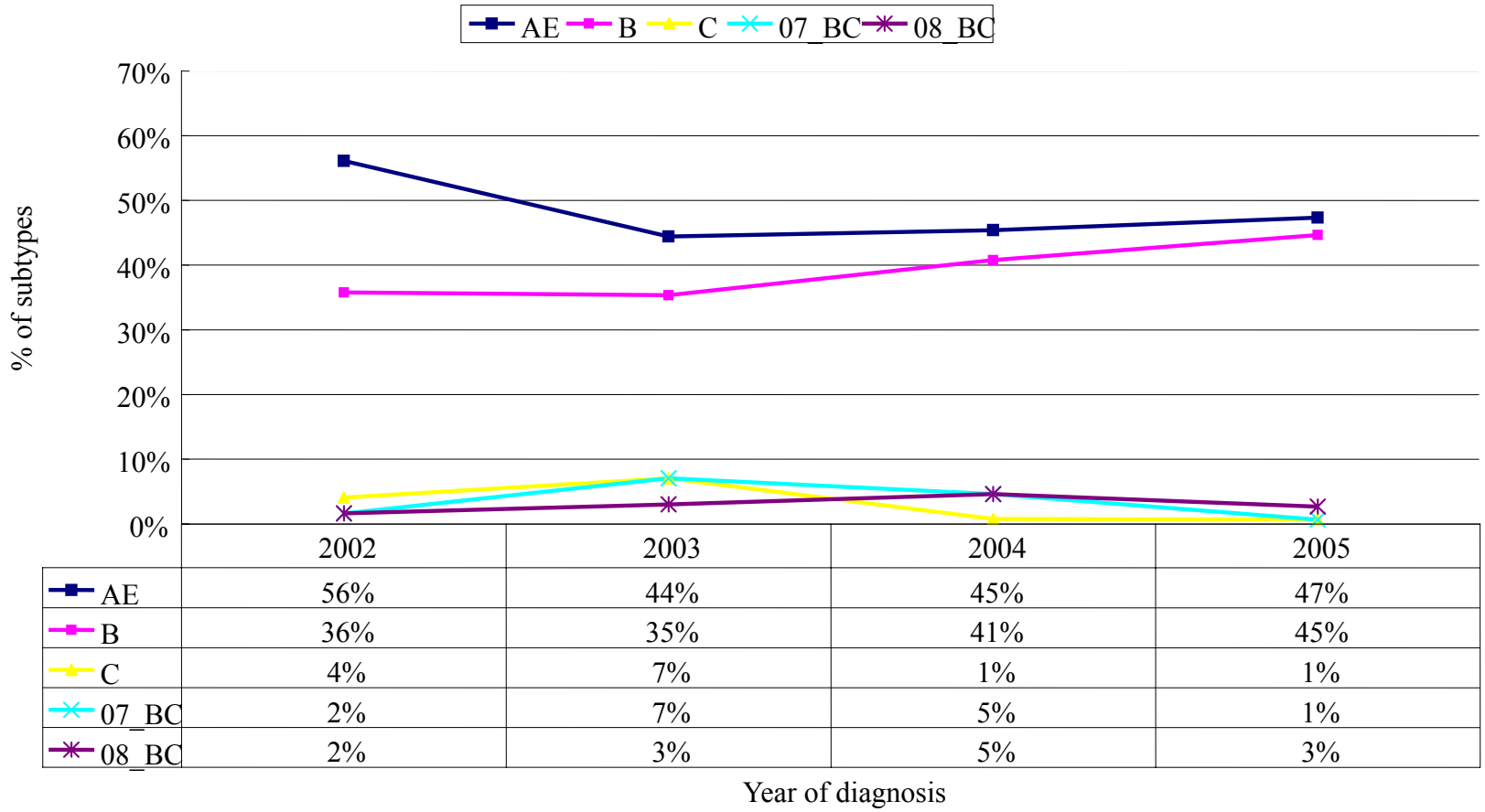
Box B1. Distribution of HIV-1 subtypes across year of HIV diagnosis



Box B2. Overall distribution of HIV-1 subtypes from 2002 to 2005



Box B3. Prevalence of HIV-1 subtypes across year of HIV diagnosis



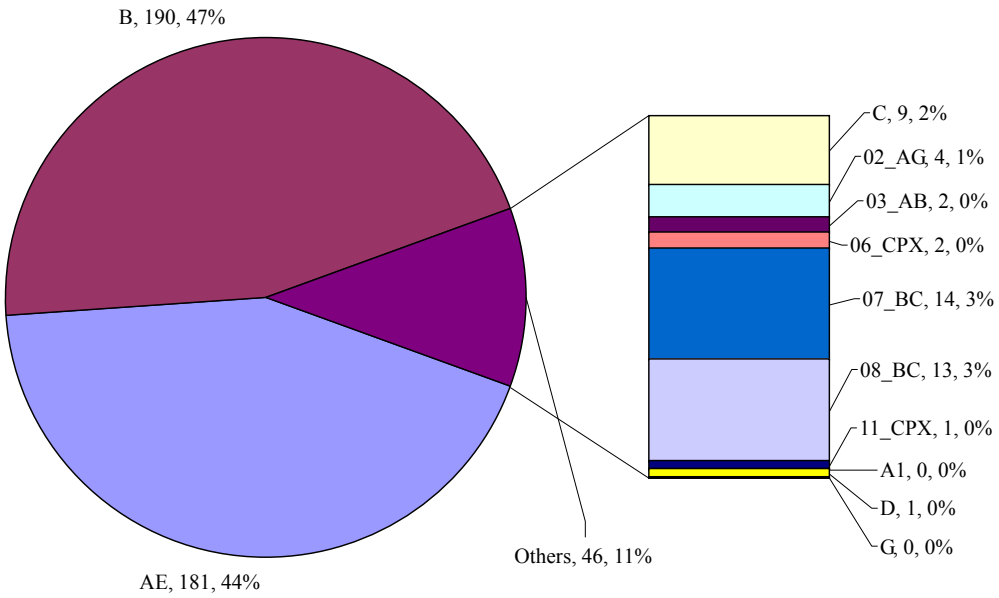
	2002	2003	2004	2005
AE	56%	44%	45%	47%
B	36%	35%	41%	45%
C	4%	7%	1%	1%
07_BC	2%	7%	5%	1%
08_BC	2%	3%	5%	3%

Box B4. Proportion of different gender, ethnicity and HIV risk factor within each HIV-1 subtype (2002 to 2005, n= 502)

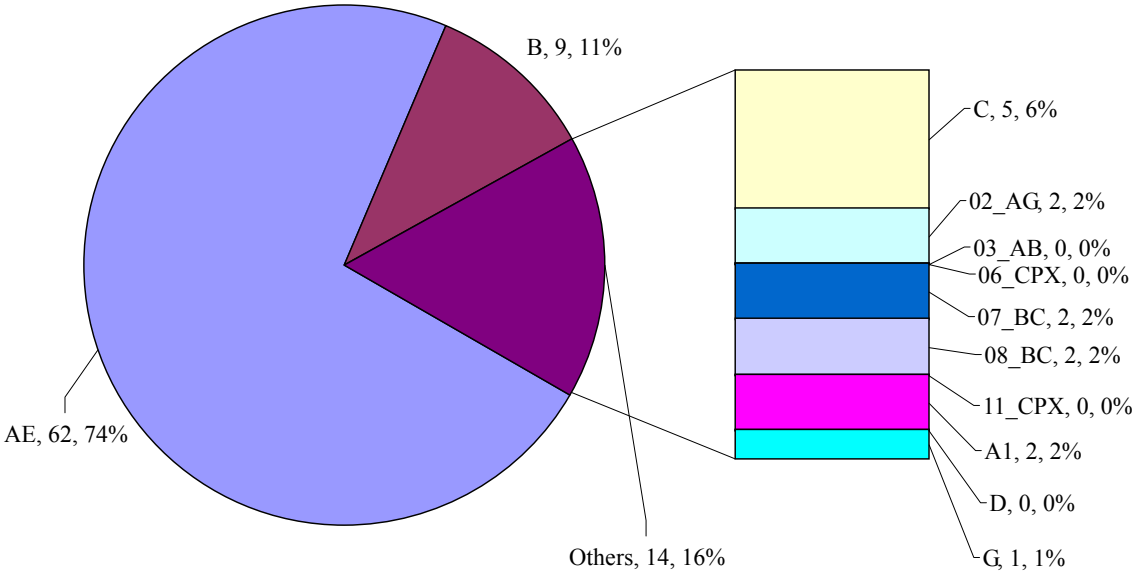
	AE	B	C	02_AG	03_AB	06_CPX	07_BC	08_BC	11_CPX	A1	D	G
Total no.	243	199	14	6	2	2	16	15	1	2	1	1
Gender												
F	62 (25.5%)	9 (4.5%)	5 (35.7%)	2 (33.3%)	0 (0.0%)	0 (0.0%)	2 (12.5%)	2 (13.3%)	0 (0.0%)	2 (100.0%)	0 (0.0%)	1 (100.0%)
M	181 (74.5%)	190 (95.5%)	9 (64.3%)	4 (66.7%)	2 (100.0%)	2 (100.0%)	14 (87.5%)	13 (86.7%)	1 (100.0%)	0 (0.0%)	1 (100.0%)	0 (0.0%)
Ethnicity												
Chinese	182 (74.9%)	179 (89.9%)	3 (21.4%)	3 (50.0%)	2 (100.0%)	1 (50.0%)	16 (100.0%)	9 (60.0%)	1 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Non-Chinese	61 (25.1%)	20 (10.1%)	11 (78.6%)	3 (50.0%)	0 (0.0%)	1 (50.0%)	0 (0.0%)	6 (40.0%)	0 (0.0%)	2 (100.0%)	1 (100.0%)	1 (100.0%)
HIV risk												
Heterosexual	178 (73.3%)	42 (21.1%)	13 (92.9%)	6 (100.0%)	1 (50.0%)	2 (100.0%)	3 (18.8%)	11 (73.3%)	1 (100.0%)	2 (100.0%)	1 (100.0%)	1 (100.0%)
Men who have sex with men	25 (10.3%)	156 (78.4%)	1 (7.1%)	0 (0.0%)	1 (50.0%)	0 (0.0%)	1 (6.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Injecting drug use	40 (16.5%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	12 (75.0%)	4 (26.7%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Undetermined	0 (0.0%)	1 (0.5%)	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 (0.0%)
Others	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 (0.0%)	0 (0.0%)	0 (0.0%)

Box B5. Distribution of HIV-1 subtypes by gender (2002-2005)

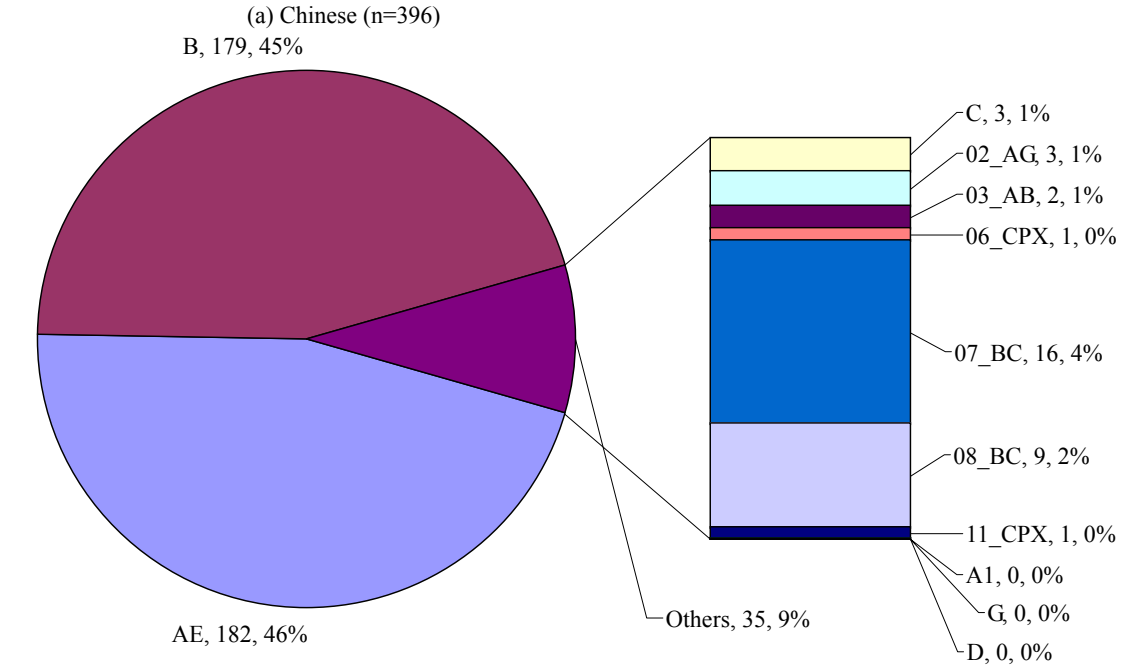
(a) male (n=417)

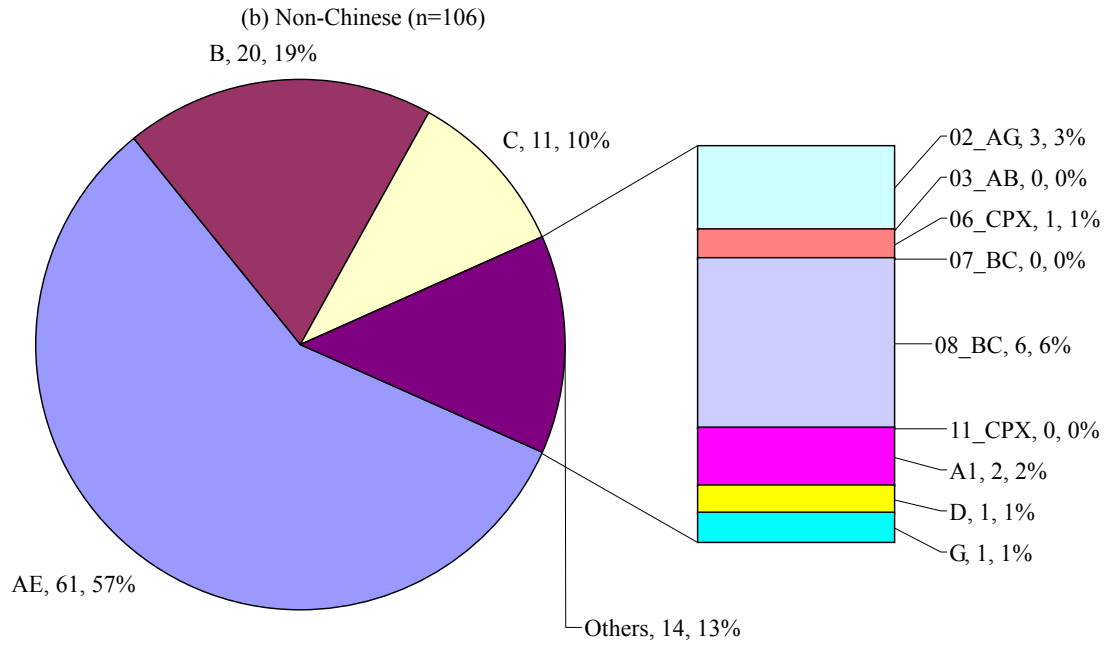


(b) female (n=85)



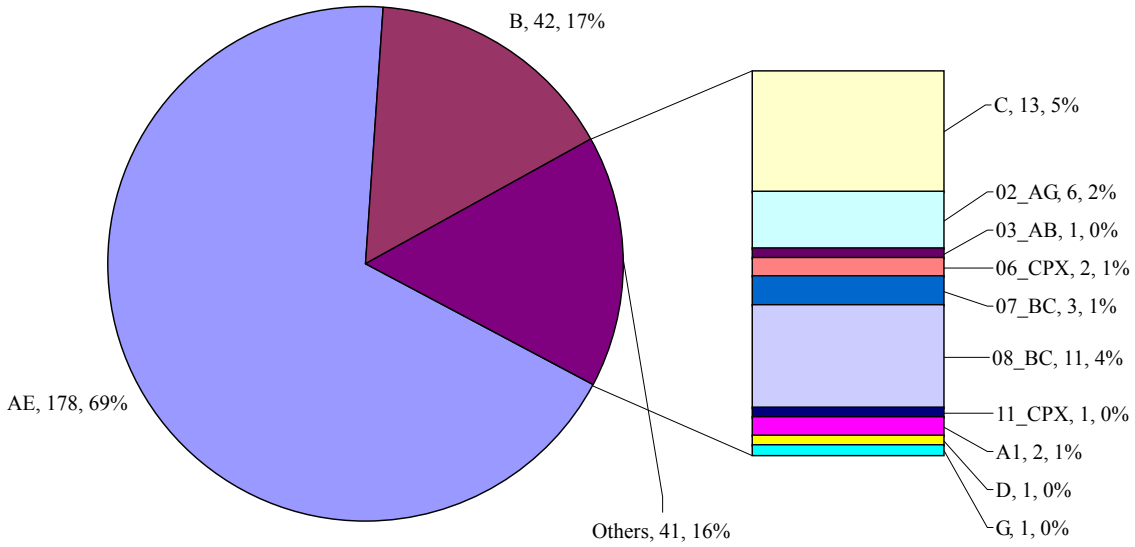
Box B6. Distribution of HIV-1 subtypes by ethnicity (2002-2005)



