I. Overview of the HIV/AIDS epidemic

Singapore’s HIV epidemic is classified as a low-level epidemic\(^1\). The first case of HIV was diagnosed in Singapore in 1985. Since then, the cumulative total number of HIV-infected Singapore residents has increased from 2 in 1985 to a cumulative total of 4,159 as of 30 June 2009. Of these:

- 1,935 are asymptomatic carriers (47%)
- 974 have AIDS-related illnesses (23%) and
- 1,250 have died (30%).

The prevalence of known HIV cases among the resident population aged 15 years and above was **0.09%** in 2008.

The number of newly-diagnosed cases in 2008 was 456, compared to 423 cases in 2007. Between January and June 2009, another 218 Singapore residents were detected to be HIV-infected.

The epidemic in Singapore is predominantly male. As at end June 2009, there were 3,729 male cases and 430 female cases, giving a sex ratio of nine males to one female.

The epidemic in Singapore is driven mainly by sexual transmission. 66% of the 4,159 cases acquired HIV through heterosexual transmission, and 28% through homosexual and bisexual transmission. As a result of the strict drug laws in Singapore, intravenous drug abuse accounted for only 2% of all HIV cases.

\(^1\) HIV prevalence has not consistently exceeded 5% in any defined sub-population.
The majority of HIV cases in Singapore present when they are already in an advanced stage of infection. In 2008, 50% of the new cases already had late-stage HIV infection when they were diagnosed. Similarly, in the first 6 months of 2009, more than half (56%) of the new cases already had late-stage HIV infection when they were diagnosed.

More than half of the new cases in the first 6 months of 2009 (54%) had their HIV infection detected when they had HIV testing in the course of some form of medical care, while another 21% were detected as a result of some form of health screening. 11% were detected as a result of voluntary HIV screening. Another 5% of the cases were detected as a result of screening in prisons and drug rehabilitation centres. The rest were detected through contact tracing and other screening. When differentiated by sexual orientation, a higher proportion of homosexuals had their HIV infection detected via voluntary screening compared to heterosexuals (24% vs. 3%).

**II. National response to the HIV/AIDS epidemic**

The National AIDS Control Programme comes under the central control of the Ministry of Health, Singapore (MOH), with active involvement from other relevant government agencies as well as community and private sector groups in Singapore. The Programme focuses on HIV education and prevention for the general population as well as specific at-risk groups, reducing the pool of undiagnosed HIV-infected individuals, and providing care and support to those living with HIV/AIDS. To further enhance the surveillance and control of HIV,

---

2 Late-stage HIV infection was defined as having a CD4 cell count of less than 200 or developing AIDS-defining opportunistic infections at first diagnosis or within one year after HIV diagnosis when the cases were diagnosed.
MOH set up a National Public Health Unit in September 2008. This unit is responsible for maintaining and enhancing the National HIV Registry, carrying out contact tracing and partner notification for newly-diagnosed HIV patients, and conducting HIV-related public health research.

During the course of 2008 and 2009, national efforts to increase access to HIV prevention, education, testing, care and support continued to be ramped up and enhanced.

(a) HIV/AIDS Education

General Population

HIV/AIDS prevention and education is the mainstay of the national HIV/AIDS control programme in Singapore. Education is targeted at both the general population and those at high risk of infection. Educational messages for the general population are focused on the dangers of casual sex, promotion of family values, and avoidance of pre-marital and extra-marital sexual relationships. The use of condoms for prevention is emphasized to those at risk. Educational campaigns are also conducted to reduce HIV-related stigma and discrimination.

Youth

The enhanced STI and HIV education programme (“Breaking Down Barriers”) has been implemented in all secondary schools. The programme targets 15- and 17-year olds, and aims to increase students’ awareness of STIs and AIDS, including the correct way to use condoms, as well as to equip them with lifeskills to protect themselves from infection (e.g. negotiation, decision-making).

High-Risk groups

Special education programmes are carried out for sex workers to educate them on STIs and HIV, modes of transmission and to strongly promote the use of condoms. Similar programmes to educate potential indirect sex workers (e.g. masseuses) have also been implemented.

Specific educational programmes targeting high-risk heterosexual men and men who have sex with men (MSM) have also been implemented, in collaboration with community-based organizations.

Workplace

The Health Promotion Board (HPB) is continuing intensified HIV education in the workplace. The AIDS Business Alliance was set up in Singapore in November 2005 to champion HIV/AIDS education for workers and to advocate for a supportive and non-discriminatory working environment for HIV infected workers.
The Alliance was formed by a group of businesses, and has representation from local and multinational companies and employees’ and employers’ unions.

Together with the Alliance, the government has launched an educational programme called “RESPECT” (*Rallying Employers to Support the Prevention, Education and Control of STI/HIV/AIDS*). This programme is specially developed for the workplace setting, and aims to educate workers on AIDS prevention and fight discrimination against HIV-positive workers.

