Department of Health Vol.7 No.2 June 2001

HONG KONG STD/AIDS Update

a quarterly surveillance report

Contents

Editorial

Forty-four HIV and 9 AIDS cases were reported in the first quarter of year 2001, leading to a cumulative total of 1586 and 509 respectively. The major route of transmission among these newly diagnosed HIV cases was sexual contact which constituted 63.6%. MSM (men having sex with men) accounted for a proportion of 13.6% in this quarter among all the 44 newly detected HIV infections. Sex between men is one of the major forces behind the HIV epidemic in many high income countries and in some parts of Latin America[1]. Cumulatively, 24.1% of all reported HIV infections in Hong Kong are either homosexual or bisexual men. Though on the other hand some 56.6% are heterosexual, the much smaller proportion of homosexual men in the general population as well as the issue of misclassification of MSM among cases labeled as "heterosexual contact" and "undetermined" in the reporting form of HIV/AIDS infections implies that the actual prevalence in the MSM group is higher than the heterosexual male population.

Six new cases were due to injecting drug use, leading to a cumulative total of 39 cases. It was the highest figure ever recorded within a single quarter. One mother to child transmission case was also reported.

Majority of the HIV cases (40.5%) were reported by the public hospital / clinic / laboratory. The other sources included private hospital / clinic / laboratory (25%), Social Hygiene Clinic (15.6%), AIDS Unit (14.1%), AIDS Services Organisations (1.2%), donors referred from the Hong Kong Red Cross Blood Transfusion Service (HKRCBTS) (3%) and Drug rehabilitation service (0.5%).

In general, the absolute number of cases detected and referred from the various sources has increased steadily over the years except for 2000 which showed a slight dip. In the first three months of 2001, there were 44 HIV cases reported and 10 cases alone were detected by the AIDS Unit. The reporting from the AIDS Unit accounted for a relatively high proportion (22.7%) in this quarter, compared to that of 9% to 13% in the previous three years. This phenomenon could be a result of the increased popularity of the AIDS Unit for HIV testing by people practising risky behaviours. Alternatively, the increase could mean just a fluctuation in a single quarter.

Furthermore, there was one case detected and referred by the HKRCBTS in this quarter. The HKRCBTS has implemented universal HIV antibody screening for blood donors since 1985. The HIV detection rate of blood units collected at HKRCBTS has ranged from 0.002% in 1995 to 0.005% in 2000. The detection of HIV positive blood donors reflects, to a certain extent, the practice of inappropriate use of blood donation as a means of HIV testing. Although donors referred from the HKRCBTS has accounted for only 3% of all cumulative reported HIV cases, the persistent case detection through the blood donation system is an issue that demands our attention.

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[1] *UNAIDS, Report on the global HIV/AIDS epidemic, June 2000, pp.65*

Reported HIV/AIDS Quarterly Statistics

1st Quarter (January - March) 2001

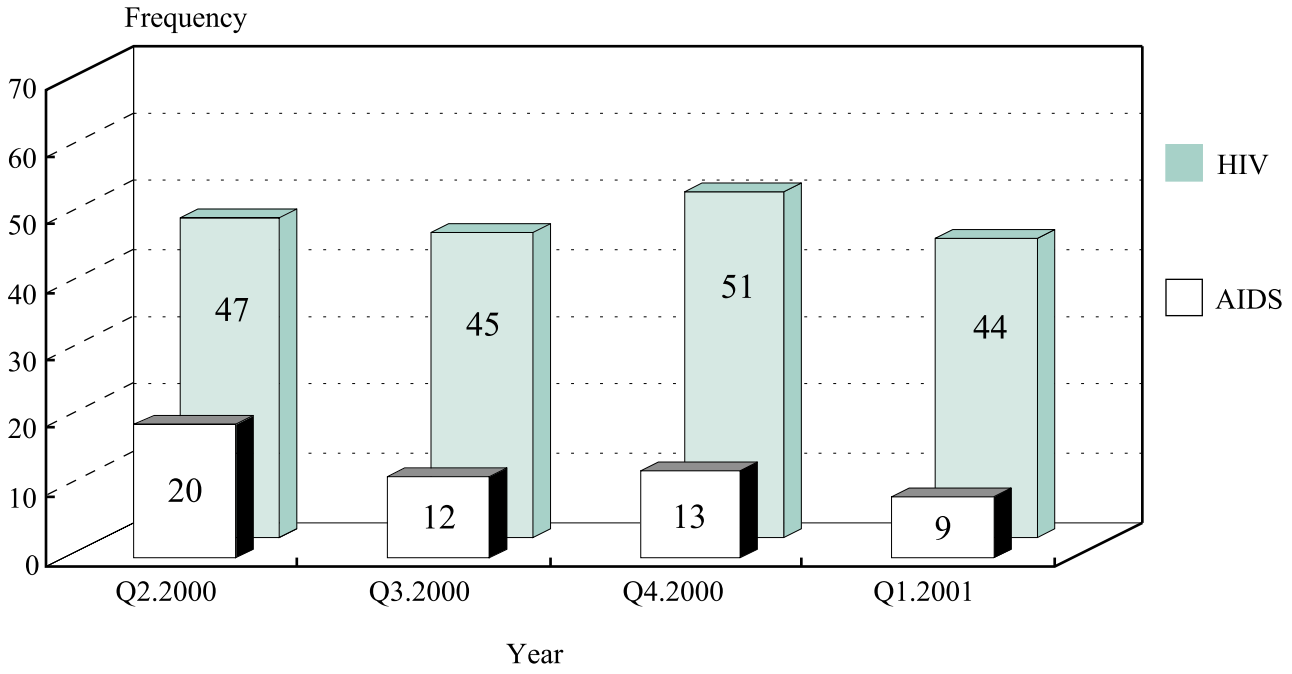
	This Quarter		Cumulative	
	HIV	AIDS	HIV	AIDS
Sex				
Male	29	6	1306	449
Female	15	3	280	60
Ethnicity / Race				
Chinese	30	6	1096	393
Non-Chinese	14	3	490	116
Asian	*12*	*3*	*240*	*60*
White	*1*	*0*	*178*	*53*
Black	*1*	*0*	*16*	*2*
Others	*0*	*0*	*56*	*1*
Age at Diagnosis				
Adult	43	9	1552	500
Child (age 13 or less)	1	0	34	9
Exposure Category				
Heterosexual	22	7	898	328
Homosexual	5	0	304	92
Bisexual	1	1	79	27
Injecting drug use	6	1	39	9
Blood / Blood product infusion	0	0	68	19
Perinatal	1	0	13	5
Undetermined	9	0	185	29
Total	**44**	**9**	**1586**	**509**

