Department of Health Vol.7 No.5 Quarter 4 2001

HONG KONG STD/AIDS Update

a quarterly surveillance report



Contents



Editorial

# Editorial

Hong Kong's AIDS prevention efforts has moved a big step forward after its implementation of a Universal Antenatal HIV Testing programme for all expectant mothers since 1st September 2001. This service is now available at all the Maternal and Child Health clinics of the Department of Health and all antenatal clinics of the Hospital Authority. There will be no additional charges incurred to the clients for using this service.

The main objective of this programme is to prevent mother to child HIV transmissions (MTCT). MTCT is one of the important routes of HIV infection. Without intervention, it is estimated that 25% to 40% of children will have contracted the AIDS virus from their HIV infected mothers. In fact, most transmission occurs close to the time of delivery and breastfeeding alone carries an additional 10% to 20% risk of infection.

It is now known that maternal viral load constitutes the single most important risk factor for MTCT. HIV infected pregnancies should therefore be taken care of by those centers dedicated to HIV management. Currently, infrastructure of effective intervention and treatment for pregnant women is already in place in Hong Kong to reduce the risk of MTCT.

Through the provision of HIV testing and counselling, all pregnant women and their families will get to know more about HIV infection, its transmission and testing together with its prevention. By discovering HIV infection early during the first trimester, appropriate and timely measures can be offered and effective interventions can be instituted.

Like any territory-wide initiatives, successful implementation of the Universal Antenatal HIV Testing programme depends on the support from both the public and our healthcare professionals. During its first three months of running, ninety-six percent of pregnant women agreed to have the HIV antibody tests done (with 4% women opted out). Six HIV positive pregnancies were found out of 10238 tests performed. All the HIV infected expectant mothers and their families have been provided medical care and support in the public service.

# Reported HIV/AIDS Quarterly Statistics

## 4th Quarter (October - December) 2001

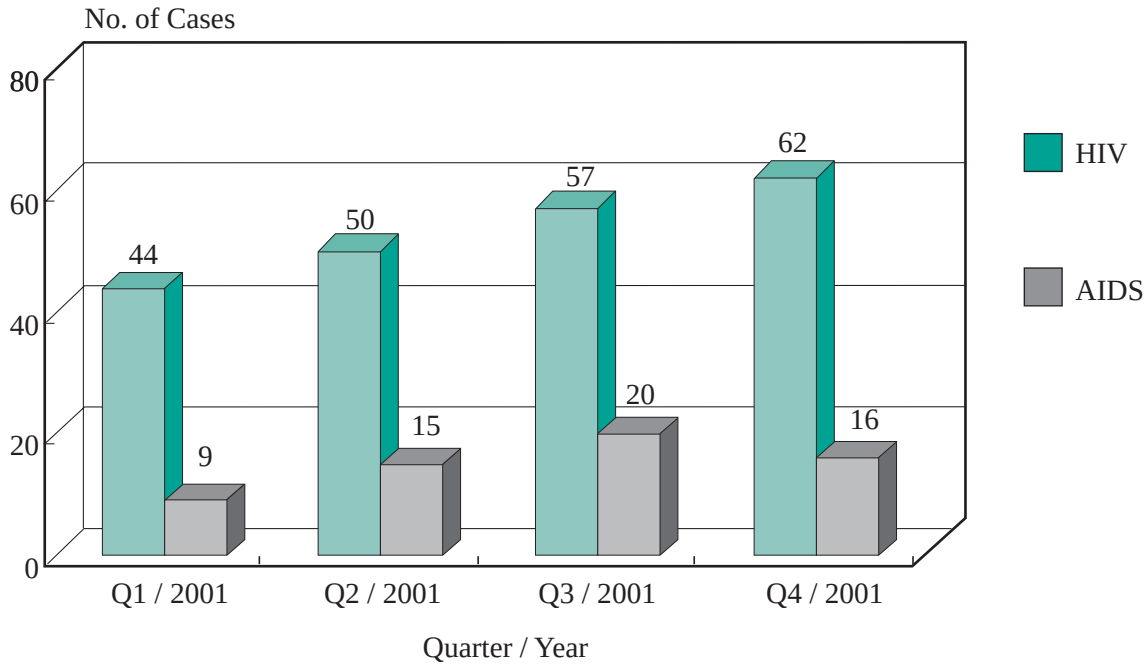
| | This Quarter | | Cumulative | |
|---|---|---|---|---|
| | HIV | AIDS | HIV | AIDS |
| **Sex** | | | | |
| Male | 49 | 15 | 1435 | 491 |
| Female | 13 | 1 | 320 | 69 |
| **Ethnicity / Race** | | | | |
| Chinese | 48 | 14 | 1214 | 436 |
| Non-Chinese | 14 | 2 | 541 | 124 |
| *Asian* | *8* | *2* | *272* | *66* |
| *White* | *0* | *0* | *186* | *54* |
| *Black* | *0* | *0* | *17* | *2* |
| *Others* | *6* | *0* | *66* | *2* |
| **Age at Diagnosis** | | | | |
| Adult | 62 | 16 | 1720 | 550 |
| Child (age 13 or less) | 0 | 0 | 35 | 10 |
| **Exposure Category** | | | | |
| Heterosexual | 34 | 11 | 1001 | 369 |
| Homosexual | 10 | 3 | 336 | 97 |
| Bisexual | 3 | 0 | 84 | 28 |
| Injecting drug use | 1 | 0 | 44 | 9 |
| Blood / Blood product infusion | 0 | 0 | 68 | 19 |
| Perinatal | 0 | 0 | 14 | 6 |
| Undetermined | 14 | 2 | 208 | 32 |
| **Total** | **62** | **16** | **1755** | **560** |

