HIV SURVEILLANCE REPORT – 2012 UPDATE

Special Preventive Programme
Centre for Health Protection
Department of Health
Hong Kong Special Administrative Region
December 2013

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PREFACE

The number of newly reported HIV infection reached a record high of 513 cases in 2012. Sexual transmission remained the major route of HIV transmission in Hong Kong, while the transmission from other routes including perinatal transmission and drug injection have been kept at a relatively low level. Overall, Hong Kong is still enjoying a low level of HIV infection.

A continuous rising trend of HIV infection has been detected in the men who have sex with men (MSM) community in Hong Kong in recent years and the HIV prevalence among local MSM was still the highest amongst all at risk populations. All these signified that the heightened risk of transmission of HIV in the MSM community still persisted. Moreover, an upsurge of infection among injecting drug users is always a concern from the worldwide and regional experience on HIV and drug.

With the expansion of community-based HIV voluntary testing services, non-governmental organisations were playing an increasing role in understanding the local HIV epidemiology especially among the at-risk populations including MSM and Female Sex Workers (FSW). Through their service networks, many non-governmental organisations are contributing to the conduct of HIV prevalence & behavioral surveys and data collection in different at-risk populations.

This *annual surveillance report is* an initiative of Special Preventive Programme (SPP), Centre for Health Protection, 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 five main components of our surveillance programme (the HIV/AIDS voluntary reporting system, HIV prevalence surveys, Sexually Transmitted Illness caseload statistics, behaviour studies and HIV-1 genotyping studies) are presented as tables and graphs. Some changes have been made in this year's report to enhance its contents. First, selected findings of previous rounds the Community Based Risk Behavioral and Seroprevalence Survey for Female Sex Workers (CRISP) were described. Second, the results of the seroprevalence studies which have been stopped for over five years were deleted.

Electronic copy of this report is accessible in our website http://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.

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ACKNOWLEDGEMENTS

The production of this report is only achievable with the concerted efforts contributed by many different stakeholders. First and foremost, we must thank our colleagues of the Social Hygiene Service, the Narcotics and Drug Administration Unit, Tuberculosis & 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 prevalence studies on a regular basis.

Secondly, special thanks are dedicated to many agencies that have helped collect and update the relevant statistics referred by this report. They included the Hong Kong Red Cross Blood Transfusion Service, the Society for the Aid and Rehabilitation of Drug Abusers, AIDS Concern, 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. We also take this opportunity to thank all physicians, health care professionals and related workers who have contributed to HIV/AIDS reporting and other surveillance components.

Finally, this update would not have been possible without the usual excellent support from the SPP staff in terms of collecting, collating, compiling and analyzing the information as well as the editing and production of this report.

ABBREVIATION

ACTS	AIDS Counseling and Testing Service
ADI	AIDS Defining Illness
AIDS	Acquired Immune Deficiency Syndrome
AC	AIDS Concern
AIMSS	Asia Internet MSM Sex Survey
CDC	Centers for Disease Control and Prevention
CRiSP	Community based Risk behavioral and SeroPrevalence survey for female sex workers
CD4	Cluster of Differentiation (CD) 4 molecule
CHOICE	Community Health Organisation for Intervention, Care and Empowerment
CRDA	Central Registry of Drug Abuse
CHP	Centre for Health Protection
CRF	Circulating Recombinant Form
DH	Department of Health
DRS-M	Drug Rehabilitation Services – Methadone clinics
DRS-S	Drug Rehabilitation Services – ShekKwuChau Treatment and Rehabilitation Centre
ELISA	Enzyme-linked Immunosorbent Assay
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
MSM	Men who have Sex with Men
NSGI	Non-specific Genital Infection
NGU	Non-gonococcal Urethritis
PCP	PneumocystisPneumonia
PCR	Polymerase Chain Reaction
PRiSM	HIV Prevalence and Risk behavioral Survey of Men who have sex with men
SADRA	The Society for the Aid and Rehabilitation of Drug Abusers
SKC	ShekKwuChau Treatment and Rehabilitation Centre
STI	Sexually Transmitted Infection
SPP	Special Preventive Programme
SHS	Social Hygiene Service
SAS	Street Addict Survey
TB	Tuberculosis
ul	microliter

1. SUMMARY REVIEW

Background

1. The HIV surveillance system in Hong Kong comprises 5 main programmes to provide a detailed description of the local HIV/AIDS situation. They are (a) voluntary HIV/AIDS case-based reporting; (b) HIV prevalence surveys; (c) sexually transmitted infections (STI) caseload statistics; (d) behavioral studies; and (e) HIV-1 genotyping studies. The data is collected, analyzed and disseminated regularly by 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 (http://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 2012 and before. Please refer to the following pages for the details of the programmes.

HIV/AIDS reporting system

3. The Department of Health has implemented a voluntary anonymous case-based HIV/AIDS reporting system since 1984. The system receives reports from doctors and laboratories. Doctors report newly diagnosed HIV cases by a standard form (DH2293) which was lately revised in March 2010 with the data field on "date of last negative HIV test" added. Before 2006, only cases with Western Blot confirmed HIV antibody positive laboratory result were counted as HIV infection for cases aged above 18 months. Due to the increase detection, those cases with PCR positive result and clinical or laboratory indication of recent infection were also counted as confirmed HIV infection in the reporting system since the 4th quarter of 2006.

HIV Surveillance at a glance (2012)

- 513 HIV reports and 86 AIDS reports
- Gender: 77.7% male
- Ethnicity:65.9% Chinese
- Age: Median 36
- Risks:
  - 50.7% Homosexual/bisexual contact
  - 25.9% Heterosexual contact
  - 1.4% Injecting drug use
  - 0.2% Blood transfusion
  - 0.2% Perinatal
  - 21.6% Undetermined
- CD4 at reporting: Median 280.5/ul
- HIV-1 subtypes: commonest are CRF01_AE and B
- Commonest primary AIDS defining illness: PCP and TB
- HIV prevalence
  - Blood donors: <0.01%
  - Antenatal women: 0.02%
  - STI clinic attendees: 0.21%
  - Methadone clinic attendees: 0.62%

4. In 2012, DH received 513 HIV and 86 AIDS reports (Box 2.1). The number of HIV cases in 2012 reached a record yearly high and continued the increasing trend since 2011, after the slight decrease in 2009 and 2010. This brought the cumulative total to 5783 and 1353 for HIV and AIDS reports respectively. Under the revised definition, 28 PCR positive cases with clinical or laboratory indication of recent infections were included as HIV infection in 2012. Public hospitals/clinics/laboratories were still the commonest source of HIV reports in 2012, which accounted for 35.5% of all. Private hospitals/clinics/laboratories were another common source of HIV reports (24.0%). (Box 2.2)

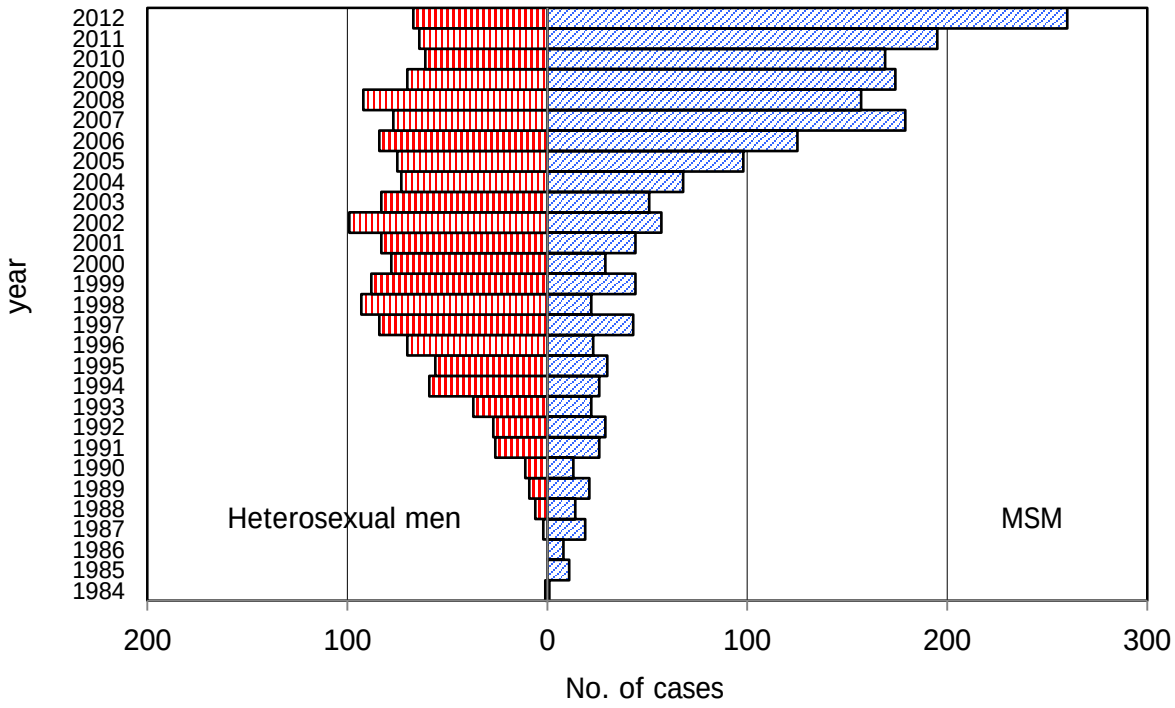
5. In 2012, around 78% of reported HIV cases were male. The male-to-female ratio was 3.5:1 in 2012, which remained relatively stable as compare to that of 3.7:1 in 2011. About 66% of reported cases were Chinese. Asian non-Chinese accounted for 11% of reports. (Box 2.3) The median age of reported HIV cases was 36 (Box 2.4) and 20-49 was the commonest age group in both male and female cases. There was one children (age <13) HIV case reported in 2012. Around 77% of reported HIV cases were believed to have acquired the virus through sexual transmission in 2012, including homosexual (47.3%), heterosexual (25.9%), and bisexual exposure (3.3%). Injecting drug use accounted for 1.4% of reported HIV infections. There was 1 case of HIV transmission via blood/blood product which occurred outside Hong Kong and 1 case of infection via perinatal route in 2012. The suspected routes of transmission were undetermined in around one-fifth (21.6%) of cases. This means that, after excluding those with undetermined exposure category, sexual transmission accounted for about 98% among HIV reports with defined risks. (Box 2.5(a))

The rising trend in men who have sex with men cases continue

6. Similar as previous few years, sexual contact including both heterosexual and homosexual/bisexual, remained the commonest route of HIV transmission in Hong Kong in 2012, which accounted for 77%. In the early years of HIV/AIDS epidemic in Hong Kong around 1980s and early 1990s, 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 again and the situation continued in 2012 with 260 MSM cases (64.7%) identified out of 402 cases with defined risks. (Box 2.5(a)).

7. The high weighting of MSM among male HIV cases remained in 2012. 65.2% of male HIV reports in 2012 contracted the virus through homosexual or bisexual contact. Heterosexual contact in male cases accounted for about 17%, whereas the routes of transmission were undetermined in another 17% of the male cases. The ratio of heterosexual men against MSM dropped from its peak of 4.2:1 in 1998 to 0.3:1 in 2012. (Box 1.1 and 2.7(c)) The marked disproportion with more infections among MSM than heterosexual males was evident. Similar trend of increasing AIDS cases among MSM was observed, the ratio of heterosexual men against MSM decreased from 23.5:1 in 2000 to 0.6:1 in 2012.

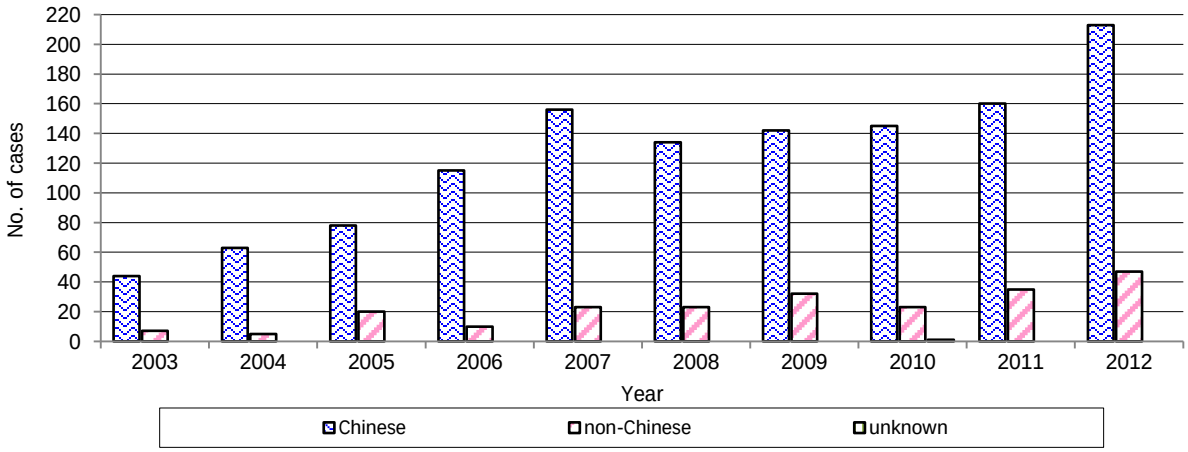
Box 1.1 The number of MSM cases has taken over heterosexual men cases in the reporting system since 2005 and the gap continued to widen.



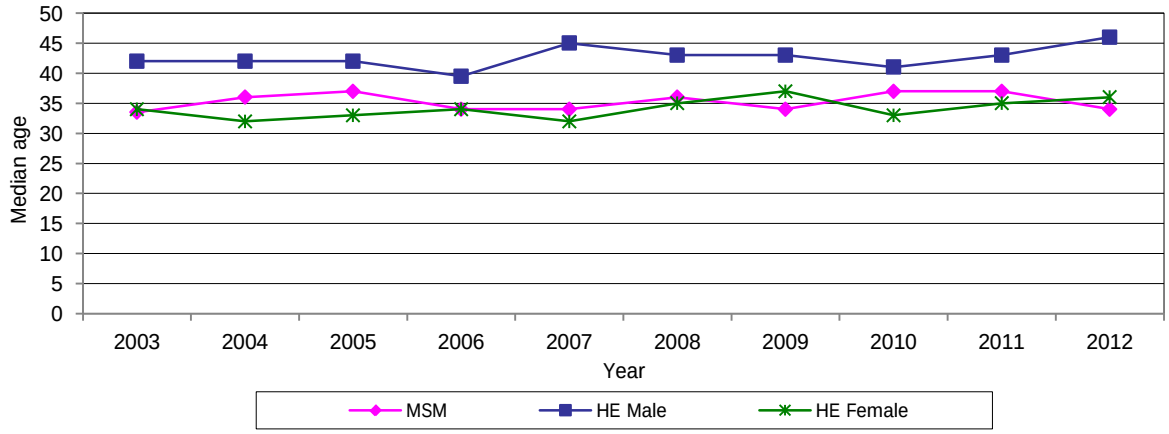
8. In 2012, majority of the MSM cases were Chinese (81.9%) and of age group 20-49 (89.6%). A rising trend in the number of reported Chinese MSM cases was observed in recent years despite a modest drop between 2007 and 2008. (Box 1.2) In 2012, the median

age of MSM cases at report was 34, which was lower than 46 of heterosexual male cases. The median age of HIV infected MSM population, has shown a decreasing trend in the past two years from 37 in 2010 to 34 in 2012 while that of heterosexual male increased from 41 in 2010 to 46 in 2012. (Box 1.3) In 2012, age group 30-39 was the commonest age group of reporting in MSM, which accounted for 32.7%, followed by age group 20-29 (30.0%) and age group 40-49 (26.9%). (Box 1.4) Reported data since 2006 suggested that a relatively higher proportion of MSM infections were occurred in Hong Kong, as compared to a much lower proportion in heterosexual men. In 2012, around 68% of MSM infection occurred in Hong Kong while only around 37% of local heterosexual male infection. (Box 1.5)

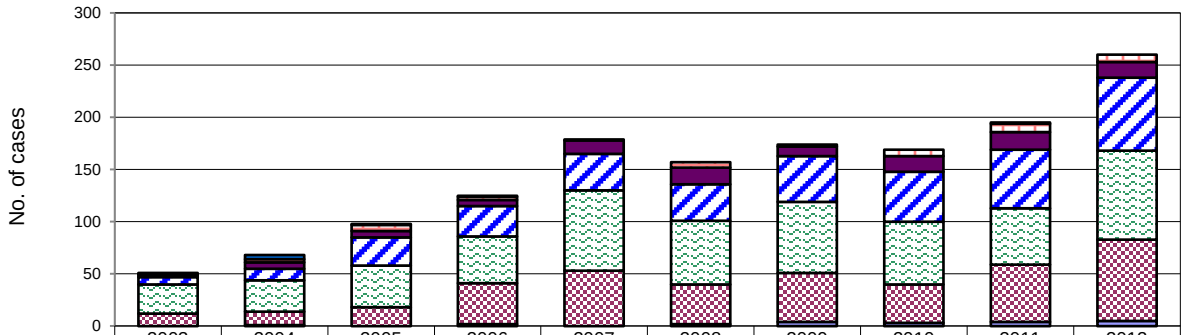
Box 1.2 Ethnicity Breakdown of HIV-infected MSM cases (2003-2012)



Box 1.3 Median HIV reporting age of HIV-infected MSM cases, heterosexual man and heterosexual women (2003-2012)



Box 1.4 Age breakdown of HIV-infected MSM cases (2003 - 2012)

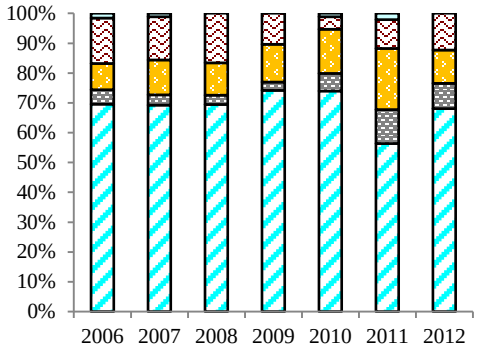


	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Unknown	1	4	1	1	0	0	0	0	1	0
>60	1	3	6	3	1	5	2	6	8	7
50-59	2	6	6	6	13	16	9	15	17	15
40-49	7	11	27	29	35	35	44	48	56	70
30-39	28	30	40	45	77	61	68	60	54	85
20-29	12	13	18	39	53	38	47	37	55	78
< 20	0	1	0	2	0	2	4	3	4	5

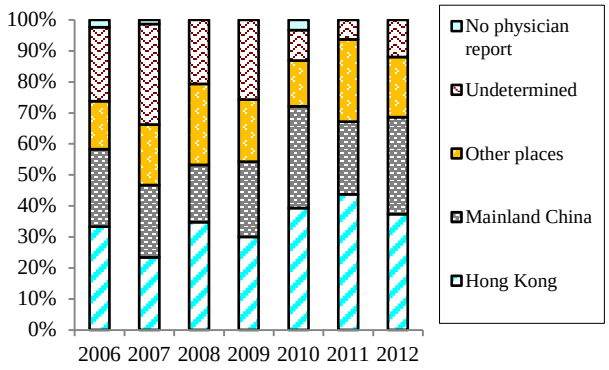
Year

Box 1.5 Suspected location of HIV cases (2006 - 2012)

(a) MSM



(b) Heterosexual men



HIV prevalence among men who have sex with men persistently higher than other at-risk population

9. The third community-based survey (PRiSM) in gay saunas, bars and beaches was conducted in 2011 and revealed that the HIV prevalence among local MSM was around 4.08%, which remained relatively stable as compared to 4.05% and 4.31% in the previous two rounds in 2006 and 2008 respectively. (Box 1.6 and Box 3.9) The prevalence among MSM was persistently higher than other at-risk population such as female sex worker (Box 3.10) and drug users (Box 3.3 and Box 3.4).

10. A subproject iPRiSM which involved the conduction of the survey through internet was also added in the 2011 round for the first time, in addition to the traditional venue-based surveillance. The HIV prevalence was around 3.3%, as compared to a self-reported 5.5% in an on-line survey Asia Internet MSM sex survey (AIMSS) conducted in 2010.

Box 1.6 **Comparison between 2006, 2008 and 2011 PRiSM results**

PRiSM results	2006 Venue-based	2008 Venue-based	2011 Venue-based	2011 internet-based
Sample Size	859	833	816	180
Adjusted HIV prevalence	4.05%	4.31%	4.08%	3.30% (Crude)
Consistent condom use in anal sex with regular sex partners	41%	45%	52%	41%
Consistent condom use in anal sex with non-regular sex partners (in HK)	73%	75%	80%	60%
Consistent condom use in anal sex with non-regular sex partners (outside HK)	NA	NA	84%	71%
Ever test for HIV	48%	57%	67%	63%
HIV test within past one year	24%	36%	40%	41%
Ever tested for STI	23%	16%	47%	54%

11. 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. It showed a prevalence of 2.01% in 2012 which remained relatively stable in the past few years. (Box 3.8) The HIV prevalence among MSM remained at a relatively stable level of around 2% in the past few years.

Condom use and HIV testing among men who have sex with men showed an increasing trend

12. The 3rd PRISM found that the level of consistent condom use among MSM has been increased as compared to previous rounds. (box 1.6) In 2011, it was around 52% for regular sex partner, 80% with non-regular sex partner in Hong Kong and 84% with non-regular sex partner outside Hong Kong, which were higher than the figures in the previous two rounds. Both the ever HIV testing rate (67%) and HIV testing rate in past one year(40%) increased in 2011, as compared with 2008 figures (57% and 36% respectively), which might suggest an increased awareness to undergo HIV testing and even regular testing in the MSM community.

13. According to the survey conducted among the clients attending the DH's AIDS Counseling and Testing Service (ACTS), the median number of casual sex partners among MSM was consistently higher than those heterosexual men, 3 in 2012. (Box 5.1) The consistent condom use rate among MSM with regular partners and causal partners mildly increased in 2012, after a gradual drop in the past 2 years since 2009. The rate was around 45.3% and 59.3% respectively in 2012, which was lower than the findings of the PRiSM in 2011. The condom use rate for last anal sex with both regular partners and causal partners (60.6% and 75.8% respectively) remained relatively stable in 2012.

14. Additional behavioural data derived from MSM attending AIDS Concern's testing service showed that the consistent condom use rate for boyfriend, regular sex partners and casual sex partners in 2012 was 49.9%, 59.2% and 65.2% respectively. (Box 5.5)

The proportion of heterosexual cases remained stable

15. In 2012, there was a total of 133 heterosexual cases reported, which accounted for about one-quarter of the all reported HIV cases, and was similar to the proportion in 2011. (Box 2.5(a)) The proportion of heterosexual cases among all reported HIV cases dropped from its peak of 71.4% in 1998 to 25.9% in 2012. The male to female ratio for heterosexual cases gradually decreased in the past decade from 2.5:1 in 2003 to 1.01:1 in 2012, which showed increasing female proportion in heterosexual cases. The median age of heterosexual cases in 2012 was 39. In 2012, heterosexual male cases were mainly Chinese (67%) whereas Chinese accounted for less than half (45%) of female heterosexual cases.

16. STI caseload statistic from Social Hygiene Clinics is an important component of the local HIV surveillance programme as the presence of STI is an indicator of high risk sexual behaviors which also increase the risk of contracting HIV. From on-going behavioral surveys in the past years, only around half of Social Hygiene Clinics male attendees reported consistent condom use with commercial or irregular sex partners, which is an alarming facts to be addressed (Box 5.4a). Moreover, more than one third of the STI cases were without any symptoms which may delay the diagnosis and the link to appropriate medical care. (Box 4.5). The HIV prevalence of Social Hygiene Clinic attendees remained stable in the previous few years at around 0.2% (0.21% in 2012). (Box 3.2) The total number of STI cases in Social Hygiene Clinics remained stable in the past few years, with an aggregate of 12,218 cases in 2012. (Box 4.1, 4.2)

17. In 2012, the consistent condom use rate among heterosexual men attending Social Hygiene Clinics with commercial / casual partners in the past 3 months was 52.7%, which slightly increased as compared with 48% in 2011. (Box5.4) The condom use level observed among those attending AIDS Counseling and Testing Service (ACTS) increased from 67.4% in 2011 to 76.6% in 2012 for commercial partners and from 55.9% in 2011 to 60.9% in 2012 for commercial/causal partners. Discrepancy was observed when the consistent condom use reported from client's side was compared with that from the sex worker's side. In the venue-based cross sectional survey of female sex worker (CRiSP) conducted in 2009, a relatively higher 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.

New HIV infection among drug users remained low but significant level of risky behaviors reported

18. In 2012, the reporting system recorded 7 cases of HIV transmission through injecting drug use, which accounted for 1.4% of all reported cases. The number continued to show a decreasing trend from the peak of 58 cases in 2006 to 14 cases in 2011 and 7 cases in 2012. (Box2.5(a)) More than half of the cases in 2012 were male and Chinese. (Box 2.6(a)) The median age was 35. 2 out of the 7 injecting drug user cases were reported from methadone clinics.

19. The Methadone Universal HIV Antibody (Urine) Testing Programme (MUT) launched in 2004 replaced the unlinked anonymous screening (UAS) in methadone clinics to enhance HIV surveillance as well as individual diagnosis and subsequent care of the infected methadone clients. A total of 5,765 attendees participated in the programme in 2012 with a HIV testing coverage of 66%, a lower coverage rate than that of 69% in 2011. The programme tested a total of 6,742 urine samples, with 42 positive attendees in 2012. The HIV prevalence of methadone clinic attendees as gauged from the MUT programme in 2012 was 0.62%, which remained at a similar level as in previous years. (Box 3.3)

20. Despite the fact that HIV infection remained at a low level among drug users in 2012 as reflected from surveillance data at methadone clinics, the potential risk of HIV among drug users cannot be neglected as a significant proportion of them were still currently injecting drugs, from about 28% to 88% across different surveys. (Box 5.6). In addition, various surveys revealed that around 3% to 24% of the current drug injectors were still practicing needle sharing behaviours, which posed them to the risk of contracting HIV. (Box 5.7)

One case of transmission via blood/blood product transfusion and one case via perinatal route recorded

21. In 2012, there was 1 reported case of HIV infection via contaminated blood or blood product transfusion, which occurred outside Hong Kong. The HIV prevalence of new blood donors at Hong Kong Red Cross Blood Transfusion Service remained at a low level of 0.003% in 2012 (Box 3.1(b)).

22. In 2012, there was one perinatal transmission case reported. Since the launch of the Universal Antenatal HIV Testing in September 2001, around 40,000-50,000 pregnant women attending public antenatal services were tested for HIV every year. The coverage of the programme remained at a high level (98.6% in 2012) and the prevalence of HIV infection in pregnant women was found to be stable at around 0.01% in the previous years (0.02% in 2012). Nine pregnant women were tested positive in the programme in 2012. (Box 3.7) Three women subsequently delivered their babies by Caesarean Sections, one by vaginal delivery, while remaining five cases was without sufficient information. Of these 4 newborn

babies, all were put on anti-retroviral chemoprophylaxis. None of the babies was confirmed to have HIV infection at the time of report writing.