Sexually Transmitted Diseases Reporting at Government Social Hygiene Service

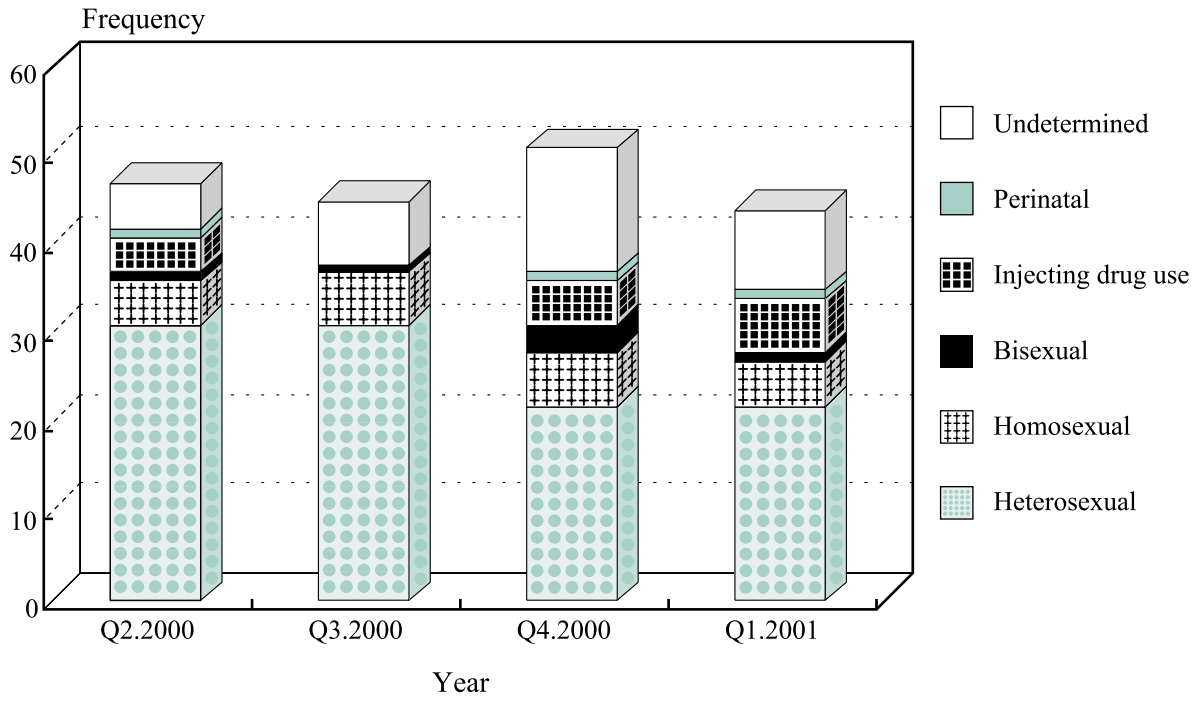
1st Quarter (January - March) 2001

	This Quarter	Same Quarter Last Year
Syphilis		
Primary	56	69
Secondary	7	12
Early latent	82	58
Late latent	102	75
Late (cardiovascular/neuro)	1	0
Congenital (early)	0	0
Congenital (late)	1	0
Total	**249**	**214**
Gonorrhoea	822	884
Non-gonococcal Urethritis (Male)	1621	1789
Non-specific Genital Infection (Female)	1601	1573
Genital Wart	846	794
Herpes Genitalis	348	296
Pediculosis Pubis	108	107
Trichomonas	288	181
Genital Ulcer	146	165
Chancroid / Lymphogranuloma Venereum	0	1
Others	757	546
Total	**6786**	**6550**

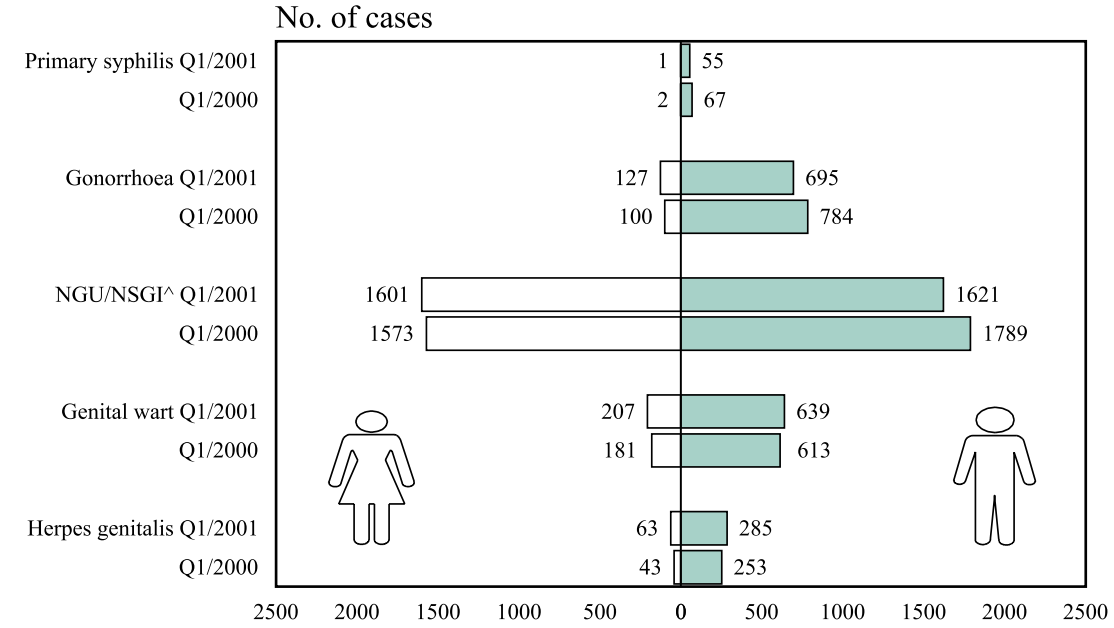
Hong Kong HIV / AIDS Voluntary Reporting
in recent 4 Quarters