# Sexually Transmitted Diseases Reporting at Government Social Hygiene Service

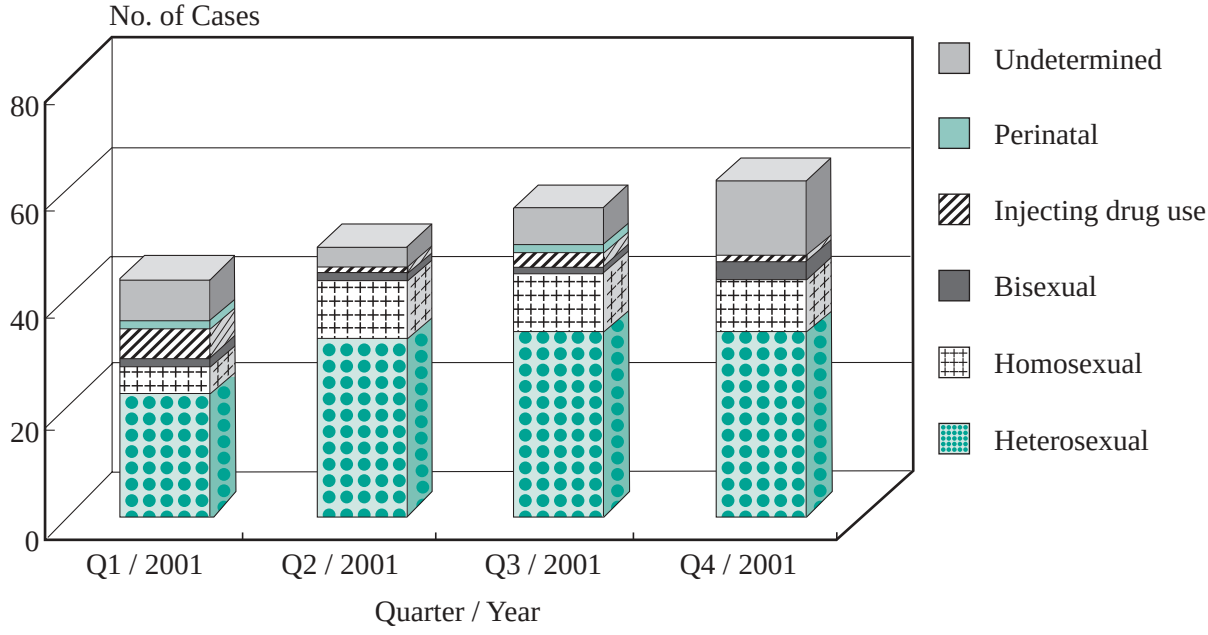
## 4th Quarter (October - December) 2001

| | This Quarter | Same Quarter Last Year |
|---|---|---|
| **Syphilis** | | |
| *Primary* | 55 | 64 |
| *Secondary* | 14 | 29 |
| *Early latent* | 54 | 65 |
| *Late latent* | 146 | 80 |
| *Late (cardiovascular/neuro)* | 2 | 0 |
| *Congenital (early)* | 0 | 0 |
| *Congenital (late)* | 0 | 0 |
| **Total** | **271** | **238** |
| **Gonorrhoea** | 879 | 873 |
| **Non-gonococcal Urethritis (Male)** | 1586 | 1651 |
| **Non-specific Genital Infection (Female)** | 1621 | 1727 |
| **Genital Wart** | 756 | 912 |
| **Herpes Genitalis** | 379 | 342 |
| **Pediculosis Pubis** | 78 | 107 |
| **Trichomonas** | 200 | 269 |
| **Genital Ulcer** | 115 | 196 |
| **Chancroid / Lymphogranuloma Venereum** | 1 | 2 |
| **Others** | 521 | 847 |
| **Total** | **6407** | **7164** |