(b) Increased HIV testing efforts

(i) Anonymous Testing

Anonymous HIV Testing is made available for those who believe that they are at risk of HIV infection but who are reluctant to identify themselves to medical personnel. On 1 November 2008, MOH gave approval for 4 additional general practitioner (GP) clinics to offer anonymous HIV testing. There are now a total of 7 anonymous HIV test sites in Singapore (6 GP clinics and the Action for AIDS anonymous test site). During the course of 2008-2009, a total of 18,711 anonymous HIV tests were carried out, of which 225 (1.2%) were HIV-positive.

(ii) Voluntary opt-out HIV testing among hospital inpatients

In view of the US CDC recommendations that voluntary opt-out screening for HIV infection be performed routinely for all patients aged 13-64 years in all healthcare settings, as a normal part of medical practice,\(^3\) voluntary opt-out HIV screening for inpatients was piloted in Changi General Hospital (an acute public sector hospital) in Dec 2007. Following from their successful pilot, MOH worked with all other acute public sector hospitals in 2008 and 2009 to implement voluntary opt-out HIV screening for hospital inpatients aged 21 years and above. The objective of this programme is to give inpatients an opportunity to have HIV screening done as part of the routine medical care they receive during their stay in hospitals, and so facilitate earlier detection of HIV infection.

(c) Care, Support and Treatment of the HIV-infected

The majority of HIV cases are managed in the Communicable Disease Centre (CDC) by a multi-disciplinary team that provides medical, nursing, social, counseling and other support. Contact tracing and partner notification for sex partners of HIV-infected persons is carried out jointly by the National Public Health Unit and the treating clinic.

---

HIV/AIDS patients have access to subsidised inpatient and outpatient care. This includes hospital, radiological and laboratory charges, treatment of complications with standard drugs and consultation fees. Patients are allowed to withdraw up to S$550 per month from their Medisave account for anti-retroviral drugs. From 1 February 2010, Medifund assistance was extended to HIV treatment.

(d) Legislation

The Infectious Diseases Act was amended in 2008 to require that a person who has reason to believe that he has, or has been exposed to a significant risk of contracting, HIV/AIDS, must take reasonable precautions to protect his sexual partner, such as by using condoms, even if he is ignorant of his HIV-positive status. Alternatively, he can go for a HIV test to confirm that he is HIV-negative. Otherwise, he must inform his partner of the risk of contracting HIV infection from him prior to engaging in sexual intercourse, leaving the partner to voluntarily accept the risk, if he or she so wishes.

It is also an offence for a HIV-infected person to:
  a) knowingly donate blood or commit any act likely to spread disease
  b) have sex with another person unless the partner has been informed prior to intercourse of the risk of infection AND voluntarily accepts the risk.

(e) Involvement at ASEAN Level

During Singapore’s tenure as the Chair of the ASEAN Task Force on AIDS (ATFOA) from October 2007 – October 2009, Singapore helped ATFOA to review the progress in the implementation of the Third ASEAN Work Programme on HIV/AIDS 2006-2010 (AWP III), together with the ASEAN Secretariat.

As part of Singapore’s contribution to AWPIII, MOH, along with HPB and ASEAN Secretariat, organized a Regional Workshop on HIV/AIDS Education in the Workplace in December 2009 for all ASEAN Member States. The Workshop brought together domestic and regional experts to share their frameworks and best practices on workplace HIV/AIDS initiatives.

In response to the Vientiane Statement of Commitment on the Greater Involvement and Empowerment of People Living with HIV (Vientiane, 9 May 08), HPB is working together with key stakeholders, including community partners, to enhance the involvement and empowerment of three key groups of people living with HIV: heterosexual males, heterosexual females, and men who have sex with men. This includes building capacity in these groups, and engaging them in education and prevention programmes.
III. Major challenges and remedial actions

After more than 20 years of the HIV/AIDS epidemic in Singapore, HIV-related stigma and discrimination remains a significant challenge. MOH, HPB, and community partners have stepped up efforts to address stigma and discrimination towards people living with AIDS, for example, through the broadcast of a television drama serial, workplace education programmes, and experiential roving exhibitions that reached out to the general public.

Another challenge is to reduce the proportion of HIV-infected individuals who are unaware of their infection. The government and community partners have been working together to promote the HIV testing message to the general community, as well as those at higher risk of infection, particularly among high-risk heterosexual men and MSM. Furthermore, accessibility to testing has been enhanced by the initiatives described in Section II(b).

IV. Monitoring and evaluation environment

Biological and behavioural HIV surveillance is carried out by MOH, the National Public Health Unit and HPB in conjunction with healthcare, community and academic partners. These include case surveillance, unlinked surveillance in target sentinel groups, and surveys of population groups on HIV-related risk behaviours.

HIV and AIDS are legally notifiable diseases in Singapore. The National HIV Registry receives HIV and AIDS notifications from clinicians and laboratories. The national HIV data is supplemented by unlinked anonymous surveillance in various sentinel groups such as patients with tuberculosis and sexually transmitted infections.

Behavioural surveillance is also carried out through surveys in the general population, as well as in specific population groups (e.g. youths and MSM). Furthermore, periodic research and surveys are carried out to assess the situation in order to better inform policy making and programme implementation.