HIV SURVEILLANCE REPORT – 2009 UPDATE

Special Preventive Programme
Centre for Health Protection
Department of Health
Hong Kong Special Administrative Region
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This report is produced and published by:

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CONTENTS

PREFACE

Hong Kong, located in Asia the new burning place of HIV infection, is still having a relatively low prevalence of HIV infection. While sexual transmission is the predominant route of transmission in Hong Kong, various public health measures have kept the HIV prevalence of drug users at low level thus far locally, as compared with neighbouring cities. Nevertheless, an upsurge of infection in injecting drug users is always a concern from the worldwide and regional HIV and drug experience.

A rising trend has been detected in men who have sex with men (MSM) in Hong Kong in recent years. The *HIV Surveillance Report - 2009 Update* analysed the attributes of the increase of HIV infections in MSM observed. The number of HIV reports in MSM community was still the largest amongst all, echoing the highest HIV prevalence recorded till now across different community groups . All these signified that the heightened risk of transmission of HIV in the MSM community still persisted.

With the expansion of community-based HIV voluntary testing services, non-governmental organisations were playing a more significant role in understanding the HIV epidemiology in hard-to-reach populations. Through their service networks, many non-governmental organisations are contributing to the conduct of seroprevalence and behavioural surveys and data collection in different targeted populations.

This *annual surveillance report* is an initiative of Special Preventive Programme (SPP), Centre for Health Protection of the Department of Health. The report aims to provide strategic information to facilitate planning of services and intervention activities for the prevention, care and control of HIV/AIDS. Following a commentary, data collected from the five main components of our surveillance programme (the HIV/AIDS voluntary reporting system, HIV prevalence surveys, Social Hygiene Service caseload statistics, risk behaviour studies and HIV-1 genotyping studies) are presented as tables and graphs. Several changes have been made in this Report to enhance its contents. First, subtyping data was expanded for better understanding of HIV-1 molecular epidemiology. Second, reported HIV cases with undetermined exposure category had their risk factor reconstructed, so as to visualise all cases in one way. Third, consistent condom use data was presented whenever available from the behavioural surveys, so as to monitor the high standard of always and not even often using condom. Fourth, data on current/recent drug injection and needles-sharing risk behaviours was presented to better reflect on-going and not ever risk of infection, given that HIV testing has been substantially expanded in this population over the last few years.

Electronic copy of this report is accessible in our website www.aids.gov.hk, so are the quarterly bulletins, factsheets on yearly situation and specific surveys, and other information relating to HIV surveillance and epidemiology. Your comments and suggestions are always welcome.

Surveillance team
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The synthesis of this report is only made possible with the concerted efforts contributed by many people. First and foremost, we must thank our colleagues of the Social Hygiene Service, the Methadone Treatment Programme, TB & Chest Service, Family Health Service, Surveillance and Epidemiology Branch and the Virology Division of Public Health Laboratory Services Branch who have provided the necessary data and support over the years. For data collected in the prison setting, we are indebted to the staff of the Correctional Services Department for their invaluable assistance in carrying out HIV risk behaviours questionnaire surveys and prevalence studies on a regular basis.

Next come the many agencies including the Hong Kong Red Cross Blood Transfusion Service, the Society for the Aid and Rehabilitation of Drug Abusers, the Narcotics Division of the Security Bureau, the Department of Microbiology of the University of Hong Kong, the School of Public Health and Primary Care of the Chinese University of Hong Kong, many of our local AIDS and non-AIDS non-governmental organisations and various public hospitals/clinics, in particular Queen Elizabeth Hospital, Prince of Wales Hospital and Princess Margaret Hospital, which have helped collect and update the relevant statistics referred by this report. We also take this opportunity to thank all doctors, health care professionals and related workers who have contributed to HIV/AIDS reporting and other surveillance components.

Finally, commendation goes to the usual excellent and dedicated support from the SPP staff in terms of collecting, collating, compiling and analysing the information as well as the editing and production of this report.

ABBREVIATION

ACTS	AIDS Counselling and Testing Service
ADI	AIDS Defining Illness
AIDS	Acquired Immune Deficiency Syndrome
AC	AIDS Concern
CRiSP	Community based Risk behavioural and SeroPrevalence survey for female sex workers
CD4	Cluster of Differentiation (CD)4 molecule
CRDA	Central Registry of Drug Abuse
CHP	Centre for Health Protection
CRF	Circulating Recombinant Form
CRPA	Community Research Programme on AIDS
DH	Department of Health
DRS-M	Drug Rehabilitation Services – Methadone clinics
DRS-S	Drug Rehabilitation Services – Shek Kwu Chau Treatment and Rehabilitation Centre
F	Female
HE	Heterosexual
HAART	Highly Active Antiretroviral Therapy
HIV	Human Immunodeficiency Virus
IDU	Injecting Drug User
ITC	Integrated Treatment Centre
MUT	Methadone Universal HIV Antibody (Urine) Testing
M	Male
MSM	Men who have Sex with Men
NSGI	Non-specific Genital Infection
NGU	Non-gonococcal Urethritis
ORu	Univariate Odds Ratio
ORm	Multivariate Odds Ratio
PCR	Polymerase Chain Reaction
PRiSM	HIV Prevalence and Risk behavioural Survey of Men who have sex with men
SKC	Shek Kwu Chau Treatment and Rehabilitation Centre
STI	Sexually Transmitted Infection
SPP	Special Preventive Programme
SHS	Social Hygiene Service
SAS	Street Addict Survey
TB	Tuberculosis
ul	microlitre
UN	Unknown

1. SUMMARY REVIEW

Background

1. The HIV surveillance system comprises 5 main programmes to provide a detailed description of HIV/AIDS situation in Hong Kong. They are (a) voluntary HIV/AIDS case-based reporting; (b) HIV prevalence surveys; (c) sexually transmitted infections (STI) caseload statistics; (d) behavioural studies; and (e) HIV-1 genotyping studies. The data is collected, analyzed and disseminated regularly by staff of the Surveillance team of Special Preventive Programme (SPP), Centre for Health Protection (CHP), Department of Health (DH). At present, the latest HIV/AIDS statistics are released at quarterly intervals at press media briefings and in electronic format (www.aids.gov.hk). Data from various sources are compiled annually and released in this report.

2. The following paragraphs highlight the main findings from HIV/AIDS surveillance activities undertaken in 2009 and before. Please refer to the following pages for the details of the programmes. Surveillance information gathered from two large public health universal HIV testing programmes, targeting drug users at methadone clinics and expectant mothers via antenatal testing programme is also included in the report.

HIV/AIDS reporting system

HIV Surveillance at a glance (2009)

- 396 HIV reports and 76 AIDS reports
- Gender: 77.8% male
- Ethnicity: 62.1% Chinese
- Age: Median 36
- Risks:
  - 27.3% Heterosexual contact
  - 40.9% Homo/bisexual contact
  - 3.5% Injecting drug use
  - 0.3% Blood transfusion
  - 0.8% Perinatal
  - 27.3% Undetermined
- CD4 at reporting: Median 293/ul
- HIV-1 subtypes: commonest are CRF01_AE and B
- Primary AIDS defining illness: Commonest are PCP and TB
- HIV prevalence
  - Blood donors: < 0.01%
  - Antenatal women: 0.01%
  - STI clinic attendees: 0.17%
  - Methadone clinic attendees: 0.49%
  - Female sex worker: 0.05%

3. The Department of Health has implemented a voluntary anonymous HIV/AIDS reporting system since 1984. The system receives reports from doctors and laboratories. Doctors report newly diagnosed positive cases by a standard form (DH2293). In the past, only cases with Western Blot confirmed HIV antibody positive laboratory result were counted as HIV infection for cases aged above 18 months. Since the 4th quarter of 2006, cases with a PCR positive result and clinical or laboratory indication of recent infections were also counted as HIV infection in the reporting system, in view of the increasing regular detection of such cases.

4. In 2009, DH received 396 HIV and 76 AIDS reports, which decreased respectively by 9.0% in HIV cases and 20.8% in AIDS cases as compared with 2008. This brought the cumulative total to 4443 and 1106 for HIV and AIDS reports respectively. Under the revised definition, 8 PCR positive cases with clinical or laboratory indication of recent infections were included as HIV infection in 2009. Public hospitals/clinics/laboratories were still the commonest source of HIV reports in 2009, which accounted for 43.4% of all. Private hospitals/clinics/laboratories were another common source of HIV reports (23.2%). Notably, the AIDS service organisations played a more significant role in HIV reporting in 2009 (10.4%). The number of reports from other sources has largely remained stable. (Box 2.2)

5. Around 78% of reported HIV cases were male. The male-to-female ratio was 3.5:1 in 2009, slightly lower than that in 2008 of 4.1:1. About 62% of reported cases were Chinese. Asian non-Chinese accounted for 16.7% of reports. (Box 2.3) The median age of reported HIV cases was 36. (Box 2.4) Over 68% of reported cases were believed to have acquired the virus through sexual transmission in 2009, including heterosexual (27.3%), homosexual (38.9%) and bisexual exposure (2%). Injecting drug use accounted for 3.5% of HIV infections in 2009. There were 3 cases of HIV transmission through perinatal contact in 2009. The suspected routes of transmission were not reported in about a quarter (27.3%) of cases. This means that, after excluding those with undetermined exposure category, sexual transmission accounted for about 94% among HIV reports with defined risks. (Box 2.5)

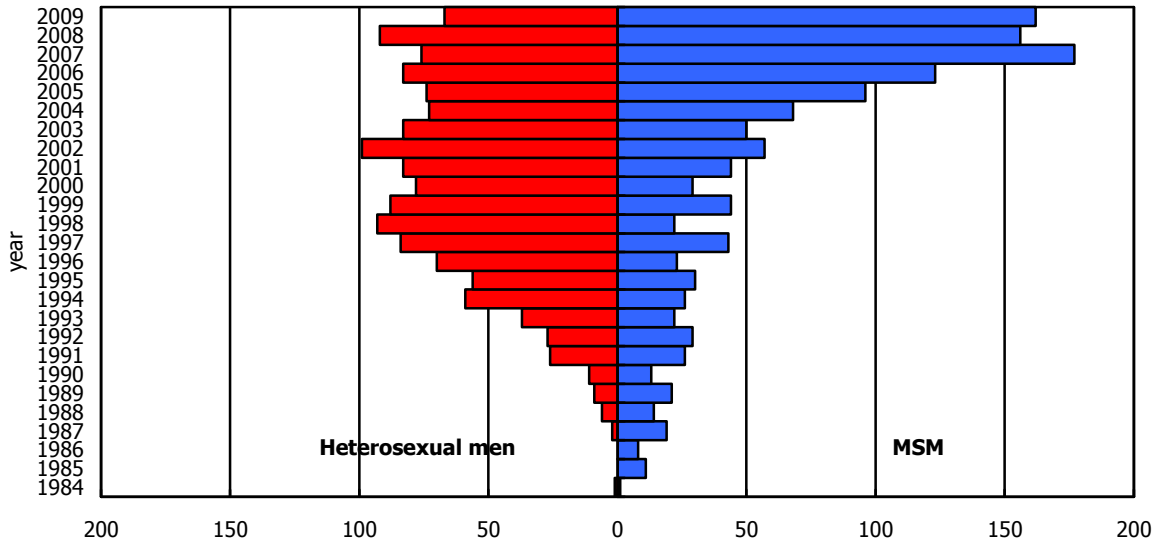
Rising trend in men who have sex with men persisted

6. Sexual contact remained the commonest route of HIV transmission in Hong Kong. Both heterosexual and homosexual/bisexual contacts were considered as the most important risk factors. In 1980s and early 1990s, the early years of AIDS epidemic in Hong Kong, it used to report more cases from men who have sex with men, who had homosexual or bisexual

contacts. The trend then reversed with heterosexual transmission overtaking homosexual / bisexual transmission from 1993 onwards. Since 2004, a rising trend in MSM has been observed and the situation remained consistent in 2009 with 162 MSM cases (56.3%) identified out of 288 cases with defined risks. (Box 2.5(a)).

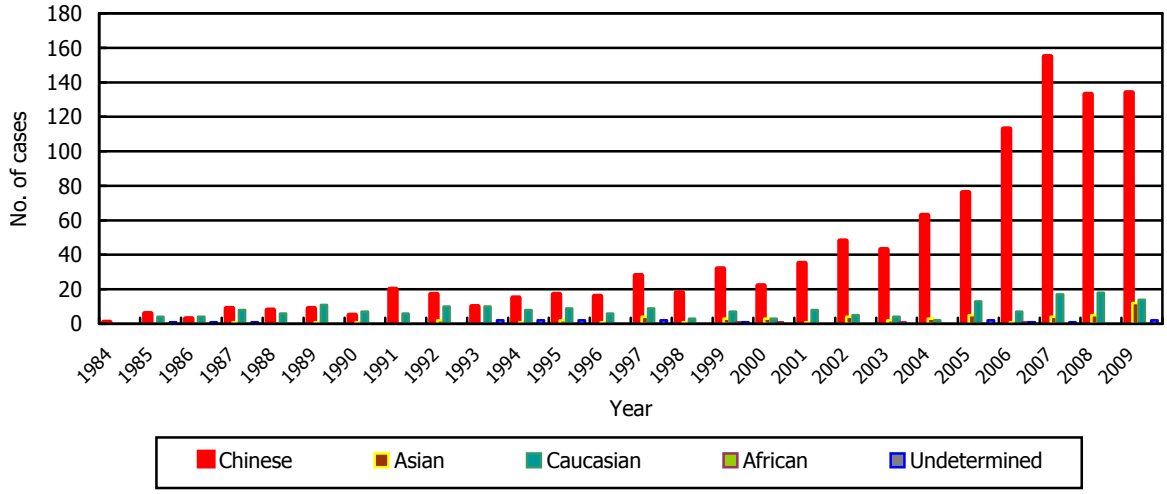
7. A high weighting of MSM in HIV reports continued in 2009. Over 50% of male HIV reports in 2009 contracted the virus through homosexual or bisexual contact. Heterosexual contact in male cases accounted for about 20%, whereas the routes of transmission were undetermined in another 20% of the male cases. The ratio of heterosexual men against MSM dropped from its peak of 4.2:1 in 1998 to 0.4:1 in 2009, the lowest ratio ever recorded during the period. (Box 1.1 and 2.7(c)) The marked disproportionately more infections among MSM than heterosexual males was evident.

Box 1.1 The number of MSM cases has taken over heterosexual men cases in the reporting system since 2005 and the gap continued to widen.

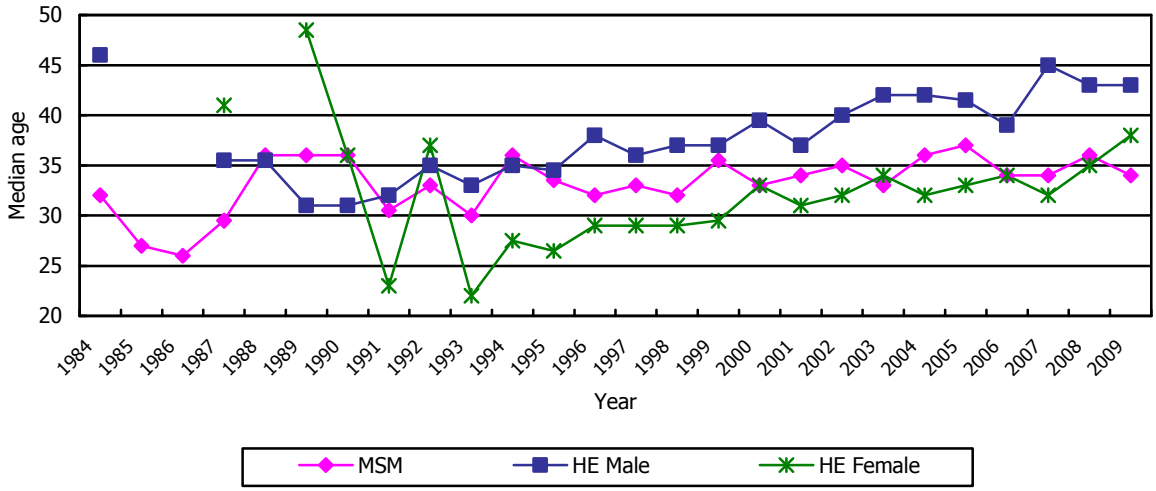


8. The major attributes of the rise in MSM were Chinese and of age group 20-39. About 83% of MSM cases in 2009 were Chinese. Caucasians accounted for only 8.6%. A rising trend in the number of reported Chinese MSM cases was observed in recent years despite a modest drop in 2008 and 2009. (Box 1.2) The median age of MSM cases at report was 34, which was lower as compared to 43 of heterosexual male cases. Moreover, the median age of HIV infected MSM population has been relatively stable in the last decade whereas that of heterosexual men was on a rising trend, which could be contributed by cohort effect. (Box 1.3) Age group 30-39 remained the commonest age group of reporting in MSM, which accounted for 40% in 2009, followed by 28% in the age group 20-29. (Box 1.4) Reported data suggested that some 70% of MSM infections occurred in Hong Kong yearly since 2006, in contrast to a much lower proportion of 27% in heterosexual men. (Box 1.5)

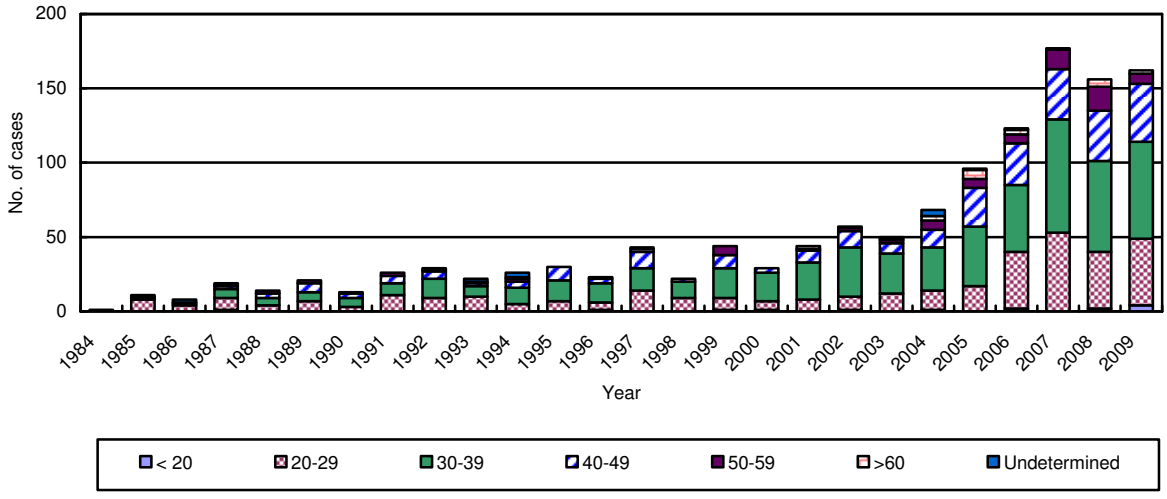
Box 1.2 Ethnicity Breakdown of HIV-infected MSM cases (1984-2009)



Box 1.3 Median age of HIV-infected MSM cases, heterosexual man and heterosexual women (1984-2009)

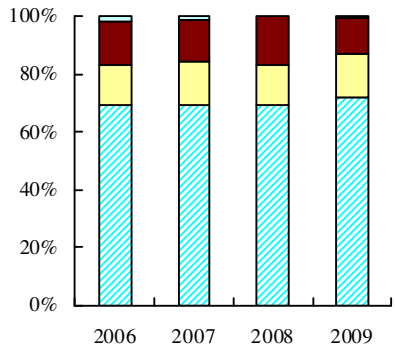


Box 1.4 Age breakdown of HIV-infected MSM cases (1984 - 2009)

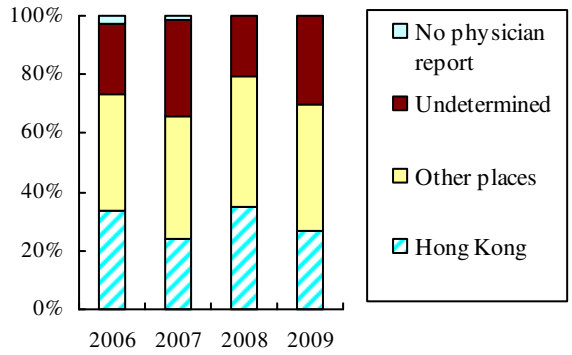


Box 1.5 Suspected location of HIV cases (2006 - 2009)

(a) MSM



(b) Heterosexual men



9. Efforts have been made to gauge the HIV prevalence among MSM in Hong Kong, including the second community-based survey (PRiSM) in gay saunas, bars and clubs which was conducted in 2008/09 and revealed a HIV prevalence of 4.31% among MSM attending these venues. The level of consistent condom use (as defined by condom usage in all sexual contacts in the last six months) with regular sex partners and non-regular sex partners were 45% and 75% respectively, which were very similar to those figures of 2006 survey. On the other hand, rate of HIV testing within the last one year increased from 24% in 2006 to 36% in 2008. AIDS Concern's voluntary HIV testing service targeting MSM was another source to estimate the HIV prevalence in MSM, although the data was affected by participant bias to a larger extent. A rising trend in prevalence was observed since 2004 but it seemed to be stable in recent years. This may be affected by the expansion of HIV testing service from higher-risk MSM settings to general-risk MSM populations in recent years. (Box 3.8)

10. The consistent condom use rate of MSM attending AIDS Counselling and Testing Service was observed to be substantially increased in recent two years for both regular partners and casual partners, which in 2009 were respectively reported to be 42% and 67%, comparable to the findings of the second community-based survey (PRiSM), although the temporal trends observed for condom use in last anal sex among MSM were relatively less obvious in the corresponding period. On the other hand, the trends derived from MSM attending AIDS Concern's testing service appeared to have dropped in 2009 for both consistent condom use and condom use for last anal sex. (Box 5.5)

The number of heterosexual cases decreased in 2009

11. The number of heterosexual cases appeared to plunge in 2009, after a rebound in 2008, resulting in a shrunken proportion of HIV cases accounted for by heterosexual exposure. (Box 2.5(a)) The male to female ratio for heterosexual cases was 1.6:1, a record low ratio in recent years. The median age of heterosexual cases in 2009 was 40. Heterosexual male cases were mainly Chinese (70% in year 2009) whereas Chinese accounted for less than half (44% in year 2009) of female cases.

12. A majority of Social Hygiene Clinics attendees reported unprotected heterosexual contact from on-going behavioural surveys. The HIV prevalence of Social Hygiene Clinic attendees remained stable at below 0.3% (0.17% in 2009). On the other hand, the trend of sexually

transmitted infections (STI) provides surrogate for the possible risk of HIV infection in the community. Although it had been estimated that Social Hygiene Clinics took care of about 20% of STI cases in the territory years back, it was still a very important sentinel site. It continued to record a decrease in the total number of STI cases in Social Hygiene Clinics, an aggregate of 13,689 in 2009 as compared with 13,867 cases in 2008. A drop of 1.3% was observed in overall STI diagnosis. The decrease of cases was more obvious in herpes genitalis from 715 cases in 2008 to 603 cases in 2009, a more than 15% reduction. (Box 4.2)

13. A territory-wide community based HIV seroprevalence and behavioural survey in female sex workers (CRiSP) were conducted in 2009. The survey collected 986 eligible urine samples from different districts and settings. It revealed a HIV prevalence of 0.05% among female sex workers, which was lower than that of social hygiene clinics attendees.

14. In 2009, the consistent condom use rate among heterosexual men attending Social Hygiene Clinics with commercial / casual partners appeared to increase back to a higher level, i.e. at about 46% in past 3 months and a similar trend was also observed among those attending AIDS Counselling and Testing Service (ACTS), i.e. about 64% in past 12 months. Heterosexual men attending ACTS reported an even higher level of consistent condom usage with their commercial partners alone, i.e. 75%. (Box 5.4) In the CRiSP survey, a high condom use level was revealed among female sex workers in Hong Kong, that the consistent condom use rate for vaginal/anal sex with their male clients in past week was 91% after adjustment for various types of sex workers.

Small numbers of HIV infection but significant level of risky behaviours reported in injecting drug users

15. In 2009, the reporting system recorded 14 cases of HIV transmission through injecting drug use. The number was significantly smaller than that of 2008, and returned to a similar level prior to 2004. (Box2.5(a)) Most (86%) of the cases were Asian, non-Chinese. The median age was 30. Only one out of the 14 injecting drug user cases was reported from methadone clinics.

16. The Universal HIV Antibody (Urine) Testing Programme (MUT) in 2004 replaced the unlinked anonymous screening (UAS) in methadone clinic to enhance HIV surveillance as well as individual diagnosis of the infected. A total of 7511 attendees participated in the programme in 2009 with a coverage of 81%, a slightly lower coverage rate than that of 83% in 2008. The programme tested 7748 urine samples, with 21 positive cases in 2009 and 17 other previously known positive cases still attending methadone clinics. Hence, totally there were 38 HIV positive drug users attending methadone clinic this year. The HIV prevalence over the years was stable at below 1%. The HIV prevalence of methadone clinic attendees in 2009 was 0.49%, which remained at a similar level as in previous years. (Box 3.3)

17. While HIV infection remained uncommon among drug users in 2009 as reflected from surveillance data at methadone clinics, the potential risk of HIV upsurge in drug-using community cannot be neglected as a significant proportion of drug users were still injecting drugs, reaching as high as about 80% in one survey. (Box 5.6) Various surveys revealed different proportions of needle sharing among those who were injecting drugs, ranging from

1.1% to 63%, presumably due to the differences in the nature of samples as well as in the timeframe it was measuring. (Box 5.7)

Three cases of perinatal transmission recorded

18. In 2009, one case was reported to be blood transfusion transmission outside Hong Kong. Actually no HIV infection as occurred locally from contaminated blood or blood product was reported in recent years. The HIV prevalence of new blood donors at Hong Kong Red Cross Blood Transfusion Service was at a low level of 0.002% in 2009 (Box 3.1(b)).

19. In 2009, there were three perinatal HIV infections reported. The Universal Antenatal HIV Testing was implemented in September 2001. Over 40,000 pregnant women attending public antenatal services were tested every year and the coverage of the programme reached 98.3% in 2009 and revealed the prevalence of HIV infection in pregnant women to be 0.01%, which remained at a low level as in previous years. Seven pregnant women were tested positive in the programme this year. Two women terminated their pregnancies and all of the remaining five women delivered their babies by Caesarean Sections.

From cases with undetermined risk factor to their reconstruction

20. The information of voluntary reporting was becoming more incomplete and at risk of skewing the whole picture as there are an increasing proportion of cases reported without a risk factor. More than a quarter of the cases reported in 2009 did not have a suspected route of transmission reported. In order to factor in the weight of undetermined risk cases, assess the risk for local transmission and to guide appropriate actions for prevention, Dr. Tim Brown, a renowned HIV epidemiologist as an external consultant, was engaged to address the increasing problem of expanding cases with undetermined risk factors by systematically reconstructing them.

21. The 26-year data was retrospectively extracted from the database under the voluntary and anonymous HIV/AIDS reporting system for comparative analysis before reconstructing the cases with undetermined risk factor. By using multivariate analysis, cases of undetermined risk factors were independently associated with the absence of formal notification using HIV/AIDS report form (Appendix I) by physicians; the reporting sources of public (consists mostly of public hospitals, and small contribution by maternal & child health clinics, tuberculosis & chest clinics and correctional services department clinics) and private sector; female gender; non-Chinese ethnicity and older age groups. (Box 1.6)

Box 1.6 Factors associated with cases of undetermined risk factors. (1984 - 2009)

Factors associated with undetermined risk		**ORu (95% CI)**		**ORm (95% CI)**	
HIV/AIDS report form					
	Yes	1.00		1.00	
	No	22.67	(18.5, 27.78)***	42.74	(32.2, 56.55)***
HIV report source					
	Others#	1.00			
	Public^	8.93	(6.29, 12.67)***	12.84	(8.65, 19.07)***
	Private	24.21	(16.98, 34.53)***	12.11	(8.12, 18.07)***
Gender					
	Male	1.00		1.00	
	Female	1.97	(1.65, 2.35)***	1.48	(1.12, 1.95)**
Ethnicity					
	Chinese	1.00		1.00	
	Non-Chinese	2.93	(2.5, 3.44)***	1.67	(1.31, 2.12)***
Age at HIV report (yrs)					
	<20	1.00		1.00	
	20-29	4.89	(1.53, 15.64)**	9.84	(2.92, 33.1)***
	30-39	5.77	(1.81, 18.36)**	14.80	(4.43, 49.43)***
	40-49	5.62	(1.75, 18.02)**	15.08	(4.46, 51.01)***
	50-59	5.74	(1.76, 18.75)**	19.10	(5.49, 66.41)***
	60-69	7.20	(2.14, 24.15)**	29.64	(8.1, 108.54)***
	70+	9.49	(2.67, 33.73)**	70.66	(9.93, 136.26)***
Subtype					
	B	1.00		1.00	
	C	3.38	(2.07, 5.53)***	1.14	(0.52, 2.51)
	CRF01_AE	1.56	(1.21, 2.01)**	0.95	(0.65, 1.37)
	CRF07_BC	1.38	(0.71, 2.69)	1.10	(0.44, 2.79)
	CRF08_BC	2.54	(1.32, 4.9)**	0.80	(0.31, 2.06)

Note: ORu – Odds ratio was calculated univariately

ORm – Odds ratio was calculated multivariately

*p<0.05; **p<0.01; ***p<0.001

#including DH's AIDS Unit; AIDS Service Organizations; Social Hygiene Clinic; Methadone Clinic, Hong Kong Red Cross Blood Transfusion Service; Drug Rehabilitation Service

^Public sector consists mostly of public hospitals, and small contribution by maternal & child health clinics, tuberculosis & chest clinics and correctional services department clinics

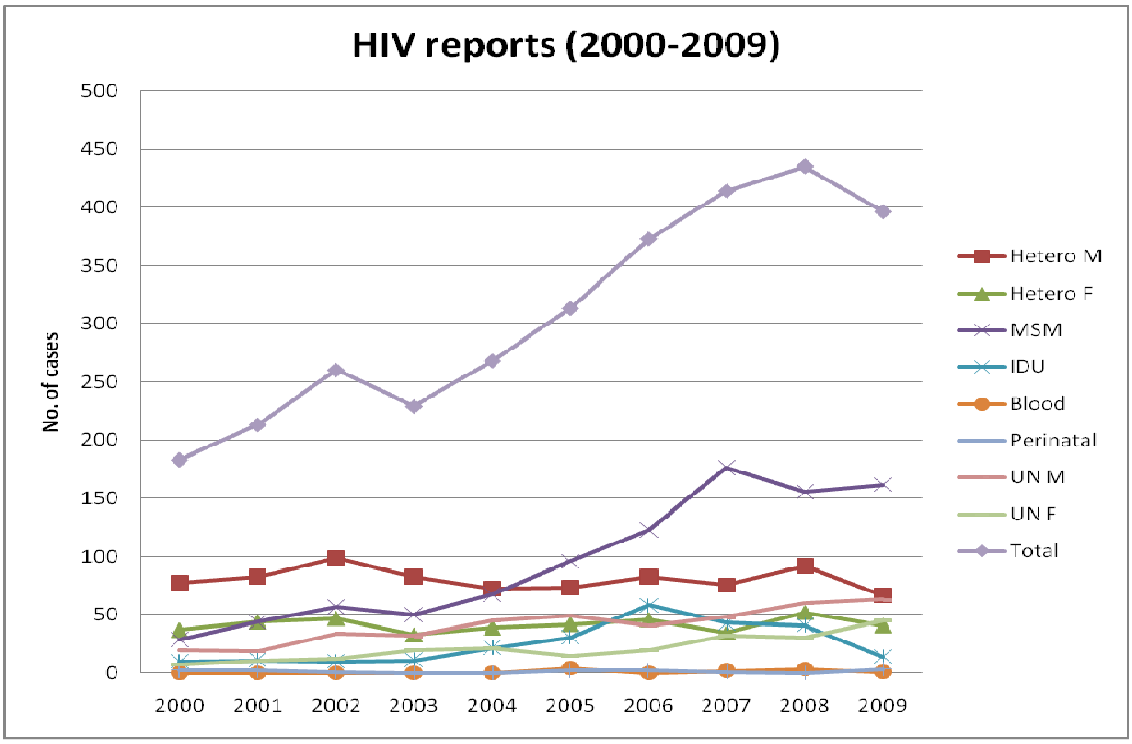
22. It was aimed to have the reconstruction by assigning one suitable risk factor of transmission to the undetermined cases. With analysis of the features of these cases and the prevailing epidemic, it was assessed that all female infections shall be assumed to be heterosexual transmission, unless there is clear indication suggesting otherwise. As for the male cases of undetermined risk factor, it was assessed that they shall be assumed to be either heterosexual contact or homosexual contacts as the risk factor of transmission, subject

to the observed ratio in the prevailing year between heterosexual and homosexual contact in the cases with determined risk factors, providing there is no other indication suggesting otherwise.