# Hong Kong HIV / AIDS Voluntary Reporting
## in recent 4 Quarters

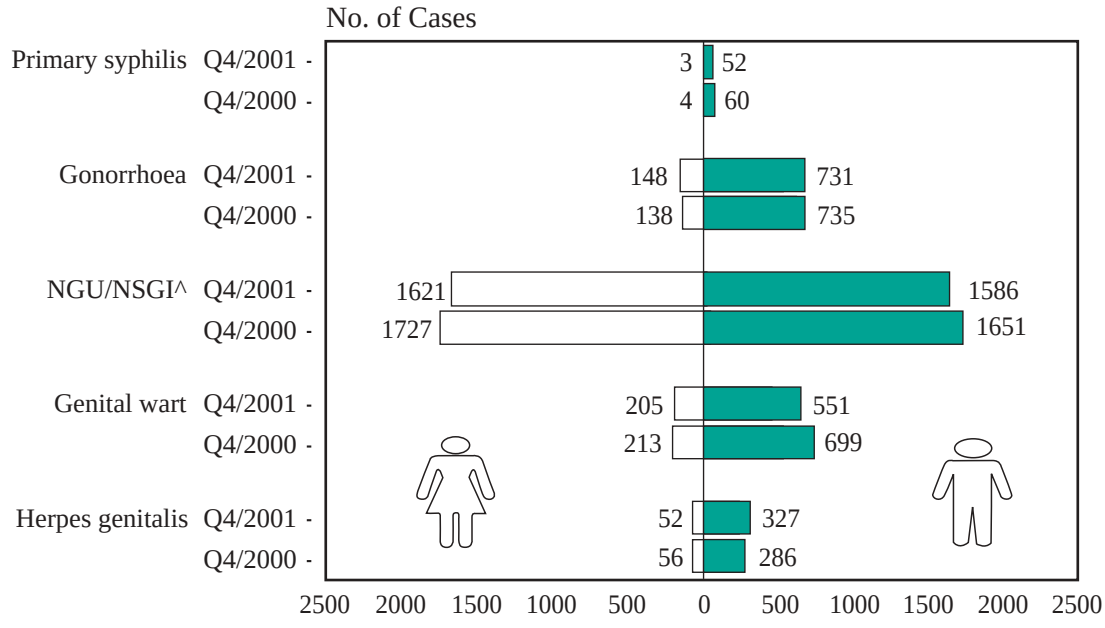



# Hong Kong HIV Voluntary Reporting
## By Exposure Category in recent 4 Quarters



# Sexually Transmitted Diseases Reporting at GSHS*

## By sex (4th Quarter, 2000 & 2001) Hong Kong

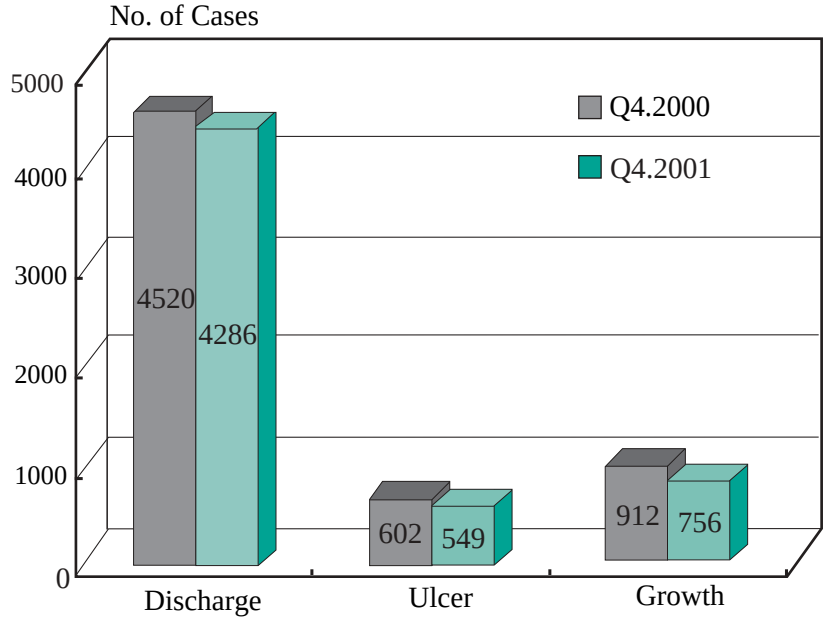



* GSHS: Government Social Hygiene Service

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

# Syndrome Presentations of STD in GSHS*

## (4th Quarter, 2000 & 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

# Epidemiology of HIV Infection in Hong Kong

Since the first AIDS case was discovered in 1981, a great deal of work and research has been contributed to our understanding of the AIDS virus, the natural history of the infection, and the rationale for its treatment and control. The ways in which HIV can be transmitted are well-delineated: (i) sexual contact with an infected person; (ii) sharing needles or syringes with others who are infected; (iii) from an infected mother to her baby; and (iv) the transfusion of infected blood or blood products. The latter rarely happens in our setting since the introduction of blood screening by the Hong Kong Red Cross Blood Transfusion Service in 1985.

Understanding the patterns of Human Immunodeficiency Virus (HIV) infection and Acquired Immunodeficiency Syndrome (AIDS) together with their associated factors constitute the backbone of the necessary knowledgebase to our fight against HIV/AIDS. An effective surveillance system comprised of systematic data collection (forming the building blocks of the knowledgebase) is essential to the development of any thorough and critical analysis. Information derived from this process would then enable policy makers to target limited resources to areas most needed, health care workers to better focus on local problems, and researchers to carry out studies pertinent to our own situation.

## HIV/AIDS Surveillance System

To-date, a number of programs have contributed to our HIV/AIDS surveillance system in Hong Kong. They are the (i) HIV/AIDS reporting; (ii) seroprevalence studies; (iii) sexually transmitted infection (STI) surveillance; and (iv) behavioural surveillance. The results were complemented by research activities including molecular biology and HIV immunology studies. Currently, HIV/AIDS reporting is the mainstay of our HIV/AIDS surveillance system, which is complemented by the other three programs and research activities.

The HIV/AIDS reporting in Hong Kong has been in operation since 1984. Attending physicians of newly diagnosed HIV or AIDS cases and laboratories providing confirmatory tests for HIV infection make reports through the submission of DH2293 form and separate laboratory forms, respectively. The reporting is a case-based notification system conducted on a voluntary basis. Core information of the reporting includes age or date of birth, gender, ethnicity of the HIV-infected person and the likely route(s) of contracting HIV. Submission of individual's name is not mandatory so as to protect privacy and confidentiality.

Understandably, certain inherent limitations do exist in this type of reporting system. The questions of under-reporting and "under-diagnosis" (i.e. those who are infected with HIV but are unwilling to undertake or have yet taken the tests) are frequently raised. On the other hand, duplication in cases reported by different attending physicians (resulting in over-reporting) remains a possibility although this is believed to be uncommon since every entry has been doubly checked within the same quarterly period before deposition in the data system.

