Department of Health Vol.7 No.3 October 2001

HONG KONG STD/AIDS Update

a quarterly surveillance report

Contents

Editorial

Forty one male and nine female HIV infections were newly reported to the Department of Health in the second quarter of 2001. Correspondingly, there were fifteen new AIDS cases (11 males and 4 females). The cumulative total of HIV infections, as at the end of June 2001, now stood at 1636, of whom 524 were known to have progressed to AIDS.

Not surprisingly, a majority of the new infections were Chinese - 36 (72%). The male-to-female ratio was, however, only 4.6 in this quarter. This was not as narrow as the figure of 1.9 in last quarter, and 2.6 in the same quarter of year 2000. Sexual contact remained to be the most important risk factor, accounting for all the cases with known exposure categories except only one case, which was related to injecting drug use. Amongst them, there were 11 (22%) cases through men who with sex with men (MSM). This proportion was high as compared with that of 12.8% and 13.6% in the second quarter of 2000 and last quarter respectively.

In reviewing the cumulative statistics it was found that about one-fourth of the reported infections were contributed by MSM (male homosexual or bisexual). And more than one-third of the male sexually acquired cases was MSM. Albeit heterosexually acquired HIV infections remained the commonest and the biggest number in absolute terms, the number of infections among MSM fluctuated annually, however, between 17 and 43 since 1991. The ratio of heterosexual male to MSM fluctuated from 2 to 4 each year since 1996.

An age difference between heterosexual male and MSM was also observed. Over the years, the reported MSM cases were younger than the heterosexual males. Cumulatively, the median age of MSM was 33 years old while that of heterosexual male was 36 years old ($P<0.001$). Furthermore, 9.4% (36/383) of MSM versus 6.2% (42/673) of heterosexual male were aged below 25 at the time of HIV reporting. Being younger in age, which means a relatively recent infection, would be the main significance from these findings.

How can we reconcile the above observations regarding the reported MSM and heterosexual male? A study on the HIV prevalence of these two groups of clients who attended the voluntary HIV counselling and testing service (VCT) of AIDS Unit may shed some light on this. It was found that HIV prevalence of the heterosexual male was 1.3% (8/613) and 1.1% (10/885) in 1999 and 2000 respectively. The corresponding figures for MSM were 6.8% (9/132) and 4.3% (7/161). These results should, however, be interpreted with caution as they can be affected by factors like sampling bias, representativeness of a single centre, awareness and health-seeking behaviours of the at-risk clients.

The transmission of HIV infection depends on the interplay of a multitude of factors, including risk behaviours on a personal level, prevalence of HIV and the vulnerability on a community level. Despite some potential limitations of the available data, we can be quite sure that, in the presence of risk behaviours, the chance of contracting HIV will be higher if there is more HIV circulating in a particular community. Understanding the epidemiological pattern of HIV infection in various vulnerable communities will certainly help in devising better and targeted HIV prevention, and subsequently maximising its effectiveness.

Reported HIV/AIDS Quarterly Statistics

2nd Quarter (April - June) 2001

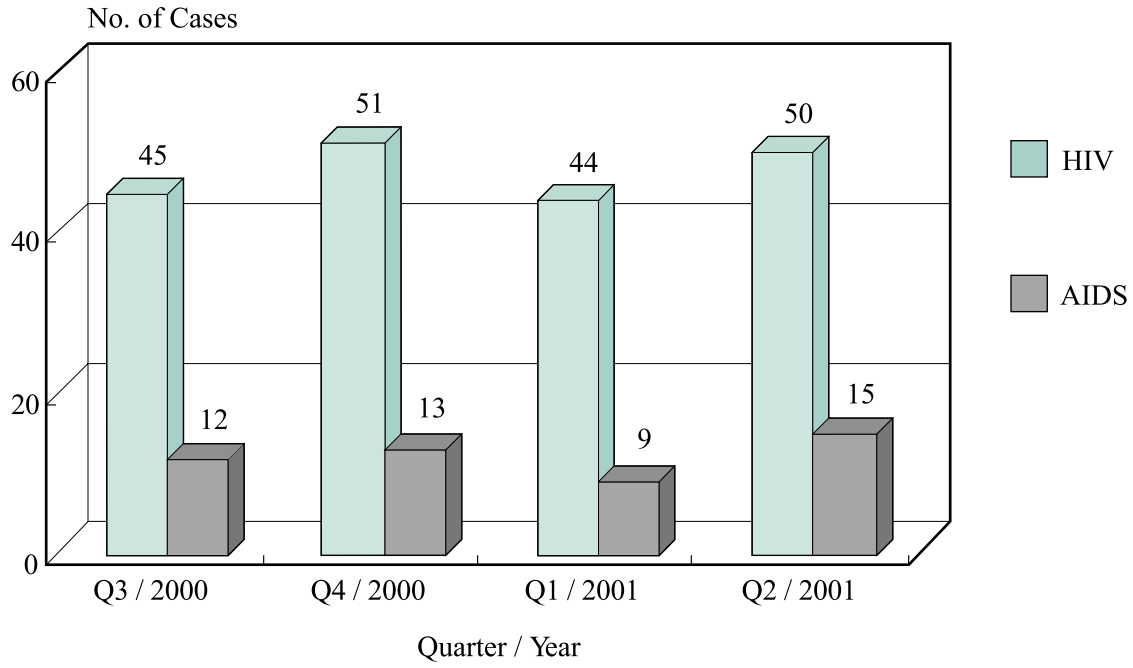
	This Quarter		Cumulative	
	HIV	AIDS	HIV	AIDS
Sex				
Male	41	11	1347	460
Female	9	4	289	64
Ethnicity / Race				
Chinese	36	11	1131	404
Non-Chinese	14	4	505	120
Asian	*8*	*3*	*249*	*63*
White	*4*	*1*	*182*	*54*
Black	*0*	*0*	*16*	*2*
Others	*2*	*0*	*58*	*1*
Age at Diagnosis				
Adult	50	14	1602	514
Child (age 13 or less)	0	1	34	10
Exposure Category				
Heterosexual	31	12	931	340
Homosexual	11	2	315	94
Bisexual	0	0	79	27
Injecting drug use	1	0	40	9
Blood / Blood product infusion	0	0	68	19
Perinatal	0	1	13	6
Undetermined	7	0	190	29
Total	**50**	**15**	**1636**	**524**