23. By using the above methodology of reconstruction, a modified epidemic was constructed by applying our local 10-year data from 2000 to 2009. In comparison to the pre-reconstruction phase where undetermined male and female cases were now included as a representation of the undetermined cases over the captioned period (Box 1.7(a)), a discernible pattern is observed for heterosexual female and MSM, showing marked increases since 2005 and 2003 respectively. The increase in heterosexual male appears to be relatively modest and the stable trend over the last decade remained the same. (Box 1.7(b))

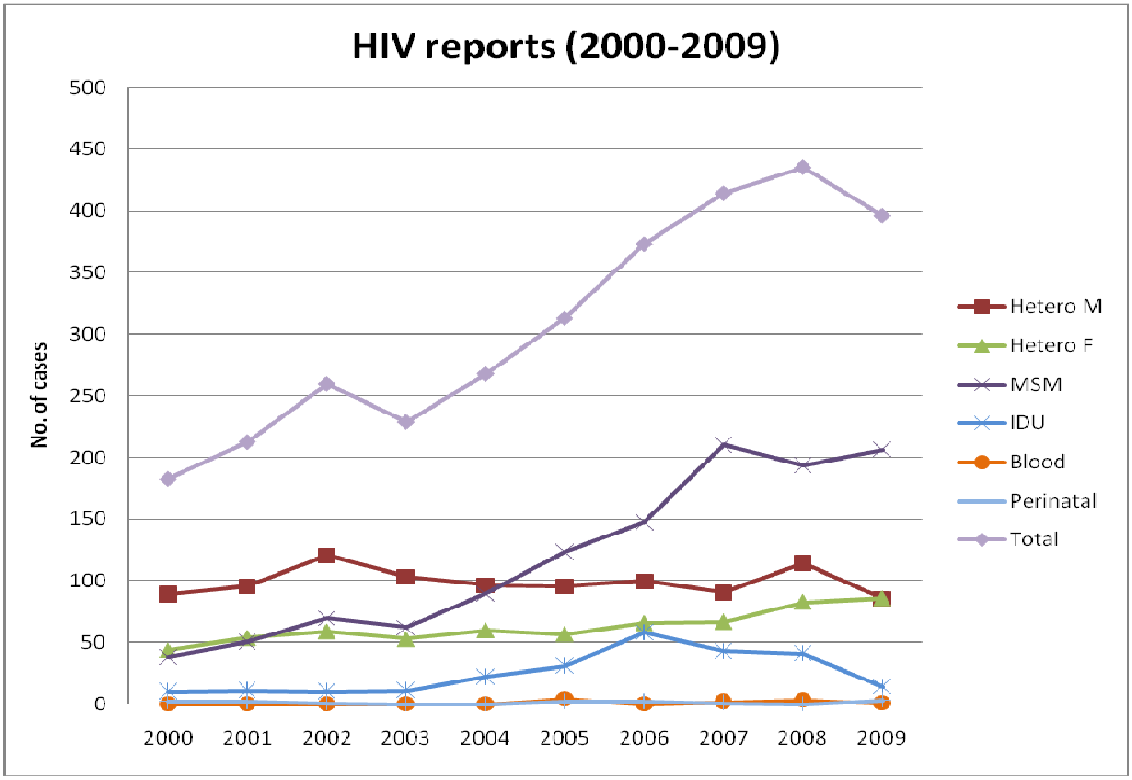
24. The suggested method provides one possible solution to fill the gap in surveillance information, although it might simplify the complex determinants of the local epidemic. Yet, it makes the whole reconstruction exercise practical by applying reasonable, quick and easy assumptions. For certain, effort to promote a more complete return of information regarding each HIV report should be encouraged.

Box 1.7(a) HIV reports before risk factor reconstruction (2000-2009)



UN M refers to undetermined male & UN F refers to undetermined female

Box 1.7(b) HIV reports before risk factor reconstruction (2000-2009)



Pneumocystis **Pneumonia and** ***Tuberculosis*** **remained the commonest Primary AIDS Defining Illnesses**

25. The annual number of reported AIDS cases has been dropping since 1997, the year of introducing highly active antiretroviral therapy (HAART) in Hong Kong but a slowly increasing trend was observed since 2005. A total of 76 AIDS cases were reported in 2009 as compared with 96 cases in 2008. Majority (95%) of the AIDS reports in this year had their AIDS diagnosis within 3 months of HIV diagnosis, suggesting late presentation of the cases.

26. The primary AIDS defining illness (ADI) pattern of the reported cases also changed slightly in recent years. *Pneumocystis jirovechi* pneumonia (previously named *Pneumocystis carinii*) was the commonest ADI in Hong Kong in 2009 which accounted for 32 cases (42.1%), an increase of over 3.6% in terms of the proportion of ADI as compared with 2008. This year, 24 cases (31.6%) reported *Mycobacterium tuberculosis* as the primary ADI which was following right after *Pneumocystis jirovechi* pneumonia as the second commonest ADI. They were followed by Fungal infections including *penicilliosis* (7, 9.2%), and *Cytomegalovirus* diseases (3, 3.9%). (Box 2.8) Because of the good coverage from universal voluntary testing at TB & Chest Clinics, it has literally replaced unlinked anonymous screening since 2009 in informing the HIV prevalence among TB patients. In 2009, the HIV prevalence in patients attending government TB & Chest Clinics was 1%, consistently higher than many at-risk populations. (Box 3.6(b))

27. The median CD4 of newly reported HIV cases in 2009 was 293/ul, which seemed to be higher than before, as was the proportion with CD4>=200/ul. Reporting of CD4 level was becoming a routine practice in physician. It provided useful information on the timing of diagnosis in the course of HIV infection. However, 64% of HIV cases in 2009 had their CD4 level at diagnosis reported, which was a lower proportion than previous years. (Box 1.8) The median CD4 for those aged less than 55 has been stable at around 250 (197 – 316) for the past 5 years. One the other hand, there was a continued decreasing trend in median CD4 count among those who are aged 55 and above, suggesting that more patients reported at age 55 or above were diagnosed at a late disease stage. (Box 1.9)

Box 1.8 – Reported CD4 levels at HIV diagnosis

Year	No. of HIV reports	No. of CD4 reports (%)	Median CD4 (cell/ul)	CD4>=200 (cell/ul) (%)
2001	213	162 (76.1%)	233.5	85 (52.5%)
2002	260	201 (77.3%)	197	100 (49.8%)
2003	229	166 (72.5%)	205	85 (51.2%)
2004	268	181 (67.5%)	208	96 (53.0%)
2005	313	227 (72.5%)	198	113 (49.8%)
2006	373	280 (75.1%)	224	151 (53.9%)
2007	414	308 (74.4%)	239.5	172 (55.8%)
2008	435	301 (69.2%)	191	146 (48.5%)
2009	396	254 (64.1%)	293	164 (64.6%)

Box 1.9 – CD4 Reports by age group

Age	Year	No. of HIV reports	No. of CD4 reports (%)		Median CD4 (cell/ul)	% of CD4 >= 200 (cell/ul)
<55	2001	190	146	(76.8%)	258.5	54.1%
	2002	230	183	(79.6%)	196	49.7%
	2003	190	139	(73.2%)	228	52.5%
	2004	225	160	(71.1%)	220.5	55.6%
	2005	281	204	(72.6%)	197	49.5%
	2006	340	254	(74.7%)	241.5	57.1%
	2007	377	283	(75.1%)	254	57.6%
	2008	380	258	(67.9%)	217	52.3%
	2009	357	228	(63.9%)	316	68.9%
>=55	2001	22	16	(72.7%)	96	37.5%
	2002	24	18	(75.0%)	212.5	50.0%
	2003	32	27	(84.4%)	108	44.4%
	2004	32	21	(65.6%)	82	33.3%
	2005	29	23	(79.3%)	223	52.2%
	2006	29	25	(86.2%)	145	24.0%
	2007	33	25	(75.8%)	90	36.0%
	2008	53	43	(81.1%)	74	25.6%
	2009	38	26	(68.4%)	66	26.9%

The commonest HIV-1 subtypes were CRF01_AE and B

28. In 2009, about 85% of HIV reports had their subtypes documented, at a comparable level as in the past years. (Box 6.1) CRF01_AE and Subtype B of HIV-1 strains remained the most common subtypes identified in Hong Kong, respectively at 47% and 38% of all cases having subtype identified from 2001 to 2009. In 2009, they together accounted for 81% of all HIV cases with subtype documented. (Box 6.2) Over the past years, CRF_01AE was consistently found to be commoner in female, Asian non-Chinese, heterosexuals and IDU. (Box 6.3) On the other hand, the subtype B was commoner in male, Caucasian, and MSM. (Box 6.4) Subtypes C was relatively uncommon to identify, but they were often found in female, Asian and heterosexual cases. (Box 6.5) An increasing diversity of subtypes and its circulating recombinant forms was also noted. (Box 6.2)

Discussion

29. The number of HIV reports was persistently at a high level in 2009, despite a modest drop, while the annual HIV reports used to be less than or around 300 before 2006. The total number of HIV reports in 2009 was 396, which was a 9% drop as compared to 2008. In the last few years, there was 5-20% increase in HIV reports every year except in 2003, when

SARS outbreak occurred. The increasing reports from Men who have Sex with Men (MSM) continued to keep the HIV reports at a high level; although heterosexual contact appeared to have a rebound in 2008, this was soon dominated again by MSM. The increase in injecting drug users in 2008 was observed to be calming down in 2009 but the high level of risky behaviour particularly for the proportion of needle sharing among injecting drug users as captured by certain survey remained a challenge to tackle both in terms of surveillance and intervention.

30. The number of HIV reports among MSM continued to play a significant role and it accounted for consistently the largest proportion this year. The HIV situation in MSM was worrisome because the increasing trend has persisted. Applying the reconstruction of cases of undetermined risk factor allowed us to visualize a more severe picture of HIV infection in MSM. Data suggested that young MSM aged 20-29 was becoming more to be affected. The second community-based seroprevalence survey in 2008/09 revealed a slightly higher HIV prevalence of 4.31% when compared with the previous study in 2006. Both condom usage rates of MSM with casual and regular partners remained at lower levels than those of heterosexual at-risk populations. Reporting data, prevalence data and behavioural data all suggested a persisting local HIV epidemic in MSM. The observation was in keeping with the regional picture of rising MSM HIV epidemic.

31. Heterosexual transmission appeared to be on a stable trend over the years although it appeared to increase in 2008 which was soon settled back in 2009. A significant proportion of non-Chinese female cases might suggest infections outside Hong Kong, which upon reconstruction of undetermined female cases, showed an even more obvious increase for female heterosexual cases, in conjunction with the record low level of male to female ratio of heterosexual infection, all suggesting efforts in surveillance for this female group as well as its preventive actions need to be sustained. The HIV prevalence in social hygiene clinics attendees and antenatal women were all below 1% and 0.1% respectively. However, despite improvement in recent years, consistent condom use rates of commercial / casual sex especially gauged from the reports of clients remained far from satisfactory.

32. Although the number of HIV-infected injecting drug user reports dropped in 2009 as compared to last 3 years, there is no room for complacency given the presence of injection and needle-sharing risk behaviours. Same as last year, most of the infected drug users were Asian non-Chinese. It was believed that they acquired the infection outside Hong Kong. The number of HIV infections in drug users contributed by local infections was not largely different from previous years.

33. In conclusion, newly reported HIV infections in Hong Kong stayed on a high level although the rate of increase seemed to be calming down. Yet, the number of MSM infection was still on an increasing trend and it was dominating the epidemic in Hong Kong. The situation of heterosexual population and local injecting drug user population was relatively stable thus far. HIV epidemiology in Hong Kong was also affected by the situation of neighbouring countries and cross border travel. A proportion of cases were infections which had been acquired outside Hong Kong. The number of people living with HIV was estimated to be 3600 as of 2007. Another exercise of HIV estimation of projection using Asian Epidemic Model was underway, which soon would offer us a more up-to-date estimate of

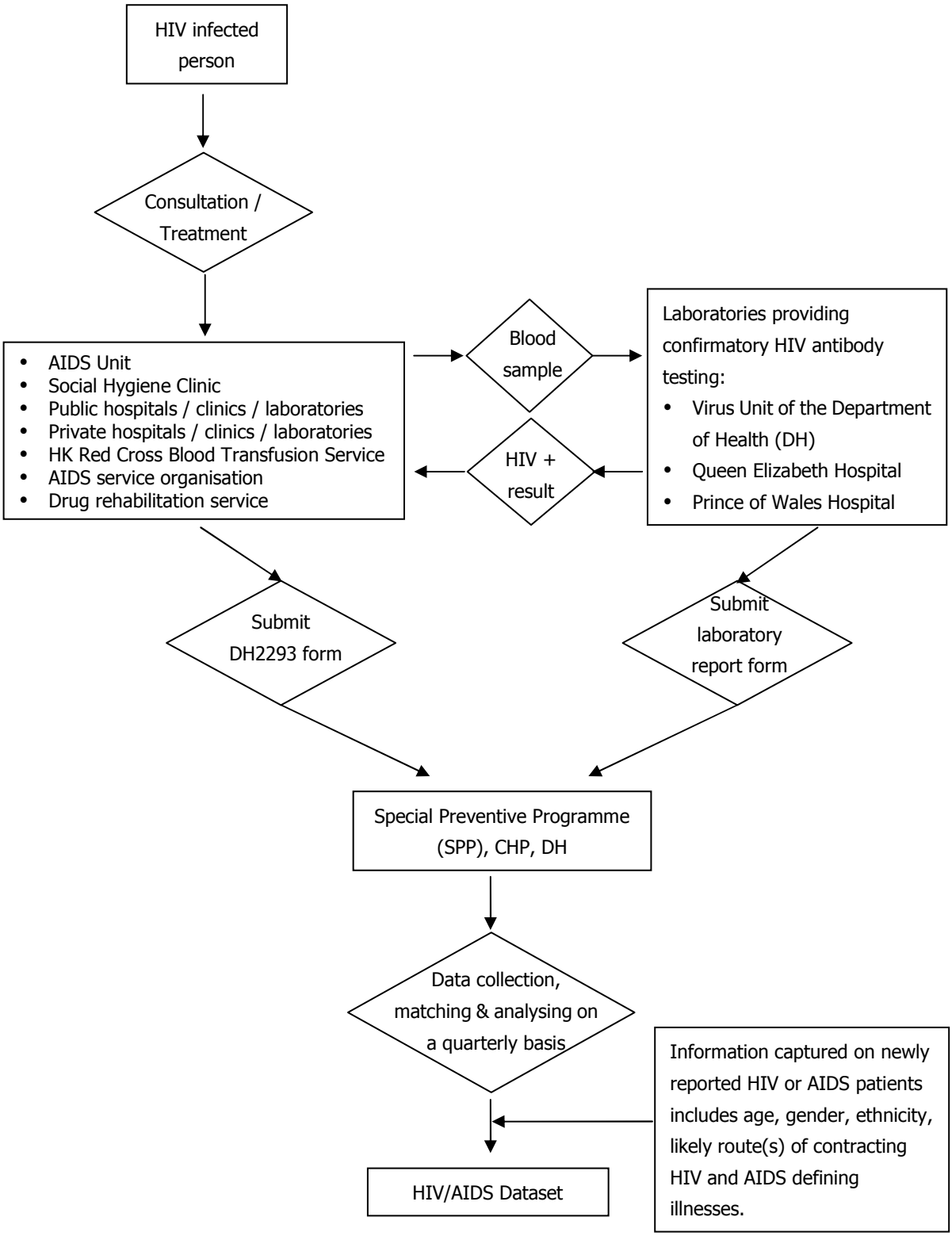
people living with HIV in Hong Kong. With all sources of data, HIV prevalence was believed to remain at <0.1% among the general population in Hong Kong.

2. TABULATED RESULTS OF HIV/AIDS REPORTING

System description

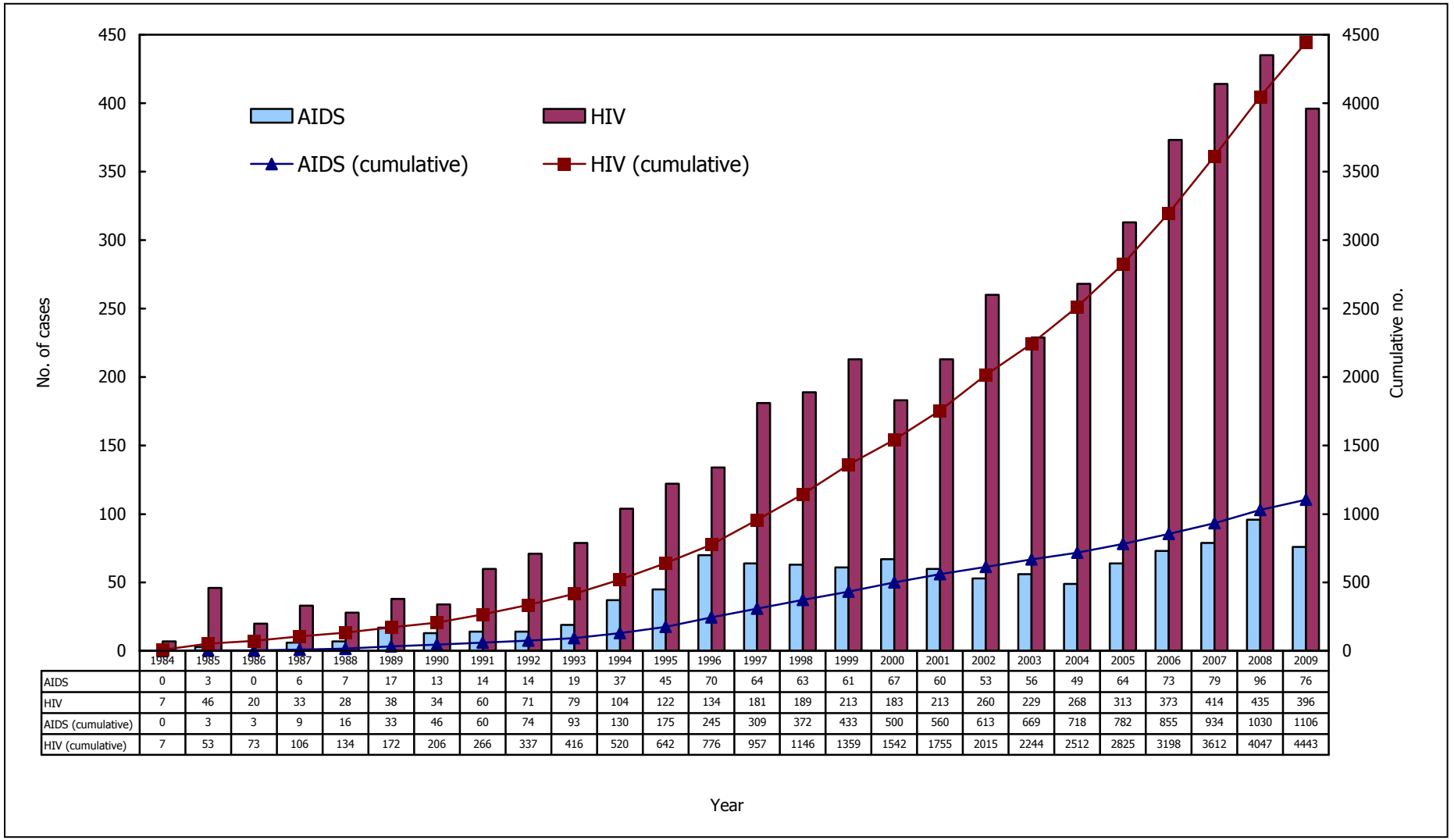
- The HIV/AIDS reporting system is a case-based notification system conducted on a voluntary basis since 1984, with input from clinicians and laboratories.

System layout



Tables & Figures

Box 2.1 Annual and cumulative reports of HIV/AIDS cases

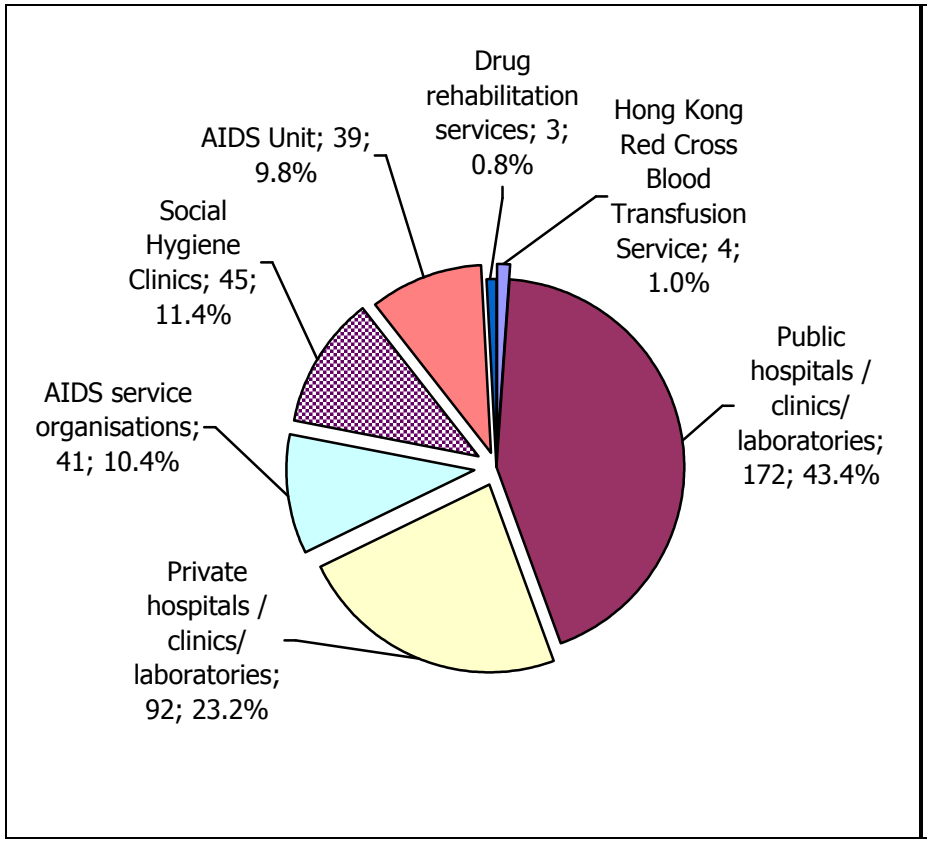


	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
AIDS	0	3	0	6	7	17	13	14	14	19	37	45	70	64	63	61	67	60	53	56	49	64	73	79	96	76
HIV	7	46	20	33	28	38	34	60	71	79	104	122	134	181	189	213	183	213	260	229	268	313	373	414	435	396
AIDS (cumulative)	0	3	3	9	16	33	46	60	74	93	130	175	245	309	372	433	500	560	613	669	718	782	855	934	1030	1106
HIV (cumulative)	7	53	73	106	134	172	206	266	337	416	520	642	776	957	1146	1359	1542	1755	2015	2244	2512	2825	3198	3612	4047	4443

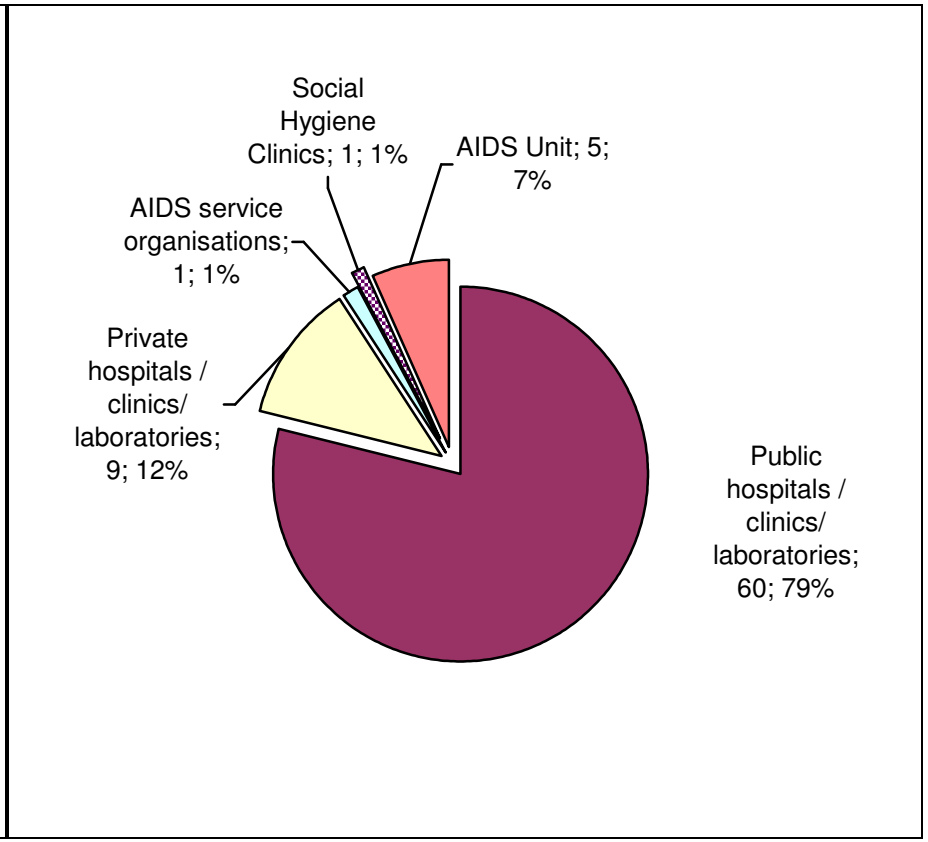
Box 2.2 Source of reporting of HIV/AIDS cases