Deriving HIV/AIDS epidemiology in Hong Kong is a dynamic and continuous exercise where all new, relevant and valid information will also be taken into consideration. Followings are

the observations and analyses based on the HIV/AIDS reporting system that has been functioning consistently in the same format for almost two decades.

## Temporal Trend and Distribution by Gender, Age and Ethnicity

As of the end of 2001, a cumulative total of 1755 HIV infections have been reported to the system and among them, 560 have already progressed to AIDS (Figure 1). On a yearly basis, a rising trend was observed on the reported number of HIV infections over the past 2 decades. Around 200 new HIV infections per year were reported in the past five years. And the number of AIDS cases has plateau off since 1997, probably related to the introduction of Highly Active Anti-Retroviral Therapy in late 1996 in Hong Kong.

Although the male-to-female ratio of HIV infections has narrowed in recent few years, the actual number of newly diagnosed HIV infections in both males and females continues to rise. About half of the infected females were non-Chinese Asians (47.8%), followed by Chinese (41.9%). The situation is different from that of HIV infection in males who were mainly Chinese (75.3%) while non-Chinese Asians accounted for only 8.3%. (Table 1)

The age distribution of HIV infections (all HIV infections of those acquired through sexual contacts) over the past 10 years has remained relatively unchanged. Young people are the ones affected predominately each year, implying the diagnosis of newly infected cases, rather than the reporting of previously undiagnosed persons. The infections occurring in other age groups should however not be ignored. (Table 2)

## Factors that Influence Risk of HIV Infection

### Sexual Transmission

Sexual contact is the commonest route of transmission, accounting for 80.9% of all reported HIV infections. Both heterosexual and homosexual intercourses are important causes of infection. Female HIV infection had occurred infrequently at the beginning of the epidemic when many of the infected persons were either haemophiliacs who got infected through the use of contaminated blood product or men infected through homosexual contact. But this pattern has undergone changes. As a result of increasing number of heterosexual infections, it is not surprising to see that female has a higher proportional increase in the total number of HIV infection from its previous low infection rate. (Table 3)

The incidence rates of HIV infections were tabulated for the past five years in men having sex with men (MSM), heterosexual males and females to make comparison of the trend of infection among the respective groups (Tables 4, 5 & 6). Although the relative proportion of female HIV infections has been on the increase in recent years, the group specific rates of HIV infection are more or less stable. This pattern also applies to the heterosexual males. In the MSM group, however, there has been some fluctuations to the yearly group specific rates since 1997, while the overall trend remains steady. When comparing the yearly incidence rates among all 3 groups, it is noted that the MSM group specific rates have all along been higher than that of the other 2 groups. Take 2001 as an example, the risk of HIV infection

among MSM is 10 times of that in females and 3 times of that in heterosexual men, assuming 10% of population is MSM. The gap is widened further if the presumed percentage of MSM population is less than 10%. (Table 7)

## Injecting drug use

Injecting drug use is the most important route of transmission for HIV infection in many Chinese provinces. In Hong Kong, although the cumulative proportion of HIV infection due to injecting drug use has remained small (44/1755; 2.5%), the absolute number involved is on the rising trend particularly in the past three years. As the risk of transmission for HIV per act of needle-sharing is much higher than that of sexual contact, the chance of spreading HIV through this route cannot be ignored. (Figure 2)

## Mother To Child Transmission

As of the end of 2001, 14 perinatal infections have been reported, accounting for 0.8% of the all infections. Since the implementation of Universal Antenatal HIV Testing in September last year, 6 HIV positive pregnancies were reported in the first three months. Out of a total of 10328 tests performed this could be translated into a prevalence rate of 0.06%. The low HIV prevalence rate in expectant mothers is a good reflection of that in the general population.

## Sources of Reporting

Majority of the reporting comes from public/private hospitals, clinics and laboratories (41.8%). The Social Hygiene Service, Hong Kong's largest network of sexually transmitted infection clinics that manages some 30,000 cases per year, has reported 15.6% of all the HIV infections. This not only emphasizes the importance of sexual risk in HIV infection but also highlights the critical role of social hygiene service in the prevention and care of HIV/AIDS. (Figure 3)

## Pattern of the AIDS cases

Pneumocystis carinii pneumonia (PCP) is the commonest AIDS defining illness in Hong Kong. Up till the end of 2001, 45% of AIDS cases had known to have PCP infection, followed by mycobacterial tuberculosis (30%) and penicilliosis (10%). This pattern has not undergone much changes over the past five years. (Table 8)

Up to the mid-1990s, AIDS cases and the knowledge of the incubation period were generally regarded as the essential components of estimating the number of HIV infection by using a mathematical technique known as back calculation. With the advent of Highly Active Anti-retroviral Therapy (HAART), these can no longer be good markers to give future projections, although the number and pattern of AIDS diagnoses remain to be important. This is because AIDS cases not only are less likely subject to under-diagnosis as in the case of HIV infection, it also can serve as a marker of late presentation of HIV infection.