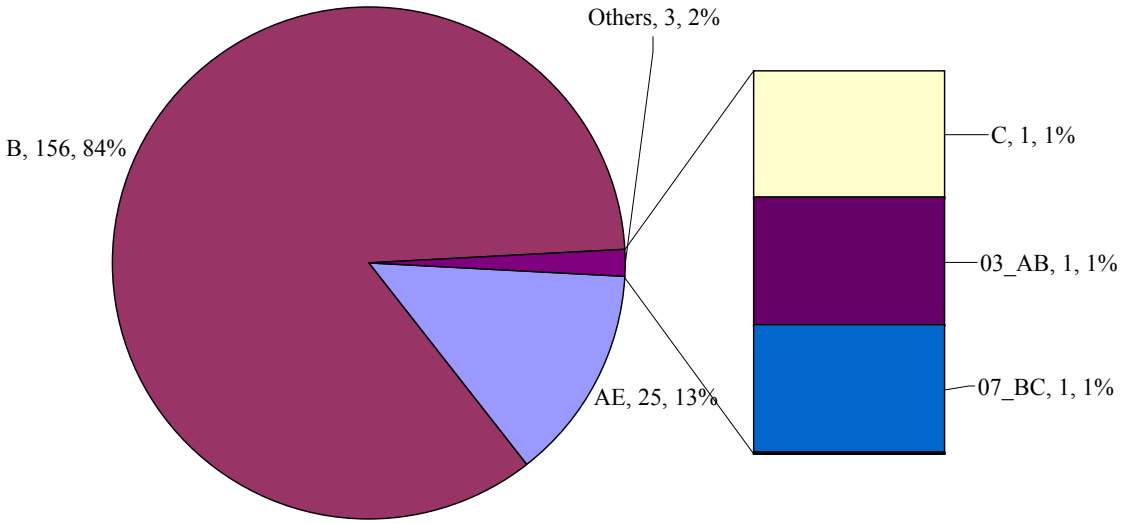


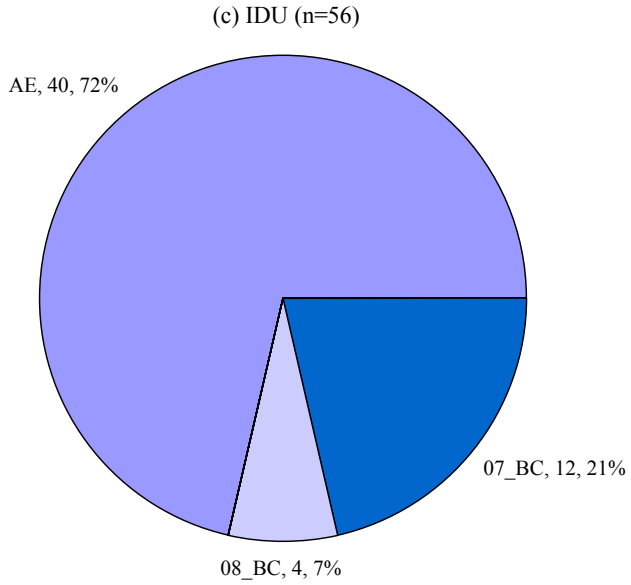
Box B7. Distribution of HIV-1 subtypes by HIV risk factor (2002-2005)

(a) heterosexually transmitted cases (n=261)

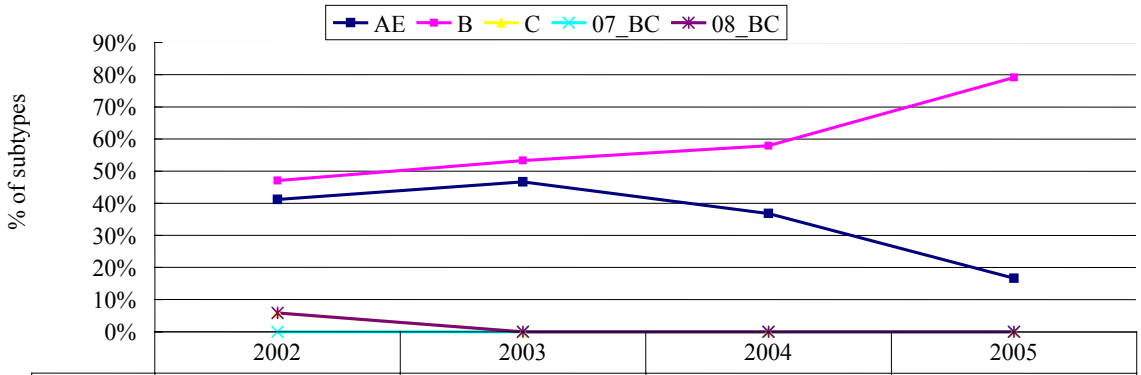


(b) MSM (n=184)





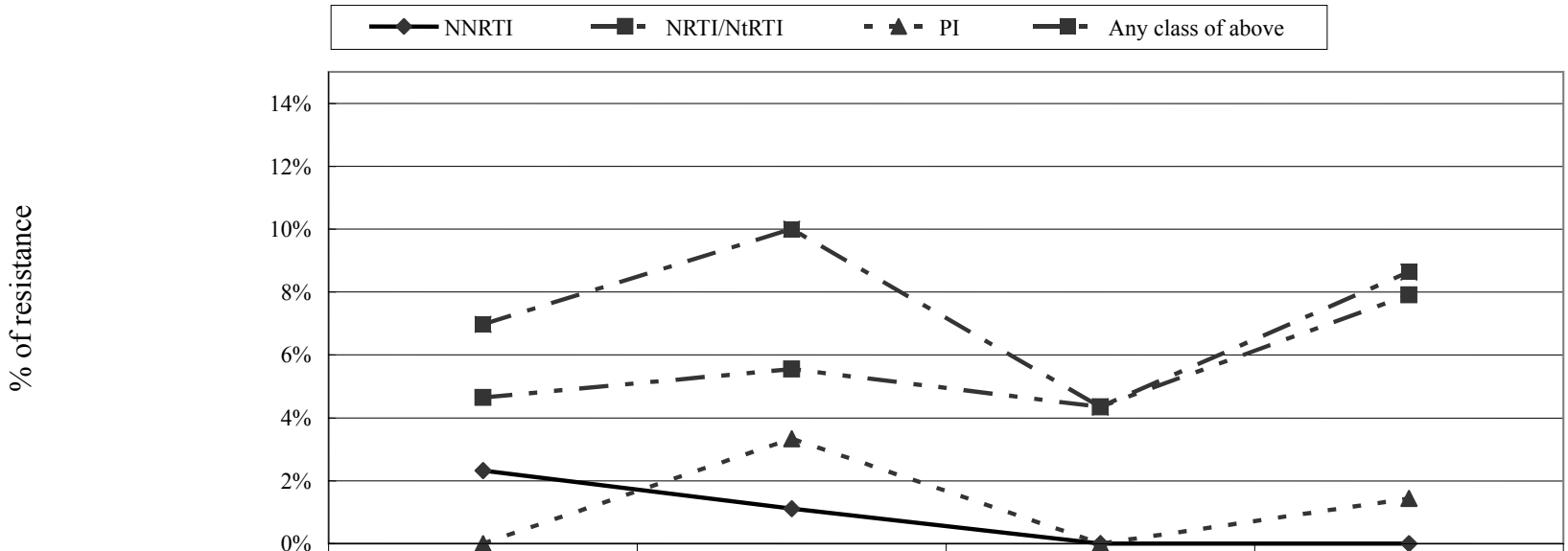
Box B8. Prevalence of HIV-1 subtype among recent HIV infections by year of HIV diagnosis



	2002	2003	2004	2005
AE	41%	47%	37%	17%
B	47%	53%	58%	79%
C	6%	0%	0%	0%
07_BC	0%	0%	0%	0%
08_BC	6%	0%	0%	0%

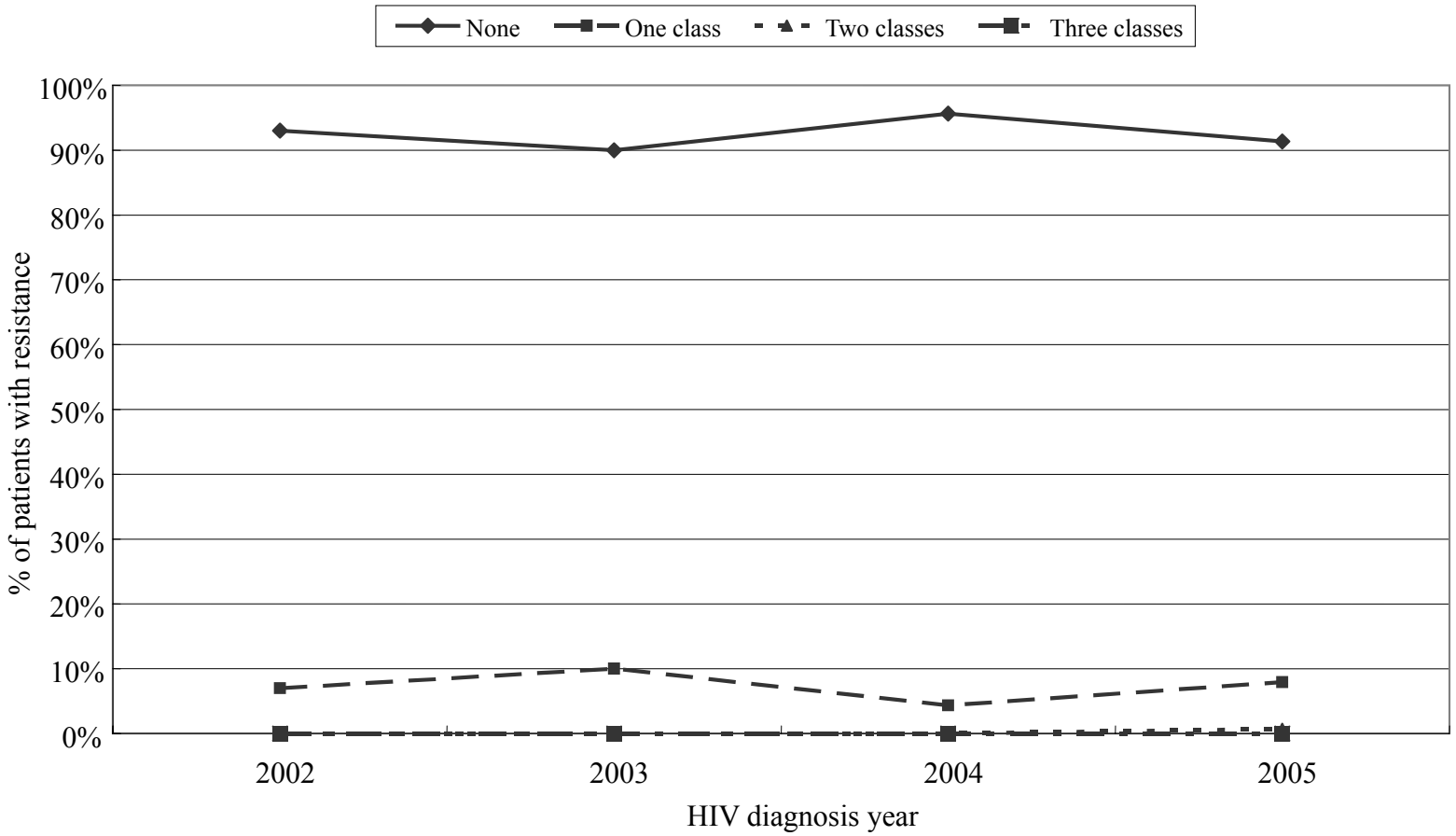
Year of diagnosis

Box B9. Prevalence of resistance to different drug classes across year based on consensus mutation figures of the IAS-USA



	2002	2003	2004	2005
NNRTI	2.33%	1.11%	0.00%	0.00%
NRTI/NtRTI	4.65%	5.56%	4.35%	7.91%
PI	0.00%	3.33%	0.00%	1.44%
Any class of above	6.98%	10.00%	4.35%	8.63%
Total no of patients test	43	90	115	139
No. of patient diagnosis	135	106	136	157
% of patients test	31.85%	84.91%	84.56%	88.54%

Box B10. Prevalence of resistance categorised by number of antiretroviral classes compromised across year based on consensus mutation figures of the IAS-USA



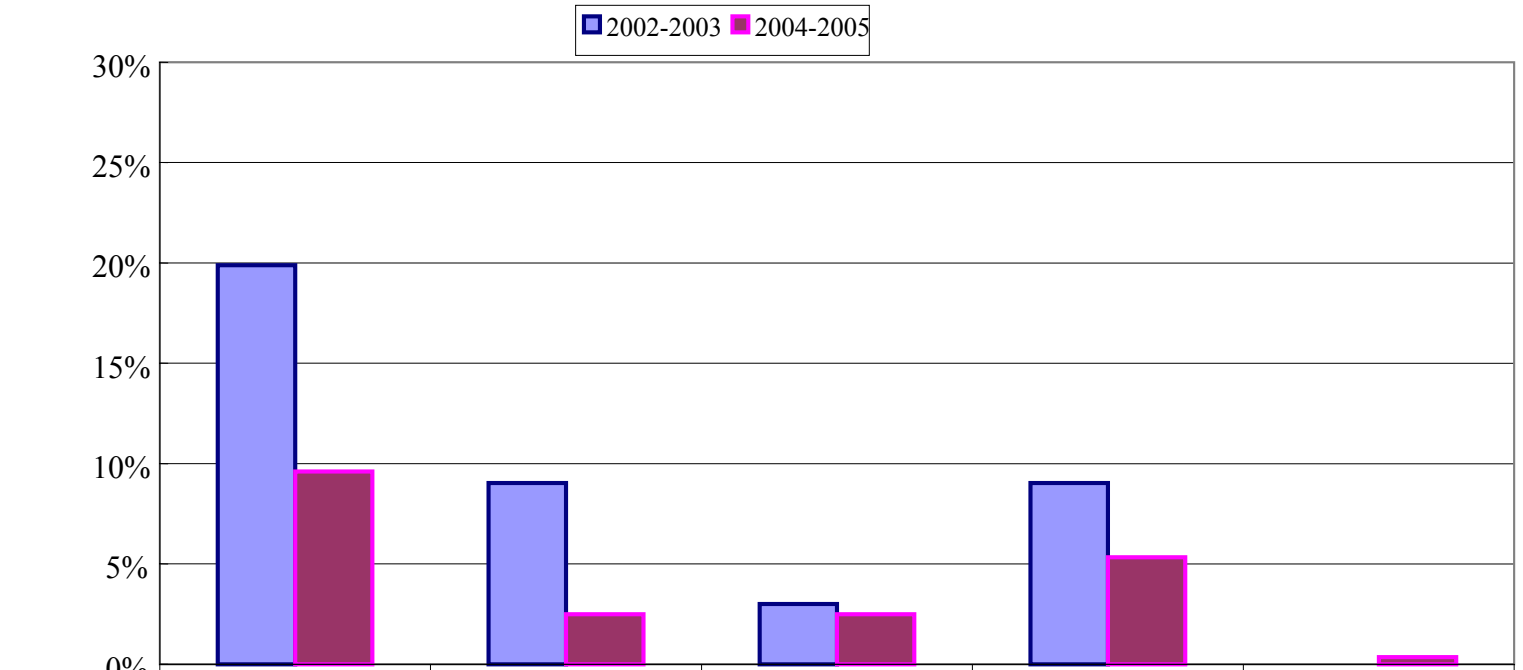
Box B11. Prevalence of resistance to specific drugs in all patients based on consensus mutation figures of the IAS-USA

	2002	2003	2002-2003	2004	2005	2004-2005
Total no of patients tested	43	90	133	115	139	254
NRTI/NtRTI						
3TC	2	3	3.76%	4	10	5.51%
ABC	0	0	0.00%	0	0	0.00%
AZT	1	2	2.26%	1	1	0.79%
D4T	0	0	0.00%	0	0	0.00%
DDI/DDI-EC	0	0	0.00%	0	0	0.00%
TDF	0	0	0.00%	0	0	0.00%
Any within NRTI/NtRTI class	2	5	5.26%	5	11	6.30%
PI						
APV	0	0	0.00%	0	0	0.00%
ATV	0	0	0.00%	0	0	0.00%
IDV	0	3	2.26%	0	2	0.79%
LPVr	0	0	0.00%	0	0	0.00%
NFV	0	0	0.00%	0	0	0.00%
RTV	0	0	0.00%	0	0	0.00%
SQV	0	0	0.00%	0	0	0.00%
TPV	0	0	0.00%	0	0	0.00%
Any within PI class	0	3	2.26%	0	2	0.79%
NNRTI						
DLV	1	1	1.50%	0	0	0.00%
EFZ	0	0	0.00%	0	0	0.00%
NVP	0	0	0.00%	0	0	0.00%
Any within NNRTI class	1	1	1.50%	0	0	0.00%

Box B12. Prevalence of resistance to specific drugs in recently infected patients based on consensus mutation figures of the IAS-USA

	2002	2003	2002-2003	2004	2005	2004-2005
Total no of patients test	17	12	29	8	23	31
NRTI/NtRTI						
3TC	1	1	6.90%	0	3	9.68%
ABC	0	0	0.00%	0	0	0.00%
AZT	0	0	0.00%	0	0	0.00%
D4T	0	0	0.00%	0	0	0.00%
DDI/DDI-EC	0	0	0.00%	0	0	0.00%
TDF	0	0	0.00%	0	0	0.00%
Any within NRTI/NtRTI class	1	1	6.90%	0	3	9.68%
PI						
APV	0	0	0.00%	0	0	0.00%
ATV	0	0	0.00%	0	0	0.00%
IDV	0	1	3.45%	0	1	3.23%
LPVr	0	0	0.00%	0	0	0.00%
NFV	0	0	0.00%	0	0	0.00%
RTV	0	0	0.00%	0	0	0.00%
SQV	0	0	0.00%	0	0	0.00%
TPV	0	0	0.00%	0	0	0.00%
Any within PI	0	1	3.45%	0	1	3.23%
NNRTI						
DLV	1	1	6.90%	0	0	0.00%
EFZ	0	0	0.00%	0	0	0.00%
NVP	0	0	0.00%	0	0	0.00%
Any within NNRTI	1	1	6.90%	0	0	0.00%