Hong Kong HIV Voluntary Reporting
By Exposure Category in recent 4 Quarters



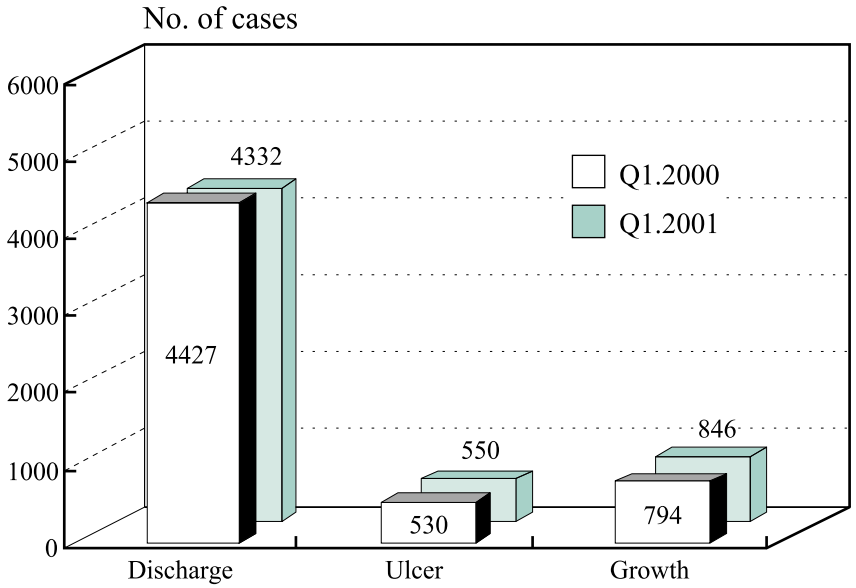
Sexually Transmitted Diseases Reporting at GSHS*
By sex (1st Quarter, 2001) Hong Kong



* GSHS: Government Social Hygiene Service

^ NGU/NSGI: Non-gonococcal urethritis/Non-specific genital infection

Syndrome Presentations of STD in GSHS*
(1st Quarter, 2001) Hong Kong



Diseases included under the various syndrome :

Discharge :
- Gonorrhoea
- Non-gonococcal urethritis
- Non-specific genital infection
- Trichomonas

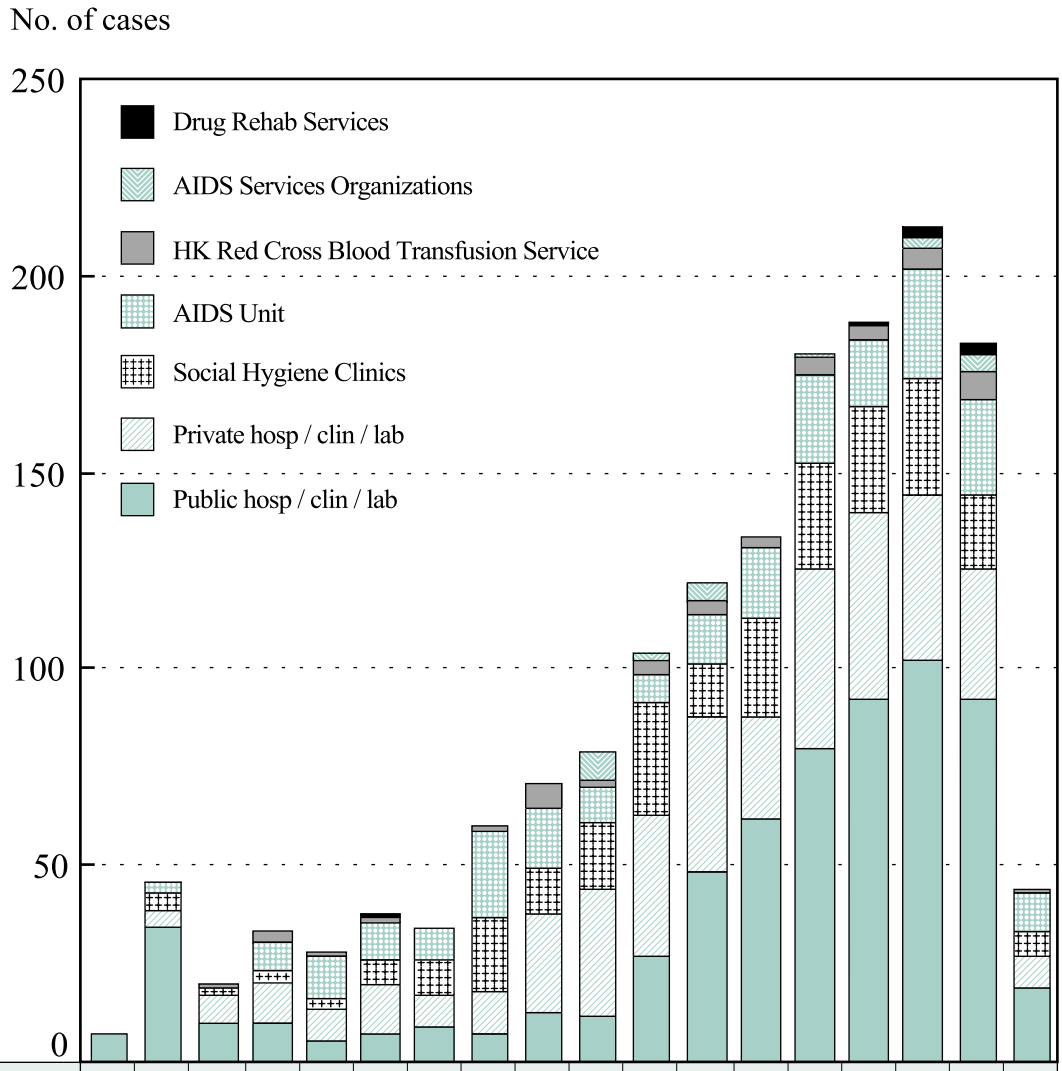
Ulcer: Chancroid
- Primary syphilis
- Herpes genitalis
- Non-specific genital ulcer