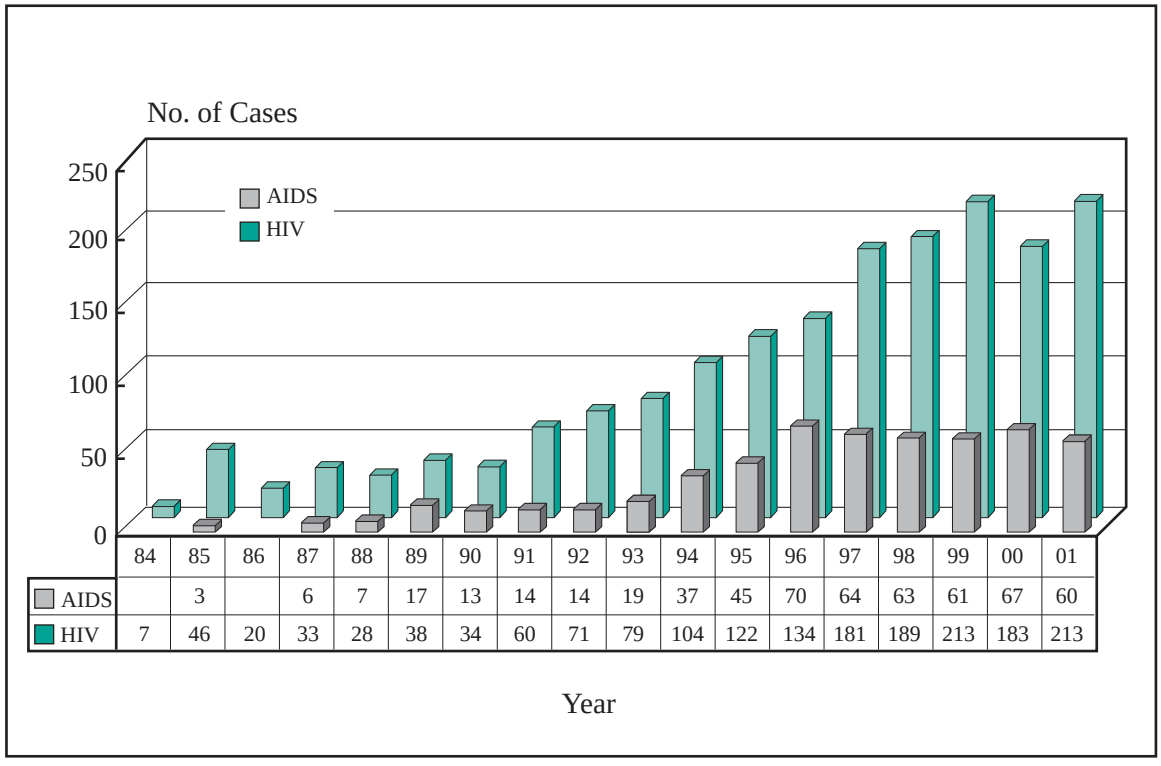
## Conclusions

Studying the epidemiology of HIV/AIDS above may not necessarily provide us with all the answers to curb HIV spread. In many instances, more questions will be raised in relations to the observations. Despite many intrinsic deficits to the reporting system, it is still our best available program in providing us with consistent and reliable information on HIV/AIDS situation. One obvious conclusion that can be drawn from the results of the reporting system is the low HIV rate in the general population in Hong Kong. However, the prevalence of HIV infection is expected to continue to rise steadily in the coming years because of improved survival of patients on HAART and there is no complete cure or effective prevention vaccine available on the horizon.

In addition, several observations that deserve more attention, including:

1. High HIV infection rate in MSM groups;
2. Rapid increase in the number of HIV infection in injecting drug users; and
3. High number of local heterosexual men who contracted the virus.

***Figure 1. Hong Kong Annual HIV/AIDS Statistics***




| | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 00 | 01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AIDS | | 3 | | 6 | 7 | 17 | 13 | 14 | 14 | 19 | 37 | 45 | 70 | 64 | 63 | 61 | 67 | 60 |
| HIV | 7 | 46 | 20 | 33 | 28 | 38 | 34 | 60 | 71 | 79 | 104 | 122 | 134 | 181 | 189 | 213 | 183 | 213 |