Sexually Transmitted Diseases Reporting at Government Social Hygiene Service

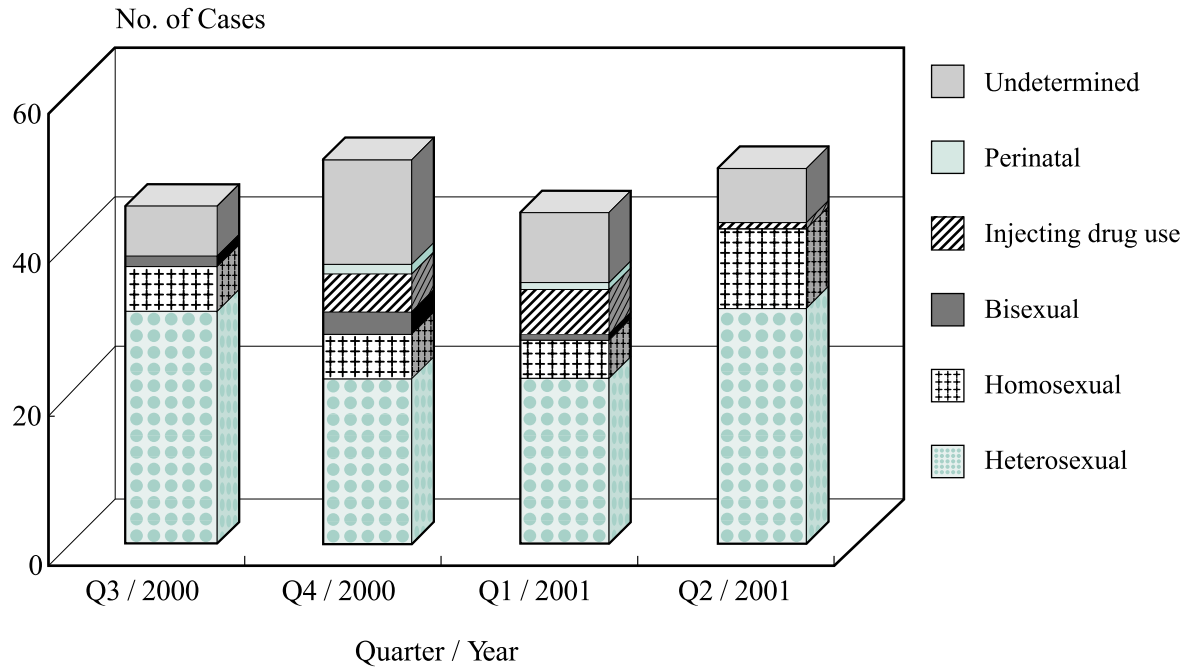
2nd Quarter (April - June) 2001

	This Quarter	Same Quarter Last Year
Syphilis		
Primary	60	59
Secondary	18	21
Early latent	81	64
Late latent	124	89
Late (cardiovascular/neuro)	0	0
Congenital (early)	0	0
Congenital (late)	0	1
Total	**283**	**234**
Gonorrhoea	881	879
Non-gonococcal Urethritis (Male)	1748	1991
Non-specific Genital Infection (Female)	1859	1676
Genital Wart	863	832
Herpes Genitalis	364	312
Pediculosis Pubis	102	108
Trichomonas	211	228
Genital Ulcer	145	207
Chancroid / Lymphogranuloma Venereum	0	0
Others	782	567
Total	**7238**	**7034**