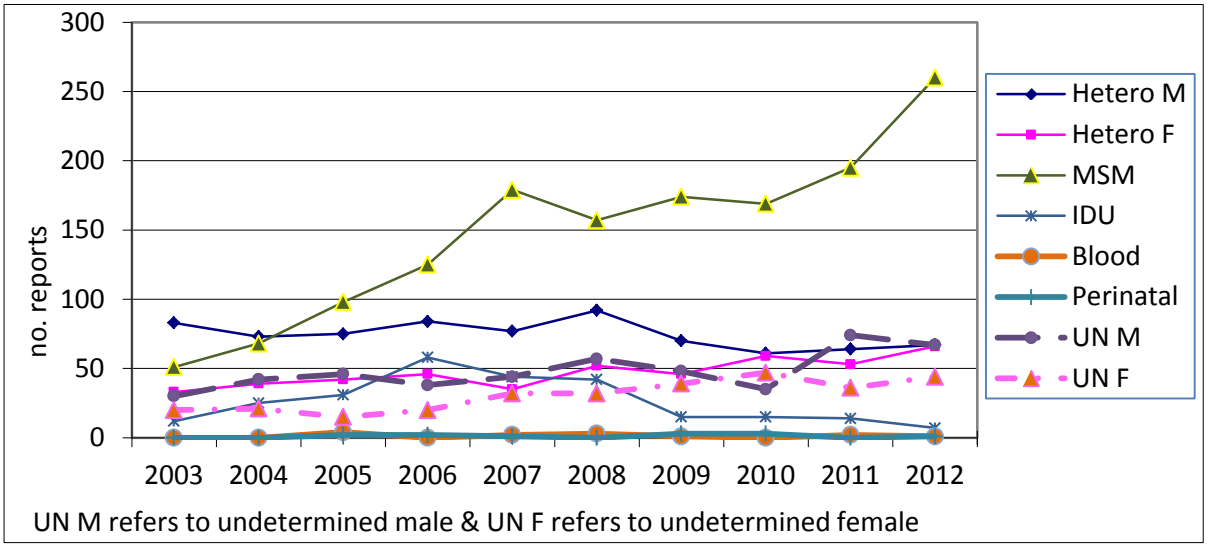
Reconstruction of risk factor for cases without reported route of transmission

23. The HIV/AIDS case-based reporting system in Hong Kong is entirely voluntary and anonymous. The completeness of the local surveillance database depends largely on the percentage of cases with the report form DH2293 received from attending physicians. Incomplete data due to cases without a risk factor reported may pose a risk of skewing the local epidemic picture. In 2012, 22% of the cases did not have a suspected route of transmission reported, as compared to around 25% in 2011. (Box2.5a) In order to factor in the weightings of undetermined risk cases, to assess the risk for local transmission and to plan and guide appropriate preventive actions, a systematic reconstruction method was proposed by Dr. Tim Brown, a renowned HIV epidemiologist as an external consultant in 2010.

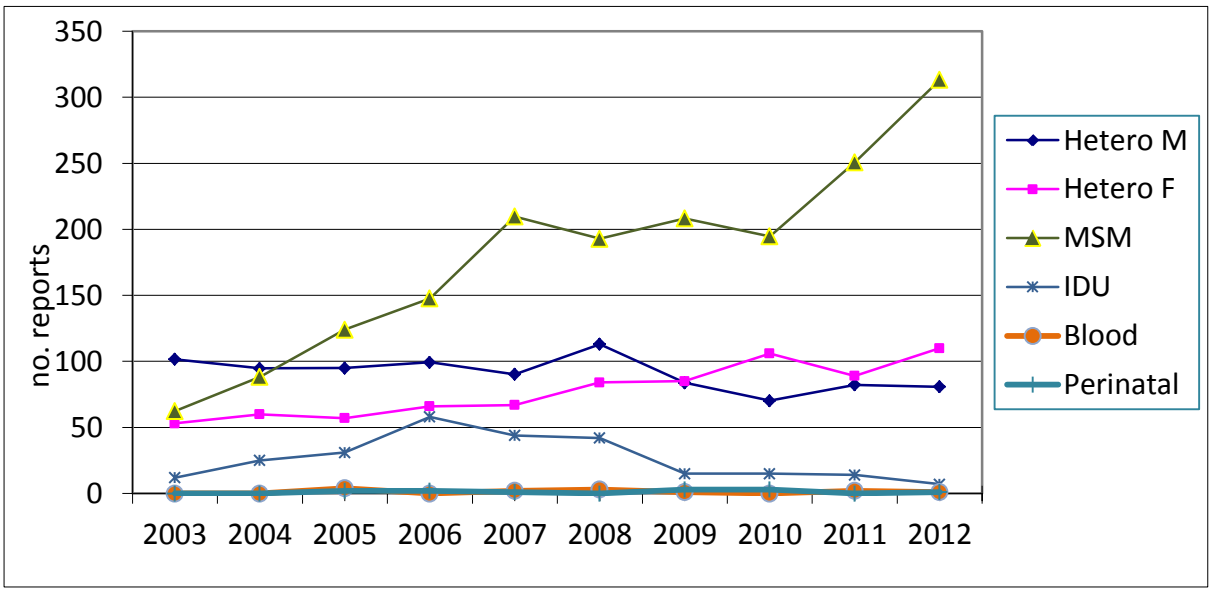
24. Reconstruction was carried out by assigning one suitable transmission to the undetermined cases. After the analysis of the features of these cases with undetermined risk factor and the prevailing epidemic, it was assessed that all female infections shall be assumed to be heterosexual transmission, 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, providing there is no other indication suggesting otherwise.

25. By using the above methodology of reconstruction, a modified epidemic was constructed by applying our local 10-year data from 2003 to 2012. (Box 1.7(a) and Box 1.7(b)). After the reconstruction, the cases of MSM and heterosexual female showed a mark increase since 2007, while the change in heterosexual male appeared to be relatively moderate. (Box. 1.7 (c)). Although the suggested method might simplify the complex local epidemic, it provides a possible solution to fill the gap in the HIV surveillance system information. Measures to promote the return rate of report forms from physicians regarding each HIV case have also been implemented in the past few years.

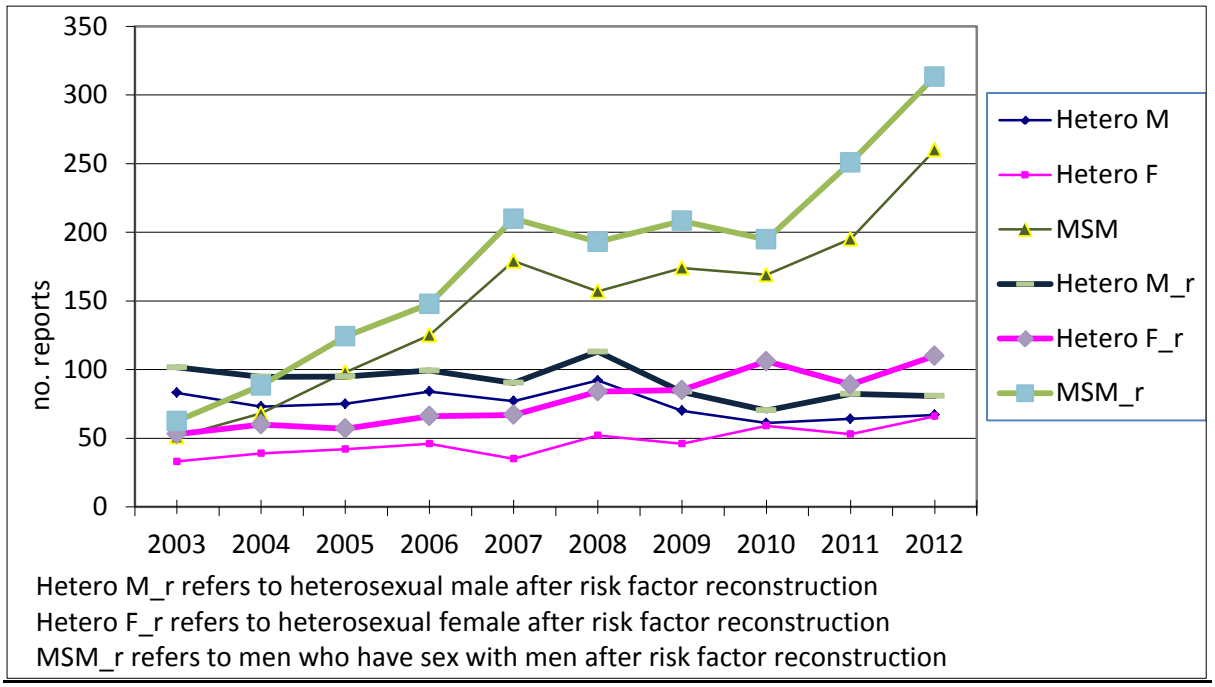
Box 1.7(a) HIV reports before risk factor reconstruction (2003-2012)



Box 1.7(b) HIV reports after risk factor reconstruction (2003-2012)



Box 1.7(c) HIV reports before and after risk factor reconstruction in MSM, heterosexual male and heterosexual female cases (2003-2012)



Hetero M_r refers to heterosexual male after risk factor reconstruction
Hetero F_r refers to heterosexual female after risk factor reconstruction
MSM_r refers to men who have sex with men after risk factor reconstruction

Regular HIV testing before diagnosis was still not a norm in Hong Kong

26. The HIV/AIDS Report Form (DH2293) was lately revised in March 2010 and become available for reporting use since July 2010 which one data field was added to capture the previously negative HIV result among the newly diagnosed cases. The data helps to inform the epidemiology of those cases who were recently infected. Among the 513 cases reported in 2012, data of the HIV/AIDS Report Form was available in 422 cases, of which only 166 cases (32.4%) had the data on previously negative HIV results, which implied regular testing among HIV patients before their diagnoses was rare. Among those 166 cases, fifty-five (33.1%) had previously negative HIV results within one year of the HIV diagnosis, i.e. recently HIV seroconvert and this suggested that at least one-third of the cases were recently infected. However, it was not possible to judge whether the cases with previously negative HIV results beyond one year of HIV diagnosis were recently HIV seroconvert or not, as the observation was limited by the infrequent testing behaviour.

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

27. Since the introduction of highly active antiretroviral therapy (HAART) in Hong Kong around 1997, the annual number of reported AIDS cases has been dropping since then and remained at a relatively stable level of around 80 cases per year in the past decade. A total of 86 AIDS cases were reported in 2012 as compared with 82 cases in 2011 (Box 2.5(b)). Majority (86%) of the AIDS reports in 2012 had their AIDS diagnosis within 3 months of HIV diagnosis, suggesting late presentation of the cases.

28. *Pneumocystis jirovechi* pneumonia (previously named *Pneumocystis carinii*) was the commonest ADI in Hong Kong in 2012 which accounted for 45% (39 cases), which is similar to the proportion in 2011. The second most common primary ADI reported in 2012 was *Mycobacterium tuberculosis* which accounted for 17% (15 cases). They were followed by other fungal infections (12%), *penicilliosis* (7%), and *Cytomegalovirus* diseases (5%). (Box 2.8) Due to the high 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 2012, the HIV testing coverage in patients attending government TB & Chest Clinic was more than 91% and HIV prevalence was 0.59%, which showed a mild decreasing trend in the past few years (from 1.2% in 2008 to 0.9% in 2011 and 0.59% in 2012) (Box 3.6)

Median CD4 of newly reported HIV cases showed an increasing trend but those of older patients remained at a relatively lower level

29. The median CD4 of newly reported HIV cases in 2012 was 280.5/ul, which was higher than previous few years, as was the proportion with CD4>=200/ul (65.1%), suggesting that more cases were diagnosed at a earlier stage. Reporting of CD4 level was also becoming a routine practice in physician, which provided useful information on the timing of diagnosis in the course of HIV infection. In 2012, 74.9% of HIV cases had their CD4 level at diagnosis reported, which was higher than that in the past few years. (Box 1.8) The median CD4 for those aged less than 55 was 300/ul in 2012, which has increased as compared to 280/ul in 2011. Although the median CD4 count among those who are aged 55 has also increased from 124/ul in 2011 to 197.5/ul in 2012, it was consistently lower than the younger group, suggesting that more patients reported at age 55 or above were diagnosed at a relatively 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) (%)	
2003	229	169	(73.8%)	202	86	(50.9%)
2004	268	182	(67.9%)	211.5	97	(53.3%)
2005	313	238	(76.0%)	202	120	(50.4%)
2006	373	298	(79.9%)	233.5	163	(54.7%)
2007	414	324	(78.3%)	238	181	(55.9%)
2008	435	315	(72.4%)	193	154	(48.9%)
2009	396	289	(73.0%)	278	181	(62.6%)
2010	389	288	(74.0%)	209	148	(51.4%)
2011	438	309	(70.5%)	259	184	(59.5%)
2012	513	384	(74.9%)	280.5	250	(65.1%)

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	2003	190	142	(74.7%)	225.5	(52.1%)
	2004	225	160	(71.1%)	220.5	(55.6%)
	2005	282	215	(76.2%)	201	(50.2%)
	2006	341	272	(79.8%)	243.5	(57.4%)
	2007	377	297	(78.8%)	251	(57.6%)
	2008	380	272	(71.6%)	217	(52.6%)
	2009	357	260	(72.8%)	296.5	(66.5%)
	2010	353	256	(72.5%)	219.5	(52.7%)
	2011	384	273	(71.1%)	280	(62.3%)
	2012	463	344	(74.3%)	300	(66.9%)
>=55	2003	32	27	(84.4%)	108	(44.4%)
	2004	32	22	(68.8%)	93	(36.4%)
	2005	29	23	(79.3%)	223	(52.2%)
	2006	29	26	(89.7%)	154.5	(26.9%)
	2007	33	27	(81.8%)	90	(37.0%)
	2008	53	43	(81.1%)	74	(25.6%)
	2009	38	29	(76.3%)	72	(27.6%)
	2010	36	32	(88.9%)	121	(40.6%)
	2011	53	36	(67.9%)	124	(38.9%)
	2012	48	40	(83.3%)	197.5	(50.0%)

*: there may be a slight discrepancy between the sum of individual reports in Box 1.9 and the figures showed in Box 1.8 because of unknown age.

The commonest HIV-1 subtypes were CRF01_AE and B, but genetic diversity continued to increase. The level of drug resistance mutation remained low.

30. In 2012, about 86% of HIV reports had their subtypes documented, at a comparable level as in the past years. (Box 6.1) Subtype CRF01_AE and B of HIV-1 strains remained the first and second most common subtypes identified in Hong Kong, respectively at 45% and 36% of all cases having subtype identified from 2001 to 2012. In 2012, they together accounted for 70% of all HIV cases with subtype documented. (Box 6.2) Over the past years, CRF_01AE was found to be commoner in female, Asian non-Chinese, heterosexuals and IDU, but became more common in Chinese and male in 2012 (Box 6.4) On the other hand, subtype B was consistently commoner in male, MSM, Chinese and Caucasian. (Box 6.5) Subtype C was commoner in female, Asian non-Chinese and heterosexual (Box 6.6). Over the past few years, both the proportion of Subtype CRF01_AE and B showed a decreasing trend. In contrast, an increasing trend of diversity in subtypes and its circulating recombinant forms was noted, in particular since 2009. (Box 6.3) The proportion of subtype CRF07_BC have increased from 3.4% in 2008 to 7.9% in 2012 while that subtype CRF08_BC increased from 0.8% to 5.2% respectively.

31. According to the HIV resistance threshold survey conducted since 2003, the prevalence of intermediate or high level Drug Resistance related mutations in 2011 was 2.7%, which maintained at a relatively low level in the past few years (from 0% to 4.3%) (Box. 6.7).

Discussion

32. The rising trend of HIV reports continued since 2011 and reached a record high level in 2012, after a modest drop in 2009 and 2010. The total number of HIV reports in 2012 was 513, which increased for about 17% as compared to 2011. The increasing reports from MSM remained the major factor contributing to the high HIV level. The level of heterosexual contact remained stable in the past few years after a peak in 2008. The number of cases among injecting drug users was observed to be calming down and remained at a level of around 10 cases per year since 2009.

33. The number of HIV reports among MSM continued to increase and accounted for the largest proportion of cases in 2012. The increasing trend will likely to be continued in the near future and play a significant role in the local epidemic. Using the reconstruction methodology described in paragraph 24 above, we can observe an ever more dramatic increase in the infection cases among MSM. The third community-based HIV prevalence survey (PRISM) among MSM in 2011 revealed a HIV prevalence of 4.08%. Although the rate was similar to the previous studies in 2006 and 2008, it is considerably higher than those of other risk population including the female sex workers and drug users. As gauged from the survey, the consistent condom use rate with both regular and non-regular sex partners improved over the past years. The HIV testing rate has also increased which may reflect a growing norm of regular HIV testing among MSM community, and could partly explain the continuous increase in the number of new infection in the community. Although majority of the MSM cases (68.0%) were infected locally in 2012, after a mild drop in the proportion in 2011 (56.4%), potential threat of HIV infections contracted from neighboring

cities/countries should not be taken lightly due to the increasing cross-border sexual activities in the population.

34. Heterosexual transmission remained stable over the past few years although the number of cases appeared to increase in 2008 which soon settled back since 2009. The proportion of female among heterosexual cases continued to increase and reached a record high of nearly half (49.6%) in 2012. Upon reconstruction of undetermined female cases, it showed an even more obvious increase for female heterosexual cases. The HIV prevalence in social hygiene clinics attendees and antenatal women remained at a relatively low level of around 0.21% and 0.02% respectively. However, consistent condom use rates of commercial / casual sex especially gauged from the surveys of heterosexual male remained far from satisfactory and could pose a threat of rebound in the number of cases via heterosexual route.

35. The number of injecting drug cases decreased from 14 cases in 2011 to 7 cases in 2012 and remained at a relatively low level since 2009. Despite that, the proportion of injection and risky needle-sharing behaviour among the drug users as gauged from several surveys remained at a significant level which poses a potential risk of cluster outbreak, rapid upsurge of infection among the population and a challenge for both surveillance effort and preventive intervention in the near future. The dropping in HIV testing coverage in methadone clinics which may defer diagnosis and subsequent care of infected drug users was also another concern.

36. In conclusion, newly reported HIV infections in Hong Kong stayed at a high level in 2012. Similar to the situation in many developed countries and neighboring areas, MSM infection continued to dominate the HIV epidemic in Hong Kong and will likely to exert its effect in the near future. The situation of heterosexual population and injecting drug user population was relatively stable thus far. A considerable proportion of local reported cases were acquired outside Hong Kong, hence making the situation of neighboring cities/countries and the increasing cross border sexual activity an important factor influencing the local HIV epidemiology. With the intense promotion of HIV testing in the past years, the HIV testing rate among MSM has improved according to the latest behavioral surveys. On the other hand, the HIV testing coverage among drug users attending Methadone Clinics have dropped. The HIV prevalence among the general population in Hong Kong was estimated to remain at about 0.1%. Based on the HIV estimation and projection using Asian Epidemic Model, the number of people living with HIV in 2011 was about 4000. Continuous and collaborative effort in HIV prevention is vital for controlling the local HIV epidemic.

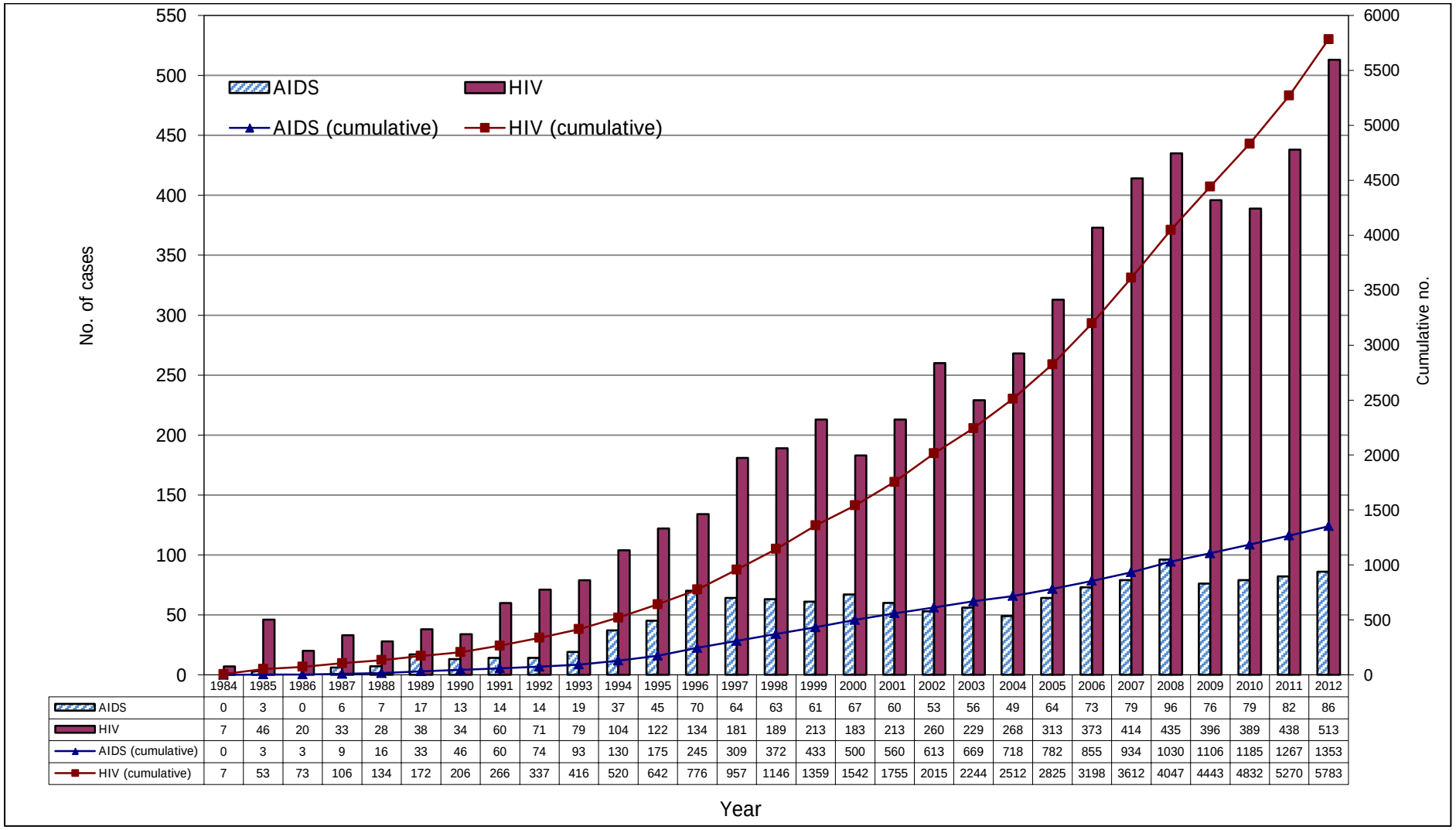
2. TABULATED RESULTS OF HIV/AIDS REPORTING

System description

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

System layout

Box 2.1 Annual and cumulative reports of HIV/AIDS cases

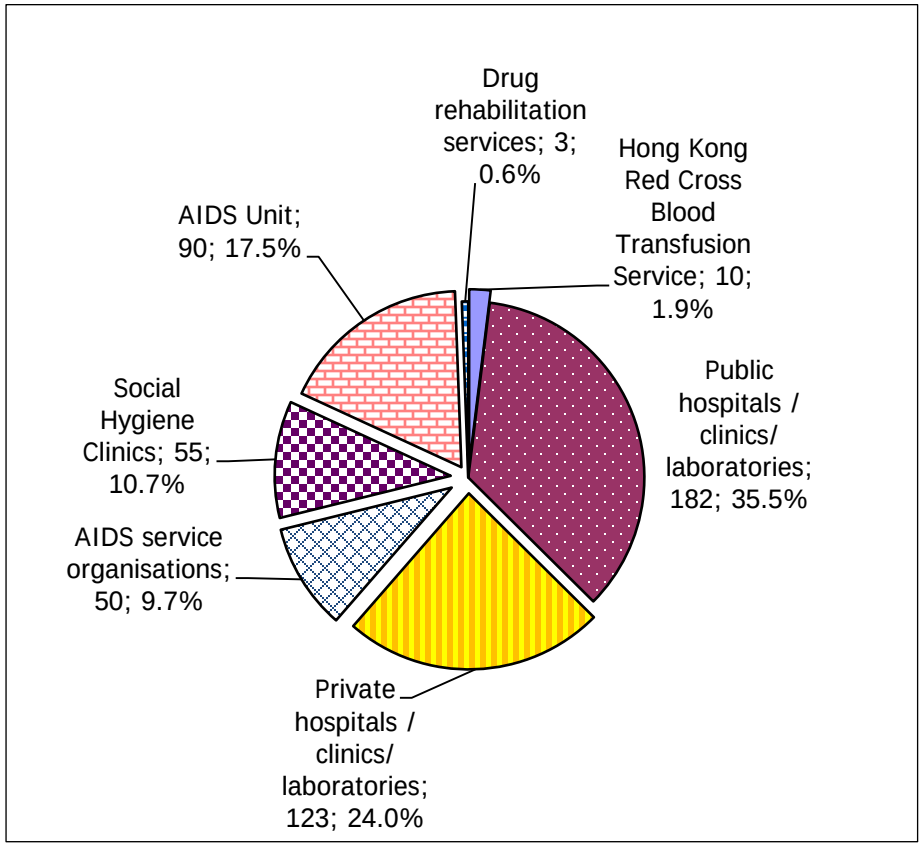


	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
AIDS	0	3	0	6	7	17	13	14	14	19	37	45	70	64	63	61	67	60	53	56	49	64	73	79	96	76	79	82	86
HIV	7	46	20	33	28	38	34	60	71	79	104	122	134	181	189	213	183	213	260	229	268	313	373	414	435	396	389	438	513
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	1185	1267	1353
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	4832	5270	5783

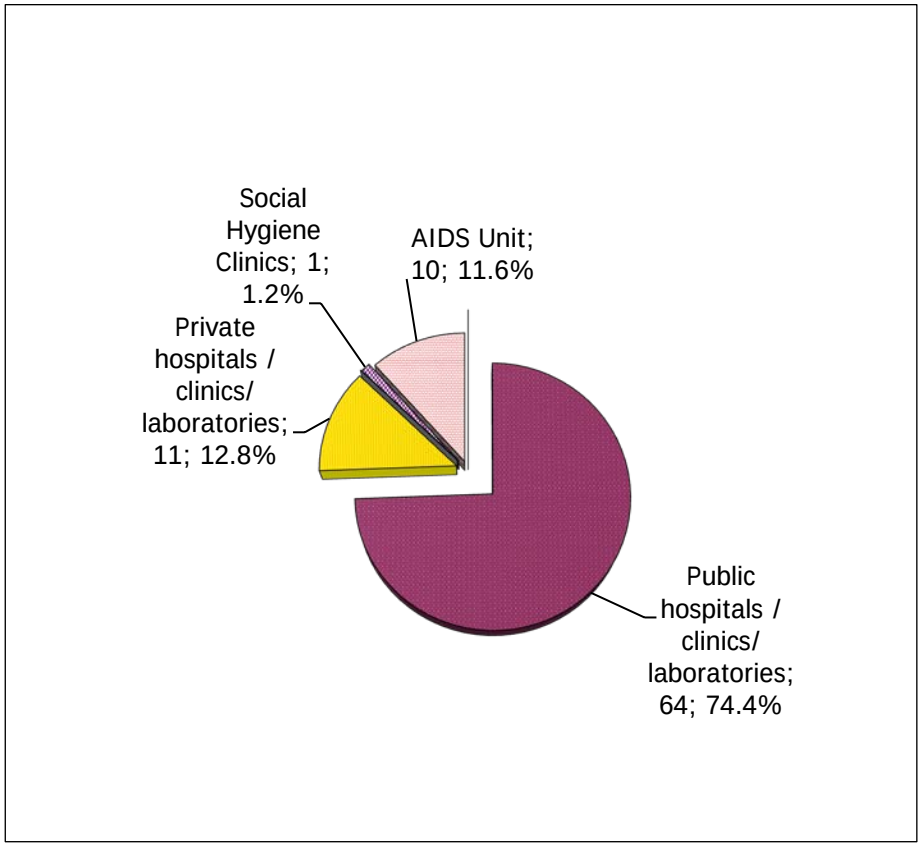
Box 2.2 Source of reporting of HIV/AIDS cases