Box B13. Proportion of patients with predicted reduced drug susceptibility by Stanford algorithm

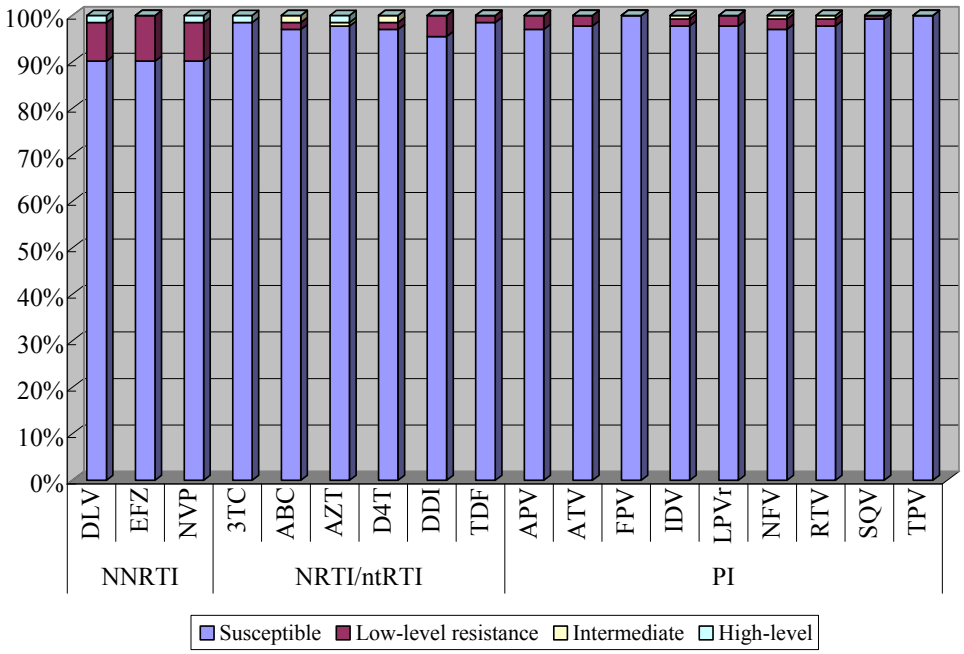


	Low+intermediate+high Any drug	Low+intermediate+high NRTI/ntRTI	Low+intermediate+high PI	Low+intermediate+high NNRTI	Low+intermediate+high >2 Classes
2002-2003	19.88%	9.04%	3.01%	9.04%	0.00%
2004-2005	9.61%	2.49%	2.49%	5.34%	0.36%

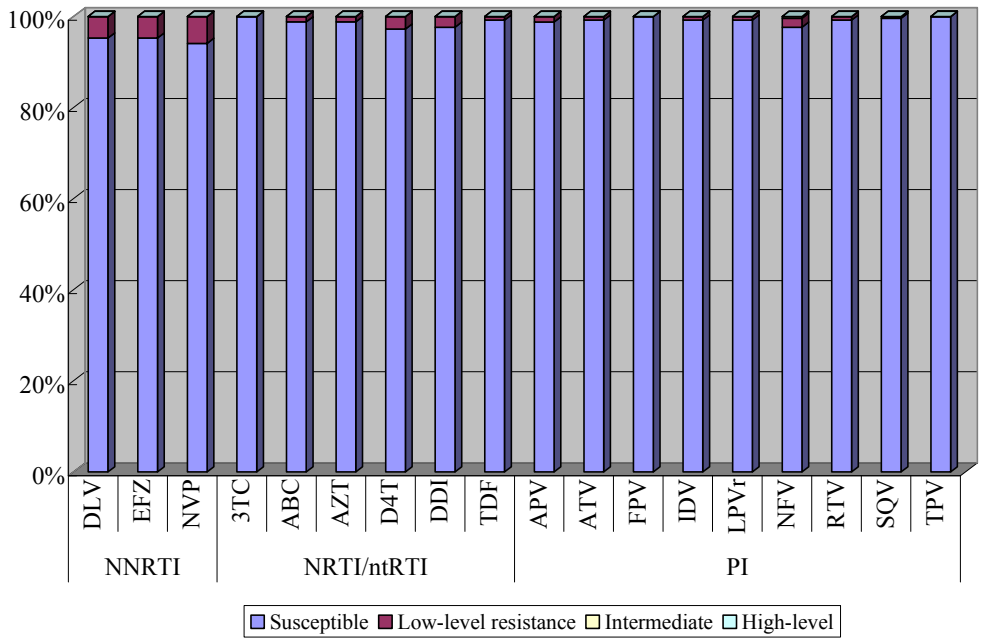
HIV diagnosis year

Box B14. Predicted susceptibility of viruses in all patients to specific drugs by Stanford algorithm (n= 133 for 2002-2003, n= 254 for 2004-2005)

The distribution of viruses 2002-2003

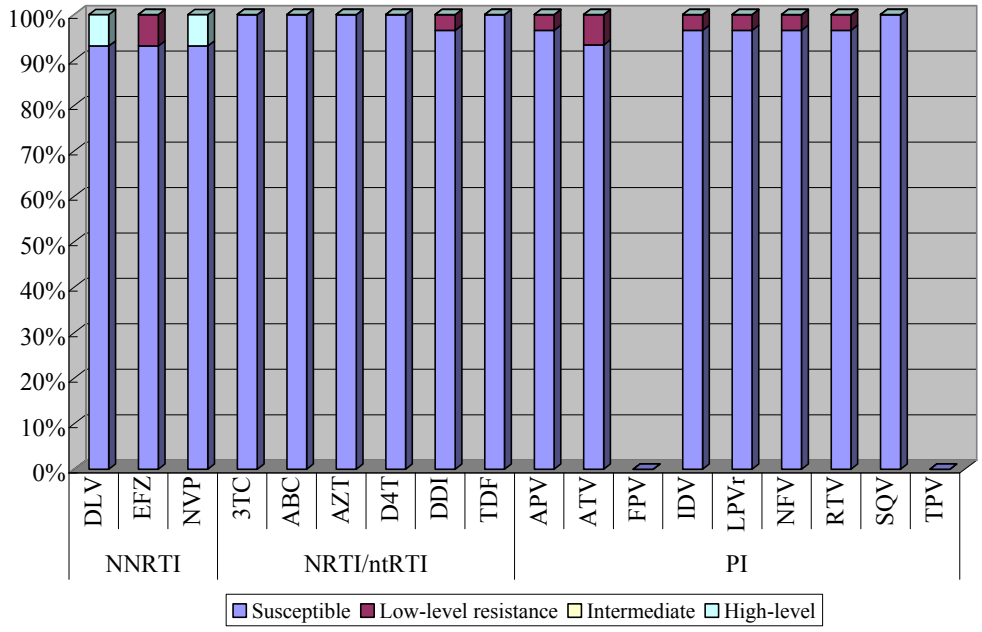


The distribution of viruses 2004-2005

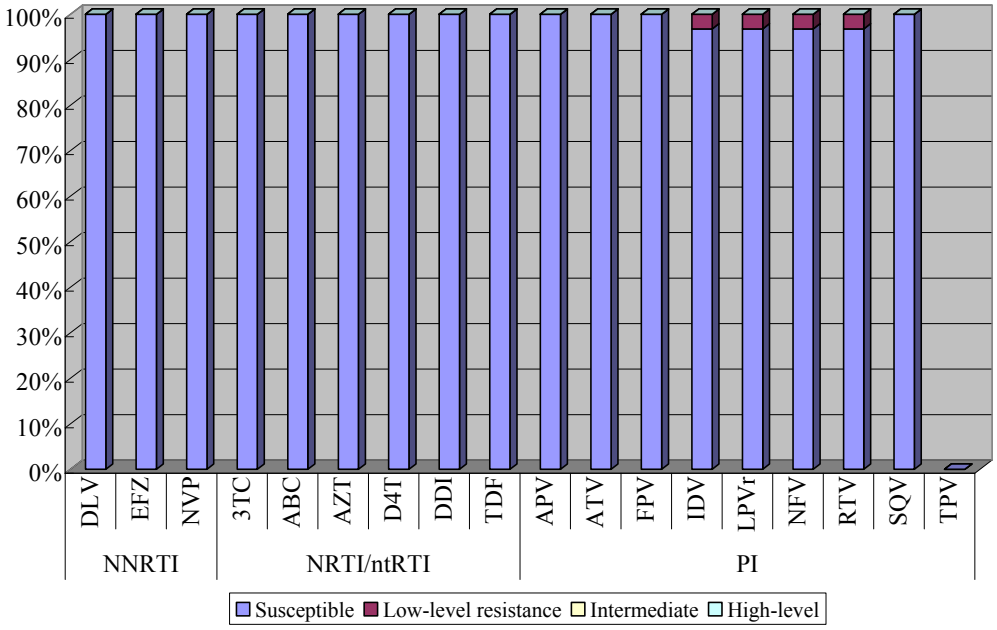


Box B15. Predicted susceptibility of viruses in recently infected patients to specific drugs by Stanford algorithm (n= 129 for 2002-2003, n= 235 for 2004-2005)

The distribution of viruses 2002-2003



The distribution of viruses 2004-2005



C. Clinical governance of new, active and cumulative HIV/AIDS patients (2002-2005)

Box C1. Demography of *active HIV/AIDS patients

	2002	2003	2004	2005
	No. (%)			
Total	605	698	796	919
Sex				
Male	495(81.8%)	576(82.5%)	656(82.4%)	758(82.5%)
Female	110(18.2%)	122(17.5%)	140(17.6%)	161(17.5%)
Ethnicity				
Chinese	491(81.2%)	569(81.5%)	655(82.3%)	755(82.2%)
Non-Chinese	114(18.8%)	129(18.5%)	141(17.7%)	164(17.8%)
Age (year)				
<=19	3(0.5%)	1(0.1%)	3(0.4%)	1(0.1%)
20-29	76(12.6%)	82(11.7%)	82(10.3%)	77(8.4%)
30-39	246(40.7%)	274(39.3%)	300(37.7%)	343(37.3%)
40-49	187(30.9%)	222(31.8%)	264(33.2%)	308(33.5%)
>=50	93(15.4%)	119(17.0%)	147(18.5%)	190(20.7%)
Median (year)	39	39	40	41
HIV risk factor				
Heterosexual	401(66.3%)	447(64.0%)	491(61.7%)	553(60.2%)
Men who have sex with men (MSM)	171(28.3%)	206(29.5%)	244(30.7%)	307(33.4%)
Injecting drug use	16(2.6%)	26(3.7%)	42(5.3%)	41(4.5%)
Other/undetermined	17(2.8%)	19(2.7%)	19(2.4%)	18(2.0%)

*patients who attended one or more medical follow up in the preceding 1 year

Box C2. Latest immunologic and disease status of active patients

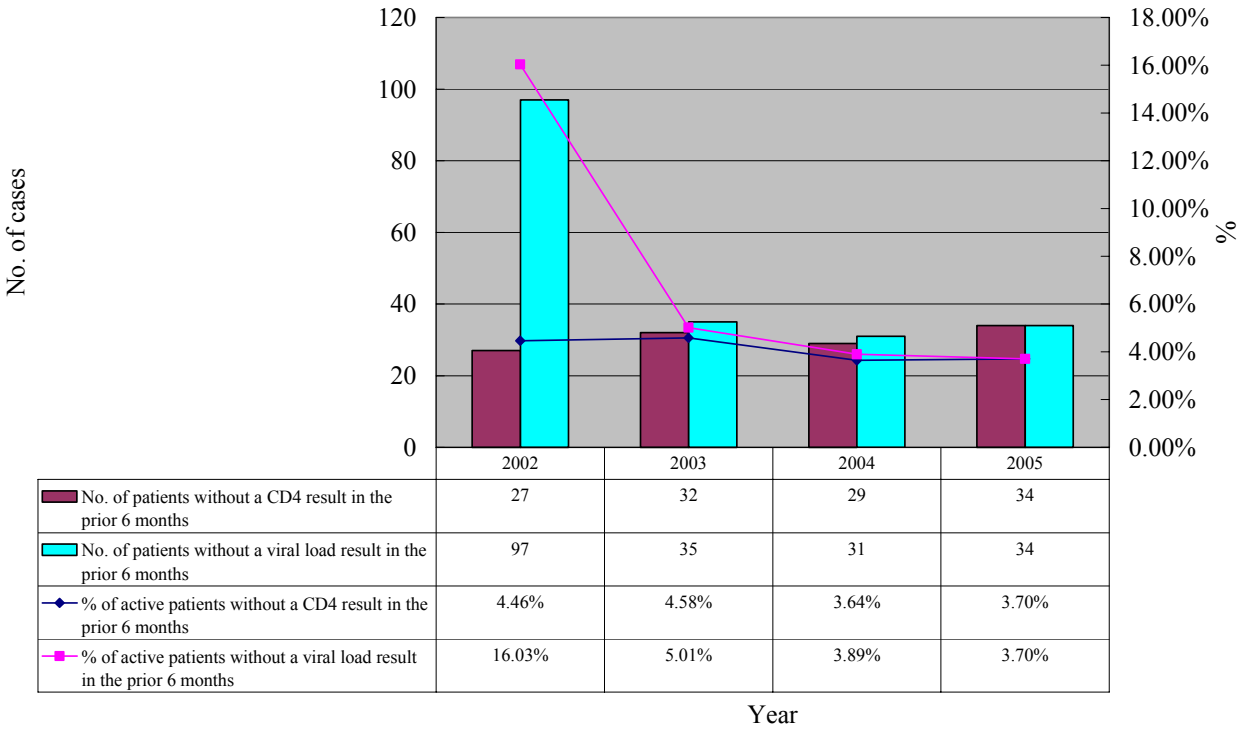
	2002	2003	2004	2005
	No. (%)			
Total	605	698	796	919
CD4 (/ul)				
<50	31(5.1%)	32(4.6%)	28(3.5%)	36(3.9%)
50-199	96(15.9%)	145(20.8%)	121(15.2%)	135(14.7%)
200-349	181(29.9%)	193(27.7%)	261(32.8%)	285(31.0%)
350-499	160(26.4%)	164(23.6%)	176(22.1%)	217(23.6%)
>=500	137(22.6%)	162(23.3%)	210(26.4%)	245(26.7%)
AIDS				
Yes	147(24.3%)	183(26.3%)	203(25.5%)	240(26.2%)
No	458(75.7%)	513(73.7%)	593(74.5%)	677(73.8%)
**Stage*				
A1-A3	248(41.0%)	269(38.6%)	305(38.3%)	366(39.9%)
B1-B3	210(34.7%)	244(35.1%)	288(36.2%)	311(33.9%)
C1-C3	147(24.3%)	183(26.3%)	203(25.5%)	240(26.2%)
A3/B3/C3	334(55.2%)	417(59.9%)	482(60.6%)	578(63.0%)
Stage C or 3	338(55.9%)	423(60.8%)	491(61.7%)	586(63.9%)

*AIDS surveillance case definition for adults and adolescents in Hong Kong (Scientific Committee on AIDS, 1995). Briefly, the system is an adoption of the US CDC 1993 definition, with the following modifications: (a) disseminated penicilliosis is included in the list of ADI, (b) pulmonary or cervical lymph node tuberculosis is counted as ADI only if CD4 count is <200 cells/μL, and (c) a CD4 count of <200 cells/μL alone is not considered as AIDS.