Hong Kong HIV / AIDS Voluntary Reporting
in recent 4 Quarters

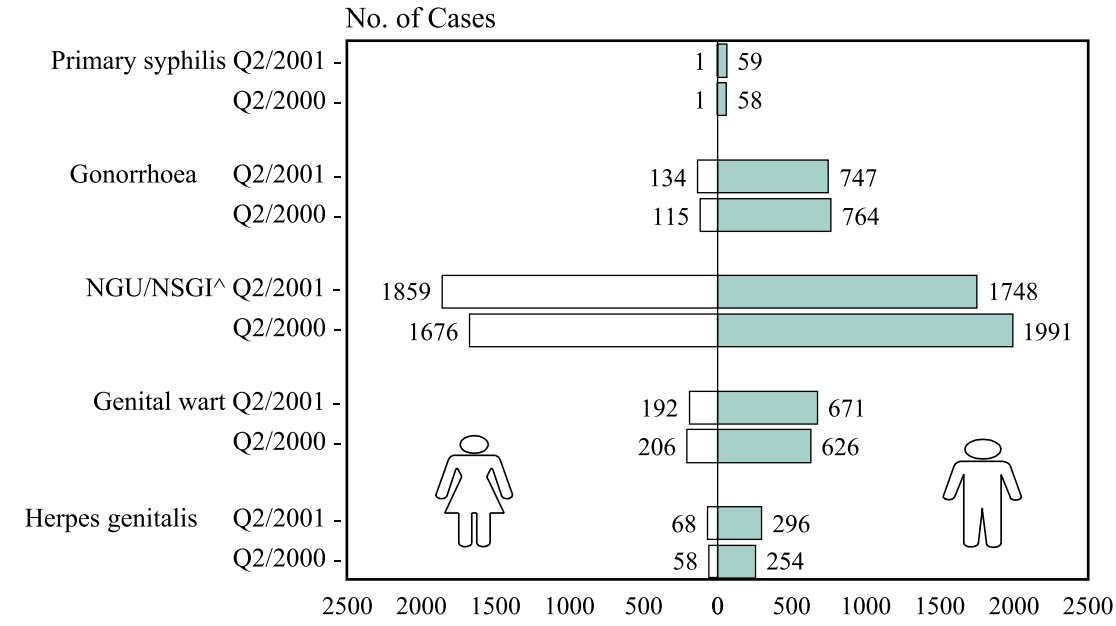


Hong Kong HIV Voluntary Reporting
By Exposure Category in recent 4 Quarters



Sexually Transmitted Diseases Reporting at GSHS*

By sex (2nd Quarter, 2001) Hong Kong

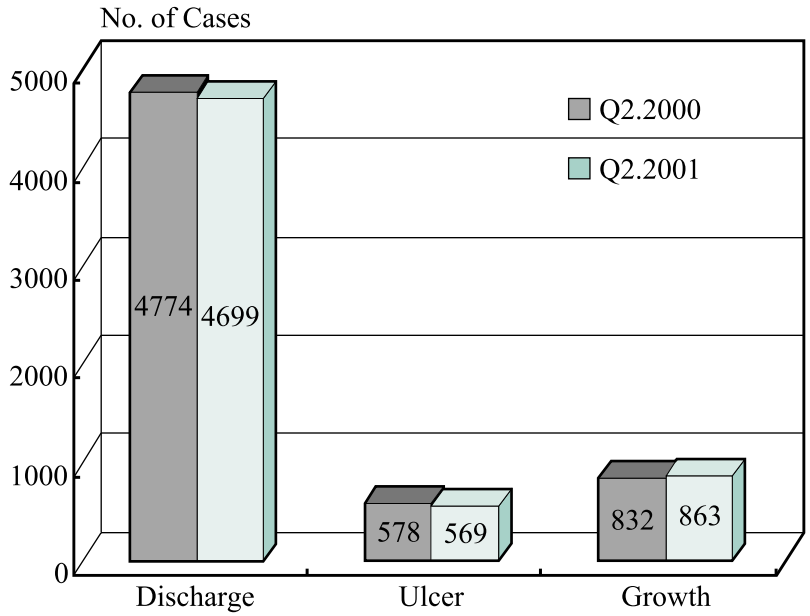


* GSHS : Government Social Hygiene Service

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

Syndrome Presentations of STD in GSHS*

(2nd 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

Perinatal HIV Infections and Universal Antenatal HIV Testing

There were thirteen reported cases of mother-to-child HIV transmission (MTCT) in Hong Kong at the end of June 2001 (Figure 1). They included nine (69.2%) boys and four (30.8%) girls. Five of the thirteen cases had progressed to AIDS at the time of their diagnoses. Only four of these thirteen children had their diagnosis made before they were one year of age (Figure 2). It means that most of the thirteen children did not receive any HIV treatment and care that could be available to them at an earlier stage.

In fact, all except two mothers, had their HIV testing done only after their children were born and found to be HIV positive (Figure 3). This is worrisome because it indicates that most women have very little awareness of their HIV risks. Any delay in discovering the HIV status of a pregnant woman represents a miss in opportunity to reduce MTCT and also the HIV transmission to her sexual partners, by using existing effective preventive measures. Moreover, early diagnosis increases the likelihood of giving appropriate HIV management to infected women, which includes the options of whether to get pregnant or not.

Although it would be the ultimate goal to have all women known of their HIV status before getting pregnant, it is still a step forward by offering all pregnant women the HIV test while they are at their early pregnancies. It is because measures are in place that can reduce the risk of MTCT, such as taking appropriate antiretrovirals.

Therefore, universal antenatal HIV testing has been implemented since 1st of September this year in all public hospitals and clinics to help reducing MTCT in Hong Kong.