(a) Year 2012

(i) HIV

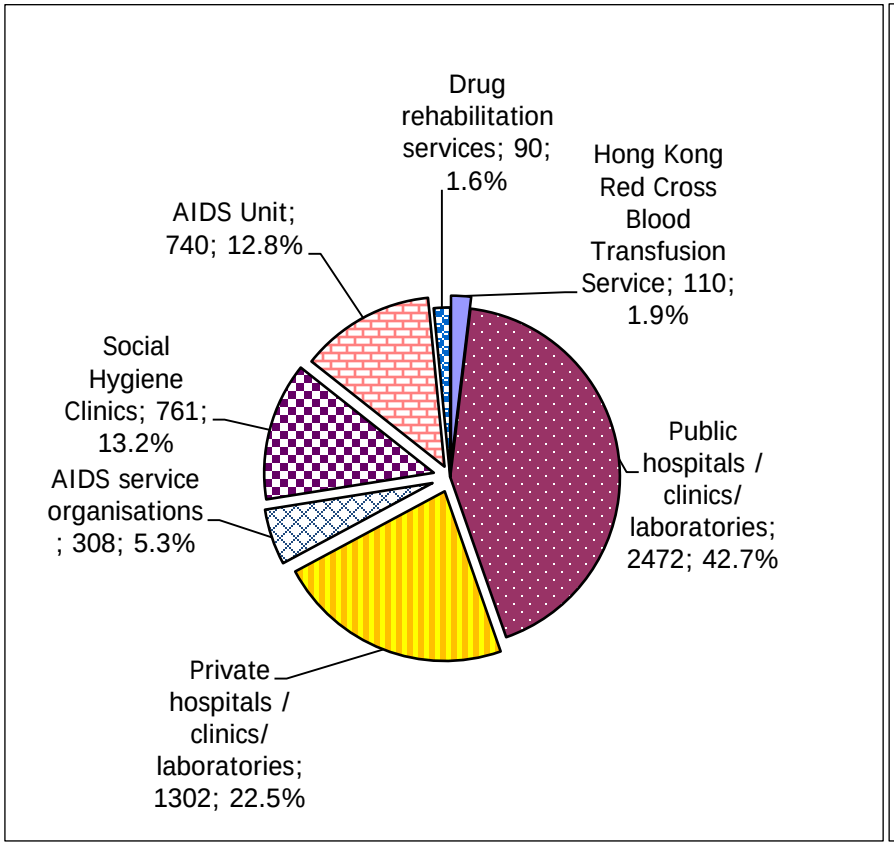


(ii) AIDS

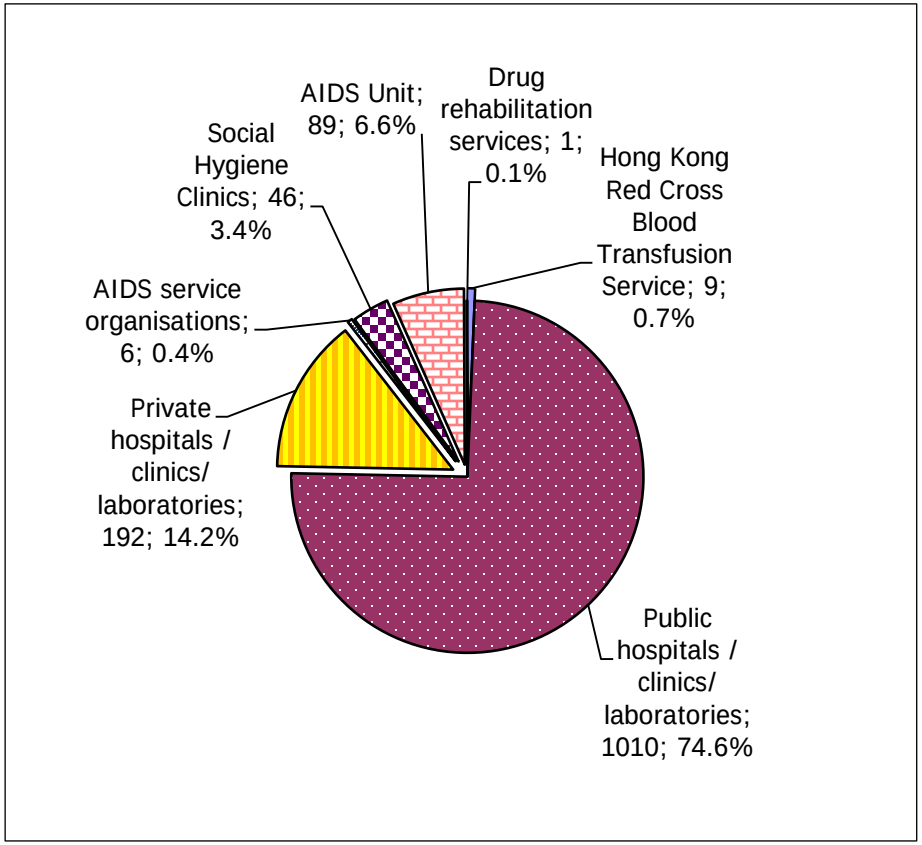


(b) Cumulative (1984 - 2012)

(i) HIV



(ii) AIDS



Box 2.3 Ethnicity & gender of reported HIV/AIDS cases

(a) Year 2012

Ethnicity	HIV						AIDS					
	Male		Female		Total		Male		Female		Total	
Chinese	300	(75.2%)	38	(33.3%)	338	(65.9%)	52	(76.5%)	12	(66.7%)	64	(74.4%)
Non-Chinese	86	(21.6%)	73	(64.0%)	159	(31.0%)	16	(23.5%)	6	(33.3%)	22	(25.6%)
Asian	25	(6.3%)	32	(28.1%)	57	(11.1%)	6	(8.8%)	6	(33.3%)	12	(14.0%)
White	42	(10.5%)	0	(0.0%)	42	(8.2%)	6	(8.8%)	0	(0.0%)	6	(7.0%)
Black	7	(1.8%)	13	(11.4%)	20	(3.9%)	4	(5.9%)	0	(0.0%)	4	(4.7%)
Others	12	(3.0%)	28	(24.6%)	40	(7.8%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
Unknown	13	(3.3%)	3	(2.6%)	16	(3.1%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
Total	399	(100.0%)	114	(100.0%)	513	(100.0%)	68	(100.0%)	18	(100.0%)	86	(100.0%)

(b) Cumulative (1984 - 2012)

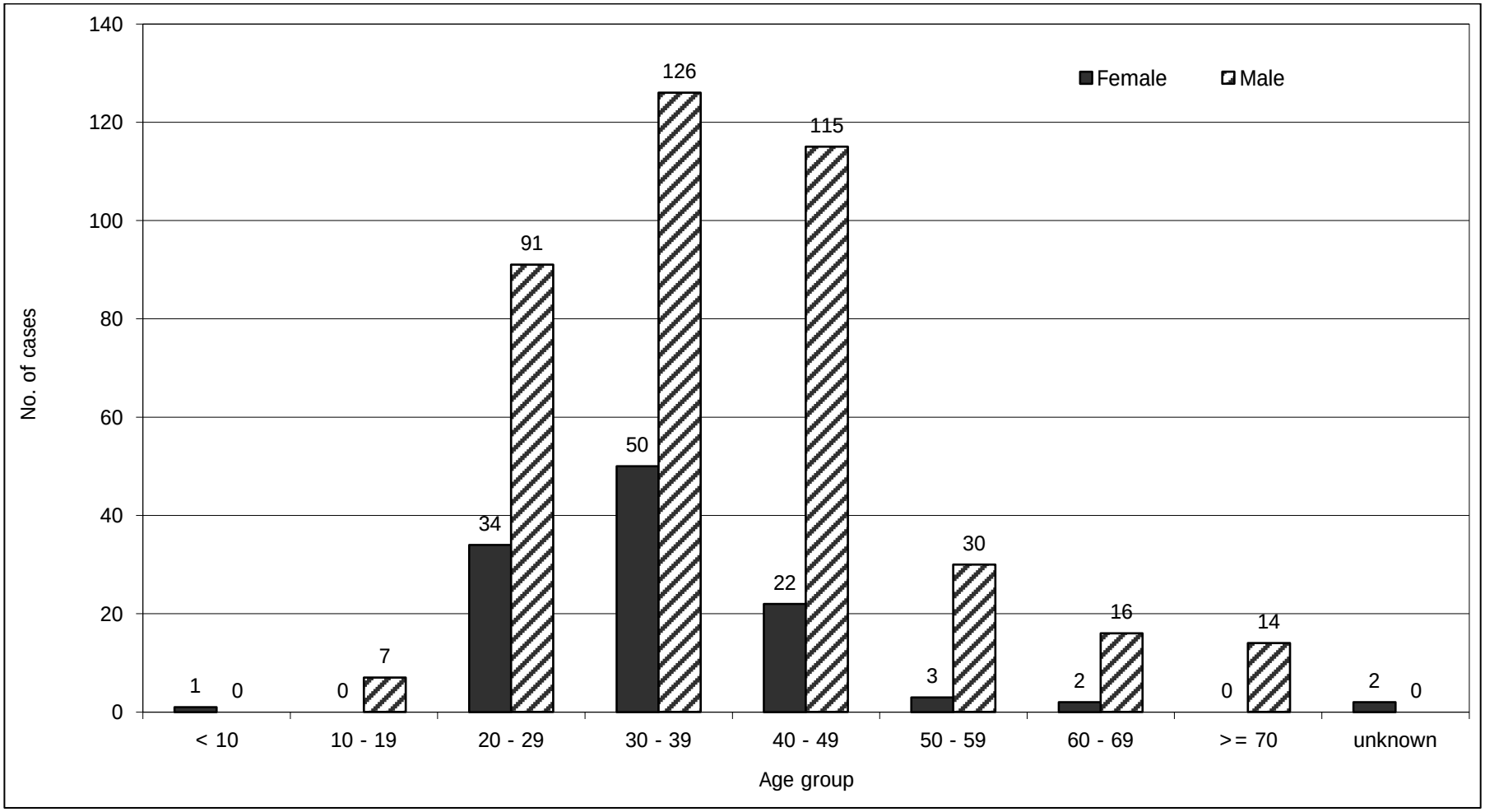
Ethnicity	HIV						AIDS					
	Male		Female		Total		Male		Female		Total	
Chinese	3372	(73.3%)	468	(39.5%)	3840	(66.4%)	940	(82.5%)	104	(48.8%)	1044	(77.2%)
Non-Chinese	1178	(25.6%)	705	(59.5%)	1883	(32.6%)	200	(17.5%)	109	(51.2%)	309	(22.8%)
Asian	546	(11.9%)	410	(34.6%)	956	(16.5%)	101	(8.9%)	104	(48.8%)	205	(15.2%)
White	389	(8.5%)	21	(1.8%)	410	(7.1%)	81	(7.1%)	2	(0.9%)	83	(6.1%)
Black	73	(1.6%)	51	(4.3%)	124	(2.1%)	17	(1.5%)	3	(1.4%)	20	(1.5%)
Others	170	(3.7%)	223	(18.8%)	393	(6.8%)	1	(0.1%)	0	(0.0%)	1	(0.1%)
Unknown	49	(1.1%)	11	(0.9%)	60	(1.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
Total	4599	(100.0%)	1184	(100.0%)	5783	(100.0%)	1140	(100.0%)	213	(100.0%)	1353	(100.0%)

Box 2.4 Age distribution of reported HIV/AIDS cases

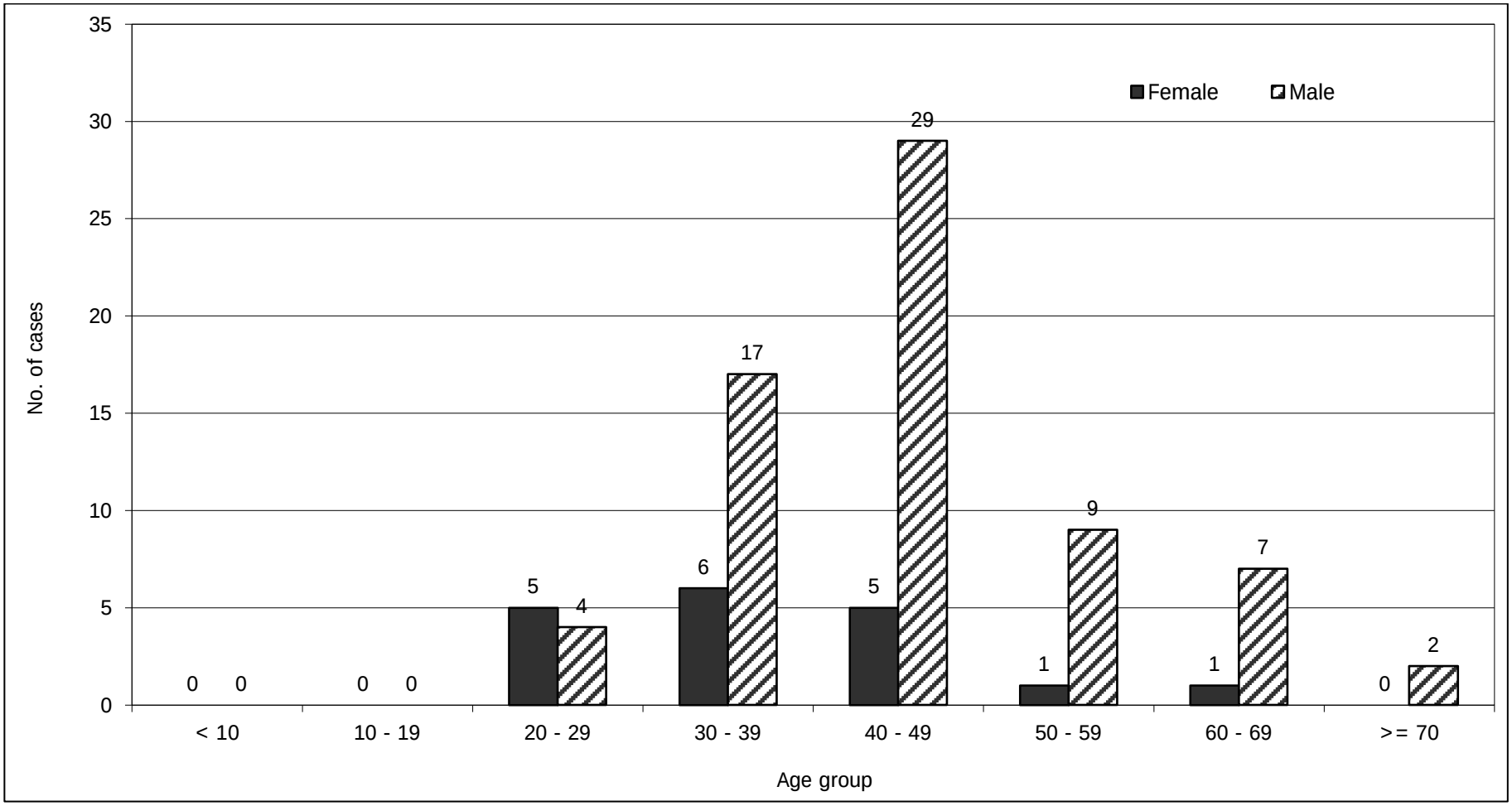
(a) Median age of reported HIV/AIDS cases

Year	HIV			AIDS		
	Median age	Inter quartile range		Median age	Inter quartile range	
		25%	75%		25%	75%
1992	34	28	39.75	39	35.25	44
1993	33	27.5	39	38	30.5	40.5
1994	34	28	40	36	33	40
1995	32	26	40	36	30	44.25
1996	34	30	41	38	31.5	42.5
1997	35	29	42	37	32	48
1998	34	29	40	39	32	47.5
1999	35	29	43	40	34	51
2000	35	29	43	40	33.5	49.5
2001	34.5	29	42	38	30.75	46.25
2002	36	30	44	41	34	48
2003	36	31	45	39	35	49.25
2004	36	30	44	42	35	51
2005	36	30	44	40	33.75	47.25
2006	34	28	42	38	31	47
2007	34	29	41	41	34	50.5
2008	36	29	45	41	34	54
2009	36	29	44	41	34	51
2010	36	30	44	42	37	53
2011	37	30	47	41	34	48.5
2012	36	29	44	42	35	49
Cumulative (1984 – 2012)	35	29	43	40	33	48

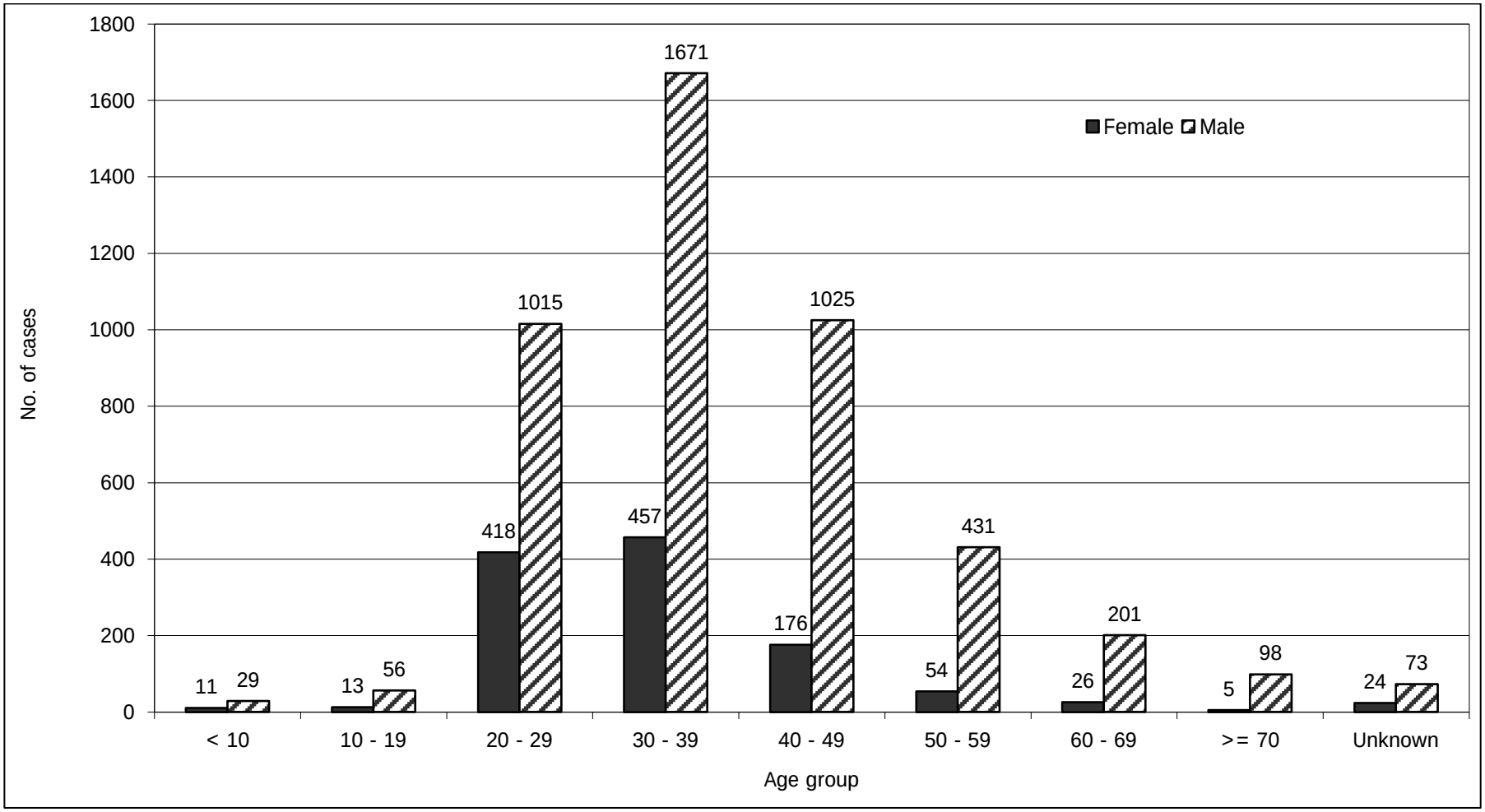
(b) Age & gender of reported HIV cases (Year 2012)



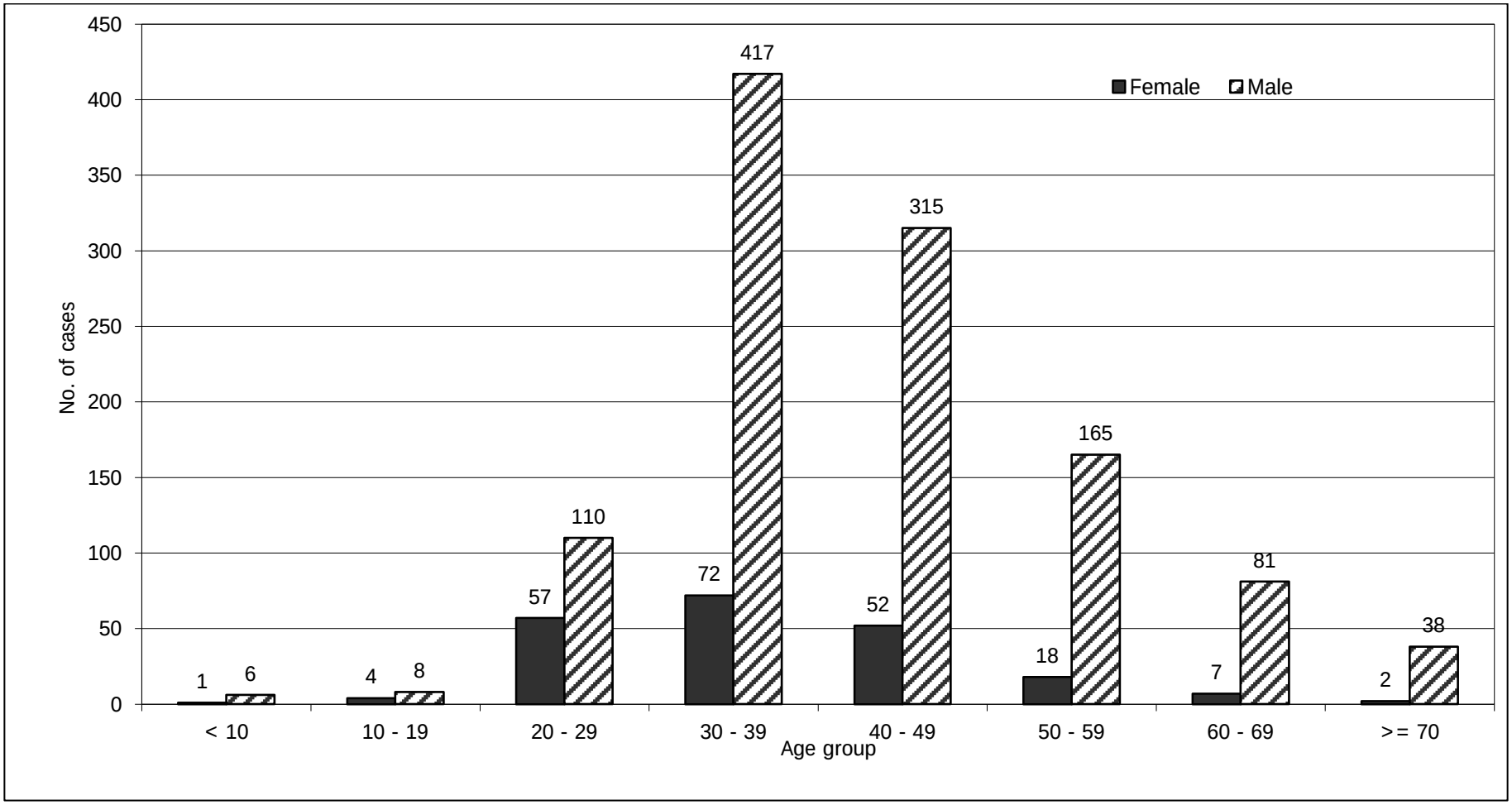
(c) Age & gender of reported AIDS cases (Year 2012)



(d) Age & gender of reported HIV cases (cumulative, 1984 - 2012)



(e) Age & gender of reported AIDS cases (cumulative, 1985 - 2012)



(f) Adults & children with reported HIV/AIDS in 2012

Age	HIV			AIDS		
	Male	Female	Total	Male	Female	Total
Adult	399	113	512	68	18	86
Children (age <=13)	0	1	1	0	0	0
Total	399	114	513	68	18	86

Box 2.5 Exposure category of reported HIV/AIDS case

(a) Distribution of reported HIV cases by exposure category (1993 - 2012)