(a) Year 2009

(i) HIV

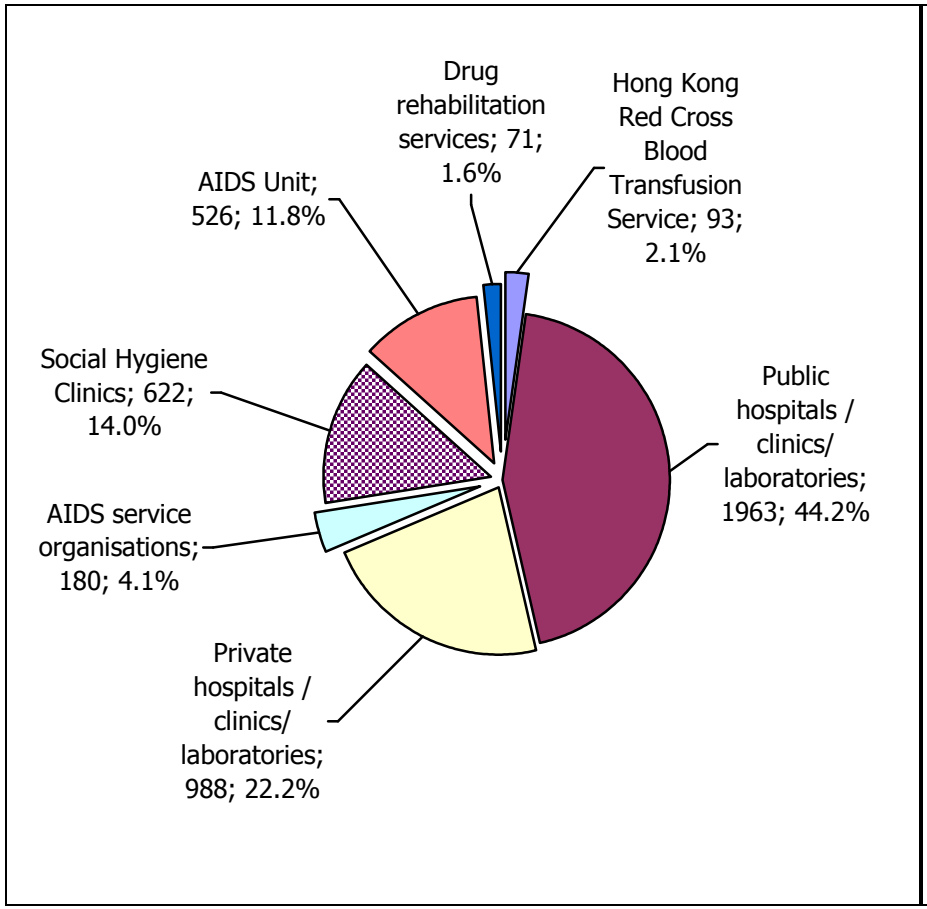


(ii) AIDS

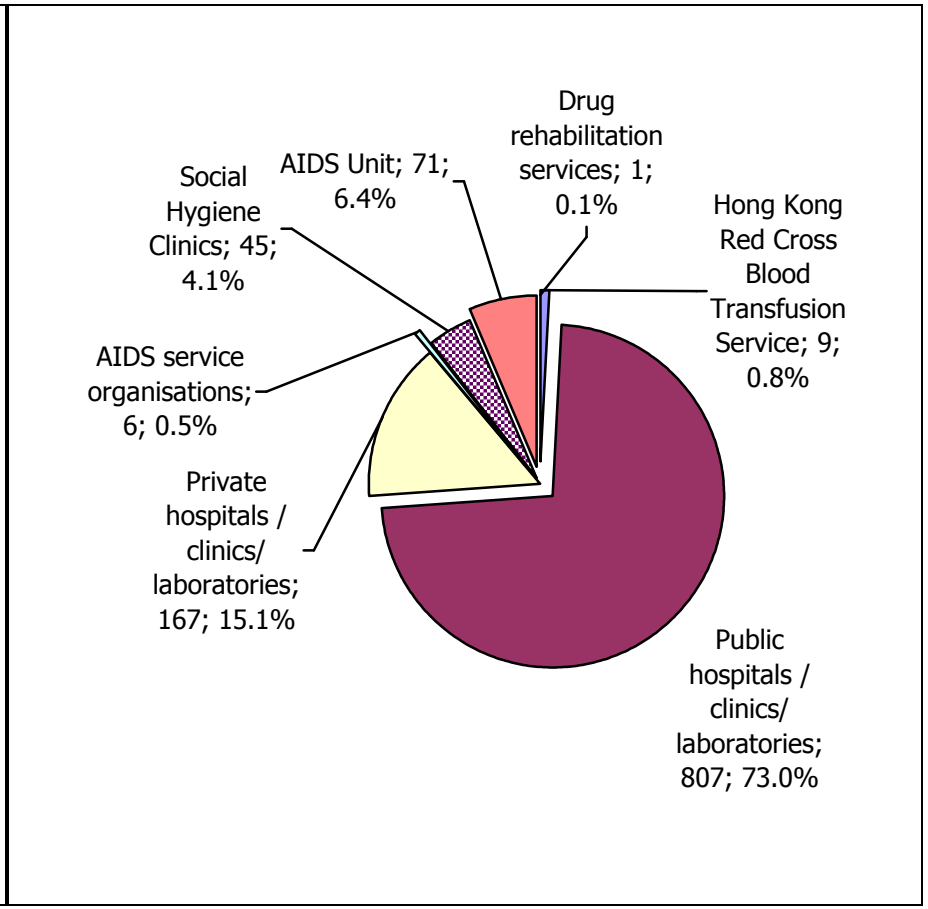


(b) Cumulative (1984 - 2009)

(i) HIV



(ii) AIDS



Box 2.3 Ethnicity & gender of reported HIV/AIDS cases

(a) Year 2009

Ethnicity	HIV						AIDS					
	Male		Female		Total		Male		Female		Total	
Chinese	215	(69.8%)	31	(35.2%)	246	(62.1%)	51	(79.7%)	3	(25.0%)	54	(71.1%)
Asian	43	(14.0%)	23	(26.1%)	66	(16.7%)	7	(10.9%)	7	(58.3%)	14	(18.4%)
White	17	(5.5%)	3	(3.4%)	20	(5.1%)	4	(6.3%)	1	(8.3%)	5	(6.6%)
Black	5	(1.6%)	3	(3.4%)	8	(2.0%)	2	(3.1%)	1	(8.3%)	3	(3.9%)
Unknown	28	(9.1%)	28	(31.8%)	56	(14.1%)	28	(43.8%)	0	(0.0%)	0	(0.0%)
Total	308	(100.0%)	88	(100.0%)	396	(100.0%)	64	(100.0%)	12	(100.0%)	76	(100.0%)

(b) Cumulative (1984 - 2009)

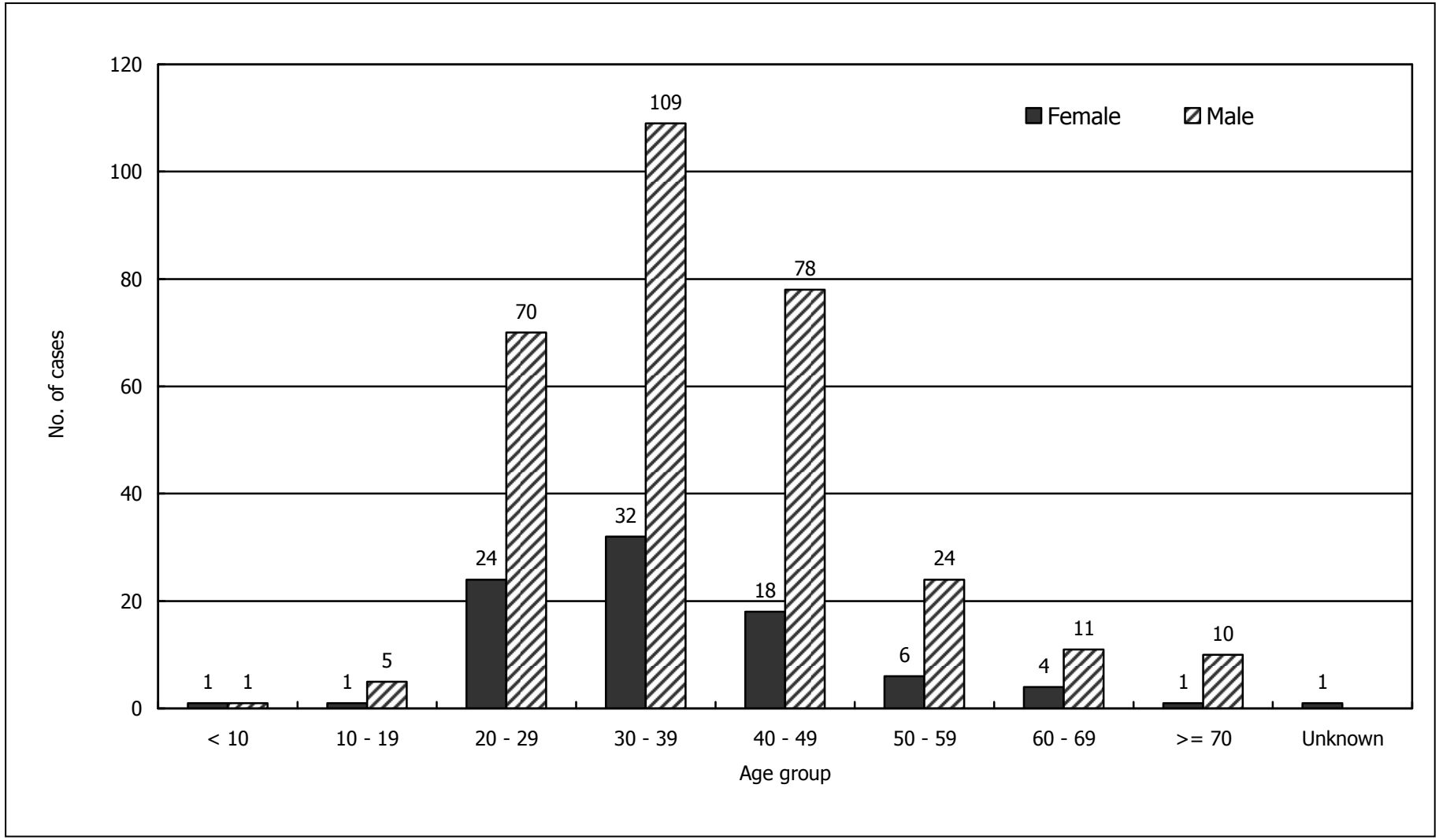
Ethnicity	HIV						AIDS					
	Male		Female		Total		Male		Female		Total	
Chinese	2590	(72.4%)	364	(41.9%)	2954	(66.5%)	784	(83.0%)	73	(45.3%)	857	(77.5%)
Asian	451	(12.6%)	321	(37.0%)	772	(17.4%)	77	(8.1%)	83	(51.6%)	160	(14.5%)
White	298	(8.3%)	18	(2.1%)	316	(7.1%)	72	(7.6%)	2	(1.2%)	74	(6.7%)
Black	50	(1.4%)	17	(2.0%)	67	(1.5%)	11	(1.2%)	3	(1.9%)	14	(1.3%)
Unknown	186	(5.2%)	148	(17.1%)	334	(7.5%)	1	(0.1%)	0	(0.0%)	1	(0.1%)
Total	3575	(100.0%)	868	(100.0%)	4443	(100.0%)	945	(100.0%)	161	(100.0%)	1106	(100.0%)

Box 2.4 Age distribution of reported HIV/AIDS cases

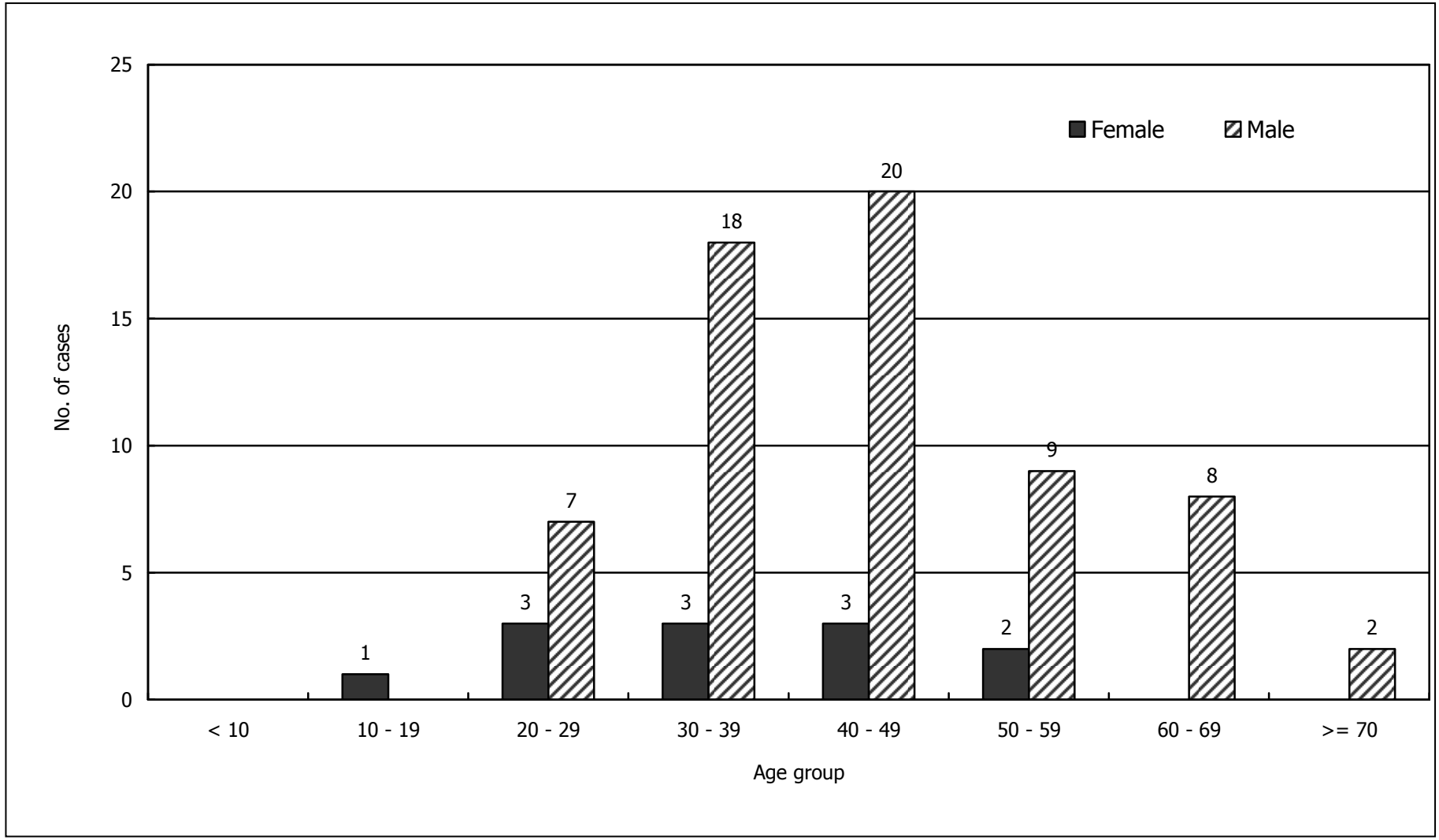
(a) Median age of reported HIV/AIDS cases

Year	HIV			AIDS		
	Median age	Inter quartile range		Median age	Inter quartile range	
		25%	75%		25%	75%
1984	11	6	32	---	---	---
1985	21	13.5	28.5	33	28	46
1986	26	15	41	---	---	---
1987	29	24	38.5	42.5	35.25	51.25
1988	35	25.75	42.25	39	24	43
1989	36	28	46	38	31.5	46.5
1990	33	28	39	35	28.5	50.5
1991	31.5	26	39.75	34	27	44
1992	34	28	40	39	34.75	45.5
1993	33	27	39	38	29	41
1994	34	28	40	36	33	40.5
1995	32	26	40	36	30	44.5
1996	34	30	41.5	38	31.75	43
1997	35	28.5	42	37	32	48
1998	34	29	40	39	32	48
1999	35	29	43	40	34	51
2000	35	29	43	40	33	50
2001	34.5	29	42	38	30.25	46.75
2002	36	30	44	41	34	48
2003	36	30	45	39	35	49.75
2004	36	30	44.5	42	35	51
2005	36	30	44	40	33.25	47.75
2006	34	28	42	38	31	47
2007	34	29	41	41	34	51
2008	36	29	45	41	34	54
2009	36	29	45	41	34	51
Total	35	29	43	39	33	48

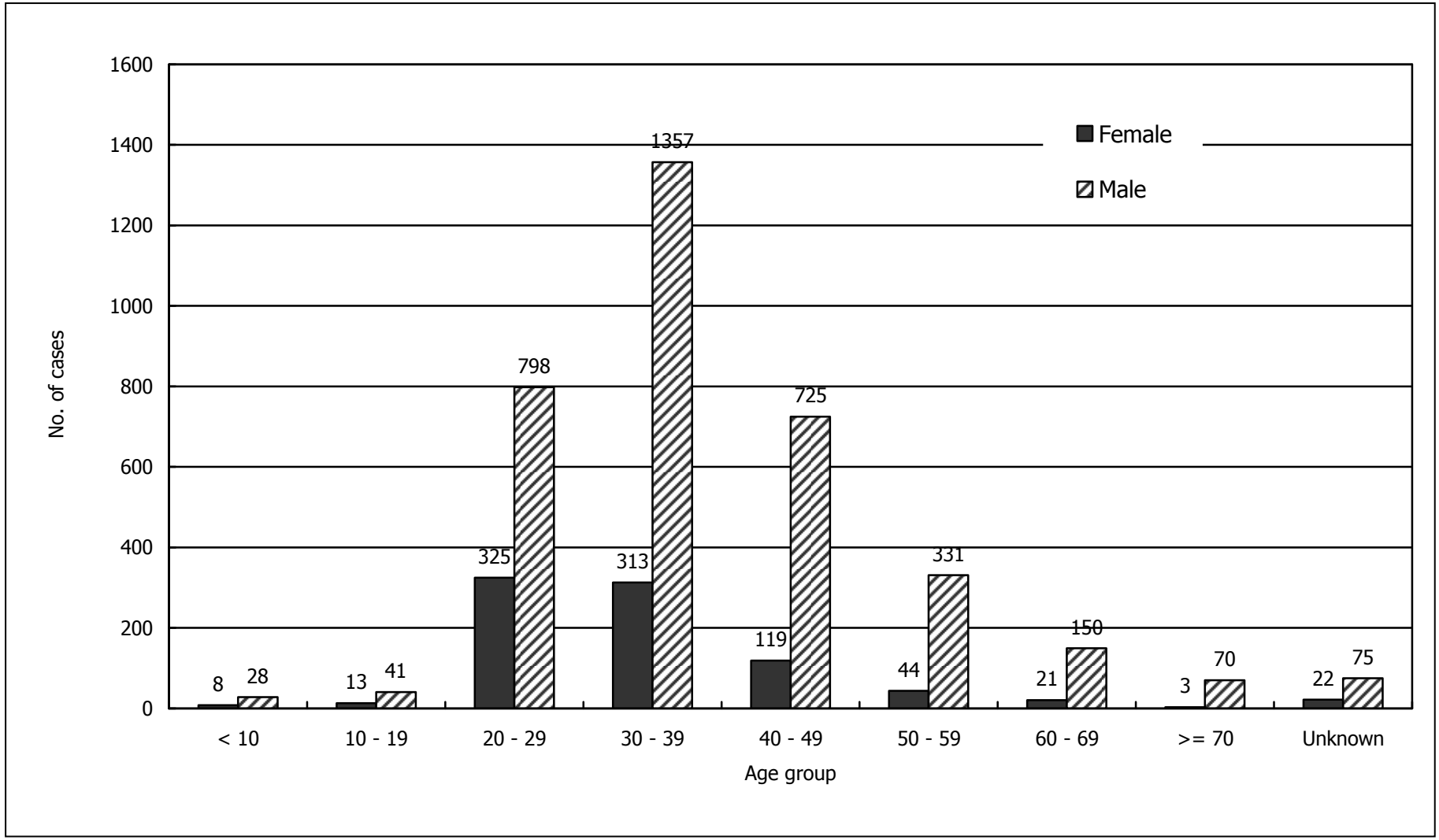
(b) Age & gender of reported HIV cases (Year 2009)



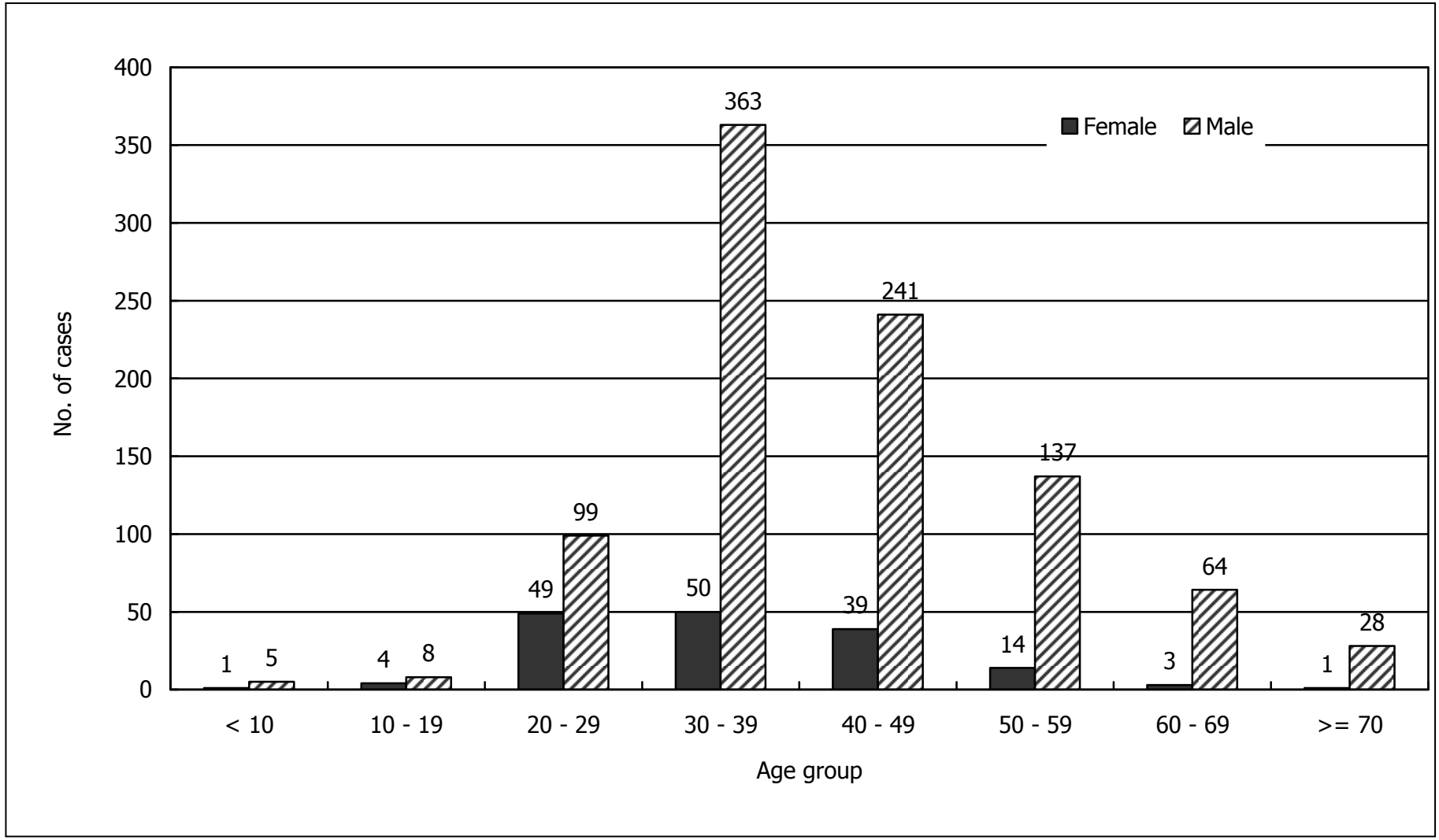
(c) Age & gender of reported AIDS cases (Year 2009)



(d) Age & gender of reported HIV cases (cumulative, 1984 - 2009)



(e) Age & gender of reported AIDS cases (cumulative, 1985 - 2009)



(f) Adults & children with reported HIV/AIDS in 2009

Age	HIV			AIDS		
	Male	Female	Total	Male	Female	Total
Adult	307	86	393	64	11	75
Children (age <=13)	1	2	3	0	1	1
Total	308	88	396	64	12	76

Box 2.5 Exposure category of reported HIV/AIDS cases

(a) Distribution of reported HIV cases by exposure category (1984 - 2009)

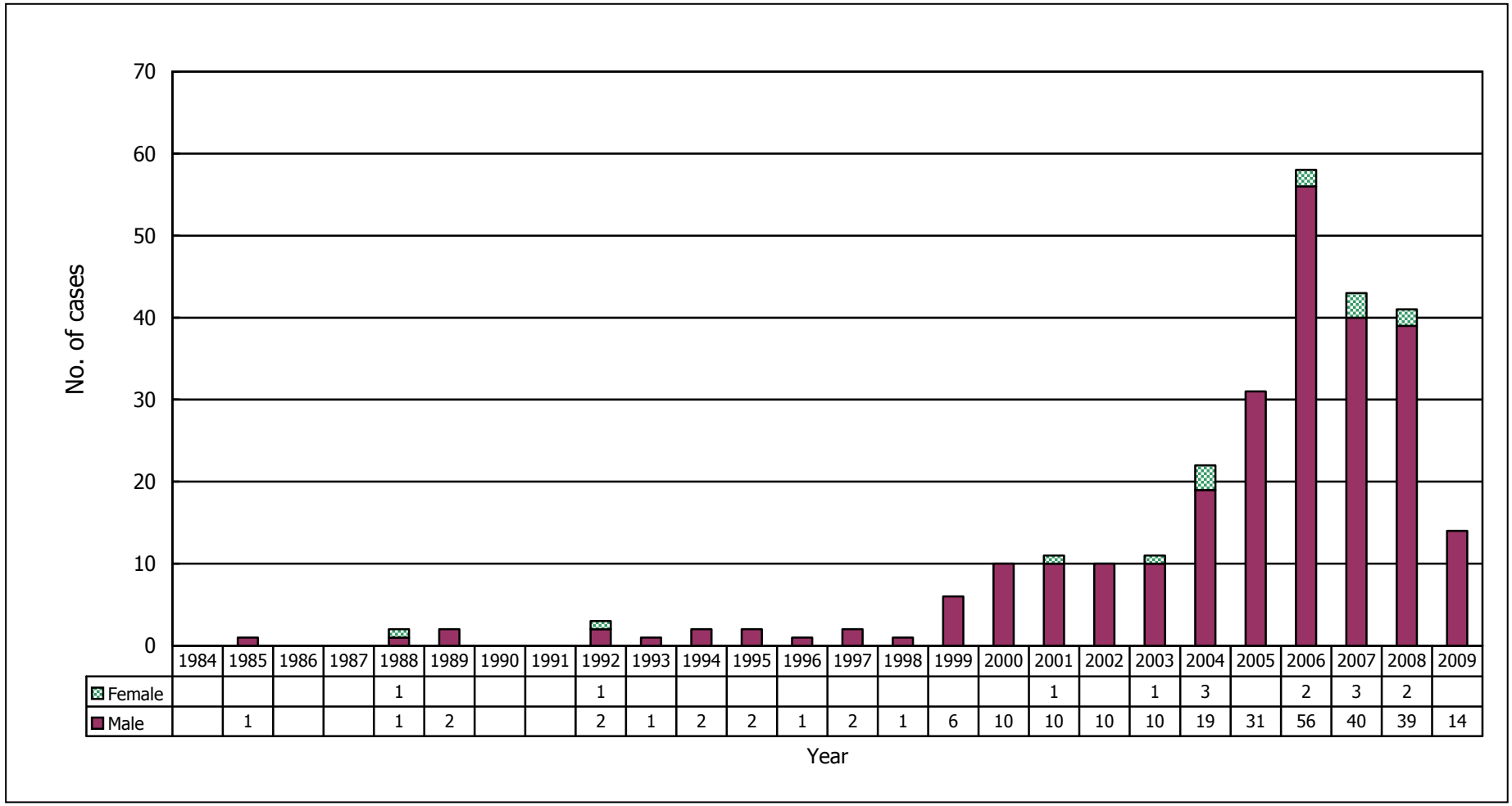
Year / Exposure Category (%)	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Heterosexual	1 (14.3)	0 (0.0)	0 (0.0)	3 (9.1)	6 (21.4)	11 (28.9)	12 (35.3)	29 (48.3)	32 (45.1)	47 (59.5)	73 (70.2)	81 (66.4)	94 (70.1)	117 (64.6)	135 (71.4)	127 (59.6)	115 (62.8)	127 (59.6)	146 (56.2)	116 (50.7)	112 (41.8)	116 (37.1)	129 (34.6)	111 (26.8)	144 (33.1)	108 (27.3)	1992 (44.8)
Homosexual	1 (14.3)	10 (21.7)	6 (30.0)	12 (36.4)	12 (42.9)	15 (39.5)	8 (23.5)	18 (30.0)	27 (38.0)	20 (25.3)	22 (21.2)	26 (21.3)	20 (14.9)	33 (18.2)	16 (8.5)	34 (16.0)	22 (12.0)	37 (17.4)	48 (18.5)	45 (19.7)	62 (23.1)	86 (27.5)	108 (29.0)	159 (38.4)	139 (32.0)	154 (38.9)	1140 (25.7)
Bisexual	0 (0.0)	1 (2.2)	2 (10.0)	7 (21.2)	2 (7.1)	6 (15.8)	5 (14.7)	8 (13.3)	2 (2.8)	2 (2.5)	4 (3.8)	4 (3.3)	3 (2.2)	10 (5.5)	6 (3.2)	10 (4.7)	7 (3.8)	7 (3.3)	9 (3.5)	5 (2.2)	6 (2.2)	10 (3.2)	15 (4.0)	18 (4.3)	17 (3.9)	8 (2.0)	174 (3.9)
Injecting drug use	0 (0.0)	1 (2.2)	0 (0.0)	0 (0.0)	2 (7.1)	2 (5.3)	0 (0.0)	0 (0.0)	3 (4.2)	1 (1.3)	2 (1.9)	2 (1.6)	1 (0.7)	2 (1.1)	1 (0.5)	6 (2.8)	10 (5.5)	11 (5.2)	10 (3.8)	11 (4.8)	22 (8.2)	31 (9.9)	58 (15.5)	43 (10.4)	41 (9.4)	14 (3.5)	274 (6.2)
Blood contact	5 (71.4)	32 (69.6)	10 (50.0)	7 (21.2)	2 (7.1)	2 (5.3)	5 (14.7)	0 (0.0)	1 (1.4)	1 (1.3)	1 (1.0)	0 (0.0)	0 (0.0)	1 (0.6)	0 (0.0)	2 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (1.3)	0 (0.0)	2 (0.5)	3 (0.7)	1 (0.3)	79 (1.8)
Perinatal	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)	1 (1.0)	2 (1.6)	1 (0.7)	0 (0.0)	2 (1.1)	4 (1.9)	2 (1.1)	2 (0.9)	1 (0.4)	0 (0.0)	0 (0.0)	2 (0.6)	2 (0.5)	1 (0.2)	0 (0.0)	3 (0.8)	23 (0.5)
Undetermined	0 (0.0)	2 (4.3)	2 (10.0)	4 (12.1)	4 (14.3)	2 (5.3)	4 (11.8)	5 (8.3)	6 (8.5)	8 (10.1)	1 (1.0)	7 (5.7)	15 (11.2)	18 (9.9)	29 (15.3)	30 (14.1)	27 (14.8)	29 (13.6)	46 (17.7)	52 (22.7)	66 (24.6)	64 (20.4)	61 (16.4)	80 (19.3)	91 (20.9)	108 (27.3)	761 (17.1)
Total	7 (100)	46 (100)	20 (100)	33 (100)	28 (100)	38 (100)	34 (100)	60 (100)	71 (100)	79 (100)	104 (100)	122 (100)	134 (100)	181 (100)	189 (100)	213 (100)	183 (100)	213 (100)	260 (100)	229 (100)	268 (100)	313 (100)	373 (100)	414 (100)	435 (100)	396 (100)	4443 (100)