Figure 1. Perinatal HIV infections in Hong Kong

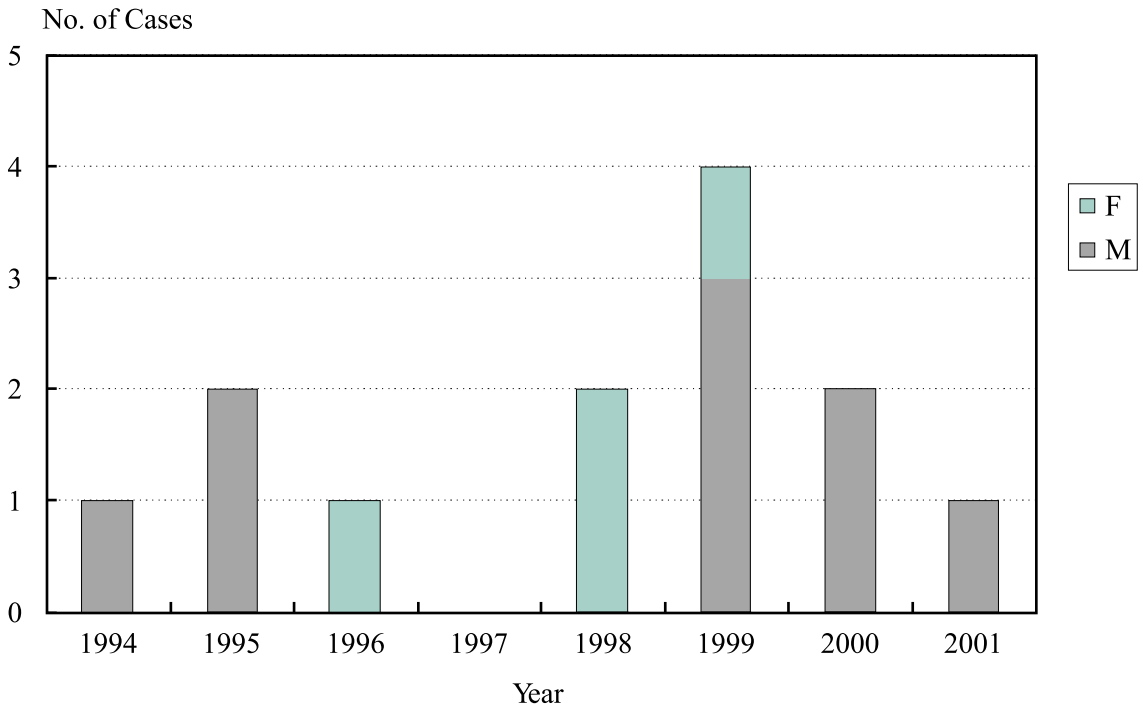


Figure 2. Age distribution of reported HIV infection

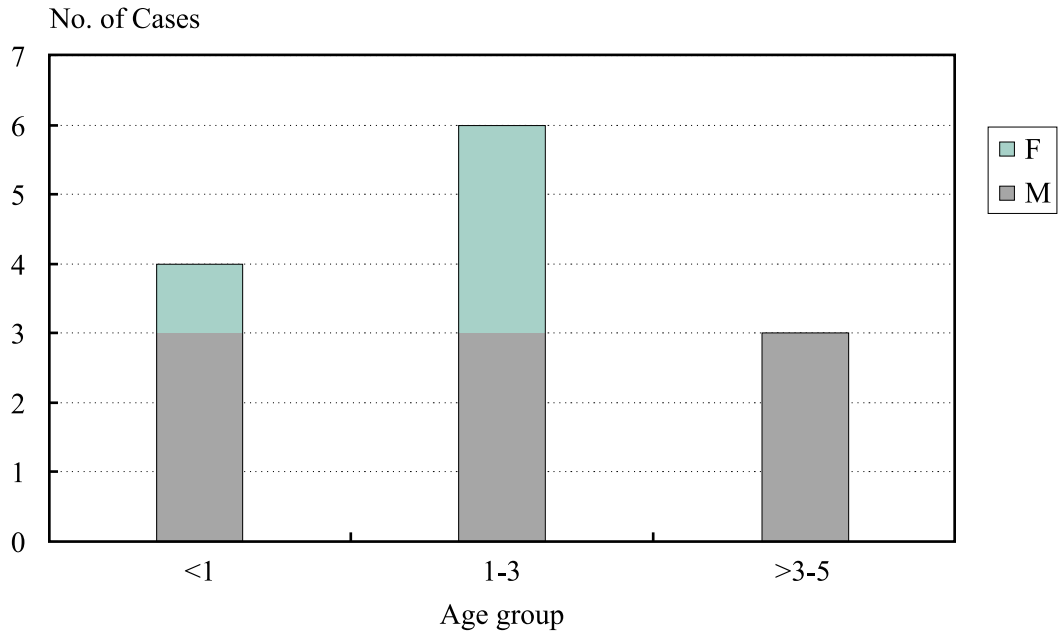
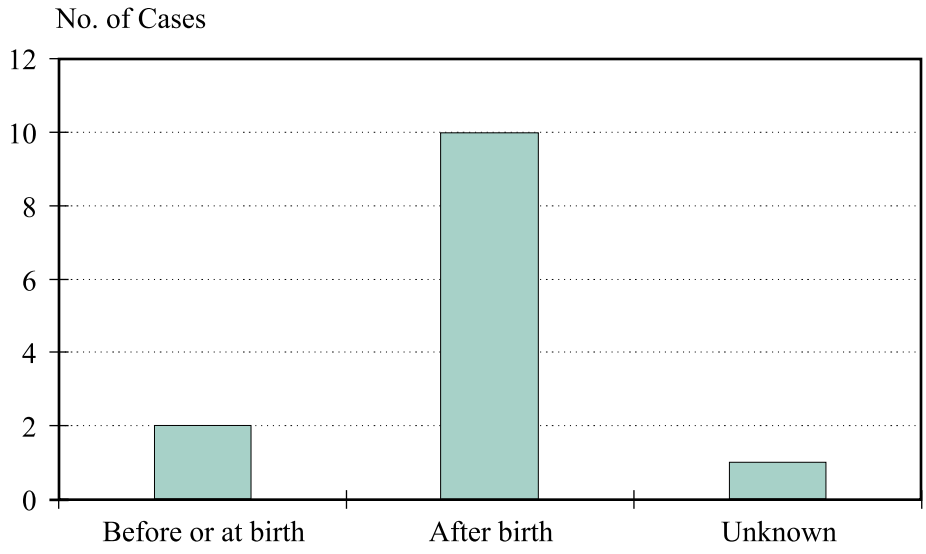