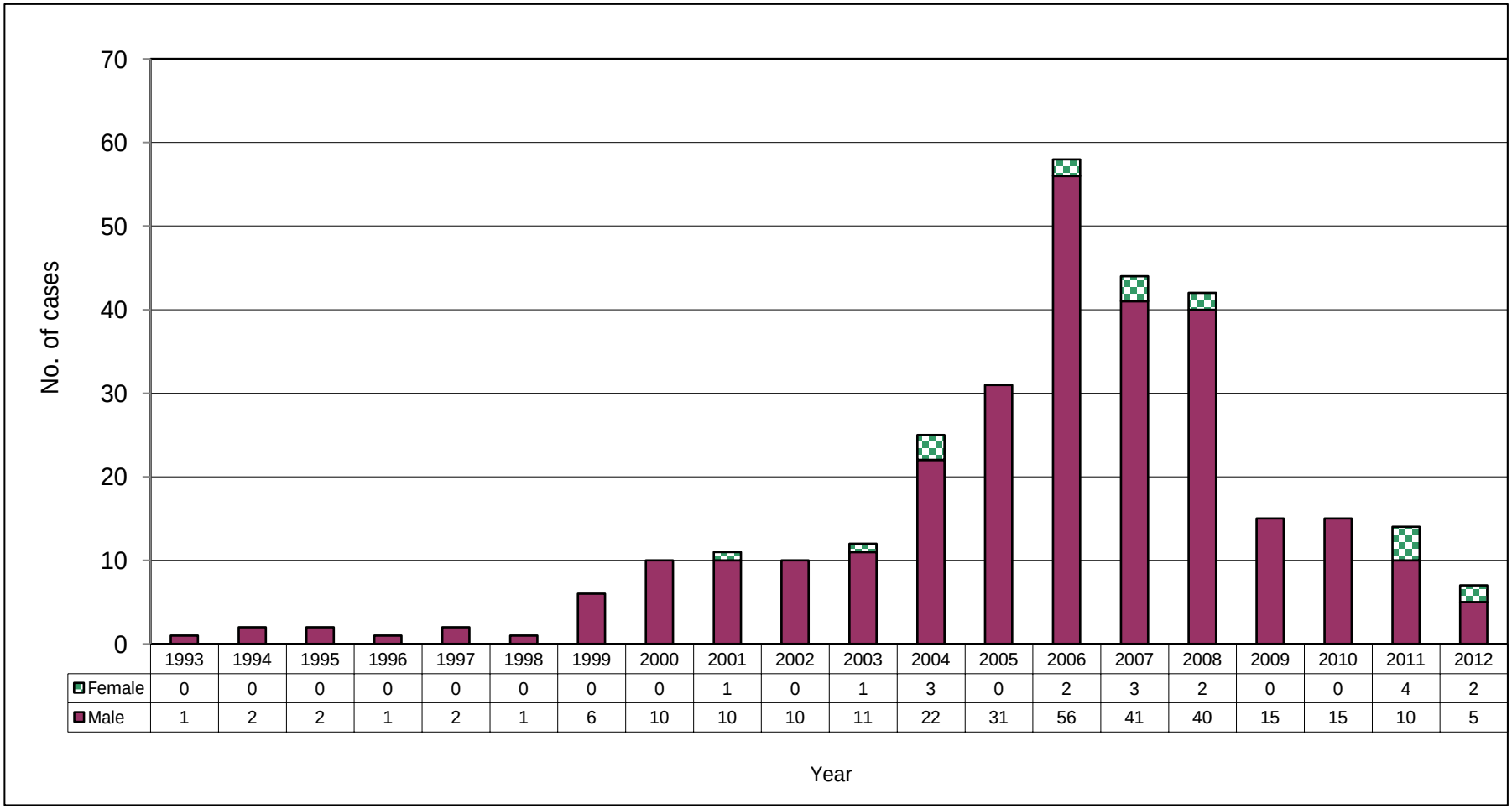
Year / Exposure Category (%)	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Cumulative (1984 - 2012)
Heterosexual	47 (59%)	73 (70%)	81 (66%)	94 (70%)	117 (65%)	135 (71%)	127 (60%)	115 (63%)	127 (60%)	146 (56%)	116 (51%)	112 (42%)	117 (37%)	130 (35%)	112 (27%)	144 (33%)	116 (29%)	120 (31%)	117 (27%)	133 (26%)	2373 (41%)
Homosexual	20 (25%)	22 (21%)	26 (21%)	20 (15%)	33 (18%)	16 (8%)	34 (16%)	22 (12%)	37 (17%)	48 (18%)	46 (20%)	62 (23%)	87 (28%)	110 (29%)	160 (39%)	139 (32%)	165 (42%)	146 (38%)	178 (41%)	243 (47%)	1723 (30%)
Bisexual	2 (3%)	4 (4%)	4 (3%)	3 (2%)	10 (6%)	6 (3%)	10 (5%)	7 (4%)	7 (3%)	9 (3%)	5 (2%)	6 (2%)	11 (4%)	15 (4%)	19 (5%)	18 (4%)	9 (2%)	23 (6%)	17 (4%)	17 (3%)	235 (4%)
Injecting drug use	1 (1%)	2 (2%)	2 (2%)	1 (1%)	2 (1%)	1 (1%)	6 (3%)	10 (5%)	11 (5%)	10 (4%)	12 (5%)	25 (9%)	31 (10%)	58 (16%)	44 (11%)	42 (10%)	15 (4%)	15 (4%)	14 (3%)	7 (1%)	317 (5%)
Blood contact	1 (1%)	1 (1%)	0 (0%)	0 (0%)	1 (1%)	0 (0%)	2 (1%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	4 (1%)	0 (0%)	2 (0.5%)	3 (1%)	1 (0.3%)	0 (0%)	2 (0.5%)	1 (0.2%)	82 (1%)
Perinatal	0 (0%)	1 (1%)	2 (2%)	1 (1%)	0 (0%)	2 (1%)	4 (2%)	2 (1%)	2 (1%)	1 (0.4%)	0 (0%)	0 (0%)	2 (1%)	2 (1%)	1 (0.2%)	0 (0%)	3 (1%)	3 (1%)	0 (0%)	1 (0.2%)	27 (0%)
Undetermined	8 (10%)	1 (1%)	7 (6%)	15 (11%)	18 (10%)	29 (15%)	30 (14%)	27 (15%)	29 (14%)	46 (18%)	50 (22%)	63 (24%)	61 (19%)	58 (16%)	76 (18%)	89 (20%)	87 (22%)	82 (21%)	110 (25%)	111 (22%)	1026 (18%)
Total	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%)	389 (100%)	438 (100%)	513 (100%)	5783 (100%)

(b) Distribution of reported AIDS cases by exposure category (1993 - 2012)

Year / Exposure Category (%)	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Cumulative (1985 - 2012)
Heterosexual	10 (53%)	16 (43%)	31 (69%)	55 (79%)	44 (69%)	50 (79%)	44 (72%)	56 (84%)	49 (82%)	38 (72%)	46 (82%)	35 (71%)	38 (59%)	30 (41%)	40 (51%)	52 (54%)	35 (46%)	36 (46%)	29 (35%)	39 (45%)	788 (58%)
Homosexual	7 (37%)	13 (35%)	9 (20%)	6 (9%)	10 (16%)	6 (10%)	8 (13%)	1 (1%)	5 (8%)	8 (15%)	7 (13%)	8 (16%)	13 (20%)	21 (29%)	20 (25%)	25 (26%)	28 (37%)	27 (34%)	32 (39%)	34 (40%)	320 (24%)
Bisexual	1 (5%)	4 (11%)	3 (7%)	1 (1%)	3 (5%)	1 (2%)	1 (2%)	1 (1%)	2 (3%)	2 (4%)	0 (0%)	0 (0%)	3 (5%)	3 (4%)	1 (1%)	3 (3%)	3 (4%)	5 (6%)	4 (5%)	4 (5%)	56 (4%)
Injecting drug use	1 (5%)	0 (0%)	1 (2%)	1 (1%)	1 (2%)	0 (0%)	1 (2%)	2 (3%)	1 (2%)	1 (2%)	0 (0%)	3 (6%)	1 (2%)	11 (15%)	9 (11%)	9 (9%)	2 (3%)	3 (4%)	5 (6%)	2 (2%)	55 (4%)
Blood contact	0 (0%)	3 (8%)	0 (0%)	2 (3%)	1 (2%)	1 (2%)	2 (3%)	1 (1%)	0 (0%)	0 (0%)	1 (2%)	0 (0%)	1 (2%)	0 (0%)	1 (1%)	2 (2%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	24 (2%)
Perinatal	0 (0%)	1 (3%)	1 (2%)	0 (0%)	0 (0%)	1 (2%)	1 (2%)	1 (1%)	1 (2%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (1%)	1 (1%)	0 (0%)	0 (0%)	8 (1%)
Undetermined	0 (0%)	0 (0%)	0 (0%)	5 (7%)	5 (8%)	4 (6%)	4 (7%)	5 (7%)	2 (3%)	4 (8%)	2 (4%)	3 (6%)	8 (13%)	8 (11%)	8 (10%)	5 (5%)	7 (9%)	7 (9%)	12 (15%)	7 (8%)	102 (8%)
Total	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%)	79 (100%)	82 (100%)	86 (100%)	1353 (100%)

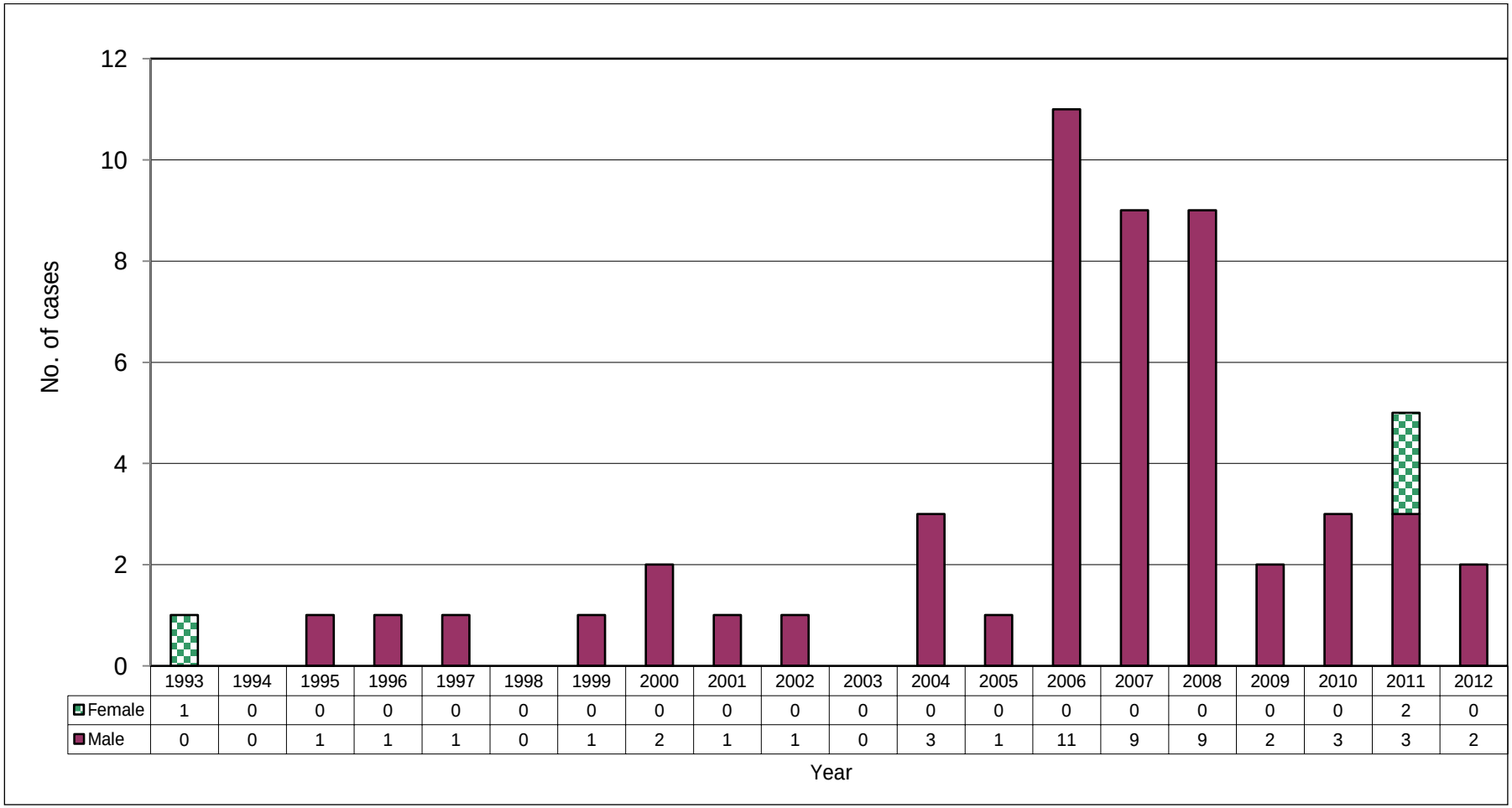
Box 2.6 Reported HIV/AIDS cases in injecting drug users (1993 – 2012)

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



	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Female	0	0	0	0	0	0	0	0	1	0	1	3	0	2	3	2	0	0	4	2
Male	1	2	2	1	2	1	6	10	10	10	11	22	31	56	41	40	15	15	10	5

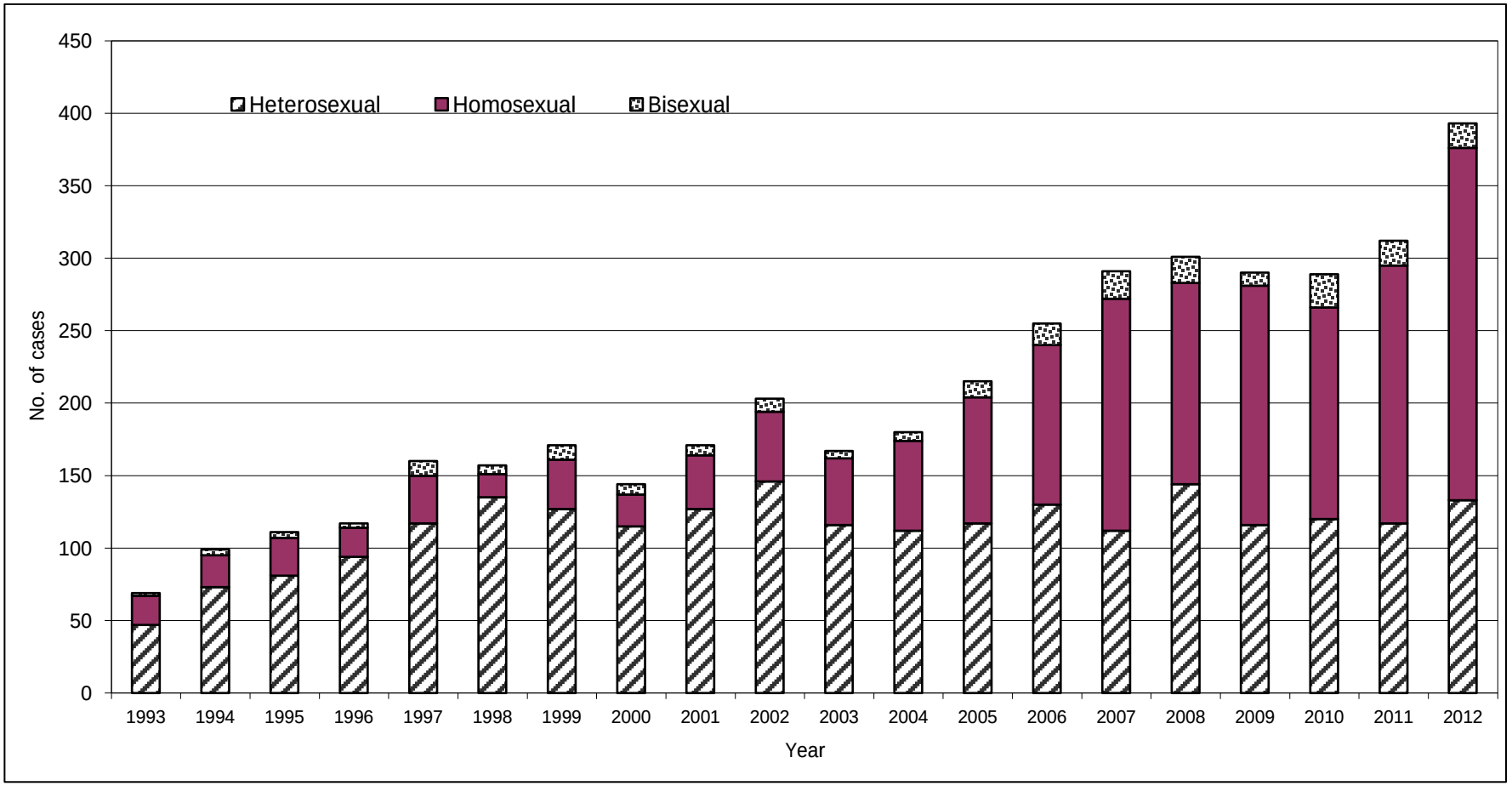
(b) Reported AIDS case in injecting drug users - by gender



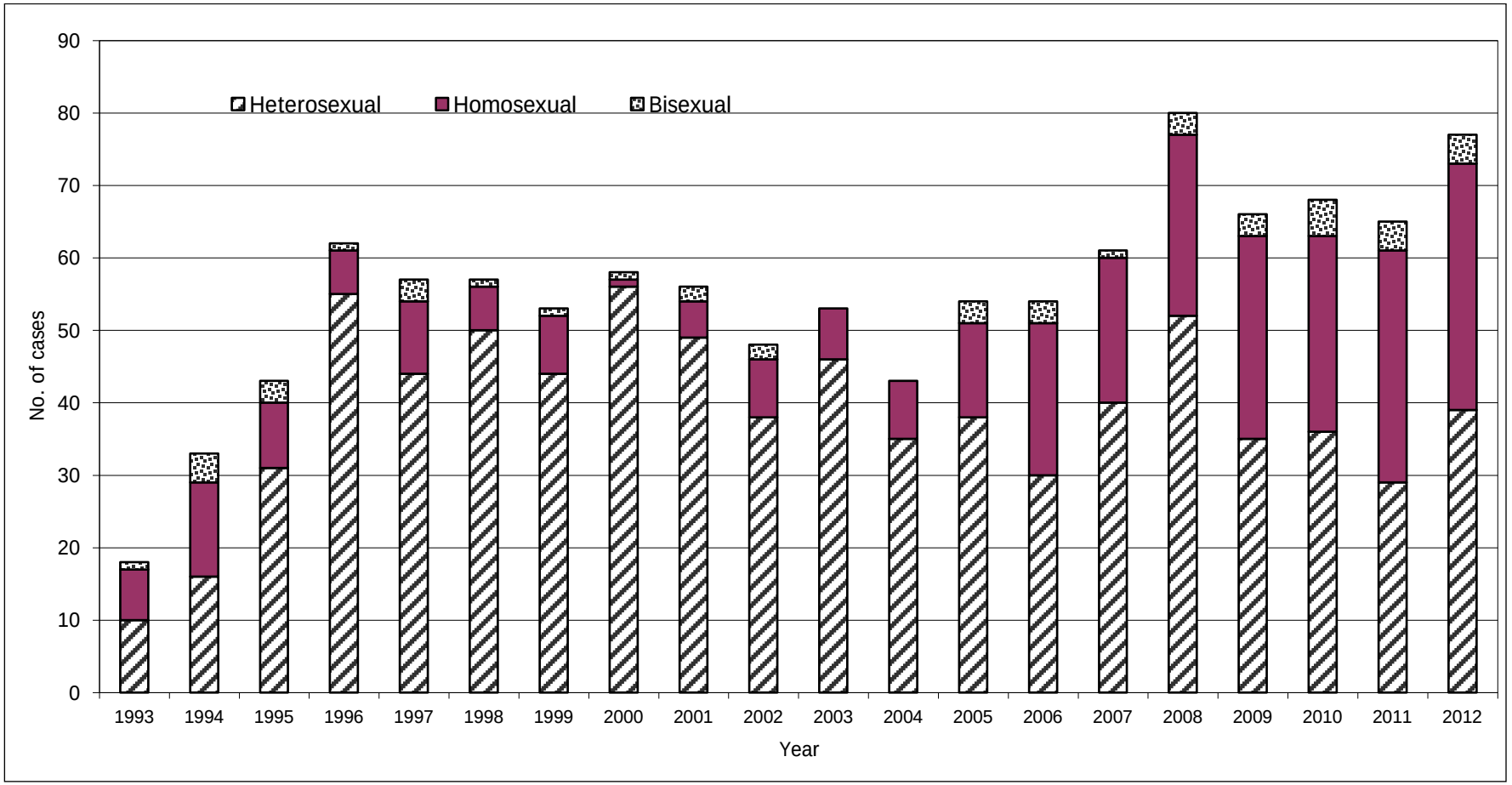
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Female	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Male	0	0	1	1	1	0	1	2	1	1	0	3	1	11	9	9	2	3	3	2

Box 2.7 Reported sexually acquired HIV/AIDS cases (1993 – 2012)

(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
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	1.6 : 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
2010	0.4 : 1	0.8 : 1
2011	0.3 : 1	0.4 : 1
2012	0.3 : 1	0.6 : 1
Cumulative (1984 – 2012)	**0.8 : 1**	**1.6 : 1**

Box 2.8 Profile of primary AIDS defining illnesses (ADI) (1993 - 2012)

Year / ADI (%)	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Cumulative (1993 - 2012)
Pneumocystic Pneumonia (PCP)	10 (53%)	12 (32%)	17 (38%)	21 (30%)	20 (31%)	26 (41%)	23 (38%)	30 (45%)	26 (43%)	25 (47%)	22 (39%)	22 (45%)	20 (31%)	27 (37%)	28 (35%)	37 (39%)	32 (42%)	36 (46%)	37 (45%)	39 (45%)	541 (40%)
Mycobacterium Tuberculosis	2 (11%)	4 (11%)	8 (18%)	21 (30%)	17 (27%)	18 (29%)	13 (21%)	19 (28%)	17 (28%)	9 (17%)	15 (27%)	13 (27%)	25 (39%)	26 (36%)	32 (41%)	32 (33%)	24 (32%)	20 (25%)	22 (27%)	15 (17%)	359 (27%)
Other fungal infections	1 (5%)	4 (11%)	7 (16%)	6 (9%)	10 (16%)	8 (13%)	5 (8%)	4 (6%)	5 (8%)	8 (15%)	4 (7%)	6 (12%)	5 (8%)	4 (5%)	3 (4%)	3 (3%)	6 (8%)	5 (6%)	8 (10%)	10 (12%)	122 (9%)
Penicilliosis	1 (5%)	6 (16%)	7 (16%)	7 (10%)	5 (8%)	2 (3%)	7 (11%)	5 (7%)	1 (2%)	7 (13%)	5 (9%)	4 (8%)	7 (11%)	11 (15%)	4 (5%)	6 (6%)	1 (1%)	6 (8%)	2 (2%)	6 (7%)	102 (8%)
Cytomegalovirus diseases	2 (11%)	1 (3%)	3 (7%)	4 (6%)	4 (6%)	3 (5%)	2 (3%)	3 (4%)	2 (3%)	0 (0%)	3 (5%)	1 (2%)	2 (3%)	3 (4%)	4 (5%)	6 (6%)	3 (4%)	3 (4%)	5 (6%)	4 (5%)	62 (5%)
Non-TB mycobacterial infections	1 (5%)	0 (0%)	0 (0%)	2 (3%)	1 (2%)	0 (0%)	5 (8%)	1 (1%)	5 (8%)	2 (4%)	1 (2%)	2 (4%)	0 (0%)	1 (1%)	0 (0%)	1 (1%)	2 (3%)	0 (0%)	0 (0%)	2 (2%)	30 (2%)
Kaposi's sarcoma	0 (0%)	4 (11%)	1 (2%)	2 (3%)	3 (5%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (2%)	0 (0%)	1 (2%)	0 (0%)	1 (1%)	4 (4%)	2 (3%)	1 (1%)	2 (2%)	1 (1%)	30 (2%)
Others	2 (11%)	6 (16%)	2 (4%)	7 (10%)	4 (6%)	6 (10%)	6 (10%)	5 (7%)	4 (7%)	2 (4%)	5 (9%)	1 (2%)	4 (6%)	1 (1%)	7 (9%)	7 (7%)	6 (8%)	8 (10%)	6 (7%)	9 (10%)	107 (8%)
Total	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%)	79 (100%)	82 (100%)	86 (100%)	1353 (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

Target population	Setting	System	Since	Sample size	Data available in 2012
(a) Community with predisposing risk factors					
STI patients	Social Hygiene Clinics	Voluntary testing offered to clients	1985	Around 25000 – 40000 / year	Yes
Drug users (1)	Methadone Clinics	Universal HIV Antibody (Urine samples) Testing Programme	2003	Around 6000 – 9000 / year	Yes
Drug users (2)	Inpatient drug treatmet centres/institution	Unlinked anonymous screening (Urine samples)	1998	Around 150 – 700 / year	Yes
Men who have Sex with Men (MSM)	AIDS Concern	Voluntary testing offered to MSM (rapid tests)	2000	Around 200 - 1500 / year	Yes
	HIV Prevalence and Risk behavioural Survey of Men who have sex with men in Hong Kong(PRISM)	Unlinked anonymous screening (urine samples) Voluntary testing (urine samples)	2006 round 2008,2011 rounds	Around 800 / study	No
Female Sex Worker (FSW)	Community Based Risk Behavioral and Seroprevalence Survey for Female Sex Workers in Hong Kong (CRISP)	Unlinked anonymous screening (urine samples) Voluntary testing (urine samples)	2006 round 2008 round	Around 900/study	No
(b) Community without known risk factors					
Blood donors	Hong Kong Red Cross Blood Transfusion Service	A requirement for all potential donors	1985	Around 180000 – 240000 / year	Yes
Antenatal women	All maternal and child health centres and public hospitals	Universal voluntary testing (blood samples)	Sept 2001	Around 40000 - 50000/ year	Yes
(c) Community with undefined risk					
TB patients (2)	TB and Chest Clinics of the Department of Health	Voluntary testing (blood samples)	1993	Around 2000 – 4500 / year	Yes
Prisoners	Penal institutions	Unlinked anonymous screening (blood /urine samples)	1992	Around 1500 – 2500 / year	Yes

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 (2003 - 2012)

Year	Units of blood donated	No. of units anti-HIV+	Positive detection rate of donated units (%)	95% C.I. for prevalence (%)
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)
2010	224,483	4	0.002	(0.0005 - 0.0046)
2011	234,086	5	0.002	(0.0007 - 0.0050)
2012	241,804	8	0.003	(0.0014 - 0.0065)

(b) HIV prevalence in new and repeat blood donors (2003 - 2012)

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. (%))
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)
2010	41,980	2	0.005 (0.0006 – 0.0172)	182,503	2	0.001 (0.0001 – 0.0040)
2011	42,684	2	0.005 (0.0006 – 0.0169)	191,402	3	0.002 (0.0003 – 0.0046)
2012	42,083	3	0.007 (0.0015– 0.0208)	199,721	5	0.003 (0.0008– 0.0058)

Box 3.2 HIV prevalence in clients attending Social Hygiene Services, from voluntary blood testing (2003 – 2012)

Year	No. of blood samples	No. of samples tested anti-HIV+	Prevalence (%)	95% C.I. for prevalence (%)
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)
2010	26,300	40	0.152	(0.109 - 0.207)
2011	25,599	44	0.172	(0.125 - 0.231)
2012	26,679	55	0.206	(0.155 - 0.268)

Box 3.3 HIV prevalence in drug users attending methadone clinics from Universal HIV Antibody (Urine) Testing Programme (2003 - 2012)

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)
2010	7,445	36	0.484	(0.339 - 0.669)
2011	6,960	37	0.53	(0.374 - 0.733)
2012	6,742	42	0.62	(0.449 - 0.842)

Box 3.4 HIV prevalence in drug users attending inpatient drug treatment centres / institutions, from unlinked anonymous screening (2003 - 2012)

Year	No. of urine samples	No. of samples tested anti-HIV+	Prevalence (%)	95% C.I. for prevalence (%)
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)
2010	165	0	0	(--- - ---)
2011	396	1	0.253	(0.006 - 1.407)
2012	205	2	0.976	(0.118 - 3.524)

* Unlinked anonymous screening was not performed in 2004;

Box 3.5 HIV prevalence in newly admitted prisoners from unlinked anonymous screening (2003 - 2012)

Year	No. of Samples*	No. of samples tested anti-HIV+	Prevalence (%)	95% C.I. for prevalence (%)
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)
2010	1,450	14	0.966	(0.528 - 1.620)
2011	1,445	27	1.869	(1.231 - 2.718)
2012	1,493	11	0.737	(0.368 - 1.318)

Box 3.6 HIV prevalence in patients attending government TB & Chest Clinics, from voluntary blood testing (1993 - 2012)

Year	No. of blood samples	Coverage*		No. of anti-HIV+	Prevalence (%)	95% C.I. for prevalence (%)
		A	B			
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%	76.9%	40	1.002	(0.716 - 1.364)
2010	3,833	90.2%	75.3%	28	0.730	(0.485 - 1.056)
2011	3,656	90.6%	76.3%#	33	0.903	(0.621 - 1.268)
2012	3,707	91.2%	74.6%**	22	0.593	(0.372 - 0.899)

* 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

** provisional figure

Box 3.7 HIV prevalence among antenatal women from Universal Antenatal HIV Antibody Testing Programme (2003 - 2012)

Year	Number of blood samples	Coverage*	Number of positive tests	Prevalence (%)	95% C.I. for prevalence (%)
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)
2010	55,147	98.6%	10	0.02	(0.0088 - 0.0338)
2011	56,674	98.8%	6	0.01	(0.0039 - 0.0233)
2012	53,857	98.6%	9	0.02	(0.0077 - 0.0322)

* coverage is the proportion of women attending public antenatal services who have been tested for HIV

Box 3.8 HIV prevalence among MSM tested by AIDS Concern (2003 - 2012)

Year	Number of test*	Number of positive tests	Prevalence (%)	95% C.I. for prevalence (%)
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)
2010	854	18	2.11	(1.249 - 3.331)
2011	1,026	20	1.95	(1.191 - 3.011)
2012	1,492	30	2.01	(1.357 - 2.871)

* HIV rapid test

Box 3.9 HIV prevalence among MSM – PRISM* (2006, 2009 and 2011)

Year	Number of urine specimen collected	Number of positive tests	Crude Prevalence (%)	Adjusted Prevalence (%)	95% C.I. for adjusted prevalence (%)
2006	859	37	4.31	4.05	(3.03 - 5.94)
2008	833	37	4.44	4.31	(2.95 - 5.67)
2011	816	30	3.68	4.08	(3.44 - 4.85)

*PRISM: HIV Prevalence and Risk behavioural Survey of Men who have sex with men in Hong Kong, a venue based survey including bars and saunas both in 2006 and 2008 round. Beaches was also added in 2011 round.