Growth: Genital wart

* GSHS: Government Social Hygiene Service

Source of Referral of HIV Infections

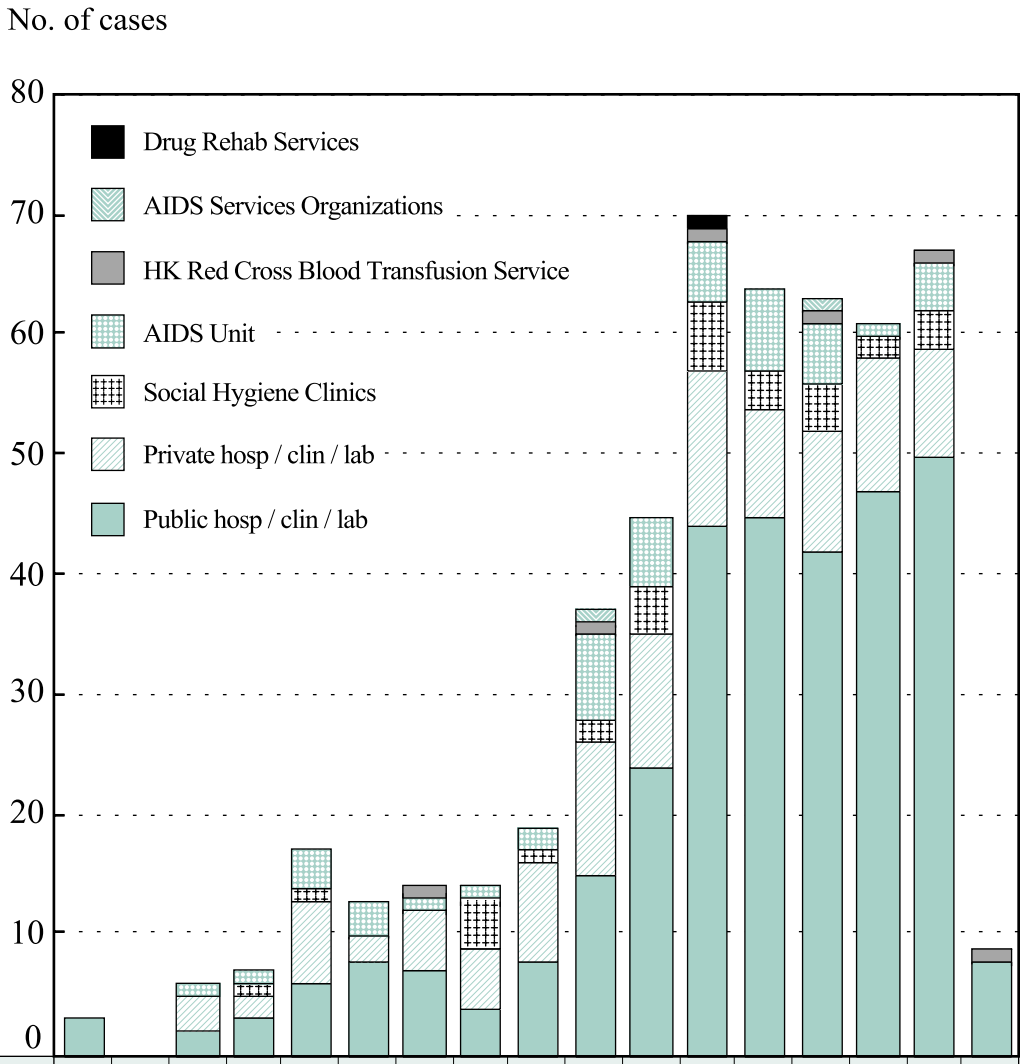
1984 - Q1 2001, Hong Kong (N=1586)



Source of Referral \ Year	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Q1 2001
Drug Rehab Services						1									1	3	3	
AIDS Services Organizations										7	1	4		1		2	4	
HK Red Cross Blood Transfusion Service			1	2	1	1		1	6	2	4	4	3	5	4	6	7	1
AIDS Unit		3		7	11	10	8	22	15	9	7	12	18	22	17	28	24	10
Social Hygiene Clinics		4	2	2	2	6	9	19	12	17	29	14	25	27	27	29	19	6
Private hosp / clin / lab		4	7	12	8	13	8	11	25	32	36	39	26	46	47	42	33	8
Public hosp / clin / lab	7	35	10	10	6	7	9	7	13	12	27	49	62	80	93	103	93	19

Source of Referral of Reported AIDS

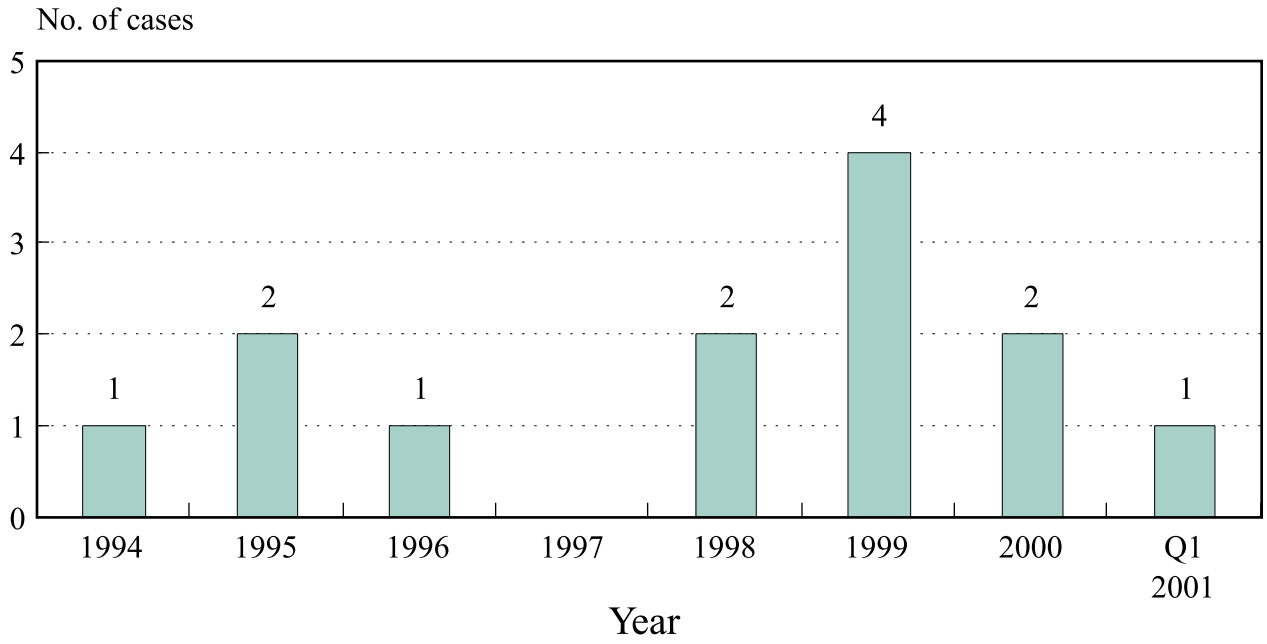
1985 - Q1 2001, Hong Kong (N=509)