Box C3. Cumulative and active patients against total reported cases in Hong Kong

	2002	2003	2004	2005
Total active	605	698	796	919
No. of cumulative caseload	1072	1179	1318	1490
No. of total reported HIV/AIDS	2015	2244	2512	2825
% total reported cases ever attended ITC	53.2%	52.5%	52.5%	52.7%
% total reported cases being active ITC patients	30.0%	31.1%	31.7%	32.5%

Box C4. Lack of regular monitor of CD4/CD8 T lymphocyte and lack of regular monitor of plasma viral load



	2002	2003	2004	2005
No. of patients without a CD4 result in the prior 6 months	27	32	29	34
No. of patients without a viral load result in the prior 6 months	97	35	31	34
% of active patients without a CD4 result in the prior 6 months	4.46%	4.58%	3.64%	3.70%
% of active patients without a viral load result in the prior 6 months	16.03%	5.01%	3.89%	3.70%

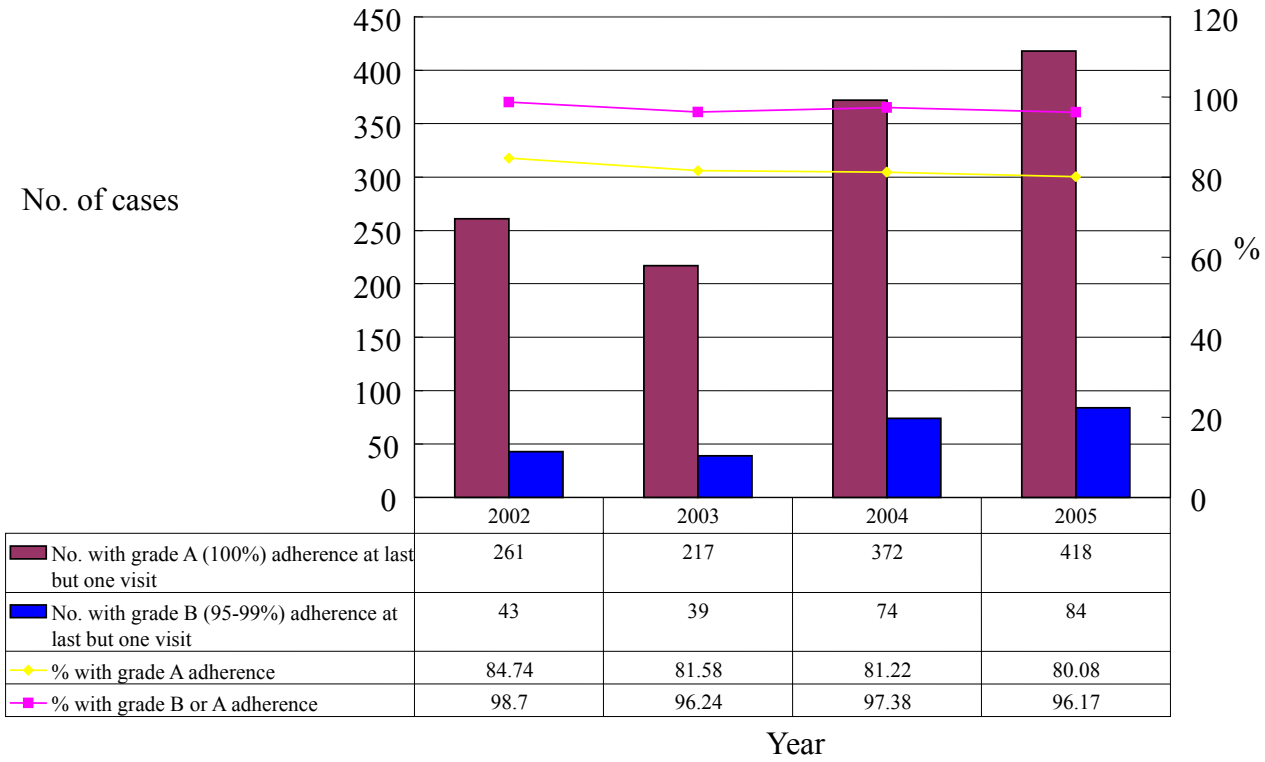
Box C5. Antiretroviral therapy in newly started and active patients

	2002	2003	2004	2005
No. of patients newly started on ART for disease treatment	62	76	98	89
No. of patients newly started on ART for MTCT prophylaxis	5	1	2	0
No. of active patients	605	698	796	919
No. of patients on ART	366	443	530	605
% of active patients on ART	60.5%	63.5%	66.6%	65.8%
% regimen				
Monotherapy	1.09%	0.90%	0.57%	0.66%
Dual therapy	3.55%	2.03%	0.57%	0.50%
HAART (>=3 antiretrovirals)	95.36%	97.07%	98.87%	98.84%

Box C6. Newly initiated ART for disease management being HAART

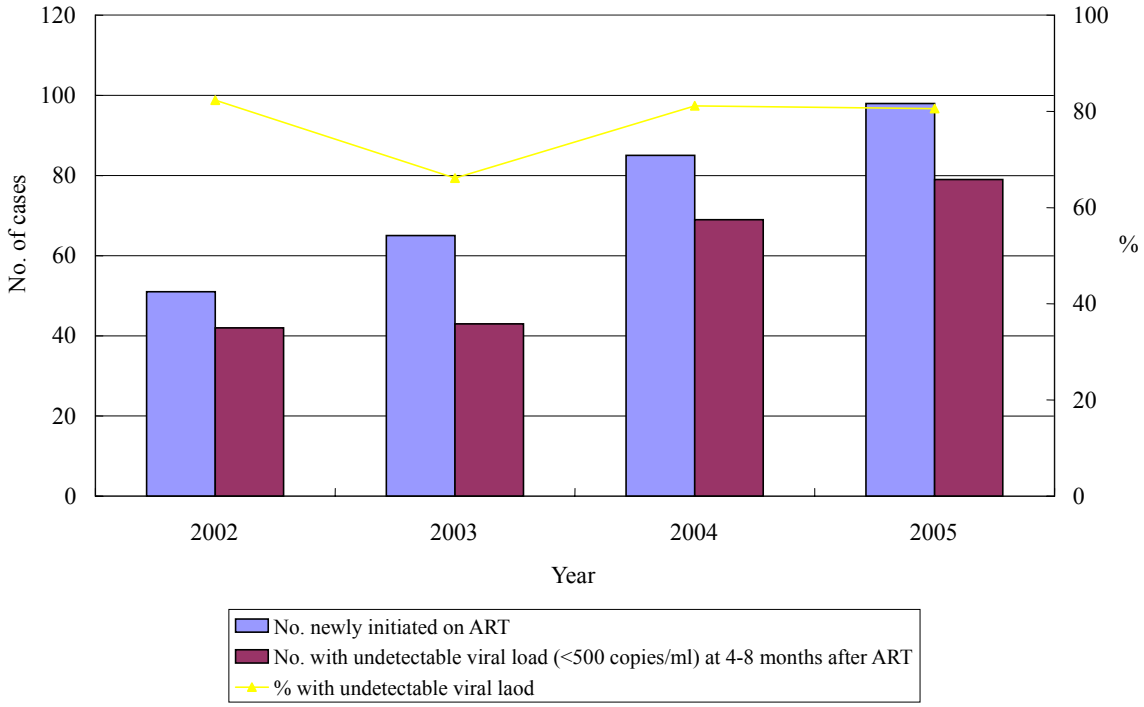
	2002	2003	2004	2005
No. of patients newly started on ART for disease treatment	62	76	98	89
No. of patients newly started on HAART (>=3 antiretrovirals) for disease treatment	61	76	97	88
% being HAART	98%	100%	99%	99%

Box C7. Patients on ART have good adherence

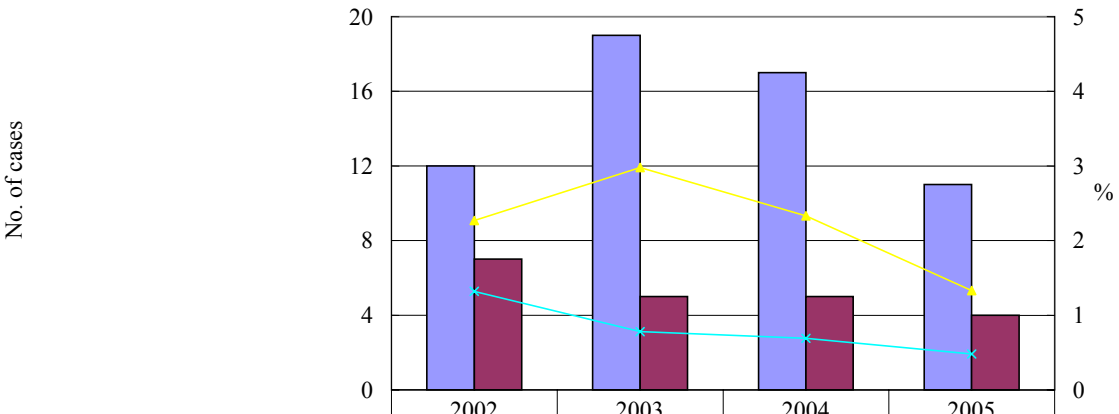


	2002	2003	2004	2005
No. with grade A (100%) adherence at last but one visit	261	217	372	418
No. with grade B (95-99%) adherence at last but one visit	43	39	74	84
% with grade A adherence	84.74	81.58	81.22	80.08
% with grade B or A adherence	98.7	96.24	97.38	96.17

Box C8. Undetectable viral load at 6 months post-ART initiation for disease treatment

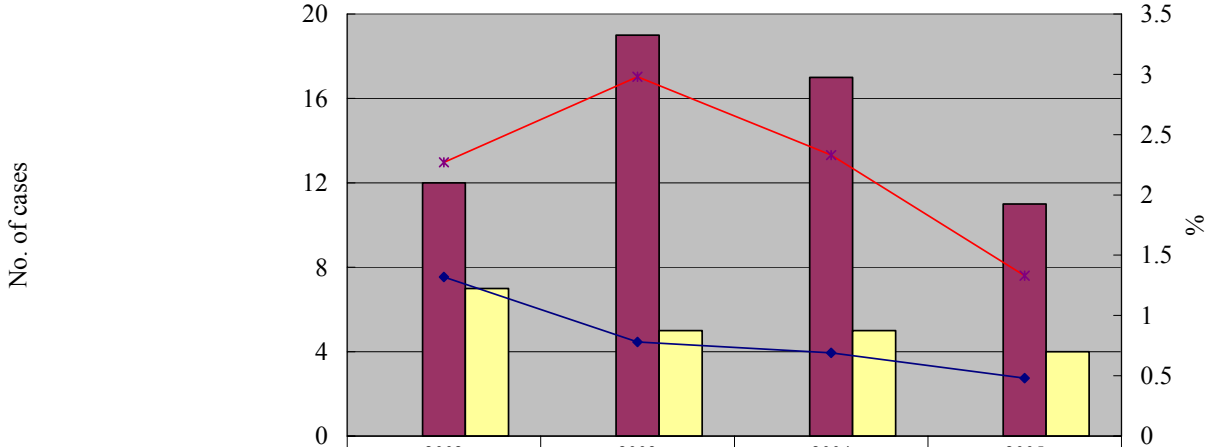


Box C9. Virological failure in patients who ever responded to HAART



	2002	2003	2004	2005
No. of patients with ADI post 6 months' follow-up	12	19	17	11
No. of patients with PCP post 6 months' follow-up	7	5	5	4
% of patients with new ADI	2.27	2.98	2.33	1.33
% of patients with new PCP	1.32	0.78	0.69	0.48

Box C10. Patients with new PCP or ADI after on track of follow-up



	2002	2003	2004	2005
No. of active patients followed up for >6 months	529	638	729	830
No. of patients with ADI post 6 months' follow-up	12	19	17	11
No. of patients with PCP post 6 months' follow-up	7	5	5	4
% of patients with new ADI	2.27	2.98	2.33	1.33
% of patients with new PCP	1.32	0.78	0.69	0.48

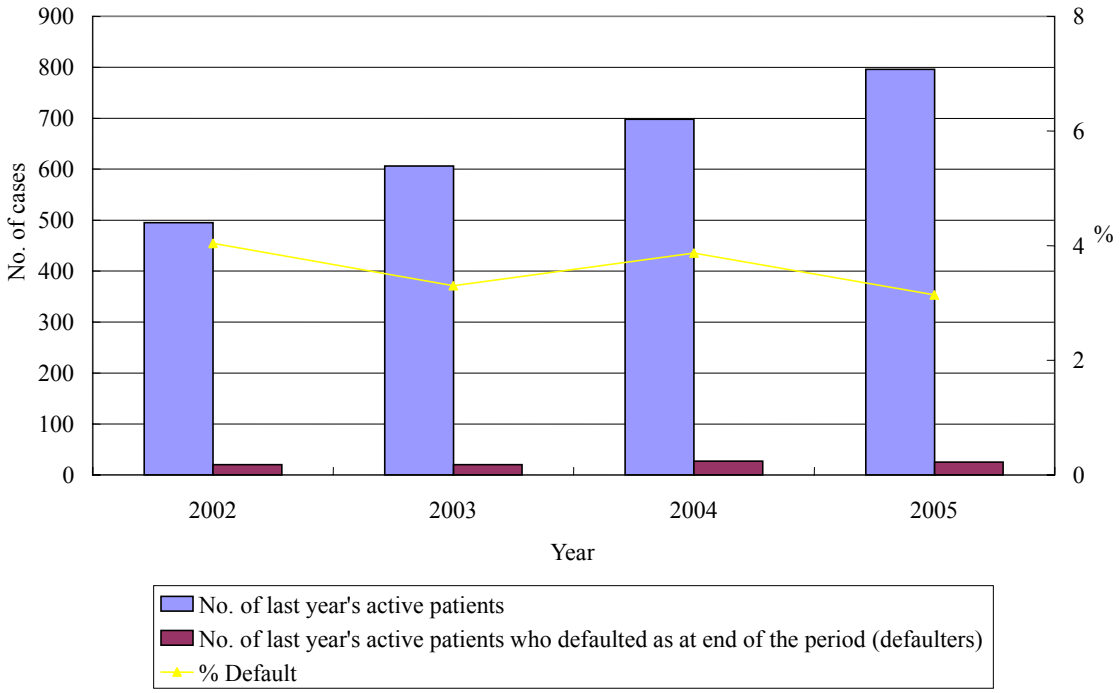
Year

Box C11. *New sexually transmitted diseases (STD) in active patients

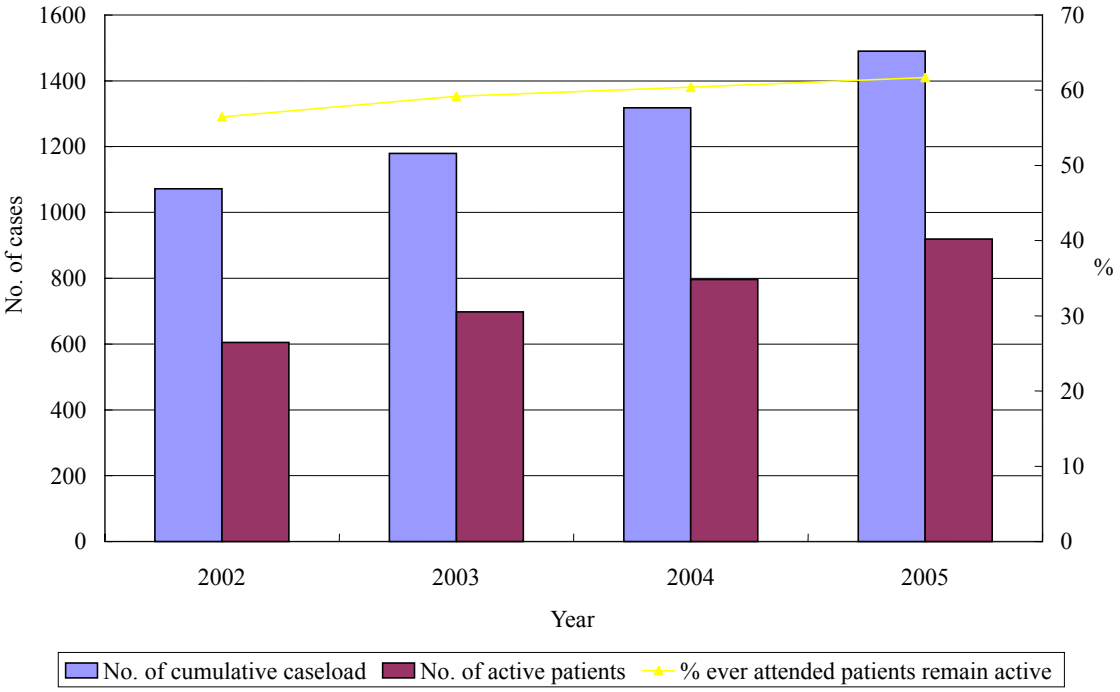
	2002	2003	2004	2005
No. of patients with new STD	11	15	7	22
No. of STD episodes	14	16	7	23
Follow-up person-months	6122	7242	8249	9361
New STD incidence density (episodes/person-months)	0.0023	0.0022	0.0008	0.0025

*include primary and secondary syphilis, gonorrhoea, genital Chlamydia and trichomoniasis at or after second clinic visit

C12. Annual default rate



C13. Patients remain under care



D. Pattern of AIDS-defining illnesses, mortality and hospital admission (2002 – 2005)

Box D1. Prevalence of primary and subsequent AIDS-defining illnesses

	2002	2003	2004	2005
	No. (%)			
No. of active patients	605	698	796	919
No. (%) of patients with ADI	44(7.3%)	42(6.0%)	46(5.8%)	54(5.9%)
Episodes of ADI	60	57	57	69
Episodes of ADI/100 patients	9.9	8.2	7.2	7.5

Box D2. Demography and time lag of progression in new AIDS patients

	2002	2003	2004	2005
	No. (%)			
Total	40	37	38	48
Sex				
Male	30(75.0%)	33(89.2%)	33(86.8%)	36(75.0%)
Female	10(25.0%)	4(10.8%)	5(13.2%)	12(25.0%)
Ethnicity				
Chinese	30(75.0%)	32(86.5%)	31(81.6%)	39(81.3%)
Non-Chinese	10(25.0%)	5(13.5%)	7(18.4%)	9(18.8%)
Age (year)				
<=19	0(0.0%)	0(0.0%)	1(2.6%)	0(0.0%)
20-29	6(15.0%)	6(16.2%)	2(5.3%)	4(8.3%)
30-39	18(45.0%)	17(45.9%)	15(39.5%)	17(35.4%)
40-49	11(27.5%)	5(13.5%)	9(23.7%)	18(37.5%)
>=50	5(12.5%)	9(24.3%)	11(28.9%)	9(18.8%)
Median (year)	38.0	35.0	40.5	41.0
HIV risk factor				
Heterosexual	29(72.5%)	27(73.0%)	26(68.4%)	32(66.7%)
Men who have sex with men (MSM)	8(20%)	8(21.6%)	10(26.3%)	13(27.1%)
Injecting drug use	2(5%)	2(5.4%)	2(5.3%)	3(6.3%)
Other/undetermined	1(2.5%)	0(0.0%)	0(0.0%)	0(0.0%)
HIV-AIDS interval - No. (%)				
<=3 months	26(65.0%)	18(48.6%)	24(63.2%)	31(64.6%)
>3-6 months	2(5.0%)	5(13.5%)	2(5.3%)	3(6.3%)
>6 months	12(30.0%)	14(37.8%)	12(31.6%)	14(29.2%)
median (months)	0.97	3.23	0.85	1.29

Box D3. Clinical and immunologic characteristics of primary AIDS-defining illnesses