Box 3.10 HIV prevalence among Female Sex Workers – CRISP* (2006 and2009)

Year	Number of urine specimen collected	Number of positive tests	Adjusted Prevalence (%)
2006	996	5	0.19
2009	986	2	0.05

*CRISP: Community Based Risk Behavioural and Seroprevalence Survey for Female Sex Workers in Hong Kong, a venue based survey including one woman brothels, bars, night clubs, sauna, karaokes etc in 2006 and 2009 round.

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, and Shek Wu Hui[5].

[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

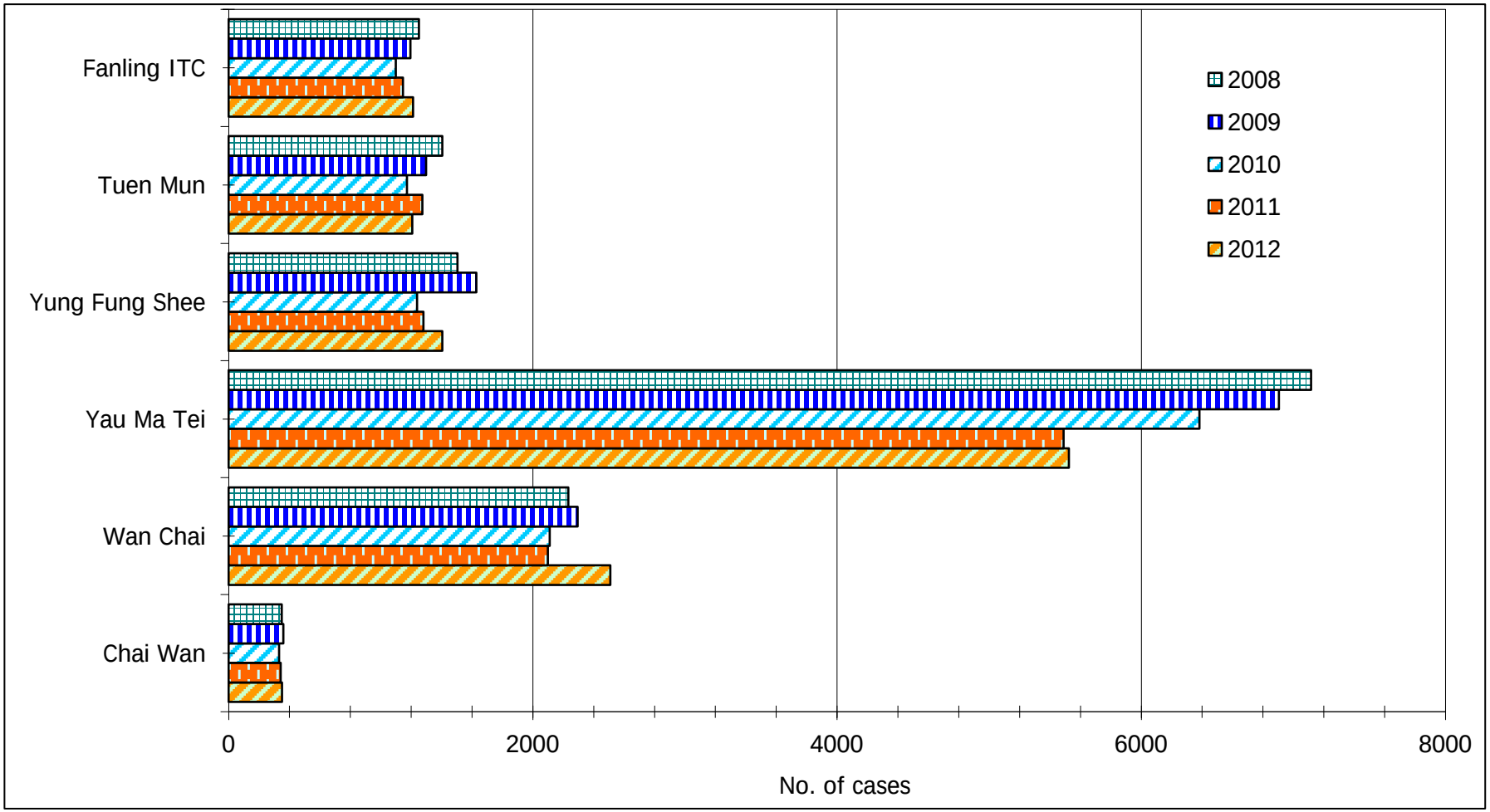
Box 4.1 Total number of STI newly reported by individual Social Hygiene Clinic

(a) Year 2012

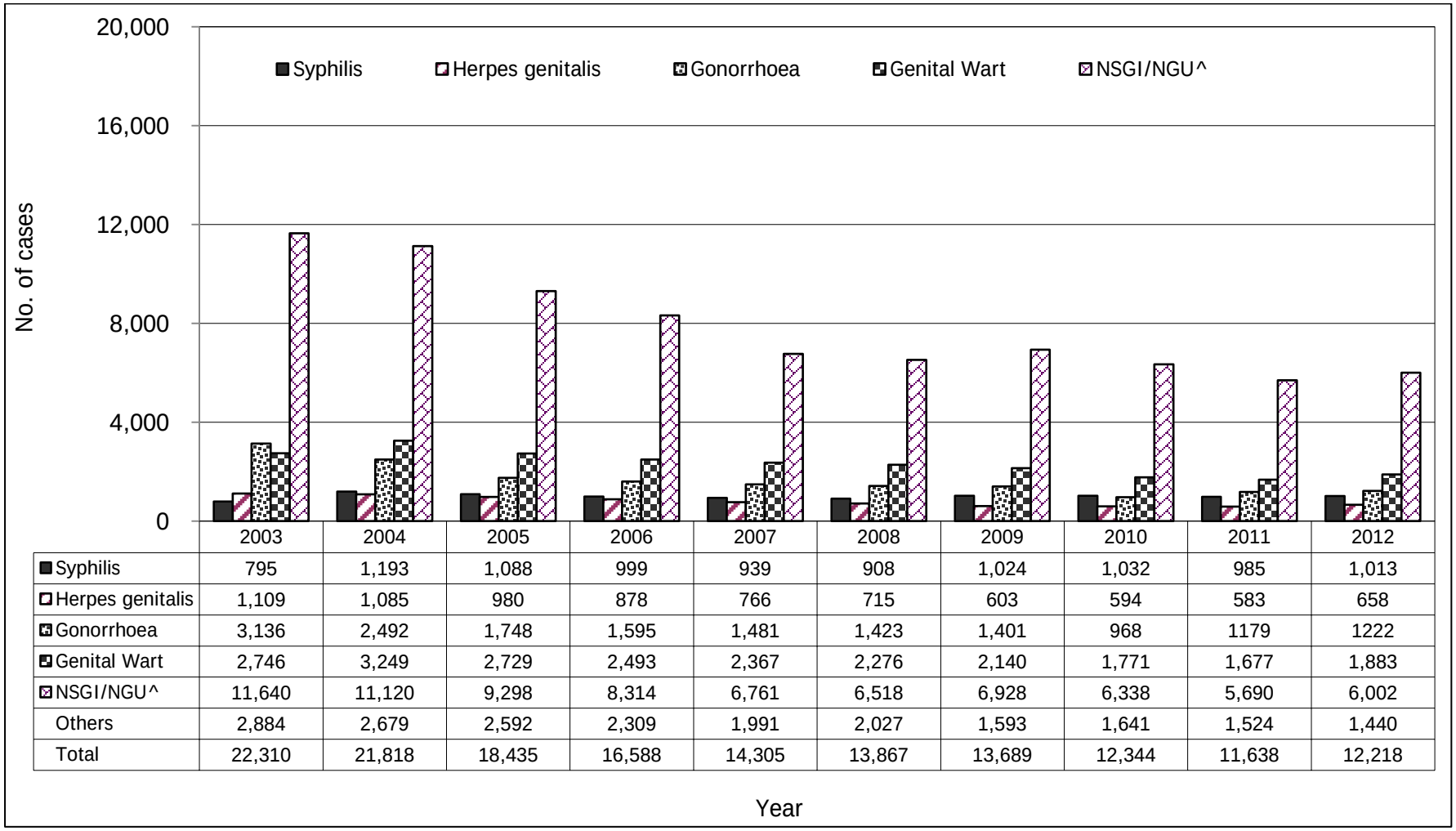
	Chai Wan	Wan Chai	Yau Ma Tei	Yung Fung Shee	TuenMun	Fanling ITC#	Total
Male	161	1,599	3,204	919	628	645	7,156
Female	191	912	2,322	487	581	569	5,062
Total	352	2,511	5,526	1,406	1,209	1,214	12,218

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

(b) 2008 - 2012


Fanling ITC
Tuen Mun
Yung Fung Shee
Yau Ma Tei
Wan Chai
Chai Wan
2008
2009
2010
2011
2012
0
2000
4000
6000
8000
No. of cases

Box 4.2 Annual newly reported STIs in Social Hygiene Clinics



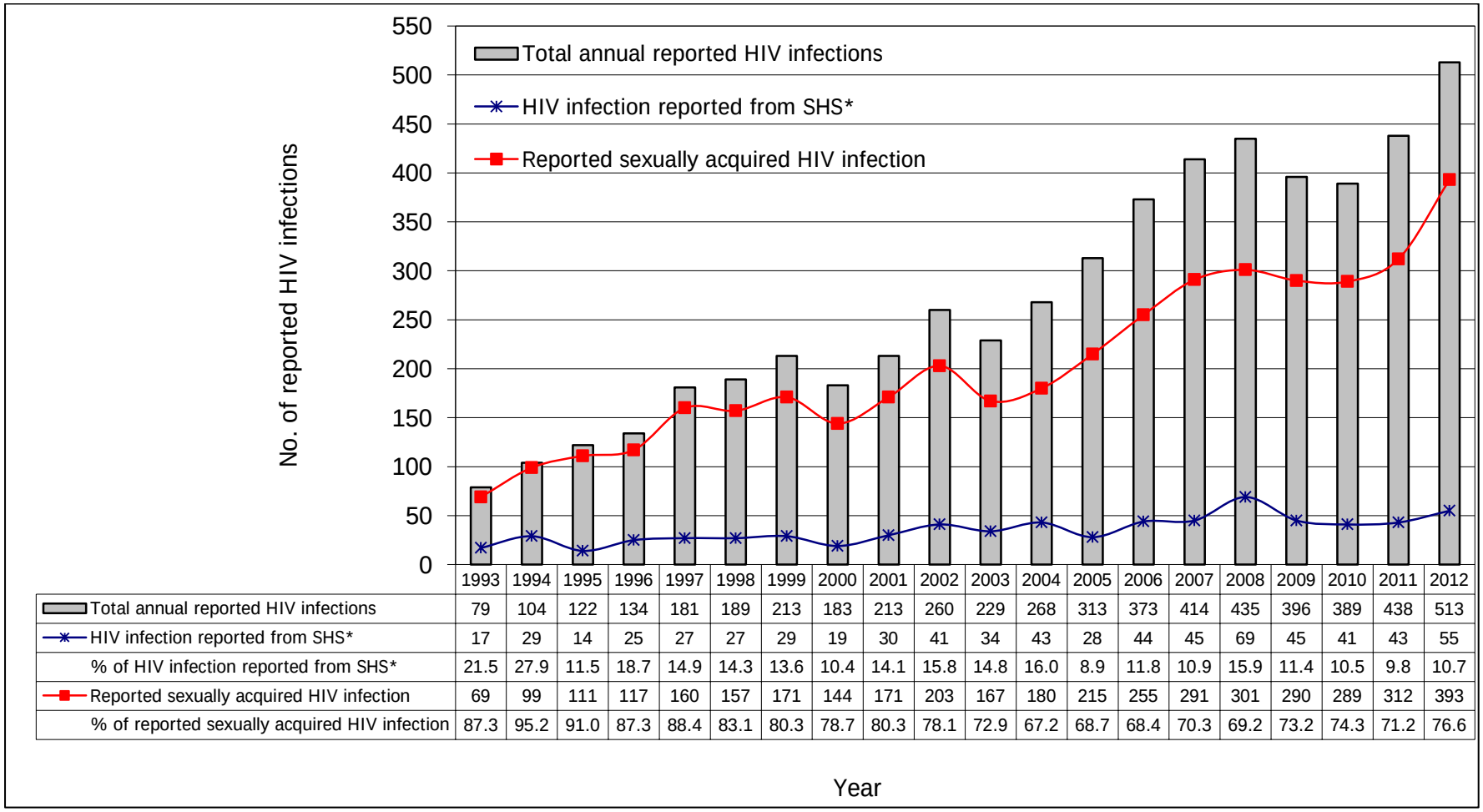
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Syphilis	795	1,193	1,088	999	939	908	1,024	1,032	985	1,013
Herpes genitalis	1,109	1,085	980	878	766	715	603	594	583	658
Gonorrhoea	3,136	2,492	1,748	1,595	1,481	1,423	1,401	968	1179	1222
Genital Wart	2,746	3,249	2,729	2,493	2,367	2,276	2,140	1,771	1,677	1,883
NSGI/NGU^	11,640	11,120	9,298	8,314	6,761	6,518	6,928	6,338	5,690	6,002
Others	2,884	2,679	2,592	2,309	1,991	2,027	1,593	1,641	1,524	1,440
Total	22,310	21,818	18,435	16,588	14,305	13,867	13,689	12,344	11,638	12,218

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

Box 4.3 Syphilis newly reported by Social Hygiene Clinics (2008 - 2012)

Year / Syphilis	2008	2009	2010	2011	2012
Primary	45	63	50	52	46
Secondary	56	69	54	51	58
Early latent	82	61	91	64	45
Late latent	720	816	821	805	859
Late (cardiovascular / neuro)	5	12	16	8	3
Congenital (early)	0	0	0	0	0
Congenital (late)	0	3	0	5	2
Total	908	1,024	1,032	985	1,013

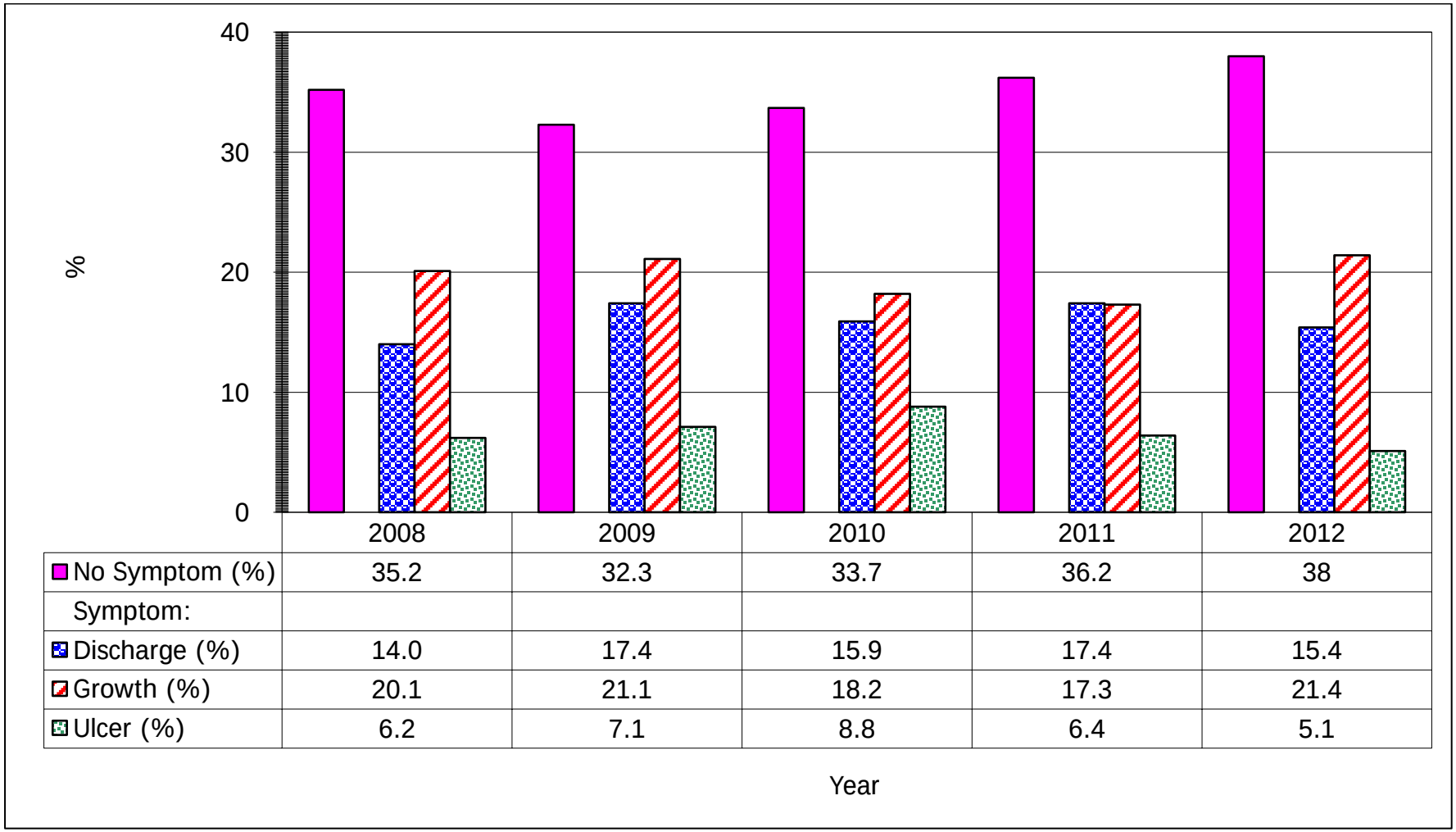
Box 4.4 Sexually acquired HIV infection in Hong Kong (1993-2012)



	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total annual reported HIV infections	79	104	122	134	181	189	213	183	213	260	229	268	313	373	414	435	396	389	438	513
HIV infection reported from SHS*	17	29	14	25	27	27	29	19	30	41	34	43	28	44	45	69	45	41	43	55
% of HIV infection reported from SHS*	21.5	27.9	11.5	18.7	14.9	14.3	13.6	10.4	14.1	15.8	14.8	16.0	8.9	11.8	10.9	15.9	11.4	10.5	9.8	10.7
Reported sexually acquired HIV infection	69	99	111	117	160	157	171	144	171	203	167	180	215	255	291	301	290	289	312	393
% of reported sexually acquired HIV infection	87.3	95.2	91.0	87.3	88.4	83.1	80.3	78.7	80.3	78.1	72.9	67.2	68.7	68.4	70.3	69.2	73.2	74.3	71.2	76.6

* SHS: Social Hygiene Service

Box 4.5 Syndromic presentations of STI from Behavioural Survey of Social Hygiene Service (2008-2012)



	2008	2009	2010	2011	2012
No Symptom (%)	35.2	32.3	33.7	36.2	38
Symptom:					
Discharge (%)	14.0	17.4	15.9	17.4	15.4
Growth (%)	20.1	21.1	18.2	17.3	21.4
Ulcer (%)	6.2	7.1	8.8	6.4	5.1

5. TABULATED RESULTS ON BEHAVIOURAL MONITORING

System description

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

System layout

Source	Sexual behaviour	Drug-taking behaviour	Data available in 2011
AIDS Counselling and Testing Service (ACTS), Special Preventive Programme, CHP, DH	- Median no. of sex partners in heterosexual men/MSM - Recent history of commercial sex in heterosexual men - Condom use in heterosexual men/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

Box 5.1 Median number of sex partners in the previous year among adult^ heterosexual men / MSM attending AIDS Counselling and Testing Service (ACTS) (2003-2012)

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Heterosexual men - Regular sex partners*	1	1	1	1	1	1	1	1	1	1
Heterosexual men - Commercial sex partners**	2	2	2	2	2	2	3	3	2	3
Heterosexual men - Casual sex partners***	1	1	1	1	1	1	1	1	1	1
MSM - Regular sex partners*	1	1	1	1	1	1	1	1	1	1
MSM - Commercial sex partners**	2.5	2	1	1.5	1	2	3	1.5	1	2
MSM - Casual sex partners***	3	4	3	3	3	4	4	3.5	3	3

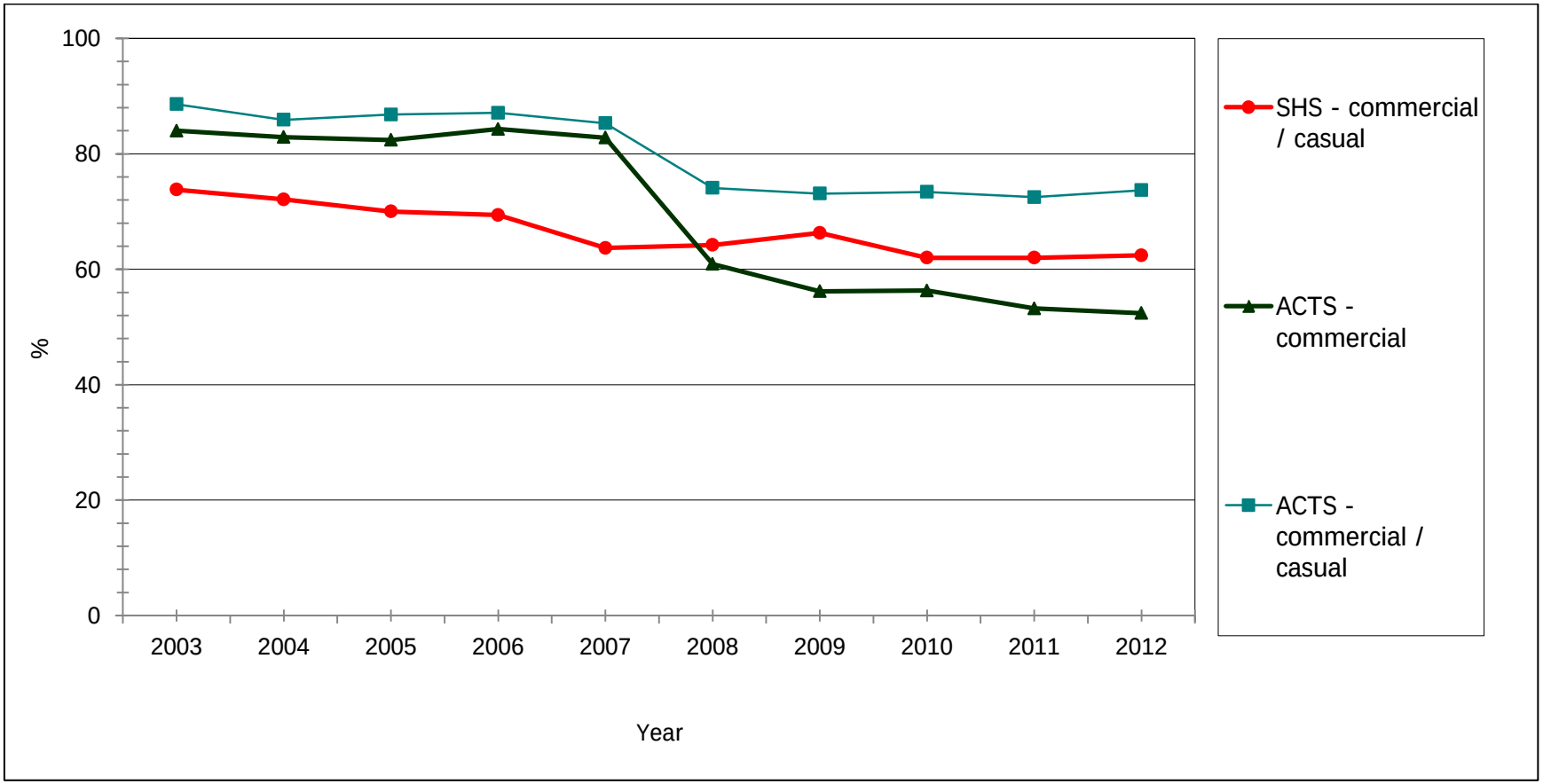
^ Adult: aged 18 or above

* Regular sex partners used to refer to long-term sex partners including spouse, mistress, and steady boyfriends/girlfriends 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 further 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.