(b) Distribution of reported AIDS cases by exposure category (1985 - 2009)

Year / Exposure Category (%)	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Heterosexual	1 (33.3)	---	1 (16.7)	0 (0.0)	3 (17.6)	3 (23.1)	2 (14.3)	5 (35.7)	10 (52.6)	16 (43.2)	31 (68.9)	55 (78.6)	44 (68.8)	50 (79.4)	44 (72.1)	56 (83.6)	49 (81.7)	38 (71.7)	46 (82.1)	35 (71.4)	38 (59.4)	30 (41.1)	40 (50.6)	52 (54.2)	35 (46.1)	684 (61.8)
Homosexual	1 (33.3)	---	3 (50.0)	4 (57.1)	8 (47.1)	2 (15.4)	6 (42.9)	8 (57.1)	7 (36.8)	13 (35.1)	9 (20.0)	6 (8.6)	10 (15.6)	6 (9.5)	8 (13.1)	1 (1.5)	5 (8.3)	8 (15.1)	7 (12.5)	8 (16.3)	13 (20.3)	21 (28.8)	20 (25.3)	25 (26.0)	28 (36.8)	227 (20.5)
Bisexual	1 (33.3)	---	0 (0.0)	1 (14.3)	3 (17.6)	3 (23.1)	2 (14.3)	1 (7.1)	1 (5.3)	4 (10.8)	3 (6.7)	1 (1.4)	3 (4.7)	1 (1.6)	1 (1.6)	1 (1.5)	2 (3.3)	2 (3.8)	0 (0.0)	0 (0.0)	3 (4.7)	3 (4.1)	1 (1.3)	3 (3.1)	3 (3.9)	43 (3.9)
Injecting drug use	0 (0.0)	---	0 (0.0)	0 (0.0)	1 (5.9)	0 (0.0)	0 (0.0)	0 (0.0)	1 (5.3)	0 (0.0)	1 (2.2)	1 (1.4)	1 (1.6)	0 (0.0)	1 (1.6)	2 (3.0)	1 (1.7)	1 (1.9)	0 (0.0)	3 (6.1)	1 (1.6)	11 (15.1)	9 (11.4)	9 (9.4)	2 (2.6)	45 (4.1)
Blood contact	0 (0.0)	---	0 (0.0)	1 (14.3)	2 (11.8)	3 (23.1)	3 (21.4)	0 (0.0)	0 (0.0)	3 (8.1)	0 (0.0)	2 (2.9)	1 (1.6)	1 (1.6)	2 (3.3)	1 (1.5)	0 (0.0)	0 (0.0)	1 (1.8)	0 (0.0)	1 (1.6)	0 (0.0)	1 (1.3)	2 (2.1)	0 (0.0)	24 (2.2)
Perinatal	0 (0.0)	---	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (2.7)	1 (2.2)	0 (0.0)	0 (0.0)	1 (1.6)	1 (1.6)	1 (1.5)	1 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.3)	7 (0.6)
Undetermined	0 (0.0)	---	2 (33.3)	1 (14.3)	0 (0.0)	2 (15.4)	1 (7.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	5 (7.1)	5 (7.8)	4 (6.3)	4 (6.6)	5 (7.5)	2 (3.3)	4 (7.5)	2 (3.6)	3 (6.1)	8 (12.5)	8 (11.0)	8 (10.1)	5 (5.2)	7 (9.2)	76 (6.9)
Total	3 (100)	---	6 (100)	7 (100)	17 (100)	13 (100)	14 (100)	14 (100)	19 (100)	37 (100)	45 (100)	70 (100)	64 (100)	63 (100)	61 (100)	67 (100)	60 (100)	53 (100)	56 (100)	49 (100)	64 (100)	73 (100)	79 (100)	96 (100)	76 (100)	1106 (100)

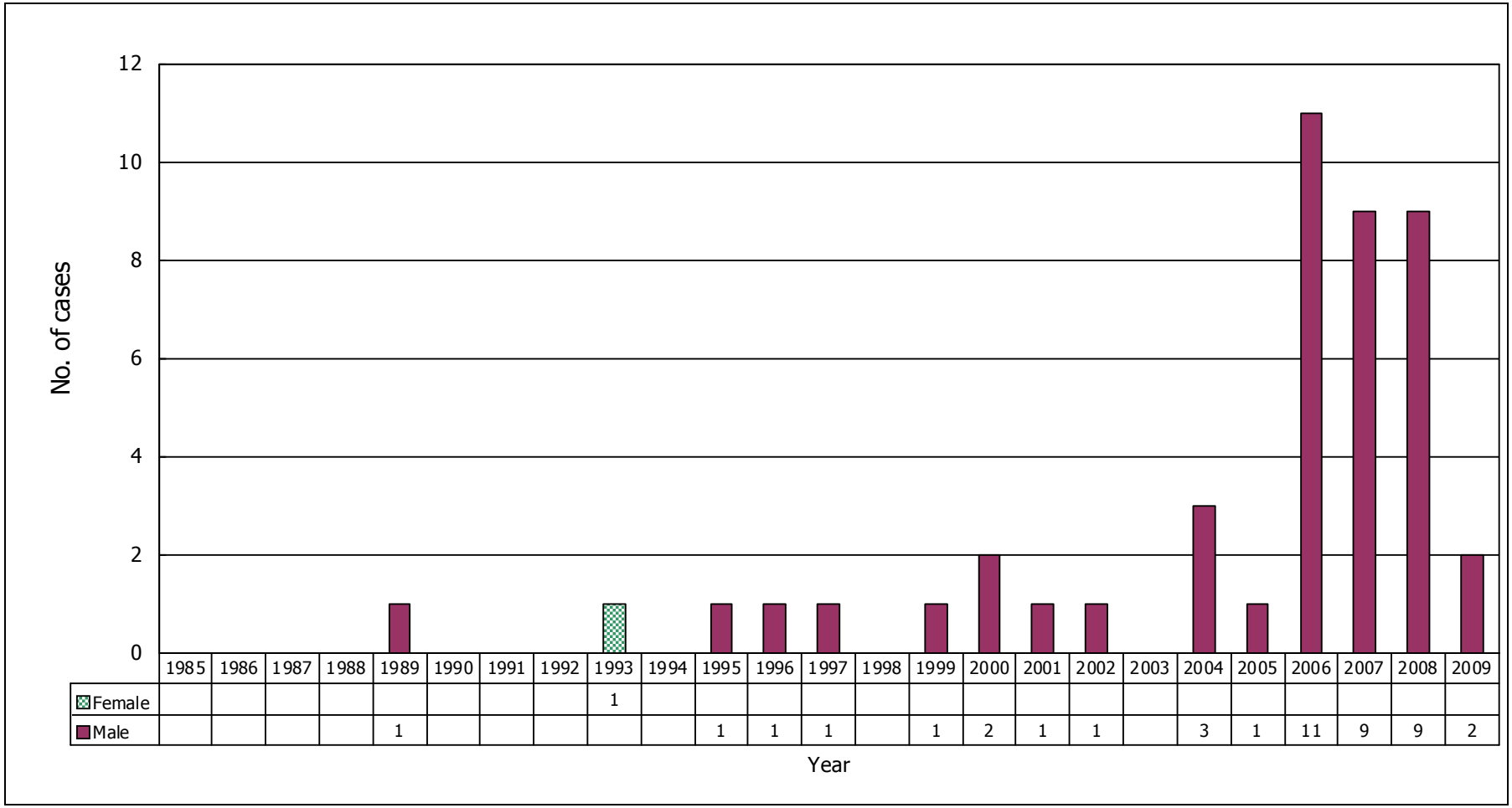
Box 2.6 Reported HIV/AIDS cases in injecting drug users

(a) Reported HIV-infected injecting drug users - by gender



	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Female					1				1									1		1	3		2	3	2	
Male		1			1	2			2	1	2	2	1	2	1	6	10	10	10	10	19	31	56	40	39	14

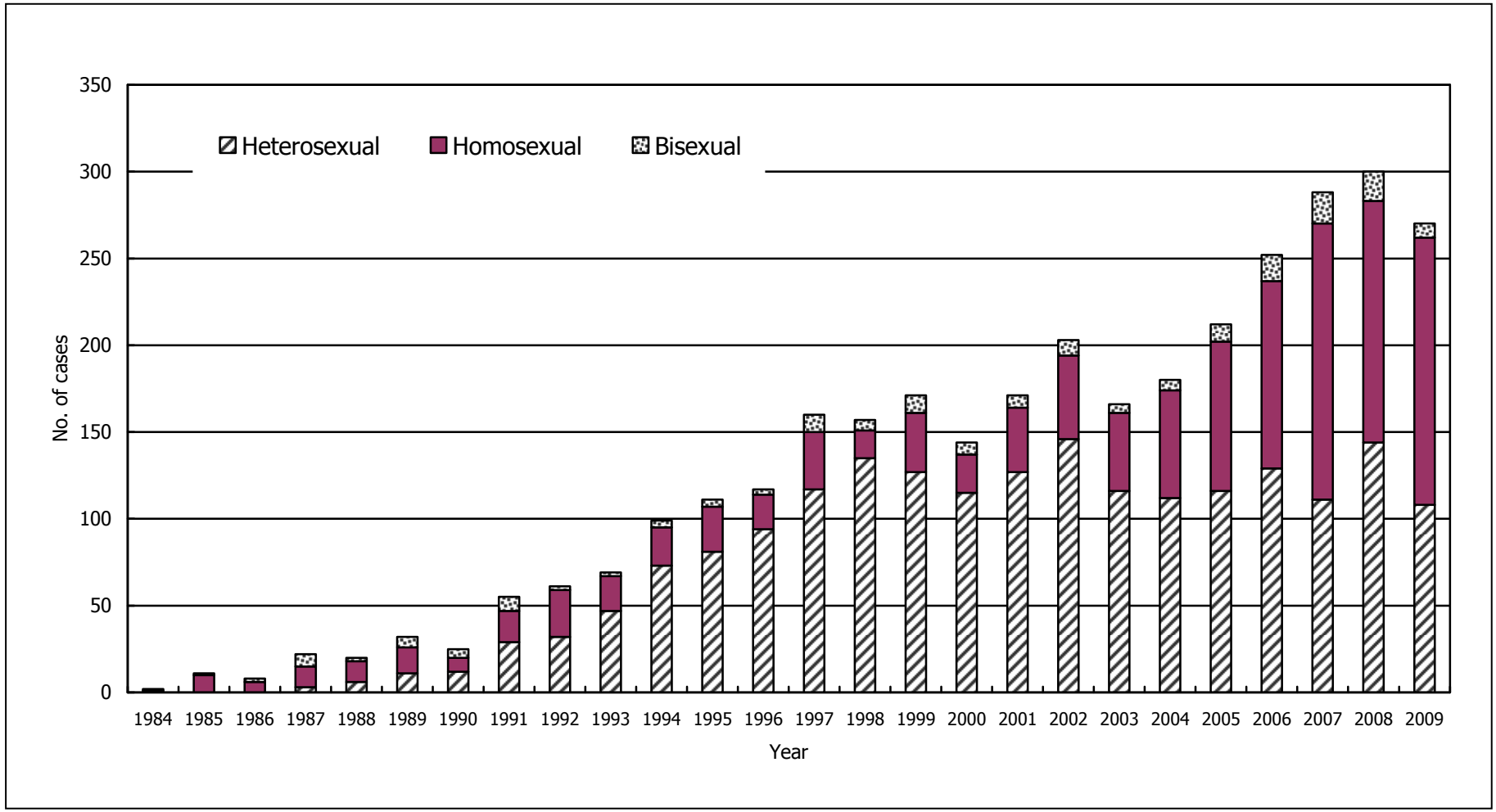
(b) Reported AIDS case in injecting drug users - by gender



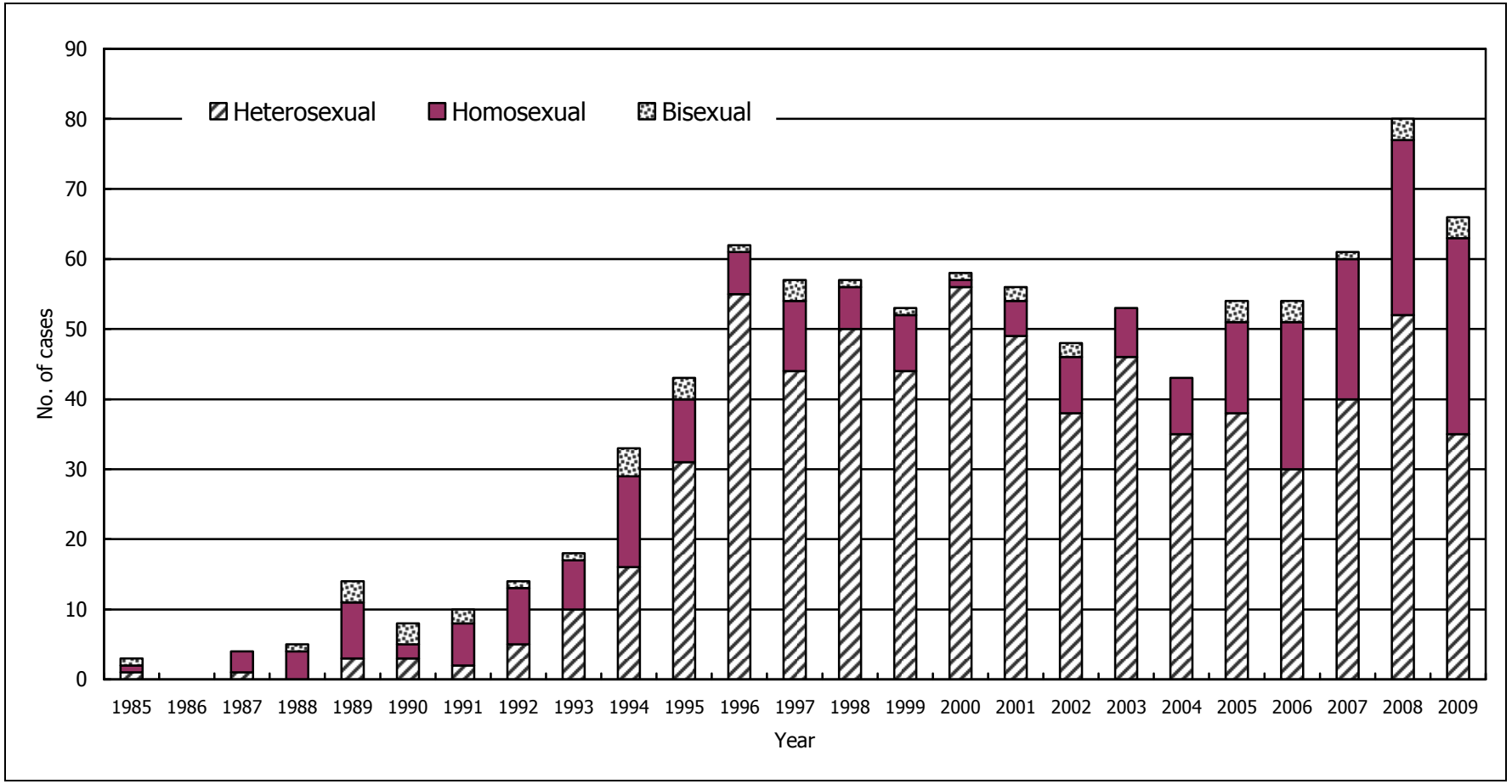
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Female									1																
Male					1						1	1	1		1	2	1	1		3	1	11	9	9	2

Box 2.7 Reported sexually acquired HIV/AIDS cases

(a) Yearly reports of sexually acquired HIV cases



(b) Yearly reports of sexually acquired AIDS cases



(c) Ratio of heterosexual vs. homosexual/bisexual men reported with HIV/AIDS

Year	HIV	AIDS
1984	1.0 : 1	---
1985	0.0 : 1	0.5 : 1
1986	0.0 : 1	---
1987	0.1 : 1	0.0 : 1
1988	0.4 : 1	0.0 : 1
1989	0.4 : 1	0.3 : 1
1990	0.8 : 1	0.6 : 1
1991	1.0 : 1	0.3 : 1
1992	0.9 : 1	0.6 : 1
1993	1.7 : 1	0.9 : 1
1994	2.3 : 1	0.8 : 1
1995	1.9 : 1	2.0 : 1
1996	3.0 : 1	7.1 : 1
1997	2.0 : 1	2.5 : 1
1998	4.2 : 1	5.9 : 1
1999	2.0 : 1	4.2 : 1
2000	2.7 : 1	23.5 : 1
2001	1.9 : 1	5.3 : 1
2002	1.7 : 1	2.7 : 1
2003	1.7 : 1	4.9 : 1
2004	1.1 : 1	3.8 : 1
2005	0.8 : 1	1.8 : 1
2006	0.7 : 1	0.8 : 1
2007	0.4 : 1	1.5 : 1
2008	0.6 : 1	1.4 : 1
2009	0.4 : 1	0.8 : 1
Total	**1.0 : 1**	**1.8 : 1**

Box 2.8 Profile of primary AIDS defining illnesses (ADI) (1985 - 2009)

Year / ADI (%)	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Pneumocystic Pneumonia (PCP)	1 (33.3)	---	2 (33.3)	4 (57.1)	8 (47.1)	5 (38.5)	4 (28.6)	7 (50.0)	10 (52.6)	12 (32.4)	17 (37.8)	21 (30.0)	20 (31.3)	26 (41.3)	23 (37.7)	30 (44.8)	26 (43.3)	25 (47.2)	22 (39.3)	22 (44.9)	20 (31.3)	27 (37.0)	28 (35.4)	37 (38.5)	32 (42.1)	429 (38.8)
Mycobacterium Tuberculosis	0 (0.0)	---	0 (0.0)	0 (0.0)	1 (5.9)	2 (15.4)	3 (21.4)	1 (7.1)	2 (10.5)	4 (10.8)	8 (17.8)	21 (30.0)	17 (26.6)	18 (28.6)	13 (21.3)	19 (28.4)	17 (28.3)	9 (17.0)	15 (26.8)	13 (26.5)	25 (39.1)	26 (35.6)	32 (40.5)	32 (33.3)	24 (31.6)	302 (27.3)
Other fungal infections	0 (0.0)	---	3 (50.0)	0 (0.0)	3 (17.6)	0 (0.0)	2 (14.3)	2 (14.3)	1 (5.3)	4 (10.8)	7 (15.6)	6 (8.6)	10 (15.6)	8 (12.7)	5 (8.2)	4 (6.0)	5 (8.3)	8 (15.1)	4 (7.1)	6 (12.2)	5 (7.8)	4 (5.5)	3 (3.8)	3 (3.1)	6 (7.9)	99 (9.0)
Penicilliosis	0 (0.0)	---	0 (0.0)	0 (0.0)	0 (0.0)	1 (7.7)	1 (7.1)	0 (0.0)	1 (5.3)	6 (16.2)	7 (15.6)	7 (10.0)	5 (7.8)	2 (3.2)	7 (11.5)	5 (7.5)	1 (1.7)	7 (13.2)	5 (8.9)	4 (8.2)	7 (10.9)	11 (15.1)	4 (5.1)	6 (6.3)	1 (1.3)	88 (8.0)
Cytomegalovirus diseases	1 (33.3)	---	0 (0.0)	0 (0.0)	0 (0.0)	1 (7.7)	1 (7.1)	1 (7.1)	2 (10.5)	1 (2.7)	3 (6.7)	4 (5.7)	4 (6.3)	3 (4.8)	2 (3.3)	3 (4.5)	2 (3.3)	0 (0.0)	3 (5.4)	1 (2.0)	2 (3.1)	3 (4.1)	4 (5.1)	6 (6.3)	3 (3.9)	50 (4.5)
Non-TB mycobacterial infections	0 (0.0)	---	0 (0.0)	0 (0.0)	1 (5.9)	0 (0.0)	3 (21.4)	0 (0.0)	1 (5.3)	0 (0.0)	0 (0.0)	2 (2.9)	1 (1.6)	0 (0.0)	5 (8.2)	1 (1.5)	5 (8.3)	2 (3.8)	1 (1.8)	2 (4.1)	0 (0.0)	1 (1.4)	0 (0.0)	1 (1.0)	2 (2.6)	28 (2.5)
Kaposi's sarcoma	1 (33.3)	---	0 (0.0)	1 (14.3)	2 (11.8)	1 (7.7)	0 (0.0)	2 (14.3)	0 (0.0)	4 (10.8)	1 (2.2)	2 (2.9)	3 (4.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.8)	0 (0.0)	1 (1.6)	0 (0.0)	1 (1.3)	4 (4.2)	2 (2.6)	26 (2.4)
Others	0 (0.0)	---	1 (16.7)	2 (28.6)	2 (11.8)	3 (23.1)	0 (0.0)	1 (7.1)	2 (10.5)	6 (16.2)	2 (4.4)	7 (10.0)	4 (6.3)	6 (9.5)	6 (9.8)	5 (7.5)	4 (6.7)	2 (3.8)	5 (8.9)	1 (2.0)	4 (6.3)	1 (1.4)	7 (8.9)	7 (7.3)	6 (7.9)	84 (7.6)
Total	3 (100)	---	6 (100)	7 (100)	17 (100)	13 (100)	14 (100)	14 (100)	19 (100)	37 (100)	45 (100)	70 (100)	64 (100)	63 (100)	61 (100)	67 (100)	60 (100)	53 (100)	56 (100)	49 (100)	64 (100)	73 (100)	79 (100)	96 (100)	76 (100)	1106 (100)

3. TABULATED RESULTS OF HIV PREVALENCE SURVEYS

System description

- This is a collection of data from HIV prevalence studies and public service records that contribute to the understanding of the HIV situation in selected community groups or settings.

System layout

	Setting	System	Since	Sample size	Data available in 2009
(a) Community with predisposing risk factors					
STI patients	Social Hygiene Clinics	Voluntary testing offered to clients	1985	30000 – 40000 / year	Yes
*Drug users (1)	Methadone Clinics	Unlinked anonymous screening using urine samples	1992 (to 2003)	2000 – 4000 / year	No
		Universal HIV Antibody (Urine) Testing Programme	2003	7000 – 9000 / year	Yes
Drug users (2)	Different treatment and rehabilitation services	Voluntary testing	1985	300 – 1000 / year	Yes
Drug users (3)	Street addicts approached by outreach workers	Voluntary testing on unlinked saliva samples	1993 (to 1997)	200 – 500 / year	No
MSM	AIDS Concern	Voluntary testing offered to MSM	2000	200 - 700 / year	Yes
(b) Community without risk factors					
Blood donors	Hong Kong Red Cross Blood Transfusion Service	A requirement for all potential donors	1985	150000 – 200000 / year	Yes
Antenatal women	All maternal and child health centres and public hospitals	Universal voluntary testing	Sept 2001	Around 40000 / year	Yes
*Neonates	Testing of Cord blood from delivering women	Unlinked anonymous screening on blood samples	1990 (to 2000)	4000 / year	No
Civil servants	Pre-employment health check	Unlinked anonymous screening on blood samples	1991 (once)	1553	No
(c) Community with undefined risk					
TB patients (1)	TB and Chest Clinics of the Department of Health	Unlinked anonymous screening	1990 (to 2008)	1000 / year	No
TB patients (2)	TB and Chest Clinics of the Department of Health	Voluntary testing	1993	2000 – 4500 / year	Yes
Prisoners	Penal institutions	Unlinked anonymous screening on blood / urine samples	1992	1000 – 2500 / year	Yes

*replaced by methadone clinics universal HIV testing programme and universal voluntary testing of antenatal women respectively

Tables & Figures

Box 3.1 HIV prevalence in blood donors at Hong Kong Red Cross Blood Transfusion Service

(a) HIV detection rate by number of donated blood units (1985 - 2009)

Year	Units of blood donated	No. of units anti-HIV+	Positive detection rate of donated units (%)	95% C.I. for prevalence (%)
1985	58,563	2	0.003	(0.0004 - 0.0123)
1986	146,639	1	0.001	(0.0000 - 0.0038)
1987	155,079	2	0.001	(0.0002 - 0.0047)
1988	152,319	2	0.001	(0.0002 - 0.0047)
1989	156,587	3	0.002	(0.0004 - 0.0056)
1990	168,082	4	0.002	(0.0006 - 0.0061)
1991	181,756	3	0.002	(0.0003 - 0.0048)
1992	176,492	9	0.005	(0.0023 - 0.0097)
1993	165,053	3	0.002	(0.0004 - 0.0053)
1994	172,151	7	0.004	(0.0016 - 0.0084)
1995	133,058	4	0.002	(0.0008 - 0.0077)
1996	140,169	5	0.003	(0.0012 - 0.0083)
1997	122,325	7	0.004	(0.0023 - 0.0118)
1998	136,267	7	0.003	(0.0021 - 0.0106)
1999	117,058	7	0.004	(0.0024 - 0.0123)
2000	189,482	9	0.005	(0.0022 - 0.0090)
2001	193,835	3	0.002	(0.0003 - 0.0045)
2002	193,702	3	0.002	(0.0003 - 0.0045)
2003	179,962	5	0.003	(0.0009 - 0.0065)
2004	198,420	1	0.001	(0.0000 - 0.0028)
2005	197,974	3	0.002	(0.0003 - 0.0044)
2006	196,332	6	0.003	(0.0011 - 0.0067)
2007	205,645	9	0.004	(0.0020 - 0.0083)
2008	212,739	10	0.005	(0.0023 - 0.0086)
2009	214,709	3	0.001	(0.0003 - 0.0041)

(b) HIV prevalence in new and repeat blood donors (1991 - 2009)

Year	New donors			Repeat donors		
	No. of donors	No. of donors anti-HIV+	HIV positivity rate (%) (95% C.I. (%))	No. of donors	No. of donors anti-HIV+	HIV positivity rate (%) (95% C.I. (%))
1991	48,769	0	0 (----)	132,987	3	0.002 (0.0005 - 0.0066)
1992	43,674	1	0.002 (0.0001 - 0.0128)	132,818	8	0.006 (0.0026 - 0.0119)
1993	36,146	1	0.003 (0.0001 - 0.0154)	128,907	2	0.002 (0.0002 - 0.0056)
1994	38,077	2	0.005 (0.0006 - 0.0190)	134,074	5	0.004 (0.0012 - 0.0087)
1995	39,778	2	0.005 (0.0006 - 0.0182)	93,280	2	0.002 (0.0003 - 0.0077)
1996	40,875	1	0.002 (0.0001 - 0.0136)	99,294	4	0.004 (0.0011 - 0.0103)
1997	40,419	1	0.002 (0.0001 - 0.0138)	81,906	6	0.007 (0.0027 - 0.0159)
1998	43,756	3	0.007 (0.0014 - 0.0200)	92,511	4	0.004 (0.0012 - 0.0111)
1999	40,960	1	0.002 (0.0001 - 0.0136)	76,098	6	0.008 (0.0029 - 0.0172)
2000	41,116	5	0.012 (0.0039 - 0.0284)	148,366	4	0.003 (0.0007 - 0.0069)
2001	43,415	0	0 (---)	150,420	3	0.002 (0.0004 - 0.0058)
2002	42,292	1	0.002 (0.0001 – 0.0132)	151,410	2	0.001 (0.0002 – 0.0048)
2003	36,732	3	0.008 (0.0017 – 0.0239)	143,230	2	0.001 (0.0002 – 0.0050)
2004	41,679	0	0 (---)	156,741	1	0.001 (0.0000 – 0.0036)
2005	42,643	1	0.002 (0.0001 – 0.0131)	155,331	2	0.001 (0.0002 – 0.0047)
2006	40,029	2	0.005 (0.0006 – 0.0180)	156,303	4	0.003 (0.0007 – 0.0066)
2007	40,287	3	0.007 (0.0015 – 0.0218)	165,358	6	0.004 (0.0013 – 0.0079)
2008	40,909	5	0.012 (0.0040 – 0.0285)	171,830	5	0.003 (0.0009 – 0.0068)
2009	46,158	1	0.002 (0.0001 – 0.0121)	168,551	2	0.001 (0.0001 – 0.0043)

Box 3.2 HIV prevalence in clients attending Social Hygiene Services, from voluntary blood testing (1985 – 2009)

Year	No. of blood samples	No. of samples tested anti-HIV+	Prevalence (%)	95% C.I. for prevalence (%)
1985	7,911	5	0.063	(0.021 - 0.147)
1986	27,179	2	0.007	(0.001 - 0.027)
1987	33,553	2	0.006	(0.001 - 0.022)
1988	33,039	3	0.009	(0.002 - 0.027)
1989	29,663	6	0.020	(0.007 - 0.044)
1990	27,045	9	0.033	(0.015 - 0.063)
1991	27,013	19	0.070	(0.042 - 0.110)
1992	27,334	12	0.044	(0.023 - 0.077)
1993	28,736	16	0.056	(0.032 - 0.090)
1994	30,162	29	0.096	(0.064 - 0.138)
1995	33,896	14	0.041	(0.023 - 0.069)
1996	37,126	25	0.067	(0.044 - 0.099)
1997	38,779	27	0.070	(0.046 - 0.101)
1998	46,127	27	0.059	(0.039 - 0.085)
1999	51,639	31	0.060	(0.041 - 0.085)
2000	51,197	20	0.039	(0.024 - 0.060)
2001	51,209	31	0.061	(0.041 - 0.086)
2002	53,363	41	0.077	(0.055 - 0.104)
2003	42,764	34	0.080	(0.055 - 0.111)
2004	43,980	46	0.105	(0.077 - 0.140)
2005	38,978	28	0.072	(0.048 - 0.104)
2006	37,120	47	0.127	(0.093 - 0.168)
2007	33,841	50	0.148	(0.110 - 0.195)
2008	31,040	72	0.232	(0.181 - 0.292)
2009	29,152	50	0.172	(0.127 - 0.226)

Box 3.3 HIV prevalence in drug users attending methadone clinics

(a) HIV prevalence in drug users attending methadone clinics from unlinked anonymous screening (1992 - 2003)*

Year	No. of urine samples	No. of samples tested anti-HIV+	Prevalence (%)	95% C.I. for prevalence (%)
1992	2,189	0	0	(--- - ---)
1993	3,219	0	0	(--- - ---)
1994	4,113	2	0.049	(0.006 - 0.176)
1995	2,240	1	0.045	(0.001 - 0.249)
1996	3,714	1	0.027	(0.001 - 0.150)
1997	1,816	0	0	(--- - ---)
1998	2,838	6	0.211	(0.078 - 0.460)
1999	2,674	3	0.112	(0.023 - 0.328)
2000	3,644	10	0.274	(0.132 - 0.505)
2001	3,811	4	0.105	(0.029 - 0.269)
2002	4,037	10	0.248	(0.119 - 0.456)
2003	1,949	5	0.257	(0.083 - 0.599)

* Replaced by MUT programme since 2004

(b) HIV prevalence in drug users attending methadone clinics from voluntary testing (1991 - 2003)**

Year	*No. of blood samples	No. of samples tested anti-HIV+	Prevalence (%)	95% C.I. for prevalence (%)
1991	379	0	0	(--- - ---)
1992	212	0	0	(--- - ---)
1993	198	0	0	(--- - ---)
1994	296	1	0.338	(0.009 - 1.882)
1995	102	0	0	(--- - ---)
1996	302	0	0	(--- - ---)
1997	254	0	0	(--- - ---)
1998	250	1	0.400	(0.010 - 2.229)
1999	599	3	0.501	(0.103 - 1.464)
2000	602	1	0.166	(0.004 - 0.926)
2001	363	0	0	(--- - ---)
2002	318	0	0	(--- - ---)
2003	148	0	0	(--- - ---)

* all were blood samples, with a small proportion being urine samples since late 1999
** Replaced by MUT programme since 2004

(c) HIV prevalence in drug users attending methadone clinics from Universal HIV Antibody (Urine) Testing Programme (2003 - 2009)

Year	No. of Urine samples	No. of samples tested anti-HIV+	Prevalence (%)	95% C.I. for prevalence (%)
2003 (Jul – Sep)	1,834	9	0.491	(0.224 - 0.932)
2004	8,812	18	0.204	(0.121 - 0.323)
2005	8,696	28	0.322	(0.214 - 0.465)
2006	7,730	28	0.362	(0.241 - 0.524)
2007	7,314	26	0.355	(0.232 - 0.521)
2008	7,955	37	0.465	(0.327 - 0.641)
2009	7,765	38	0.489	(0.346 - 0.672)

Box 3.4 HIV prevalence in drug users attending inpatient drug treatment centres / institutions, from unlinked anonymous screening (1998 - 2009)

Year	No. of urine samples	No. of samples tested anti-HIV+	Prevalence (%)	95% C.I. for prevalence (%)
1998	2,286	3	0.131	(0.027 - 0.384)
1999	1,675	3	0.179	(0.037 - 0.523)
2000	1,165	7	0.601	(0.242 - 1.238)
2001	1,137	2	0.176	(0.021 - 0.635)
2002	761	0	0	(--- - ---)
2003	361	1	0.277	(0.007 - 1.543)
2004*	---	---	---	(--- - ---)
2005	630	0	0	(--- - ---)
2006	786	4	0.509	(0.139 - 1.303)
2007	387	0	0	(--- - ---)
2008	369	0	0	(--- - ---)
2009	430	3	0.698	(0.144 - 2.039)

* Unlinked anonymous screening was not performed in 2004;

Box 3.5 HIV prevalence in newly admitted prisoners from unlinked anonymous screening (1995 - 2009)

Year	No. of Samples*	No. of samples tested anti-HIV+	Prevalence (%)	95% C.I. for prevalence (%)
1995	653	3	0.459	(0.095 - 1.343)
1996	1,503	6	0.399	(0.147 - 0.869)
1997	1,474	3	0.204	(0.042 - 0.595)
1998	1,571	4	0.255	(0.069 - 0.652)
1999	1,580	10	0.633	(0.303 - 1.164)**
2000	1,516	4	0.264	(0.072 - 0.676)
2001	1,502	5	0.333	(0.108 - 0.777)
2002	1,500	6	0.400	(0.147 - 0.871)
2003	1,502	5	0.333	(0.108 - 0.777)
2004	1,980	7	0.354	(0.142 - 0.728)
2005	2,007	6	0.299	(0.110 - 0.651)
2006	2,796	13	0.465	(0.248 - 0.795)
2007	2,718	7	0.258	(0.104 - 0.531)
2008	2,231	21	0.941	(0.583 - 1.439)
2009	1,929	15	0.778	(0.435 - 1.283)

* Only samples of 1995 were blood samples. All others were urine samples.