Figure 3. Timing of the HIV testing



An Overview of Sexually Transmitted Infection (STI) Surveillance in Hong Kong

Introduction

Effective control of any communicable disease relies on a chain of events including systematic data collection, feedback mechanism to those involved, prevention and control programmes, and then evaluation of the outcome. This should not be a linear process but a cyclical one, forming a complete loop to continuously improve on its own system and to adjust for changes. A major part of this control system is termed the surveillance programme.

Surveillance, as defined by World Health Organisation (WHO) and the Centres for Disease Control and Prevention (CDC)[1], is the "ongoing systemic collection, collation, analysis and interpretation of data, and the dissemination of information to those who need to know in order that action may be taken". It is a key component of any effective disease control programme.

Effective use of the surveillance data on Sexually Transmitted Infections (STIs) not only provides us with valuable information on the size, magnitude, and the latest trends of the infections in our population, but also allows the health care professionals to evaluate related control intervention and preventive programmes, as well as a means to identify further research needs.

STI surveillance is unique in a way that any information related to STI is generally considered to be both private and sensitive to the individual and to the community. This is largely because of its close relationship with human sexual behaviours and interactions, which in many cultures, this subject is neither something to be discussed openly nor willing to be disclosed to others. Therefore, very few countries can maintain an up-to-date and reliable surveillance database on STIs.

[1] *Centres for Disease Control : Comprehensive Plan for Epidemiologic Surveillance. Atlanta, GA, 1996.*

STI Surveillance in Hong Kong

Under the Quarantine and Prevention of Disease Ordinance (Cap. 141), there are a total of 27 notifiable infectious diseases in Hong Kong. Since STI is not one of them (if viral hepatitis B is considered separately due to its other transmission characteristics), any information on STIs can only be collected voluntarily. Similar to most other countries, our STI surveillance data is derived from clinic based disease reporting. This information is solely coming from the 10 Social Hygiene Clinics of the Social Hygiene Service (SHS), which forms the backbone of the STI surveillance system in Hong Kong. Currently, the collection of data on incidence and behavioural risks of people seeking treatment for Sexually Transmitted Infection constitutes one of the important areas of work undertaken by the SHS of the Department of Health.

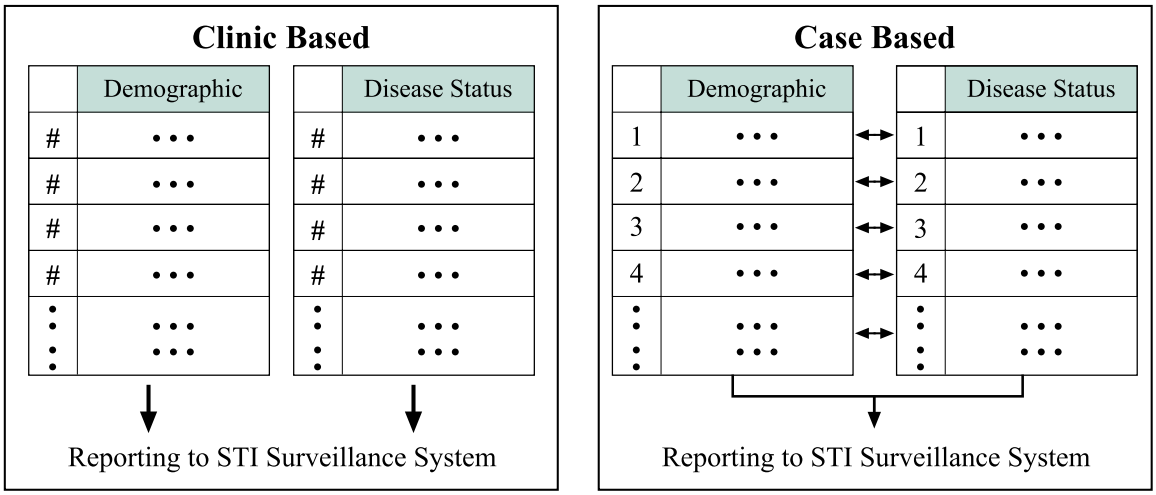
Collecting STIs Information

Social Hygiene clinics are government run health clinics catering for all people who are staying in Hong Kong. They provide clinical examination, counselling, and treatment on STIs. For better access and lesser barrier to the usage of this service, no prior appointment is necessary and no charge will be made for consultation.