Box 5.2 Recent history* of commercial / casual sex among adult^ heterosexual men (2003-2012)



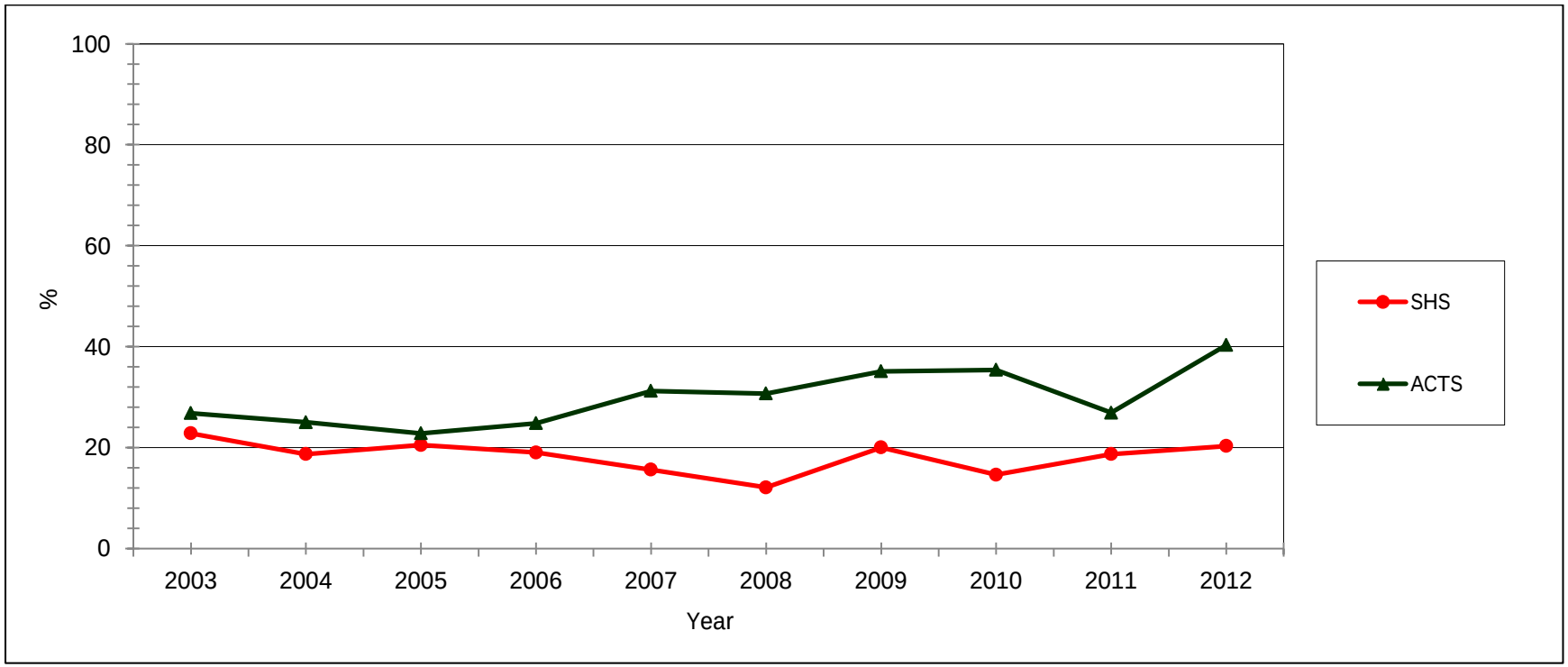
* Commercial sex partners are defined as those who have sexual intercourse in exchange for money, goods or services. Examples are female sex workers and their clients. Casual sex partners are defined as those who are non-regular and non-commercial. Examples are those on one-night stand. SHS & ACTS refers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

^ Adult: aged 18 or above

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

Box 5.3 Condom use with regular partners among adult heterosexual men

(a) Consistent condom use* with regular partners among adult^ heterosexual men (2003-2012)**



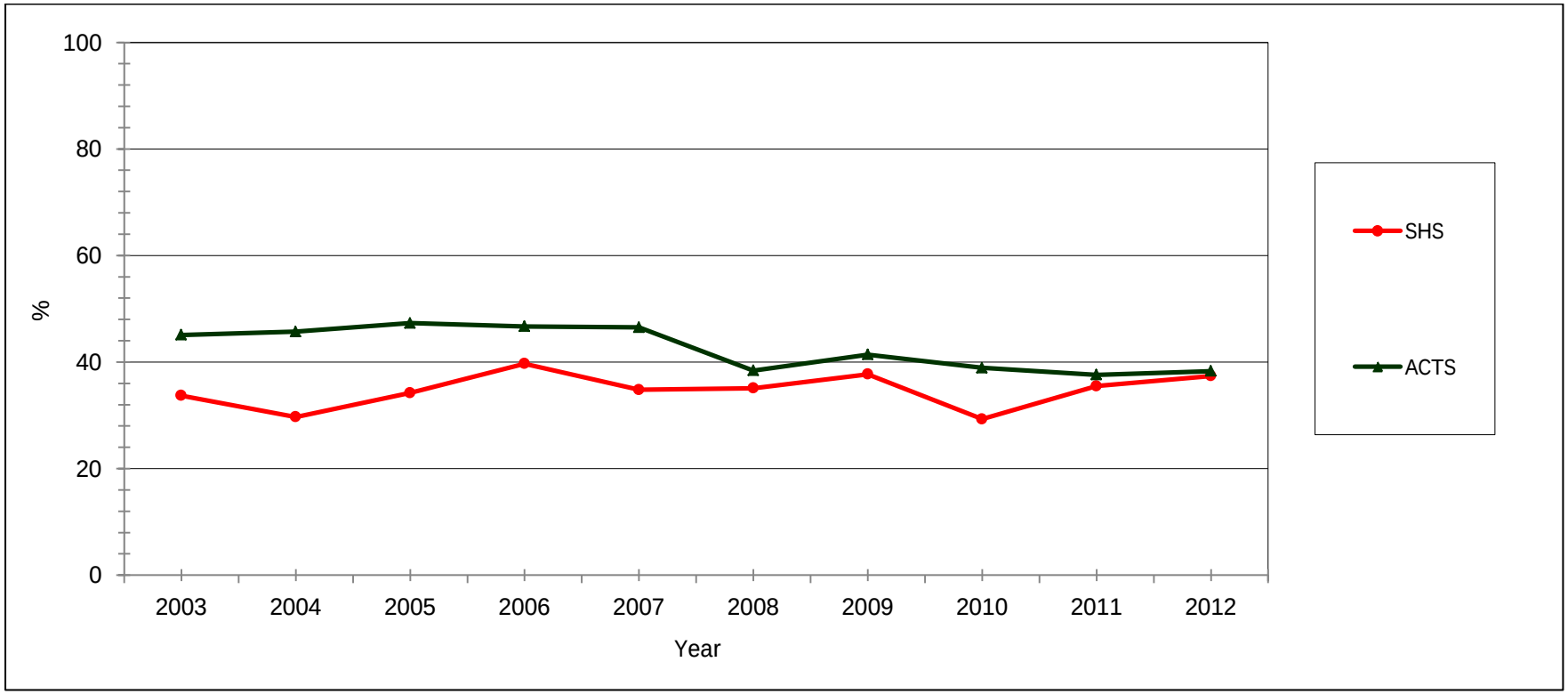
* Consistent condom use is defined as always or 100% of the time using a condom
ACTS captures such condom usage in past one year while SHS captures such usage in past 3 months

** Regular sex partners used to refer to long-term sex partners including spouse, mistress, and steady 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 further 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 (2003-2012)



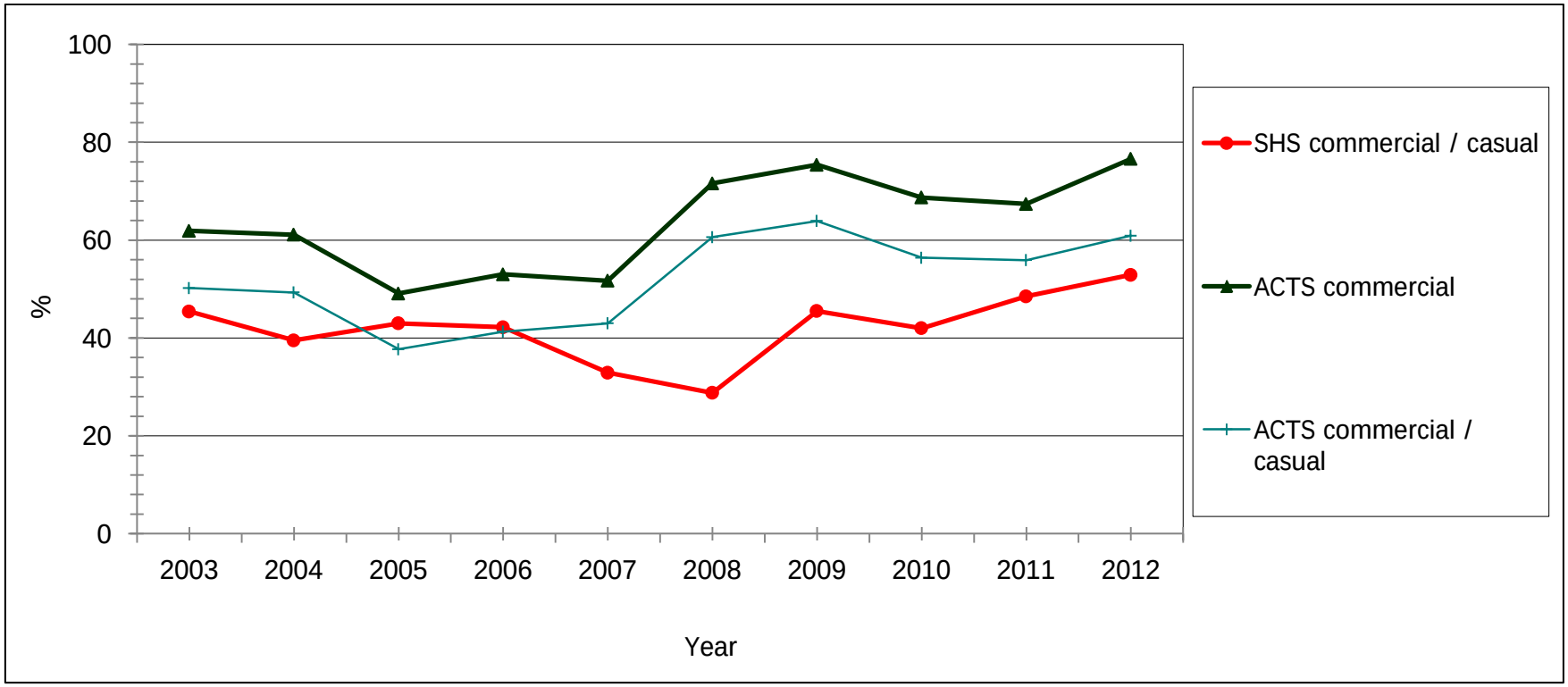
* Regular sex partners used to refer to long-term sex partners including spouse, mistress, and steady girl friends for at least one year, or if less than one year, one with whom is expected to continue sexual relationship. This definition of regular sex partners in 2008 has been futher refined to include (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

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 (2003-2012)**



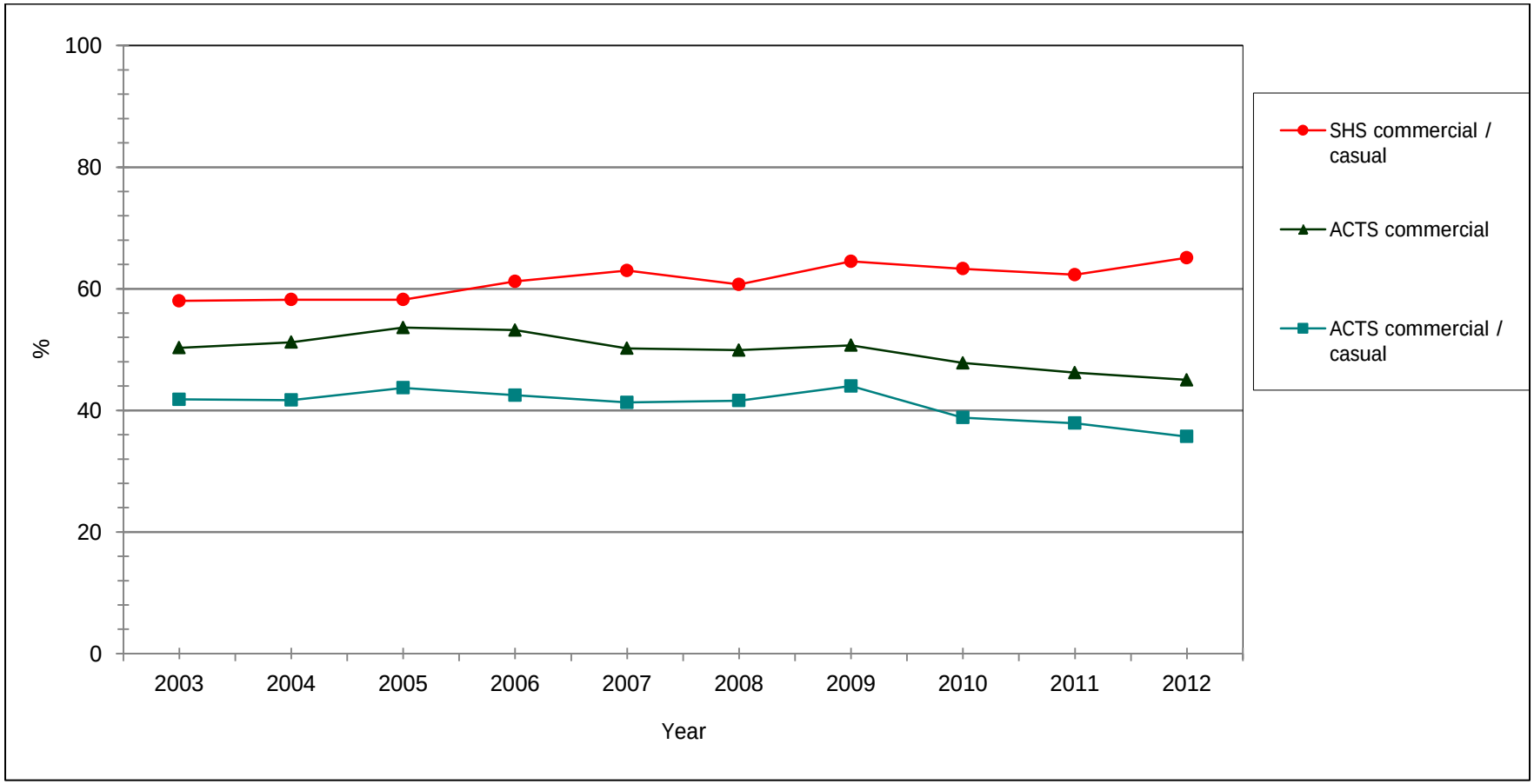
* Consistent condom use is defined as always or 100% of the time using a condom
ACTS captures such condom usage in past one year while SHS captures such usage in past 3 months

** 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

(b) Condom use for last sex with commercial / casual partners* among adult^ heterosexual men (2003-2012)



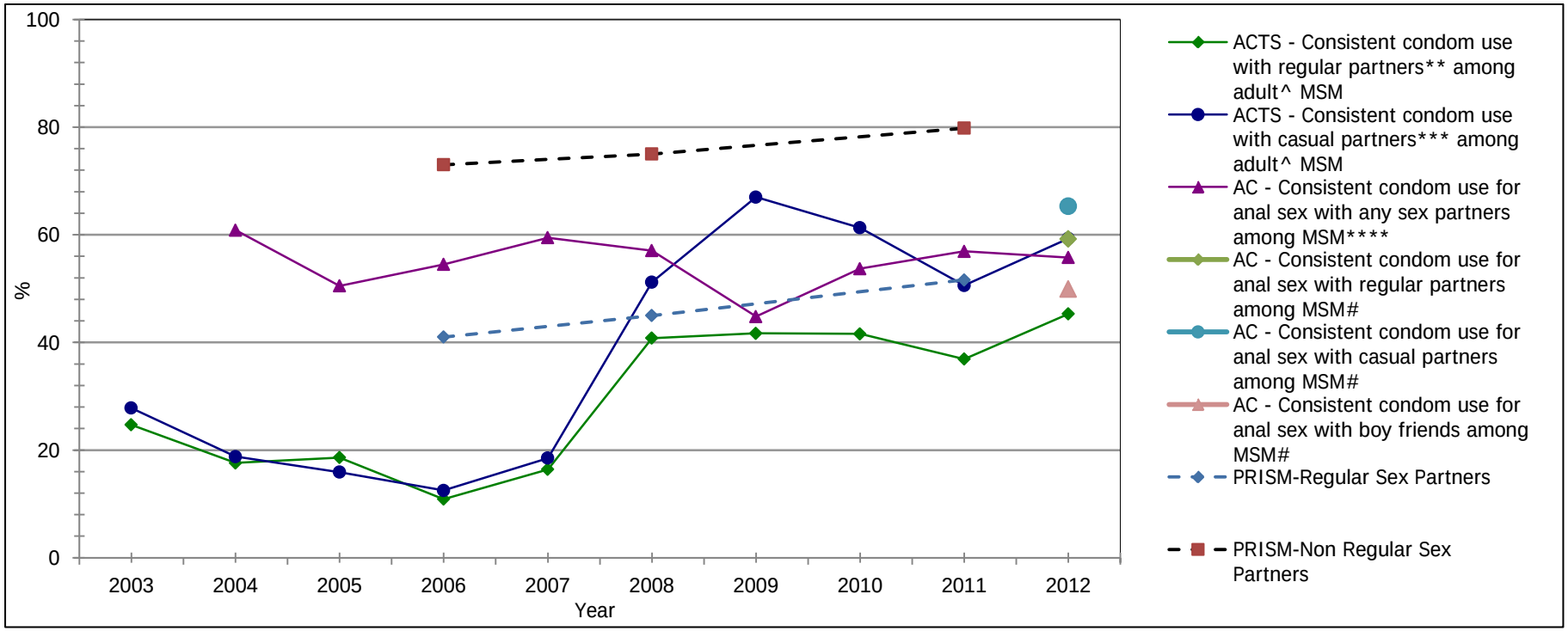
* Commercial sex partners are defined as those who have sexual intercourse in exchange for money, goods or services. Examples are female sex workers and their clients. Casual sex partners are defined as those who are non-regular and non-commercial. Examples are those on one-night stand. .

^ 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 (2003-2012)



* 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.

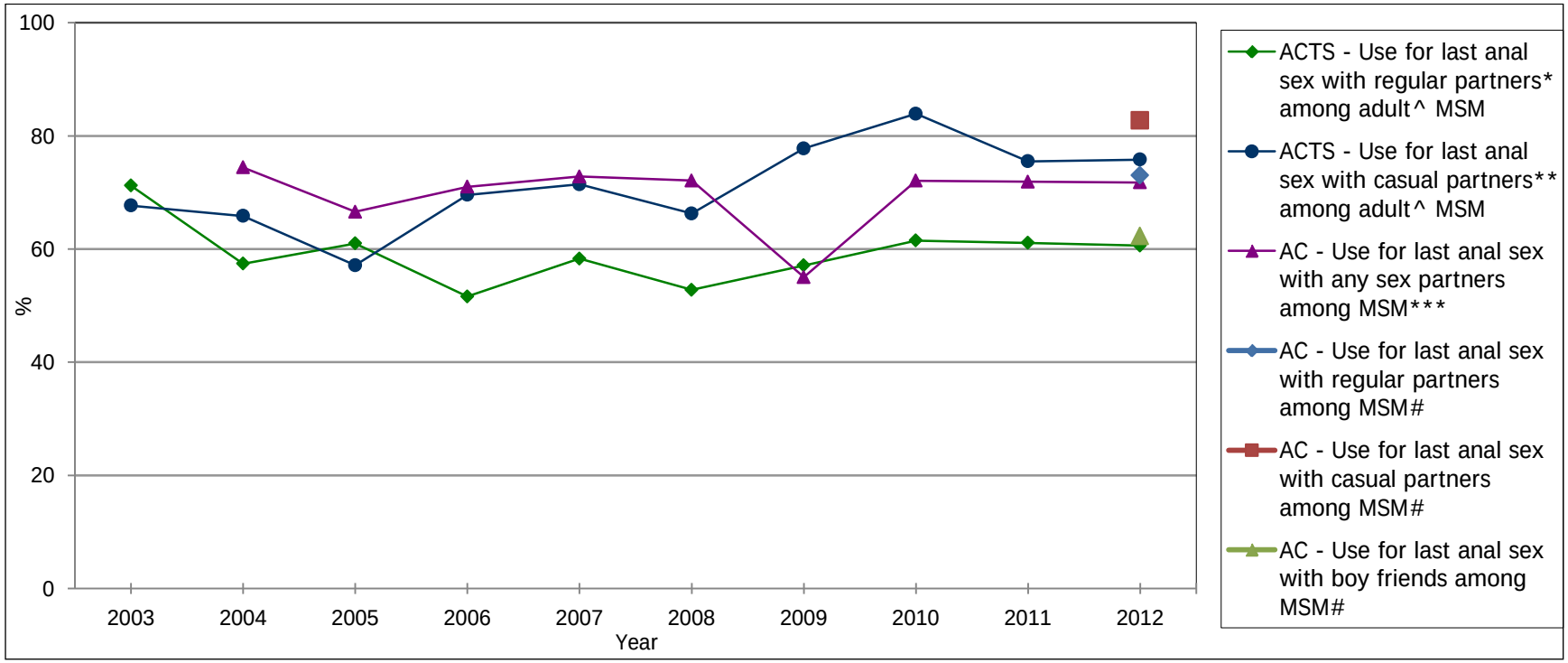
**** The data in 2012 only from January to March

\# Since April 2012 , the sex partner types from AC survey further breakdown into regular sex partner, causal sex partner and boyfriend

^ Adult: aged 18 or above

Remarks: ACTS - AIDS Counselling and Testing Service, AC - AIDS Concern, PRISM- HIV Prevalence and Risk Behavioural Survey of MSM in Hong Kong

(b) Condom use for last anal sex among MSM (2003-2012)



* Regular sex partners used to refer to long-term sex partners including spouse, and steady boy 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.

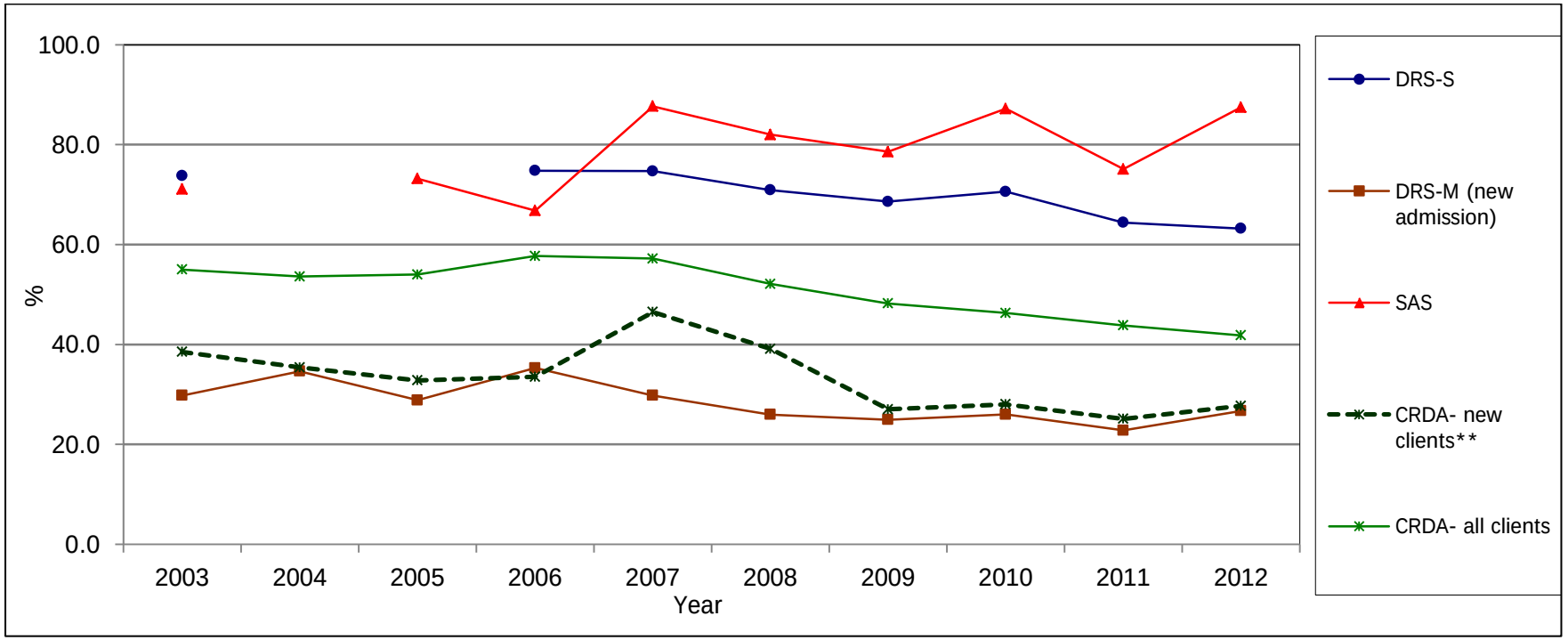
*** The data in 2012 only from January to March

^ Adult: aged 18 or above

Since April 2012, the sex partner types from AC survey further breakdown into regular sex partner, causal sex partner and boyfriend

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

Box 5.6 Proportion of current injectors* (2003-2012)

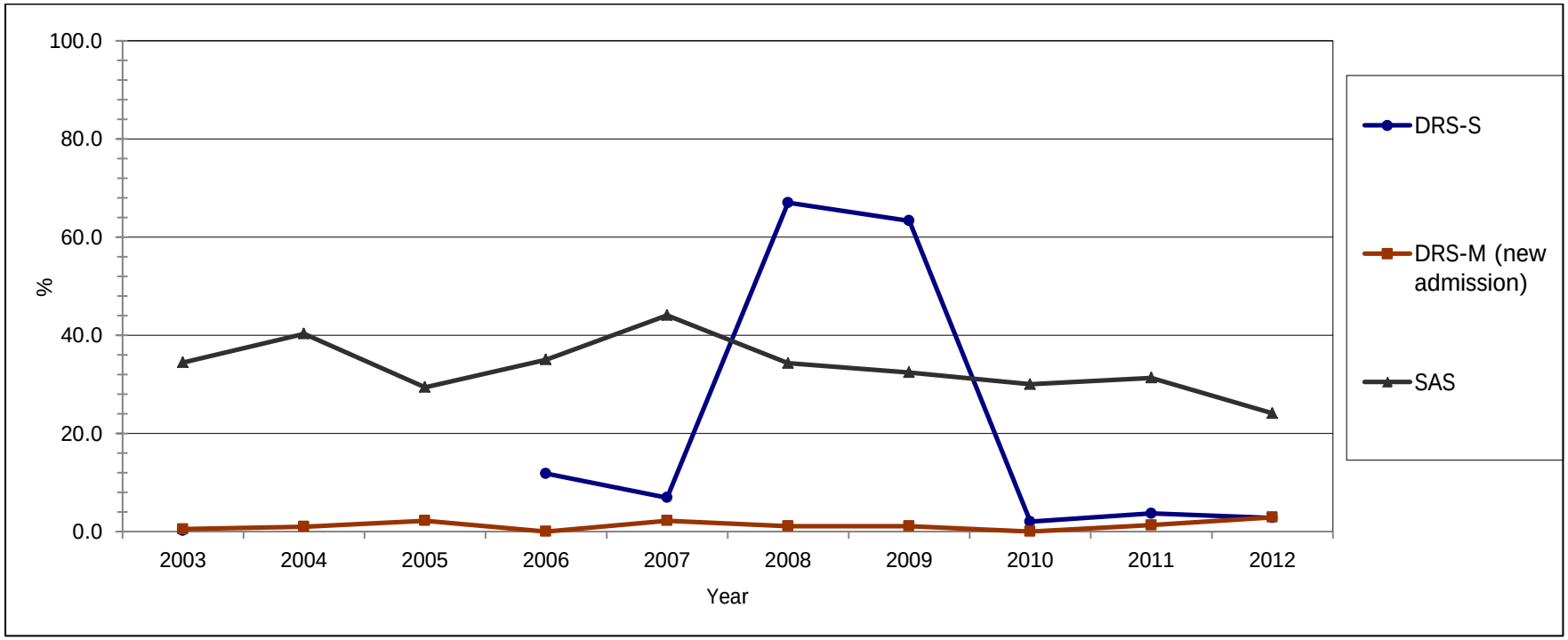


* Definitions differ for different data sources. DRS-S refers to drug injecting behaviour in past 6 months (before 2006, it referred to drug injecting at the time of programme admission); DRS-M refers to drug injecting at the time of programme admission; SAS refers to drug injecting behaviour in past 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 (SARDA))
CRDA - Central Registry of Drug Abuse

Box 5.7 Proportion of current needle-sharers* (2003-2012)



* 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;