Source of Referral \ Year	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Q1 2001
Drug Rehab Services												1					
AIDS Services Organizations										1				1			
HK Red Cross Blood Transfusion Service							1			1		1		1		1	1
AIDS Unit			1	1	3	3	1	1	2	7	6	5	7	5	1	4	
Social Hygiene Clinics				1	1			4	1	2	4	6	3	4	2	3	
Private hosp / clin / lab			3	2	7	2	5	5	8	11	11	13	9	10	11	9	
Public hosp / clin / lab	3		2	3	6	8	7	4	8	15	24	44	45	42	47	50	8

Perinatal HIV Infections in Hong Kong

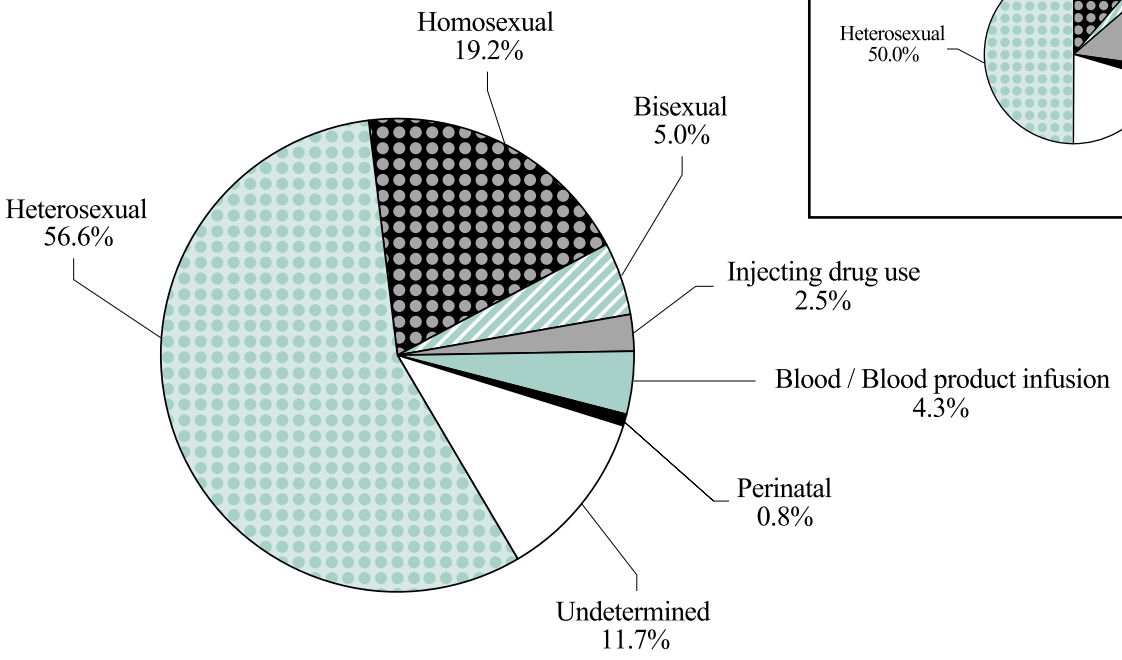
By Year of Reporting



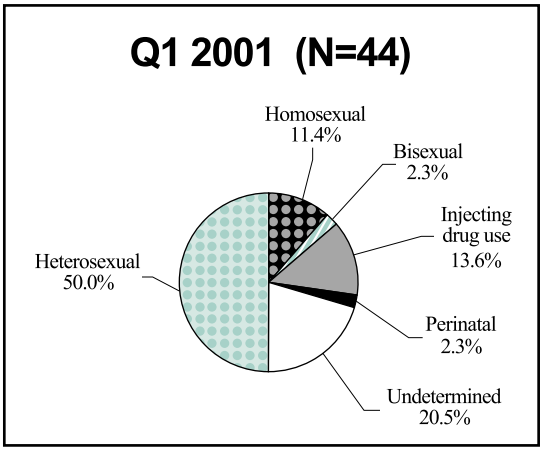
Hong Kong HIV Voluntary Reporting

By Exposure Category

1984 - Q1 2001 (N=1586)



Q1 2001 (N=44)



Seroprevalence of HIV Infection in Hong Kong

Surveillance of HIV/AIDS is important for gauging the extent of the infection and enhancing understanding of the pattern and characteristics of the epidemic. Achieving these are in turn crucial for bettering HIV/AIDS prevention, care and control programmes. In Hong Kong, since the early days of HIV epidemic, HIV/AIDS surveillance has been conducted through a voluntary case reporting system, as well as a coordinated system of seroprevalence studies.

The HIV seroprevalence surveillance system in Hong Kong collects data through two major sources: (a) unlinked anonymous screening (UAS)[1] and (b) voluntary testing or screening. Through established mechanisms under these two sources, HIV screening were regularly performed for various target populations or settings, which can be arbitrarily grouped under three categories: (a) general populations with no apparent risk, (b) vulnerable communities with defined behavioural risk, and (c) special groups or setting with undefined HIV risk.

While HIV screening mechanisms have been in place for some populations soon after the availability of antibody kit in 1985, testing for other populations under the seroprevalence surveillance system have started later. The data presented in this article is up to the end of year 2000.