	2002	2003	2004	2005
	No. (%)			
Primary ADI, No. (% all ADI)	38(63.3%)	36(63.2%)	37(64.9%)	49(71.0%)
Distribution – No. (%)				
Pneumocystis jirovecii pneumonia	16(42.1%)	11(30.6%)	13(35.1%)	11(22.4%)
Mycobacterium tuberculosis	16(42.1%)	14(38.9%)	14(37.8%)	26(53.1%)
Penicilliosis	2(5.3%)	2(5.6%)	1(2.7%)	3(6.1%)
Other fungal infections	2(5.3%)	4(11.1%)	4(10.8%)	5(10.2%)
Cytomegalovirus diseases	0(0.0%)	1(2.8%)	0(0.0%)	2(4.1%)
Non-TB Mycobacterial infections	0(0.0%)	2(5.6%)	2(5.4%)	0(0.0%)
Kaposi's sarcoma	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)
Others	2(5.3%)	2(5.6%)	3(8.1%)	2(4.1%)
CD4 (% of cases)				
<50/ul	22(61.1%)	14(41.2%)	21(58.3%)	18(42.9%)
50-100/ul	7(19.4%)	9(26.5%)	7(19.4%)	9(21.4%)
101-200/ul	6(16.7%)	8(23.5%)	4(11.1%)	12(28.6%)
>200/ul	1(2.8%)	3(8.8%)	4(11.1%)	3(7.1%)
median (/ul)	36.5	62	33.5	56.5

Box D4. Clinical and immunologic characteristics of subsequent AIDS-defining illnesses

	2002	2003	2004	2005
	No. (%)			
No. of episodes	22	21	20	20
No. of patients	17	20	15	17
% among year-end AIDS patients	11.6%	10.9%	7.4%	7.1%
Distribution of episodes – No. (%)				
Pneumocystis jirovecii pneumonia	2(9.1%)	3(14.3%)	3(15.0%)	4(20.0%)
Mycobacterium tuberculosis	2(9.1%)	4(19.0%)	3(15.0%)	5(25.0%)
Penicilliosis	4(18.2%)	3(14.3%)	1(5.0%)	0(0.0%)
Other fungal infections	4(18.2%)	5(23.8%)	7(35.0%)	5(25.0%)
Cytomegalovirus diseases	6(27.3%)	2(9.5%)	5(25.0%)	3(15.0%)
Non-TB Mycobacterial infections	3(13.6%)	1(4.8%)	1(5.0%)	1(5.0%)
Kaposi's sarcoma	0(0.0%)	1(4.8%)	0(0.0%)	0(0.0%)
Others	1(4.5%)	2(9.5%)	0(0.0%)	2(10.0%)
CD4 (% of cases)				
<50/ul	9(56.3%)	9(50.0%)	10(66.7%)	9(60.0%)
50-100/ul	5(31.3%)	4(22.2%)	3(20.0%)	2(13.3%)
101-200/ul	2(12.5%)	4(22.2%)	1(6.7%)	3(20.0%)
>200/ul	0(0.0%)	1(5.6%)	1(6.7%)	1(6.7%)
median (/ul)	29	45	22	25

Box D5. Mortality pattern in ever clinic patients

	2002	2003	2004	2005
	No. (%)			
No. active patients	605	698	796	919
No. of deaths				
AIDS patients - No. (%)	3(60.0%)	6(60.0%)	12(85.7%)	13(59.1%)
Non-AIDS patients - No. (%)	2(40.0%)	4(40.0%)	2(14.3%)	9(40.9%)
Mortality ratio - death/active patients	0.83%	1.43%	1.76%	2.39%

Box D6. Category of causes of death and its association with HIV or treatment

	2002	2003	2004	2005
	No. (%)			
Total	5	10	14	22
Causes of death				
AIDS-defining infections	0(0.0%)	1(10.0%)	1(7.1%)	7(31.8%)
AIDS-defining malignancies/other conditions	0(0.0%)	2(20.0%)	2(14.3%)	0(0.0%)
Non-AIDS-defining infections	2(40.0%)	0(0.0%)	5(35.7%)	1(4.5%)
Non-AIDS-defining malignancies	0(0.0%)	0(0.0%)	2(14.3%)	2(9.1%)
Hepatic diseases	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)
Cardiovascular diseases	0(0.0%)	1(10.0%)	0(0.0%)	0(0.0%)
Accidental	2(40.0%)	0(0.0%)	1(7.1%)	2(9.1%)
Other or unknown	1(20.0%)	6(60.0%)	3(21.4%)	10(45.5%)
Association (can be >=1)				
HIV or disease complications	2(40.0%)	7(70.0%)	10(71.4%)	10(45.5%)
Treatment of HIV or disease complications	0(0.0%)	0(0.0%)	2(14.3%)	0(0.0%)
Non-HIV related	3(60.0%)	1(10.0%)	2(14.3%)	8(36.4%)
Undetermined	1(20.0%)	4(40.0%)	4(28.6%)	8(36.4%)

Box D7. Frequency and duration of hospital admissions after first presentation

	2003	2004	2005
	No. (%)		
Frequency			
No. of admissions	185	165	154
No. of patients admitted	93	95	90
No. of active patients	698	796	919
% of patients admitted	13.3%	11.9%	9.8%
Duration			
Total no. of patient-days	2441	2590	2285
Mean stay/admission (day)	13.0	16.0	15.0
Median duration of stay (day)	6	6	7

Box D8. Sex and age distribution in the admission episodes

	2003	2004	2005
	No. (%)		
Sex			
Male	158(85.4%)	144(87.3%)	124(80.5%)
Female	27(14.6%)	21(12.7%)	30(19.5%)
Age (year)			
<=19	0(0.0%)	1(0.6%)	0(0.0%)
20-29	25(13.5%)	15(9.1%)	7(4.5%)
30-39	74(40.0%)	66(40.0%)	43(27.9%)
40-49	63(34.1%)	36(21.8%)	42(27.3%)
>=50	23(12.4%)	47(28.5%)	62(40.3%)
Median (year)	39.0	40.0	47.0

Box D9. Characteristics of admissions

	2003	2004	2005
	No. (%)		
Type			
Emergency	112(60.5%)	95(57.6%)	106(68.8%)
Clinical	73(39.5%)	70(42.4%)	48(31.2%)
Relation to HIV			
HIV-related	147(79.5%)	99(60.0%)	85(55.2%)
Non-HIV related	38(20.5%)	66(40.0%)	69(44.8%)
Public or private			
Public hospitals	180(97.3%)	163(99.4%)	154(100.0%)
Private hospitals	5(2.7%)	1(0.6%)	0(0.0%)

Box D10. Categories and outcome of the admissions

	2003	2004	2005
	No. (%)		
Total	185	165	154
**Categories of conditions*			
Opportunistic infections	59(31.9%)	57(34.5%)	38(24.7%)
Malignancies	4(2.2%)	15(9.1%)	5(3.2%)
HIV-related but not clearly defined	41(22.2%)	10(6.1%)	12(7.8%)
Others	104(56.2%)	99(60.0%)	102(66.2%)
Outcome			
Discharged	177(95.7%)	157(95.2%)	144(93.5%)
Died	8(4.3%)	8(4.8%)	10(6.5%)

*can be more than one for an admission

Appendix 1

HIV clinical services at Integrated Treatment Centre – a FACTSHEET

Background

1. The Integrated Treatment Centre (ITC), located within Kowloon Bay Health Centre, was opened in mid 1999. It is the main premise of the clinical programme of Special Preventive Programme (SPP), Department of Health. With the establishment of the Centre for Health Protection (CHP) in June 2004, SPP became a service of the newly formed Public Health Services Branch of CHP.

2. The ITC provides care to HIV/AIDS patients, through its designated HIV clinical services. The aim of ITC is to provide quality clinical care together with effective primary prevention to HIV patients in an integrated manner. Apart from the major service of HIV care for infected patients, ITC is also involved in other activities such as post-exposure management through its Therapeutic Prevention Clinic (TPC) and hepatitis B vaccination for government health care workers.

3. A multidisciplinary health care team provides ongoing outpatient-based medical care to HIV/AIDS clients. HIV doctors, nurses and experienced medical social workers are the professional members of the care core team. They strive to exercise measures to keep the confidentiality and provide services in a respectful and holistic manner to build up trusting and therapeutic relationship with clients and their families. Minimisation of morbidity and mortality of the infected patients through effective care delivery is the goal. A typical example of care provision to a new patient, which is often more intensive, attending the HIV clinic is shown at Annex 1. An elaboration of the various components of HIV care is depicted below.

Medical management

4. Medical care is largely ambulatory, with regular attendance of patients. There are four main aspects, namely (a) health maintenance, (b) monitoring of clinical, immunologic and virologic status, (c) prevention and treatment of opportunistic complications especially infections, and (d) antiretroviral therapy. Highly active antiretroviral therapy (HAART) has been available since 1997, the use of which depends on clinical indication per case-by-case assessment. For patients who require hospitalisation, arrangement can be made directly with specific hospitals.

Counselling service

5. Nursing interventions and psychosocial support are other major components of HIV care at ITC. The nurse counsellors assess care needs of clients and plan interventions. Counselling includes providing knowledge about HIV and treatment to empower the client to make their best choices in management of disease. On-going counselling would be offered to meet the needs of individual and to provide physical and psychosocial interventions. With the availability of HAART, adherence programme became part and partial of drug treatment, which is spear-headed by nurse counsellors.

Medical social service

6. The ITC is manned by professional medical social worker to render support to HIV/AIDS patients and their families. Objectives of their work are:

(a) to assist clients and their families with social and emotional problems arising from illness, trauma or disabilities;
(b) to enable clients and their families to make the best use of medical/rehabilitative service in medical institutions and in the community;
(c) to contribute to the total rehabilitation of individuals, and their reintegration into the society; and
(d) to strive for the promotion of health for clients, their families and the community

Public health programme

7. Public health control is a focus of ITC in its HIV care. There are several areas namely partner counselling and referral service (PCRS), risk reduction counselling, diagnosis and treatment of sexually transmitted infections, prevention of mother-to-child transmission and drug adherence programme. Programmes are integrated into clinical care activities or packaged as separate activities.

Referral procedure & charges

8. The HIV status of a client should be confirmed with Western Blot before referral to ITC. Clinic attendance is by appointment only and the referring institutes/person shall call ITC at tel: 2117 0333 for appointment. Specialist clinic charge is applicable to HIV clinic at ITC. As of March 2005, HK$100 is charged for first attendance of eligible persons for medical consultation; subsequently HK$60 is charged for each visit. The patients have to pay HK$10 for each unit item of drug. For non-eligible persons, HK$1910 is charged per visit for medical consultation, which is inclusive of basic investigations. Special investigations of CD4/CD8 T lymphocyte subset test and HIV-1 plasma viral load as ordered by doctor is charged at an extra cost of HK$1010 and HK$760 respectively. Drugs prescribed are charged per cost of the drug.

AIDS Counselling & Testing Service

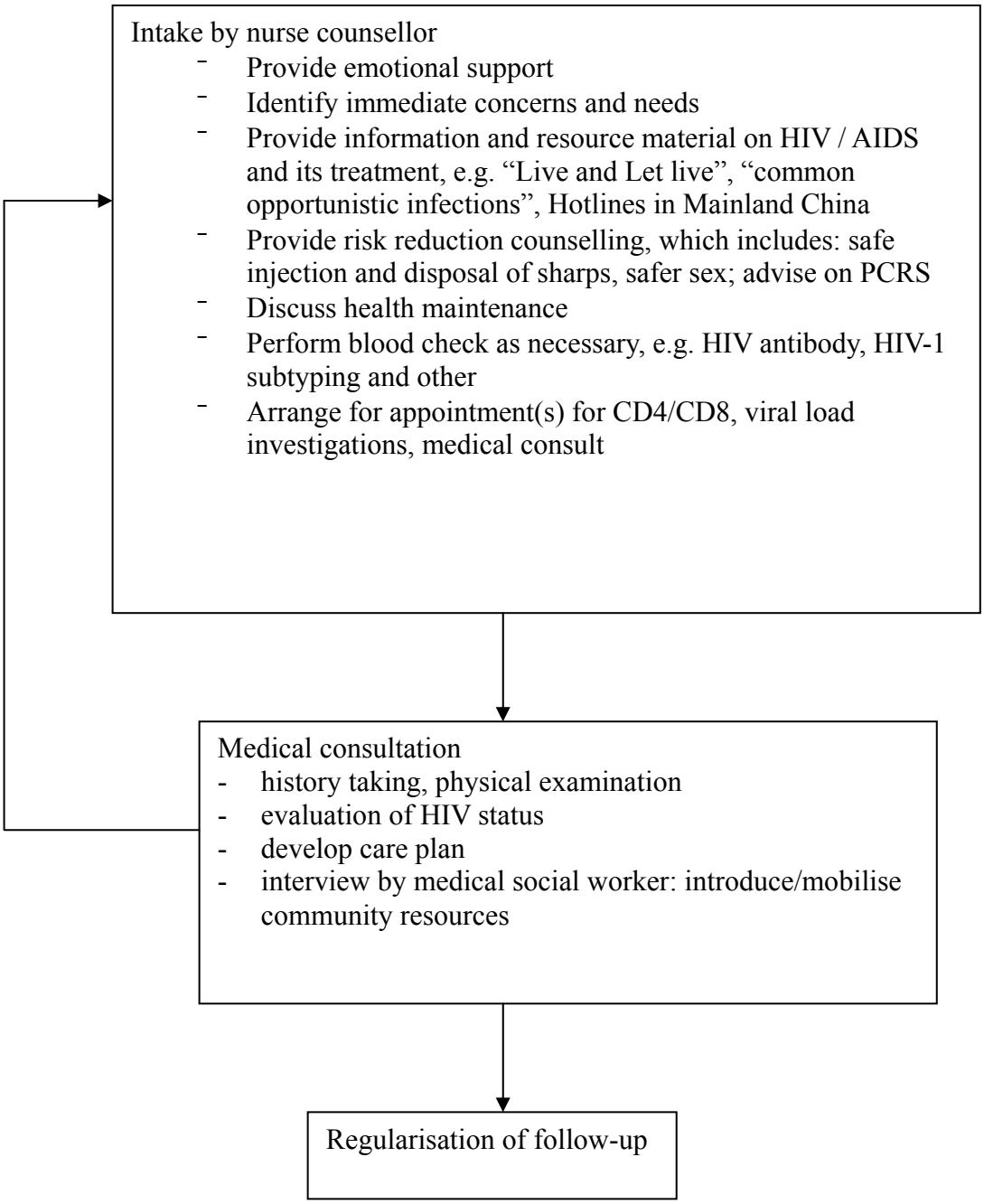
9. Besides providing clinical care to HIV-infected patients, the SPP runs an AIDS Hotline (tel: 2780 2211) and voluntary counselling and testing clinic. Callers to the AIDS Hotline can listen to pre-recorded messages on HIV and sexually transmitted diseases as well as receive telephone counselling from nurse counsellors. When necessary, appointment for anonymous HIV testing and counselling can be arranged through the Hotline. The AIDS counselling and testing services are provided free of charge, and it has received ISO accreditation since 2001.