***Figure 2. Annual HIV Infection through Injection Drug Use***

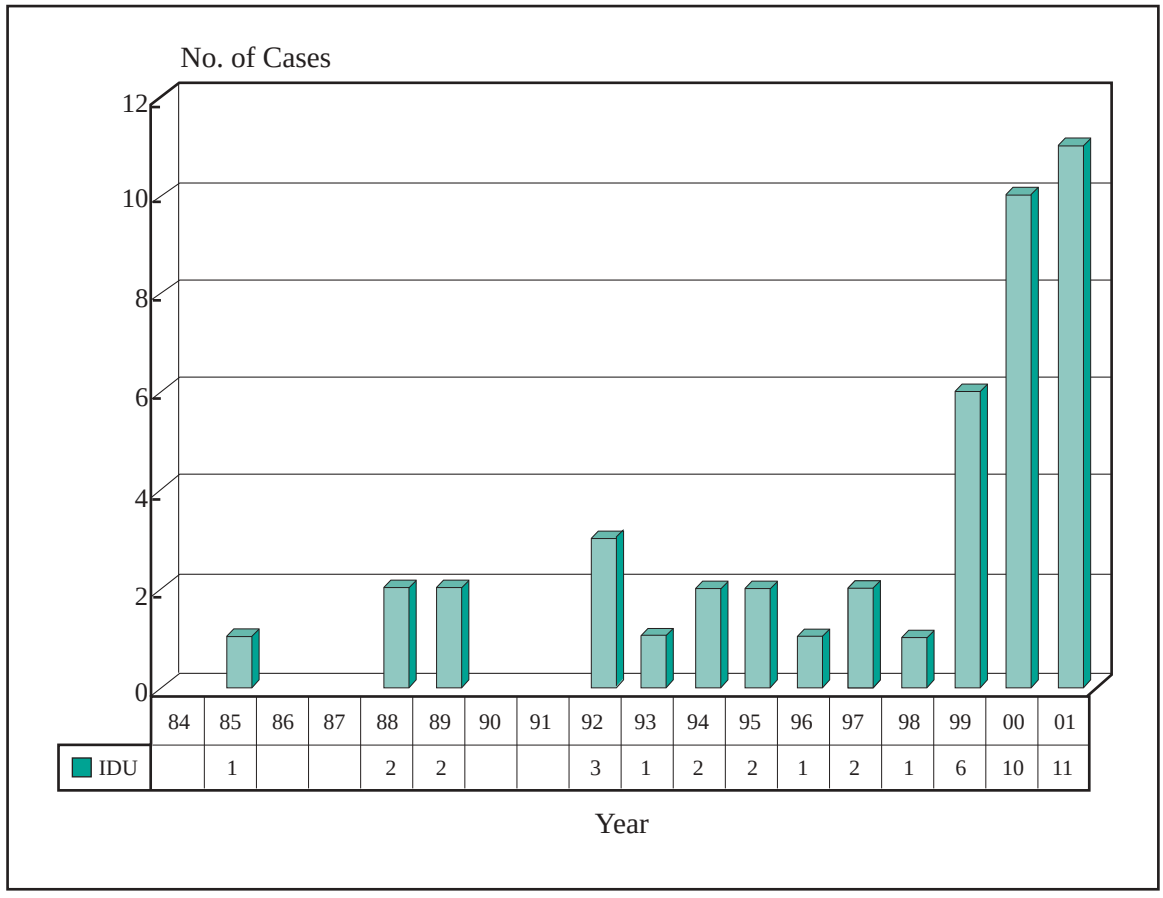



***Figure 3. Breakdown in Source of reporting***

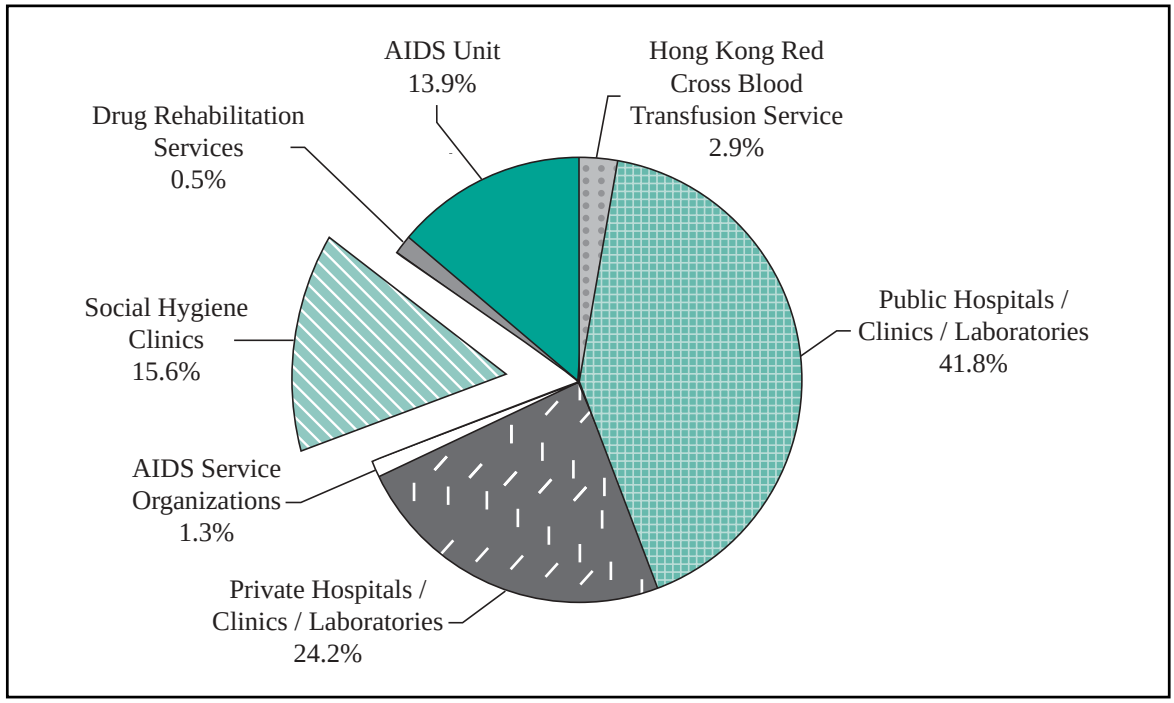


*Table 1. Total number of reported HIV infection by ethnicity and gender*

| | Male | | Female | | Total | |
|---|---|---|---|---|---|---|
| **Chinese** | 1080 | (75.3%) | 134 | (41.9%) | 1214 | (69.2%) |
| **Asian** | 119 | (8.3%) | 153 | (47.8%) | 272 | (15.5%) |
| **White** | 177 | (12.3%) | 9 | (2.8%) | 186 | (10.6%) |
| **Black** | 11 | (0.8%) | 6 | (1.9%) | 17 | (1.0%) |
| **Unknown** | 48 | (3.3%) | 18 | (5.6%) | 66 | (3.8%) |
| **Total** | **1435** | **(100%)** | **320** | **(100%)** | **1755** | **(100%)** |