Box 3.6 HIV prevalence in patients with tuberculosis

(a) HIV prevalence in patients attending government TB & Chest Clinics, from unlinked anonymous screening (1990 - 2008) *

Year	No. of blood/urine samples**	No. of samples tested anti-HIV+	Prevalence (%)	95% C.I. for prevalence(%)
1990	1,548	0	0	(--- - ---)
1991	485	0	0	(--- - ---)
1992	1,469	2	0.136	(0.016 - 0.492)
1993	1,173	0	0	(--- - ---)
1994	-	-	-	(--- - ---)
1995	895	2	0.223	(0.027 - 0.807)
1996	998	4	0.401	(0.109 - 1.026)
1997	1,003	2	0.199	(0.024 - 0.720)
1998	833	4	0.480	(0.131 - 1.229)
1999	1,166	8	0.686	(0.296 - 1.352)
2000	1,018	5	0.491	(0.159 - 1.146)
2001	1,071	4	0.373	(0.102 - 0.956)
2002	1,000	8	0.800	(0.345 - 1.576)
2003	920	6	0.652	(0.239 - 1.420)
2004	1,056	9	0.852	(0.390 - 1.618)
2005	840	7	0.833	(0.335 - 1.717)
2006	841	5	0.595	(0.193 - 1.387)
2007	887	11	1.240	(0.619 - 2.219)
2008	783	4	0.511	(0.139 - 1.308)

* Unlinked anonymous screening was not performed in 1994, and suspended since 2009

** Only samples before 1994 were blood samples. urine samples provided since 1995.

(b) HIV prevalence in patients attending government TB & Chest Clinics, from voluntary blood testing (1993 - 2009)

Year	No. of blood samples	Coverage*		No. of anti-HIV+	Prevalence (%)	95% C.I. for prevalence (%)
		A	B			
1993	2,116	---	---	0	0	(--- - ---)
1994	2,534	---	---	2	0.079	(0.010 - 0.285)
1995	2,548	---	---	2	0.078	(0.010 - 0.284)
1996	3,157	---	---	2	0.063	(0.008 - 0.229)
1997	3,524	---	---	2	0.057	(0.007 - 0.205)
1998	3,726	---	---	6	0.161	(0.059 - 0.350)
1999	3,633	---	---	11	0.303	(0.151 - 0.542)
2000	3,426	92.8%	44.8%	3	0.088	(0.018 - 0.256)
2001	3,404	94.2%	45.3%	9	0.264	(0.121 - 0.502)
2002	3,186	94.2%	47.4%	7	0.220	(0.088 - 0.453)
2003	3,122	92.3%	50.4%	2	0.064	(0.008 - 0.231)
2004	3,202	93.1%	44.4%	10	0.312	(0.150 - 0.574)
2005	4,209	81.2%	68.3%	35	0.832	(0.579 - 1.157)
2006	4,511	91.0%	78.2%	33	0.732	(0.504 - 1.027)
2007	4,075	88.7%	74.6%	41	1.006	(0.722 - 1.365)
2008	4,121	89.9%	73.1%#	48	1.165	(0.859 - 1.544)
2009	3,993	89.0%	74.7%**	40	1.002	(0.716 - 1.364)

* coverage A is the proportion of patients attended government TB & Chest Clinics who have been tested for HIV in TB Clinic. (For year 2000-2004, it used to be the proportion of patients who started on TB tx at government TB & Chest Clinics who have been tested for HIV in TB Clinic)
B is the proportion of total TB notifications who have been tested for HIV at government TB & Chest Clinics.

figures revised

** Notification of tuberculosis in 2009 is a provisional figure

Box 3.7 HIV prevalence among antenatal women

(a) HIV prevalence among antenatal women from unlinked anonymous screening (1990 - 2000)

Year	No. of blood samples	No. of anti-HIV+	Prevalence (%)	95% C.I. for prevalence (%)
1990	993	0	0	(--- - ---)
1991	5,253	0	0	(--- - ---)
1992	5,796	0	0	(--- - ---)
1993	4,532	0	0	(--- - ---)
1994	4,762	0	0	(--- - ---)
1995	4,648	1	0.02	(0.0005 - 0.1199)
1996	3,968	1	0.03	(0.0006 - 0.1404)
1997	3,331	0	0	(--- - ---)
1998	3,031	1	0.03	(0.0008 - 0.1838)
1999	3,125	1	0.03	(0.0008 - 0.1783)
2000	3,478	1	0.03	(0.0007 - 0.1602)

(b) HIV prevalence among antenatal women* from Universal Antenatal HIV Antibody Testing Programme (2001 - 2009)

Year	Number of blood samples	Coverage**	Number of positive tests	Prevalence (%)	95% C.I. for prevalence (%)
2001 (Sep-Dec)	12,965	96.6%	7	0.05	(0.0217 - 0.1112)
2002	41,932	97.2%	8	0.02	(0.0082 - 0.0376)
2003	36,366	96.9%	6	0.02	(0.0061 - 0.0359)
2004	41,070	97.9%	6	0.01	(0.0054 - 0.0318)
2005	42,750	98.1%	5	0.01	(0.0038 - 0.0273)
2006	43,297	98.0%	9	0.02	(0.0095 - 0.0395)
2007	47,472	97.4%	11[#]	0.02[#]	(0.0116 - 0.0415)[#]
2008	51,737	98.2%	2	0.004	(0.0005 - 0.0140)
2009	51,227	98.3%	7	0.01	(0.0055 - 0.0282)

* coverage is the proportion of women attending public antenatal services who have been tested for HIV
[#] figures revised

Box 3.8 HIV prevalence among MSM tested by AIDS Concern (2000 - 2009)

	Number of test*	Number of positive tests	Prevalence (%)	95% C.I. for prevalence (%)
2000	38	0	0	(--- - ---)
2001	107	1	0.93	(0.024 - 5.207)
2002	130	1	0.77	(0.019 - 4.286)
2003	223	2	0.90	(0.109 - 3.240)
2004	332	6	1.81	(0.663 - 3.934)
2005	483	12	2.48	(1.284 - 4.340)
2006	610	10	1.64	(0.786 - 3.015)
2007	723	17	2.35	(1.370 - 3.765)
2008	905	15	1.66	(0.928 - 2.734)
2009	909	18	1.98	(1.174 - 3.130)

* rapid test

4. TABULATED RESULTS OF STATISTICS ON SEXUALLY TRANSMITTED INFECTIONS (STI)

System description:

- This is a clinic based disease reporting system contributed by Social Hygiene Service, Department of Health. Summary tables are submitted quarterly by Social Hygiene Service. The clinics included in this surveillance system are: Chai Wan, Lek Yuen[1], Wan Chai, Western[2], Yau Ma Tei, South Kwai Chung[3], Yung Fung Shee, Tuen Mun, Fanling ITC[4] , Tai Po[5], and Shek Wu Hui[5].

Remark:

[1] Lek Yuen Clinic was closed since April 2005

[2] Western Social Hygiene Clinic was merged with Wan Chai Social Hygiene Clinic and Sai Ying Pun Dermatology Clinic wef 2.7.2003.

[3] South Kwai Chung Clinic was closed on 27.3.2004

[4] Venereal Diseases Clinics in Fanling ITC was commenced operation in part-time basis on 1.9.2003 by appointment only.

[5] Tai Po and Shek Wu Hui clinics were closed since 2001

Tables & Figures

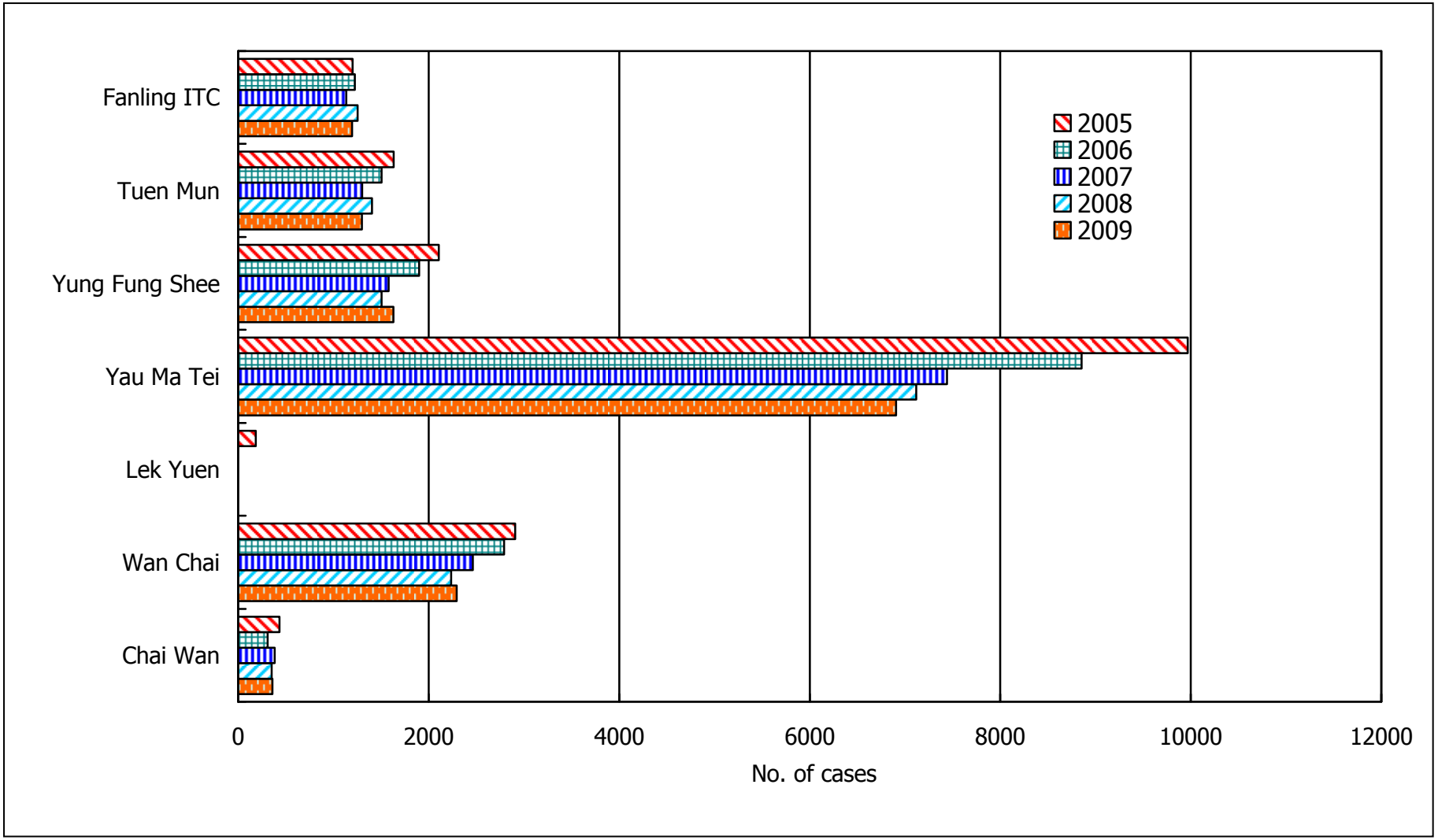
Box 4.1 Total number of STI reported by individual Social Hygiene Clinic

(a) Year 2009

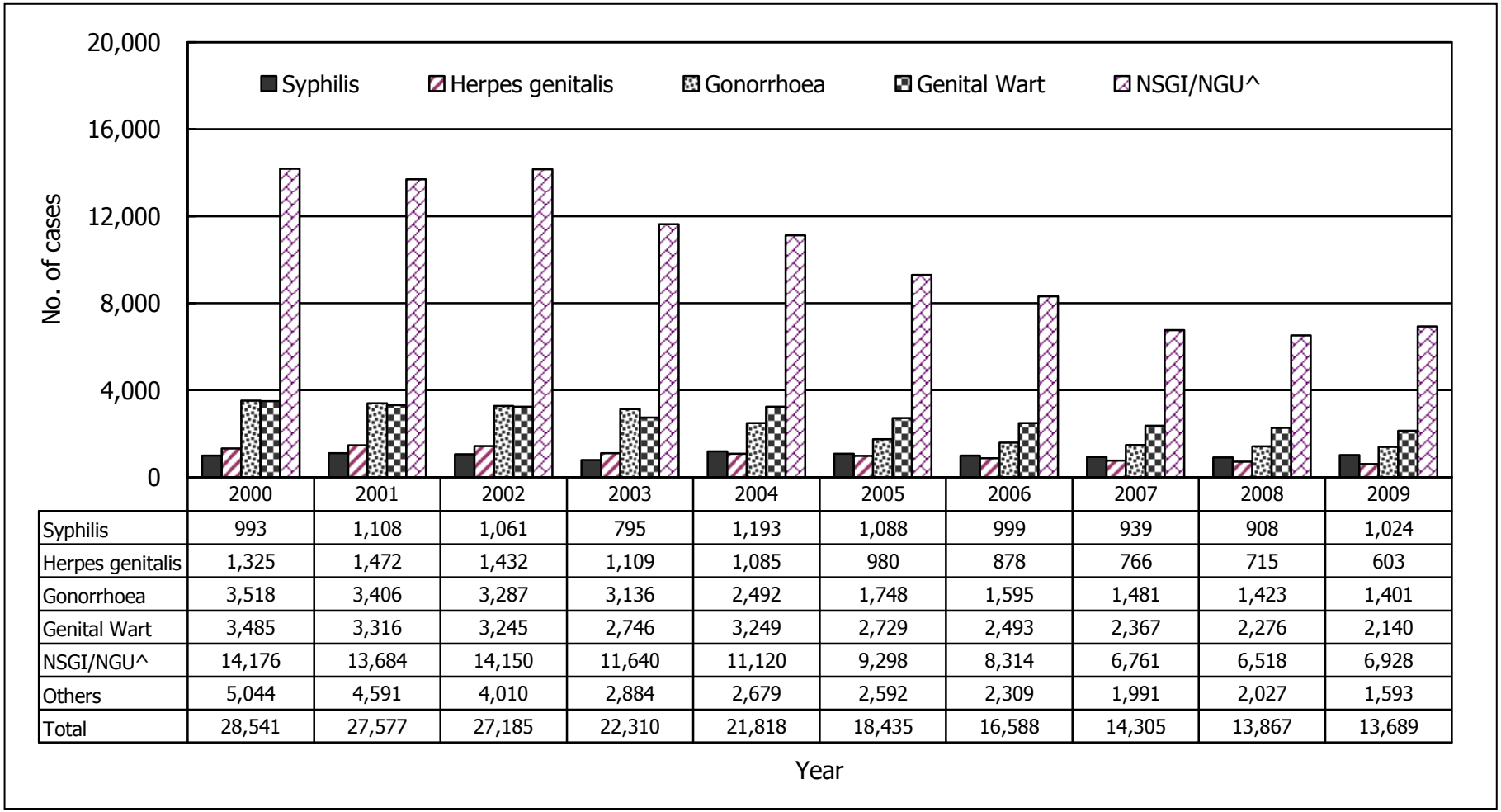
	Chai Wan	Wan Chai	Yau Ma Tei	Yung Fung Shee	Tuen Mun	Fanling ITC#	Total
Male	213	1,518	3,756	1,168	697	754	8,106
Female	148	777	3,150	462	603	443	5,583
Total	361	2,295	6,906	1,630	1,300	1,197	13,689

Venereal Diseases Clinics in Fanling ITC commenced operation in part-time basis on 1.9.2003 by appointment only.

(b) 2005 - 2009


Fanling ITC
Tuen Mun
Yung Fung Shee
Yau Ma Tei
Lek Yuen
Wan Chai
Chai Wan
2005
2006
2007
2008
2009
0
2000
4000
6000
8000
10000
12000
No. of cases

Box 4.2 Annual reported STIs in Social Hygiene Clinics



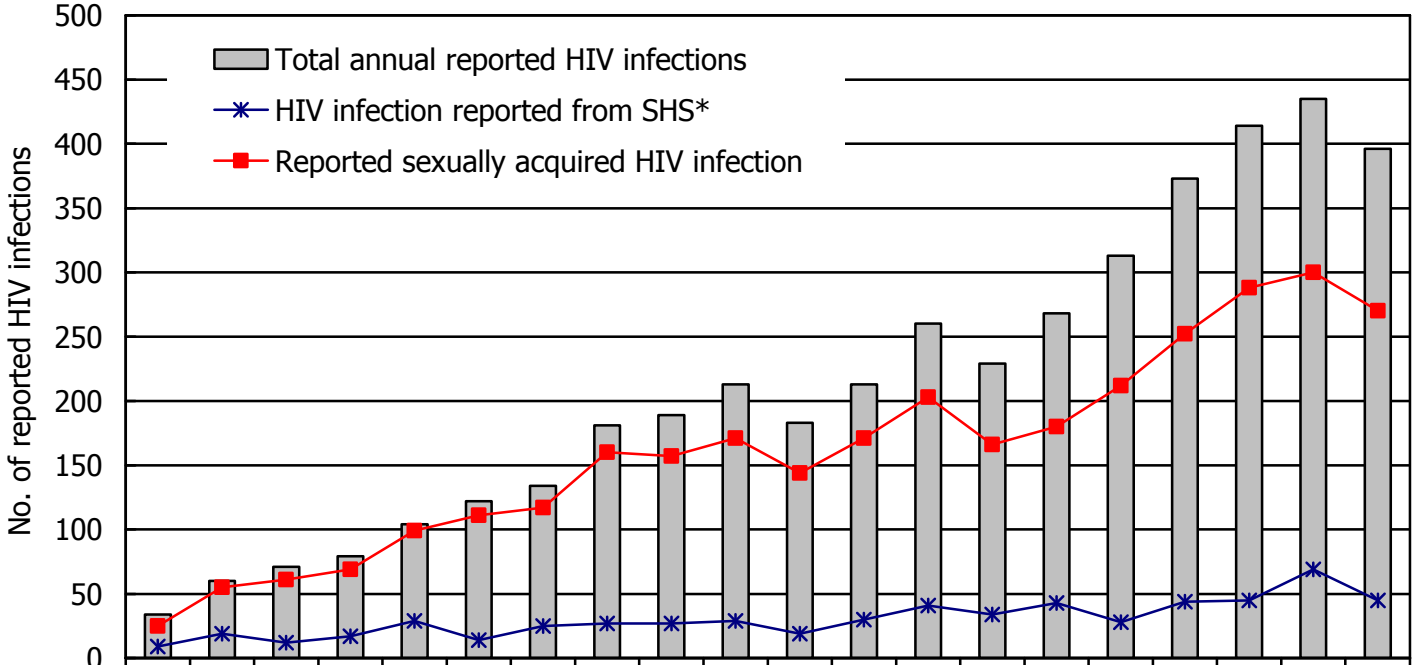
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Syphilis	993	1,108	1,061	795	1,193	1,088	999	939	908	1,024
Herpes genitalis	1,325	1,472	1,432	1,109	1,085	980	878	766	715	603
Gonorrhoea	3,518	3,406	3,287	3,136	2,492	1,748	1,595	1,481	1,423	1,401
Genital Wart	3,485	3,316	3,245	2,746	3,249	2,729	2,493	2,367	2,276	2,140
NSGI/NGU^	14,176	13,684	14,150	11,640	11,120	9,298	8,314	6,761	6,518	6,928
Others	5,044	4,591	4,010	2,884	2,679	2,592	2,309	1,991	2,027	1,593
Total	28,541	27,577	27,185	22,310	21,818	18,435	16,588	14,305	13,867	13,689

^ NSGI / NGU : Non-specific Genital Infection / Non-gonococcal Urethritis

Box 4.3 Syphilis reported by Social Hygiene Clinics (2005 - 2009)

Year / Syphilis	2005	2006	2007	2008	2009
Primary	72	48	50	45	63
Secondary	36	42	58	56	69
Early latent	130	69	63	82	61
Late latent	845	835	764	720	816
Late (cardiovascular / neuro)	5	4	3	5	12
Congenital (early)	0	0	0	0	0
Congenital (late)	0	1	1	0	3
Total	1,088	999	939	908	1,024

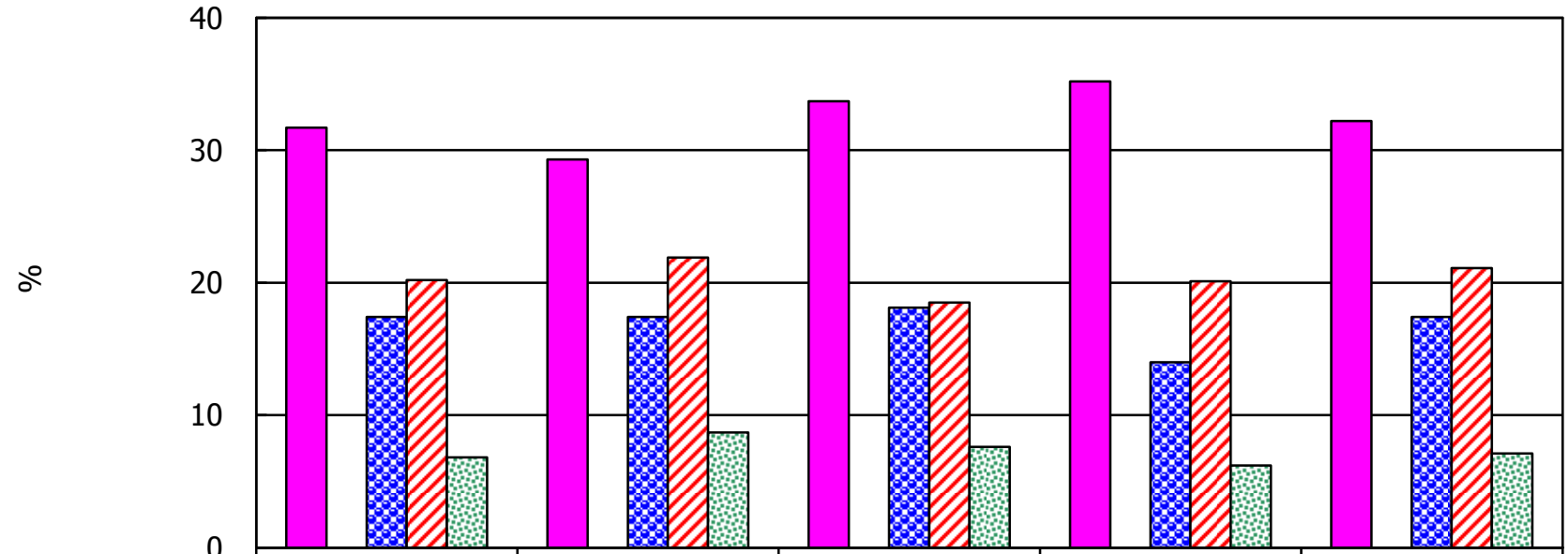
Box 4.4 Sexually acquired HIV infection in Hong Kong



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total annual reported HIV infections	34	60	71	79	104	122	134	181	189	213	183	213	260	229	268	313	373	414	435	396
HIV infection reported from SHS*	9	19	12	17	29	14	25	27	27	29	19	30	41	34	43	28	44	45	69	45
% of HIV infection reported from SHS*	26.5	31.7	16.9	21.5	27.9	11.5	18.7	14.9	14.3	13.6	10.4	14.1	15.8	14.8	16	8.9	11.8	10.9	15.9	11.4
Reported sexually acquired HIV infection	25	55	61	69	99	111	117	160	157	171	144	171	203	166	180	212	252	288	300	270
% of reported sexually acquired HIV infection	73.5	91.7	85.9	87.3	95.2	91	87.3	88.4	83.1	80.3	78.7	80.3	78.1	72.5	67.2	67.7	67.6	69.6	69	68.2

* SHS: Social Hygiene Service

Box 4.5 Syndromic presentations of STI from Behavioural Survey of Social Hygiene Service



	2005	2006	2007	2008	2009
No Symptom (%)	31.7	29.3	33.7	35.2	32.2
Symptom:					
Discharge (%)	17.4	17.4	18.1	14.0	17.4
Growth (%)	20.2	21.9	18.5	20.1	21.1
Ulcer (%)	6.8	8.7	7.6	6.2	7.1

5. TABULATED RESULTS ON BEHAVIOURAL MONITORING

System description

- This is a tabulation of behavioural data relating to HIV risk collected from different sources in Hong Kong

System layout

Source	Sexual behaviour	Drug-taking behaviour	Data available in 2009
AIDS Counselling and Testing Service (ACTS)	- Median no. of sexual partners among men - Recent history of commercial sex - Condom use in men - No. of sexual partners and Condom use in MSM		Yes
Social Hygiene Service (SHS)	- Recent history of commercial sex / casual sex - Condom use in heterosexual men		Yes
Methadone clinics (DRS-M)		- Proportion of current injectors - Practice of current needle-sharing	Yes
Shek Kwu Chau (SKC) Treatment and Rehabilitation Centre (DRS-S)		- Proportion of current injectors - Practice of current needle-sharing	Yes
Central Registry of Drug Abuse (CRDA)		- Proportion of current injectors in all drug users - Proportion of current injectors in new drug users	Yes
Street Addict Survey (SAS) (From the society for the Aid and Rehabilitation of Drug Abusers)		- Proportion of current injectors - Practice of current needle-sharing	Yes
AIDS Concern testing service for MSM (AC)	- Condom use in MSM		Yes
Community Research Programme on AIDS (CRPA-H and –T H: Household; T: Travellers) (From Centre for Epidemiology and Biostatistics)	- Condom use in heterosexual men		No

Tables & Figures

Box 5.1 Median number of sex partners in the previous year among adult^ heterosexual men / MSM attending AIDS Counselling and Testing Service (ACTS)

	2001	2002	2003	2004	2005	2006	2007	2008	2009
Heterosexual men - Regular sex partners*	1	1	1	1	1	1	1	1	1
Heterosexual men - Commercial sex partners**	2	2	2	2	2	2	2	2	2
Heterosexual men - Casual sex partners***	1	1	1	1	1	1	1	1	1
MSM - Regular sex partners*	1	1	1	1	1	1	1	1	1
MSM - Commercial sex partners**	1	2	2.5	2	1	1.5	1	2	3
MSM - Casual sex partners***	3	3	3	4	3	3	3#	4#	4

^ Adult: aged 18 or above

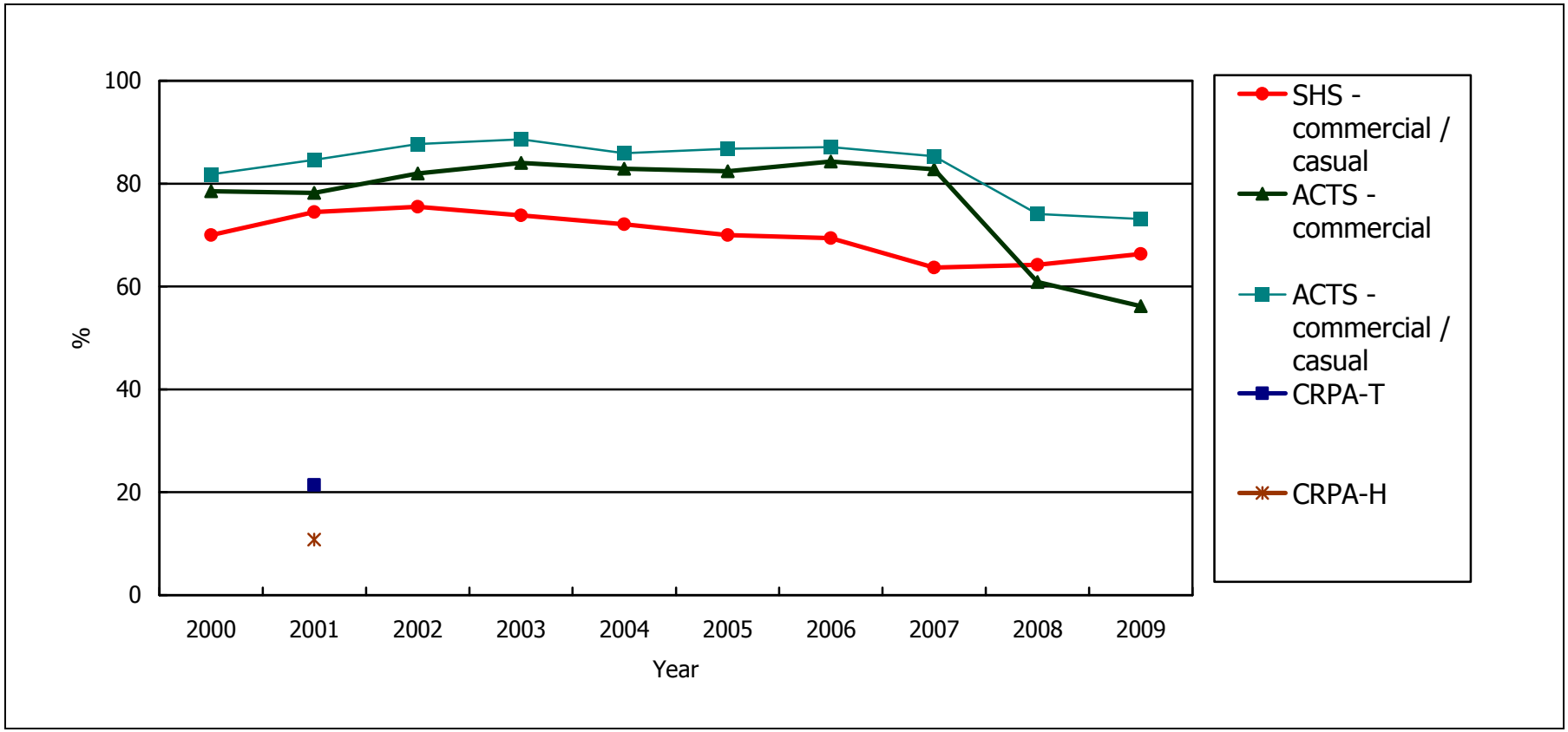
* Regular sex partners used to refer to long-term sex partners including spouse, mistress, and steady boy/girl friends for at least one year, or if less than one year, one with whom is expected to continue sexual relationship. This definition of regular sex partners in 2008 has been futher refined to include (other than the long-term sex partners) sex buddy that refers to regular sex only partner for at least 6 months, or if less than 6 months, one with whom is expected to continue sexual relationship

** Commercial sex partners are defined as those who have sexual intercourse in exchange for money, goods or services. Examples are prostitutes and customers of prostitutes.