Integrated Treatment Centre
Centre for Health Protection
Department of Health
March 2005

Annex 1

Prototype of care for new HIV/AIDS patient referred to

Integrated Treatment Centre



Appendix 1

綜合治療中心愛滋病臨床服務 － 簡介

背景

1. 座落於九龍灣健康中心的綜合治療中心於 1999 年中旬開幕，是衞生署特別預防計劃主要之臨床項目。隨著 2004 年 6 月衞生防護中心之成立，特別預防計劃也成爲其新組成之公共衞生服務處成員之一。

2. 綜合治療中心透過其指定愛滋病臨床服務爲愛滋病病毒感染者及愛滋病患者提供治療和護理。中心設立的目的是爲病患者提供全面性優質的臨床護理和有效的基本預防。此外，綜合治療中心亦提供其他服務，例如提供風險暴露後之處理的預防治療診所及爲政府醫護人員而設的乙型肝炎預防疫苗注射服務。

3. 中心由一組醫療護理團隊爲愛滋病病毒感染者及愛滋病患者提供持續性門診式醫療服務。團隊的核心成員由不同專業人員所組成，包括愛滋病專科醫生、護士和經驗豐富的醫務社工。他們竭力保障病患者私隱，並以尊重態度提供全人護理，從而與病患者及其家屬建立互信和治療的伙伴關係。透過有效的治療和護理，以減少病患者的發病率和死亡率便是綜合治療中心之主要目標。一個典型的例子就是：團隊會爲新診斷的感染者/患者提供更密切的治療和護理服務 (參看附件一)。

提供愛滋病治療和護理的各種元素描述如下：

醫療服務

4. 主要提供門診醫療護理，病人需要定期覆診。
   醫療護理主要包括 4 個範疇：

   (1) 維持健康狀況；
   (2) 臨床免疫系統及病毒情況監察；

(3) 機會性感染的預防和治療；及

(4) 抗愛滋病病毒藥物治療。

於 1997 年開始採用的高效抗逆轉錄病毒治療，乃依據病人的個別情況經評估而定的治療方案。病人如需要入院，會直接安排到指定的醫院接受進一步的治療。

輔導服務

5. 護理輔導和心理社會支援乃綜合治療中心爲感染者/患者提供愛滋病治療另外的重要服務。護士輔導員先評估病人的需要，然後作出適當的護理介入措施。輔導服務包括爲病人提供有關愛滋病治療的知識，使病人在處理其病情上能作出最佳的選擇。持續的輔導則病人提供生理、心理和社會的介入，使能達到滿足其個人的需要。隨著高效抗逆轉錄病毒治療的出現，堅持服藥計劃便成爲藥物治療的重要部份，而護士輔導員便是負責執行輔導感染者/患者貫徹服藥的工作。

醫務社會服務

6. 中心內的醫務社會服務乃由專業的醫務社工爲愛滋病病毒感染者及其家屬提供援助。

工作目的包括：

(1) 協助病人及其家屬處理因患病、創傷或殘障而引起的社會和情緒上的問題；

(2) 促進病人及其家屬善用醫療機構和社區所提供的各種醫療及康復服務；

(3) 促進病人達致全面康復和重新融入社會；及

(4) 努力促進病人、其家屬及社會的健康。

公共健康計劃

7. 公共健康控制乃綜合治療中心愛滋病治療的重點，主要項目包括伴侶輔導及轉介服務、風險緩減輔導、性病感染診斷及治療、預防母嬰傳染及堅持服藥計劃。這些項目均融合於臨床護理工作內或個別以獨立活動形式進行。

轉介程序和收費

8. 轉介到綜合治療中心的病人，必須已接受西方印迹測試並確定爲愛滋病病毒感染者方可安排預約時間。轉介部門或病者本人須致電綜合治療中心 21170333 作預約的安排。診所的收費與一般專科診所收費相同。自 2004 年 3 月起，符合資格人士的新症收費爲港幣一百元，其後每次覆診費用爲港幣六十元；每項藥物費用爲港幣十元。非符合資格人士每次診症新症及覆診收費則爲港幣一千九百一十元。此收費已包括基本檢驗，而特別的檢查 ─ CD4/CD8 淋巴細胞數量費用爲港幣一千零一十元，病毒數量則爲港幣七百六十元。藥物費用則按實際成本而定收費。

愛滋病輔導及測試服務

9. 除了爲愛滋病感染者提供臨床服務外，特別預防計劃亦設立愛滋熱線 27802211 及自願性愛滋病輔導及測試服務。致電人士可透過此熱線接聽有關愛滋病及性病的預錄資料，並可直接與護士輔導員對話及接受電話輔導服務。如有需要，可透過熱線安排預約、免費不記名的愛滋病病毒抗體測試及輔導。愛滋病輔導及測試服務經已在 2001 年考獲國際質量管理體系標準(ISO)證書。

綜合治療中心

2005 年 3 月

附件一

愛滋病病毒感染者 / 愛滋病患者轉介到綜合治療中心
接受護理服務的藍本

護士輔導員提供的服務

- 給予情緒支援
- 找出即時的關注及需要
- 提供有關愛滋病及其治療的資料和小冊子，例如《爲了明天》、《常見的機會性感染》、中國有關的熱線電話
- 提供風險緩減輔導，包括安全注射及正確棄置利器的方法、安全性行爲、伴侶輔導及轉介服務
- 討論有關維持健康的方法
- 如有需要，提供驗血檢查，例如愛滋病病毒抗體確證測試、愛滋病病毒 I 的分型測試或其他
- 安排預約時間作 CD4 / CD8 淋巴細胞、病毒數量的血液檢查，醫療診斷

↓

醫療診斷

- 病歷及身體檢查
- 評估愛滋病病況
- 制定治療計劃
- 醫務社工面談：介紹及動員社區資源

↓

定期覆診

Appendix 2

ITC Chronology

1999	• Commencement of services on HIV, viral hepatitis and related areas • Setting up a clinical governance system • Accreditation of training programmes for higher physician trainees of Hong Kong College of Physicians
2000	• Settlement of years of protest by nearby residents • Operation of clinical information system
2001	• Initiation of PMH-ITC Infectious Disease Programme • Start of visiting professor psychiatry service • Embark on collaborative genotypic resistance studies with the University of Hong Kong
2002	• Publication of "HIV Manual 2001" • Embark on basic science studies with clinical and public health significance with the University of Hong Kong
2003	• Completion of 2-year Clinical Infectious Diseases fellowship training at University of British Columbia, Canada by one lead HIV physician
2004	• First joining international multicentre clinical trials – Valtrex study • Evaluation of impacts of highly active antiretroviral therapy in Hong Kong and publication of findings
2005	• Start of Therapeutic drug monitoring • Collaborative Metabolic Research Clinic with the Chinese University of Hong Kong • Start of fellowship training programmes for overseas doctors and nurses • Attachment teaching for final year medical students of Chinese University of Hong Kong • Pilot public health programmes targeting HIV positives

Appendix 3

Abbreviations of antiretroviral drugs

Nucleoside and nucleotide reverse transcriptase inhibitors	
3TC	lamivudine
ABC	abacavir
D4T	stavudine
DDI	didanosine
FTC	emtricitabine
TDF	tenofovir
Protease inhibitors	
APV	Amprenavir
ATV	Atazanavir
IDV	Indinavir
FPV	Fosamprenavir
LPVr	Lopinvair-ritonavir
NFV	Nelfinavir
RTV	Ritonavir
SQV	Saquinavir
TPV	Tipranavir
Non-nucleoside reverse transcriptase inhibitors	
DLV	Delavirdine
EFZ	Efavirenz
NVP	nevirapine

Appendix 4

List of major mutations used for corresponding antiretroviral drugs as based on IAS-USA consensus (Fall 2005 update)

Nucleoside and nucleotide reverse transcriptase inhibitor (NRTI/NtRTI)	
M41L	AZT, D4T
E44D	3TC, AZT, D4T
K65R	3TC, ABC, D4T, DDI, FTC, TDF
D67N	AZT, D4T
T69 insertion (as "T69_" in CIS)	3TC, ABC, AZT, D4T, DDI, FTC, TDF
K70R	AZT, D4T
L74V	ABC, DDI
Y115F	ABC
V118I	AZT, D4T
Q151M	3TC, ABC, AZT, D4T, DDC, DDI, FTC
M184I	3TC, FTC
M184V	3TC, ABC, FTC
L210W	AZT, D4T
T215F	AZT, D4T
T215Y	AZT, D4T
K219E	AZT, D4T
K219Q	AZT, D4T
Non-nucleoside reverse transcriptase inhibitor (NNRTI)	
L100I	EFZ, NVP
K103N	DLV, EFZ, NVP
V106A	NVP
V106M	DLV, EFZ, NVP
V108I	EFZ, NVP
Y181C	DLV, EFZ, NVP
Y181I	EFZ, NVP
Y188C	NVP
Y188H	NVP
Y188L	DLV, EFZ, NVP
G190A	EFZ, NVP
G190S	EFZ
P225H	EFZ
P236L	DLV
Protease inhibitor (PI)	
D30N	NFV
V32I	LPV/r
L33F	TPV/r
M46I	IDV
M46L	IDV
I47A	LPV/r
I47V	LPV/r
G48V	SQV
I50L	ATV

I50V	APV, FPV
V82A	IDV, LPV/r, RTV
V82F	IDV, LPV/r, RTV
V82L	TPV/r
V82S	LPV/r, RTV
V82T	IDV, LPV/r, RTV, TPV/r
I84V	APV, ATV, IDV, FPV, RTV, TPV/r
L90M	NFV, SQV

Appendix 5

Abbreviations other than antiretroviral drugs

ADI	AIDS-defining illnesses
AIDS	Acquired immunodeficiency syndrome
ART	Antiretroviral therapy
CHP	Centre for Health Protection
DH	Department of Health
GRT	Genotypic resistance testing
HAART	Highly active antiretroviral therapy
HIV	Human immunodeficiency virus
IAS-USA	International AIDS Society – USA
IDU	Injecting drug user
ITC	Integrated Treatment Centre
MSM	Men who have sex with men
MTCT	Mother-to-child transmission
NCR	New case registry
NNRTI	Non-nucleoside reverse transcriptase inhibitor
nRTI	Nucleoside and nucleotide reverse transcriptase inhibitor
NRTI	Nucleoside reverse transcriptase inhibitor
NtRTI	Nucleotide reverse transcriptase inhibitor
PCP	*Pneumocystis carinii* pneumonia, now renamed *Pneumocystis jerovecii* pneumonia
PCR	Polymerase chain reaction
PCRS	Partner counseling and referral service
PI	Protease inhibitor
PMH	Princess Margaret Hospital
SPP	Special Preventive Programme
STD	Sexually transmitted diseases
STI	Sexually transmitted infection
TAM	Thymidine analogue-associated mutations
TB	Tuberculosis
VCT	Voluntary counseling and testing

Appendix 6

List of article publications of ITC (1999 to 2005)

2005

1. RLM Ho, KLS Cheng, WL Lim, KH Wong. Epidemiology and enhanced surveillance of hepatitis C in Hong Kong. Public Health & Epidemiology Bulletin 2005; December:52-57.

2. Zhao XY, Lee SS, Wong KH, Chan KC, Ng F, Chan CC, Han D, Yam WC, Yuen KY, Ng MH, Zheng BJ. Functional Analysis of Naturally Occurring Mutations in the Open Reading Frame of CCR5 in HIV-Infected Chinese Patients and Healthy Controls. JAIDS 2005;38:509-517.

3. Wong KH, Chan KCW, Tse ICT. HIV Testing - What does it mean to us?!. The Hong Kong Medical Association CME Bulletin 2005; Dec:1-4.

4. Wong KH, Lee SS, Chan KCW. Screen for underlying HIV before antiviral treatment for HBV. J Infect 2005;51:172-173.

5. Chan CW, Cheng LS, Chan WK, Wong KH. Highly active antiretroviral therapy per se decreased mortality and morbidity of advanced human immunodeficiency virus disease in Hong Kong. Chin Med J 2005;118:1338-1345.

6. Wong KH. Declining prevalence of hepatitis B in Hong Kong. Communicable Diseases Watch 2005;93-95.

7. Lee SS, Wong KH. . The use of total lymphocyte count (TLC) as an independent criterion for initiating HAART in resource-poor countries. J Infect 2005;50:66-67.

2004

1. Zhao XY, Lee SS, Wong KH, Chan KCW, He ZM, M S, Chan CCS, Ho T, Ng MH, Zheng BJ. A novel CCR5 mutation selectively affects immunoreactivity and fusogenic property of the HIV co-receptor in a slow progressing HIV patient. AIDS 2004;18:1729-1732.

2. Wong KH, Chow WS, Lee SS. Clinical hyperthyroidism in Chinese patients with stable HIV disease. Clin Infect Dis 2004;39:1257-1259.

3. Wong ATY, Tsang OTY, Wong KH, Wong MYF, Lim WL, Zheng BJ, Lee SS, Lai ST, Yuen KY & members of the PMH SARS Study Group. Coronavirus infection in an AIDS patient. AIDS 2004;18:829-830.

4. Wong KH, Chan KCW, Lee SS. Delayed progression to death and to AIDS in a Hong Kong cohort of patients with advanced HIV disease during the era of highly active antiretroviral therapy. Clin Infect Dis 2004;39:853-860.

5. Zhao XY, Lee SS, Wong KH, Chan KCW, Ma S, Yam WC, Yuen KY, Ng MH, Zheng BJ. Effects of single nucleotide polymorphisms in the RANTES promoter region in healthy and HIV-infected indigenous Chinese. European Journal of Immunogenetics 2004;31:179-183.

6. Wong KH, Liu YM, Ng PSP, Young BWY, Lee SS. Epidemiology of hepatitis A and hepatitis E infection and their determinant in adult Chinese community in Hong Kong. J Med Virol 2004;72:538-544.

7. Zhao XY, Lee SS, Wong KH, Chan KCW, Ng Fai, Chan CCS, Han D, Yam WC, Kwok YY, Ng MH, Zheng BJ. Functional analysis of naturally occurring mutations in open reading frame of CCR5 in Chinese HIV patients and healthy controls. J Acquir Immune Defic Syndr. 2005;38:509-517.

8. Zheng BJ, Guan Y, Wong KH, Zhou J, Wong KL, Young BWY, Lu LW, Lee SS . SARS-related Virus Predating SARS Outbreak, Hong Kong. Emerging Infectious Diseases 2004;10:176-178.

9. Zheng BJ, Zhou J, Qu D, Leung SK, Lam TW, Lo HY, Lee SS, and Wen YM. Selective functional deficit in dendritic cell T cell interaction is a crucial mechanism in chronic hepatitis B virus infection. J Viral Hepatitis 2004; 11:217-224

10. Ho CF, Wong KH, Chan CW, Lee SS, Chiu WF, Ng YW, Lui WF. The current pattern and course of acute HBV infection in Hong Kong. J Gastroenterol Hepatol 2004;19:602-603.

2003

1. SS Lee, KH Wong, WL Lim, BWY Young. Children's age affects hepatitis B vaccine response. J Gastroenterol Hepatol 2003;18:750-751.

2. OW Fong, CF Ho, LY Fung, FK Lee, WF Tse, CY Yuen, KP Sin, KH Wong. Determinants of adherence to highly active antiretroviral therapy (HARRT) in Chinese HIV/AIDS patients. HIV Medicine 2003;4:133-138.

3. CF Ho, KH Wong, CW Chan, SS Lee, WF Chiu, YW Ng, WF Lui. The current pattern and course of acute HBV infection in Hong Kong. J Gastroenterol Hepatol 2003; 19:602-603.

2002

1. Ho CF, Fong OW, Wong KH. Patient self-report as a marker of adherence to antiretroviral therapy. Clin Infect Dis 2002;34:1534-1535.

2. Zheng BJ, Zhao XY, Zhu NS, Chan CP, Wong KH, Chan KCW, Yam WC, Yuen KY, SS Lee. Polymorphisms of CCR5 gene in a southern Chinese population and their effects on disease progression in HIV infections. AIDS 2002;16:2480-2482.

3. Chan KCW, Tang HWK, Wong KH. Prevalence of purified protein derivative in human immunodeficiency virus infected individuals in Hong Kong. Chin Med J (Beijing) 2002;115:1091-1092.

4. SS Lee, BWY Young, KH Wong, WL Lim. The implications of a reduced dose hepatitis B vaccination schedule in low risk newborns. Vaccine 2002;20:3752-3754.

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1. Wong SS, Wong KH, Hui WT, Lee SS, Lo JY, Cao L, Yuen KY. Differences in Clinical and Laboratory Diagnostic Characteristics of Penicilliosis Marneffei in Human Immunodeficiency Virus (HIV)- and Non-HIV-Infected Patients. J Clin Microbiol 2001;39:4535-4540.

2. Kam KM, Leung WL, Wong KH, Lee SS, Hung MY, Kwok MY. Maturational changes in peripheral lymphocyte subsets pertinent to monitoring HIV infected Chinese pediatric patients. Clin Diagn Lab Immunol 2001;8:926-931.

3. Samaranayake YH, Samaranayake LP, Tsang PC, Wong KH, Yeung KW. Heterogeneity in antifungal susceptibility of clones of Candida albicans isolated on single and sequential visits from a HIV-infected southern Chinese cohort. J Oral Pathol Med 2001;30:336-346.

4. Wong KH, Chan KC, Lee SS. Sex differences in nevirapine rash. Clin Infect Dis 2001;33:2096-2097.

1999

1. Ho TTY, Chan KCW, Wong KH, Lee SS. Indinavir-associated facial atrophy inn HIV-infected patients. AIDS Patient Care and STDs 1999;13:11-16.

2. Ho TTY, Wong KH, Lee SS. low yield of chest radiography in screening for active pulmonary tuberculosis in HIV-infected patients in Hong Kong. Int J of STD & AIDS 1999;10:409-412.

Appendix 7

List of abstract and meeting presentations of ITC (1999-2005)

2005

1. Ho CF, Wong KH, Chan KCW, Lee SS, Lee CK, Mak WL, Kwong SC, Leung KY. Antiretroviral therapy-associated metabolic abnormalities among HIV-infected Chinese patients. 7th International Congress on AIDS in Asia and the Pacific, Kobe, Japan, 1-5 Jul 2005. Poster exhibition [SaPA0013].
2. Chan Chi-wai Kenny, Cheung Lai-sim Kathy, Chan Wai-kit, Wong Ka-hing. Declining mortality and morbidity of advanced HIV disease with the use of HAART in Hong Kong. 2005. 7th International Congress on AIDS in Asia and the Pacific July 1-5, 2005 Kobe, Japan.
3. Ho CF, Wong HY, Wong KH, Chen CN, Cheng SK, Fong OW, Tse WH, Yuen CY, Wong PS, Lam WL. Determinants of quality of life in HIV- infected Chinese patients. 7th International Congress on AIDS in Asia and the Pacific, Kobe, Japan, 1-5 Jul 2005. Poster exhibition [SuPB0053].
4. Zheng BJ, Lee SS, Wong KH, Chan KCW, Zhang HJ, Wu SHW, Lu LW.. Ex vivo expansion of functional CD4 T cells from HIV patients. 2005. The 6th International Workshop on HIV, Cells of Macrophage /Dendritic Lineage and Other Reservoirs. 5-7 October 2005. Varenna, Italy.
5. Wong KH, Chan WK, Chan KCW, Lee SS. Pattern of AIDS-defining illness and mortality in the era of highly active antiretroviral therapy. 2005. 7th International Congress on AIDS in Asia and the Pacific July 1-5, 2005 Kobe, Japan.
6. Zhao XY, Lee SS, Wong KH, Chan KCW, Ng F, Chan CCS, Yam WC, Yuen KY, Ng MH, Zheng BJ. Polymorphisms and Functional Analysis of CCR5 Gene in Southern Chinese HIV Patients and Healthy Controls. 2005. Keystone Symposia HIV Pathogenesis (X7). 9-15 April, 2005. Banff, Alberta, Canada.