*Table 2. Median Age (with inter quartile range) for reported HIV Cases*

| Year | Median age | Inter quartile | |
|---|---|---|---|
| | | 25% | 75% |
| **1984** | 11 | 6 | 32 |
| **1985** | 21 | 13.5 | 28.5 |
| **1986** | 26 | 15 | 41 |
| **1987** | 29 | 24 | 38.5 |
| **1988** | 35 | 25.75 | 42.25 |
| **1989** | 36 | 28 | 46 |
| **1990** | 33 | 28 | 39 |
| **1991** | 31.5 | 26 | 39.75 |
| **1992** | 34 | 28 | 40 |
| **1993** | 33 | 27 | 39 |
| **1994** | 34 | 28 | 40 |
| **1995** | 32 | 26 | 40 |
| **1996** | 34 | 30 | 41.5 |
| **1997** | 35 | 28.5 | 42 |
| **1998** | 34 | 29 | 40 |
| **1999** | 35 | 29 | 43 |
| **2000** | 35 | 29 | 43 |
| **2001** | 35 | 29 | 42 |
| **All** | **34** | **28** | **41** |

*Table 3. Distribution of HIV infection cases by exposure category 1984 - 2001*

| Exposure category \ Year | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Heterosexual** | 1 | 0 | 0 | 3 | 6 | 11 | 12 | 29 | 32 | 47 | 73 | 81 | 93 | 117 | 132 | 126 | 114 | 124 | 1001 (57.0%) |
| **Homosexual** | 1 | 10 | 6 | 12 | 12 | 15 | 8 | 18 | 27 | 20 | 22 | 26 | 20 | 33 | 16 | 33 | 20 | 37 | 336 (19.1%) |
| **Bisexual** | 0 | 1 | 2 | 7 | 2 | 6 | 5 | 8 | 2 | 2 | 4 | 4 | 3 | 10 | 6 | 10 | 6 | 6 | 84 (4.8%) |
| **Injecting drug use** | 0 | 1 | 0 | 0 | 2 | 2 | 0 | 0 | 3 | 1 | 2 | 2 | 1 | 2 | 1 | 6 | 10 | 11 | 44 (2.5%) |
| **Blood contact** | 5 | 32 | 10 | 7 | 2 | 2 | 5 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 68 (3.9%) |
| **Perinatal** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 2 | 4 | 2 | 2 | 14 (0.8%) |
| **Undetermined** | 0 | 2 | 2 | 4 | 4 | 2 | 4 | 5 | 6 | 8 | 1 | 7 | 16 | 18 | 32 | 33 | 31 | 33 | 208 (11.9%) |
| **Total** | **7** | **46** | **20** | **33** | **28** | **38** | **34** | **60** | **71** | **79** | **104** | **122** | **134** | **181** | **189** | **213** | **183** | **213** | **1755 (100%)** |

*Table 4. Age-specific rate for HIV Infected* **Homosexual males** *(Assuming 10% males in the population are homosexual and bisexual)*

| Year / Age group | Age-specific rate (per 100,000 population) | | | | |
|---|---|---|---|---|---|
| | 1997 | 1998 | 1999 | 2000 | 2001 |
| 0 - 4 | --- | --- | --- | --- | --- |
| 5 - 9 | --- | --- | --- | --- | --- |
| 10 - 14 | --- | --- | --- | --- | --- |
| 15 - 19 | --- | --- | 4.22 | 4.23 | --- |
| 20 - 24 | 8.49 | 13.00 | 4.40 | 13.35 | 13.33 |
| 25 - 29 | 48.78 | 24.47 | 28.75 | 12.37 | 20.77 |
| 30 - 34 | 30.00 | 21.07 | 44.26 | 34.19 | 50.72 |
| 35 - 39 | 17.84 | 14.93 | 21.15 | 24.76 | 31.96 |
| 40 - 44 | 31.24 | 3.29 | 15.80 | 6.12 | 20.85 |
| 45 - 49 | 8.20 | 4.00 | 15.63 | --- | 3.70 |
| 50 - 54 | --- | --- | 15.94 | --- | 4.41 |
| 55 - 59 | --- | --- | 22.52 | --- | --- |
| 60 - 64 | 14.17 | --- | --- | --- | 7.47 |
| 65 - 69 | --- | --- | --- | --- | --- |
| 70 - 74 | --- | --- | --- | --- | 9.76 |
| >= 75 | --- | --- | --- | --- | --- |
| Unknown | --- | --- | --- | --- | --- |
| **Total** | **13.29** | **6.77** | **13.17** | **7.94** | **13.08** |

*Table 5. Age-specific rate for HIV Infected* **Heterosexual Males** *(Assuming 90% males in the population are heterosexual)*

| Year / Age group | Age-specific rate (per 100,000 population) | | | | |
|---|---|---|---|---|---|
| | 1997 | 1998 | 1999 | 2000 | 2001 |
| 0 - 4 | --- | --- | --- | --- | --- |
| 5 - 9 | --- | --- | --- | --- | --- |
| 10 - 14 | --- | --- | --- | --- | --- |
| 15 - 19 | 0.48 | --- | --- | --- | 0.48 |
| 20 - 24 | 3.30 | 0.48 | 2.44 | 1.48 | 0.99 |
| 25 - 29 | 4.52 | 5.44 | 4.56 | 2.75 | 5.54 |
| 30 - 34 | 6.67 | 8.58 | 8.20 | 5.49 | 6.94 |
| 35 - 39 | 4.96 | 8.30 | 3.69 | 5.50 | 6.39 |
| 40 - 44 | 3.86 | 3.66 | 4.92 | 5.78 | 2.65 |
| 45 - 49 | 3.64 | 2.22 | 2.17 | 2.98 | 4.11 |
| 50 - 54 | 3.50 | 1.91 | 5.31 | 2.64 | 2.45 |
| 55 - 59 | 4.06 | 4.19 | 3.34 | 2.52 | 2.45 |
| 60 - 64 | 2.36 | 4.00 | 2.44 | 3.27 | 2.49 |
| 65 - 69 | 0.91 | 1.75 | 0.86 | 1.72 | 1.73 |
| 70 - 74 | --- | --- | 3.58 | 1.14 | 1.08 |
| >= 75 | --- | 1.12 | 1.07 | --- | --- |
| Unknown | --- | --- | --- | --- | --- |
| **Total** | **2.88** | **3.11** | **2.93** | **2.61** | **2.74** |