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[1] *UAS was defined as " the testing of specimens for markers of infection after elimination (unlinking) of all personal identifying information from each specimen " according to the World Health Organisation (1989). Hong Kong has adopted UAS to supplement local HIV surveillance since 1990.*

General Populations with No Apparent Risk

Populations included in this category are those without any apparent risk as a whole. There might, of course, be individuals in such populations who themselves have HIV risk behaviours. Two such populations are identifiable in the system: (a) blood donors and (b) antenatal mothers delivering in hospitals.

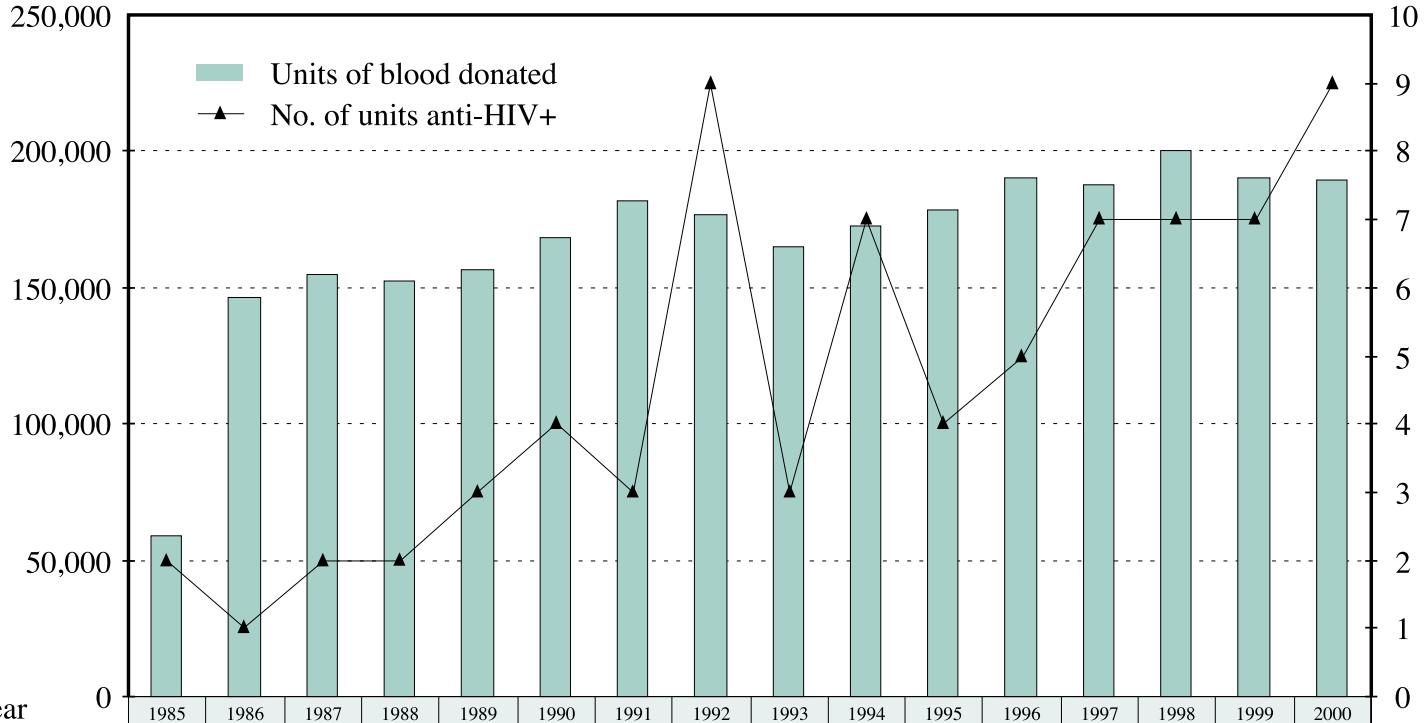
Blood Donors

The Hong Kong Red Cross Blood Transfusion Service (HKRCBTS) has implemented universal HIV antibody screening for blood donors since August 1985. Though with limitations, the HIV seroprevalence found in this population usefully reflects that of a heterogeneous group of healthy adults. HIV seroprevalence can be viewed per (i) new donors, (ii) repeat donors, and (iii) units of blood donated. HIV seroprevalence among new or repeat donors has all along been <0.01% till 1999. However, it was raised to 0.012% for new donors of 2000; the significance of which is however unclear.

Table 1. HIV infection among blood donors attending HKRCBTS (1991-2000)

	No. of donors		No. of donors anti-HIV +		HIV positivity rate of donors (%)	
Year	New	Repeat	New	Repeat	New	Repeat
1991	48,769	132,987	0	3	0	0.002
1992	43,674	132,818	1	8	0.002	0.006
1993	36,146	128,907	1	2	0.003	0.002
1994	38,077	134,074	2	5	0.005	0.004
1995	39,778	93,280	2	2	0.005	0.002
1996	40,875	99,294	1	4	0.002	0.004
1997	40,419	81,906	1	6	0.002	0.007
1998	43,756	92,511	3	4	0.007	0.004
1999	40,960	76,098	1	6	0.002	0.008
2000	41,116	148,366	5	4	0.012	0.003

Figure 1. HIV detection rate of blood units collected at HKRCBTS (1985 - 2000)



Year	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Units of blood donated	58,563	146,639	155,079	152,319	156,587	168,082	181,756	176,492	165,053	172,151	178,447	190,257	187,753	200,197	189,959	189,532
No. of units anti-HIV+	2	1	2	2	3	4	3	9	3	7	4	5	7	7	7	9
Positive detection rate of donated units (%)	0.003	0.001	0.001	0.001	0.002	0.002	0.002	0.005	0.002	0.004	0.002	0.003	0.004	0.003	0.004	0.005

Antenatal Mothers Delivering in Hospitals

Since 1990, an annual UAS exercise has been undertaken for women who delivered babies at public or private hospitals in Hong Kong. The number of blood samples obtained for testing was between 3000 to 4000 in the past 5 years, with often one sample tested HIV positive.