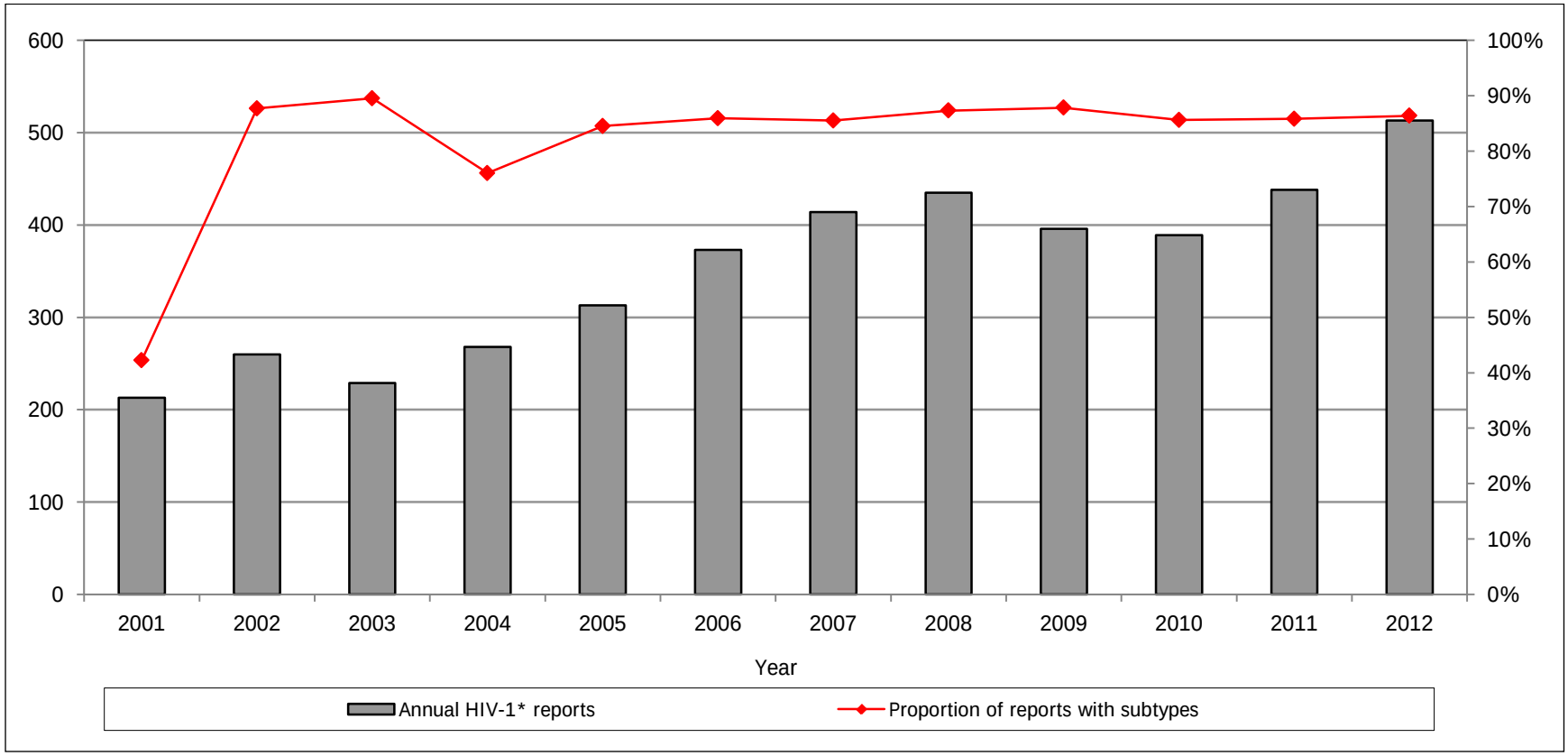
Remarks: DRS-S - Shek Kwu Chau Treatment and Rehabilitation Centre (Newly / Re-admitted cases)
DRS-M - Methadone clinics (Newly admitted case only)
SAS - Street Addict Survey (From the Society for the Aid and Rehabilitation of Drug Abusers (SARDA))

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: DH Public Health Laboratory Service Branch, Microbiology laboratories of Queen Elizabeth Hospital, Prince of Wales Hospital, Hong Kong Red Cross Blood Transfusion Service. Subtype analysis was commenced since 2001

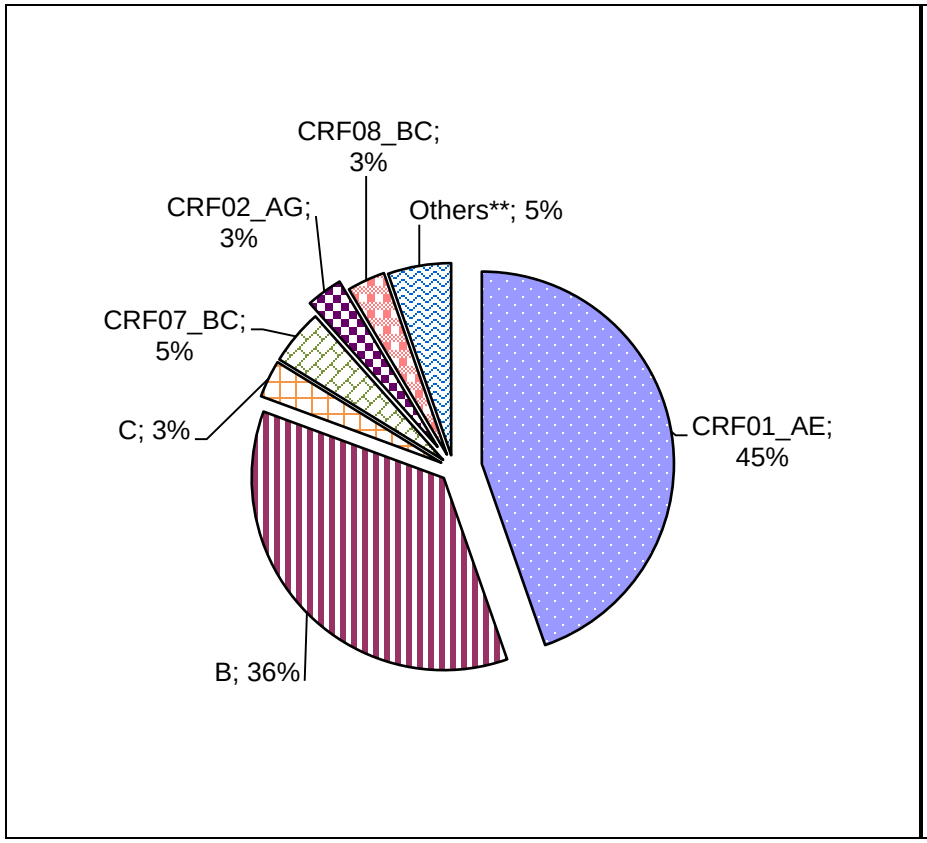
Box 6.1 Proportion of reports* with subtypes by year in Hong Kong, 2001 - 2012



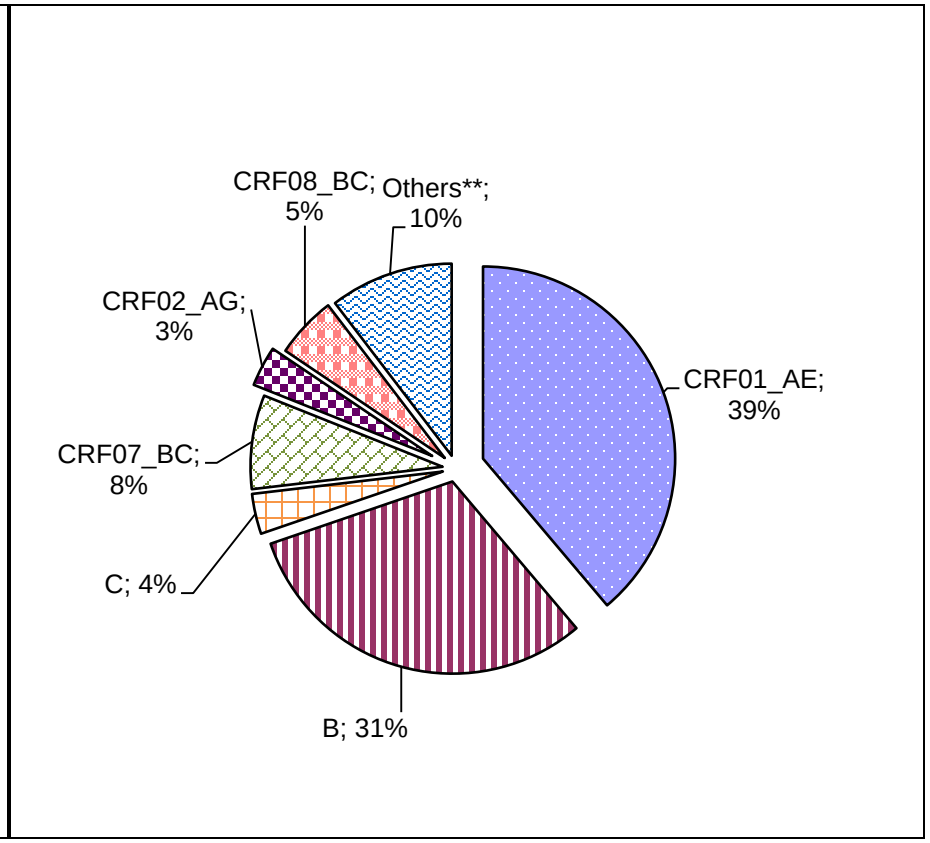
*: including cases with HIV type 1 or PCR positive result.

Box 6.2 Distribution of HIV-1* subtypes

(i) Cumulative (2001-2012)



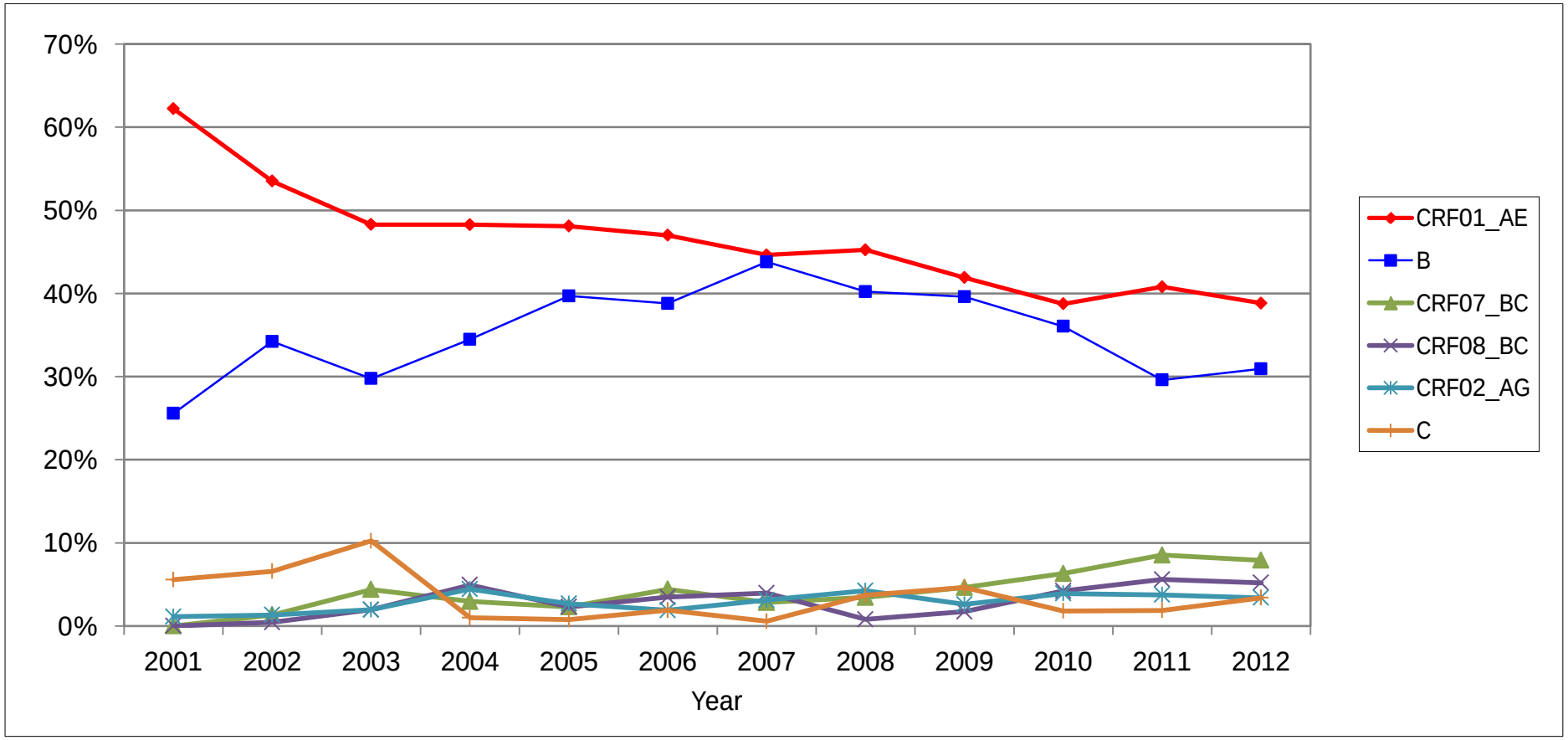
(ii) Year 2012



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

**: including subtype A, A1, A2, B', D, F, F1, G, CRF03_AB, CRF05_DF, CRF06_CPX, CRF10_CD, CRF11_CPX, CRF12_BF, CRF13_cpx, CRF14_BG, CRF15_01B, CRF55_01B.

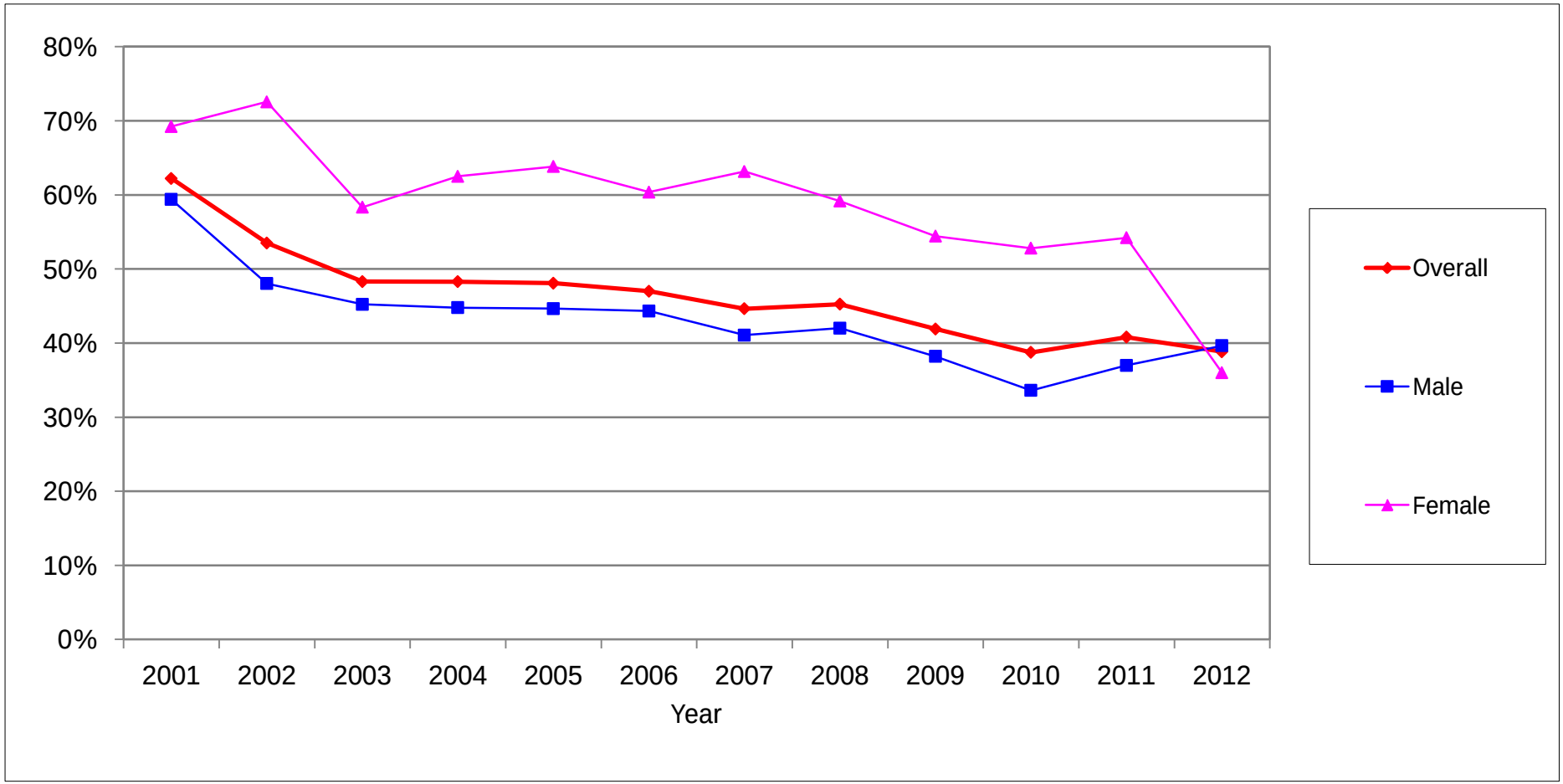
Box 6.3 Trend in the common HIV-1* subtypes in Hong Kong, 2001 – 2012



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

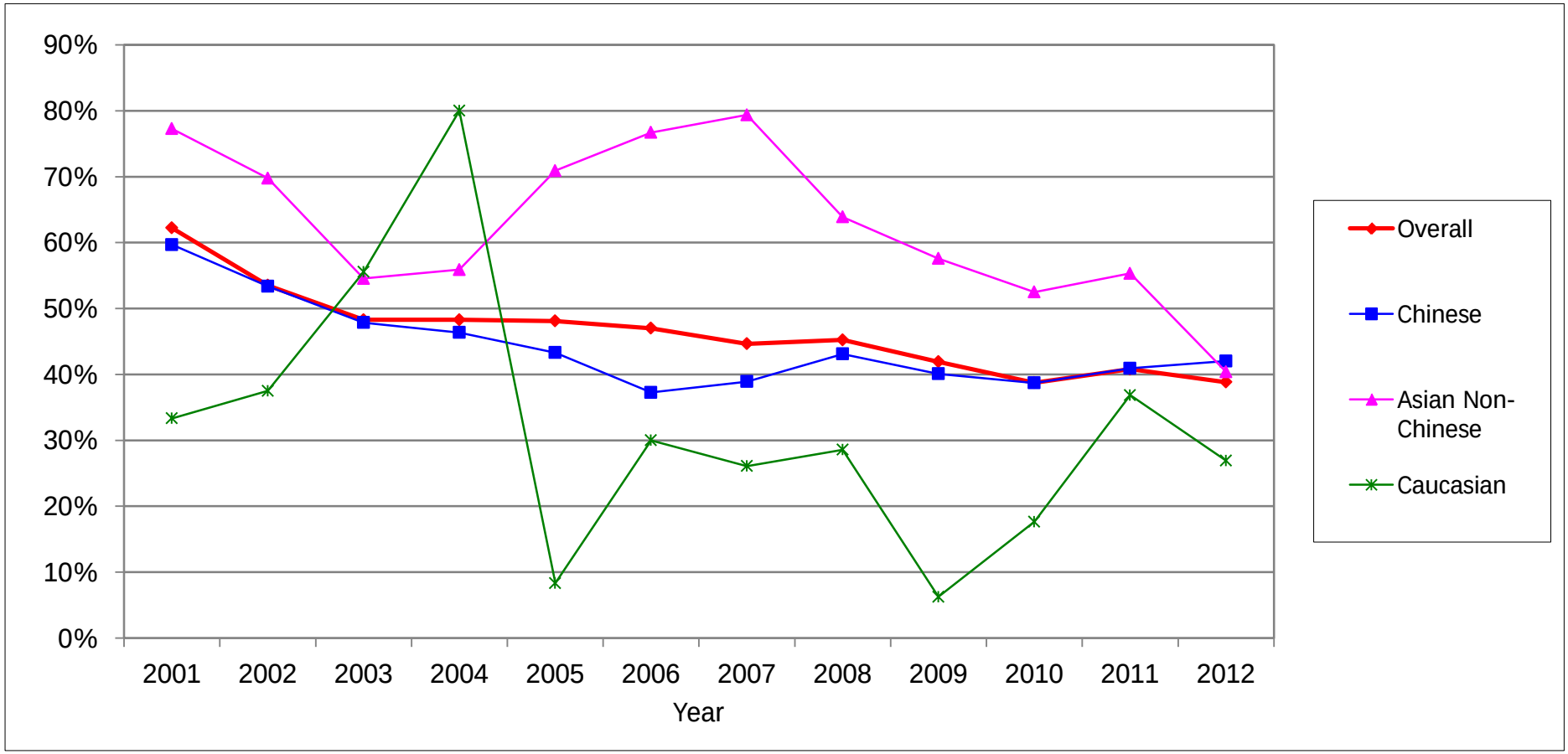
Box 6.4 Trend in HIV-1* subtype CRF01_AE in Hong Kong, 2001 – 2012

(a) By gender (proportion of cases with subtype CRF01_AE)

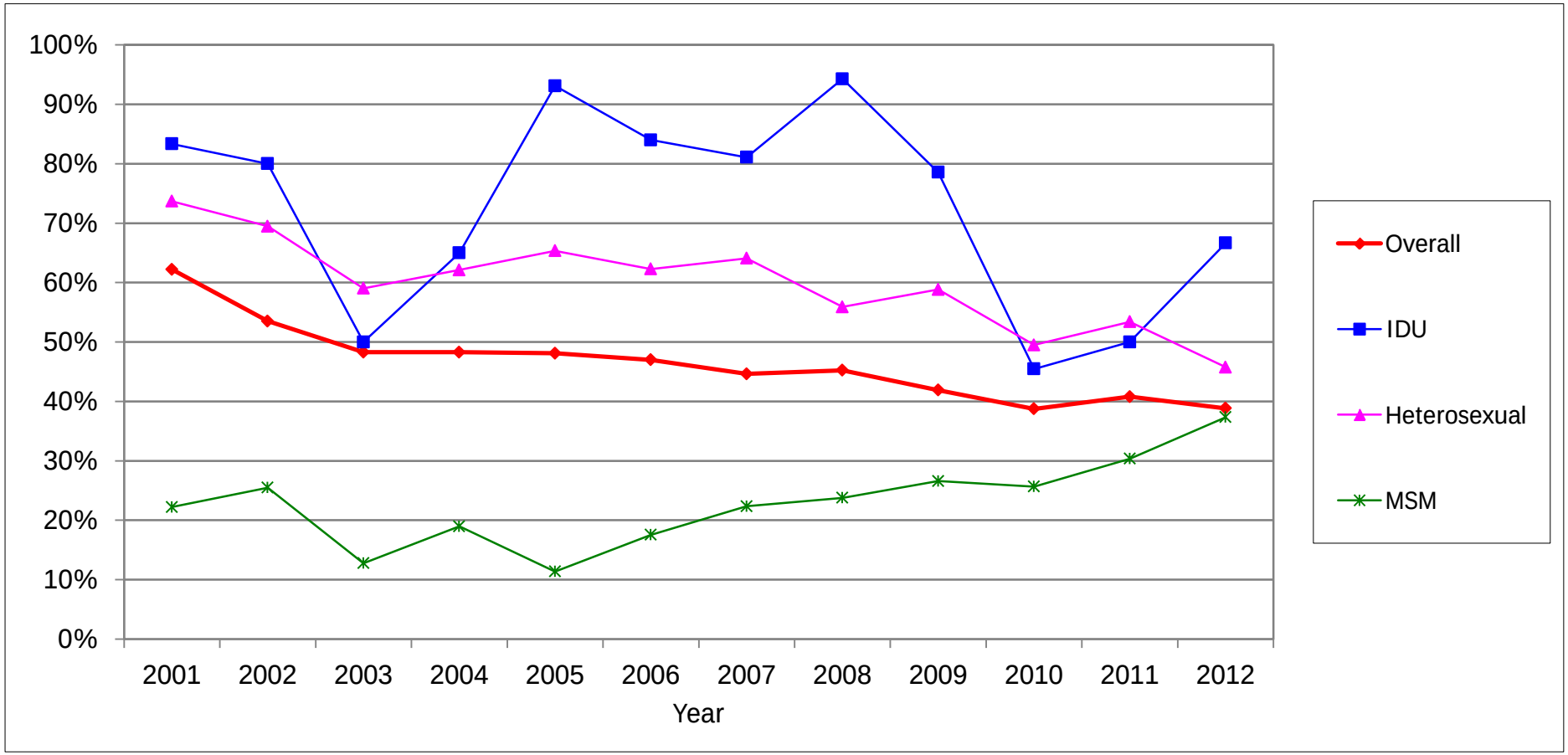


*: including cases with HIV type 1 or PCR positive result.