In SHS clinics, the diagnosis of STIs is based on clinical examination supplemented by microbiological or pathological tests. The STIs, which are being reported to the surveillance system, include gonorrhoea, syphilis, non-gonococcal urethritis/non-specific genital tract infection, chancroid, lymphogranuloma venereum, granuloma inguinale, herpes progenitalis, genital warts, trichomonas, pediculosis pubis, and non-specific genital ulcer. At present, the basic demographics on clinic attendees to the SHS and total number of STIs diagnosed at these clinics are being separately reported to the surveillance system. This is known as the clinic based reporting. There is another type of reporting - the case based. The main deficit of using clinic based reporting as opposed to the case based reporting is that not every field of the dataset can be compared as in the latter, there is no case record to link them together and therefore they should not be analysed in such way. But it is a much easier and quicker method to perform, unlike the case based reporting. A simple schematic diagram (Figure 1) illustrates the important

differences between these two reporting systems.

Figure 1. Different between two reporting systems



Currently, only clinic-based data collected by the SHS is regularly available to the STI surveillance system. Other sources of relevant STI information that are being fed into the surveillance system from time to time include syphilis serology from the Hong Kong Red Cross and Blood Transfusion Service, syphilis serology of antenatal mothers in selected laboratories, and herpes serology data reported by the Government Virus Unit. Since the latter group of information is available in an ad hoc basis, it serves as a supplementary to the system only.

It should also be noted that one out of five people with STD was seen by public doctors; of those managed by the public service, the SHS took care of over half (56.2%) of all cases.[2] Nevertheless, the data from the Social Hygiene Service do provide an important, reliable, and sustainable source of information for the Hong Kong STI surveillance system. However, it should be cautious when applying the information to the whole population.

[2] *Department of Health, Survey on epidemiology of STD/HIV in Hong Kong 1997- Lessons to learn. Hong Kong STD/AIDS Update. Vol. 4, No. 3, April 1998: 7-8*

Dissemination of STI Statistics

The STI situation is updated on a quarterly basis and distributed to all medical libraries and learned institutions, health care workers who have requested it, and related health care organisations. It has been incorporated into the "Hong Kong STD/AIDS Update - a quarterly surveillance report" since early 1995. The full set of surveillance report is available on-line (http://www.aids.gov.hk) for easy access.

Attendance Pattern in SHS Clinics in the Past 4 Years

As the surveillance system largely relies on the reporting from SHS clinics, it is important to understand more about the clients they served. There were 84,648 STI cases seen at the 10 social hygiene clinics between 1998 and 2000. Among these cases, there were 50,203 and 34,445 males and females respectively (Table 1). Not a lot of changes in terms of attendance patterns, including both male and female attendance numbers, were observed in 4 of the 8 clinics (Lek Yuen, Western, Yau Ma Tei, and South Kwai Chung clinics) during this period. However, there has been a steady increase in the number of males attending the Chai Wan clinic and a gradual drop in the female attendances in the same period. In two other clinics, the Tang Shiu Kin and the Yung Fung Shee clinics, have shown a gradual rise in female attendance, and a stable number of male clients. The above observations should be interpreted with caution because there were many factors that could influence the attendance pattern, such as degree of access (availability, transportation, or clinic atmosphere) and change in population, in these clinic settings.

There were also data showing that about 90% of clients attending SHS come from the lower socio-economic classes of the community[3]. It should be acknowledged that a number of limitations do exist if the results or information of this surveillance system are to be utilised and applied in the whole population. As mentioned before, this system only captures those who are aware of their STI problems, willing to seek medical attention, and also attended the clinics of SHS. In addition, the system is based on the assumption

[3] *HO KM & LO KK. Analysis of premedicaql consultaion assessment by health nurses-A behavioural surveillance of clients of a Sexually Transmitted Diseases Clinic. HK Dermatology and Venereology Bulletin 1996: 4(1); 33-7 and Chow KY. STD Control: A sentinel surveillance of STD clinic attendees. HK Dermatology and Venereology Bulletin 1999; &: 52-8*

that correct diagnoses have been made. Unlike the diagnoses of syphilis, gonorrhea, and herpes, which have clearly defined clinical and/or serological/microbiological diagnostic criteria, non-gonococcal urethritis/non-specific genital tract infection do not have well defined diagnostic criteria that may ultimately affect the number of diagnosis made from time to time.