Table 2. HIV prevalence among delivering women (1990 - 2000)

Year	No. tested	No. anti-HIV+	Positivity rate (%)
1990	993	0	0
1991	5253	0	0
1992	5796	0	0
1993	4532	0	0
1994	4762	0	0
1995	4648	1	0.02
1996	3968	1	0.03
1997	3331	0	0
1998	3031	1	0.03
1999	3125	1	0.03
2000	3478	1	0.03

Vulnerable Communities with Defined Behavioural Risk

There is no universal consensus on which communities are vulnerable to HIV infection. One way to go by is that communities are considered vulnerable if there is evidence that they are epidemiologically more affected by HIV or behaviourally at higher risk. Drug users and clients attending government sexually transmitted disease (STD) clinics - Social Hygiene Clinic (SHC) - are the two groups of people in this category reachable in the surveillance system.

Clients Attending Social Hygiene Clinics

Though not each and every client of SHC were diagnosed to have STD, they attended the clinic for sexual risk behaviours of themselves or their spouses/partners. Voluntary HIV antibody testing was offered to all SHC clients as part of the STD screen. The uptake rate has been very high at >99.5% on average. The annual HIV positivity rate has remained <0.1% with no suggestion of rising trend among the subjects tested over the past 15 years. This result need, however, be interpreted against the heterogeneous makeup of this population.

Table 3. HIV infection in clients attending Social Hygiene Clinics (1985 - 2000)

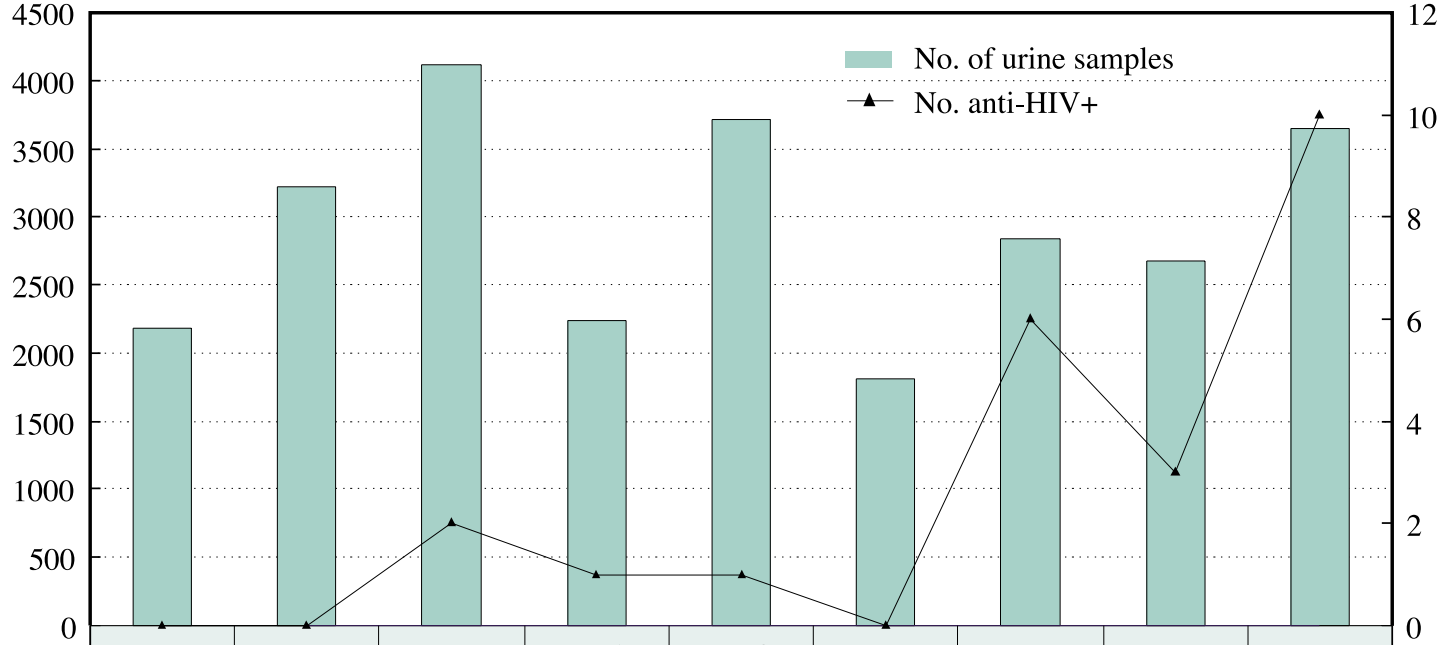
Year	No. of blood samples	No. anti-HIV+	Positivity rate (%)
1985	7,911	5	0.063
1986	27,179	2	0.007
1987	33,553	2	0.006
1988	33,039	3	0.009
1989	29,663	6	0.020
1990	27,045	9	0.033
1991	27,013	19	0.070
1992	27,334	12	0.044
1993	28,736	16	0.056
1994	30,162	29	0.096
1995	33,896	14	0.041
1996	37,126	25	0.067
1997	38,779	27	0.070
1998	46,127	27	0.059
1999	51,639	31	0.060
2000	51,197	20	0.039

Drug Users

Besides sex, drug users are at risk of HIV infection via using contaminated needles/syringes during drug injection. The most commonly abused illicit drug in Hong Kong is heroin. Over the years, monitoring of HIV seroprevalence among drug users in Hong Kong was largely carried out at the drug treatment and rehabilitation clinics/centres. They include methadone clinics under the Methadone Treatment Programme (MTP) of the Department of Health, and the in-patient centres run by the Society for the Aid and Rehabilitation of Drug Abusers (SARDA). Also, street drug users have been surveyed through the outreach work by peer counsellors of ex-drug users. Both UAS and voluntary screening have been employed.

It can be observed that HIV seroprevalence among drug users has increased in recent years, and became higher than the other vulnerable community of STD clinic clients. The rising trend of HIV positivity was persistent in the last 3 years, with echoing evidence from UAS of clients of both MTP and inpatient centres. The number of drug users who underwent voluntary HIV testing has remained small, which could have affected the results.