2004

1. OW Fong, A Chiu, R Lui, CF Ho, PH Choi. An Evaluation of Infection Control Workshop for Workmen. 2004. 2nd International Congress of the Asia Society of Infection Control, Hong Kong.
2. KCW Chan, MKT Chan, KH Wong, SS Lee . Cardiovascular disease as emerging cause of morbidity and mortality in HIV disease. 2 case reports. 2004. 12th Annual Scientific Congress of Hong Kong College of Cardiology June 4, 2004.
3. KCW Chan, WK Chan, K Cheng, KH Wong. Decreasing mortality of AIDS since the availability of HAART in Hong Kong. 2004. Eighth Annual Scientific Meeting of Hong Kong Society for Infectious Diseases, March 6, 2004.

4. KH Wong, KCW Chan, SS Lee, MKT Chan, K Lee. Delayed death and AIDS progression in an Asian cohort of advanced HIV disease patients in the HAART era. 2004. XV International AIDS Conference, Bangkok, Thailand 10-16 July 2004.

5. Xiu-ying Zhao, SS Lee, KH Wong, KCW Chan, Selene Ma, Mun-hon Ng, Bo-jian Zheng. Effects of single nucleotide polymorphism in the RANTES promoter region on HIV infection and disease progression in indigenous Chinese. 2004. XV International AIDS Conference, Bangkok, Thailand 10-16 July 2004.

6. Wong KH, Chan KCW, Cheng KLS, Chan WK, Kam KM, Lee SS. HAART initiation in Chinese HIV/AIDS patients when their CD4 level is 100-150/ul is not associated with faster clinical disease progression. 2004. 44th Interscience Conference on Antimicrobial Agents and Chemotherapy, Washington, DC, USA. October 30-November 2, 2004.

7. WK Chan, Gladys Yuen, KH Wong. Profiling of HIV clinic patients for determining the prevalence of recent infection. 2004. XV International AIDS Conference, Bangkok, Thailand 10-16 July 2004.

8. KH Wong, WC Yam, MKT Chan, KCW Chan, K Lee, SS Lee. Resistance mutations in patients with HIV-1 subtype A/E failing their first HAART or non-HAART. 2004. XV International AIDS Conference, Bangkok, Thailand 10-16 July 2004.

9. KH Wong. " Making use of the clinical care system for HIV prevention and control". Health Forum for Chinese Community, Taipei. 2004.

10. Zhao XY, Lee SS, Wong KH, Chan KCW, He ZM, Ma S, Ng F, Chan CCS, Ho T, Ng MH, Zheng BJ. A Novel CCR5 Mutation Selectively Affects Immunoreactivity and Fusogenic Property of the HIV Co-receptor in a Slow Progressing HIV Patient.13th International Symposium on HIV & Emerging Infectious Diseases. 3-5 June, 2004. Toulon, France.

11. Wong KH, Chan KCW, Lee SS. Beware of underlying HIV when treatment is contemplated for hepatitis B. The Third International Conference on AIDS and Other Infections, Nanning, China, December 1-3, 2004. Printed Abstract.

12. Wong KH, Chan KCW, Lee SS. Incorporating a clinical information system in the management of HIV infection. The Third International Conference on AIDS and Other Infections, Nanning, China, December 1-3, 2004. Printed Abstract.

<u>2003</u>

1. MKT Chan, KKH Low, KM Ho, KK Lo, SS Lee. Difference in Types and Patterns of Sexually Transmitted Infections Seen by Private and Public Practitioners in Hong Kong. 2003. Seventh Annual Scientific Meeting. The Hong Kong Society for Infectious Diseases 22 March 2003.

2002

1. B J Zheng, S S Lee, K H Wong, K C W Chan, N S Zhu, S C P. A predominant mutation of CCR5 gene and its effect on HIV disease progression in Chinese patients. TuPeA4356. XIV International AIDS Conference. 7-12 Jul, 2002.

2. SS Lee, KH Wong, KCW Chan, NS Zhu, SCP Chan, BJ Zheng. A predominant mutation of CCR5 gene and its effects on HIV disease progression in Chinese patients. 2002. XIV World AIDS Conference (Barcelona) 7-12 July, 2002.

3. Zheng BJ, Leung SK, Wong KH, Lee SS. Expression of CCR5 Expression of CCR5 on dendritic cells is a surrogate marker for HIV disease progression. 2002 9th Conference on Retroviruses and Opportunistic Infections. Seatle, Washington, Feb 2002.

4. Wong KH, Zheng BJ, et al. Mutations of CCR5 Gene in Chinese population of Hong Kong and Their Effects on Disease Progression in HIV Infections. Molecular basis of development and disease. August 17-20, 2002, Zhang Jia Jie, China.

5. WC Yam, KH Wong, SS Lee. Prevalence and pattern of genotypic drug resistance among HIV patients in Hong Kong. 2002. XIV World AIDS Conference (Barcelona) 7-12 July, 2002.

6. KM Ho, KK Ho, CK Lin. Recombinant-antigen enzyme immunoassay (EIA) as a screening test for syphilis in people with HIV infection. 2002. XIV World AIDS Conference (Barcelona) 7-12 July, 2002.

7. WC Yam, KH Wong, SS Lee. Reliability of Genotypic Drug Resistance Testing for B and non-B subtypes HIV-1 from patients in Hong Kong. 2002. 42nd Interscience Conference on Antimicrobial Agents and Chemotherapy.

2001

1. Fong OW, Ho CF, Fung S, Tse F, Yuen G, Sin KP. Determinants of adherence to HAART in Chinese HIV/AIDS patients. 2001. 6th ICAAP. Melbourne.

2. Fan KCM. Review on psycho-social problems and concerns of HIV infected adults in HK. 2001. Hong Kong AIDS Conference 2001, 27-29 August 2001, HKSAR.

3. SS Lee, KH Wong. The age effect on the response to hepatitis B vaccine in children. 2001. Annual Scientific Meeting, Hong Kong Society for Immunology. 21 April 2001.

4. SS Lee, KH Wong. The age effect on the response to hepatitis B vaccine in children. 2001. [Abstract] Asian Pacific Journal of Allergy and Immunology 2001;19:154.

5. Ng YW, Fong OW, Ng SC, Lam WM. To streamline the management of exposure to blood or body fluids under a Therapeutic Prevention Clinic in Hong Kong. 2001. 6th ICAAP. Melbourne.

2000

1. W.K. Tang, K.H. Wong, C.K. Chan, C.M. Tam. Clinical epidemiology of HIV-1 and tuberculosis co-infection in Hong Kong. 2000. XIIIth International Conference on AIDS, Durban, South Africa 9-14 July 2000.

2. K. Chan, K.H. Wong. Correlation between total lymphocyte count and CD4+ count in HIV-infected Chinese. 2000. XIIIth International Conference on AIDS, Durban, South Africa 9-14 July 2000.

3. SS Lee. Maximizing Immunity against Viral Infections-Lessons from HIV and HBV. 2000. The Federation's Anniversary Scientific Meeting 2000, Hong Kong 22 Oct 2000.

4. Wong KH. Clinical profile and treatment of HIV/AIDS – an Update. Hong Kong Medical Forum. Hong Kong. 1-2 July 2000.

5. HWK Tang, KCW Chan, KH Wong, EYY Lai. Prevalence of PPD positivity in HIV-infected Chinese in Hong Kong. [P2.59] 7th Western Pacific Congress of Chemotherapy & Infectious Diseases. Hong Kong.11-14 December. 2000

6. Chan KCW, Wong KH, Lee SS. Setting the agenda for quality assurance in an HIV clinic cum day care centre. 2000. Quality in practice Hong Kong Hospital Authority Convention 2000, Hong Kong, 7-10 May 2000.

1999

1. Wong KH. Opportunistic tumours in HIV infection - an update. 1999
   5th International Congress on AIDS in Asia and the Pacific, Kuala Lumpur, Malaysia, 20-27 October 1999.

2. KH Wong, SS Lee. Rising importance of tuberculosis as a primary AIDS-defining illness in Hong Kong. 1999. 20th Eastern Region Conference of the International Union Against Tuberculosis & Lung Disease, Hong Kong, June 4-7, 1999.

3. KH Wong. The Impact of HAART. 1999. Annual Scientific Meeting of Dermatology and Venereology 1999 and Hair Workshop 1999. Hong Kong, 17-18 July 1999.

4. Chan YV. Using a quality improvement approach to support drug adherence: a Hong Kong experience. 1999. 5th International Congress on AIDS in Asia and the Pacific, Kuala Lumpur, Malaysia, 20-27 October 1999.

5. Wong KH, Chan K, Low K. Using NNRTI (nevirapine) in combination antiretroviral therapy for HIV disease in Hong Kong. 1999. 5th International Congress on AIDS in Asia and the Pacific, Kuala Lumpur, Malaysia, 20-27 October 1999.

Appendix 8

Guidelines, Reports and Books contributed by ITC (1999-2005)

Guidelines

- Precautions for Handling and Disposal of Dead Bodies. Department of Health, Hospital Authority, Food and Environmental Hygiene Department. 2005. 2002.
- 處理及處置屍體所需的預防措施. 衛生署, 醫院管理局, 食物環境衛生署. 2005.
- Recommendations on Infection Control Practice for HIV Transmission in Health Care Settings. Scientific Committee on AIDS, co-sponsored by the Hong Kong Advisory Council on AIDS and the Centre for Health Protection, Department of Health. 2005, 2003, 2000.
- Scientific Committee on AIDS co-sponsored by the Hong Kong Advisory Council on AIDS and the Centre for Health Protection, Department of Health. Recommended Framework for the Delivery of HIV Clinical Care in Hong Kong. 2005.
- Scientific Committee on AIDS. Recommended Principles of Antiretroviral Therapy in HIV Disease. 2005.
- Recommendations on Hepatitis B Vaccination Regimens in Hong Kong-consensus of the Scientific Working Group on Viral Hepatitis Prevention Addendum 2004. 2001.
- Committee on Promoting Acceptance of People Living with HIV/AIDS (CPA) of the Hong Kong Advisory Council on AIDS. Recommended Ethical Principles on Partner Counselling and Referral for HIV Infected Individuals in Hong Kong. 2004.
- Social Hygiene Service, Centre for Health Protection, Department of Health. Recommendations in Case Management of Sexually Transmitted Infections (STIs) in Hong Kong 2004. 2002.
- Committee on Promoting Acceptance of People Living with HIV/AIDS (CPA) of the Hong Kong Advisory Council on AIDS. Recommended Ethical Principles Regarding the Use of Assisted Reproduction in HIV Infected Individuals. 2004.
- Scientific Committee on AIDS & Scientific Working Group on Viral Hepatitis Prevention. Recommendations on the Management and Postexposure Prophylaxis of Needlestick Injury or Mucosal Contact to HBV, HCV and HIV. 2003. 2000.
- 對被利器刺傷及經黏膜與乙型肝炎、丙型肝炎及愛滋病病毒接觸後的處理方法及預防措施 - 策略原則. 愛滋病科學委員會預防病毒性肝炎科學工作小組. 2003, 2000.
- Scientific Committee on AIDS of Hong Kong Advisory Council on AIDS. Recommended Principles on the Application of the HIV Antibody Rapid Test in Hong Kong. 2003.

- Scientific Committee on AIDS of Hong Kong Advisory Council on AIDS. Recommendations on the Management of HIV Infection in Infants and Children. 2002. 2001.
- Scientific Committee on AIDS of Hong Kong Advisory Council on AIDS. Recommendations on the Treatment of Latent TB infection in HIV-positive Persons in Hong Kong. 2002.
- Scientific Committee on AIDS, Advisory Council on AIDS. Recommended Clinical Guidelines on the Prevention of Perinatal HIV Transmission. 2001.
- 香港愛滋病顧問局愛滋病科學委員會. 預防圍產期愛滋病傳播的建議臨床指引. 2001.

Reports

- Scientific Committee on AIDS, co-sponsored by the Hong Kong Advisory Council on AIDS and the Centre for Health Protection, Department of Health. Evaluation of the Effectiveness and Efficiency of Universal Antenatal HIV Testing Programme in Hong Kong – Review of the Years 2001 to 2004. 2005.
- Special Preventive Programme, Centre for Health Protection, Department of Heath. A Clinical Governance Report on the Monitoring and Evaluation of HIV Clinical Management at Integrated Treatment Centre 1999 – 2004. 2005.
- Committee on Promoting Acceptance of People Living with HIV/AIDS (CPA) of the Hong Kong Advisory Council on AIDS. Review on Social and Support Services to People with HIV/AIDS in Hong Kong. 2005.
- Surveillance of Viral Hepatitis in Hong Kong - 2004 Update Report. 2005.
- The Forgotten Tragedy · The Unforgettable Trauma · Addressing the needs of people affected by haemophilia and HIV infection in Hong Kong. *Final report of the Hong Kong Advisory Council on AIDS* Hong Kong Advisory Council on AIDS. 2004.
- Surveillance of Viral Hepatitis in Hong Kong - 2003 Update Report. 2004.
- Scientific Committee on AIDS of the Hong Kong Advisory Council on AIDS. Report on the Implementation of the Universal Antenatal HIV Testing Programme in the Public Service. 2003.
- Surveillance of Viral Hepatitis in Hong Kong - 2002 Update Report. 2003.
- Red Ribbon Centre. Resistance of the Neighbourhood Community to the AIDS Treatment Facilities - Case Study of Kowloon Bay Health Centre. 2002.
- 紅絲帶中心. 鄰近社區對愛滋病治療設施的抗拒 - 九龍灣健康中心個案研究. 2002.
- Surveillance of Viral Hepatitis in Hong Kong - 2001 Update Report. 2002.
- Special Preventive Programme Department of Health. Glossary on HIV/AIDS and Related Terms. 2001.
- 衛生署特別預防計劃. 愛滋病毒愛滋病及其相關的辭語. 2001.
- Scientific Working Group on Viral Hepatitis Prevention. Hepatitis B Vaccination Programme in Public Services in Hong Kong - Protocol update 2001.
- Scientific Working Group on Viral Hepatitis Prevention. A Consensus Paper on the

Public Health Significance of Hepatitis C Infection in Hong Kong. 2001
- Surveillance of Viral Hepatitis in Hong Kong - 2000 Update Report. 2001.
- Surveillance of Viral Hepatitis in Hong Kong - 1999 Update Report. 2000.

Books
- HIV Manual 2001. Kenny Chan, KH Wong and SS Lee. Published by the Integrated Treatment Centre, Special Preventive Programme, Department of Health, 2001.

- The First Decade of AIDS in Hong Kong - a collection of essays. Edited by SS Lee and CW Chan. Published by the Advisory Council on AIDS, 1999.

Appendix 9

Selected list of other resource productions on HIV for patients and workers by ITC (1999-2005)

Accessible at http://www.info.gov.hk/aids/english/itc/resource.htm

Resource Book

Year	Title
2002	HIV Antibody Testing
2000	Getting Pregnant
2000	New Life
1999	Cholesterol and Triglyceride
1999	Needle stick injury

To Know More Poster Series

Year	Title
2005	More Healthy, Better Figure, Be confident
2005	The story of fire (HIV) and oil (STIs)
2005	Immunocompromised people - Common Oral Problems
2004	Quit Smoking: Stay Healthy 7 Steps to Quit Smoking
2004	Beware of Super-infection with HIV
2004	Why Gynaecological Checkup is Important ?
2003	Human Immunodeficiency Virus (HIV) Infection And Pregnancy
2003	9 Tips on Successful Drugs Taking
2003	Prevention of Respiratory Tract Infection
2002	Oral Candidiasis
2002	Tuberculin Skin Test
2002	Penicillium Marneffei
2002	What is Mycobacterium Avium Intracellulare (MAI)?
2001	Common Viral Diseases of Skin
2001	Cholera
2001	Infections affecting the Gut
2000	Infections affecting the Brain
2000	Taking good care of your health
1999	Opportunistic infections
1999	Tips on traveling
1999	Why do you need to use the condom

Booklet

Year	Title
2004	An Introduction to Antiretroviral Therapy Drug Adherence - A Key to Treatment SUCCESS

2003	Live and Let Live
2003	Opportunistic infection
2001	爲了明天 *Chinese version*

Pamphlet/ Leaflet

Year	**Title**
2004	Management after Needlestick injuries or Mucosal Contacts of Blood and body fluids
1999	Therapeutic Preventive Clinic
1999	Special Preventive Programme Clinical Service

Newsletter - Red Ribbon Bulletin

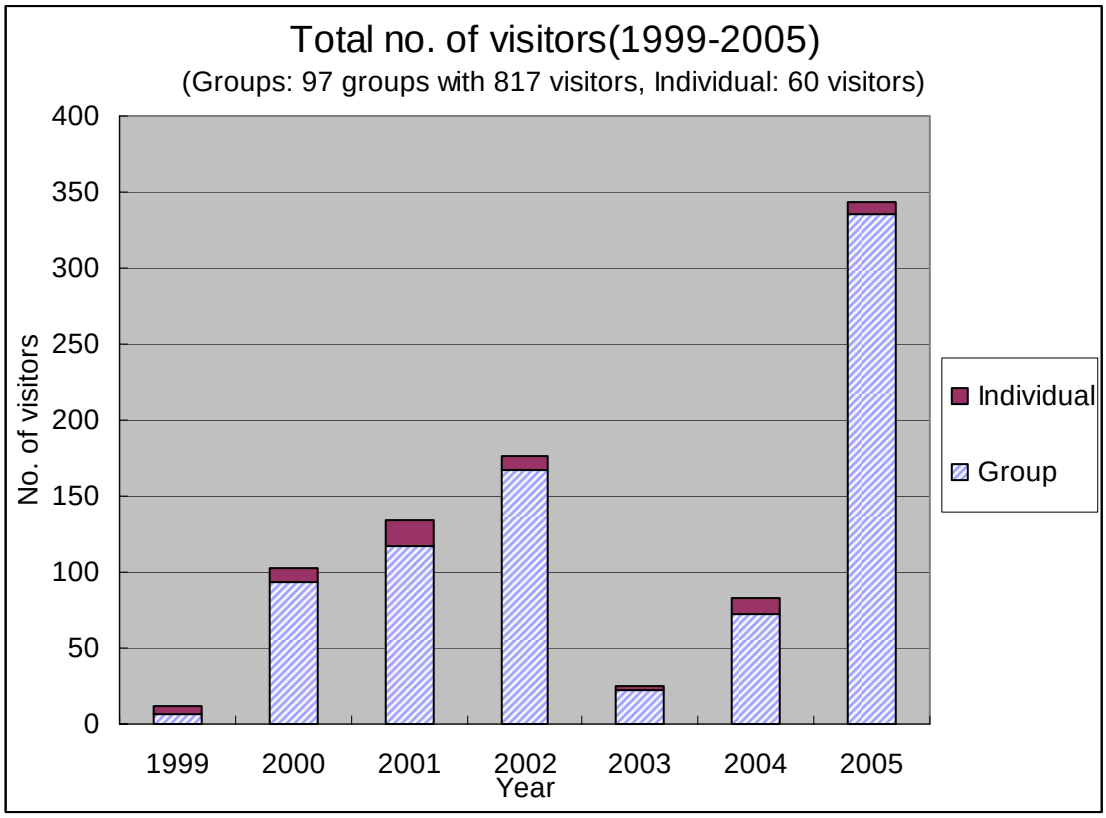
Issue No.	**Year**
21	2005
20	2005
19	2005
18	2004
17	2004
16	2004
15	2003
14	2003
13	2003
12	2002
11	2002
10	2001
9	2000
紅絲帶特刊	1999