(b) By ethnicity (proportion of cases with subtype CRF01_AE)

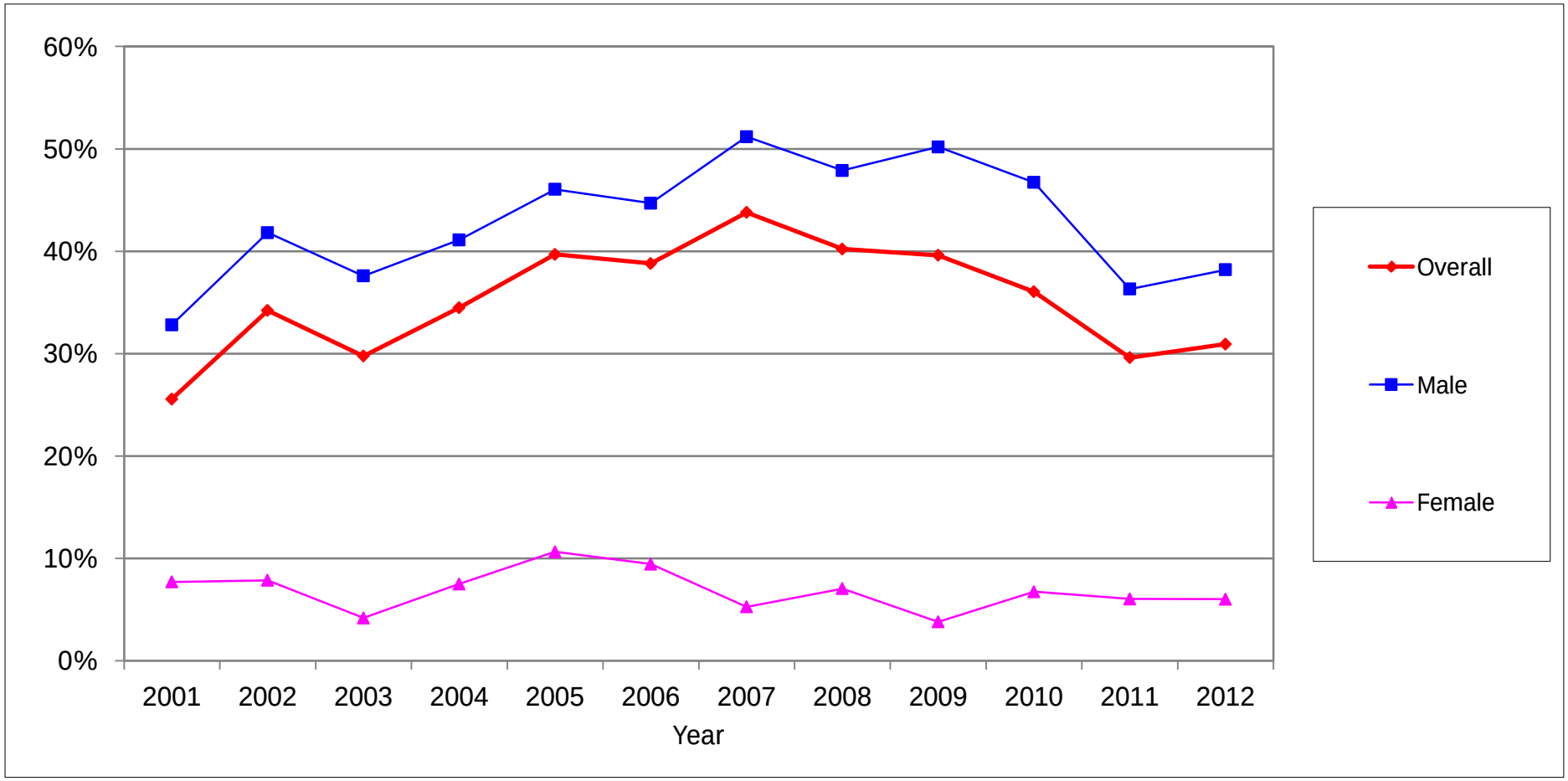


(c) By route of transmission (proportion of cases with subtype CRF01_AE)



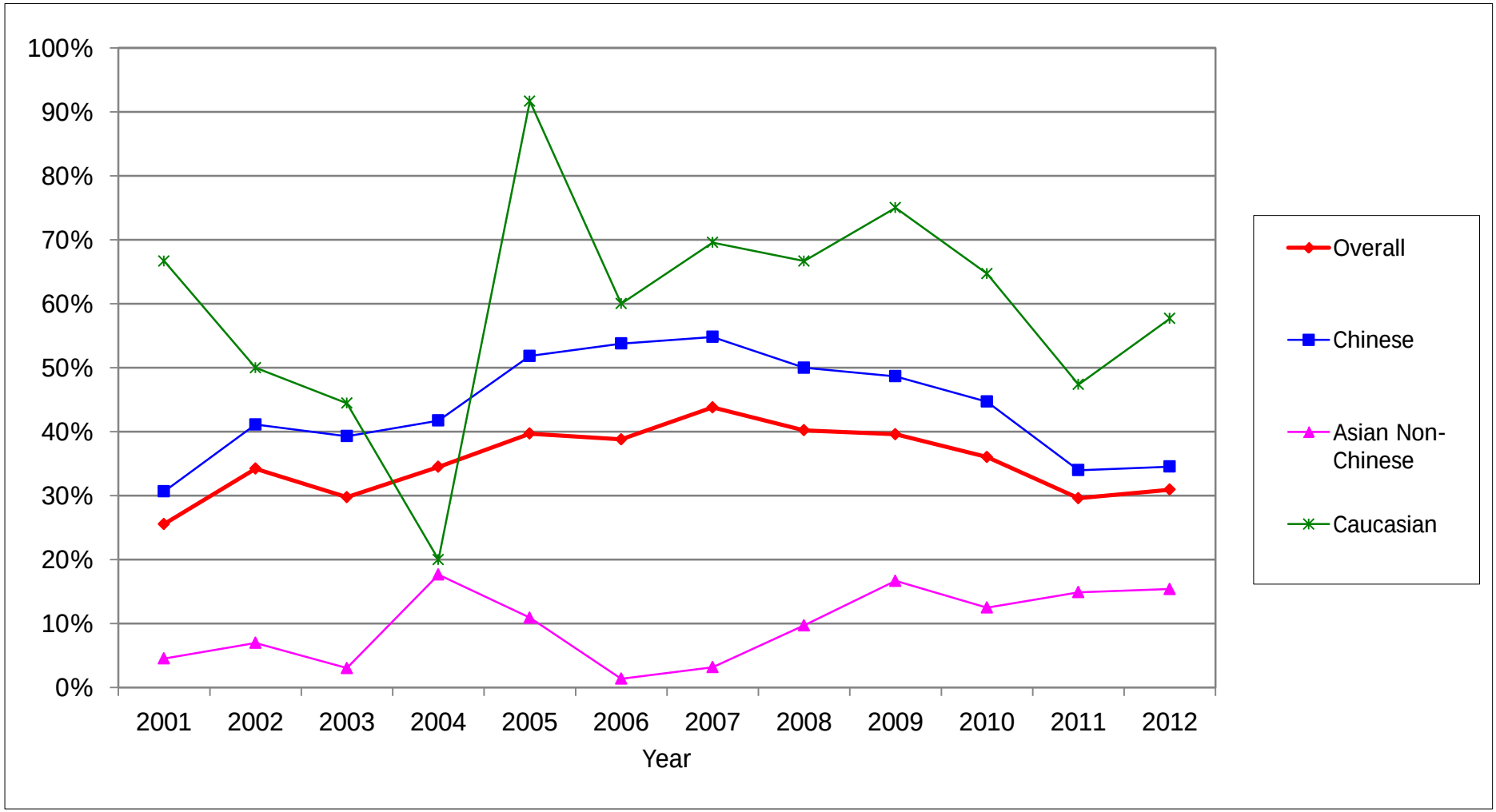
Box 6.5 Trend in HIV-1* subtype B in Hong Kong, 2001 – 2012

(a) By gender (proportion of cases with subtype B)

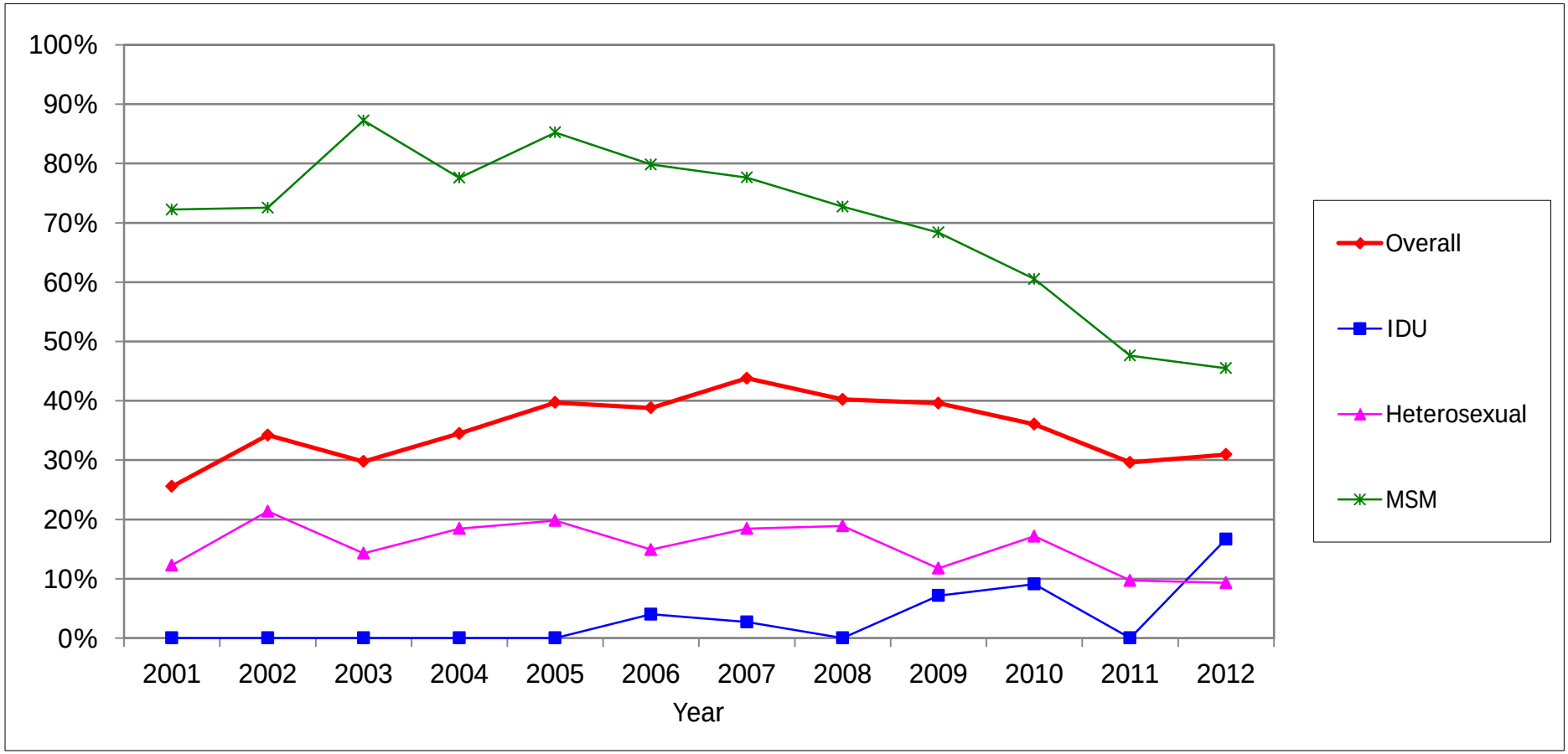


*: including cases with HIV type 1 or PCR positive result.

(b) By ethnicity (proportion of cases with subtype B)

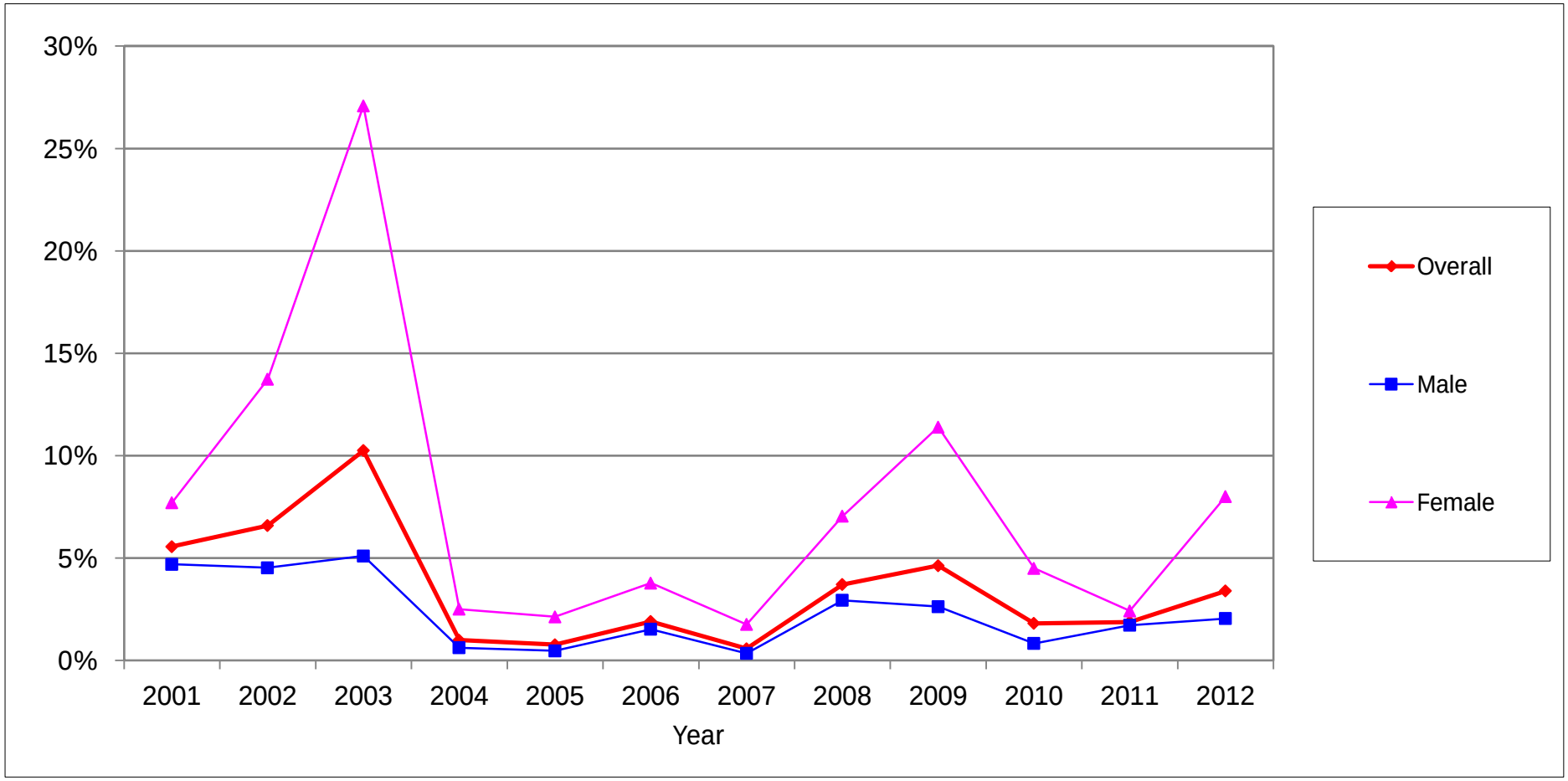


(c) By route of transmission (proportion of cases with subtype B)



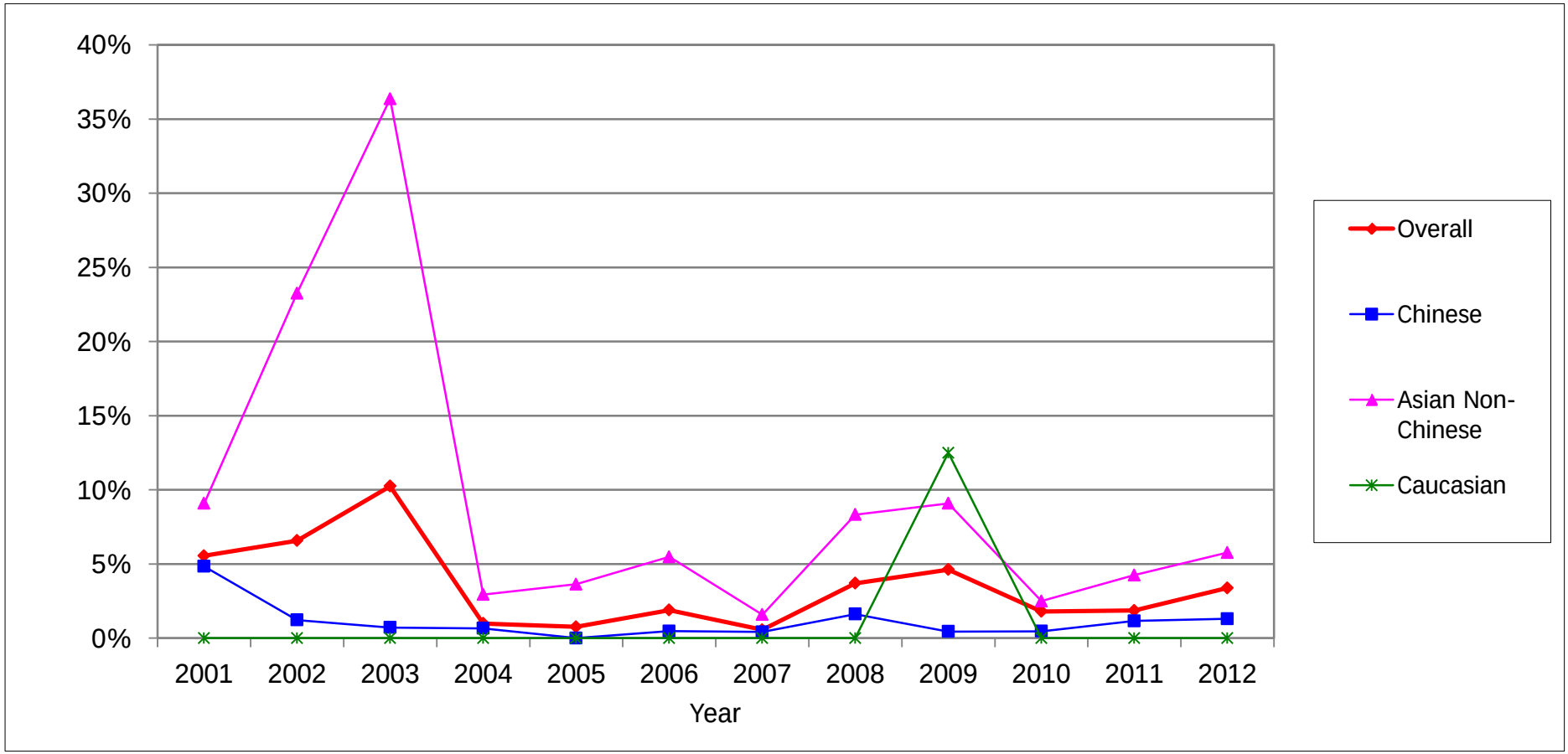
Box 6.6 Trend in HIV-1* subtype C in Hong Kong, 2001 – 2012

(a) By gender (proportion of cases with subtype C)

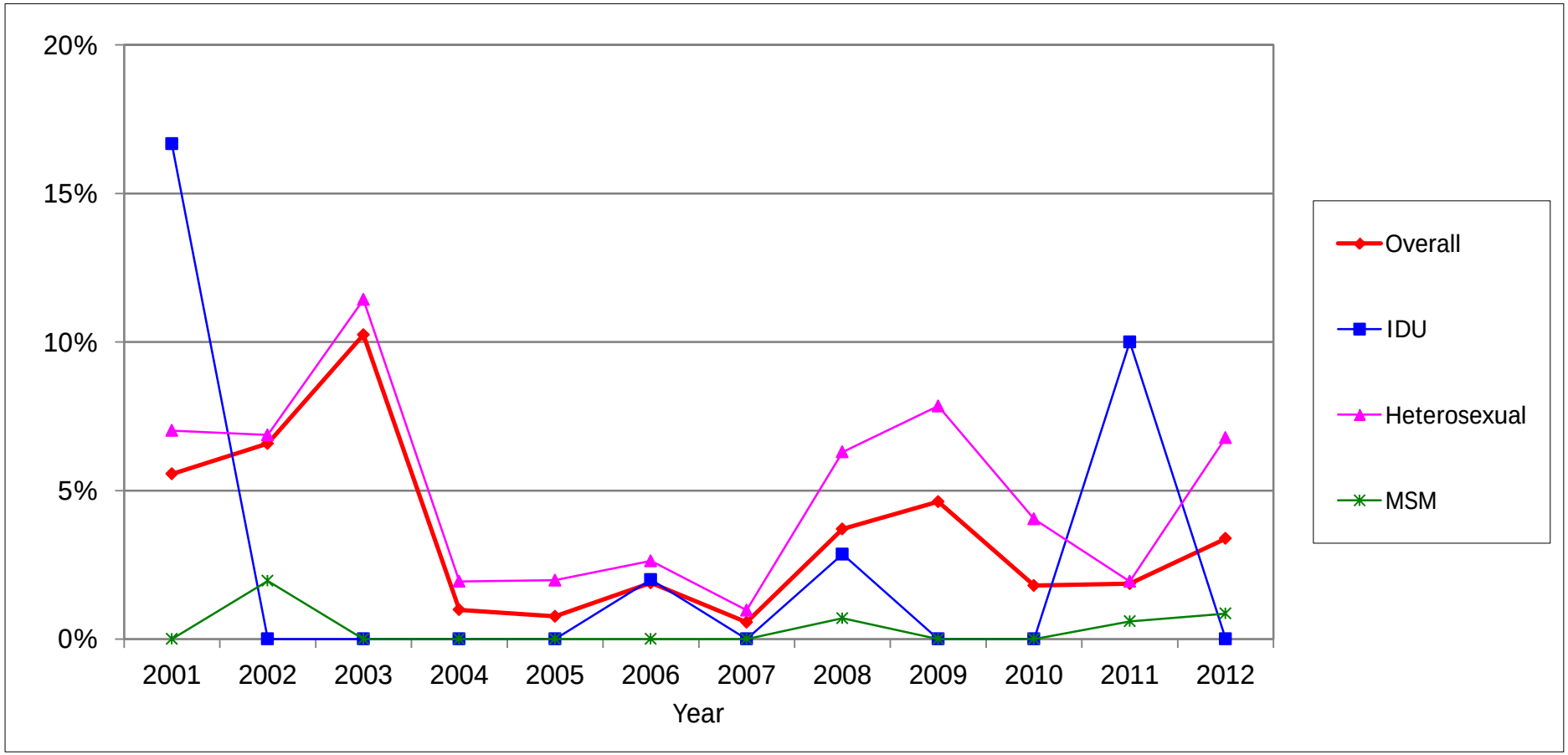


*: including cases with HIV type 1 or PCR positive result.

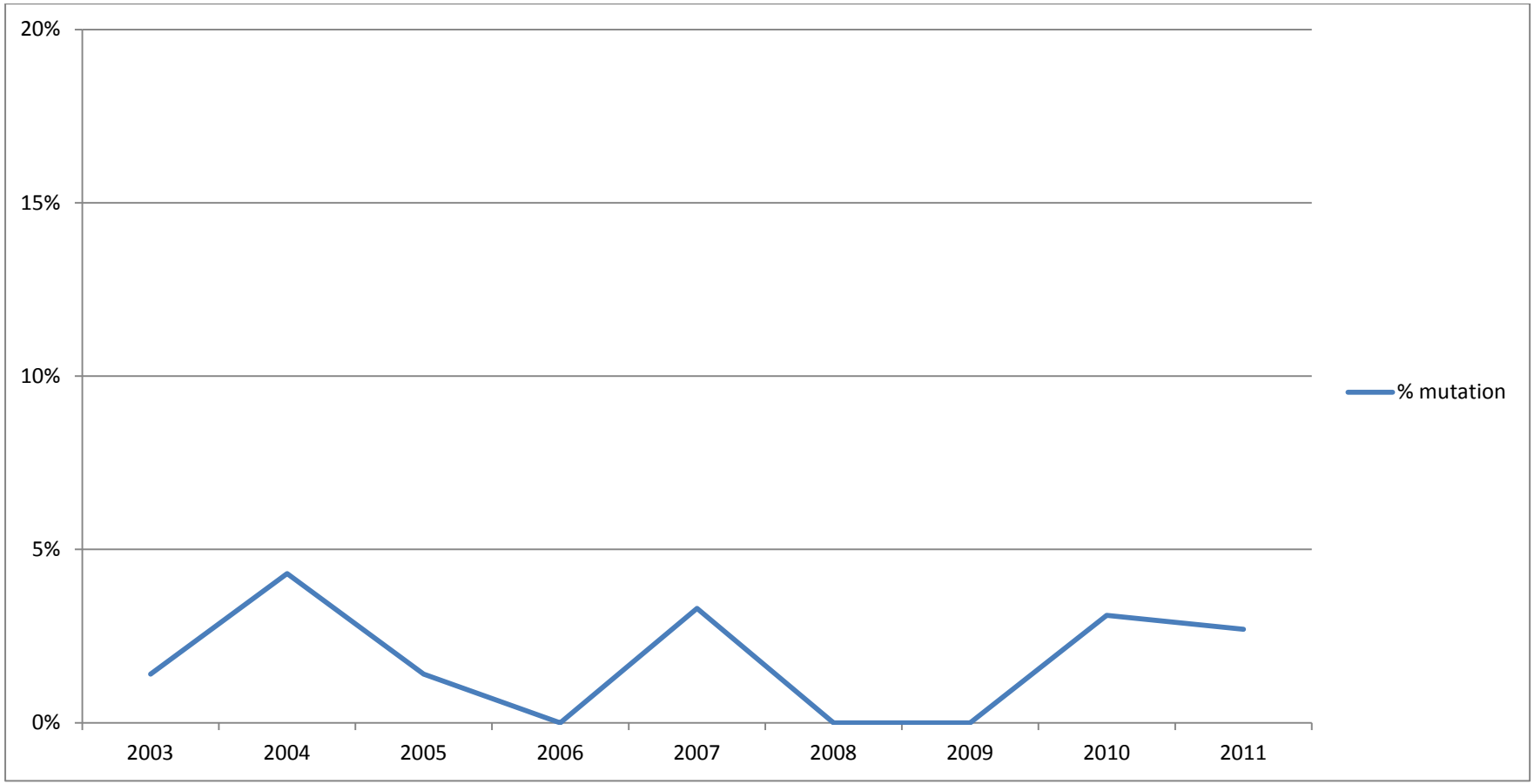
(b) By ethnicity (proportion of cases with subtype C)



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



Box 6.7 Prevalence of intermediate or high level drug resistance related mutation among newly diagnosed HIV patients, 2003-2011



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 http://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 I

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)

---

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

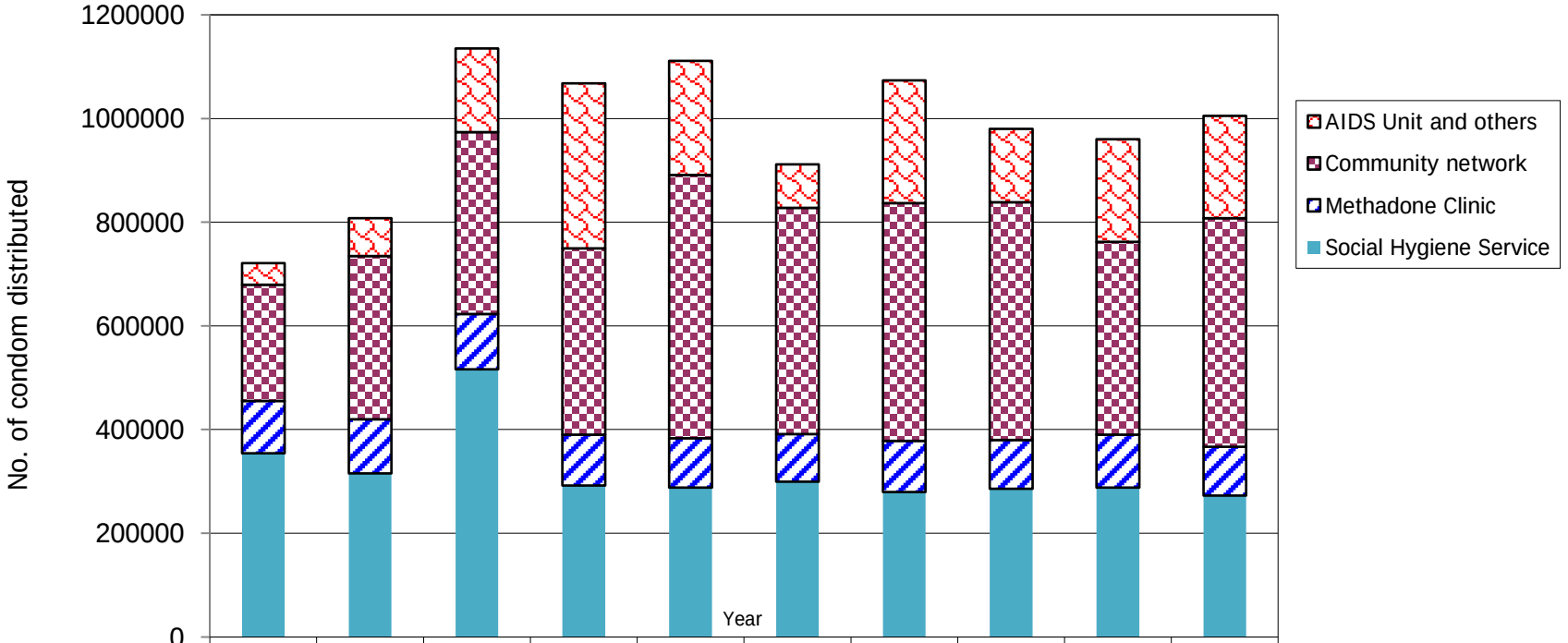
[ii] Please tick the most likely risk for contracting HIV infection. If there is more than 1 suspected risks, please put down 1 & 2 in descending order of the two most likely risks

[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: http://www.aids.gov.hk/report.htm).

Appendix II: Classification system for HIV infection and surveillance case definitionfor 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



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
AIDS Unit and others	41742	73042	161334	318672	220121	83794	236690	141220	198068	197494
Community network	224147	315110	350517	359359	507663	436332	458595	458979	372073	440963
Methadone Clinic	101355	104609	106750	98004	95293	91958	98795	93911	101848	93640
Social Hygiene Service	353810	315015	516185	291873	287906	299385	279360	285638	288054	272698

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, Correctional Service Department and Tuberculosis and Chest Clinic (started in October 2012).