Figure 2. HIV prevalence among methadone clinic clients from unlinked anonymous screening (1992 - 2000)



Year	1992	1993	1994	1995	1996	1997	1998	1999	2000
No. of urine samples	2189	3219	4113	2240	3714	1816	2838	2674	3644
No. anti-HIV+	0	0	2	1	1	0	6	3	10
Positivity rate (%)	0	0	0.049	0.045	0.027	0	0.211	0.112	0.274

Table 4. HIV prevalence among methadone clinic clients from voluntary testing (1991 -2000)

Year	*No. of blood samples	No. anti-HIV+	Positivity rate (%)
1991	379	0	0
1992	212	0	0
1993	198	0	0
1994	296	1	0.338
1995	102	0	0
1996	302	0	0
1997	254	0	0
1998	250	1	0.400
1999	599	3	0.501
2000	602	1	0.166

*Remarks : * a small proportion of the samples were urine since late 1999*

Table 5. HIV prevalence among drug users attending inpatient drug treatment centres / institutions, from unlinked anonymous screening (1998 - 2000)

Year	No. of urine samples	No. anti-HIV+	Positivity rate (%)
1998	2286	3	0.131
1999	1675	3	0.179
2000	1165	7	0.601

Table 6. HIV prevalence among drug users attending inpatient drug treatment centres / institutions, from voluntary blood testing (1991 - 2000)

Year	No. of blood samples	No. anti-HIV+	Positivity rate (%)
1991	968	0	0
1992	625	1	0.16
1993	551	0	0
1994	320	0	0
1995	88	0	0
1996	62	0	0
1997	39	0	0
1998	42	0	0
1999	150	0	0
2000	410	0	0

Table 7. HIV prevalence among street drug users (1993 - 1997)

Year	No. of saliva samples	No. anti-HIV+	Positivity rate (%)
1993	229	0	0
1994	444	0	0
1995	475	0	0
1996	447	0	0
1997	473	0	0

Special Groups or Setting with Undefined Risk

This category of populations are grouped together because of the special settings that people come together and have HIV antibody testing done, due to one reason or the other. The HIV risk of each population cannot be defined as high or low. This category includes (a) people with occupational exposure, (b) patients attending government TB & Chest Clinics, and (c) prisoners.

People Sustaining Occupational Exposure to Blood or Body Fluids

These are health workers who had HIV antibody testing done and sent to laboratories of the Department of Health and Hospital Authority, after occupational exposure to blood or body fluids. The number of blood samples tested ranged from >100 in late 1980s to some 1500 in year 2000. No positive case was found in the past 15 years in this again heterogeneous group.

Patients Attending Government TB & Chest Clinics

It is well-recognised that HIV-infected patients, after contracting *Mycobacterium tuberculosis*, are more prone to developing clinical disease than the general population. Since 1990, UAS has been done for patients of the government TB & Chest Clinics. A system of voluntary HIV testing has also been introduced for the clinic patients since 1993.

Table 8. HIV seroprevalence among patients attending TB & Chest Clinics, from unlinked anonymous screening of urine samples (1990 - 2000)

Year	No. of urine samples	No. anti-HIV+	Positivity rate (%)
1990	1548	0	0
1991	485	0	0
1992	1469	2	0.136
1993	1173	0	0
1994	-	-	-
1995	895	2	0.223
1996	998	4	0.401
1997	1003	2	0.199
1998	833	4	0.480
1999	1166	8	0.686
2000	1018	5	0.491

Table 9. HIV seroprevalence among patients attending TB & Chest Clinics, from voluntary blood testing (1993 - 2000)

Year	No. of blood samples	No. anti-HIV+	Positivity rate (%)
1993	2116	0	0
1994	2534	2	0.079
1995	2548	2	0.078
1996	3157	2	0.063
1997	3524	2	0.057
1998	3726	6	0.161
1999	3633	11	0.303
2000	3426	3	0.088

Prisoners

Though imprisonment should have no direct relationship with HIV, prisoners constitute a unique group of population in HIV/AIDS programme. In US, there have been reports that AIDS prevalence was almost 6 times commoner in prisoners than general adult population.[2] In Hong Kong, a 1997 data indicated that 35% of the prisoners were drug abusers.[3] Since 1992, UAS has been undertaken in Hong Kong to monitor HIV infection among prison inmates, which can be divided into long-stay and new admissions.

It appeared that, compared with other populations, newly admitted prisoners have a relatively high HIV prevalence, the highest of which was 1% being recorded in 1999.

Table 10. HIV positivity rate among *long-stay prisoners (1992 - 1994, 1999)

Year	No. of samples	Type of samples	No. anti-HIV+	Positivity rate (%)
1992	1681	Blood	1	0.059
1992/93	2546	Urine	0	0
1993	1945	Blood	0	0
1994	1386	Blood	3	0.216
1999	1726	Urine	1	0.058

*Remarks : * a very heterogeneous group without uniform definition*

Table 11. HIV positivity rate among newly admitted prisoners (1995 - 2000)

Year	No. of samples	Type of samples	No. anti-HIV+	Positivity rate (%)
1995	653	Blood	3	0.459
1996	1503	Urine	6	0.399
1997	1474	Urine	3	0.204
1998	1571	Urine	4	0.255
1999	999	Urine	10	1.001
2000	1516	Urine	4	0.264

[2] *Department of Health, Hong Kong. Prisoners and HIV/AIDS prevention. In Hong Kong STD/AIDS Update. 1996; 2(4)8.*

[3] *United Nations International Drug Control Programme. Global illicit drug trends 2000. P.214.*

Conclusion

Seroprevalence studies did shed light into HIV situation among different target populations, and the changing pattern over the years. The lack of details on the tested positive cases, and the unknown representativeness of the samples could be two drawbacks of the surveillance data obtained. However, seroprevalence rates have definitely supplemented the data collected from the reporting system to paint a fuller picture of the epidemic. Future challenges would be to make better interpretation of the data and expand surveillance to communities at risk of the infection.

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Erratum

There is an error in the Editorial of the Hong Kong STD/AIDS Update, Vol. 7, No. 1, 2001. At paragraph 2, line 4 should read "A study conducted at Kwong Wah Hospital in 1999 revealed a positivity rate of 0.055% (3 out of 5459) ....", and the reference should be: HY Tse, FK Lai, J Wong, et al. Screening of Human Immunodeficiecny Virus infection in pregant woman. [FPMISC 03] XVIITH Asian and Oceanic Congress of Obstetrics and Gynaecology. July 9-14 2000, Singapore.

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