*Table 6. Age-specific rate for HIV Infected* **Heterosexual Females**

| Year / Age group | Age-specific rate (per 100,000 population) | | | | |
|---|---|---|---|---|---|
| | 1997 | 1998 | 1999 | 2000 | 2001 |
| 0 - 4 | --- | --- | --- | --- | --- |
| 5 - 9 | --- | --- | --- | --- | --- |
| 10 - 14 | --- | --- | --- | --- | --- |
| 15 - 19 | --- | --- | --- | --- | --- |
| 20 - 24 | 1.25 | 2.91 | 3.30 | 1.65 | 3.31 |
| 25 - 29 | 4.85 | 5.52 | 3.83 | 3.10 | 4.22 |
| 30 - 34 | 0.88 | 2.43 | 2.16 | 2.79 | 2.44 |
| 35 - 39 | 1.17 | 1.13 | 2.21 | 1.09 | 1.88 |
| 40 - 44 | 0.70 | 0.67 | 0.63 | 0.30 | 0.87 |
| 45 - 49 | 1.78 | 0.42 | 0.41 | 1.97 | 0.74 |
| 50 - 54 | 1.49 | 0.66 | 0.59 | 1.57 | --- |
| 55 - 59 | --- | --- | --- | 0.91 | 0.86 |
| 60 - 64 | 0.78 | 0.80 | 0.81 | --- | 0.85 |
| 65 - 69 | --- | --- | --- | --- | 0.82 |
| 70 - 74 | --- | --- | --- | 0.96 | --- |
| >= 75 | --- | --- | --- | --- | --- |
| Unknown | --- | --- | --- | --- | --- |
| **Total** | **1.01** | **1.24** | **1.20** | **1.09** | **1.25** |

*Table 7. Sensitivity Analysis of Changes in % of Homosexual and Bisexual Males on HIV Infection Rate*

| | % of population / Year | Group specific rate (per 100,000 population) | | | | |
|---|---|---|---|---|---|---|
| | | 1997 | 1998 | 1999 | 2000 | 2001 |
| Heterosexual | 90% | 2.88 | 3.11 | 2.93 | 2.61 | 2.74 |
| | 94% | 2.76 | 2.98 | 2.80 | 2.50 | 2.62 |
| | 98% | 2.65 | 2.86 | 2.69 | 2.40 | 2.51 |
| MSM | 10% | 13.29 | 6.77 | 13.17 | 7.94 | 13.08 |
| | 6% | 22.15 | 11.28 | 21.95 | 13.23 | 21.80 |
| | 2% | 66.45 | 33.85 | 65.86 | 39.68 | 65.41 |

*Table 8. AIDS Defining Illness profile over the years*

| Year / ADI | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pneumocystic Carinii Pneumonia** | 1 | --- | 2 | 4 | 8 | 5 | 4 | 7 | 10 | 12 | 17 | 21 | 20 | 26 | 23 | 30 | 26 | 216 (38.6%) |
| **Mycobacteria Tuberculosis** | --- | --- | --- | --- | 1 | 2 | 3 | 1 | 2 | 4 | 8 | 21 | 17 | 18 | 13 | 19 | 17 | 126 (22.5%) |
| **Other fungal infections** | --- | --- | 3 | --- | 3 | --- | 2 | 2 | 1 | 4 | 7 | 6 | 10 | 8 | 5 | 4 | 5 | 60 (10.7%) |
| **Penicilliosis** | --- | --- | --- | --- | --- | 1 | 1 | --- | 1 | 6 | 7 | 7 | 5 | 2 | 7 | 5 | 1 | 43 (7.7%) |
| **Cytomegalovirus diseases** | 1 | --- | --- | --- | --- | 1 | 1 | 1 | 2 | 1 | 3 | 4 | 4 | 3 | 2 | 3 | 2 | 28 (5.0%) |
| **Kaposi's sarcoma** | 1 | --- | --- | 1 | 2 | 1 | --- | 2 | --- | 4 | 1 | 2 | 3 | --- | --- | --- | --- | 17 (3.0%) |
| **Non-TB mycobacterial infections** | --- | --- | --- | --- | 1 | --- | 3 | --- | 1 | --- | --- | 2 | 1 | --- | 5 | 1 | 5 | 19 (3.4%) |
| **Others** | --- | --- | 1 | 2 | 2 | 3 | --- | 1 | 2 | 6 | 2 | 7 | 4 | 6 | 6 | 5 | 4 | 51 (9.1%) |
| **Total** | **3** | **---** | **6** | **7** | **17** | **13** | **14** | **14** | **19** | **37** | **45** | **70** | **64** | **63** | **61** | **67** | **60** | **560 (100%)** |

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## *SUGGESTED CITATION*

*Epidemiology of HIV Infection in Hong Kong*
*Hong Kong STD/AIDS update,*
*Vol. 7, no.5 Quarter 4, 2001: [inclusive page numbers]*

***Hong Kong STD/AIDS Update can be viewed via the internet at:***

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

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