Table 1. Number of Attendance in SHS Clinics (1998 to 2000)

		1998	1999	2000	Total
Hong Kong	**M**	3,244	3,399	3,317	9,960
	F	1,957	2,235	2,163	6,355
	Sub-total	5,201	5,634	5,480	16,315
New Territories	**M**	3,168	3,809	3,538	10,515
	F	2,997	3,229	3,112	9,338
	Sub-total	6,165	7,038	6,650	19,853
Kowloon	**M**	9,664	10,202	9,862	29,728
	F	5,640	6,571	6,541	18,752
	Sub-total	15,304	16,773	16,403	48,480
Total	**M**	16,076	17,410	16,717	50,203
	F	10,594	12,035	11,816	34,445
	Total	26,670	29,445	28,533	84,648

Monitoring of Specific STIs

Monitoring incidences of gonorrhoea, syphilis, trichomonas and chlamydial trachomatis infections are recommended by the WHO as indicators to the STI surveillance in any population. This is because of the clear diagnostic criteria, the well-defined incubation period and the absence of relapse or latency among these infections. The STI surveillance system in Hong Kong has captured all these STIs into its reporting mechanism. However, chlamydial infection is reported and grouped under a larger category of non-gonococcal urethritis (NGU) and non-specific genital tract infection (NSGI) by the SHS.

By analysing the changing patterns of the nine STI categories over the last 3 years (Table 2), it showed a steady increase in the number of gonococcal and syphilitic (primary & secondary) infections diagnosed in the SHS clinics; whereas pediculosis pubis is noted to be on the decline. And non-gonococcal infection affecting the genitalia (i.e. the NGU + NSGI) remains to be the most common STI diagnosed in the last three years. Both gonorrhoea and early syphilis are useful indicators for risk sexual behaviours. The increase in numbers may represent more risk sexual activities or promiscuity in the community. However, it should not be concluded as such without considering other factors such as possible changes in size of sexually active population, and shift of symptomatic clients from private to SHS clinics either due to lowering of income or increasing popularity of SHS clinics.

Table 2. STI Diagnoses

	1998	1999	2000	Total
(1) Syphilis (all)	1,046	1,099	993	3,138
(2) Gonorrhoea	2,773	3,199	3,517	9,489
(3) Non-gonococcal Urethritis (Male)	7,247	7,903	7,490	22,640
(4) Non-specific Genital Infection (Female)	5,495	6,796	6,682	18,973
(5) Genital Wart	3,625	3,880	3,483	10,988
(6) Herpes Genitalis	1,341	1,397	1,325	4,063
(7) Pediculosis Pubis	819	668	429	1,916
(8) Trichomonas / Moniliasis	3,234	3,399	943	7,576
(9) Genital Ulcer	644	607	812	2,063
(10) Chancroid / Lymphogranuloma Venereum	19	6	3	28
(11) Molluscum Contagiosum	242	291	0	533
(12) Others	185	200	2,856	3,241
Total	26,670	29,445	28,533	84,648

Supplementing Disease Based Surveillance

In recent years, it is increasingly realised that effectiveness of case-based or disease-based surveillance can be enhanced if it is to be combined or supplemented with sero-surveillance and/or behavioural surveillance. Sero-surveillance is employed in those conditions or diseases in which diagnosis can be made or confirmed through serology methods; an example is the Human Immunodeficiency Virus (HIV) infection. On the other hand, behavioural surveillance refers to the monitoring of risk behaviours that will lead to an increased likelihood of getting the disease. Both behavioural and sero-prevalence surveillances are vital in disease monitoring and control because they can potentially serve as an early warning system for specific disease. Like any surveillance system, it should be a continuous process or done regularly to be able to make comparison possible in order to observe for changes and impending trends.

In November 2000, a cross-sectional survey on the new attendees to all of the eight Social Hygiene Clinics was performed by the SHS. The aim of this survey was to gain a better understanding of sex- and drug-related risk behaviours in relation to the contraction of STIs.

Clients were interviewed by nursing staff in each of the participating clinics during medical consultations. A total of 1,773 clients responded (Table 3). A majority of the respondents (95.5%) were ethnic Chinese. Among them, 1202 (67.8%) were males. The mean ages of male and female respondents were 38.4 (SD = 13.5) and 35.3 (SD = 12.2) years respectively. Ninety-nine percents of all respondents stated their sexual orientation to be heterosexual. The numbers of male and female respondents of each of the 8 clinics are shown in Table 3.

When possible symptoms of STIs were asked, a significantly higher percentage of females stated that they had no symptoms when compared with males (30.3% vs. 23.6%, $p = 0.003$) (Table 4). This may well be due to the fact that many female clients were not aware of any symptom but were told to attend the clinic by their partners ("partner referral") who were diagnosed STIs by the SHS already. We also found that females were less likely to use condoms (never or sometimes) with their non-commercial sex partners as compared with males (79.6% vs. 69.2%, $p < 0.001$).

Table 3. Number of male and female respondents in each clinic

	Male		Female		Total	
	N	%	N	%	N	%
(1) Chai Wan	43	3.6	19	3.3	62	3.5
(2) Tang Shui Kin	188	15.6	66	11.6	254	14.3
(3) Western	45	3.7	13	2.3	58	3.3
(4) South Kwai Chung	108	9.0	44	7.7	152	8.6
(5) Tuen Mun	124	10.3	84	14.7	208	11.7
(6) Yau Ma Tei	436	36.3	213	37.3	650	36.7
(7) Yung Fung Shee	138	11.5	57	10.0	195	11.0
(8) Lek Yuen	120	10.0	75	13.1	194	10.9
Total	1,202	100	571	100	1,773	100

Table 4. Chief compliants

	Male		Female		Total	
	N	%	N	%	N	%
(1) Asymptomatic	284	23.6	173	30.3	457	25.8
(2) Symptomatic	917	76.4	398	69.7	1315	74.2
Total	1201	100	571	100	1772	100

The pattern of STI diagnoses from this survey is similar to those of the surveillance system in previous years. Non-specific genital infection remained the most common diagnosis among female attendees. In male respondents, there were a slightly higher number of genital warts being diagnosed in this survey (Table 5). In the area of illicit drug-taking behaviour, there were 4.3% respondents admitted to have taken drugs in the past one year. Nearly all but a few (96.4%) consented to having HIV testing among all respondents.