*** Casual sex partners, the two do not have steady relationship.

\# Revised figures

Box 5.2 Recent history* of commercial / casual sex among adult^ heterosexual men



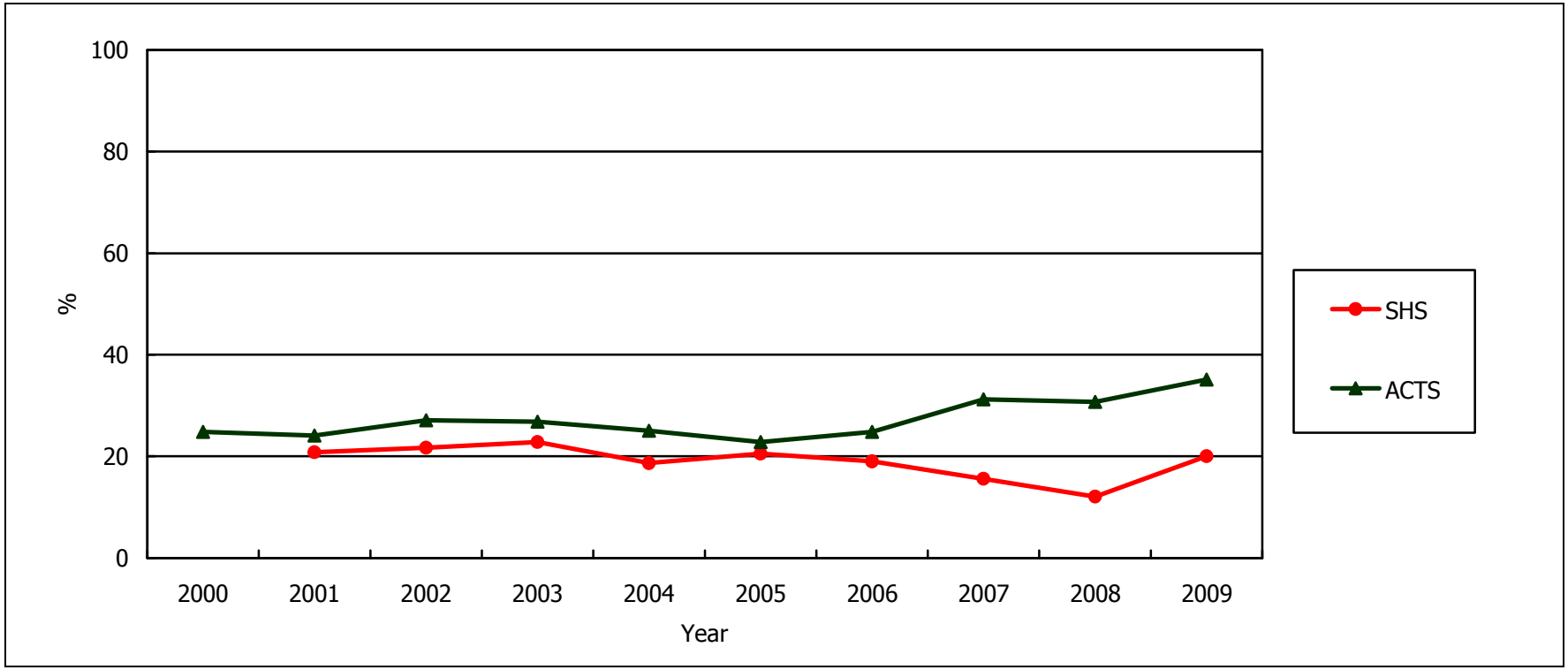
* Commercial sex partners are defined as those who have sexual intercourse in exchange for money, goods or services. Examples are female sex workers and their clients. Casual sex partners are defined as those who are non-regular and non-commercial. Examples are those on one-night stand. SHS & ACTS refers to such history in past one year; CRPA referred to such hsitory in past 6 months

^ Adult: aged 18 or above

Remarks : Data of CRPA of 2000 is not available, and suspended since 2002
SHS – Social Hygiene Services
ACTS - AIDS Counselling and Testing Service
CRPA - Community Research Programme on AIDS from Centre for Epidemiology and Biostatistics (H: Household; T: Travellers)

Box 5.3 Condom use with regular partners among adult heterosexual men

(a) Consistent condom use* with regular partners among adult^ heterosexual men**



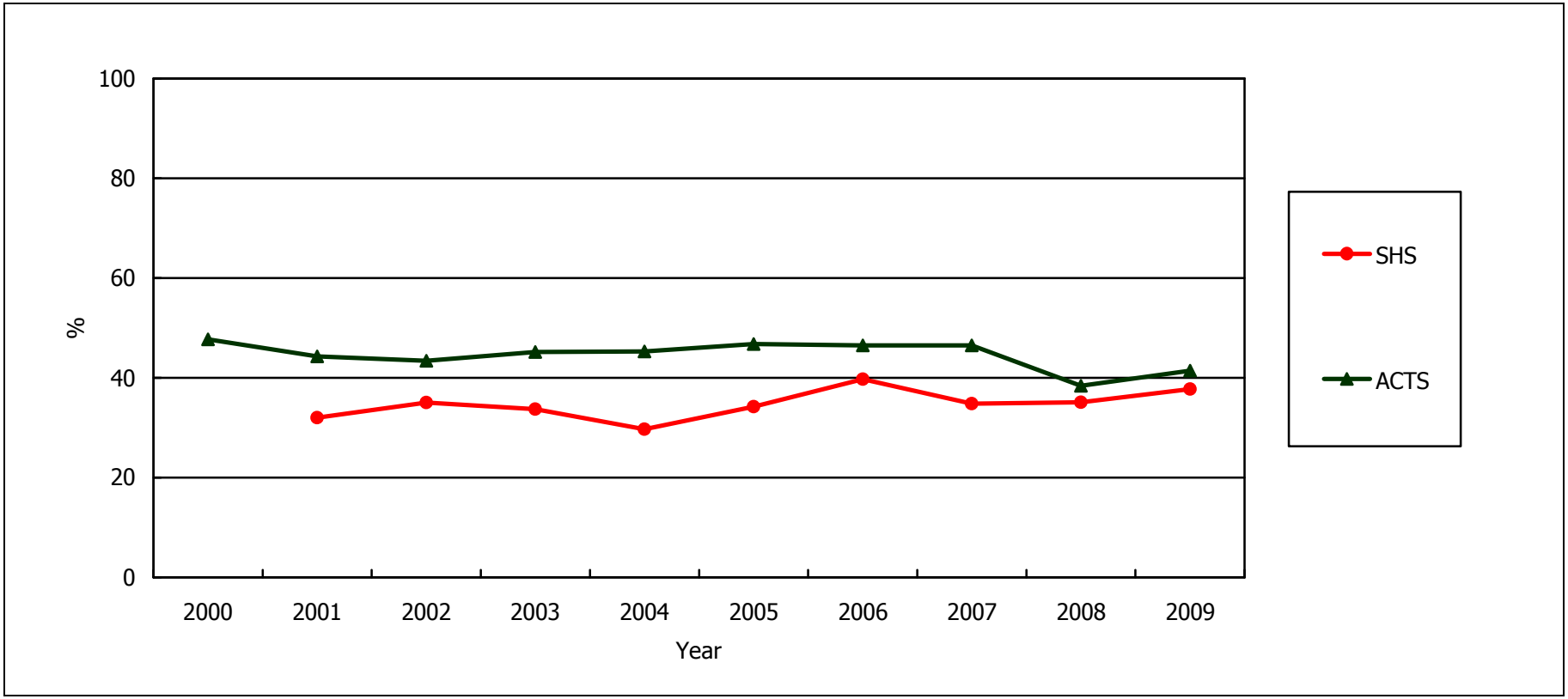
* Consistent condom use is defined as always or 100% of the time using a condom

** Regular sex partners used to refer to long-term sex partners including spouse, mistress, and steady boy/girl friends for at least one year, or if less than one year, one with whom is expected to continue sexual relationship. This definition of regular sex partners in 2008 has been futher refined to include (other than the long-term sex partners) sex buddy that refers to regular sex only partner for at least 6 months, or if less than 6 months, one with whom is expected to continue sexual relationship

^ Adult: aged 18 or above

Remarks : SHS – Social Hygiene Services
ACTS - AIDS Counselling and Testing Service

(b) Condom use for last sex with regular partners* among adult^ heterosexual men



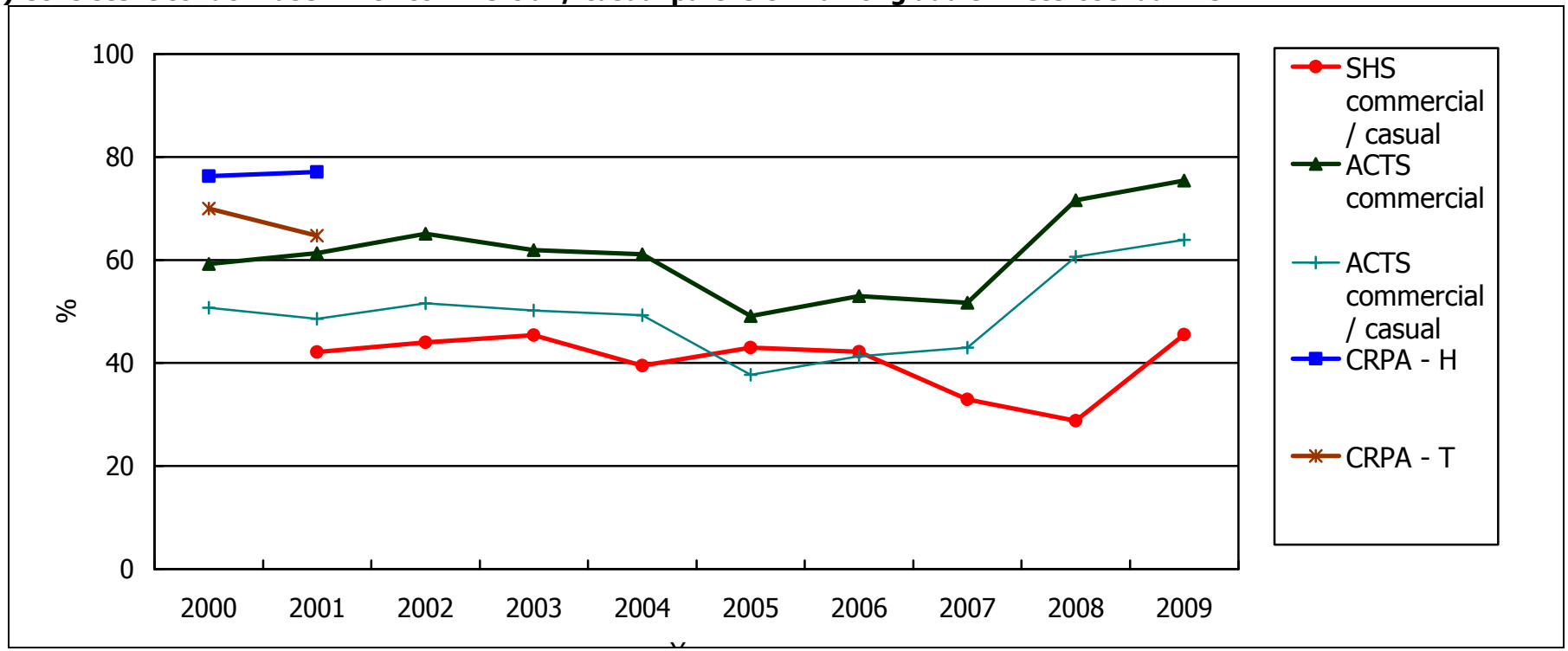
* Regular sex partners used to refer to long-term sex partners including spouse, mistress, and steady boy/girl friends for at least one year, or if less than one year, one with whom is expected to continue sexual relationship. This definition of regular sex partners in 2008 has been futher refined to include (other than the long-term sex partners) sex buddy that refers to regular sex only partner for at least 6 months, or if less than 6 months, one with whom is expected to continue sexual relationship Regular sex partners refer to the spouse or other long-term sex partners for at least one year, or if less than one year.

^ Adult: aged 18 or above

Remarks : SHS – Social Hygiene Services
ACTS - AIDS Counselling and Testing Service

Box 5.4 Condom use with commercial / casual partners among adult heterosexual men

(a) Consistent condom use* with commercial / casual partners among adult^ heterosexual men**



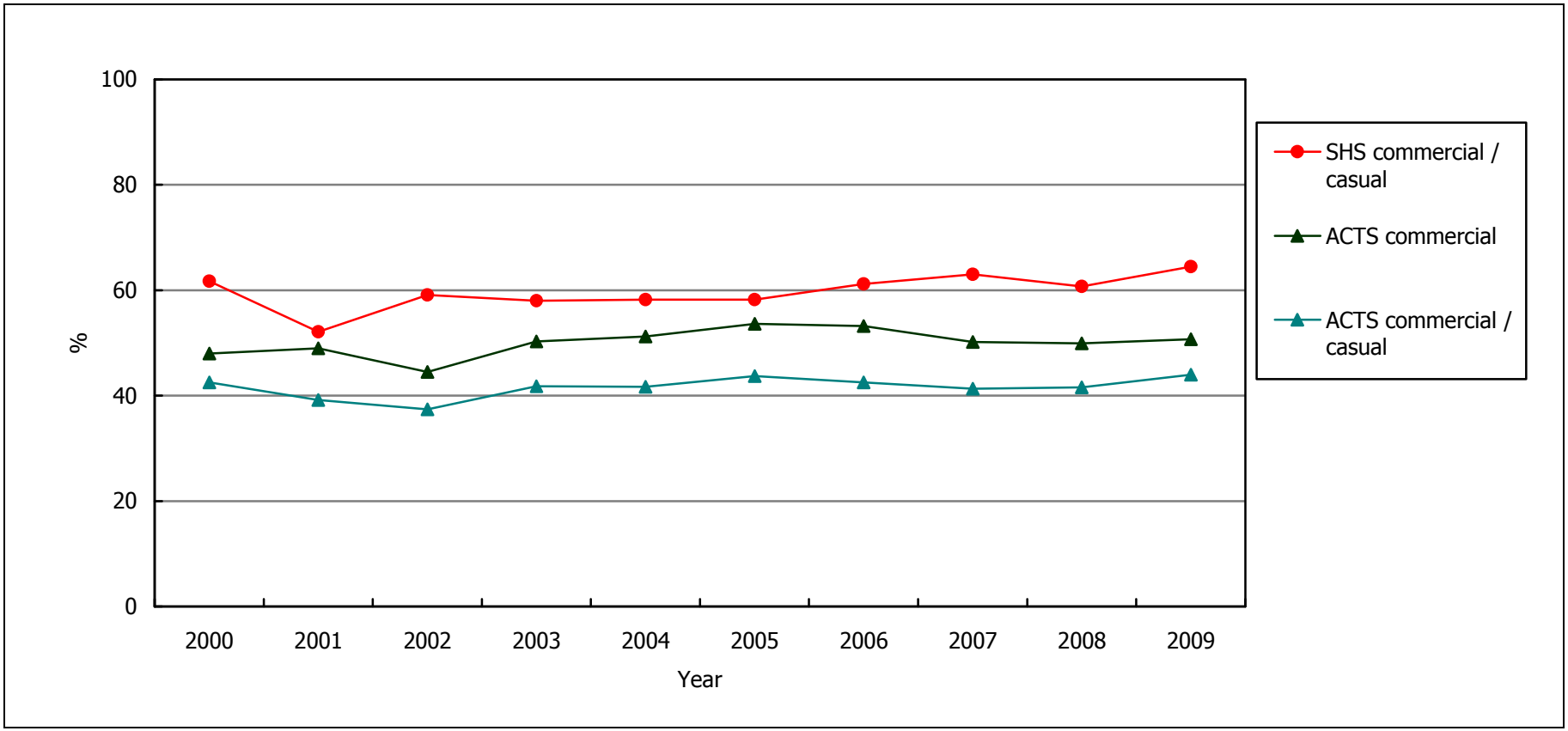
* Consistent condom use is defined as always or 100% of the time using a condom

** Commercial sex partners are defined as those who have sexual intercourse in exchange for money, goods or services. Examples are female sex workers and their clients. Casual sex partners are defined as those who are non-regular and non-commercial. Examples are those on one-night stand.

^ Adult: aged 18 or above

Remarks : Data of CRPA suspended since 2002
SHS – Social Hygiene Services
ACTS - AIDS Counselling and Testing Service
CRPA - Community Research Programme on AIDS from Centre for Epidemiology and Biostatistics (H: Household; T: Travellers)

(b) Condom use for last sex with commercial / casual partners* among adult^ heterosexual men

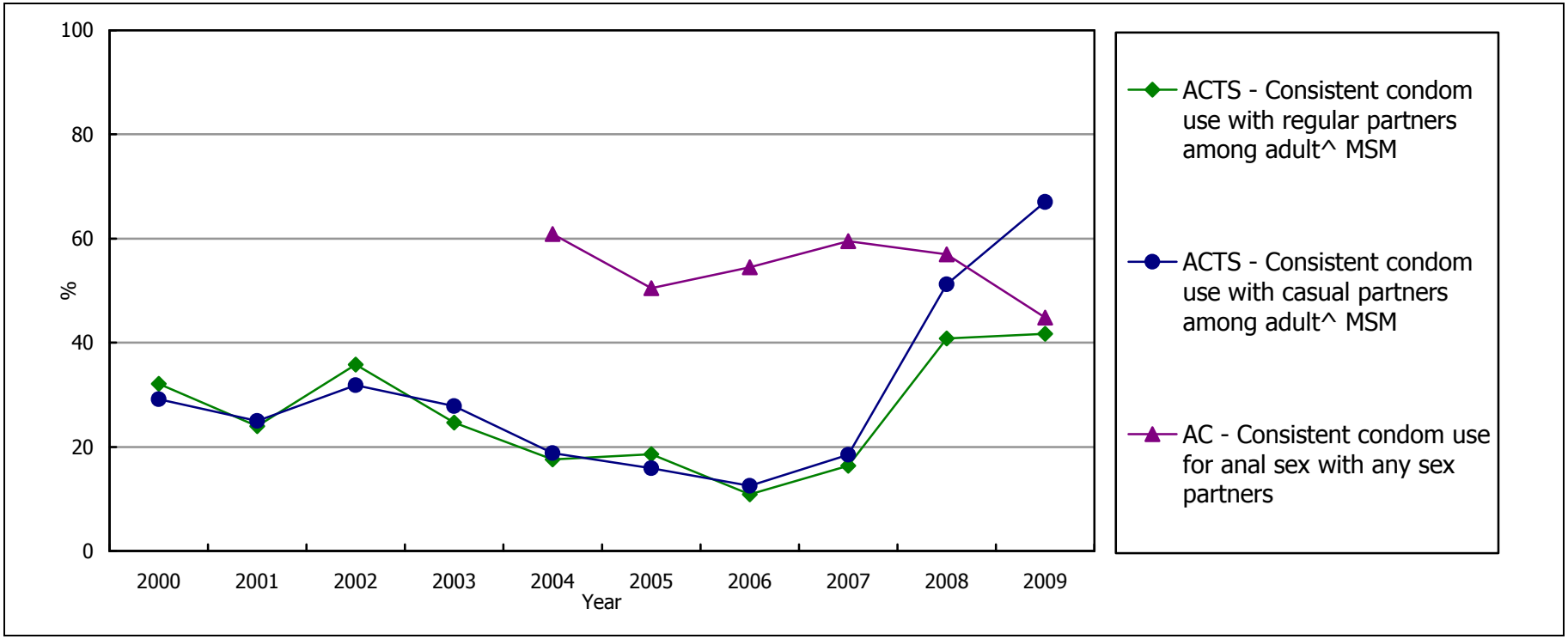


* Commercial sex partners are defined as those who have sexual intercourse in exchange for money, goods or services. Examples are female sex workers and their clients. Casual sex partners are defined as those who are non-regular and non-commercial. Examples are those on one-night stand. .

^ Adult: aged 18 or above

Remarks : SHS – Social Hygiene Services
ACTS - AIDS Counselling and Testing Service

Box 5.5 Condom use among Men have Sex with Men (MSM)
(a) Consistent condom use* among MSM



* Consistent condom use is defined as always or 100% of the time using a condom
ACTS captures such condom usage in past one year while AC captures such usage in past 3 months

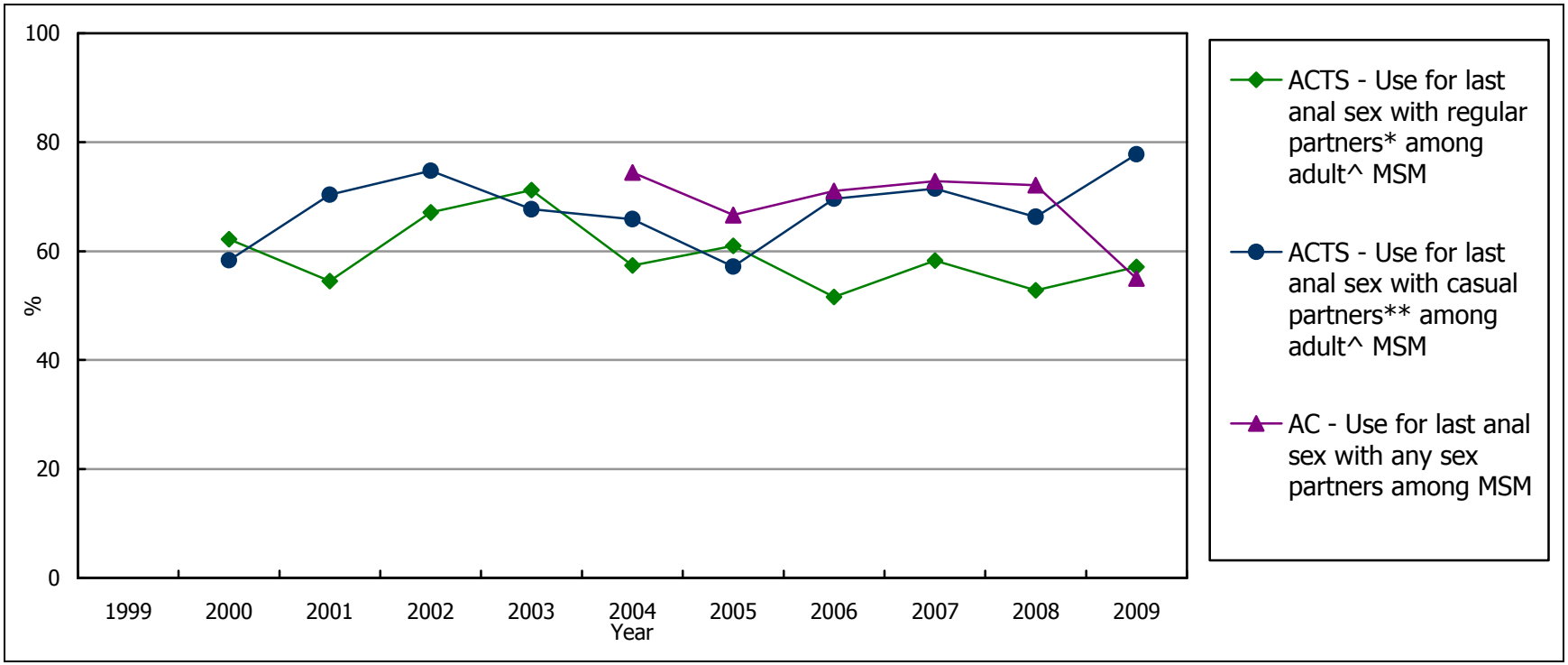
** Regular sex partners used to refer to long-term sex partners including spouse, mistress, and steady boy/girl friends for at least one year, or if less than one year, one with whom is expected to continue sexual relationship. This definition of regular sex partners in 2008 has been futher refined to include (other than the long-term sex partners) sex buddy that refers to regular sex only partner for at least 6 months, or if less than 6 months, one with whom is expected to continue sexual relationship

*** Casual sex partners, the two do not have steady relationship.

^ Adult: aged 18 or above

Remarks: ACTS - AIDS Counselling and Testing Service
AC - AIDS Concern

(b) Condom use for last anal sex among MSM



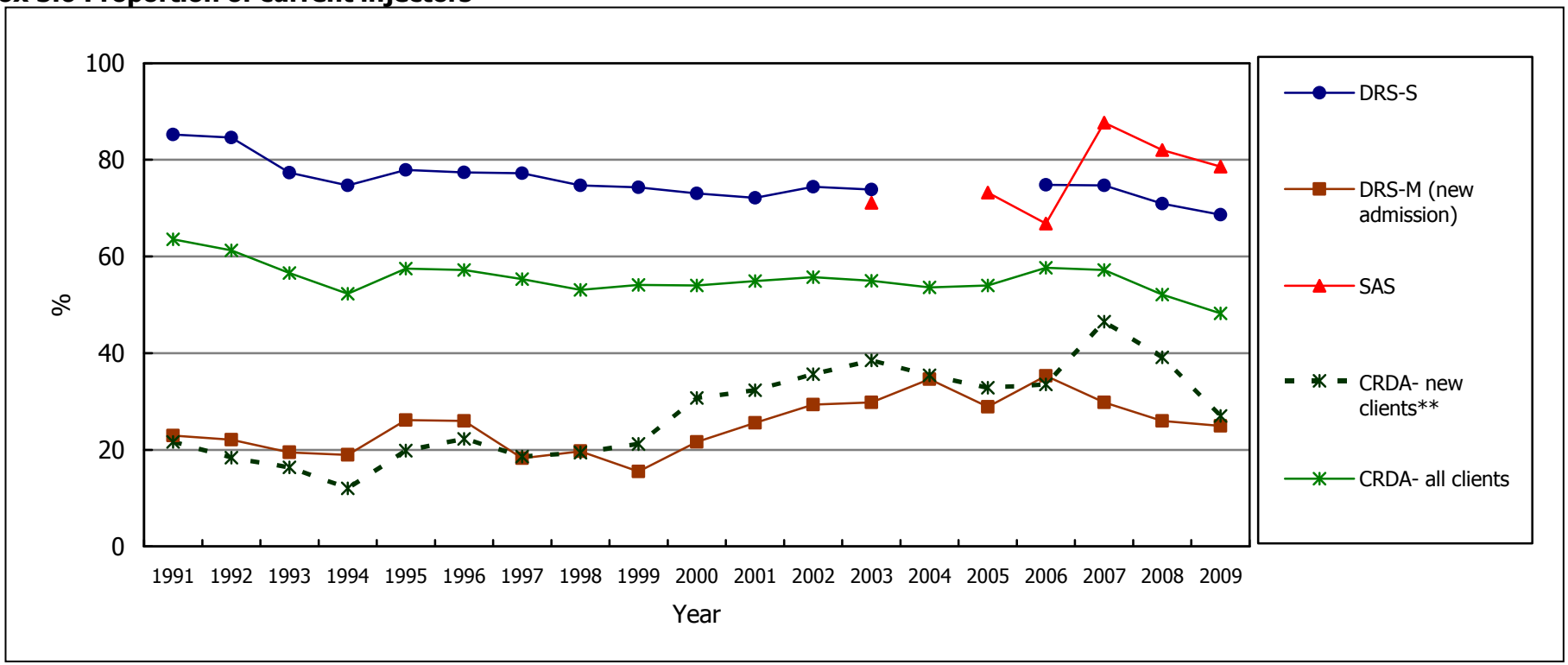
* Regular sex partners used to refer to long-term sex partners including spouse, mistress, and steady boy/girl friends for at least one year, or if less than one year, one with whom is expected to continue sexual relationship. This definition of regular sex partners in 2008 has been futher refined to include (other than the long-term sex partners) sex buddy that refers to regular sex only partner for at least 6 months, or if less than 6 months, one with whom is expected to continue sexual relationship