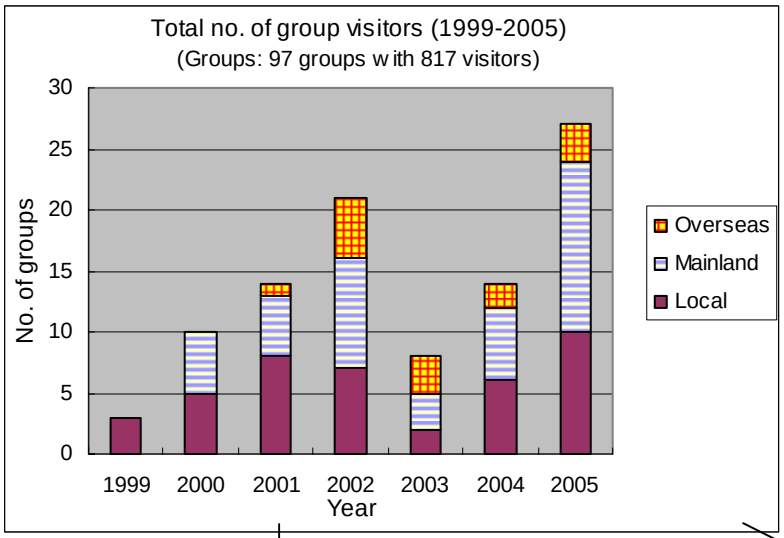
Drug Information Material

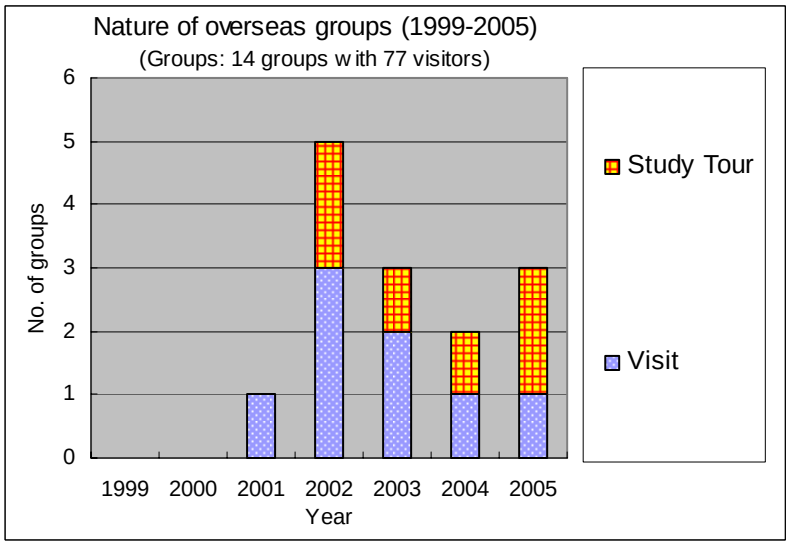
Year	**Title**
2005	Antiretroviral Drugs

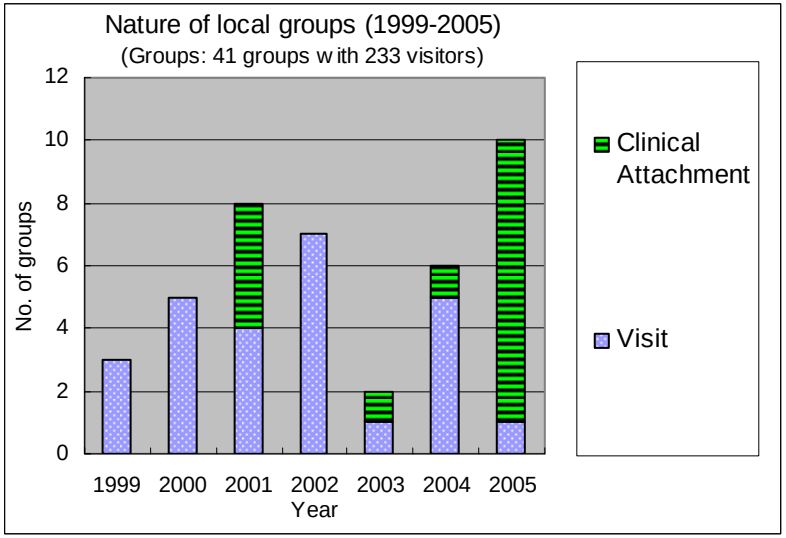
Appendix 10

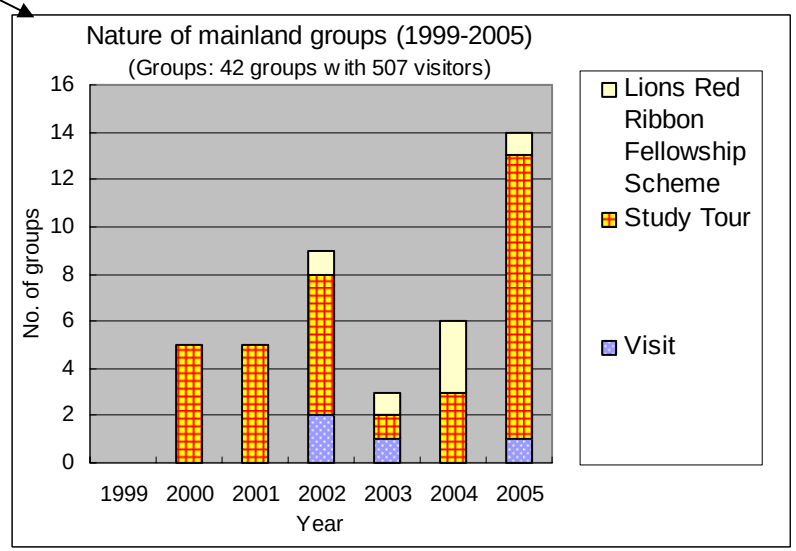
Group and individual visitors of ITC (1999-2005)

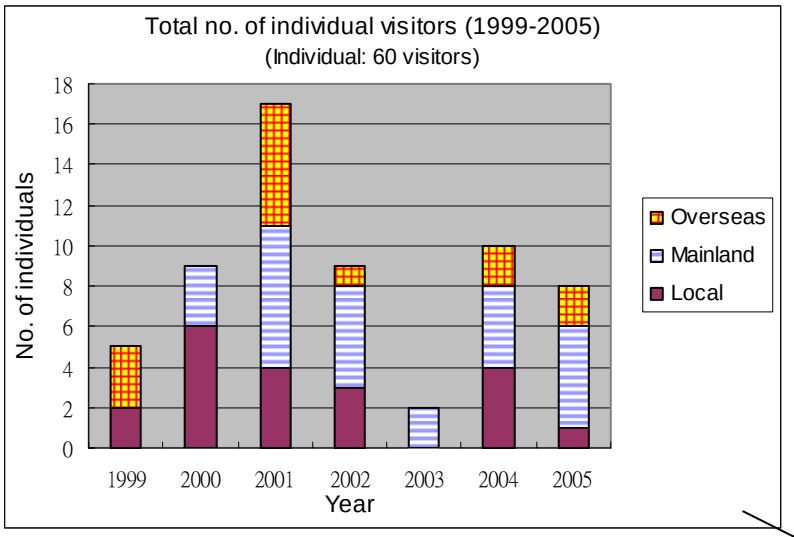


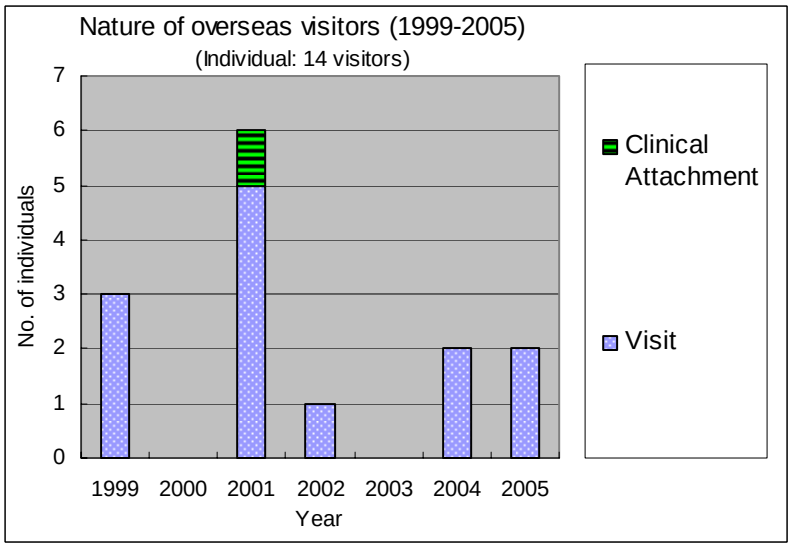

Total no. of group visitors (1999-2005)
(Groups: 97 groups with 817 visitors)
No. of groups
Year
Overseas
Mainland
Local

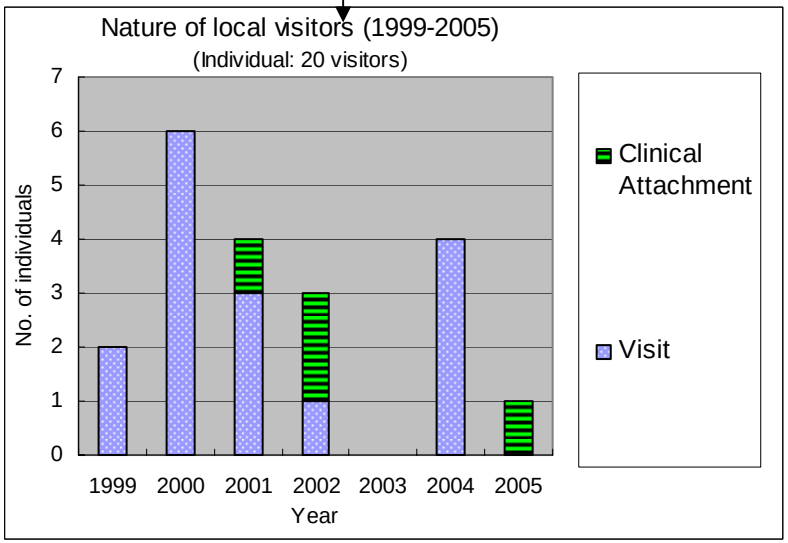

Nature of overseas groups (1999-2005)
(Groups: 14 groups with 77 visitors)
No. of groups
Year
Study Tour
Visit

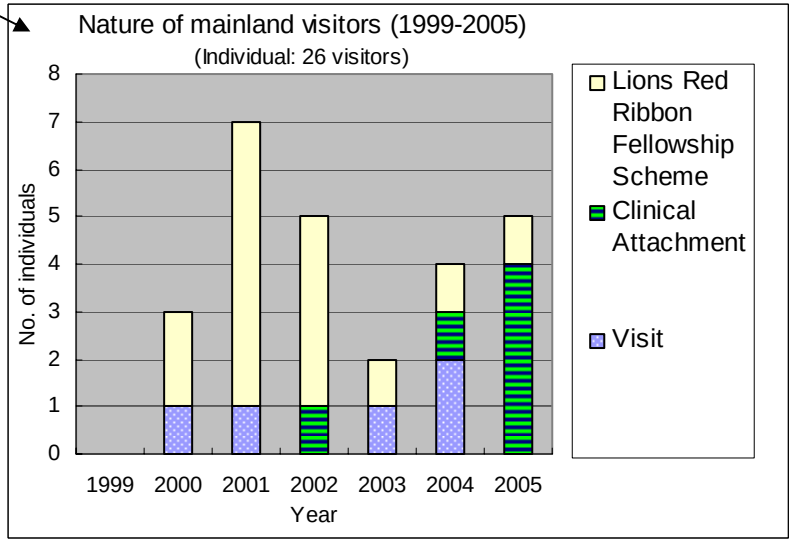

Nature of local groups (1999-2005)
(Groups: 41 groups with 233 visitors)
No. of groups
Year
Clinical Attachment
Visit


Nature of mainland groups (1999-2005)
(Groups: 42 groups with 507 visitors)
No. of groups
Year
Lions Red Ribbon Fellowship Scheme
Study Tour
Visit


Total no. of individual visitors (1999-2005)
(Individual: 60 visitors)
No. of individuals
Year
Overseas
Mainland
Local


Nature of overseas visitors (1999-2005)
(Individual: 14 visitors)
No. of individuals
Year
Clinical Attachment
Visit


Nature of local visitors (1999-2005)
(Individual: 20 visitors)
No. of individuals
Year
Clinical Attachment
Visit


Nature of mainland visitors (1999-2005)
(Individual: 26 visitors)
No. of individuals
Year
Lions Red Ribbon Fellowship Scheme
Clinical Attachment
Visit

Appendix 11

Selected photos of ITC activities

A professional visit to ITC was organized by the Hong Kong Nurses Training and Education Foundation for Mainland nursing managers (考察護理管理組) on 22.2.2004

33 Chinese Government Officials and 4 World Vision staff visited Integrated Treatment Centre on 11.8.2005.

Director of Macau Social Welfare Bureau and his fellow workers visited Integrated Treatment Centre on 2.9.2004. Photo showed a demonstration by Ms. CHENG So-kwan, Nursing Officer, on the use of multi-compartment pillbox for easy identification of different kinds of drugs with various dosage by the clients during their clinic visit.

Ms. TSE Yin-yee, Maria Fatima, a practicing senior nurse from Drug Rehabilitation Centre under the Social Welfare Bureau, Macao completed the 'Clinical Attachment Programme for Fellowship in Clinical HIV Nursing' during the period 4.4.2005 to 30.4.2005.

In-service training on infection control measure for influenza preparedness in December 2005.

Infection Control Training on Portacount Installation and Quantitative Fit Test (QNFT) in May 2005.

Doctors, nurses and medical social workers at the 2004 Patient Support Group Christmas Party.

A Half Day Attachment Programme for Final Year Medical Students of The Chinese University of Hong Kong at Integrated Treatment Centre was established in 2005.

Second from the right is Ms. WU Dong-ling from Beijing, the first 'Clinical Attachment Programme for Fellowship in Clinical HIV Nursing' Fellow in Hong Kong under the collaboration between the Department of Health HKSAR Government and the Chinese Center for Disease Control and Prevention, China. Photo taken at a case conference during her attachment from 6.6.2005 to 2.7.2005.

Ms. SHENG Yu, Associate Professor of the Nursing Faculty in the Peking Union Medical College received a transcript from Ms. Victoria KWONG, Senior Nursing Officer, Special Preventive Programme after attended a Two-week 'Clinical Attachment Programme in Clinical HIV Nursing' from 15.8.2005 to 27.8.2005.

Second from the left front row: Dr. Sun Chang-yu, Medicine Clinical Associated Professor of the First Affiliated Hospital of Zhengzhou University, Henan, was the First Fellow of the 'Medical Fellowship in HIV Management' and joined in July 2005.

An official visit paid by delegates from Ministry of Health, Malaysia and UNICEF Malaysia on 15.12.2005.

Receiving the Gauteng Provincial Health Delegation, South Africa on 16.3.2005, Dr. Kenny CHAN, Senior Medical Officer led a discussion on clinical management of HIV/AIDS.

Professor Julian Gold, Director of Albion Street Centre, International Health Services, Sydney, Australia shared with staff of Integrated Treatment Centre his clinical experience during a visit on 27.9.2004

Officials from Ministry of Health, People's Republic of China visited Integrated Treatment Centre on 29.11.2005.

Officials from Jiangmen Provincial Health Bureau took a photo with Dr. Homer TSO, the then Chairman of Advisory Council on AIDS and Professor LEE Shui-shan, the then Consultant of Special Preventive Programme during a visit on 8.6.2004.

On 4.2.2004, social workers from the Society for the Aid and Rehabilitation of Drug Abusers (SADRA) visited Integrated Treatment Centre as part of the training programme for Methadone Urine Testing (MUT) Programme. Medical Social Worker of Centre shared with them her experiences in working with HIV drug abusers.

From left to right: Prof LEE Shui-shan, Prof CN CHEN, Dr PY LEUNG, Dr KH WONG and Dr Eugene CHO at the 2005 Patient Support Group Christmas Party.