Table 5. STI Diagnoses

	Male		Female		Total	
	N	%	N	%	N	%
(1) Syphilis	15	2.6	12	2.6	27	2.6
(2) Gonorrhoea	106	18.2	29	6.3	135	12.9
(3) Non-gonococcal Infection (Male)	158	27.1	--	--	158	15.1
(4) Non-specific Genital Infection (Female)	--	--	196	42.5	196	18.8
(5) Genital Wart	196	33.6	67	14.5	263	25.2
(6) Herpes Genitalis	13	2.2	9	2.0	22	2.1
(7) Pediculosis Pubis	18	3.1	5	1.1	23	2.2
(8) Trichomonas	0	0	61	13.2	61	5.8
(9) Genital Ulcer	35	6.0	5	1.1	40	3.8
(10) Others	43	7.4	77	16.7	120	11.5
Total	584	100	461	100	1,045	100

Among the 571 female respondents, 55 (9.6%) of them stated that they had engaged in sex work. There was no significant difference between the proportion of sex workers contracting STI the first time and the proportion of first time STI clients of other occupations (69.8% vs. 67.8%; p = 0.755) (Table 6). This is interesting because sex workers are thought to be taking more risky sexual behaviours and therefore are expected to have higher risks of and frequencies in STIs. However, it is also important to note that there may be more factors to come into play, especially in the context of this behavioural survey. Firstly, there is no previous similar survey being done in the same setting for comparison. Secondly, the risk of STI can be much reduced by using condom regularly. It is necessary to know the condom usage rates in all groups for analysis. And lastly, there can be a problem of "denominator", as we do not know whether the "high-risk" sex workers are using the social hygiene service consistently or using the service once and then changing to other health care service thereafter. After all, it is crucial to understand that all the clients attending SHS have already in some ways failed to practise safer sex. Therefore, it should be careful when interpreting the sexual risk behaviours among the

sub-groups of all clients. Most importantly, this has illustrated the complexity of analysing behavioural data and also the importance of getting regular quality survey data over time.

Table 6. First time presenting with STI

	Sex Worker		Non-sex Worker		Total	
	N	%	N	%	N	%
(1) Yes	37	69.8	1,159	67.8	1,196	67.8
(2) No	16	30.2	551	32.2	567	32.2
Total	53	100	1,710	100	1,763	100

Conclusion

Surveillance on STI can be further enhanced if a system of data collection is established with regular inputs from both the public and the private health care sectors. This will certainly help in building a sustainable programme that will eventually improve the response to STIs locally. But with the increasing number of cross-border traffic in terms of human mobility in recent years, collaboration with health departments in the Mainland is essential in order to have effective STI control. It is no longer adequate to simply rely on the disease-based surveillance information in formulating STI prevention and control measures. More emphasis should be placed on early warning system, such as monitoring STI risk behavioural change, to gain an upper hand in today's health care setting.

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The Changing Pattern of Voluntary HIV/AIDS Reporting in Hong Kong*

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Objective

To determine whether there is any change in the reporting pattern in HIV/AIDS through the voluntary reporting system after the HIV/AIDS reporting form DH 2293 was fully implemented in Hong Kong in 1995.

Methods

HIV infections diagnosed in the three major HIV confirmation laboratories from 1995 to 2000 were evaluated against the anonymous physician voluntary reporting based on the data in the DH2293.

Results

A total of 1022 HIV infections were reported through the voluntary reporting system within the study period. Among these cases, 840 physician reports (82.2%) were received whereas 183 (17.8%) cases were submitted by laboratories only, without a corresponding report from physicians. The proportion of physician reporting increased from 68.9% in 1995 to 82.5% in 2000. Physician reporting rate was higher in the public sector than private sector (OR 5.55, 95% CI 3.88 - 7.95). Missing data were more common in laboratory reporting only than physician reporting. The difference in median age, sex and ethnicity based on the known available data are not statistically significant between physician reporting and laboratory reporting.

The overall median reporting delays increased from 17 days in the second quarter of 1997 to 33 days in the fourth quarter of 2000. The median duration of reporting delay was 20 days in the public sector and 29 days in the private sector. Late presentation was present in 8.3% in laboratory reported only cases versus 33.5% in physician reported cases (OR 5.54, 95% CI 3.06 - 10.20).

Conclusions

The quality of data in physician reporting was better than that reported by laboratory only. There was an increasing trend of physician reporting since 1995. The public sector had a higher physician reporting rate than the private sector. In order to better define the picture of HIV/AIDS infections, more physician reporting is encouraged although laboratory reporting still has its role in enhancing the accuracy of the HIV surveillance.

** This article is an abstract of a paper presented in the Hong Kong AIDS Conference 2001, Aug 27 - 29, 2001*

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http://www.aids.gov.hk/aids

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