** Casual sex partners, the two do not have steady relationship.

^ Adult: aged 18 or above

Remarks : Figures of condom use for last anal sex with casual partners among adult MSM in ACTS were revised
ACTS - AIDS Counselling and Testing Service
AC - AIDS Concern

Box 5.6 Proportion of current injectors*

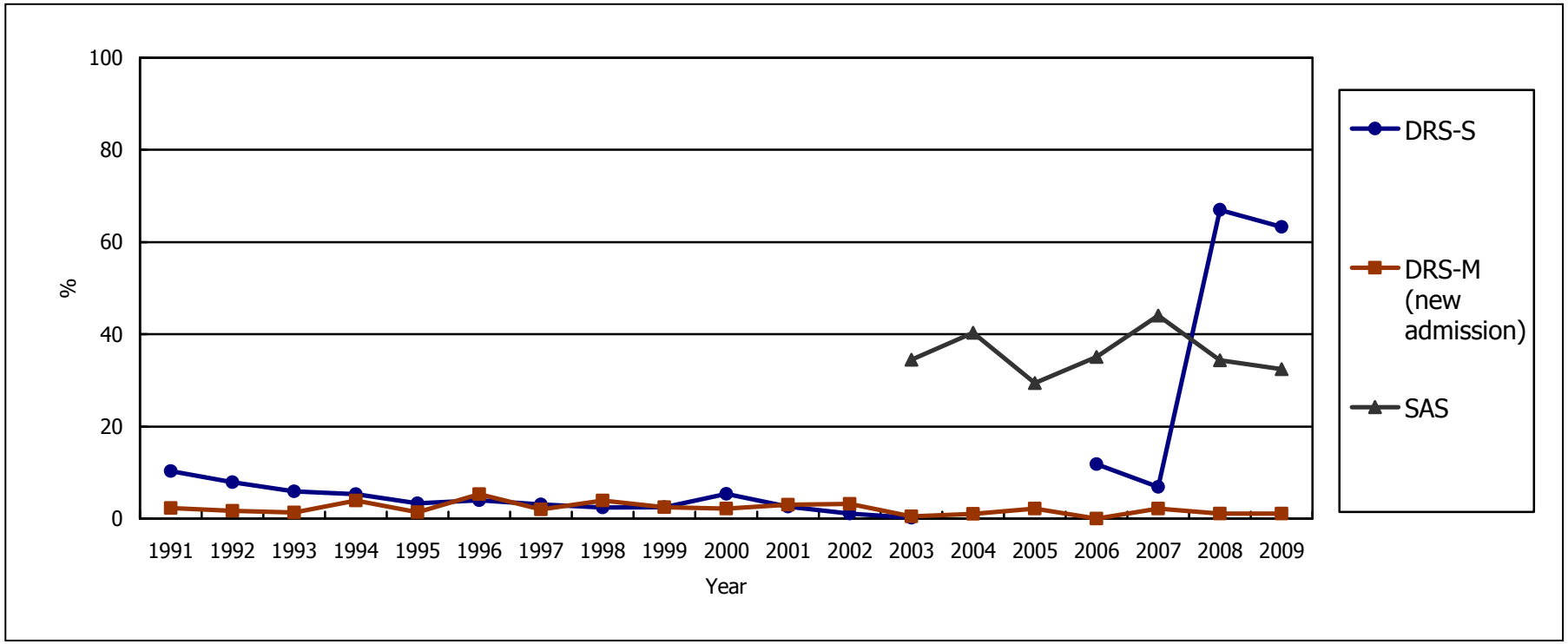


* Definitions differ for different data sources. DRS-S refers to drug injecting behaviour in past 6 months (before 2006, it referred to drug injecting at the time of programme admission); DRS-M refers to drug injecting at the time of programme admission; SAS refers to drug injecting behaviour in past 1 month (before 2007, it referred to drug injecting in past 3 months); CRDA refers to drug injecting behaviour in past 4 weeks;

** New clients refer to people who are known to the CRDA for the first time in a period. For a particular period, a person will be regarded as a newly reported person if and only if the person does not have any report before the specified period.

Remarks: DRS-S - Shek Kwu Chau Treatment and Rehabilitation Centre (Newly / Re-admitted case)
DRS-M - Methadone clinics (Newly admitted case only)
SAS - Street Addict Survey (From the society for the Aid and Rehabilitation of Drug Abusers)
CRDA - Central Registry of Drug Abuse

Box 5.7 Proportion of current needle-sharers*



* This figure referred to the proportion of current syringe sharing behaviour among current injectors. Definitions differ for different data sources. DRS-S refers to such sharing behaviour among those who injected drug in past 6 months (before 2006, it referred to such sharing behaviour in past 6 months among those who injected drug at the time of programme admission); SAS refers to such sharing behaviour among those who injected drug in past 1 month (before 2007, it referred to such sharing behaviour in past 3 months); DRS-M refers to such sharing behaviour in past 4 weeks among those who injected drug at the time of programme admission)

Remarks: DRS-S - Shek Kwu Chau Treatment and Rehabilitation Centre (Newly / Re-admitted cases)
DRS-M - Methadone clinics (Newly admitted case only)
SAS - Street Addict Survey (From the society for the Aid and Rehabilitation of Drug Abusers)
Data of DRS-S suspended since 2004, and resumed in Jul 2006.

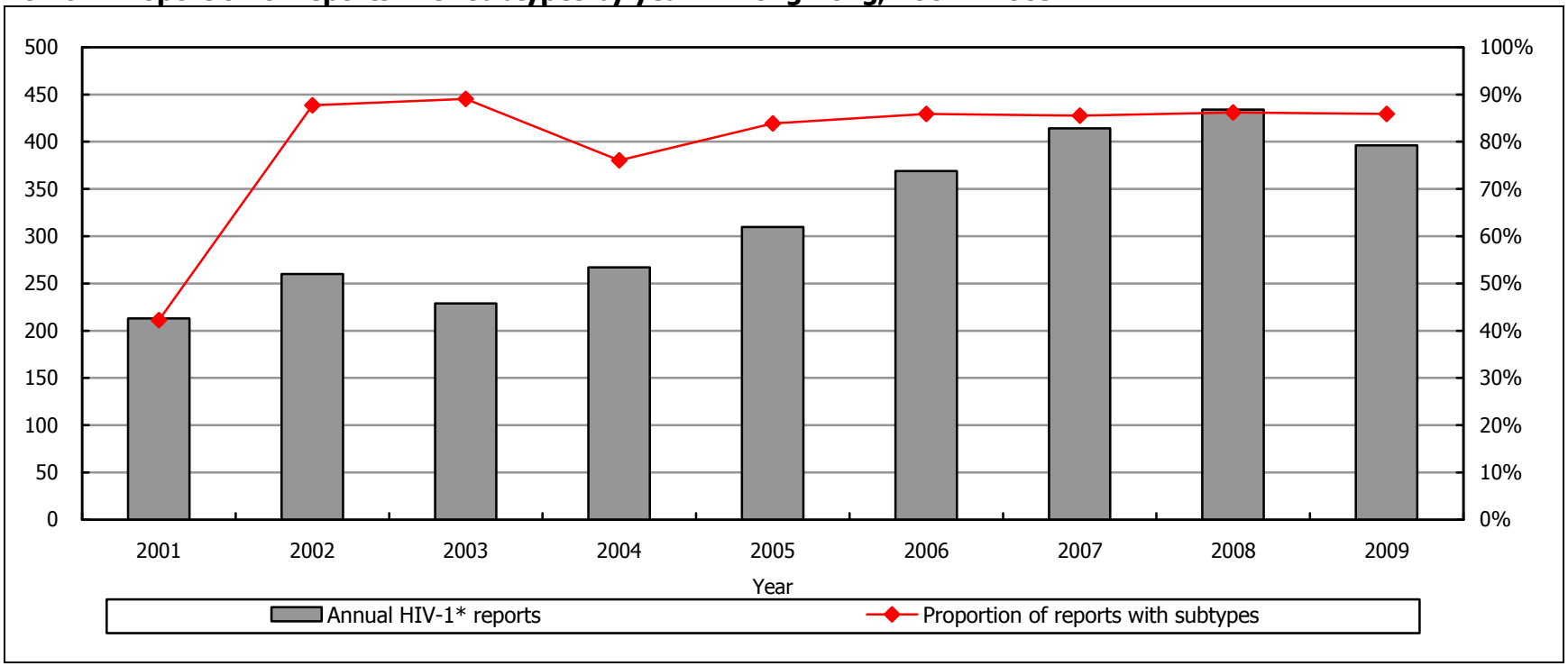
6. TABULATED RESULTS OF HIV-1 GENOTYPING STUDIES

System description:

- This is a laboratory based reporting system contributed by Virology Division of Public Health Laboratory Services Branch, Centre for Health Protection, Department of Health. HIV viral isolates are collected from the confirmatory laboratories for subtype analysis which are collated with epidemiological information when available. Subtype results are submitted monthly by Virology Division. The confirmatory laboratories included in this surveillance system are: Public Health Laboratory, Microbiology laboratories of Queen Elizabeth Hospital and Prince of Wales Hospital. Subtype analysis was commenced since 2001

Tables & Figures

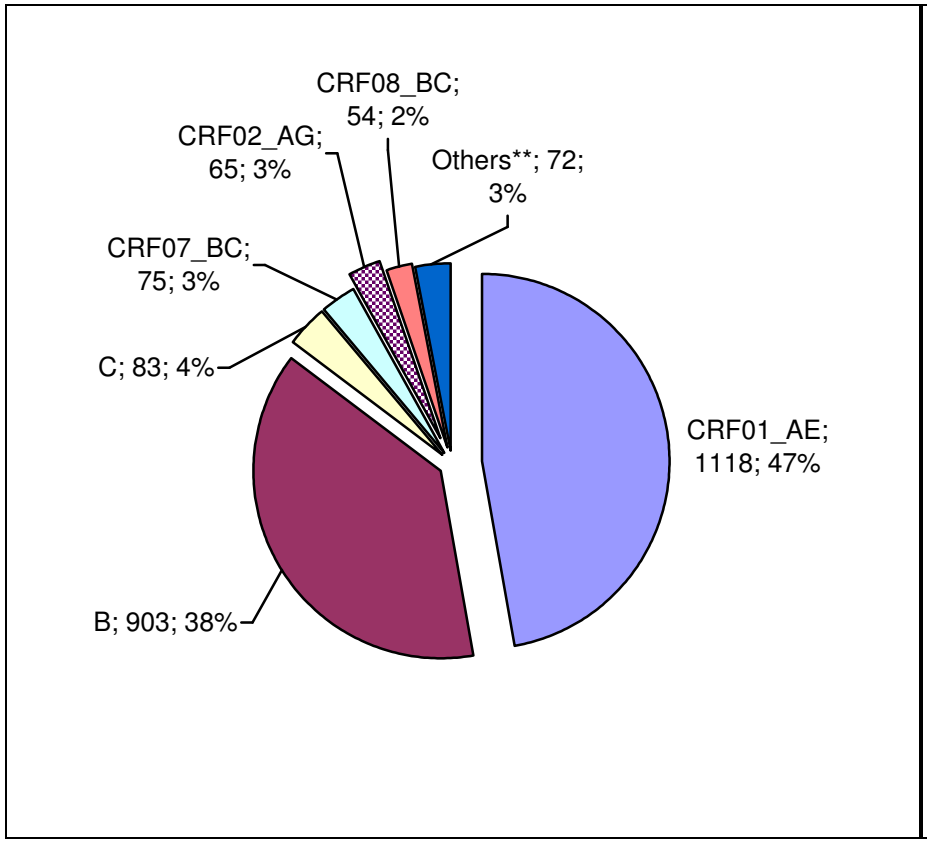
Box 6.1 Proportion of reports with subtypes by year in Hong Kong, 2001 - 2009



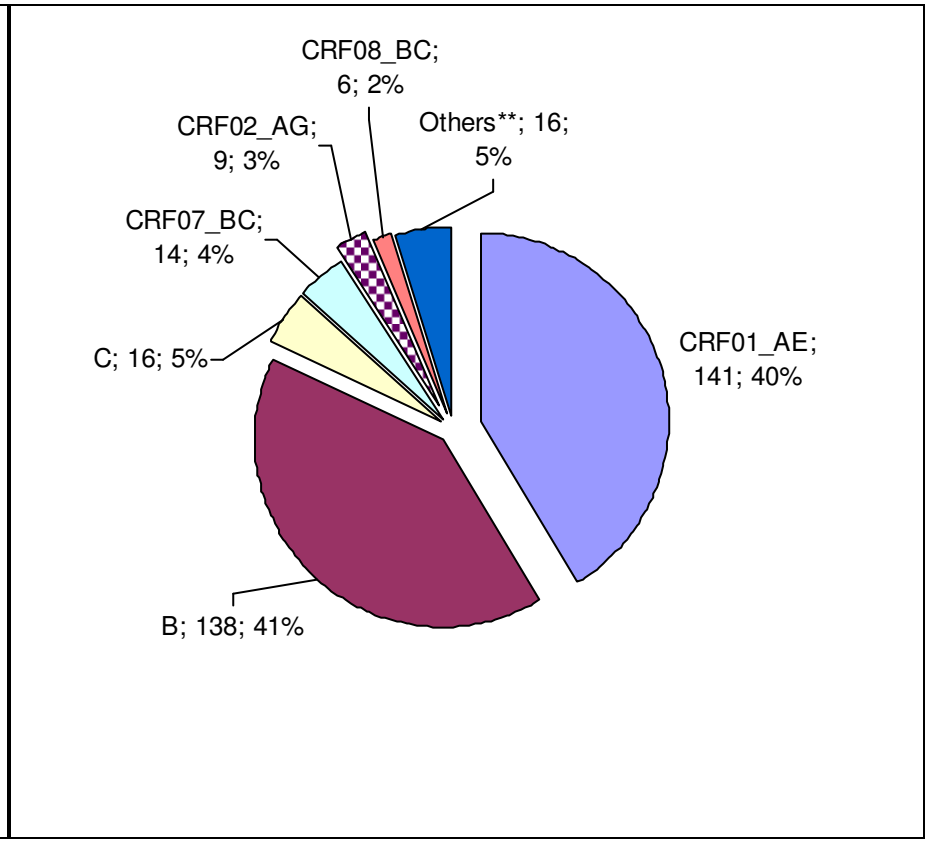
*: including cases with HIV type 1 or PCR positive result.

Box 6.2 Distribution of HIV-1* subtypes

(i) Cumulative (2001-2009)

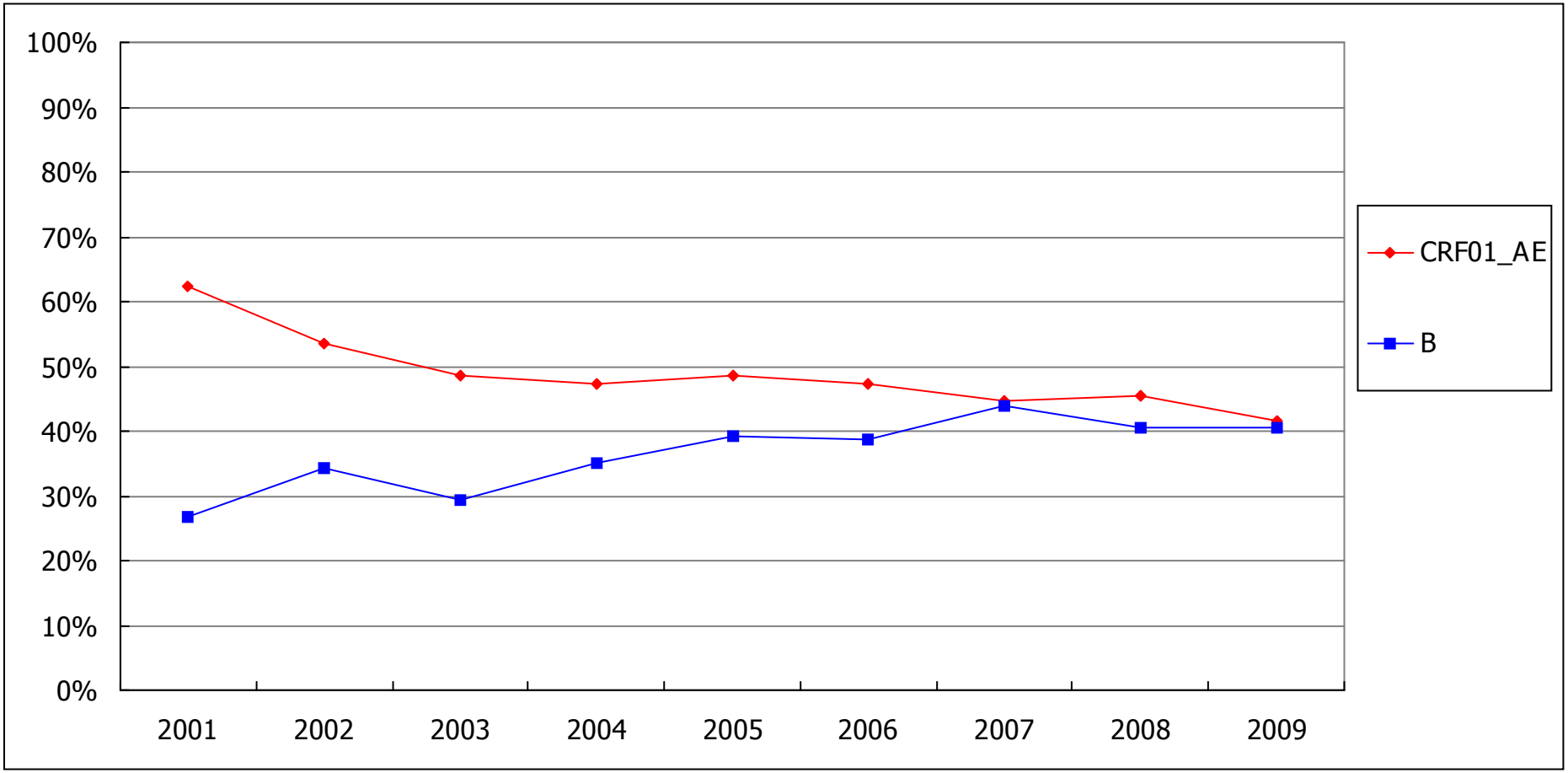


(ii) Year 2009



*: including cases with HIV type 1 or PCR positive result.
**: including subtype A, A1, B', D, F, G, CRF03_AB, CRF06_CPX, CRF11_CPX, CRF14_BG and CRF15_01B.

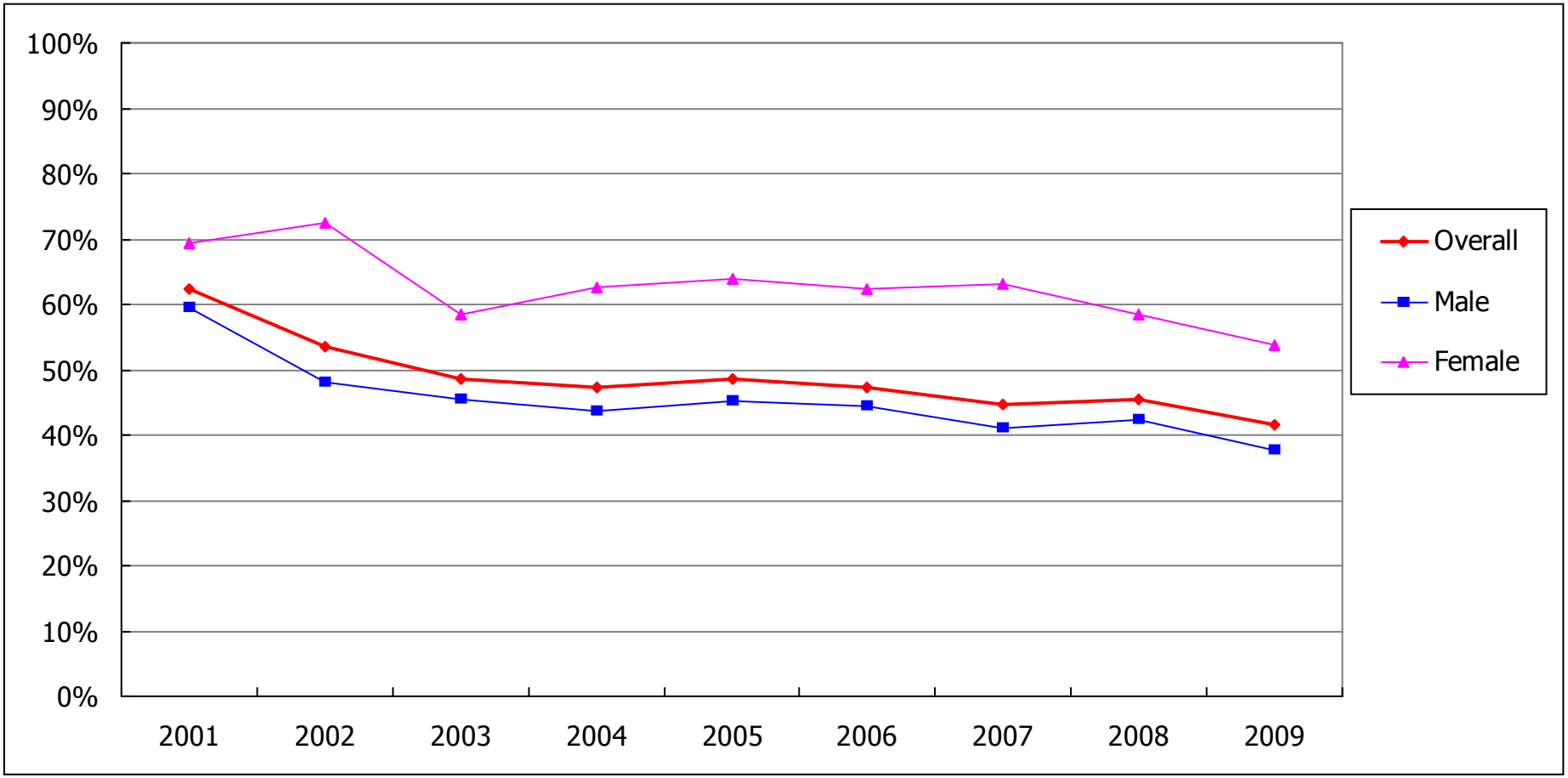
Box 6.3 Trend in most common HIV-1* subtypes in Hong Kong, 2001 – 2009



*: including cases with HIV type 1 or PCR positive result.

Box 6.3 Trend in HIV-1* subtype CRF01_AE in Hong Kong, 2001 – 2009

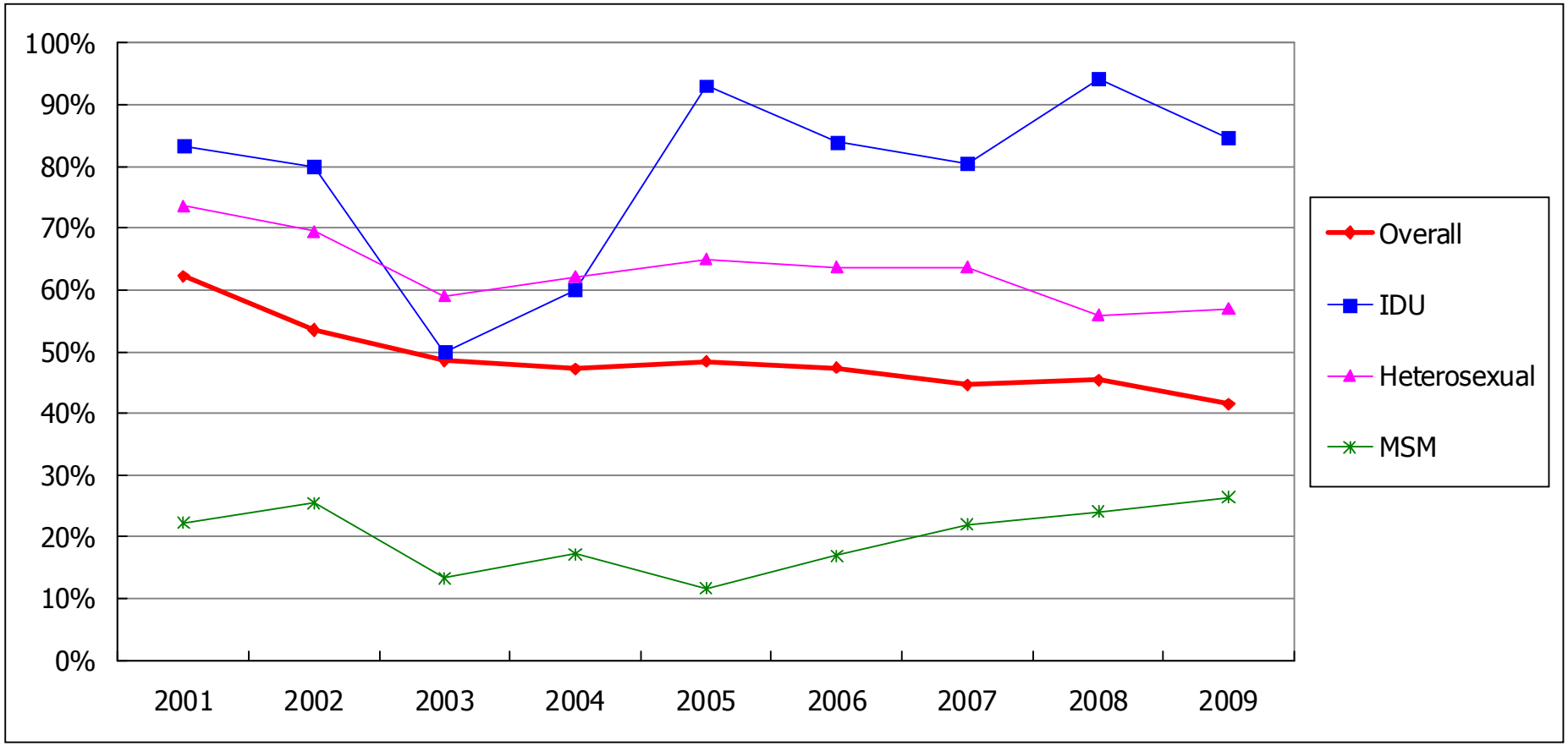
(a) By gender (proportion of subtype CRF01_AE)



*: including cases with HIV type 1 or PCR positive result.

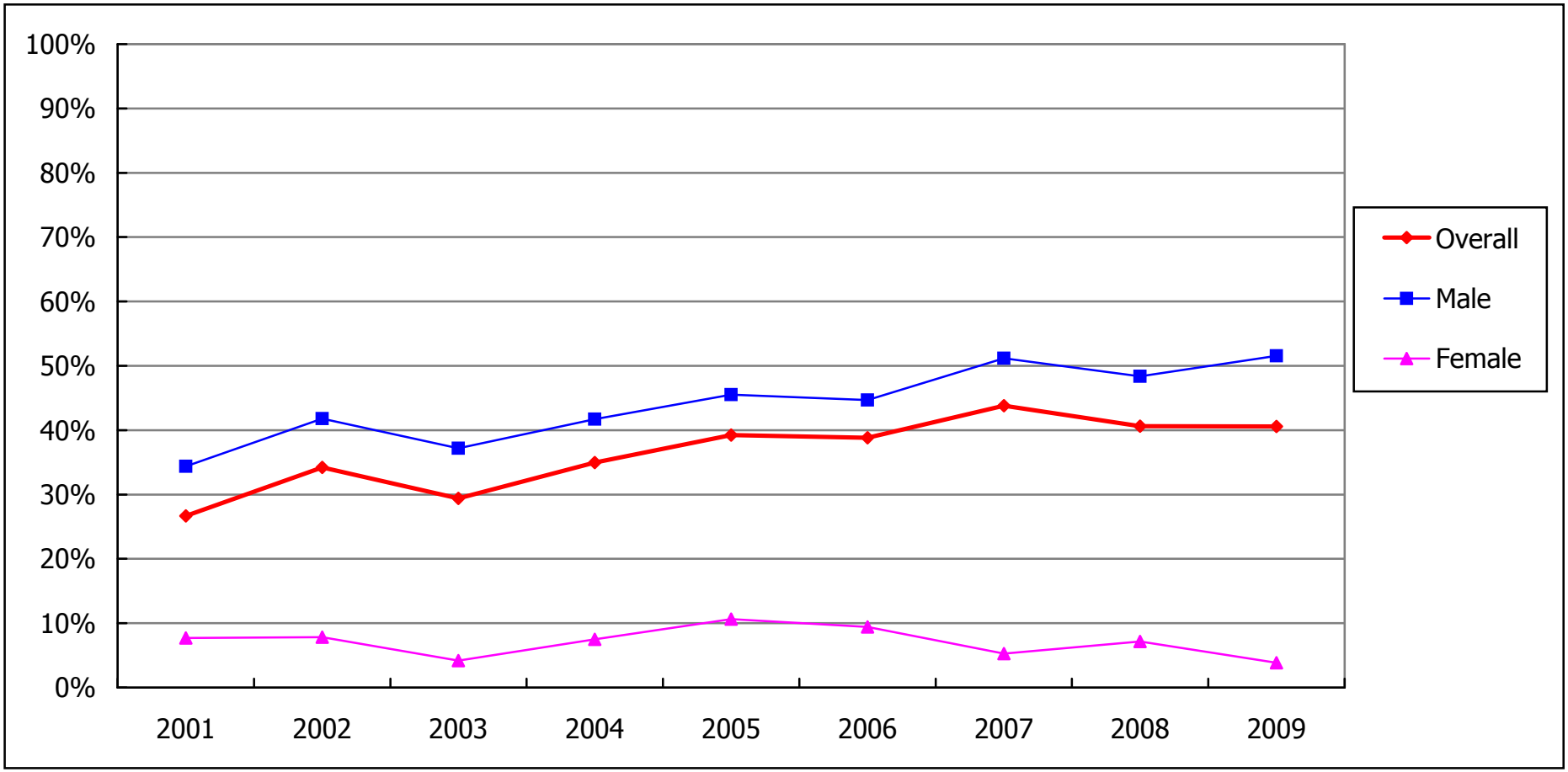
(b) By ethnicity (proportion of subtype CRF01_AE)

(c) By route of transmission (proportion of subtype CRF01_AE)



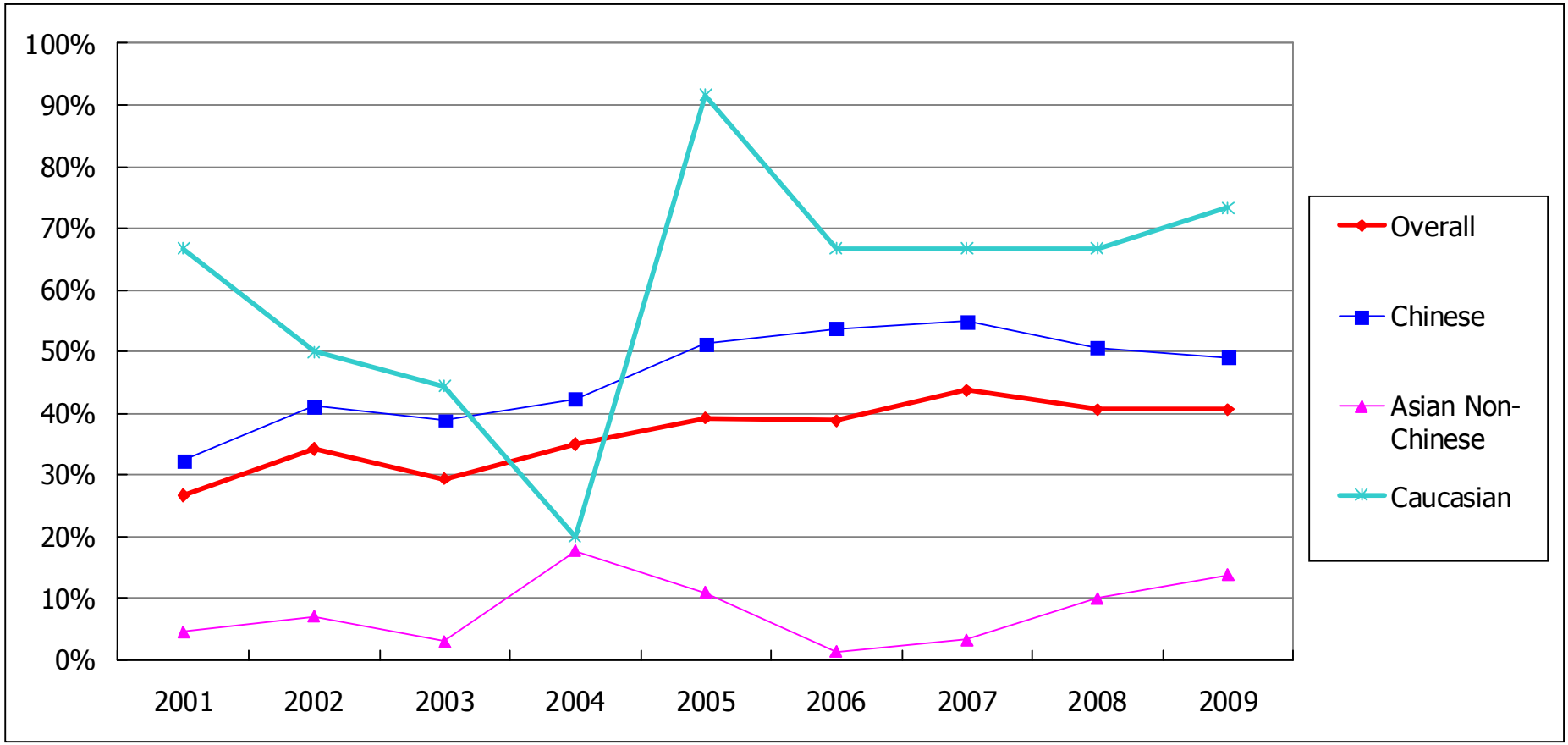
Box 6.4 Trend in HIV-1* subtype B in Hong Kong, 2001 – 2009

(a) By gender (proportion of subtype B)

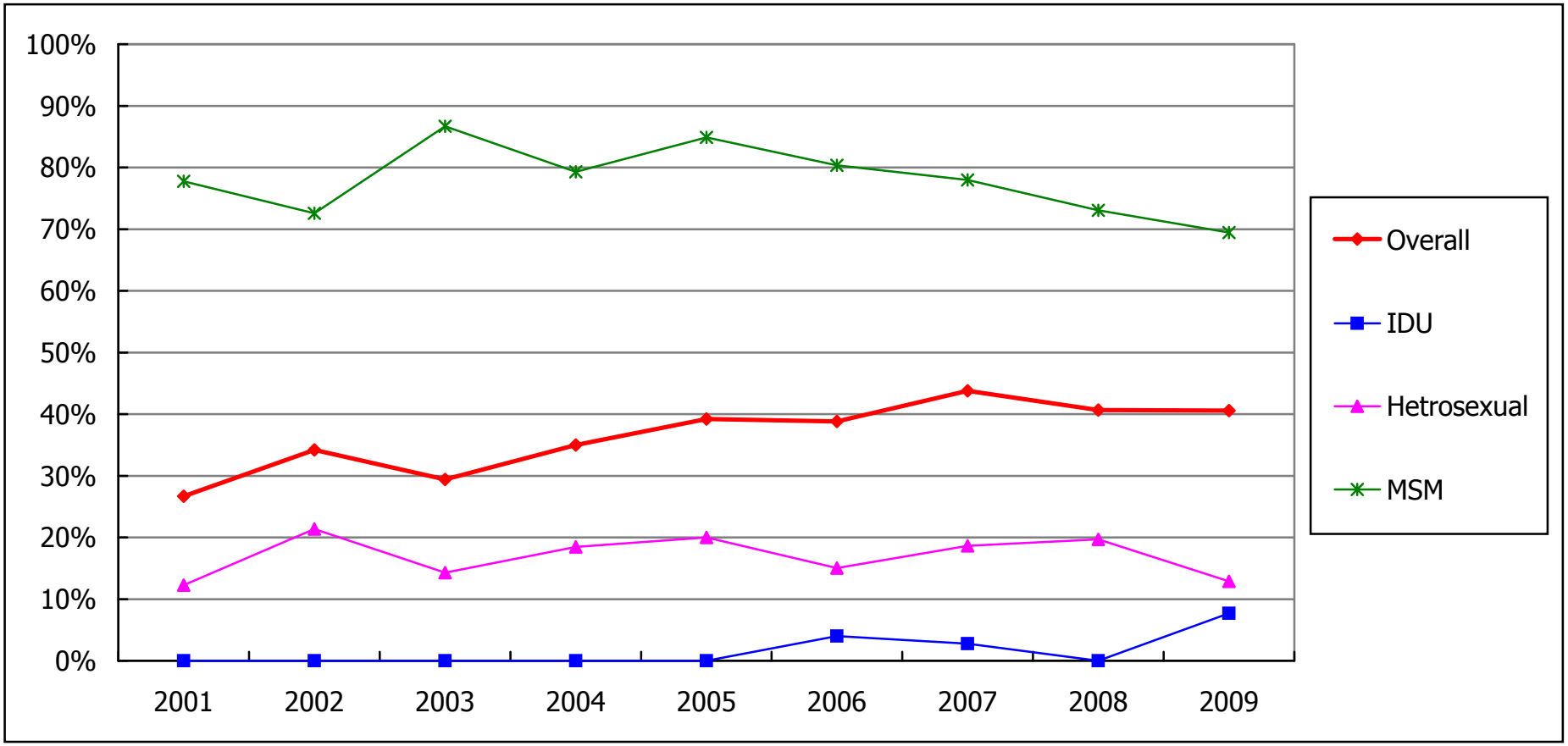


*: including cases with HIV type 1 or PCR positive result.

(b) By ethnicity (proportion of subtype B)

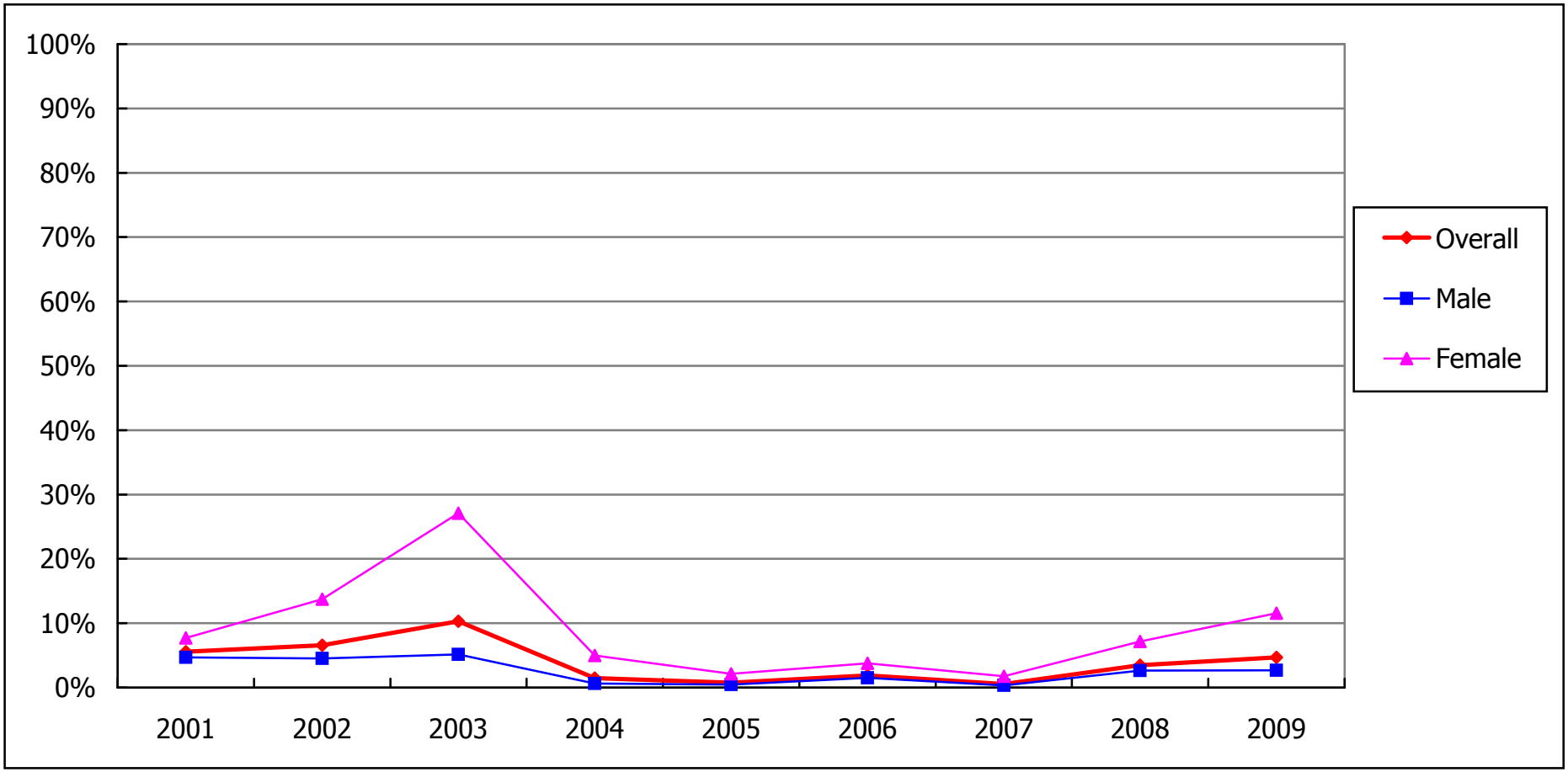


(c) By route of transmission (proportion of subtype B)



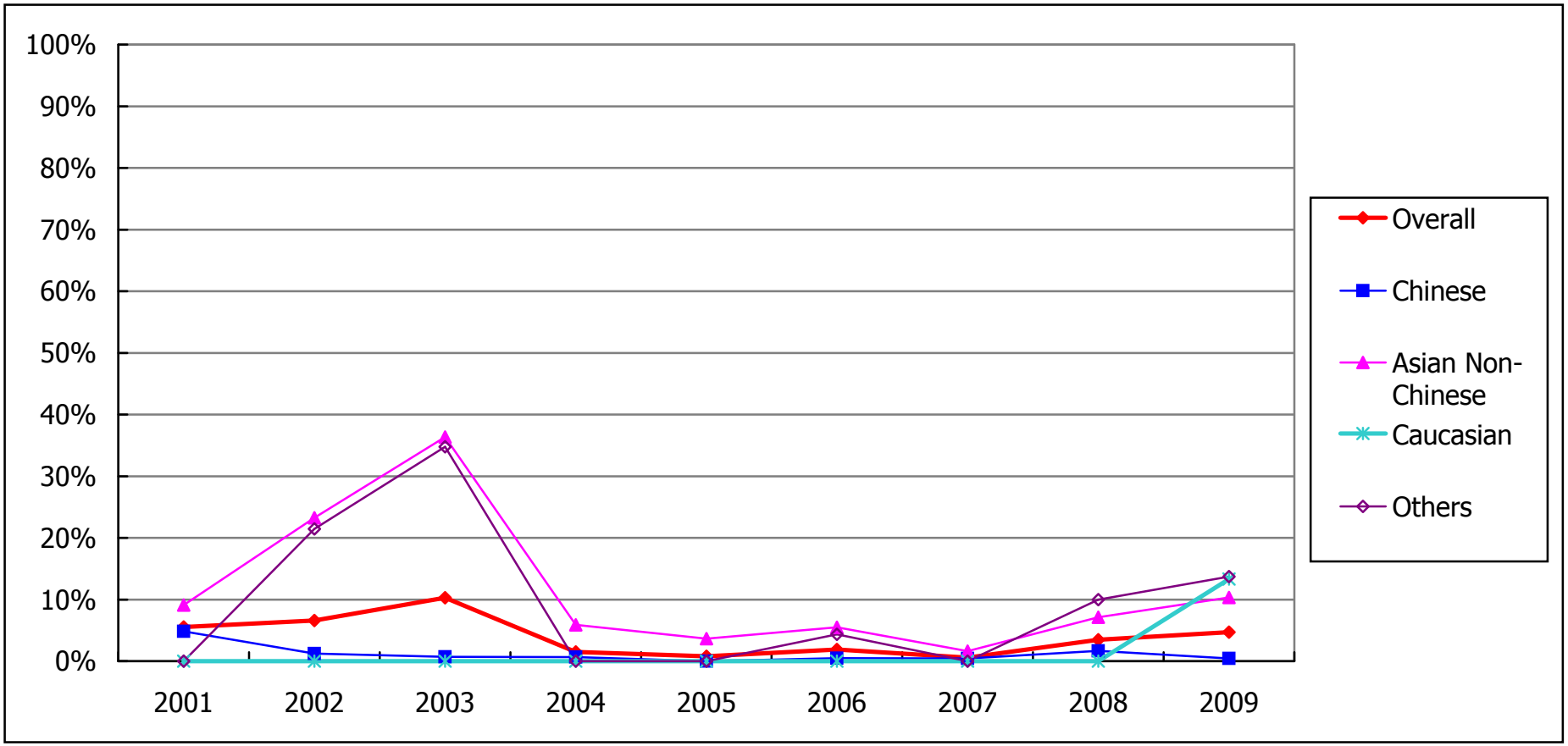
Box 6.5 Trend in HIV-1* subtype C in Hong Kong, 2001 – 2009

(a) By gender (proportion of subtype C)

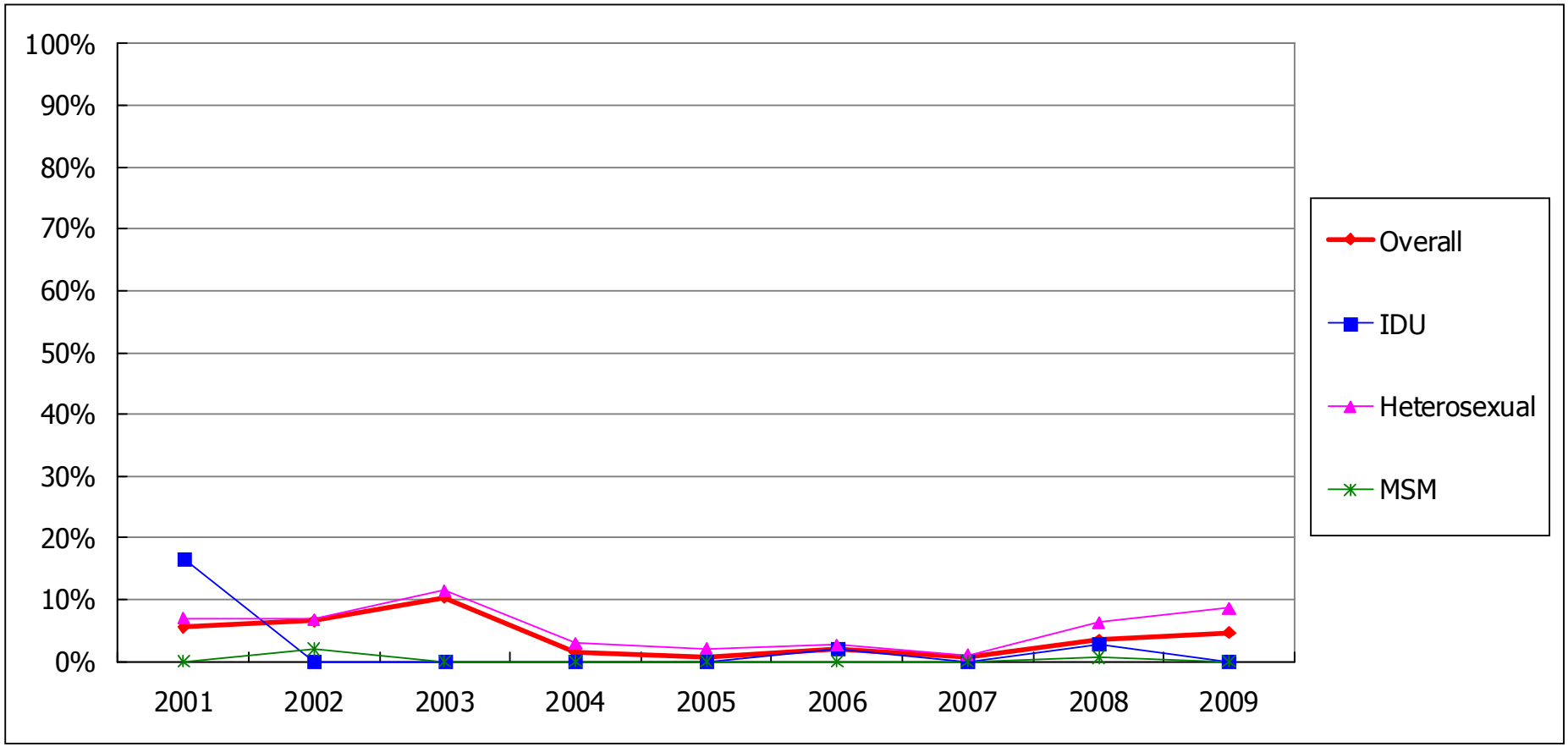


*: including cases with HIV type 1 or PCR positive result.

(b) By ethnicity (proportion of subtype C)



(c) By route of transmission (proportion of subtype C)



Appendix I: HIV/AIDS report form (DH2293)

DEPARTMENT OF HEALTH
HIV/AIDS Report Form

The HIV/AIDS voluntary reporting system has been in place since 1984. All doctors are encouraged to report patients with HIV/AIDS and to update status of the previously reported cases where appropriate. This is an anonymous and confidential system. Data collected is crucial for understanding the HIV epidemiology in Hong Kong and is used in global analysis only. Aggregate statistics are released quarterly and can be obtained at www.aids.gov.hk. For any query, please call 3143 7225 or email us at aids@dh.gov.hk.

Please complete ALL sections and '✓' in the appropriate box.

Section (A) – Report of HIV

[1] THIS is a ☐NEW report or ☐UPDATE of previous reported case

[2] Your reference code number[i]: ..... [3] Does the patient have a HK identity card? ☐Yes ☐No

[4] Sex : ☐M ☐F For female, is she pregnant? ☐No ☐Yes If yes, go to Box I

[5] Date of birth: / / (ddmmyyyy) OR Age at last birthday: .....

[6] Ethnicity: ☐Chinese ☐Asian ☐Caucasian ☐Black ☐Others: ..... ☐Unknown

[7] Suspected risk(s) for HIV infection[ii]

☐Heterosexual ☐Homosexual ☐Bisexual

☐Injecting drug use

☐Transfusion of blood/blood products (Haemophilia: ☐Yes ☐No)

☐Perinatal

☐Others, please specify: .....

☐Asked, but risk undetermined

☐Not asked

Box 1

Gravida ..... Para ..... LMP / / (ddmmyyyy)

Obstetric follow up clinic/ hospital :

Plan: ☐TOP ☐Continue pregnancy

Expected hospital/place of delivery: .....

[8] Suspected place of infection: ☐Hong Kong ☐Mainland China, specify: ..... ☐Others, specify: .....

☐Asked, but undetermined ☐Not asked

[9] Date of laboratory diagnosis in HK: / / (ddmmyyyy) [10] Western blot confirmation: ☐Yes ☐No

[11] Name of Laboratory: ..... [12] Laboratory Number, if a/v: .....

[13] Previous HIV diagnosis outside HK: ☐No ☐Yes If yes, date: / / (ddmmyyyy) place: .....

[14] Date of last negative HIV test: / / (ddmmyyyy)

[15] CD4 (cells/μl): ..... Date: / / (ddmmyyyy)

[16] HIV status of spouse/regular partner: ☐HIV positive ☐HIV negative ☐Unknown

Section (B) – Report of AIDS

[17] Has the patient developed AIDS[iii]: ☐ Yes ☐ No (Go to Section C)

[18] If yes, the AIDS defining illness(es) is (are):

(i) ..... Date of diagnosis: / / (ddmmyyyy)

(ii) ..... Date of diagnosis: / / (ddmmyyyy)

(iii) ..... Date of diagnosis: / / (ddmmyyyy)

[19] CD4 (cells/μl) at AIDS: ..... Date: / / (ddmmyyyy)

Section (C) – Report of deaths and defaults

[20] Has the patient died? ☐Yes ☐No If yes, date of death: / / (ddmmyyyy) Cause: .....

[21] Has the patient left HK/defaulted follow up? ☐Yes ☐No If yes, last seen on: / / (ddmmyyyy)

Section (D) – Correspondence

Name of medical practitioner: ..... ☐in private practice ☐in public service

Correspondence Address: .....

Tel: ..... Fax: .....

Email: ..... Date: / / (ddmmyyyy)

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[i] Please put down any code of your choice (e.g., case number) for matching purpose only.

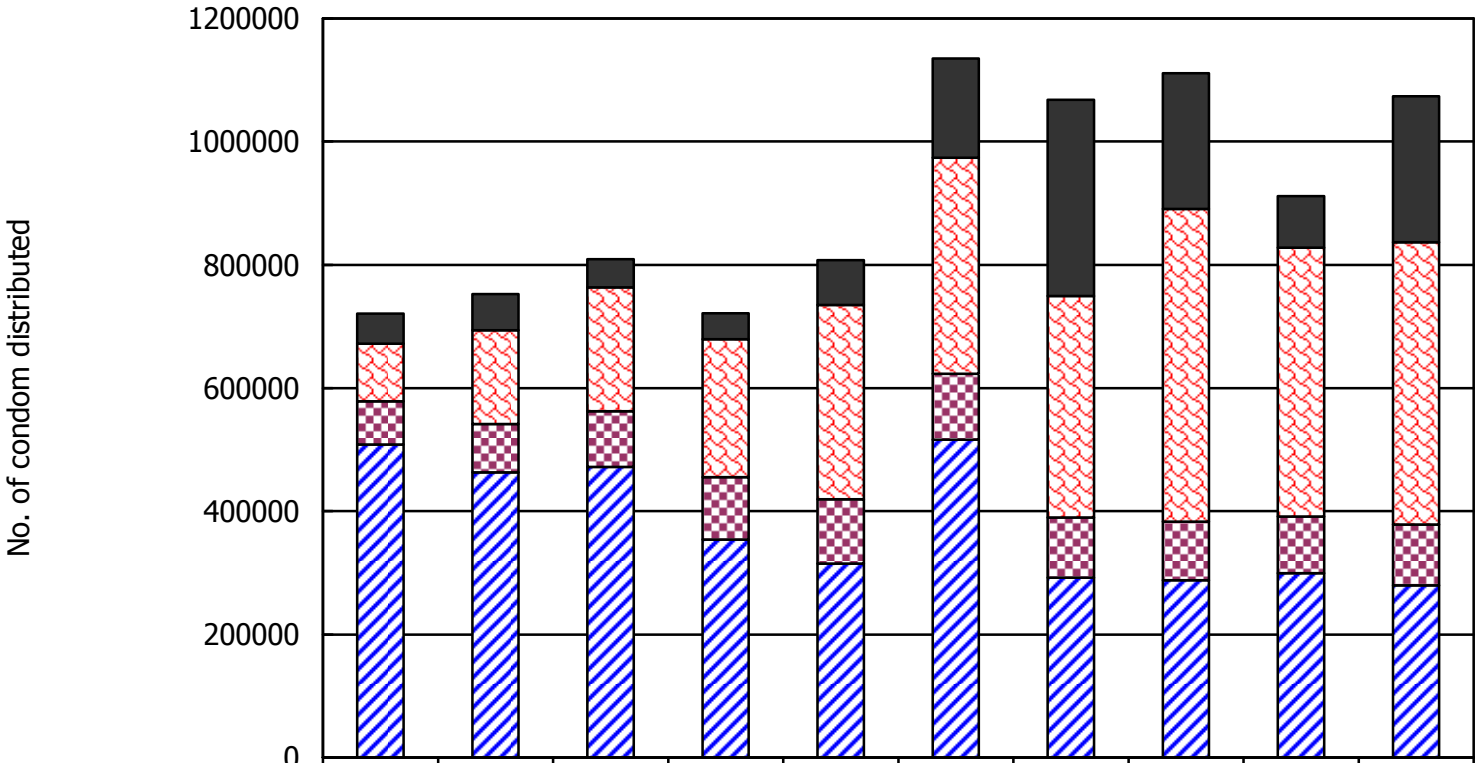
[ii] Please tick the most likely risk for contracting HIV infection. If there is more than 1 suspected risks, please put down 1 & 2 in descending order of the two most likely risks.

[iii] Surveillance definition of AIDS: a definitive laboratory diagnosis of HIV infection AND one or more of the AIDS indicator conditions (*July 1995, Scientific Committee on AIDS. Available at www.aids.gov.hk/report.htm).*

Appendix II: Classification system for HIV infection and surveillance case definition for AIDS in adolescents and adults in Hong Kong.

A definitive laboratory diagnosis of HIV infection normally by a positive screening test for HIV antibody (e.g. ELISA) supplemented by a confirmatory test (e.g. western blot) + one or more of the AIDS indicator conditions	
AIDS indicator conditions	Candidiasis of bronchi, trachea, or lungs Candidiasis, oesophageal Cervical cancer, invasive Coccidiodomycosis, disseminated or extrapulmonary Cryptococcosis, extrapulmonary Cryptosporidiosis, chronic intestinal (>1 month's duration) Cytomegalovirus disease (other than liver, spleen or nodes) Cytomegalovirus retinitis (with loss of vision) Encephalopathy, HIV-related *Herpes simplex*: chronic ulcer(s) (>1 month's duration); or bronchitis, pneumonitis, or oesophagitis Histoplasmosis, disseminated or extrapulmonary Isosporiasis, chronic intestinal (>1 month's duration) Kaposi's sarcoma Lymphoma, Burkitt's (or equivalent term) Lymphoma, primary, of brain *Mycobacterium tuberculosis*; extrapulmonary or pulmonary/cervical lymph node (only if CD4<200/ul) Pneumonia, recurrent Penicilliosis, disseminated Mycobacterium, other species or unidentified species, disseminated or extrapulmonary *Pneumocystis carinii* pneumonia Progressive multifocal leukoencephalopathy Salmonella septicaemia, recurrent Toxoplasmosis of brain Wasting syndrome due to HIV
Hong Kong has adopted the 1993 Centers for Disease Control and Prevention (CDC) AIDS classification with 3 modifications: (1) disseminated penicilliosis is added as one AIDS-defining condition, (2) pulmonary or cervical lymph node tuberculosis included only if CD4 < 200 µl, (3) a CD4 < 200 µl without any AIDS-defining condition is not counted as AIDS.	

Appendix III: Condom distribution for the prevention of HIV and STI by Department of Health



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
AIDS Unit and others	48690	58427	46045	41742	73042	161334	318672	220121	83794	236690
Community network	93456	152352	200609	224147	315110	350517	359359	507663	436332	458595
Methadone Clinic	70388	78192	90901	101355	104609	106750	98004	95293	91958	98795
Social Hygiene Service	508174	463324	471854	353810	315015	516185	291873	287906	299385	279360

Year

Note:
1. Community network includes collaborative projects with Action for REACH OUT, AIDS Concern, CHOICE and Phoenix Project of SARDA

2. AIDS Unit and others condom distribution points, such as Travel Health Centres and Correctional Service Department